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INTERVENTO

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

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

LOTTO **3053/PN_1**

PROGETTO ESECUTIVO

TAV. TAB_08		OGGETTO TABULATI DI CALCOLO CIVICO 37 STATO DI PROGETTO			DATA Settembre 2022	
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TABULATI DI CALCOLO
CIVICO 37
STATO DI PROGETTO



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1 Risultati numerici

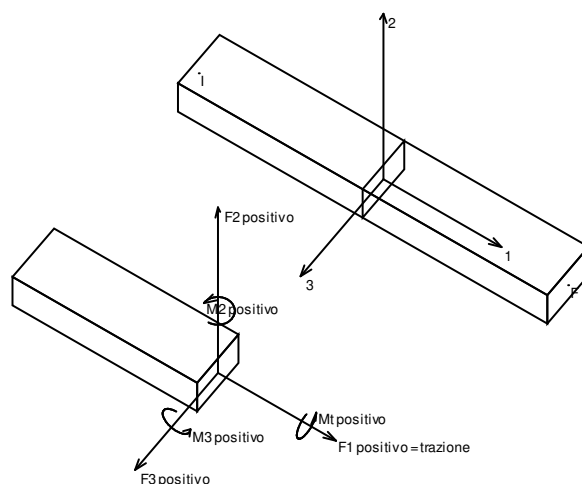
1.1 Sollecitazioni

1.1.1 Sollecitazioni aste

1.1.1.1 Convenzioni di segno aste

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

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



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

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

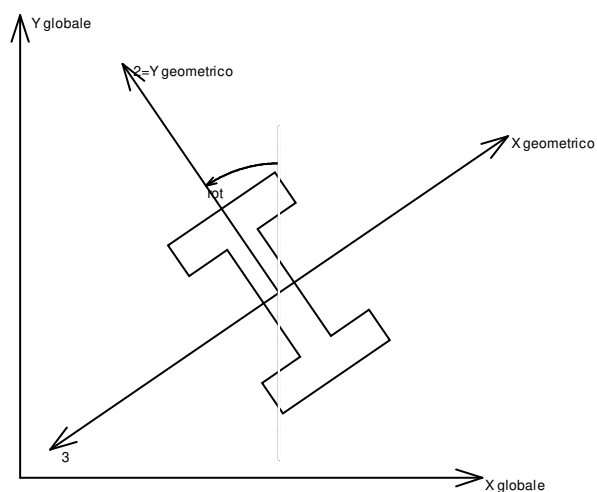
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

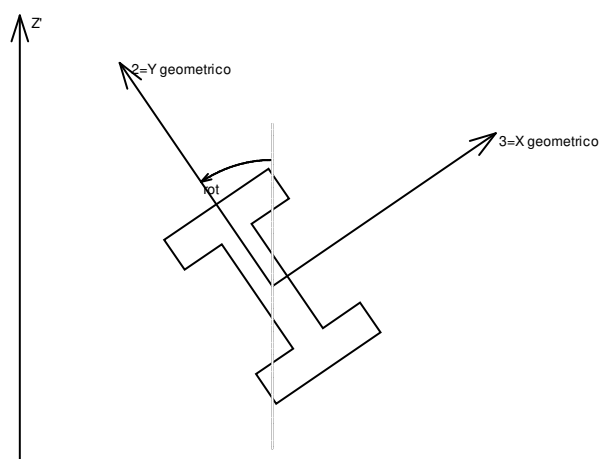


Sistema locale aste verticali



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

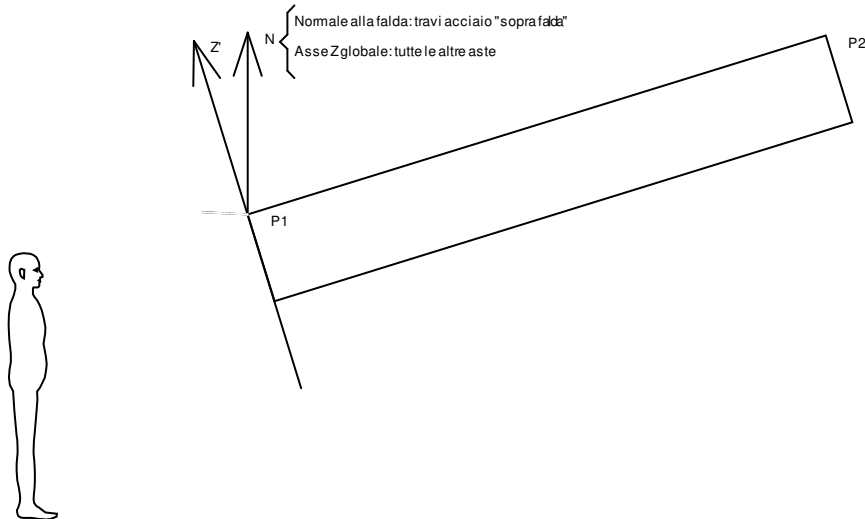
Sistema locale aste non verticali



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

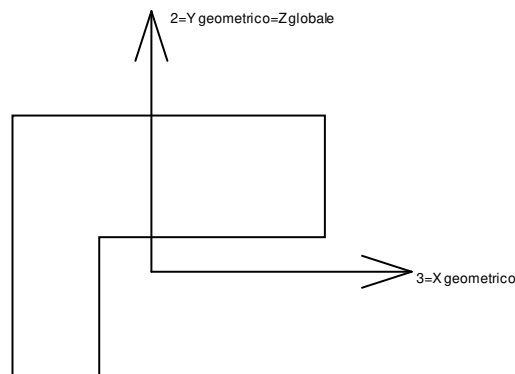
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.1.1.2 Sollecitazioni estreme aste

Asta: elemento asta a cui si riferiscono le sollecitazioni.

Ind.: indice dell'asta.

Cont.: contesto a cui si riferisce la sollecitazione

N.br.: nome breve della condizione o combinazione di carico.

Pos.: numero della sezione all'interno dell'asta (tra 1 e 31, dove 1 corrisponde alla sezione al nodo iniziale, 16 è la sezione in mezzera, 31 corrisponde alla sezione al nodo finale).

Posizione: posizione a cui si riferisce la sollecitazione dell'asta.

X: componente X della posizione a cui si riferisce la sollecitazione dell'asta. [m]

Y: componente Y della posizione a cui si riferisce la sollecitazione dell'asta. [m]

Z: componente Z della posizione a cui si riferisce la sollecitazione dell'asta. [m]

Soll.traslazionale: componente traslazionale della sollecitazione dell'asta.

F1: componente $F1$ della sollecitazione dell'asta. [daN]

F2: componente $F2$ della sollecitazione dell'asta. [daN]

F3: componente $F3$ della sollecitazione dell'asta. [daN]

Soll.rotazionale: componente rotazionale della sollecitazione dell'asta.

M1: componente $M1$ della sollecitazione dell'asta. [daN*m]

M2: componente $M2$ della sollecitazione dell'asta. [daN*m]

M3: componente $M3$ della sollecitazione dell'asta. [daN*m]

Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.



Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
593	SLV FO 12	1	-10.08	6.23	-1.3	-42107	-15759	-4815	846.9	249.44	6705.47
594	SLV FO 11	1	-9.73	6.23	-1.3	-39659	24362	3667	-403.33	-483.37	15515.11
592	SLV FO 12	1	-10.44	6.23	-1.3	-36545	-12603	-4274	539.84	-182.24	2370.85
450	SLV FO 13	1	-6.52	-2.89	-1.3	-35294	3941	-5613	-2.34	-1131.45	-4726.56
595	SLV FO 11	1	-9.33	6.23	-1.3	-34428	20491	3003	35.1	-911.43	8176.52

Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
439	SLV FO 15	1	-6.02	-2.89	-1.3	16526	2857	-6031	-4	-1229.87	-3038.7
305	SLV X	31	-18.2	-3.28	-1.3	15017	400	-3994	-5.4	-1819.93	789.59
390	SLV FO 11	1	-5.41	5.53	-1.3	14720	15498	-2862	-27.08	2218.61	3062.32
450	SLV FO 4	1	-6.52	-2.89	-1.3	14641	-2254	4075	-7.97	355.06	-2088.09
293	SLV FO 8	1	-18.7	-2.92	-1.3	14174	2753	2834	3.77	772.91	-630.48

Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
416	SLV FO 6	31	-17.06	-2.93	-1.3	-8079	-3498	-20962	35.4	-13925.96	5367.34
386	SLV FO 12	1	-5.41	6.58	-1.3	-2173	-9913	27108	-289.04	-13241.35	-8103.57
417	SLV FO 6	1	-17.06	-2.93	-1.3	2241	4210	25784	-187.27	-12311.96	3509.49
748	SLV FO 13	1	-6.52	-2.93	-1.3	-19601	11933	23156	-4.97	-10919.01	11956.02
668	SLV FO 15	1	-6.02	0.8	-1.3	-18344	13156	19356	66.44	-9339.91	973.01

Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
389	SLV FO 11	31	-5.41	5.53	-1.3	306	-23539	26936	761.03	14374.44	8469.27
761	SLV FO 13	1	-13.11	-1.04	-1.3	-11251	-1358	-5302	-16.37	12561.31	-445.45
413	SLV FO 2	1	-18.45	-2.93	-1.3	-14241	12672	-21368	158.57	11458.33	10913.12
540	SLV FO 13	31	-13.11	-1.04	-1.3	-4377	-12236	8633	-327.6	10115.28	1898.34
695	SLV FO 2	31	-11.36	-3.28	-1.3	-5096	-9212	9186	676.13	9796.98	-1392.31

Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
768	SLU 83	1	-11.8	-3.62	0.08	0	-8940	0	0	0	-17678.75
767	SLU 83	31	-11.8	-3.62	0.08	603	13932	-2399	-20.84	-2576.5	-17206.38
353	SLV FO 11	1	-15.31	6.58	-1.3	-5548	-17968	55	-15.04	-259.59	-14422.48
377	SLV FO 7	1	-9.48	2.07	-1.3	6188	-16614	223	3.25	-609.49	-14103.42
648	SLU 83	1	-14.81	1.3	-1.3	-20299	-30839	-7025	-38.79	3322.57	-13277.03

Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta	Cont.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
Ind.	N.br.		X	Y	Z	F1	F2	F3	M1	M2	M3
626	SLU 83	1	-0.47	1.05	-1.3	-5277	29770	-111	-441.48	2489.12	22423.79
538	SLV FO 12	31	-15.06	6.23	-1.3	-26946	-29084	-6492	400.57	-3852.24	21832.78
615	SLV FO 14	31	-0.47	1.05	-1.3	-8372	-27809	-4133	348.23	-334.23	21616.53
281	SLV FO 5	31	-18.45	-2.93	-1.3	-13205	-27924	6402	-462.64	5873.38	19852.85
426	SLU 83	1	-14.11	1.05	-1.3	5308	27416	1233	4.37	-3435.65	18799.6

1.1.2 Sollecitazioni gusci

1.1.2.1 Convenzioni di segno gusci

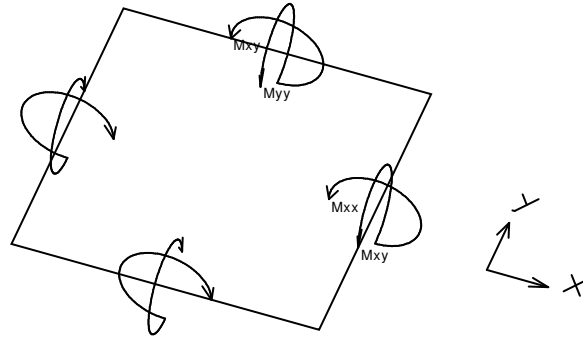
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

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

Convenzione di segno per gusci non verticali

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

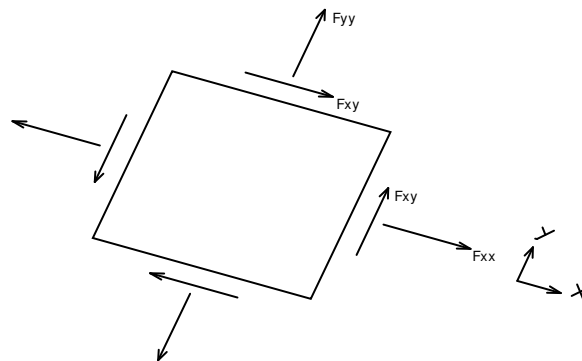
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione F_{xx} , F_{yy} , F_{xy} .



Si definiscono:

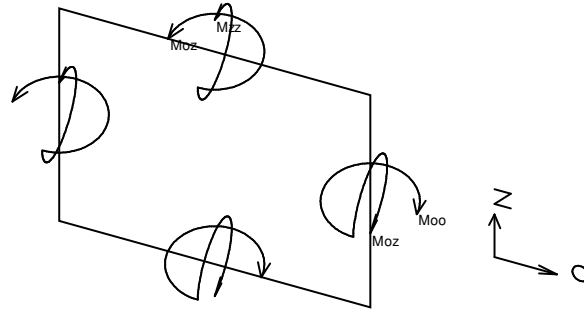
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che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

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

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

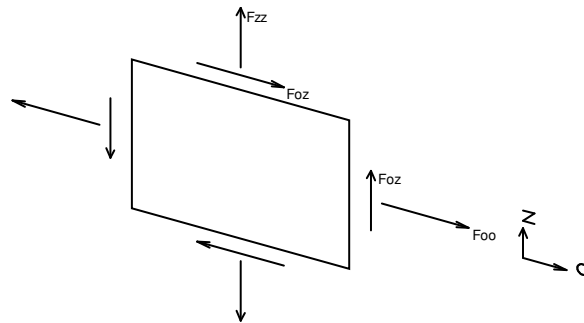
Convenzione di segno per gusci verticali

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



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

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



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

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

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

1.1.2.2 Sollecitazioni estreme gusci

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

N.br.: nome breve della condizione o combinazione di carico.

Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

M11: componente M11 della sollecitazione del guscio nel nodo indicato. $[daN * m / m]$

M12: componente M12 della sollecitazione del guscio nel nodo indicato. $[daN * m / m]$

M22: componente M22 della sollecitazione del guscio nel nodo indicato. $[daN * m / m]$

F11: componente F11 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

F12: componente F12 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

F22: componente F22 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

V13: componente V13 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

V23: componente V23 della sollecitazione del guscio nel nodo indicato. $[daN / m]$

Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
18686	SLV FO 9	179	-33231	11323	38881	19	-4387	-13290	80195	-100716
16927	SLV FO 7	653	-20004	-4583	3576	-77577	-9534	22250	62915	2645
17824	SLV FO 10	368	-18558	4132	-2249	-7623	-1668	1995	50247	-8393
17825	SLV FO 10	367	-18201	4873	-2165	-8022	-747	1206	63981	-7218
17823	SLV FO 10	369	-15537	2384	-1654	-8429	-1172	3609	30382	-6012

Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
18650	SLV FO 5	336	31772	-838	6898	-8349	1918	-10433	57254	-61825
17819	SLU 84	341	24404	3883	11891	-48438	-11370	-66898	135555	18062
17827	SLV FO 10	338	19788	4529	1695	-663	1772	-5628	116746	19061
18642	SLU 84	326	19762	4378	22929	-99320	-16315	-41603	34312	141564
18643	SLU 84	327	15947	402	12445	-12103	-14904	-31380	39965	68372

Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
18646	SLV FO 9	330	-1426	-3766	-16769	3585	692	-7389	-6830	-25820
18649	SLU 84	333	2326	-3052	-16382	3677	-1836	-5142	-11100	-53687
18647	SLV FO 9	331	-1218	-2549	-15471	2581	-991	-5112	-5264	-15339
18650	SLV FO 9	334	8993	-1222	-14880	5552	5365	-11921	5172	-60840
18648	SLU 84	332	543	-2306	-14496	1319	32	-2397	-5533	-26451

Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
18686	SLV FO 9	179	-33231	11323	38881	19	-4387	-13290	80195	-100716
17828	SLV FO 10	337	6403	-2013	27679	-10889	-283	3867	40684	-184208
18642	SLU 84	326	19762	4378	22929	-99320	-16315	-41603	34312	141564
17820	SLU 84	372	13278	419	14207	-35085	-7688	-9139	81706	29034
18643	SLU 84	327	15947	402	12445	-12103	-14904	-31380	39965	68372

Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
18642	SLV FO 2	284	9734	850	-4574	-160187	-35604	-11601	22906	-21733
17867	SLU 83	1280	-166	-37	41	-130232	88112	-82374	-2513	655
16839	SLV FO 7	2891	-4	-1	-4	-121382	29296	-4775	-20	-15
14865	SLV FO 7	592	1255	-1227	-378	-115737	-57588	-103931	3897	-6736
16927	SLV FO 7	167	4418	105	393	-110960	-11290	-23317	62915	14265

Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
14865	SLV FO 7	169	-1000	484	-456	254923	77020	70218	-14280	-5574
17867	SLU 83	584	245	223	-50	81595	-68402	72398	931	975
18642	SLV X	284	-266	-295	677	62269	11602	3888	-703	2133
14040	SLV FO 15	1499	39	209	-153	60144	-11949	4017	-10614	2455
5287	SLU 71	18575	11	1	0	54265	24426	41469	-1254	-203

Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
397	SLV FO 10	362	-64	-98	-248	-47697	41659	-157598	-192	-567
9938	SLU 71	19266	4	6	11	-71140	-61199	-152785	-20	-131
17819	SLV FO 13	282	-3770	1678	6806	-15963	-48668	-146263	-13698	12777
9393	SLV FO 7	1222	56	17	6	28148	4906	-136057	351	-67
1119	SLV FO 12	4222	-222	-216	-889	-5044	34783	-129725	1058	4513

Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
16114	SLV FO 6	16007	-17	48	71	9412	-20670	117208	-9	478
16735	SLV FO 9	16008	19	-52	-76	8524	-18975	112970	10	-532
16110	SLV FO 5	17419	-32	54	-63	9725	4923	112113	-202	90
16731	SLV FO 10	17420	35	-58	69	8768	4380	106993	217	-97
16837	SLV FO 7	1219	0	-3	-10	14879	29249	97584	6	-6

1.1.2.3 Sollecitazioni estreme gusci non verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

N.br.: nome breve della condizione o combinazione di carico.

Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.

Ind: indice del nodo.



Sollecitazione: valori della sollecitazione.

Mxx: componente Mxx della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Mxy: componente Mxy della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Myy: componente Myy della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Fxx: componente Fxx della sollecitazione del guscio nel nodo indicato. [daN/m]

Fxy: componente Fxy della sollecitazione del guscio nel nodo indicato. [daN/m]

Fyy: componente Fyy della sollecitazione del guscio nel nodo indicato. [daN/m]

Vx: componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]

Vy: componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
17824	SLV FO 10	368	-18559	4131	-2248	-7622	-1669	1995	-50248	8388
17825	SLV FO 10	367	-18131	4986	-2235	-8032	-682	1216	-63928	7670
18646	SLV FO 9	330	-17428	1909	-768	-7085	-1930	3281	-26435	3808
18649	SLU 84	333	-16841	722	2785	-5454	726	3988	-54634	4542
18647	SLV FO 9	331	-15837	1067	-851	-5232	199	2701	-15792	3690

Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
18686	SLV FO 9	179	39239	-10113	-33589	-13433	4162	162	-99364	-81865
17828	SLV FO 10	337	27507	2773	6575	3828	812	-10849	-182625	-47285
17819	SLU 84	341	24856	3037	11439	-49994	-12473	-65342	-136444	-9197
18642	SLU 84	326	23445	-4155	19247	-43775	19668	-97147	143375	-25719
17827	SLV FO 10	338	19363	5293	2120	-825	1980	-5465	-115814	-24087

Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
18686	SLV FO 9	179	39239	-10113	-33589	-13433	4162	162	-99364	-81865
17807	SLV FO 10	251	3677	4109	-13252	-19498	-7563	3655	-1041	73789
17806	SLV FO 10	273	4785	4050	-12905	-8035	-5913	-6399	-2744	80513
17828	SLV FO 10	366	-14513	1450	-11967	4274	349	-11740	-181001	83338
17808	SLV FO 6	221	2433	2699	-10374	-19378	927	12466	512	57708

Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
18650	SLV FO 5	336	6902	-899	31768	-10156	-2044	-8626	-57686	-61422
18642	SLU 84	326	23445	-4155	19247	-43775	19668	-97147	143375	-25719
18643	SLU 84	327	12711	-1011	15681	-36142	10376	-7342	74588	-26619
17828	SLV FO 10	295	10377	1934	14763	-1104	-109	-11616	35694	84975
18686	SLV Y	179	-14314	3212	14362	26663	-6219	-2988	35551	35749

Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
17819	SLV FO 9	341	19292	1951	11654	-91496	-24984	-105990	-106248	-14575
18642	SLV FO 6	326	18558	-2820	18758	-75022	34981	-141542	115061	-27442
17820	SLV FO 9	372	8052	210	12640	-63802	-9545	-10525	-66688	-18062
18643	SLV FO 6	327	9481	-364	14957	-59334	18876	-7241	60975	-26799
8324	SLV FO 8	3925	-173	2	-44	-57764	11823	-10551	-804	252

Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
18686	SLV FO 15	179	23372	-5803	-18531	49678	-12744	-5344	-57421	-46774
17819	SLV Y	341	-1506	231	-3805	39574	11798	34180	7065	8584
18642	SLV Y	326	-1593	-151	-5286	32105	-15621	46255	-9656	9448
1245	SLV FO 8	1493	10	6	31	28197	3578	-32357	23	90
18685	SLV FO 11	177	433	-905	-123	27776	-6950	3857	1106	-3632

Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
18642	SLV FO 2	284	-4420	-1704	9580	-16424	44283	-155365	-20313	-24174
17819	SLV FO 13	282	-3507	2351	6544	-22840	-56722	-139386	12837	-13642
1245	SLV FO 8	689	1	-1	7	-33460	-21777	-102551	-21	-29
9	SLV FO 6	1204	72	-56	759	1603	10784	-100920	365	3932
13	SLV FO 5	1204	-105	81	-780	6842	-6401	-94743	-262	-3750

Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
18642	SLV X	284	638	350	-227	5496	-15029	60661	2087	830
17819	SLV FO 4	282	-2346	1727	5341	5264	15366	41755	12896	-10068
9	SLV Y	1204	-25	18	-256	-547	-4024	36225	-117	-1352
13	SLV Y	1204	37	-28	267	-2443	2383	32088	86	1274
344	SLV Y	366	2	1	7	5943	845	30134	12	-59

1.1.2.4 Sollecitazioni estreme gusci verticali

Shell: elemento guscio a cui si riferiscono le sollecitazioni.

Ind: indice del guscio.

Cont.: contesto a cui si riferiscono le sollecitazioni.

N.br.: nome breve della condizione o combinazione di carico.

Nodo: nodo su cui si basa il guscio a cui si riferisce la sollecitazione.

Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

Moo: componente Moo della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Moz: componente Moz della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Mzz: componente Mzz della sollecitazione del guscio nel nodo indicato. [daN*m/m]

Foo: componente Foo della sollecitazione del guscio nel nodo indicato. [daN/m]

Foz: componente Foz della sollecitazione del guscio nel nodo indicato. [daN/m]

Fzz: componente Fzz della sollecitazione del guscio nel nodo indicato. [daN/m]

Vo: componente Vo della sollecitazione del guscio nel nodo indicato. [daN/m]

Vz: componente Vz della sollecitazione del guscio nel nodo indicato. [daN/m]

Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
16927	SLU 83	653	-4394	3582	13599	22739	141	-38802	3401	-42410
6624	SLV FO 11	18807	-3019	165	-1719	1557	1116	-3918	-7602	5337
9654	SLV FO 7	18817	-3005	60	-2039	3408	1258	-997	8645	-2560
6570	SLV FO 7	18817	-2704	-174	-825	2681	1713	-3943	6617	2852
6627	SLV FO 12	18807	-2399	422	-1423	6557	3638	-1884	13353	5190

Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
6624	SLV FO 6	18807	3016	-153	1644	-3330	-2140	2273	7466	-5172
9654	SLV FO 10	18817	3006	-61	2039	-4099	-1104	-2901	-8650	2557
6570	SLV FO 10	18817	2704	174	818	-3339	-682	-2494	-6615	-2812
14901	SLV FO 15	520	2529	-205	155	-33353	3724	-960	5624	-1606
6627	SLV FO 5	18807	2331	-438	1317	-4058	-3587	1707	-14076	-5081

Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
16927	SLV FO 7	652	-16	5356	-6124	23599	21582	29953	-2645	25965
16926	SLV FO 7	652	547	894	-6067	-6210	13508	5073	-715	22143
16905	SLV X	520	-182	-106	-2304	-12901	-2552	-4088	-1440	5842
16925	SLV FO 11	650	-66	448	-2054	-14113	7255	-15343	-5058	3960
9654	SLV FO 7	18817	-3005	60	-2039	3408	1258	-997	8645	-2560

Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
16927	SLV FO 7	653	-3576	4583	20004	22250	-9534	-77577	-2645	-62915
16905	SLV FO 2	520	681	56	7457	21006	8443	9872	3161	-18108
14865	SLU 83	703	943	1364	6942	-52860	35914	109309	-6764	-16906
16911	SLU 83	698	589	-529	5760	-4596	12932	-13703	-1581	-15849
16906	SLU 84	532	441	50	5517	15365	11141	-6189	1242	-12068

Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
16839	SLV FO 7	2891	-4	-1	-4	-121382	29296	-4775	-20	-15
14865	SLV FO 7	592	363	1237	-1240	-103238	-57512	-116431	-6759	3856
17867	SLU 83	1280	-41	38	166	-81462	87859	-131144	-642	2516
14274	SLV FO 2	3507	-12	0	-15	-81222	38409	-97339	-52	-5
14025	SLV FO 13	3193	27	-8	10	-79262	30665	-30189	-77	9

Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
17867	SLU 84	584	48	-225	-243	71821	-68189	82093	-969	-932
14865	SLV FO 7	169	462	-487	994	69297	75902	255844	-5488	-14313
14040	SLV FO 15	1499	-39	209	153	60144	11949	4017	-10614	-2455



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
5287	SLU 71	18575	11	1	0	54265	24426	41469	-1254	-203
14866	SLV FO 7	169	247	-688	-1677	53568	5090	30444	1690	3136

Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
397	SLV FO 10	362	-64	-98	-248	-47697	41659	-157598	-192	-567
9938	SLU 71	19266	-4	6	-11	-71140	61199	-152785	-20	131
9393	SLV FO 7	1222	-56	17	-6	28148	-4906	-136057	351	67
17867	SLU 83	1280	-41	38	166	-81462	87859	-131144	-642	2516
1119	SLV FO 12	4222	-222	-216	-889	-5044	34783	-129725	1058	4513

Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
14865	SLV FO 7	169	462	-487	994	69297	75902	255844	-5488	-14313
16114	SLV FO 6	16007	-17	48	71	9412	-20670	117208	-9	478
16735	SLV FO 9	16008	19	-52	-76	8524	-18975	112970	10	-532
16110	SLV FO 5	17419	-32	54	-63	9725	4923	112113	-202	90
16731	SLV FO 10	17420	35	-58	69	8768	4380	106993	217	-97

1.1.3 Sollecitazioni gusci armati

1.1.3.1 Convenzioni di segno gusci

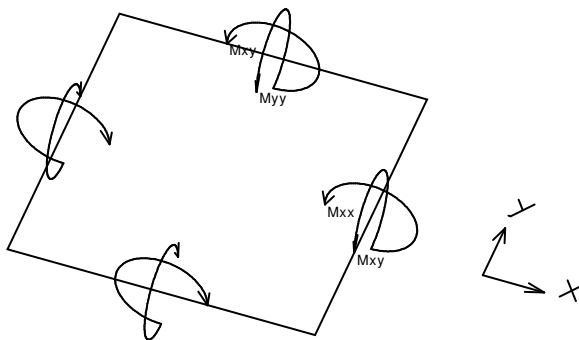
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

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

Convenzione di segno per gusci non verticali

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

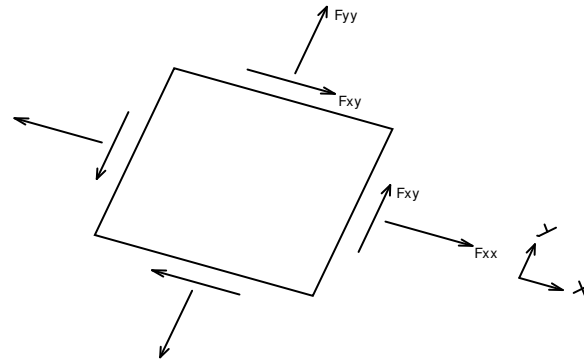
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione F_{xx} , F_{yy} , F_{xy} .



Si definiscono:

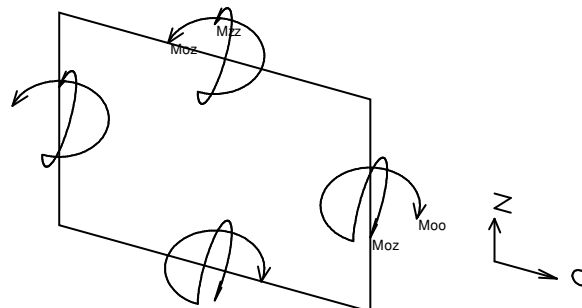
- F_{xx} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che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

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

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

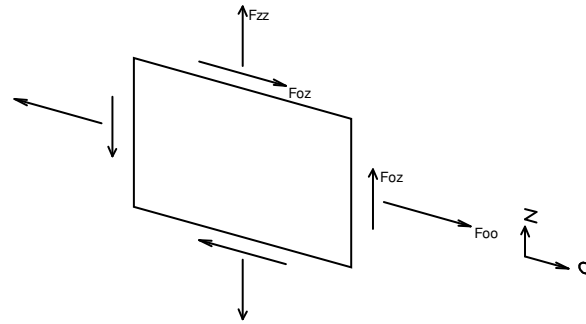
Convenzione di segno per gusci verticali

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



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

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione F_{oo} , F_{zz} , F_{oz} sono rispettivamente:



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

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

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

1.1.4 Sollecitazioni gusci muratura

1.1.4.1 Convenzioni di segno gusci muratura

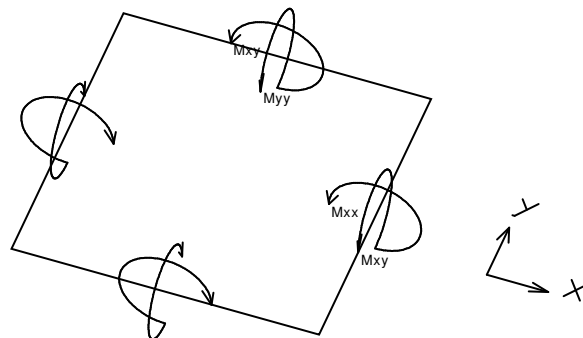
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio muratura si riferisce:

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

Convenzione di segno per gusci non verticali

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

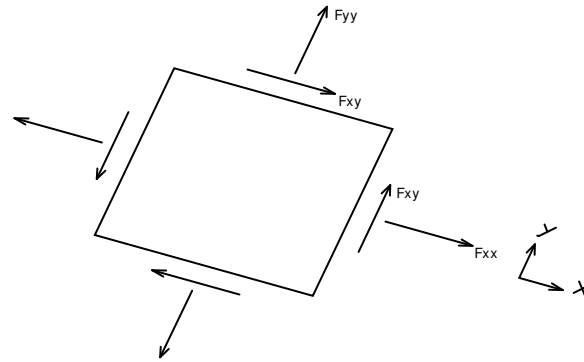
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione M_{xx} , M_{yy} , M_{xy} .



Si definiscono:

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

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione F_{xx} , F_{yy} , F_{xy} .

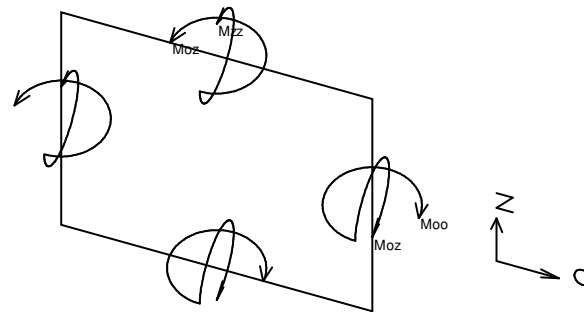


Si definiscono:

- F_{xx} : sforzo tensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{yy} : sforzo tensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{xy} : sforzo tagliente [Forza/Lunghezza] agente sui bordi (verso positivo indicato dalla freccia in figura).

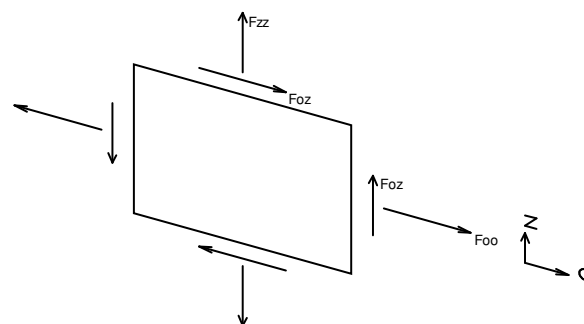
Convenzione di segno per gusci verticali

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



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

Per quanto riguarda le sollecitazioni estensionali si faccia riferimento alla figura seguente dove per lo stesso elemento infinitesimo di shell con indicato il sistema di riferimento i parametri di sollecitazione F_{oo} , F_{zz} , F_{oz} sono rispettivamente:



- F_{zz} : sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse z (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);



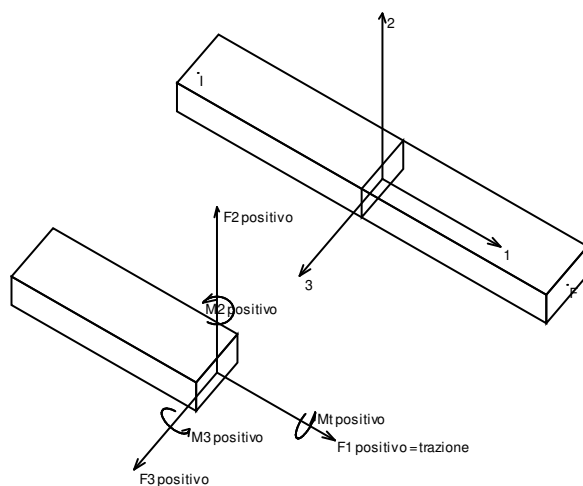
- F_{oo} : sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- F_{oz} : sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato dalla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

1.1.5 Sollecitazioni aste in muratura

1.1.5.1 Convenzioni di segno aste

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

- F_1 (N): sforzo normale nell'asta;
- F_2 : sforzo di taglio agente nella direzione dell'asse locale 2;
- F_3 : sforzo di taglio agente nella direzione dell'asse locale 3;
- M_1 (Mt): momento attorno all'asse locale 1; equivale al momento torcente;
- M_2 : momento attorno all'asse locale 2;
- M_3 : momento attorno all'asse locale 3.



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

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

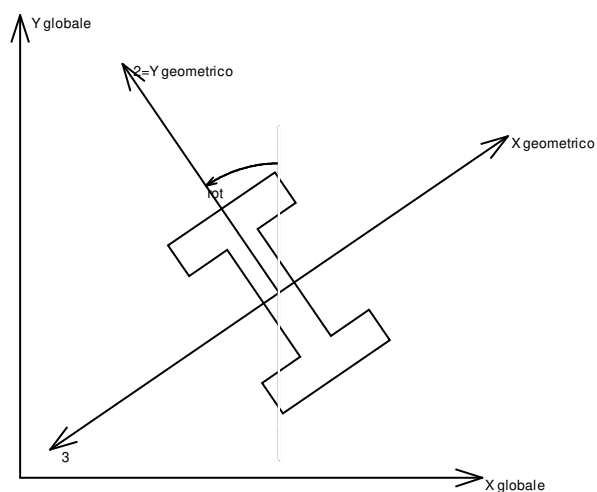
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

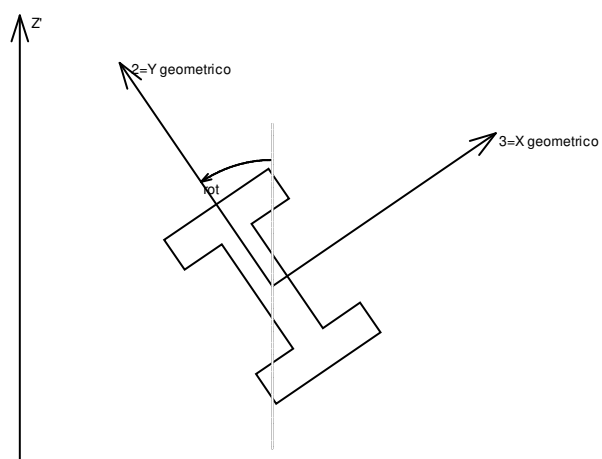


Sistema locale aste verticali



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

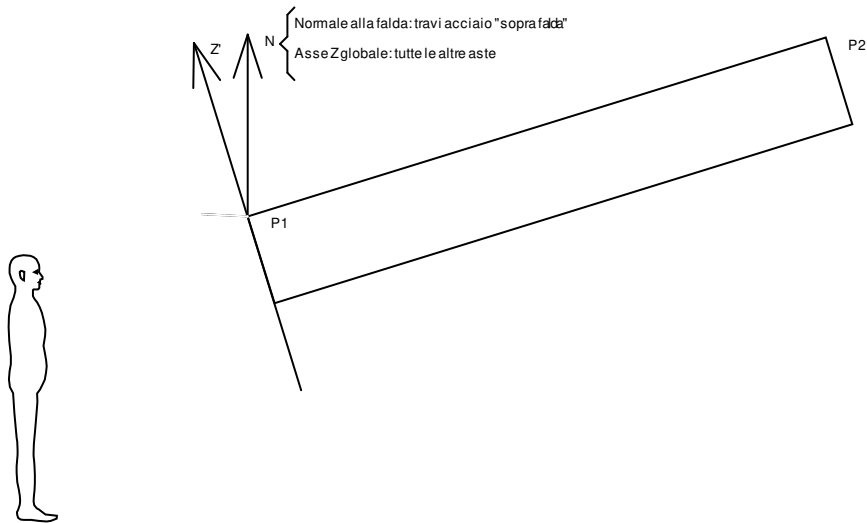
Sistema locale aste non verticali



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

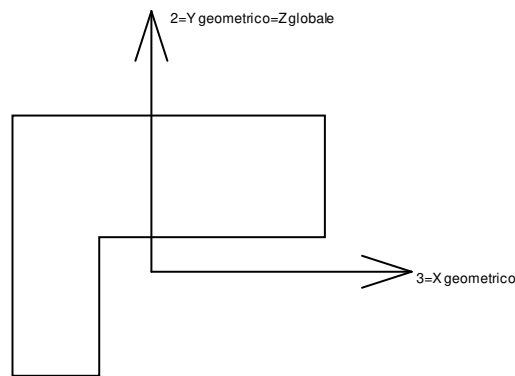
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



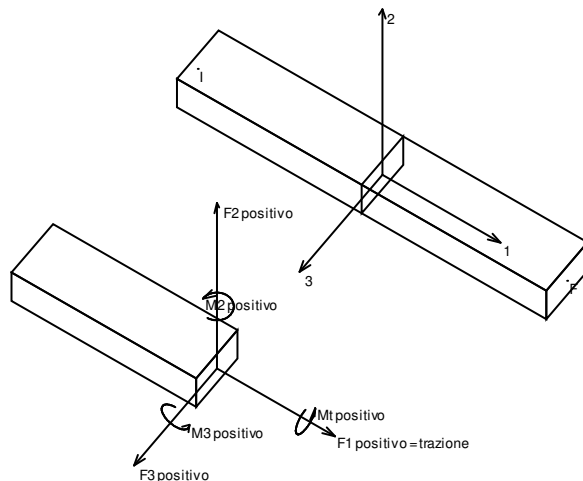
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli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

1.1.6 Sollecitazioni aste in muratura FRCM

1.1.6.1 Convenzioni di segno aste

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

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



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

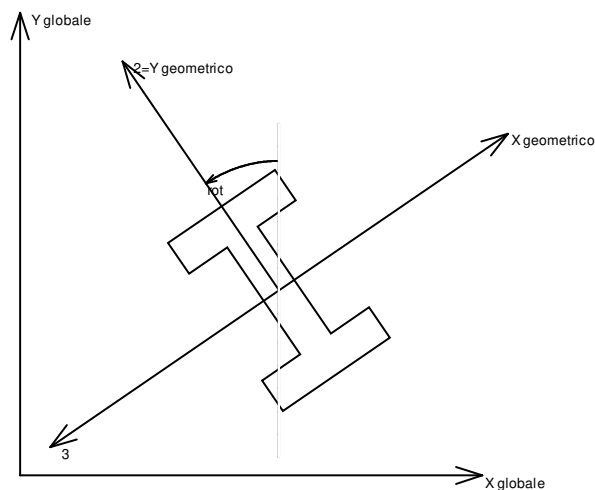
presa un'asta con nodo iniziale i e nodo finale f , asse 1 che va da i a f , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio (sezione da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

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

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

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

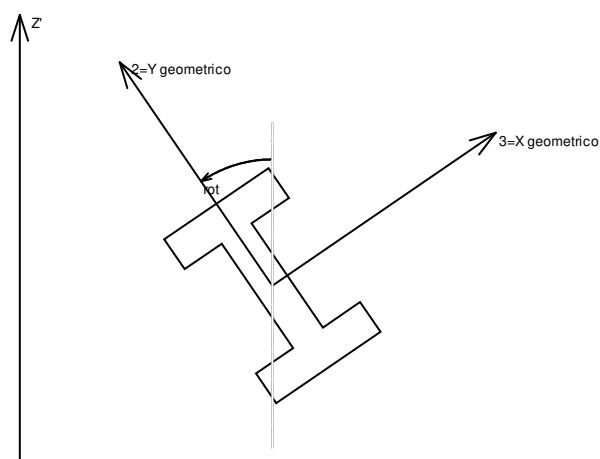
Sistema locale aste verticali



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



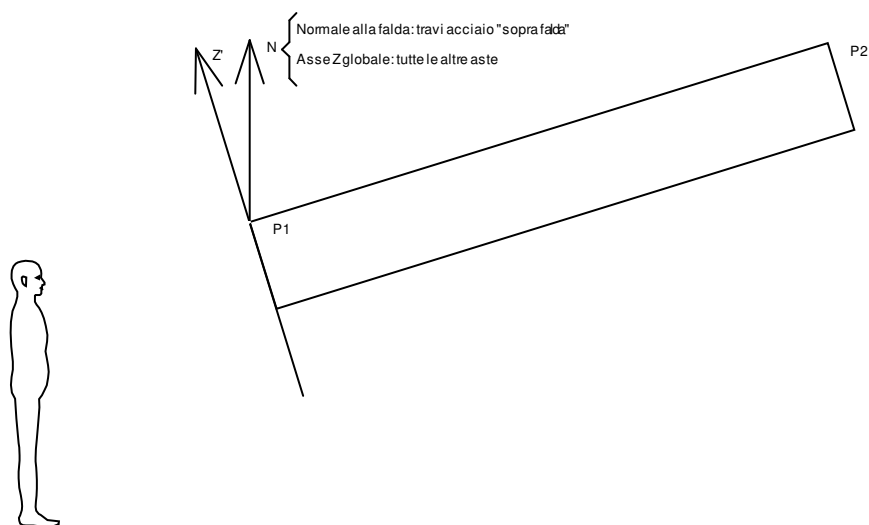
Sistema locale aste non verticali



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

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

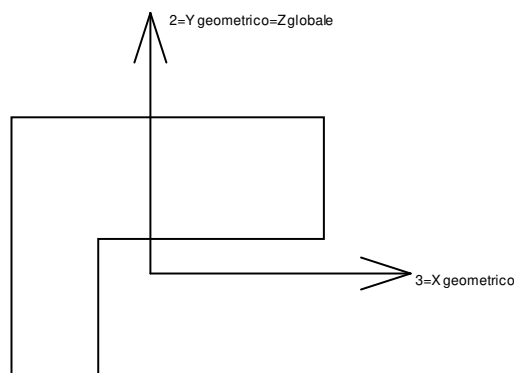
- $P1$ è il punto di inserimento iniziale dell'asta;
- $P2$ è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;



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



Sistema locale aste derivanti da travi in c.a.



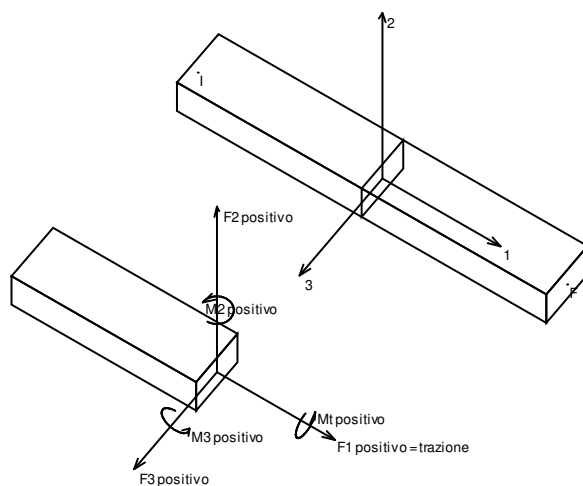
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli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

1.1.7 Sollecitazioni aste in muratura armata

1.1.7.1 Convenzioni di segno aste

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

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



La convenzione sui segni per i parametri di sollecitazione delle aste è la seguente:

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

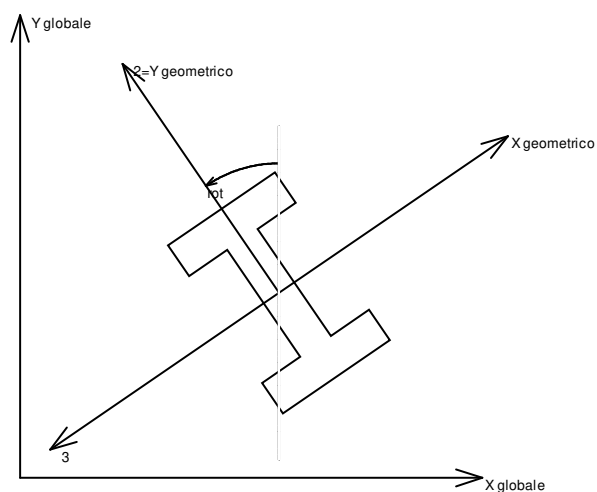
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

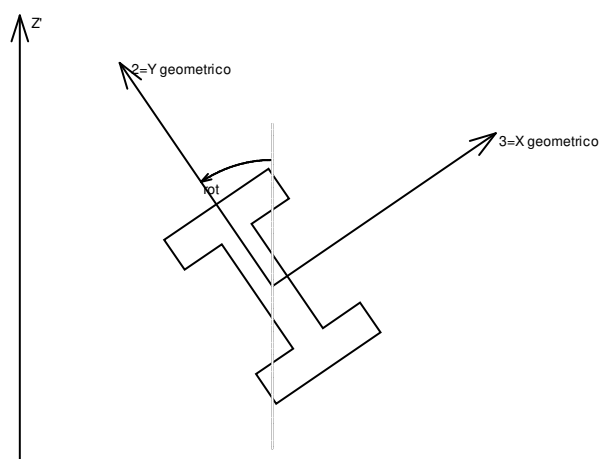


Sistema locale aste verticali



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

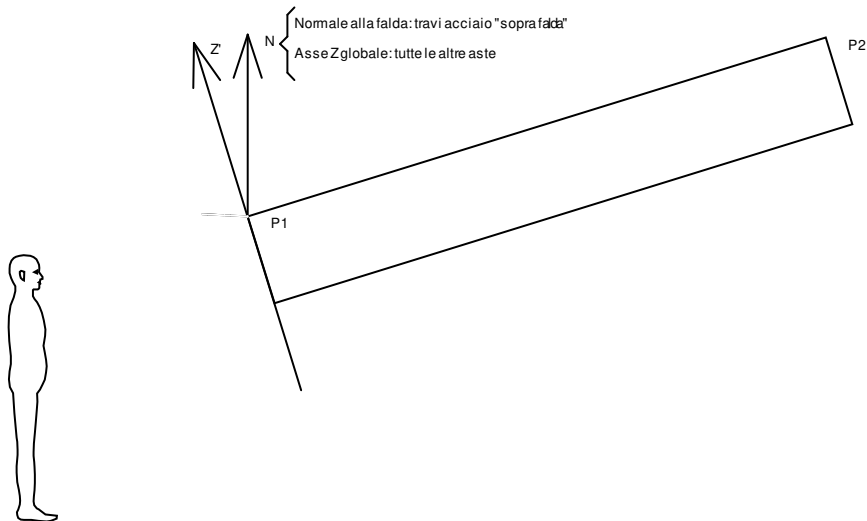
Sistema locale aste non verticali



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

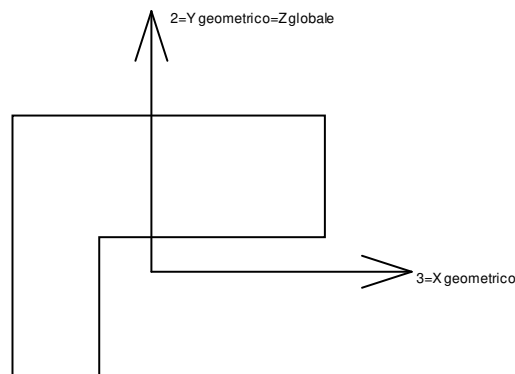
L'asse Z' è illustrato nella figura seguente dove:

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



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

Sistema locale aste derivanti da travi in c.a.



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

1.2 Reazioni nodali

1.2.1 Reazioni nodali estreme

Nodo: Nodo sollecitato dalla reazione vincolare.

Ind.: indice del nodo.

Cont.: Contesto a cui si riferisce la reazione vincolare.

N.br.: nome breve della condizione o combinazione di carico.

Reazione a traslazione: reazione vincolare traslazionale del nodo.

x: componente X della reazione vincolare del nodo. [daN]

y: componente Y della reazione vincolare del nodo. [daN]

z: componente Z della reazione vincolare del nodo. [daN]

Reazione a rotazione: reazione vincolare rotazionale del nodo.

x: componente X della reazione a rotazione del nodo. [daN*m]

y: componente Y della reazione a rotazione del nodo. [daN*m]

z: componente Z della reazione a rotazione del nodo. [daN*m]

Reazioni Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLV FO 14	-2909	815	18020	2395.87	155.88	378.43
669	SLV FO 14	-2874	750	15139	1814.41	-1621.06	437.68
477	SLV FO 13	-2661	617	12650	-61.04	-38.71	39.03
687	SLV FO 13	-2618	721	16040	-2947.47	485.61	-538.08
703	SLV FO 16	-2604	-294	18089	4554.62	5965.17	835.18

Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLV FO 1	3034	957	16026	2477.35	2847.09	-659
703	SLV FO 1	2803	1072	15482	3805.91	5286.72	-1119.93
685	SLV FO 3	2612	-986	18862	2640.18	316.24	-375.19
669	SLV FO 3	2448	-945	23294	3055.9	-2381.59	-422.87
1027	SLV FO 1	2309	575	13449	-3530.39	-35.95	601.59

Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLV FO 8	739	-3211	19413	2718.8	207.09	-95.8
669	SLV FO 8	647	-3133	20719	2900.74	-2199.15	-414.27
687	SLV FO 8	615	-3052	16922	-2967.51	487.43	178.77
715	SLV FO 11	-626	-2984	22007	3754.68	4006.43	620.47
671	SLV FO 8	578	-2673	17505	-1124.19	-849.01	-80.32

Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
703	SLV FO 10	-641	3391	15770	4033.97	5260.05	-982.9
715	SLV FO 6	1126	3188	17587	2604.89	3015.61	-745.46
685	SLV FO 9	-1036	3040	17470	2317.26	265.04	99.03
669	SLV FO 9	-1073	2938	17714	1969.57	-1803.5	429.08
687	SLV FO 9	-952	2615	14783	-2735.26	501.12	-271.31

Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
334	SLV Y	299	-1852	-6911	-2157.77	540.15	-238.75
321	SLV Y	236	-1195	-6165	-1273.25	-52.6	-45.16
347	SLV Y	-133	-959	-5298	-1004.75	-374.99	99.74
187	SLV Y	-33	-720	-5049	-993.76	-1099.55	155.19
654	SLV X	-1119	168	-4553	-5.59	797.99	30.83

Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLU 83	353	158	29487	4739.2	5230.87	-91.3
669	SLU 83	-292	-143	28612	3628.94	-2982.26	8.32
685	SLU 83	-208	-134	27550	3763.6	352.02	1.45
1027	SLV FO 8	-8	-2173	25223	-6455.14	-229.89	-5.55
703	SLU 83	139	556	24988	6221.44	8373.72	-201.81

1.2.2 Reazioni nodali in combinazioni di carico

Nodo: Nodo sollecitato dalla reazione vincolare.

Ind.: indice del nodo.

Cont.: Contesto a cui si riferisce la reazione vincolare.

N.br.: nome breve della condizione o combinazione di carico.

Reazione a traslazione: reazione vincolare traslazionale del nodo.

x: componente X della reazione vincolare del nodo. [daN]

y: componente Y della reazione vincolare del nodo. [daN]

z: componente Z della reazione vincolare del nodo. [daN]

Reazione a rotazione: reazione vincolare rotazionale del nodo.

x: componente X della reazione a rotazione del nodo. [daN*m]

y: componente Y della reazione a rotazione del nodo. [daN*m]

z: componente Z della reazione a rotazione del nodo. [daN*m]

Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
10	SLU 1	4	-10	326	0	0	0
10	SLU 2	4	-9	328	0	0	0
10	SLU 3	4	-9	332	0	0	0
10	SLU 4	4	-9	334	0	0	0
10	SLU 5	4	-9	332	0	0	0
10	SLU 6	4	-9	336	0	0	0
10	SLU 7	4	-9	338	0	0	0
10	SLU 8	4	-9	334	0	0	0
10	SLU 9	4	-9	335	0	0	0
10	SLU 10	4	-10	373	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
10	SLU 11	4	-10	377	0	0	0
10	SLU 12	4	-10	378	0	0	0
10	SLU 13	4	-9	377	0	0	0
10	SLU 14	3	-9	381	0	0	0
10	SLU 15	3	-9	382	0	0	0
10	SLU 16	3	-9	379	0	0	0
10	SLU 17	3	-9	380	0	0	0
10	SLU 18	3	-10	389	0	0	0
10	SLU 19	4	-10	391	0	0	0
10	SLU 20	3	-10	393	0	0	0
10	SLU 21	3	-10	395	0	0	0
10	SLU 22	4	-9	373	0	0	0
10	SLU 23	4	-9	376	0	0	0
10	SLU 24	4	-9	380	0	0	0
10	SLU 25	4	-8	381	0	0	0
10	SLU 26	4	-8	380	0	0	0
10	SLU 27	4	-8	384	0	0	0
10	SLU 28	4	-8	385	0	0	0
10	SLU 29	4	-8	381	0	0	0
10	SLU 30	4	-8	383	0	0	0
10	SLU 31	4	-9	420	0	0	0
10	SLU 32	3	-9	424	0	0	0
10	SLU 33	3	-9	426	0	0	0
10	SLU 34	4	-9	424	0	0	0
10	SLU 35	3	-9	428	0	0	0
10	SLU 36	3	-9	430	0	0	0
10	SLU 37	3	-9	426	0	0	0
10	SLU 38	3	-9	427	0	0	0
10	SLU 39	3	-10	437	0	0	0
10	SLU 40	3	-10	438	0	0	0
10	SLU 41	3	-9	441	0	0	0
10	SLU 42	3	-9	442	0	0	0
10	SLU 43	6	-13	407	0	0	0
10	SLU 44	6	-12	410	0	0	0
10	SLU 45	5	-12	414	0	0	0
10	SLU 46	6	-12	415	0	0	0
10	SLU 47	6	-12	414	0	0	0
10	SLU 48	5	-12	418	0	0	0
10	SLU 49	5	-12	419	0	0	0
10	SLU 50	5	-12	416	0	0	0
10	SLU 51	5	-12	417	0	0	0
10	SLU 52	5	-13	454	0	0	0
10	SLU 53	5	-13	458	0	0	0
10	SLU 54	5	-13	460	0	0	0
10	SLU 55	5	-12	458	0	0	0
10	SLU 56	5	-13	462	0	0	0
10	SLU 57	5	-12	464	0	0	0
10	SLU 58	5	-13	460	0	0	0
10	SLU 59	5	-12	461	0	0	0
10	SLU 60	5	-13	471	0	0	0
10	SLU 61	5	-13	472	0	0	0
10	SLU 62	5	-13	475	0	0	0
10	SLU 63	5	-13	476	0	0	0
10	SLU 64	5	-12	455	0	0	0
10	SLU 65	6	-12	457	0	0	0
10	SLU 66	5	-12	461	0	0	0
10	SLU 67	5	-12	463	0	0	0
10	SLU 68	5	-11	461	0	0	0
10	SLU 69	5	-11	465	0	0	0
10	SLU 70	5	-11	467	0	0	0
10	SLU 71	5	-11	463	0	0	0
10	SLU 72	5	-11	464	0	0	0
10	SLU 73	5	-12	502	0	0	0
10	SLU 74	5	-12	506	0	0	0
10	SLU 75	5	-12	507	0	0	0
10	SLU 76	5	-12	506	0	0	0
10	SLU 77	4	-12	510	0	0	0
10	SLU 78	5	-12	511	0	0	0
10	SLU 79	4	-12	507	0	0	0
10	SLU 80	5	-12	509	0	0	0
10	SLU 81	5	-13	518	0	0	0
10	SLU 82	5	-13	520	0	0	0
10	SLU 83	4	-13	522	0	0	0
10	SLU 84	5	-12	524	0	0	0
10	SLE RA 1	4	-9	339	0	0	0
10	SLE RA 2	4	-9	341	0	0	0
10	SLE RA 3	4	-9	344	0	0	0
10	SLE RA 4	4	-9	345	0	0	0
10	SLE RA 5	4	-9	344	0	0	0
10	SLE RA 6	4	-9	346	0	0	0
10	SLE RA 7	4	-9	347	0	0	0
10	SLE RA 8	4	-9	345	0	0	0
10	SLE RA 9	4	-9	346	0	0	0
10	SLE RA 10	4	-9	371	0	0	0
10	SLE RA 11	4	-10	373	0	0	0
10	SLE RA 12	4	-9	374	0	0	0
10	SLE RA 13	4	-9	373	0	0	0
10	SLE RA 14	4	-9	376	0	0	0
10	SLE RA 15	4	-9	377	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
10	SLE RA 16	4	-9	375	0	0	0
10	SLE RA 17	4	-9	375	0	0	0
10	SLE RA 18	4	-10	382	0	0	0
10	SLE RA 19	4	-10	383	0	0	0
10	SLE RA 20	4	-10	384	0	0	0
10	SLE RA 21	4	-10	385	0	0	0
10	SLE FR 1	4	-9	339	0	0	0
10	SLE FR 2	4	-9	340	0	0	0
10	SLE FR 3	4	-9	340	0	0	0
10	SLE FR 4	4	-9	352	0	0	0
10	SLE FR 5	4	-9	353	0	0	0
10	SLE FR 6	4	-10	361	0	0	0
10	SLE QP 1	4	-9	339	0	0	0
10	SLE QP 2	4	-10	352	0	0	0
10	SLD 1	18	-3	377	0	0	0
10	SLD 2	21	-3	378	0	0	0
10	SLD 3	16	-7	347	0	0	0
10	SLD 4	18	-7	348	0	0	0
10	SLD 5	12	-1	404	0	0	0
10	SLD 6	13	-1	405	0	0	0
10	SLD 7	3	-16	306	0	0	0
10	SLD 8	5	-16	307	0	0	0
10	SLD 9	3	-3	398	0	0	0
10	SLD 10	5	-3	398	0	0	0
10	SLD 11	-5	-18	300	0	0	0
10	SLD 12	-4	-18	300	0	0	0
10	SLD 13	-10	-12	356	0	0	0
10	SLD 14	-8	-12	357	0	0	0
10	SLD 15	-13	-16	326	0	0	0
10	SLD 16	-10	-16	327	0	0	0
10	SLV 1	27	1	391	0	0	0
10	SLV 2	30	1	393	0	0	0
10	SLV 3	22	-6	344	0	0	0
10	SLV 4	26	-6	345	0	0	0
10	SLV 5	16	5	436	0	0	0
10	SLV 6	19	5	437	0	0	0
10	SLV 7	3	-20	277	0	0	0
10	SLV 8	5	-20	278	0	0	0
10	SLV 9	3	1	426	0	0	0
10	SLV 10	5	1	427	0	0	0
10	SLV 11	-11	-24	267	0	0	0
10	SLV 12	-8	-24	268	0	0	0
10	SLV 13	-18	-13	359	0	0	0
10	SLV 14	-14	-13	360	0	0	0
10	SLV 15	-22	-20	311	0	0	0
10	SLV 16	-19	-20	313	0	0	0
10	SLV FO 1	29	2	395	0	0	0
10	SLV FO 2	33	2	397	0	0	0
10	SLV FO 3	24	-6	343	0	0	0
10	SLV FO 4	28	-6	345	0	0	0
10	SLV FO 5	18	6	444	0	0	0
10	SLV FO 6	20	6	445	0	0	0
10	SLV FO 7	2	-21	270	0	0	0
10	SLV FO 8	5	-21	271	0	0	0
10	SLV FO 9	3	2	433	0	0	0
10	SLV FO 10	6	2	434	0	0	0
10	SLV FO 11	-12	-26	259	0	0	0
10	SLV FO 12	-10	-25	260	0	0	0
10	SLV FO 13	-20	-13	359	0	0	0
10	SLV FO 14	-16	-13	361	0	0	0
10	SLV FO 15	-25	-22	307	0	0	0
10	SLV FO 16	-21	-21	309	0	0	0
11	SLU 1	7	-14	583	0	0	0
11	SLU 2	8	-13	587	0	0	0
11	SLU 3	7	-13	594	0	0	0
11	SLU 4	7	-13	597	0	0	0
11	SLU 5	8	-13	594	0	0	0
11	SLU 6	7	-13	601	0	0	0
11	SLU 7	7	-12	604	0	0	0
11	SLU 8	7	-13	597	0	0	0
11	SLU 9	7	-12	599	0	0	0
11	SLU 10	7	-14	665	0	0	0
11	SLU 11	6	-14	673	0	0	0
11	SLU 12	6	-14	675	0	0	0
11	SLU 13	7	-13	673	0	0	0
11	SLU 14	6	-13	680	0	0	0
11	SLU 15	6	-13	682	0	0	0
11	SLU 16	6	-14	675	0	0	0
11	SLU 17	6	-13	678	0	0	0
11	SLU 18	6	-15	695	0	0	0
11	SLU 19	6	-15	697	0	0	0
11	SLU 20	6	-14	702	0	0	0
11	SLU 21	6	-14	705	0	0	0
11	SLU 22	7	-13	667	0	0	0
11	SLU 23	8	-12	671	0	0	0
11	SLU 24	7	-12	678	0	0	0
11	SLU 25	7	-12	681	0	0	0
11	SLU 26	7	-11	678	0	0	0
11	SLU 27	7	-11	685	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
11	SLU 28	7	-11	688	0	0	0
11	SLU 29	7	-12	681	0	0	0
11	SLU 30	7	-11	683	0	0	0
11	SLU 31	7	-13	750	0	0	0
11	SLU 32	6	-13	757	0	0	0
11	SLU 33	6	-12	759	0	0	0
11	SLU 34	6	-12	757	0	0	0
11	SLU 35	6	-12	764	0	0	0
11	SLU 36	6	-12	766	0	0	0
11	SLU 37	6	-12	759	0	0	0
11	SLU 38	6	-12	762	0	0	0
11	SLU 39	6	-14	779	0	0	0
11	SLU 40	6	-13	781	0	0	0
11	SLU 41	5	-13	786	0	0	0
11	SLU 42	6	-13	789	0	0	0
11	SLU 43	10	-19	728	0	0	0
11	SLU 44	10	-18	733	0	0	0
11	SLU 45	10	-18	740	0	0	0
11	SLU 46	10	-18	743	0	0	0
11	SLU 47	10	-17	740	0	0	0
11	SLU 48	9	-17	747	0	0	0
11	SLU 49	9	-17	750	0	0	0
11	SLU 50	9	-17	743	0	0	0
11	SLU 51	9	-17	745	0	0	0
11	SLU 52	9	-19	811	0	0	0
11	SLU 53	9	-19	819	0	0	0
11	SLU 54	9	-18	821	0	0	0
11	SLU 55	9	-18	819	0	0	0
11	SLU 56	8	-18	826	0	0	0
11	SLU 57	8	-18	828	0	0	0
11	SLU 58	8	-18	821	0	0	0
11	SLU 59	8	-18	824	0	0	0
11	SLU 60	8	-20	841	0	0	0
11	SLU 61	9	-19	843	0	0	0
11	SLU 62	8	-19	848	0	0	0
11	SLU 63	8	-19	850	0	0	0
11	SLU 64	10	-17	812	0	0	0
11	SLU 65	10	-17	817	0	0	0
11	SLU 66	9	-17	824	0	0	0
11	SLU 67	10	-16	827	0	0	0
11	SLU 68	10	-16	824	0	0	0
11	SLU 69	9	-16	831	0	0	0
11	SLU 70	9	-16	834	0	0	0
11	SLU 71	9	-16	827	0	0	0
11	SLU 72	9	-16	829	0	0	0
11	SLU 73	9	-17	895	0	0	0
11	SLU 74	8	-17	903	0	0	0
11	SLU 75	9	-17	905	0	0	0
11	SLU 76	9	-17	903	0	0	0
11	SLU 77	8	-17	910	0	0	0
11	SLU 78	8	-16	912	0	0	0
11	SLU 79	8	-17	905	0	0	0
11	SLU 80	8	-16	908	0	0	0
11	SLU 81	8	-18	925	0	0	0
11	SLU 82	8	-18	927	0	0	0
11	SLU 83	8	-18	932	0	0	0
11	SLU 84	8	-17	935	0	0	0
11	SLE RA 1	7	-14	607	0	0	0
11	SLE RA 2	8	-13	609	0	0	0
11	SLE RA 3	7	-13	614	0	0	0
11	SLE RA 4	7	-13	616	0	0	0
11	SLE RA 5	7	-13	614	0	0	0
11	SLE RA 6	7	-13	619	0	0	0
11	SLE RA 7	7	-13	621	0	0	0
11	SLE RA 8	7	-13	616	0	0	0
11	SLE RA 9	7	-13	618	0	0	0
11	SLE RA 10	7	-14	662	0	0	0
11	SLE RA 11	7	-14	667	0	0	0
11	SLE RA 12	7	-13	668	0	0	0
11	SLE RA 13	7	-13	667	0	0	0
11	SLE RA 14	6	-13	671	0	0	0
11	SLE RA 15	7	-13	673	0	0	0
11	SLE RA 16	6	-13	668	0	0	0
11	SLE RA 17	6	-13	670	0	0	0
11	SLE RA 18	6	-14	681	0	0	0
11	SLE RA 19	7	-14	683	0	0	0
11	SLE RA 20	6	-14	686	0	0	0
11	SLE RA 21	6	-14	688	0	0	0
11	SLE FR 1	7	-14	607	0	0	0
11	SLE FR 2	7	-13	607	0	0	0
11	SLE FR 3	7	-13	608	0	0	0
11	SLE FR 4	7	-14	630	0	0	0
11	SLE FR 5	7	-14	631	0	0	0
11	SLE FR 6	7	-14	644	0	0	0
11	SLE QP 1	7	-14	607	0	0	0
11	SLE QP 2	7	-14	629	0	0	0
11	SLD 1	33	-3	661	0	0	0
11	SLD 2	37	-2	662	0	0	0
11	SLD 3	28	-11	608	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
11	SLD 4	32	-10	609	0	0	0
11	SLD 5	21	1	719	0	0	0
11	SLD 6	24	2	720	0	0	0
11	SLD 7	6	-25	541	0	0	0
11	SLD 8	9	-24	542	0	0	0
11	SLD 9	6	-3	716	0	0	0
11	SLD 10	8	-3	717	0	0	0
11	SLD 11	-9	-29	538	0	0	0
11	SLD 12	-7	-29	539	0	0	0
11	SLD 13	-18	-18	649	0	0	0
11	SLD 14	-14	-17	650	0	0	0
11	SLD 15	-22	-25	596	0	0	0
11	SLD 16	-18	-24	597	0	0	0
11	SLV 1	47	3	681	0	0	0
11	SLV 2	54	5	683	0	0	0
11	SLV 3	40	-10	594	0	0	0
11	SLV 4	46	-8	596	0	0	0
11	SLV 5	29	11	775	0	0	0
11	SLV 6	33	12	777	0	0	0
11	SLV 7	5	-32	487	0	0	0
11	SLV 8	9	-31	489	0	0	0
11	SLV 9	5	4	769	0	0	0
11	SLV 10	10	5	771	0	0	0
11	SLV 11	-19	-39	481	0	0	0
11	SLV 12	-15	-38	483	0	0	0
11	SLV 13	-32	-19	662	0	0	0
11	SLV 14	-26	-18	664	0	0	0
11	SLV 15	-39	-32	575	0	0	0
11	SLV 16	-33	-31	577	0	0	0
11	SLV FO 1	51	5	686	0	0	0
11	SLV FO 2	58	7	688	0	0	0
11	SLV FO 3	43	-9	591	0	0	0
11	SLV FO 4	50	-8	593	0	0	0
11	SLV FO 5	31	13	790	0	0	0
11	SLV FO 6	36	14	791	0	0	0
11	SLV FO 7	4	-34	473	0	0	0
11	SLV FO 8	9	-33	474	0	0	0
11	SLV FO 9	5	6	783	0	0	0
11	SLV FO 10	10	7	785	0	0	0
11	SLV FO 11	-22	-42	467	0	0	0
11	SLV FO 12	-17	-40	468	0	0	0
11	SLV FO 13	-36	-20	665	0	0	0
11	SLV FO 14	-29	-18	667	0	0	0
11	SLV FO 15	-44	-34	570	0	0	0
11	SLV FO 16	-37	-32	572	0	0	0
12	SLU 1	7	-10	512	0	0	0
12	SLU 2	7	-10	516	0	0	0
12	SLU 3	6	-10	522	0	0	0
12	SLU 4	7	-9	524	0	0	0
12	SLU 5	7	-9	522	0	0	0
12	SLU 6	6	-9	528	0	0	0
12	SLU 7	6	-9	530	0	0	0
12	SLU 8	6	-9	524	0	0	0
12	SLU 9	6	-9	526	0	0	0
12	SLU 10	6	-10	584	0	0	0
12	SLU 11	5	-10	590	0	0	0
12	SLU 12	6	-10	593	0	0	0
12	SLU 13	6	-9	590	0	0	0
12	SLU 14	5	-9	596	0	0	0
12	SLU 15	5	-9	599	0	0	0
12	SLU 16	5	-10	592	0	0	0
12	SLU 17	5	-9	595	0	0	0
12	SLU 18	5	-11	610	0	0	0
12	SLU 19	5	-10	612	0	0	0
12	SLU 20	5	-10	616	0	0	0
12	SLU 21	5	-10	618	0	0	0
12	SLU 22	6	-9	585	0	0	0
12	SLU 23	7	-8	589	0	0	0
12	SLU 24	6	-8	595	0	0	0
12	SLU 25	6	-8	597	0	0	0
12	SLU 26	6	-8	595	0	0	0
12	SLU 27	6	-8	601	0	0	0
12	SLU 28	6	-7	604	0	0	0
12	SLU 29	6	-8	597	0	0	0
12	SLU 30	6	-7	600	0	0	0
12	SLU 31	6	-9	657	0	0	0
12	SLU 32	5	-9	663	0	0	0
12	SLU 33	5	-8	666	0	0	0
12	SLU 34	5	-8	664	0	0	0
12	SLU 35	5	-8	670	0	0	0
12	SLU 36	5	-8	672	0	0	0
12	SLU 37	5	-8	666	0	0	0
12	SLU 38	5	-8	668	0	0	0
12	SLU 39	5	-9	683	0	0	0
12	SLU 40	5	-9	685	0	0	0
12	SLU 41	5	-9	689	0	0	0
12	SLU 42	5	-8	691	0	0	0
12	SLU 43	9	-14	640	0	0	0
12	SLU 44	9	-13	644	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLU 45	8	-13	650	0	0	0
12	SLU 46	9	-13	653	0	0	0
12	SLU 47	9	-13	650	0	0	0
12	SLU 48	8	-13	656	0	0	0
12	SLU 49	8	-12	659	0	0	0
12	SLU 50	8	-13	653	0	0	0
12	SLU 51	8	-12	655	0	0	0
12	SLU 52	8	-13	713	0	0	0
12	SLU 53	8	-13	719	0	0	0
12	SLU 54	8	-13	721	0	0	0
12	SLU 55	8	-13	719	0	0	0
12	SLU 56	7	-13	725	0	0	0
12	SLU 57	7	-13	727	0	0	0
12	SLU 58	7	-13	721	0	0	0
12	SLU 59	7	-13	723	0	0	0
12	SLU 60	7	-14	738	0	0	0
12	SLU 61	8	-14	740	0	0	0
12	SLU 62	7	-14	744	0	0	0
12	SLU 63	7	-13	746	0	0	0
12	SLU 64	8	-12	714	0	0	0
12	SLU 65	9	-12	717	0	0	0
12	SLU 66	8	-12	724	0	0	0
12	SLU 67	8	-11	726	0	0	0
12	SLU 68	8	-11	724	0	0	0
12	SLU 69	8	-11	730	0	0	0
12	SLU 70	8	-11	732	0	0	0
12	SLU 71	8	-11	726	0	0	0
12	SLU 72	8	-11	728	0	0	0
12	SLU 73	8	-12	786	0	0	0
12	SLU 74	7	-12	792	0	0	0
12	SLU 75	7	-12	794	0	0	0
12	SLU 76	8	-12	792	0	0	0
12	SLU 77	7	-12	798	0	0	0
12	SLU 78	7	-11	800	0	0	0
12	SLU 79	7	-12	794	0	0	0
12	SLU 80	7	-11	797	0	0	0
12	SLU 81	7	-13	811	0	0	0
12	SLU 82	7	-12	814	0	0	0
12	SLU 83	7	-12	817	0	0	0
12	SLU 84	7	-12	820	0	0	0
12	SLE RA 1	6	-10	533	0	0	0
12	SLE RA 2	7	-9	535	0	0	0
12	SLE RA 3	6	-9	539	0	0	0
12	SLE RA 4	6	-9	541	0	0	0
12	SLE RA 5	7	-9	539	0	0	0
12	SLE RA 6	6	-9	544	0	0	0
12	SLE RA 7	6	-9	545	0	0	0
12	SLE RA 8	6	-9	541	0	0	0
12	SLE RA 9	6	-9	543	0	0	0
12	SLE RA 10	6	-10	581	0	0	0
12	SLE RA 11	6	-10	585	0	0	0
12	SLE RA 12	6	-9	587	0	0	0
12	SLE RA 13	6	-9	585	0	0	0
12	SLE RA 14	6	-9	589	0	0	0
12	SLE RA 15	6	-9	591	0	0	0
12	SLE RA 16	6	-9	587	0	0	0
12	SLE RA 17	6	-9	588	0	0	0
12	SLE RA 18	6	-10	598	0	0	0
12	SLE RA 19	6	-10	599	0	0	0
12	SLE RA 20	5	-10	602	0	0	0
12	SLE RA 21	6	-10	604	0	0	0
12	SLE FR 1	6	-10	533	0	0	0
12	SLE FR 2	7	-10	533	0	0	0
12	SLE FR 3	6	-10	534	0	0	0
12	SLE FR 4	6	-10	553	0	0	0
12	SLE FR 5	6	-10	554	0	0	0
12	SLE FR 6	6	-10	565	0	0	0
12	SLE QP 1	6	-10	533	0	0	0
12	SLE QP 2	6	-10	552	0	0	0
12	SLD 1	28	-1	571	0	0	0
12	SLD 2	32	0	572	0	0	0
12	SLD 3	25	-8	524	0	0	0
12	SLD 4	28	-7	525	0	0	0
12	SLD 5	18	3	630	0	0	0
12	SLD 6	21	3	630	0	0	0
12	SLD 7	5	-20	472	0	0	0
12	SLD 8	8	-19	472	0	0	0
12	SLD 9	5	-1	632	0	0	0
12	SLD 10	7	0	633	0	0	0
12	SLD 11	-8	-23	474	0	0	0
12	SLD 12	-6	-22	475	0	0	0
12	SLD 13	-16	-13	580	0	0	0
12	SLD 14	-12	-12	581	0	0	0
12	SLD 15	-20	-20	533	0	0	0
12	SLD 16	-16	-18	533	0	0	0
12	SLV 1	41	4	583	0	0	0
12	SLV 2	47	6	585	0	0	0
12	SLV 3	35	-7	507	0	0	0
12	SLV 4	41	-5	508	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
12	SLV 5	25	10	677	0	0	0
12	SLV 6	29	12	678	0	0	0
12	SLV 7	4	-26	422	0	0	0
12	SLV 8	8	-25	423	0	0	0
12	SLV 9	5	5	681	0	0	0
12	SLV 10	8	6	682	0	0	0
12	SLV 11	-17	-32	426	0	0	0
12	SLV 12	-13	-30	427	0	0	0
12	SLV 13	-28	-14	597	0	0	0
12	SLV 14	-22	-12	598	0	0	0
12	SLV 15	-35	-25	520	0	0	0
12	SLV 16	-29	-23	521	0	0	0
12	SLV FO 1	45	5	586	0	0	0
12	SLV FO 2	51	7	588	0	0	0
12	SLV FO 3	38	-7	502	0	0	0
12	SLV FO 4	44	-5	504	0	0	0
12	SLV FO 5	27	12	690	0	0	0
12	SLV FO 6	31	14	691	0	0	0
12	SLV FO 7	4	-28	409	0	0	0
12	SLV FO 8	8	-26	410	0	0	0
12	SLV FO 9	4	7	694	0	0	0
12	SLV FO 10	9	8	695	0	0	0
12	SLV FO 11	-19	-34	414	0	0	0
12	SLV FO 12	-15	-32	415	0	0	0
12	SLV FO 13	-32	-15	601	0	0	0
12	SLV FO 14	-25	-12	603	0	0	0
12	SLV FO 15	-39	-27	517	0	0	0
12	SLV FO 16	-32	-25	518	0	0	0
13	SLU 1	7	-8	514	0	0	0
13	SLU 2	7	-7	518	0	0	0
13	SLU 3	6	-7	524	0	0	0
13	SLU 4	7	-7	526	0	0	0
13	SLU 5	7	-7	524	0	0	0
13	SLU 6	6	-7	530	0	0	0
13	SLU 7	6	-7	532	0	0	0
13	SLU 8	6	-7	526	0	0	0
13	SLU 9	6	-7	528	0	0	0
13	SLU 10	6	-8	586	0	0	0
13	SLU 11	5	-8	592	0	0	0
13	SLU 12	6	-7	594	0	0	0
13	SLU 13	6	-7	592	0	0	0
13	SLU 14	5	-7	598	0	0	0
13	SLU 15	5	-7	600	0	0	0
13	SLU 16	5	-7	594	0	0	0
13	SLU 17	5	-7	596	0	0	0
13	SLU 18	5	-8	611	0	0	0
13	SLU 19	5	-8	613	0	0	0
13	SLU 20	5	-8	617	0	0	0
13	SLU 21	5	-7	619	0	0	0
13	SLU 22	6	-6	587	0	0	0
13	SLU 23	7	-6	591	0	0	0
13	SLU 24	6	-6	597	0	0	0
13	SLU 25	6	-6	599	0	0	0
13	SLU 26	6	-5	597	0	0	0
13	SLU 27	6	-5	603	0	0	0
13	SLU 28	6	-5	605	0	0	0
13	SLU 29	6	-5	599	0	0	0
13	SLU 30	6	-5	601	0	0	0
13	SLU 31	6	-6	659	0	0	0
13	SLU 32	5	-6	665	0	0	0
13	SLU 33	5	-6	667	0	0	0
13	SLU 34	5	-6	665	0	0	0
13	SLU 35	5	-6	671	0	0	0
13	SLU 36	5	-5	673	0	0	0
13	SLU 37	5	-6	667	0	0	0
13	SLU 38	5	-5	669	0	0	0
13	SLU 39	5	-7	684	0	0	0
13	SLU 40	5	-6	686	0	0	0
13	SLU 41	5	-6	690	0	0	0
13	SLU 42	5	-6	692	0	0	0
13	SLU 43	9	-11	643	0	0	0
13	SLU 44	9	-10	647	0	0	0
13	SLU 45	8	-10	653	0	0	0
13	SLU 46	9	-10	655	0	0	0
13	SLU 47	9	-10	653	0	0	0
13	SLU 48	8	-10	659	0	0	0
13	SLU 49	8	-10	661	0	0	0
13	SLU 50	8	-10	655	0	0	0
13	SLU 51	8	-10	657	0	0	0
13	SLU 52	8	-11	715	0	0	0
13	SLU 53	8	-11	721	0	0	0
13	SLU 54	8	-10	723	0	0	0
13	SLU 55	8	-10	721	0	0	0
13	SLU 56	7	-10	727	0	0	0
13	SLU 57	7	-10	729	0	0	0
13	SLU 58	7	-10	723	0	0	0
13	SLU 59	7	-10	725	0	0	0
13	SLU 60	7	-11	740	0	0	0
13	SLU 61	8	-11	742	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLU 62	7	-11	746	0	0	0
13	SLU 63	7	-10	748	0	0	0
13	SLU 64	8	-9	716	0	0	0
13	SLU 65	9	-9	720	0	0	0
13	SLU 66	8	-9	726	0	0	0
13	SLU 67	8	-8	728	0	0	0
13	SLU 68	8	-8	726	0	0	0
13	SLU 69	8	-8	732	0	0	0
13	SLU 70	8	-8	734	0	0	0
13	SLU 71	8	-8	728	0	0	0
13	SLU 72	8	-8	730	0	0	0
13	SLU 73	8	-9	788	0	0	0
13	SLU 74	7	-9	794	0	0	0
13	SLU 75	7	-9	796	0	0	0
13	SLU 76	8	-9	794	0	0	0
13	SLU 77	7	-9	800	0	0	0
13	SLU 78	7	-8	802	0	0	0
13	SLU 79	7	-9	796	0	0	0
13	SLU 80	7	-8	798	0	0	0
13	SLU 81	7	-10	813	0	0	0
13	SLU 82	7	-9	815	0	0	0
13	SLU 83	7	-9	819	0	0	0
13	SLU 84	7	-9	821	0	0	0
13	SLE RA 1	6	-8	535	0	0	0
13	SLE RA 2	7	-7	537	0	0	0
13	SLE RA 3	6	-7	541	0	0	0
13	SLE RA 4	6	-7	543	0	0	0
13	SLE RA 5	7	-7	541	0	0	0
13	SLE RA 6	6	-7	545	0	0	0
13	SLE RA 7	6	-7	547	0	0	0
13	SLE RA 8	6	-7	543	0	0	0
13	SLE RA 9	6	-7	544	0	0	0
13	SLE RA 10	6	-7	583	0	0	0
13	SLE RA 11	6	-7	587	0	0	0
13	SLE RA 12	6	-7	588	0	0	0
13	SLE RA 13	6	-7	587	0	0	0
13	SLE RA 14	6	-7	591	0	0	0
13	SLE RA 15	6	-7	592	0	0	0
13	SLE RA 16	6	-7	588	0	0	0
13	SLE RA 17	6	-7	590	0	0	0
13	SLE RA 18	6	-8	599	0	0	0
13	SLE RA 19	6	-8	601	0	0	0
13	SLE RA 20	5	-7	603	0	0	0
13	SLE RA 21	6	-7	605	0	0	0
13	SLE FR 1	6	-8	535	0	0	0
13	SLE FR 2	7	-7	535	0	0	0
13	SLE FR 3	6	-7	536	0	0	0
13	SLE FR 4	6	-8	555	0	0	0
13	SLE FR 5	6	-7	556	0	0	0
13	SLE FR 6	6	-8	567	0	0	0
13	SLE QP 1	6	-8	535	0	0	0
13	SLE QP 2	6	-8	554	0	0	0
13	SLD 1	28	0	565	0	0	0
13	SLD 2	32	2	565	0	0	0
13	SLD 3	25	-7	517	0	0	0
13	SLD 4	28	-5	518	0	0	0
13	SLD 5	18	4	630	0	0	0
13	SLD 6	21	5	630	0	0	0
13	SLD 7	5	-18	471	0	0	0
13	SLD 8	8	-16	471	0	0	0
13	SLD 9	5	1	637	0	0	0
13	SLD 10	7	2	638	0	0	0
13	SLD 11	-8	-21	478	0	0	0
13	SLD 12	-6	-19	479	0	0	0
13	SLD 13	-16	-10	491	0	0	0
13	SLD 14	-12	-9	591	0	0	0
13	SLD 15	-20	-17	543	0	0	0
13	SLD 16	-16	-15	544	0	0	0
13	SLV 1	41	4	572	0	0	0
13	SLV 2	47	7	573	0	0	0
13	SLV 3	35	-6	495	0	0	0
13	SLV 4	41	-4	496	0	0	0
13	SLV 5	25	12	676	0	0	0
13	SLV 6	29	14	677	0	0	0
13	SLV 7	4	-24	419	0	0	0
13	SLV 8	8	-22	420	0	0	0
13	SLV 9	5	7	689	0	0	0
13	SLV 10	8	9	689	0	0	0
13	SLV 11	-17	-29	431	0	0	0
13	SLV 12	-13	-27	432	0	0	0
13	SLV 13	-28	-12	613	0	0	0
13	SLV 14	-22	-9	614	0	0	0
13	SLV 15	-35	-22	536	0	0	0
13	SLV 16	-29	-20	536	0	0	0
13	SLV FO 1	45	5	574	0	0	0
13	SLV FO 2	51	9	575	0	0	0
13	SLV FO 3	38	-6	489	0	0	0
13	SLV FO 4	44	-3	490	0	0	0
13	SLV FO 5	27	14	689	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
13	SLV FO 6	31	16	689	0	0	0
13	SLV FO 7	4	-26	406	0	0	0
13	SLV FO 8	8	-24	406	0	0	0
13	SLV FO 9	4	8	702	0	0	0
13	SLV FO 10	9	10	703	0	0	0
13	SLV FO 11	-19	-31	419	0	0	0
13	SLV FO 12	-15	-29	420	0	0	0
13	SLV FO 13	-32	-12	619	0	0	0
13	SLV FO 14	-25	-9	619	0	0	0
13	SLV FO 15	-39	-24	534	0	0	0
13	SLV FO 16	-32	-21	535	0	0	0
14	SLU 1	7	-6	515	0	0	0
14	SLU 2	7	-5	519	0	0	0
14	SLU 3	6	-5	525	0	0	0
14	SLU 4	6	-5	528	0	0	0
14	SLU 5	7	-5	525	0	0	0
14	SLU 6	6	-5	531	0	0	0
14	SLU 7	6	-4	533	0	0	0
14	SLU 8	6	-5	527	0	0	0
14	SLU 9	6	-5	530	0	0	0
14	SLU 10	6	-5	587	0	0	0
14	SLU 11	5	-5	593	0	0	0
14	SLU 12	6	-5	595	0	0	0
14	SLU 13	6	-5	593	0	0	0
14	SLU 14	5	-5	598	0	0	0
14	SLU 15	5	-4	601	0	0	0
14	SLU 16	5	-5	595	0	0	0
14	SLU 17	5	-5	597	0	0	0
14	SLU 18	5	-6	612	0	0	0
14	SLU 19	5	-6	614	0	0	0
14	SLU 20	5	-5	618	0	0	0
14	SLU 21	5	-5	620	0	0	0
14	SLU 22	6	-4	588	0	0	0
14	SLU 23	7	-4	592	0	0	0
14	SLU 24	6	-3	598	0	0	0
14	SLU 25	6	-3	600	0	0	0
14	SLU 26	6	-3	598	0	0	0
14	SLU 27	6	-3	604	0	0	0
14	SLU 28	6	-3	606	0	0	0
14	SLU 29	6	-3	600	0	0	0
14	SLU 30	6	-3	602	0	0	0
14	SLU 31	6	-4	659	0	0	0
14	SLU 32	5	-3	665	0	0	0
14	SLU 33	5	-3	668	0	0	0
14	SLU 34	5	-3	665	0	0	0
14	SLU 35	5	-3	671	0	0	0
14	SLU 36	5	-3	673	0	0	0
14	SLU 37	5	-3	667	0	0	0
14	SLU 38	5	-3	670	0	0	0
14	SLU 39	5	-4	684	0	0	0
14	SLU 40	5	-4	687	0	0	0
14	SLU 41	5	-4	690	0	0	0
14	SLU 42	5	-3	693	0	0	0
14	SLU 43	9	-8	645	0	0	0
14	SLU 44	9	-8	649	0	0	0
14	SLU 45	8	-8	655	0	0	0
14	SLU 46	9	-7	657	0	0	0
14	SLU 47	9	-7	655	0	0	0
14	SLU 48	8	-7	661	0	0	0
14	SLU 49	8	-7	663	0	0	0
14	SLU 50	8	-7	657	0	0	0
14	SLU 51	8	-7	659	0	0	0
14	SLU 52	8	-8	717	0	0	0
14	SLU 53	7	-8	722	0	0	0
14	SLU 54	8	-7	725	0	0	0
14	SLU 55	8	-7	722	0	0	0
14	SLU 56	7	-7	728	0	0	0
14	SLU 57	7	-7	731	0	0	0
14	SLU 58	7	-7	724	0	0	0
14	SLU 59	7	-7	727	0	0	0
14	SLU 60	7	-8	741	0	0	0
14	SLU 61	7	-8	744	0	0	0
14	SLU 62	7	-8	747	0	0	0
14	SLU 63	7	-7	750	0	0	0
14	SLU 64	8	-6	718	0	0	0
14	SLU 65	9	-6	722	0	0	0
14	SLU 66	8	-6	728	0	0	0
14	SLU 67	8	-6	730	0	0	0
14	SLU 68	8	-5	728	0	0	0
14	SLU 69	8	-5	733	0	0	0
14	SLU 70	8	-5	736	0	0	0
14	SLU 71	8	-5	730	0	0	0
14	SLU 72	8	-5	732	0	0	0
14	SLU 73	8	-6	789	0	0	0
14	SLU 74	7	-6	795	0	0	0
14	SLU 75	7	-6	797	0	0	0
14	SLU 76	7	-5	795	0	0	0
14	SLU 77	7	-5	801	0	0	0
14	SLU 78	7	-5	803	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
14	SLU 79	7	-5	797	0	0	0
14	SLU 80	7	-5	799	0	0	0
14	SLU 81	7	-6	814	0	0	0
14	SLU 82	7	-6	816	0	0	0
14	SLU 83	7	-6	820	0	0	0
14	SLU 84	7	-6	822	0	0	0
14	SLE RA 1	6	-5	536	0	0	0
14	SLE RA 2	7	-5	539	0	0	0
14	SLE RA 3	6	-5	543	0	0	0
14	SLE RA 4	6	-5	544	0	0	0
14	SLE RA 5	6	-5	543	0	0	0
14	SLE RA 6	6	-5	547	0	0	0
14	SLE RA 7	6	-4	548	0	0	0
14	SLE RA 8	6	-5	544	0	0	0
14	SLE RA 9	6	-5	546	0	0	0
14	SLE RA 10	6	-5	584	0	0	0
14	SLE RA 11	6	-5	588	0	0	0
14	SLE RA 12	6	-5	589	0	0	0
14	SLE RA 13	6	-5	588	0	0	0
14	SLE RA 14	6	-5	592	0	0	0
14	SLE RA 15	6	-4	593	0	0	0
14	SLE RA 16	6	-5	589	0	0	0
14	SLE RA 17	6	-4	591	0	0	0
14	SLE RA 18	6	-5	600	0	0	0
14	SLE RA 19	6	-5	602	0	0	0
14	SLE RA 20	5	-5	604	0	0	0
14	SLE RA 21	6	-5	606	0	0	0
14	SLE FR 1	6	-5	536	0	0	0
14	SLE FR 2	6	-5	537	0	0	0
14	SLE FR 3	6	-5	538	0	0	0
14	SLE FR 4	6	-5	556	0	0	0
14	SLE FR 5	6	-5	557	0	0	0
14	SLE FR 6	6	-5	568	0	0	0
14	SLE QP 1	6	-5	536	0	0	0
14	SLE QP 2	6	-5	555	0	0	0
14	SLD 1	28	1	558	0	0	0
14	SLD 2	32	4	558	0	0	0
14	SLD 3	25	-5	509	0	0	0
14	SLD 4	28	-3	510	0	0	0
14	SLD 5	18	6	629	0	0	0
14	SLD 6	21	7	629	0	0	0
14	SLD 7	5	-15	469	0	0	0
14	SLD 8	7	-14	469	0	0	0
14	SLD 9	5	3	642	0	0	0
14	SLD 10	7	5	642	0	0	0
14	SLD 11	-8	-18	482	0	0	0
14	SLD 12	-6	-17	482	0	0	0
14	SLD 13	-16	-8	601	0	0	0
14	SLD 14	-12	-6	602	0	0	0
14	SLD 15	-20	-14	553	0	0	0
14	SLD 16	-16	-12	553	0	0	0
14	SLV 1	41	5	560	0	0	0
14	SLV 2	47	9	560	0	0	0
14	SLV 3	35	-5	482	0	0	0
14	SLV 4	41	-2	482	0	0	0
14	SLV 5	25	13	675	0	0	0
14	SLV 6	29	16	675	0	0	0
14	SLV 7	4	-22	416	0	0	0
14	SLV 8	8	-19	416	0	0	0
14	SLV 9	4	9	695	0	0	0
14	SLV 10	8	11	695	0	0	0
14	SLV 11	-17	-26	436	0	0	0
14	SLV 12	-13	-24	436	0	0	0
14	SLV 13	-28	-9	629	0	0	0
14	SLV 14	-23	-5	629	0	0	0
14	SLV 15	-35	-20	551	0	0	0
14	SLV 16	-29	-16	551	0	0	0
14	SLV FO 1	45	6	560	0	0	0
14	SLV FO 2	51	10	561	0	0	0
14	SLV FO 3	38	-5	475	0	0	0
14	SLV FO 4	44	-1	475	0	0	0
14	SLV FO 5	27	15	687	0	0	0
14	SLV FO 6	31	18	687	0	0	0
14	SLV FO 7	4	-24	402	0	0	0
14	SLV FO 8	8	-21	402	0	0	0
14	SLV FO 9	4	10	709	0	0	0
14	SLV FO 10	9	13	709	0	0	0
14	SLV FO 11	-19	-28	424	0	0	0
14	SLV FO 12	-15	-26	424	0	0	0
14	SLV FO 13	-32	-10	636	0	0	0
14	SLV FO 14	-25	-5	636	0	0	0
14	SLV FO 15	-39	-21	550	0	0	0
14	SLV FO 16	-32	-17	551	0	0	0
15	SLU 1	7	-4	589	0	0	0
15	SLU 2	8	-4	594	0	0	0
15	SLU 3	7	-4	600	0	0	0
15	SLU 4	7	-3	603	0	0	0
15	SLU 5	7	-3	600	0	0	0
15	SLU 6	7	-3	607	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLU 7	7	-3	609	0	0	0
15	SLU 8	7	-3	602	0	0	0
15	SLU 9	7	-3	605	0	0	0
15	SLU 10	7	-3	670	0	0	0
15	SLU 11	6	-3	676	0	0	0
15	SLU 12	6	-3	679	0	0	0
15	SLU 13	6	-3	677	0	0	0
15	SLU 14	6	-3	683	0	0	0
15	SLU 15	6	-2	686	0	0	0
15	SLU 16	6	-3	678	0	0	0
15	SLU 17	6	-3	681	0	0	0
15	SLU 18	6	-4	698	0	0	0
15	SLU 19	6	-4	701	0	0	0
15	SLU 20	6	-3	705	0	0	0
15	SLU 21	6	-3	707	0	0	0
15	SLU 22	7	-2	672	0	0	0
15	SLU 23	7	-1	676	0	0	0
15	SLU 24	7	-1	683	0	0	0
15	SLU 25	7	-1	685	0	0	0
15	SLU 26	7	-1	683	0	0	0
15	SLU 27	7	-1	689	0	0	0
15	SLU 28	7	0	692	0	0	0
15	SLU 29	7	-1	685	0	0	0
15	SLU 30	7	0	687	0	0	0
15	SLU 31	6	-1	752	0	0	0
15	SLU 32	6	-1	759	0	0	0
15	SLU 33	6	-1	762	0	0	0
15	SLU 34	6	-1	759	0	0	0
15	SLU 35	6	0	765	0	0	0
15	SLU 36	6	0	768	0	0	0
15	SLU 37	6	-1	761	0	0	0
15	SLU 38	6	0	764	0	0	0
15	SLU 39	6	-2	780	0	0	0
15	SLU 40	6	-1	783	0	0	0
15	SLU 41	5	-1	787	0	0	0
15	SLU 42	6	-1	790	0	0	0
15	SLU 43	10	-6	738	0	0	0
15	SLU 44	10	-6	742	0	0	0
15	SLU 45	10	-6	749	0	0	0
15	SLU 46	10	-5	752	0	0	0
15	SLU 47	10	-5	749	0	0	0
15	SLU 48	9	-5	755	0	0	0
15	SLU 49	9	-5	758	0	0	0
15	SLU 50	9	-5	751	0	0	0
15	SLU 51	9	-5	754	0	0	0
15	SLU 52	9	-6	819	0	0	0
15	SLU 53	8	-6	825	0	0	0
15	SLU 54	9	-5	828	0	0	0
15	SLU 55	9	-5	825	0	0	0
15	SLU 56	8	-5	831	0	0	0
15	SLU 57	8	-5	834	0	0	0
15	SLU 58	8	-5	827	0	0	0
15	SLU 59	8	-5	830	0	0	0
15	SLU 60	8	-6	847	0	0	0
15	SLU 61	9	-6	849	0	0	0
15	SLU 62	8	-6	853	0	0	0
15	SLU 63	8	-5	856	0	0	0
15	SLU 64	9	-4	820	0	0	0
15	SLU 65	10	-3	825	0	0	0
15	SLU 66	9	-3	831	0	0	0
15	SLU 67	9	-3	834	0	0	0
15	SLU 68	10	-3	831	0	0	0
15	SLU 69	9	-3	838	0	0	0
15	SLU 70	9	-2	840	0	0	0
15	SLU 71	9	-3	833	0	0	0
15	SLU 72	9	-3	836	0	0	0
15	SLU 73	9	-3	901	0	0	0
15	SLU 74	8	-3	907	0	0	0
15	SLU 75	8	-3	910	0	0	0
15	SLU 76	8	-3	907	0	0	0
15	SLU 77	8	-3	914	0	0	0
15	SLU 78	8	-2	917	0	0	0
15	SLU 79	8	-3	909	0	0	0
15	SLU 80	8	-2	912	0	0	0
15	SLU 81	8	-4	929	0	0	0
15	SLU 82	8	-3	932	0	0	0
15	SLU 83	8	-3	935	0	0	0
15	SLU 84	8	-3	938	0	0	0
15	SLE RA 1	7	-4	613	0	0	0
15	SLE RA 2	8	-3	616	0	0	0
15	SLE RA 3	7	-3	620	0	0	0
15	SLE RA 4	7	-3	622	0	0	0
15	SLE RA 5	7	-3	620	0	0	0
15	SLE RA 6	7	-3	624	0	0	0
15	SLE RA 7	7	-3	626	0	0	0
15	SLE RA 8	7	-3	621	0	0	0
15	SLE RA 9	7	-3	623	0	0	0
15	SLE RA 10	7	-3	667	0	0	0
15	SLE RA 11	6	-3	671	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
15	SLE RA 12	7	-3	673	0	0	0
15	SLE RA 13	7	-3	671	0	0	0
15	SLE RA 14	6	-3	675	0	0	0
15	SLE RA 15	6	-2	677	0	0	0
15	SLE RA 16	6	-3	672	0	0	0
15	SLE RA 17	6	-2	674	0	0	0
15	SLE RA 18	6	-3	685	0	0	0
15	SLE RA 19	7	-3	687	0	0	0
15	SLE RA 20	6	-3	690	0	0	0
15	SLE RA 21	6	-3	692	0	0	0
15	SLE FR 1	7	-4	613	0	0	0
15	SLE FR 2	7	-4	613	0	0	0
15	SLE FR 3	7	-4	615	0	0	0
15	SLE FR 4	7	-4	635	0	0	0
15	SLE FR 5	7	-3	636	0	0	0
15	SLE FR 6	7	-4	649	0	0	0
15	SLE QP 1	7	-4	613	0	0	0
15	SLE QP 2	7	-4	635	0	0	0
15	SLD 1	32	3	627	0	0	0
15	SLD 2	37	6	627	0	0	0
15	SLD 3	28	-4	572	0	0	0
15	SLD 4	32	-1	572	0	0	0
15	SLD 5	21	9	716	0	0	0
15	SLD 6	23	11	716	0	0	0
15	SLD 7	6	-15	532	0	0	0
15	SLD 8	9	-13	532	0	0	0
15	SLD 9	6	6	738	0	0	0
15	SLD 10	8	8	737	0	0	0
15	SLD 11	-9	-18	553	0	0	0
15	SLD 12	-7	-16	553	0	0	0
15	SLD 13	-18	-6	698	0	0	0
15	SLD 14	-14	-3	697	0	0	0
15	SLD 15	-23	-13	642	0	0	0
15	SLD 16	-18	-10	642	0	0	0
15	SLV 1	47	7	625	0	0	0
15	SLV 2	54	12	624	0	0	0
15	SLV 3	40	-5	535	0	0	0
15	SLV 4	46	0	535	0	0	0
15	SLV 5	29	16	768	0	0	0
15	SLV 6	33	20	767	0	0	0
15	SLV 7	5	-23	469	0	0	0
15	SLV 8	9	-19	469	0	0	0
15	SLV 9	5	12	800	0	0	0
15	SLV 10	9	16	800	0	0	0
15	SLV 11	-19	-27	502	0	0	0
15	SLV 12	-15	-24	502	0	0	0
15	SLV 13	-32	-8	735	0	0	0
15	SLV 14	-26	-2	734	0	0	0
15	SLV 15	-40	-19	645	0	0	0
15	SLV 16	-33	-14	644	0	0	0
15	SLV FO 1	51	8	624	0	0	0
15	SLV FO 2	58	14	623	0	0	0
15	SLV FO 3	43	-5	525	0	0	0
15	SLV FO 4	50	1	525	0	0	0
15	SLV FO 5	31	18	781	0	0	0
15	SLV FO 6	36	22	780	0	0	0
15	SLV FO 7	4	-25	452	0	0	0
15	SLV FO 8	9	-21	452	0	0	0
15	SLV FO 9	5	14	817	0	0	0
15	SLV FO 10	10	17	817	0	0	0
15	SLV FO 11	-22	-29	489	0	0	0
15	SLV FO 12	-17	-26	488	0	0	0
15	SLV FO 13	-36	-8	745	0	0	0
15	SLV FO 14	-29	-2	744	0	0	0
15	SLV FO 15	-44	-21	646	0	0	0
15	SLV FO 16	-37	-15	645	0	0	0
16	SLU 1	4	-1	330	0	0	0
16	SLU 2	4	0	333	0	0	0
16	SLU 3	4	0	336	0	0	0
16	SLU 4	4	0	338	0	0	0
16	SLU 5	4	0	336	0	0	0
16	SLU 6	4	0	340	0	0	0
16	SLU 7	4	0	341	0	0	0
16	SLU 8	4	0	337	0	0	0
16	SLU 9	4	0	339	0	0	0
16	SLU 10	4	0	375	0	0	0
16	SLU 11	3	0	378	0	0	0
16	SLU 12	4	0	380	0	0	0
16	SLU 13	4	0	378	0	0	0
16	SLU 14	3	0	382	0	0	0
16	SLU 15	3	1	383	0	0	0
16	SLU 16	3	0	379	0	0	0
16	SLU 17	3	0	381	0	0	0
16	SLU 18	3	0	390	0	0	0
16	SLU 19	3	0	392	0	0	0
16	SLU 20	3	0	394	0	0	0
16	SLU 21	3	0	395	0	0	0
16	SLU 22	4	1	376	0	0	0
16	SLU 23	4	1	378	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLU 24	4	1	382	0	0	0
16	SLU 25	4	1	383	0	0	0
16	SLU 26	4	1	382	0	0	0
16	SLU 27	4	2	385	0	0	0
16	SLU 28	4	2	387	0	0	0
16	SLU 29	4	1	383	0	0	0
16	SLU 30	4	2	384	0	0	0
16	SLU 31	4	1	420	0	0	0
16	SLU 32	3	2	424	0	0	0
16	SLU 33	3	2	425	0	0	0
16	SLU 34	3	2	424	0	0	0
16	SLU 35	3	2	427	0	0	0
16	SLU 36	3	2	429	0	0	0
16	SLU 37	3	2	425	0	0	0
16	SLU 38	3	2	426	0	0	0
16	SLU 39	3	1	436	0	0	0
16	SLU 40	3	1	437	0	0	0
16	SLU 41	3	2	439	0	0	0
16	SLU 42	3	2	441	0	0	0
16	SLU 43	5	-1	413	0	0	0
16	SLU 44	6	-1	416	0	0	0
16	SLU 45	5	-1	419	0	0	0
16	SLU 46	5	-1	421	0	0	0
16	SLU 47	5	-1	419	0	0	0
16	SLU 48	5	-1	423	0	0	0
16	SLU 49	5	-1	424	0	0	0
16	SLU 50	5	-1	420	0	0	0
16	SLU 51	5	-1	422	0	0	0
16	SLU 52	5	-1	458	0	0	0
16	SLU 53	5	-1	461	0	0	0
16	SLU 54	5	-1	463	0	0	0
16	SLU 55	5	0	462	0	0	0
16	SLU 56	5	0	465	0	0	0
16	SLU 57	5	0	466	0	0	0
16	SLU 58	5	0	462	0	0	0
16	SLU 59	5	0	464	0	0	0
16	SLU 60	5	-1	473	0	0	0
16	SLU 61	5	-1	475	0	0	0
16	SLU 62	4	-1	477	0	0	0
16	SLU 63	5	0	479	0	0	0
16	SLU 64	5	0	459	0	0	0
16	SLU 65	5	0	462	0	0	0
16	SLU 66	5	0	465	0	0	0
16	SLU 67	5	1	467	0	0	0
16	SLU 68	5	1	465	0	0	0
16	SLU 69	5	1	469	0	0	0
16	SLU 70	5	1	470	0	0	0
16	SLU 71	5	1	466	0	0	0
16	SLU 72	5	1	468	0	0	0
16	SLU 73	5	1	504	0	0	0
16	SLU 74	5	1	507	0	0	0
16	SLU 75	5	1	509	0	0	0
16	SLU 76	5	1	507	0	0	0
16	SLU 77	4	1	511	0	0	0
16	SLU 78	5	1	512	0	0	0
16	SLU 79	4	1	508	0	0	0
16	SLU 80	4	1	510	0	0	0
16	SLU 81	4	1	519	0	0	0
16	SLU 82	5	1	521	0	0	0
16	SLU 83	4	1	523	0	0	0
16	SLU 84	4	1	524	0	0	0
16	SLE RA 1	4	0	343	0	0	0
16	SLE RA 2	4	0	345	0	0	0
16	SLE RA 3	4	0	347	0	0	0
16	SLE RA 4	4	0	348	0	0	0
16	SLE RA 5	4	0	347	0	0	0
16	SLE RA 6	4	0	349	0	0	0
16	SLE RA 7	4	0	350	0	0	0
16	SLE RA 8	4	0	348	0	0	0
16	SLE RA 9	4	0	349	0	0	0
16	SLE RA 10	4	0	373	0	0	0
16	SLE RA 11	4	0	375	0	0	0
16	SLE RA 12	4	0	376	0	0	0
16	SLE RA 13	4	0	375	0	0	0
16	SLE RA 14	4	0	377	0	0	0
16	SLE RA 15	4	1	378	0	0	0
16	SLE RA 16	3	0	376	0	0	0
16	SLE RA 17	4	1	377	0	0	0
16	SLE RA 18	4	0	383	0	0	0
16	SLE RA 19	4	0	384	0	0	0
16	SLE RA 20	3	0	385	0	0	0
16	SLE RA 21	4	0	386	0	0	0
16	SLE FR 1	4	0	343	0	0	0
16	SLE FR 2	4	0	343	0	0	0
16	SLE FR 3	4	0	344	0	0	0
16	SLE FR 4	4	0	355	0	0	0
16	SLE FR 5	4	0	356	0	0	0
16	SLE FR 6	4	0	363	0	0	0
16	SLE QP 1	4	0	343	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
16	SLE QP 2	4	0	355	0	0	0
16	SLD 1	18	3	344	0	0	0
16	SLD 2	21	5	344	0	0	0
16	SLD 3	16	-1	313	0	0	0
16	SLD 4	18	1	312	0	0	0
16	SLD 5	12	6	400	0	0	0
16	SLD 6	13	8	399	0	0	0
16	SLD 7	3	-7	295	0	0	0
16	SLD 8	5	-5	294	0	0	0
16	SLD 9	3	5	416	0	0	0
16	SLD 10	5	6	416	0	0	0
16	SLD 11	-5	-8	311	0	0	0
16	SLD 12	-4	-7	310	0	0	0
16	SLD 13	-10	-2	398	0	0	0
16	SLD 14	-8	1	398	0	0	0
16	SLD 15	-13	-6	366	0	0	0
16	SLD 16	-10	-3	366	0	0	0
16	SLV 1	27	5	339	0	0	0
16	SLV 2	30	8	338	0	0	0
16	SLV 3	22	-2	288	0	0	0
16	SLV 4	26	2	287	0	0	0
16	SLV 5	16	10	428	0	0	0
16	SLV 6	19	13	427	0	0	0
16	SLV 7	3	-11	258	0	0	0
16	SLV 8	5	-9	257	0	0	0
16	SLV 9	3	8	453	0	0	0
16	SLV 10	5	11	452	0	0	0
16	SLV 11	-11	-13	283	0	0	0
16	SLV 12	-8	-11	282	0	0	0
16	SLV 13	-18	-2	423	0	0	0
16	SLV 14	-15	1	422	0	0	0
16	SLV 15	-22	-9	372	0	0	0
16	SLV 16	-19	-5	371	0	0	0
16	SLV FO 1	29	5	337	0	0	0
16	SLV FO 2	33	9	337	0	0	0
16	SLV FO 3	24	-2	281	0	0	0
16	SLV FO 4	28	2	280	0	0	0
16	SLV FO 5	17	11	435	0	0	0
16	SLV FO 6	20	14	434	0	0	0
16	SLV FO 7	2	-12	248	0	0	0
16	SLV FO 8	5	-9	247	0	0	0
16	SLV FO 9	3	9	463	0	0	0
16	SLV FO 10	5	12	462	0	0	0
16	SLV FO 11	-12	-14	276	0	0	0
16	SLV FO 12	-10	-12	275	0	0	0
16	SLV FO 13	-20	-2	430	0	0	0
16	SLV FO 14	-16	1	429	0	0	0
16	SLV FO 15	-25	-10	374	0	0	0
16	SLV FO 16	-21	-6	373	0	0	0
17	SLU 1	5	-17	589	0	0	0
17	SLU 2	5	-17	592	0	0	0
17	SLU 3	5	-17	601	0	0	0
17	SLU 4	5	-16	603	0	0	0
17	SLU 5	5	-16	600	0	0	0
17	SLU 6	4	-16	609	0	0	0
17	SLU 7	5	-16	611	0	0	0
17	SLU 8	4	-16	605	0	0	0
17	SLU 9	5	-16	607	0	0	0
17	SLU 10	4	-18	673	0	0	0
17	SLU 11	3	-18	682	0	0	0
17	SLU 12	4	-17	684	0	0	0
17	SLU 13	4	-17	681	0	0	0
17	SLU 14	3	-17	690	0	0	0
17	SLU 15	3	-17	692	0	0	0
17	SLU 16	3	-17	686	0	0	0
17	SLU 17	3	-17	688	0	0	0
17	SLU 18	3	-19	705	0	0	0
17	SLU 19	3	-18	707	0	0	0
17	SLU 20	3	-18	713	0	0	0
17	SLU 21	3	-18	714	0	0	0
17	SLU 22	4	-16	676	0	0	0
17	SLU 23	5	-16	680	0	0	0
17	SLU 24	4	-16	689	0	0	0
17	SLU 25	4	-15	691	0	0	0
17	SLU 26	5	-15	687	0	0	0
17	SLU 27	4	-15	697	0	0	0
17	SLU 28	4	-15	698	0	0	0
17	SLU 29	4	-15	692	0	0	0
17	SLU 30	4	-15	694	0	0	0
17	SLU 31	4	-17	761	0	0	0
17	SLU 32	3	-17	770	0	0	0
17	SLU 33	3	-16	772	0	0	0
17	SLU 34	3	-16	768	0	0	0
17	SLU 35	3	-16	778	0	0	0
17	SLU 36	3	-16	779	0	0	0
17	SLU 37	3	-16	773	0	0	0
17	SLU 38	3	-16	775	0	0	0
17	SLU 39	3	-18	792	0	0	0
17	SLU 40	3	-17	794	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLU 41	2	-17	800	0	0	0
17	SLU 42	3	-17	802	0	0	0
17	SLU 43	7	-23	736	0	0	0
17	SLU 44	7	-22	739	0	0	0
17	SLU 45	6	-22	748	0	0	0
17	SLU 46	7	-22	750	0	0	0
17	SLU 47	7	-22	747	0	0	0
17	SLU 48	6	-22	756	0	0	0
17	SLU 49	6	-21	758	0	0	0
17	SLU 50	6	-22	751	0	0	0
17	SLU 51	6	-21	753	0	0	0
17	SLU 52	6	-23	820	0	0	0
17	SLU 53	5	-23	829	0	0	0
17	SLU 54	5	-23	831	0	0	0
17	SLU 55	6	-23	828	0	0	0
17	SLU 56	5	-23	837	0	0	0
17	SLU 57	5	-22	839	0	0	0
17	SLU 58	5	-23	832	0	0	0
17	SLU 59	5	-22	834	0	0	0
17	SLU 60	5	-24	851	0	0	0
17	SLU 61	5	-24	853	0	0	0
17	SLU 62	5	-24	859	0	0	0
17	SLU 63	5	-23	861	0	0	0
17	SLU 64	6	-22	823	0	0	0
17	SLU 65	7	-21	826	0	0	0
17	SLU 66	6	-21	836	0	0	0
17	SLU 67	6	-21	837	0	0	0
17	SLU 68	6	-21	834	0	0	0
17	SLU 69	6	-21	843	0	0	0
17	SLU 70	6	-20	845	0	0	0
17	SLU 71	6	-21	839	0	0	0
17	SLU 72	6	-20	841	0	0	0
17	SLU 73	5	-22	907	0	0	0
17	SLU 74	5	-22	916	0	0	0
17	SLU 75	5	-22	918	0	0	0
17	SLU 76	5	-22	915	0	0	0
17	SLU 77	4	-22	924	0	0	0
17	SLU 78	5	-21	926	0	0	0
17	SLU 79	4	-22	920	0	0	0
17	SLU 80	4	-21	922	0	0	0
17	SLU 81	4	-23	939	0	0	0
17	SLU 82	5	-23	941	0	0	0
17	SLU 83	4	-23	947	0	0	0
17	SLU 84	4	-22	949	0	0	0
17	SLE RA 1	5	-17	614	0	0	0
17	SLE RA 2	5	-16	616	0	0	0
17	SLE RA 3	5	-17	622	0	0	0
17	SLE RA 4	5	-16	624	0	0	0
17	SLE RA 5	5	-16	621	0	0	0
17	SLE RA 6	4	-16	627	0	0	0
17	SLE RA 7	5	-16	629	0	0	0
17	SLE RA 8	4	-16	624	0	0	0
17	SLE RA 9	5	-16	626	0	0	0
17	SLE RA 10	4	-17	670	0	0	0
17	SLE RA 11	4	-17	676	0	0	0
17	SLE RA 12	4	-17	677	0	0	0
17	SLE RA 13	4	-17	675	0	0	0
17	SLE RA 14	4	-17	681	0	0	0
17	SLE RA 15	4	-17	683	0	0	0
17	SLE RA 16	4	-17	678	0	0	0
17	SLE RA 17	4	-17	680	0	0	0
17	SLE RA 18	4	-18	691	0	0	0
17	SLE RA 19	4	-18	692	0	0	0
17	SLE RA 20	3	-18	696	0	0	0
17	SLE RA 21	4	-17	698	0	0	0
17	SLE FR 1	5	-17	614	0	0	0
17	SLE FR 2	5	-17	614	0	0	0
17	SLE FR 3	5	-17	616	0	0	0
17	SLE FR 4	5	-17	638	0	0	0
17	SLE FR 5	4	-17	639	0	0	0
17	SLE FR 6	4	-17	653	0	0	0
17	SLE QP 1	5	-17	614	0	0	0
17	SLE QP 2	4	-17	637	0	0	0
17	SLD 1	31	-5	677	0	0	0
17	SLD 2	35	-5	679	0	0	0
17	SLD 3	27	-13	638	0	0	0
17	SLD 4	30	-13	640	0	0	0
17	SLD 5	19	-1	708	0	0	0
17	SLD 6	21	-1	709	0	0	0
17	SLD 7	4	-28	578	0	0	0
17	SLD 8	6	-28	579	0	0	0
17	SLD 9	3	-6	695	0	0	0
17	SLD 10	5	-6	696	0	0	0
17	SLD 11	-12	-33	566	0	0	0
17	SLD 12	-10	-33	567	0	0	0
17	SLD 13	-21	-21	635	0	0	0
17	SLD 14	-18	-21	636	0	0	0
17	SLD 15	-26	-30	596	0	0	0
17	SLD 16	-22	-29	597	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
17	SLV 1	47	2	700	0	0	0
17	SLV 2	52	2	703	0	0	0
17	SLV 3	39	-11	638	0	0	0
17	SLV 4	45	-11	640	0	0	0
17	SLV 5	27	9	751	0	0	0
17	SLV 6	31	9	752	0	0	0
17	SLV 7	3	-36	542	0	0	0
17	SLV 8	6	-36	543	0	0	0
17	SLV 9	3	1	731	0	0	0
17	SLV 10	6	1	733	0	0	0
17	SLV 11	-22	-43	522	0	0	0
17	SLV 12	-18	-43	523	0	0	0
17	SLV 13	-36	-24	634	0	0	0
17	SLV 14	-30	-23	637	0	0	0
17	SLV 15	-43	-37	571	0	0	0
17	SLV 16	-38	-37	574	0	0	0
17	SLV FO 1	51	4	707	0	0	0
17	SLV FO 2	57	4	709	0	0	0
17	SLV FO 3	43	-11	638	0	0	0
17	SLV FO 4	49	-10	640	0	0	0
17	SLV FO 5	30	11	762	0	0	0
17	SLV FO 6	34	12	764	0	0	0
17	SLV FO 7	2	-38	532	0	0	0
17	SLV FO 8	7	-37	534	0	0	0
17	SLV FO 9	2	3	740	0	0	0
17	SLV FO 10	7	3	742	0	0	0
17	SLV FO 11	-25	-46	510	0	0	0
17	SLV FO 12	-21	-46	512	0	0	0
17	SLV FO 13	-40	-24	634	0	0	0
17	SLV FO 14	-34	-24	637	0	0	0
17	SLV FO 15	-48	-39	565	0	0	0
17	SLV FO 16	-42	-39	568	0	0	0
18	SLU 1	9	-27	1113	0	0	0
18	SLU 2	10	-25	1119	0	0	0
18	SLU 3	9	-25	1136	0	0	0
18	SLU 4	9	-25	1140	0	0	0
18	SLU 5	10	-24	1134	0	0	0
18	SLU 6	8	-24	1150	0	0	0
18	SLU 7	9	-24	1154	0	0	0
18	SLU 8	8	-25	1142	0	0	0
18	SLU 9	9	-24	1145	0	0	0
18	SLU 10	8	-27	1270	0	0	0
18	SLU 11	7	-27	1287	0	0	0
18	SLU 12	7	-26	1291	0	0	0
18	SLU 13	7	-26	1285	0	0	0
18	SLU 14	6	-26	1301	0	0	0
18	SLU 15	6	-25	1305	0	0	0
18	SLU 16	6	-26	1293	0	0	0
18	SLU 17	6	-25	1297	0	0	0
18	SLU 18	6	-28	1329	0	0	0
18	SLU 19	7	-28	1333	0	0	0
18	SLU 20	5	-27	1343	0	0	0
18	SLU 21	6	-27	1347	0	0	0
18	SLU 22	8	-24	1277	0	0	0
18	SLU 23	9	-23	1283	0	0	0
18	SLU 24	8	-23	1299	0	0	0
18	SLU 25	8	-22	1303	0	0	0
18	SLU 26	8	-22	1297	0	0	0
18	SLU 27	7	-22	1314	0	0	0
18	SLU 28	8	-21	1318	0	0	0
18	SLU 29	7	-22	1305	0	0	0
18	SLU 30	8	-21	1309	0	0	0
18	SLU 31	7	-24	1434	0	0	0
18	SLU 32	5	-24	1451	0	0	0
18	SLU 33	6	-24	1454	0	0	0
18	SLU 34	6	-23	1448	0	0	0
18	SLU 35	5	-23	1465	0	0	0
18	SLU 36	5	-23	1469	0	0	0
18	SLU 37	5	-23	1456	0	0	0
18	SLU 38	5	-23	1460	0	0	0
18	SLU 39	5	-26	1493	0	0	0
18	SLU 40	5	-25	1496	0	0	0
18	SLU 41	4	-25	1507	0	0	0
18	SLU 42	5	-24	1511	0	0	0
18	SLU 43	13	-35	1391	0	0	0
18	SLU 44	13	-34	1397	0	0	0
18	SLU 45	12	-34	1414	0	0	0
18	SLU 46	13	-34	1417	0	0	0
18	SLU 47	13	-33	1411	0	0	0
18	SLU 48	12	-33	1428	0	0	0
18	SLU 49	12	-33	1432	0	0	0
18	SLU 50	12	-33	1419	0	0	0
18	SLU 51	12	-33	1423	0	0	0
18	SLU 52	11	-36	1548	0	0	0
18	SLU 53	10	-36	1565	0	0	0
18	SLU 54	10	-35	1569	0	0	0
18	SLU 55	10	-34	1563	0	0	0
18	SLU 56	9	-35	1579	0	0	0
18	SLU 57	10	-34	1583	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLU 58	9	-35	1571	0	0	0
18	SLU 59	10	-34	1574	0	0	0
18	SLU 60	9	-37	1607	0	0	0
18	SLU 61	10	-37	1610	0	0	0
18	SLU 62	9	-36	1621	0	0	0
18	SLU 63	9	-36	1625	0	0	0
18	SLU 64	12	-33	1554	0	0	0
18	SLU 65	12	-32	1561	0	0	0
18	SLU 66	11	-32	1577	0	0	0
18	SLU 67	11	-31	1581	0	0	0
18	SLU 68	12	-31	1575	0	0	0
18	SLU 69	10	-31	1592	0	0	0
18	SLU 70	11	-30	1595	0	0	0
18	SLU 71	10	-31	1583	0	0	0
18	SLU 72	11	-30	1587	0	0	0
18	SLU 73	10	-33	1712	0	0	0
18	SLU 74	9	-33	1728	0	0	0
18	SLU 75	9	-32	1732	0	0	0
18	SLU 76	9	-32	1726	0	0	0
18	SLU 77	8	-32	1743	0	0	0
18	SLU 78	9	-31	1747	0	0	0
18	SLU 79	8	-32	1734	0	0	0
18	SLU 80	8	-31	1738	0	0	0
18	SLU 81	8	-35	1770	0	0	0
18	SLU 82	9	-34	1774	0	0	0
18	SLU 83	8	-34	1785	0	0	0
18	SLU 84	8	-33	1788	0	0	0
18	SLE RA 1	9	-26	1160	0	0	0
18	SLE RA 2	10	-25	1164	0	0	0
18	SLE RA 3	9	-25	1175	0	0	0
18	SLE RA 4	9	-25	1177	0	0	0
18	SLE RA 5	9	-24	1173	0	0	0
18	SLE RA 6	8	-24	1185	0	0	0
18	SLE RA 7	9	-24	1187	0	0	0
18	SLE RA 8	8	-25	1179	0	0	0
18	SLE RA 9	9	-24	1181	0	0	0
18	SLE RA 10	8	-26	1265	0	0	0
18	SLE RA 11	7	-26	1276	0	0	0
18	SLE RA 12	8	-26	1278	0	0	0
18	SLE RA 13	8	-25	1274	0	0	0
18	SLE RA 14	7	-25	1285	0	0	0
18	SLE RA 15	7	-25	1288	0	0	0
18	SLE RA 16	7	-25	1280	0	0	0
18	SLE RA 17	7	-25	1282	0	0	0
18	SLE RA 18	7	-27	1304	0	0	0
18	SLE RA 19	7	-27	1306	0	0	0
18	SLE RA 20	7	-26	1313	0	0	0
18	SLE RA 21	7	-26	1316	0	0	0
18	SLE FR 1	9	-26	1160	0	0	0
18	SLE FR 2	9	-26	1161	0	0	0
18	SLE FR 3	9	-26	1164	0	0	0
18	SLE FR 4	9	-26	1204	0	0	0
18	SLE FR 5	8	-26	1207	0	0	0
18	SLE FR 6	8	-27	1232	0	0	0
18	SLE QP 1	9	-26	1160	0	0	0
18	SLE QP 2	8	-26	1203	0	0	0
18	SLD 1	59	-6	1255	0	0	0
18	SLD 2	66	-4	1257	0	0	0
18	SLD 3	50	-21	1180	0	0	0
18	SLD 4	57	-19	1182	0	0	0
18	SLD 5	36	2	1333	0	0	0
18	SLD 6	40	3	1334	0	0	0
18	SLD 7	7	-47	1081	0	0	0
18	SLD 8	11	-46	1083	0	0	0
18	SLD 9	6	-6	1323	0	0	0
18	SLD 10	10	-5	1325	0	0	0
18	SLD 11	-23	-56	1072	0	0	0
18	SLD 12	-19	-55	1073	0	0	0
18	SLD 13	-40	-34	1224	0	0	0
18	SLD 14	-33	-32	1226	0	0	0
18	SLD 15	-49	-48	1148	0	0	0
18	SLD 16	-42	-47	1150	0	0	0
18	SLV 1	88	6	1287	0	0	0
18	SLV 2	99	9	1290	0	0	0
18	SLV 3	74	-18	1165	0	0	0
18	SLV 4	85	-16	1168	0	0	0
18	SLV 5	52	20	1413	0	0	0
18	SLV 6	59	22	1415	0	0	0
18	SLV 7	5	-62	1006	0	0	0
18	SLV 8	12	-60	1008	0	0	0
18	SLV 9	5	7	1398	0	0	0
18	SLV 10	12	9	1400	0	0	0
18	SLV 11	-42	-75	991	0	0	0
18	SLV 12	-35	-73	993	0	0	0
18	SLV 13	-68	-37	1238	0	0	0
18	SLV 14	-57	-34	1241	0	0	0
18	SLV 15	-82	-61	1116	0	0	0
18	SLV 16	-71	-59	1119	0	0	0
18	SLV FO 1	96	9	1295	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
18	SLV FO 2	108	12	1299	0	0	0
18	SLV FO 3	81	-18	1161	0	0	0
18	SLV FO 4	92	-15	1165	0	0	0
18	SLV FO 5	56	25	1434	0	0	0
18	SLV FO 6	64	27	1436	0	0	0
18	SLV FO 7	5	-65	986	0	0	0
18	SLV FO 8	12	-63	989	0	0	0
18	SLV FO 9	5	11	1417	0	0	0
18	SLV FO 10	12	13	1420	0	0	0
18	SLV FO 11	-47	-79	970	0	0	0
18	SLV FO 12	-39	-77	972	0	0	0
18	SLV FO 13	-75	-38	1241	0	0	0
18	SLV FO 14	-64	-35	1245	0	0	0
18	SLV FO 15	-91	-65	1107	0	0	0
18	SLV FO 16	-79	-62	1110	0	0	0
18	CRTFP Uy+	0	0	0	0	0	0
18	CRTFP Uy-	0	0	0	0	0	0
19	SLU 1	7	-17	880	0	0	0
19	SLU 2	8	-16	885	0	0	0
19	SLU 3	7	-17	898	0	0	0
19	SLU 4	7	-16	901	0	0	0
19	SLU 5	8	-16	896	0	0	0
19	SLU 6	7	-16	909	0	0	0
19	SLU 7	7	-15	912	0	0	0
19	SLU 8	7	-16	902	0	0	0
19	SLU 9	7	-15	905	0	0	0
19	SLU 10	6	-17	1003	0	0	0
19	SLU 11	5	-17	1016	0	0	0
19	SLU 12	6	-17	1019	0	0	0
19	SLU 13	6	-16	1015	0	0	0
19	SLU 14	5	-16	1027	0	0	0
19	SLU 15	5	-16	1030	0	0	0
19	SLU 16	5	-16	1021	0	0	0
19	SLU 17	5	-16	1024	0	0	0
19	SLU 18	5	-18	1049	0	0	0
19	SLU 19	5	-18	1052	0	0	0
19	SLU 20	4	-18	1060	0	0	0
19	SLU 21	5	-17	1063	0	0	0
19	SLU 22	7	-15	1009	0	0	0
19	SLU 23	7	-14	1014	0	0	0
19	SLU 24	6	-14	1026	0	0	0
19	SLU 25	7	-14	1029	0	0	0
19	SLU 26	7	-13	1025	0	0	0
19	SLU 27	6	-13	1037	0	0	0
19	SLU 28	6	-13	1040	0	0	0
19	SLU 29	6	-13	1031	0	0	0
19	SLU 30	6	-13	1034	0	0	0
19	SLU 31	5	-15	1132	0	0	0
19	SLU 32	4	-15	1145	0	0	0
19	SLU 33	5	-14	1148	0	0	0
19	SLU 34	5	-14	1143	0	0	0
19	SLU 35	4	-14	1156	0	0	0
19	SLU 36	4	-13	1159	0	0	0
19	SLU 37	4	-14	1149	0	0	0
19	SLU 38	4	-14	1152	0	0	0
19	SLU 39	4	-16	1178	0	0	0
19	SLU 40	4	-15	1181	0	0	0
19	SLU 41	3	-15	1189	0	0	0
19	SLU 42	4	-15	1192	0	0	0
19	SLU 43	10	-23	1100	0	0	0
19	SLU 44	11	-23	1105	0	0	0
19	SLU 45	10	-23	1118	0	0	0
19	SLU 46	10	-22	1121	0	0	0
19	SLU 47	10	-22	1116	0	0	0
19	SLU 48	9	-22	1129	0	0	0
19	SLU 49	9	-21	1132	0	0	0
19	SLU 50	9	-22	1122	0	0	0
19	SLU 51	9	-21	1125	0	0	0
19	SLU 52	9	-23	1223	0	0	0
19	SLU 53	8	-23	1236	0	0	0
19	SLU 54	8	-23	1239	0	0	0
19	SLU 55	8	-22	1235	0	0	0
19	SLU 56	7	-22	1247	0	0	0
19	SLU 57	8	-22	1250	0	0	0
19	SLU 58	7	-23	1241	0	0	0
19	SLU 59	8	-22	1244	0	0	0
19	SLU 60	7	-24	1269	0	0	0
19	SLU 61	8	-24	1272	0	0	0
19	SLU 62	7	-24	1280	0	0	0
19	SLU 63	7	-23	1283	0	0	0
19	SLU 64	9	-21	1229	0	0	0
19	SLU 65	10	-20	1234	0	0	0
19	SLU 66	9	-20	1246	0	0	0
19	SLU 67	9	-20	1249	0	0	0
19	SLU 68	9	-19	1245	0	0	0
19	SLU 69	8	-19	1257	0	0	0
19	SLU 70	9	-19	1260	0	0	0
19	SLU 71	8	-19	1251	0	0	0
19	SLU 72	9	-19	1254	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
19	SLU 73	8	-21	1352	0	0	0
19	SLU 74	7	-21	1365	0	0	0
19	SLU 75	7	-20	1368	0	0	0
19	SLU 76	7	-20	1363	0	0	0
19	SLU 77	6	-20	1376	0	0	0
19	SLU 78	7	-19	1379	0	0	0
19	SLU 79	6	-20	1369	0	0	0
19	SLU 80	7	-20	1372	0	0	0
19	SLU 81	7	-22	1398	0	0	0
19	SLU 82	7	-22	1401	0	0	0
19	SLU 83	6	-21	1409	0	0	0
19	SLU 84	6	-21	1412	0	0	0
19	SLE RA 1	7	-17	917	0	0	0
19	SLE RA 2	8	-16	920	0	0	0
19	SLE RA 3	7	-16	929	0	0	0
19	SLE RA 4	7	-16	931	0	0	0
19	SLE RA 5	7	-16	928	0	0	0
19	SLE RA 6	7	-16	936	0	0	0
19	SLE RA 7	7	-15	938	0	0	0
19	SLE RA 8	7	-16	932	0	0	0
19	SLE RA 9	7	-15	934	0	0	0
19	SLE RA 10	6	-17	999	0	0	0
19	SLE RA 11	6	-17	1008	0	0	0
19	SLE RA 12	6	-16	1010	0	0	0
19	SLE RA 13	6	-16	1006	0	0	0
19	SLE RA 14	5	-16	1015	0	0	0
19	SLE RA 15	6	-16	1017	0	0	0
19	SLE RA 16	5	-16	1010	0	0	0
19	SLE RA 17	6	-16	1012	0	0	0
19	SLE RA 18	5	-17	1029	0	0	0
19	SLE RA 19	6	-17	1032	0	0	0
19	SLE RA 20	5	-17	1037	0	0	0
19	SLE RA 21	5	-16	1039	0	0	0
19	SLE FR 1	7	-17	917	0	0	0
19	SLE FR 2	7	-17	917	0	0	0
19	SLE FR 3	7	-17	920	0	0	0
19	SLE FR 4	7	-17	951	0	0	0
19	SLE FR 5	7	-17	954	0	0	0
19	SLE FR 6	6	-17	973	0	0	0
19	SLE QP 1	7	-17	917	0	0	0
19	SLE QP 2	7	-17	951	0	0	0
19	SLD 1	47	-3	976	0	0	0
19	SLD 2	52	0	977	0	0	0
19	SLD 3	40	-14	915	0	0	0
19	SLD 4	45	-12	917	0	0	0
19	SLD 5	28	4	1050	0	0	0
19	SLD 6	32	6	1051	0	0	0
19	SLD 7	5	-34	848	0	0	0
19	SLD 8	9	-32	849	0	0	0
19	SLD 9	5	-2	1053	0	0	0
19	SLD 10	8	0	1053	0	0	0
19	SLD 11	-18	-40	850	0	0	0
19	SLD 12	-15	-38	851	0	0	0
19	SLD 13	-32	-22	985	0	0	0
19	SLD 14	-26	-20	986	0	0	0
19	SLD 15	-38	-34	924	0	0	0
19	SLD 16	-33	-31	925	0	0	0
19	SLV 1	70	6	992	0	0	0
19	SLV 2	78	10	994	0	0	0
19	SLV 3	59	-13	894	0	0	0
19	SLV 4	67	-9	896	0	0	0
19	SLV 5	41	18	1112	0	0	0
19	SLV 6	46	20	1113	0	0	0
19	SLV 7	4	-45	784	0	0	0
19	SLV 8	10	-43	786	0	0	0
19	SLV 9	4	9	1116	0	0	0
19	SLV 10	9	11	1117	0	0	0
19	SLV 11	-33	-54	788	0	0	0
19	SLV 12	-27	-52	790	0	0	0
19	SLV 13	-53	-25	1006	0	0	0
19	SLV 14	-45	-21	1007	0	0	0
19	SLV 15	-65	-44	907	0	0	0
19	SLV 16	-56	-40	909	0	0	0
19	SLV FO 1	76	8	996	0	0	0
19	SLV FO 2	85	12	998	0	0	0
19	SLV FO 3	64	-12	888	0	0	0
19	SLV FO 4	73	-8	890	0	0	0
19	SLV FO 5	44	21	1128	0	0	0
19	SLV FO 6	50	24	1129	0	0	0
19	SLV FO 7	4	-48	768	0	0	0
19	SLV FO 8	10	-45	769	0	0	0
19	SLV FO 9	4	11	1132	0	0	0
19	SLV FO 10	10	14	1133	0	0	0
19	SLV FO 11	-37	-58	772	0	0	0
19	SLV FO 12	-31	-55	774	0	0	0
19	SLV FO 13	-59	-25	1011	0	0	0
19	SLV FO 14	-50	-21	1013	0	0	0
19	SLV FO 15	-72	-46	903	0	0	0
19	SLV FO 16	-63	-42	905	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
20	SLU 1	7	-14	883	0	0	0
20	SLU 2	8	-13	888	0	0	0
20	SLU 3	7	-13	901	0	0	0
20	SLU 4	7	-12	904	0	0	0
20	SLU 5	8	-12	899	0	0	0
20	SLU 6	7	-12	912	0	0	0
20	SLU 7	7	-11	915	0	0	0
20	SLU 8	6	-12	905	0	0	0
20	SLU 9	7	-12	908	0	0	0
20	SLU 10	6	-13	1006	0	0	0
20	SLU 11	5	-13	1019	0	0	0
20	SLU 12	5	-13	1022	0	0	0
20	SLU 13	6	-12	1017	0	0	0
20	SLU 14	5	-12	1029	0	0	0
20	SLU 15	5	-12	1032	0	0	0
20	SLU 16	5	-12	1023	0	0	0
20	SLU 17	5	-12	1026	0	0	0
20	SLU 18	5	-14	1051	0	0	0
20	SLU 19	5	-14	1054	0	0	0
20	SLU 20	4	-13	1062	0	0	0
20	SLU 21	5	-13	1065	0	0	0
20	SLU 22	7	-11	1011	0	0	0
20	SLU 23	7	-10	1016	0	0	0
20	SLU 24	6	-10	1029	0	0	0
20	SLU 25	6	-10	1032	0	0	0
20	SLU 26	7	-9	1027	0	0	0
20	SLU 27	6	-9	1040	0	0	0
20	SLU 28	6	-9	1043	0	0	0
20	SLU 29	6	-9	1033	0	0	0
20	SLU 30	6	-9	1036	0	0	0
20	SLU 31	5	-10	1134	0	0	0
20	SLU 32	4	-10	1146	0	0	0
20	SLU 33	5	-10	1150	0	0	0
20	SLU 34	5	-10	1145	0	0	0
20	SLU 35	4	-10	1157	0	0	0
20	SLU 36	4	-9	1160	0	0	0
20	SLU 37	4	-10	1150	0	0	0
20	SLU 38	4	-9	1154	0	0	0
20	SLU 39	4	-12	1179	0	0	0
20	SLU 40	4	-11	1182	0	0	0
20	SLU 41	3	-11	1190	0	0	0
20	SLU 42	4	-10	1193	0	0	0
20	SLU 43	10	-19	1104	0	0	0
20	SLU 44	11	-18	1110	0	0	0
20	SLU 45	10	-18	1122	0	0	0
20	SLU 46	10	-17	1125	0	0	0
20	SLU 47	10	-17	1120	0	0	0
20	SLU 48	9	-17	1133	0	0	0
20	SLU 49	9	-17	1136	0	0	0
20	SLU 50	9	-17	1126	0	0	0
20	SLU 51	9	-17	1129	0	0	0
20	SLU 52	9	-18	1227	0	0	0
20	SLU 53	8	-18	1240	0	0	0
20	SLU 54	8	-18	1243	0	0	0
20	SLU 55	8	-17	1238	0	0	0
20	SLU 56	7	-17	1250	0	0	0
20	SLU 57	8	-17	1254	0	0	0
20	SLU 58	7	-18	1244	0	0	0
20	SLU 59	7	-17	1247	0	0	0
20	SLU 60	7	-19	1272	0	0	0
20	SLU 61	8	-19	1275	0	0	0
20	SLU 62	7	-19	1283	0	0	0
20	SLU 63	7	-18	1286	0	0	0
20	SLU 64	9	-16	1232	0	0	0
20	SLU 65	10	-15	1238	0	0	0
20	SLU 66	9	-15	1250	0	0	0
20	SLU 67	9	-15	1253	0	0	0
20	SLU 68	9	-14	1248	0	0	0
20	SLU 69	8	-14	1261	0	0	0
20	SLU 70	9	-14	1264	0	0	0
20	SLU 71	8	-15	1254	0	0	0
20	SLU 72	8	-14	1257	0	0	0
20	SLU 73	8	-16	1355	0	0	0
20	SLU 74	7	-16	1368	0	0	0
20	SLU 75	7	-15	1371	0	0	0
20	SLU 76	7	-15	1366	0	0	0
20	SLU 77	6	-15	1378	0	0	0
20	SLU 78	7	-14	1382	0	0	0
20	SLU 79	6	-15	1372	0	0	0
20	SLU 80	7	-14	1375	0	0	0
20	SLU 81	6	-17	1400	0	0	0
20	SLU 82	7	-16	1403	0	0	0
20	SLU 83	6	-16	1411	0	0	0
20	SLU 84	6	-15	1414	0	0	0
20	SLE RA 1	7	-13	920	0	0	0
20	SLE RA 2	8	-12	923	0	0	0
20	SLE RA 3	7	-12	932	0	0	0
20	SLE RA 4	7	-12	934	0	0	0
20	SLE RA 5	7	-12	931	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
20	SLE RA 6	7	-12	939	0	0	0
20	SLE RA 7	7	-11	941	0	0	0
20	SLE RA 8	7	-12	934	0	0	0
20	SLE RA 9	7	-12	936	0	0	0
20	SLE RA 10	6	-13	1002	0	0	0
20	SLE RA 11	6	-13	1010	0	0	0
20	SLE RA 12	6	-12	1012	0	0	0
20	SLE RA 13	6	-12	1009	0	0	0
20	SLE RA 14	5	-12	1017	0	0	0
20	SLE RA 15	6	-12	1019	0	0	0
20	SLE RA 16	5	-12	1013	0	0	0
20	SLE RA 17	6	-12	1015	0	0	0
20	SLE RA 18	5	-13	1032	0	0	0
20	SLE RA 19	6	-13	1034	0	0	0
20	SLE RA 20	5	-13	1039	0	0	0
20	SLE RA 21	5	-12	1041	0	0	0
20	SLE FR 1	7	-13	920	0	0	0
20	SLE FR 2	7	-13	921	0	0	0
20	SLE FR 3	7	-13	923	0	0	0
20	SLE FR 4	7	-13	954	0	0	0
20	SLE FR 5	7	-13	956	0	0	0
20	SLE FR 6	6	-13	976	0	0	0
20	SLE QP 1	7	-13	920	0	0	0
20	SLE QP 2	7	-13	953	0	0	0
20	SLD 1	47	0	965	0	0	0
20	SLD 2	52	3	966	0	0	0
20	SLD 3	40	-12	904	0	0	0
20	SLD 4	45	-8	904	0	0	0
20	SLD 5	28	7	1051	0	0	0
20	SLD 6	31	9	1051	0	0	0
20	SLD 7	5	-30	845	0	0	0
20	SLD 8	9	-28	845	0	0	0
20	SLD 9	4	2	1062	0	0	0
20	SLD 10	8	4	1062	0	0	0
20	SLD 11	-18	-36	856	0	0	0
20	SLD 12	-15	-33	856	0	0	0
20	SLD 13	-32	-18	1003	0	0	0
20	SLD 14	-27	-15	1003	0	0	0
20	SLD 15	-39	-29	941	0	0	0
20	SLD 16	-33	-26	941	0	0	0
20	SLV 1	70	7	974	0	0	0
20	SLV 2	78	12	975	0	0	0
20	SLV 3	59	-11	874	0	0	0
20	SLV 4	67	-6	875	0	0	0
20	SLV 5	41	20	1111	0	0	0
20	SLV 6	46	24	1112	0	0	0
20	SLV 7	4	-42	778	0	0	0
20	SLV 8	10	-38	779	0	0	0
20	SLV 9	4	12	1128	0	0	0
20	SLV 10	9	15	1129	0	0	0
20	SLV 11	-33	-50	795	0	0	0
20	SLV 12	-27	-46	796	0	0	0
20	SLV 13	-54	-20	1032	0	0	0
20	SLV 14	-45	-15	1033	0	0	0
20	SLV 15	-65	-39	932	0	0	0
20	SLV 16	-56	-34	933	0	0	0
20	SLV FO 1	76	9	976	0	0	0
20	SLV FO 2	85	15	977	0	0	0
20	SLV FO 3	64	-11	866	0	0	0
20	SLV FO 4	73	-5	867	0	0	0
20	SLV FO 5	44	24	1127	0	0	0
20	SLV FO 6	50	27	1127	0	0	0
20	SLV FO 7	4	-44	760	0	0	0
20	SLV FO 8	10	-41	761	0	0	0
20	SLV FO 9	3	14	1146	0	0	0
20	SLV FO 10	10	18	1147	0	0	0
20	SLV FO 11	-37	-54	780	0	0	0
20	SLV FO 12	-31	-50	780	0	0	0
20	SLV FO 13	-60	-21	1040	0	0	0
20	SLV FO 14	-51	-15	1041	0	0	0
20	SLV FO 15	-72	-41	930	0	0	0
20	SLV FO 16	-63	-36	931	0	0	0
21	SLU 1	7	-10	900	0	0	0
21	SLU 2	8	-9	905	0	0	0
21	SLU 3	7	-9	917	0	0	0
21	SLU 4	7	-9	921	0	0	0
21	SLU 5	8	-9	916	0	0	0
21	SLU 6	7	-8	928	0	0	0
21	SLU 7	7	-8	931	0	0	0
21	SLU 8	7	-9	921	0	0	0
21	SLU 9	7	-8	925	0	0	0
21	SLU 10	6	-9	1024	0	0	0
21	SLU 11	5	-9	1036	0	0	0
21	SLU 12	5	-9	1039	0	0	0
21	SLU 13	6	-8	1034	0	0	0
21	SLU 14	5	-8	1047	0	0	0
21	SLU 15	5	-8	1050	0	0	0
21	SLU 16	5	-9	1040	0	0	0
21	SLU 17	5	-8	1043	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLU 18	5	-10	1069	0	0	0
21	SLU 19	5	-10	1072	0	0	0
21	SLU 20	4	-9	1080	0	0	0
21	SLU 21	5	-9	1083	0	0	0
21	SLU 22	7	-7	1029	0	0	0
21	SLU 23	7	-6	1034	0	0	0
21	SLU 24	6	-6	1047	0	0	0
21	SLU 25	6	-6	1050	0	0	0
21	SLU 26	7	-5	1045	0	0	0
21	SLU 27	6	-5	1058	0	0	0
21	SLU 28	6	-5	1061	0	0	0
21	SLU 29	6	-5	1051	0	0	0
21	SLU 30	6	-5	1054	0	0	0
21	SLU 31	5	-6	1153	0	0	0
21	SLU 32	4	-6	1165	0	0	0
21	SLU 33	5	-5	1168	0	0	0
21	SLU 34	5	-5	1164	0	0	0
21	SLU 35	4	-5	1176	0	0	0
21	SLU 36	4	-5	1179	0	0	0
21	SLU 37	4	-5	1169	0	0	0
21	SLU 38	4	-5	1172	0	0	0
21	SLU 39	4	-7	1198	0	0	0
21	SLU 40	4	-7	1202	0	0	0
21	SLU 41	3	-6	1209	0	0	0
21	SLU 42	4	-6	1212	0	0	0
21	SLU 43	10	-15	1125	0	0	0
21	SLU 44	11	-14	1131	0	0	0
21	SLU 45	10	-14	1143	0	0	0
21	SLU 46	10	-13	1146	0	0	0
21	SLU 47	10	-13	1141	0	0	0
21	SLU 48	9	-13	1154	0	0	0
21	SLU 49	9	-12	1157	0	0	0
21	SLU 50	9	-13	1147	0	0	0
21	SLU 51	9	-12	1150	0	0	0
21	SLU 52	9	-14	1249	0	0	0
21	SLU 53	8	-14	1262	0	0	0
21	SLU 54	8	-13	1265	0	0	0
21	SLU 55	8	-13	1260	0	0	0
21	SLU 56	7	-13	1272	0	0	0
21	SLU 57	8	-12	1276	0	0	0
21	SLU 58	7	-13	1265	0	0	0
21	SLU 59	7	-12	1269	0	0	0
21	SLU 60	7	-15	1295	0	0	0
21	SLU 61	8	-14	1298	0	0	0
21	SLU 62	7	-14	1305	0	0	0
21	SLU 63	7	-13	1309	0	0	0
21	SLU 64	9	-11	1255	0	0	0
21	SLU 65	10	-10	1260	0	0	0
21	SLU 66	9	-10	1272	0	0	0
21	SLU 67	9	-10	1276	0	0	0
21	SLU 68	9	-10	1271	0	0	0
21	SLU 69	8	-9	1283	0	0	0
21	SLU 70	9	-9	1286	0	0	0
21	SLU 71	8	-10	1276	0	0	0
21	SLU 72	9	-9	1279	0	0	0
21	SLU 73	8	-10	1379	0	0	0
21	SLU 74	7	-10	1391	0	0	0
21	SLU 75	7	-10	1394	0	0	0
21	SLU 76	7	-9	1389	0	0	0
21	SLU 77	6	-9	1402	0	0	0
21	SLU 78	7	-9	1405	0	0	0
21	SLU 79	6	-10	1395	0	0	0
21	SLU 80	7	-9	1398	0	0	0
21	SLU 81	6	-11	1424	0	0	0
21	SLU 82	7	-11	1427	0	0	0
21	SLU 83	6	-10	1435	0	0	0
21	SLU 84	6	-10	1438	0	0	0
21	SLE RA 1	7	-9	937	0	0	0
21	SLE RA 2	8	-9	940	0	0	0
21	SLE RA 3	7	-9	949	0	0	0
21	SLE RA 4	7	-8	951	0	0	0
21	SLE RA 5	7	-8	947	0	0	0
21	SLE RA 6	7	-8	956	0	0	0
21	SLE RA 7	7	-8	958	0	0	0
21	SLE RA 8	7	-8	951	0	0	0
21	SLE RA 9	7	-8	953	0	0	0
21	SLE RA 10	6	-9	1019	0	0	0
21	SLE RA 11	6	-9	1028	0	0	0
21	SLE RA 12	6	-8	1030	0	0	0
21	SLE RA 13	6	-8	1026	0	0	0
21	SLE RA 14	5	-8	1035	0	0	0
21	SLE RA 15	6	-8	1037	0	0	0
21	SLE RA 16	5	-8	1030	0	0	0
21	SLE RA 17	6	-8	1032	0	0	0
21	SLE RA 18	5	-9	1050	0	0	0
21	SLE RA 19	6	-9	1052	0	0	0
21	SLE RA 20	5	-9	1057	0	0	0
21	SLE RA 21	5	-8	1059	0	0	0
21	SLE FR 1	7	-9	937	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
21	SLE FR 2	7	-9	937	0	0	0
21	SLE FR 3	7	-9	940	0	0	0
21	SLE FR 4	7	-9	971	0	0	0
21	SLE FR 5	7	-9	973	0	0	0
21	SLE FR 6	6	-9	993	0	0	0
21	SLE QP 1	7	-9	937	0	0	0
21	SLE QP 2	7	-9	971	0	0	0
21	SLD 1	47	2	968	0	0	0
21	SLD 2	53	6	968	0	0	0
21	SLD 3	40	-9	904	0	0	0
21	SLD 4	46	-5	904	0	0	0
21	SLD 5	28	10	1067	0	0	0
21	SLD 6	32	13	1067	0	0	0
21	SLD 7	5	-27	854	0	0	0
21	SLD 8	9	-24	854	0	0	0
21	SLD 9	4	5	1087	0	0	0
21	SLD 10	8	8	1087	0	0	0
21	SLD 11	-19	-32	875	0	0	0
21	SLD 12	-15	-29	875	0	0	0
21	SLD 13	-32	-14	1037	0	0	0
21	SLD 14	-27	-10	1037	0	0	0
21	SLD 15	-39	-25	973	0	0	0
21	SLD 16	-34	-21	973	0	0	0
21	SLV 1	71	9	968	0	0	0
21	SLV 2	79	16	968	0	0	0
21	SLV 3	60	-9	865	0	0	0
21	SLV 4	68	-3	865	0	0	0
21	SLV 5	41	23	1126	0	0	0
21	SLV 6	47	27	1126	0	0	0
21	SLV 7	4	-39	783	0	0	0
21	SLV 8	10	-34	783	0	0	0
21	SLV 9	4	15	1159	0	0	0
21	SLV 10	9	20	1159	0	0	0
21	SLV 11	-34	-46	815	0	0	0
21	SLV 12	-28	-42	815	0	0	0
21	SLV 13	-55	-16	1076	0	0	0
21	SLV 14	-46	-10	1076	0	0	0
21	SLV 15	-66	-34	973	0	0	0
21	SLV 16	-57	-28	973	0	0	0
21	SLV FO 1	77	11	968	0	0	0
21	SLV FO 2	86	18	968	0	0	0
21	SLV FO 3	65	-9	855	0	0	0
21	SLV FO 4	74	-2	855	0	0	0
21	SLV FO 5	45	26	1142	0	0	0
21	SLV FO 6	51	31	1142	0	0	0
21	SLV FO 7	4	-41	764	0	0	0
21	SLV FO 8	10	-37	764	0	0	0
21	SLV FO 9	3	18	1177	0	0	0
21	SLV FO 10	10	23	1177	0	0	0
21	SLV FO 11	-38	-50	799	0	0	0
21	SLV FO 12	-32	-45	799	0	0	0
21	SLV FO 13	-61	-17	1086	0	0	0
21	SLV FO 14	-51	-10	1086	0	0	0
21	SLV FO 15	-73	-37	973	0	0	0
21	SLV FO 16	-64	-30	973	0	0	0
22	SLU 1	8	-7	993	0	0	0
22	SLU 2	9	-6	999	0	0	0
22	SLU 3	8	-6	1012	0	0	0
22	SLU 4	8	-6	1016	0	0	0
22	SLU 5	8	-5	1011	0	0	0
22	SLU 6	7	-5	1024	0	0	0
22	SLU 7	8	-5	1028	0	0	0
22	SLU 8	7	-5	1016	0	0	0
22	SLU 9	7	-5	1020	0	0	0
22	SLU 10	7	-6	1129	0	0	0
22	SLU 11	6	-6	1142	0	0	0
22	SLU 12	6	-5	1145	0	0	0
22	SLU 13	6	-5	1140	0	0	0
22	SLU 14	5	-5	1153	0	0	0
22	SLU 15	5	-4	1157	0	0	0
22	SLU 16	5	-5	1146	0	0	0
22	SLU 17	5	-4	1149	0	0	0
22	SLU 18	5	-7	1178	0	0	0
22	SLU 19	5	-6	1182	0	0	0
22	SLU 20	5	-6	1190	0	0	0
22	SLU 21	5	-5	1193	0	0	0
22	SLU 22	7	-3	1135	0	0	0
22	SLU 23	8	-2	1141	0	0	0
22	SLU 24	7	-2	1154	0	0	0
22	SLU 25	7	-2	1158	0	0	0
22	SLU 26	7	-1	1152	0	0	0
22	SLU 27	6	-1	1166	0	0	0
22	SLU 28	7	-1	1169	0	0	0
22	SLU 29	6	-1	1158	0	0	0
22	SLU 30	6	-1	1162	0	0	0
22	SLU 31	6	-2	1270	0	0	0
22	SLU 32	5	-2	1284	0	0	0
22	SLU 33	5	-1	1287	0	0	0
22	SLU 34	5	-1	1282	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
22	SLU 35	4	-1	1295	0	0	0
22	SLU 36	4	0	1299	0	0	0
22	SLU 37	4	-1	1287	0	0	0
22	SLU 38	4	0	1291	0	0	0
22	SLU 39	4	-3	1320	0	0	0
22	SLU 40	4	-2	1323	0	0	0
22	SLU 41	4	-2	1331	0	0	0
22	SLU 42	4	-1	1335	0	0	0
22	SLU 43	11	-11	1243	0	0	0
22	SLU 44	12	-10	1249	0	0	0
22	SLU 45	10	-10	1262	0	0	0
22	SLU 46	11	-9	1265	0	0	0
22	SLU 47	11	-9	1260	0	0	0
22	SLU 48	10	-9	1273	0	0	0
22	SLU 49	10	-8	1277	0	0	0
22	SLU 50	10	-9	1266	0	0	0
22	SLU 51	10	-8	1269	0	0	0
22	SLU 52	9	-9	1378	0	0	0
22	SLU 53	8	-9	1391	0	0	0
22	SLU 54	9	-9	1395	0	0	0
22	SLU 55	9	-8	1390	0	0	0
22	SLU 56	8	-8	1403	0	0	0
22	SLU 57	8	-8	1406	0	0	0
22	SLU 58	8	-9	1395	0	0	0
22	SLU 59	8	-8	1399	0	0	0
22	SLU 60	8	-10	1428	0	0	0
22	SLU 61	8	-10	1431	0	0	0
22	SLU 62	7	-9	1439	0	0	0
22	SLU 63	8	-9	1443	0	0	0
22	SLU 64	10	-7	1384	0	0	0
22	SLU 65	11	-6	1390	0	0	0
22	SLU 66	9	-6	1404	0	0	0
22	SLU 67	10	-5	1407	0	0	0
22	SLU 68	10	-5	1402	0	0	0
22	SLU 69	9	-5	1415	0	0	0
22	SLU 70	9	-4	1419	0	0	0
22	SLU 71	9	-5	1407	0	0	0
22	SLU 72	9	-4	1411	0	0	0
22	SLU 73	8	-5	1520	0	0	0
22	SLU 74	7	-5	1533	0	0	0
22	SLU 75	8	-5	1537	0	0	0
22	SLU 76	8	-4	1531	0	0	0
22	SLU 77	7	-4	1545	0	0	0
22	SLU 78	7	-4	1548	0	0	0
22	SLU 79	7	-5	1537	0	0	0
22	SLU 80	7	-4	1540	0	0	0
22	SLU 81	7	-6	1569	0	0	0
22	SLU 82	7	-6	1573	0	0	0
22	SLU 83	6	-5	1581	0	0	0
22	SLU 84	7	-5	1584	0	0	0
22	SLE RA 1	8	-6	1034	0	0	0
22	SLE RA 2	8	-6	1038	0	0	0
22	SLE RA 3	8	-5	1047	0	0	0
22	SLE RA 4	8	-5	1049	0	0	0
22	SLE RA 5	8	-5	1045	0	0	0
22	SLE RA 6	7	-5	1054	0	0	0
22	SLE RA 7	7	-4	1057	0	0	0
22	SLE RA 8	7	-5	1049	0	0	0
22	SLE RA 9	7	-4	1052	0	0	0
22	SLE RA 10	7	-5	1124	0	0	0
22	SLE RA 11	6	-5	1133	0	0	0
22	SLE RA 12	6	-5	1135	0	0	0
22	SLE RA 13	6	-5	1132	0	0	0
22	SLE RA 14	6	-4	1141	0	0	0
22	SLE RA 15	6	-4	1143	0	0	0
22	SLE RA 16	6	-5	1135	0	0	0
22	SLE RA 17	6	-4	1138	0	0	0
22	SLE RA 18	6	-6	1157	0	0	0
22	SLE RA 19	6	-5	1159	0	0	0
22	SLE RA 20	5	-5	1165	0	0	0
22	SLE RA 21	6	-5	1167	0	0	0
22	SLE FR 1	8	-6	1034	0	0	0
22	SLE FR 2	8	-6	1035	0	0	0
22	SLE FR 3	8	-6	1037	0	0	0
22	SLE FR 4	7	-6	1071	0	0	0
22	SLE FR 5	7	-6	1074	0	0	0
22	SLE FR 6	7	-6	1095	0	0	0
22	SLE QP 1	8	-6	1034	0	0	0
22	SLE QP 2	7	-6	1071	0	0	0
22	SLD 1	52	5	1052	0	0	0
22	SLD 2	58	11	1051	0	0	0
22	SLD 3	44	-7	980	0	0	0
22	SLD 4	50	-1	980	0	0	0
22	SLD 5	31	15	1174	0	0	0
22	SLD 6	35	18	1173	0	0	0
22	SLD 7	6	-26	935	0	0	0
22	SLD 8	10	-22	935	0	0	0
22	SLD 9	5	10	1206	0	0	0
22	SLD 10	9	14	1206	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
22	SLD 11	-21	-30	968	0	0	0
22	SLD 12	-17	-27	968	0	0	0
22	SLD 13	-36	-11	1162	0	0	0
22	SLD 14	-30	-5	1161	0	0	0
22	SLD 15	-44	-23	1090	0	0	0
22	SLD 16	-38	-17	1090	0	0	0
22	SLV 1	78	12	1043	0	0	0
22	SLV 2	87	21	1042	0	0	0
22	SLV 3	66	-8	928	0	0	0
22	SLV 4	75	1	927	0	0	0
22	SLV 5	46	28	1238	0	0	0
22	SLV 6	52	34	1237	0	0	0
22	SLV 7	4	-39	853	0	0	0
22	SLV 8	10	-33	852	0	0	0
22	SLV 9	4	20	1289	0	0	0
22	SLV 10	10	26	1289	0	0	0
22	SLV 11	-37	-46	904	0	0	0
22	SLV 12	-31	-40	903	0	0	0
22	SLV 13	-60	-13	1215	0	0	0
22	SLV 14	-51	-4	1214	0	0	0
22	SLV 15	-73	-33	1099	0	0	0
22	SLV 16	-64	-24	1098	0	0	0
22	SLV FO 1	85	14	1041	0	0	0
22	SLV FO 2	95	23	1039	0	0	0
22	SLV FO 3	71	-8	913	0	0	0
22	SLV FO 4	82	1	912	0	0	0
22	SLV FO 5	49	31	1255	0	0	0
22	SLV FO 6	56	38	1254	0	0	0
22	SLV FO 7	4	-42	831	0	0	0
22	SLV FO 8	11	-35	830	0	0	0
22	SLV FO 9	4	23	1311	0	0	0
22	SLV FO 10	11	30	1311	0	0	0
22	SLV FO 11	-42	-50	887	0	0	0
22	SLV FO 12	-35	-43	887	0	0	0
22	SLV FO 13	-67	-14	1229	0	0	0
22	SLV FO 14	-57	-4	1228	0	0	0
22	SLV FO 15	-81	-35	1102	0	0	0
22	SLV FO 16	-71	-26	1101	0	0	0
22	CRTFP Uy+	0	0	0	0	0	0
22	CRTFP Uy-	0	0	0	0	0	0
23	SLU 1	6	-1	668	0	0	0
23	SLU 2	6	-1	672	0	0	0
23	SLU 3	5	-1	680	0	0	0
23	SLU 4	5	0	683	0	0	0
23	SLU 5	6	0	679	0	0	0
23	SLU 6	5	0	688	0	0	0
23	SLU 7	5	0	690	0	0	0
23	SLU 8	5	0	683	0	0	0
23	SLU 9	5	0	685	0	0	0
23	SLU 10	5	0	758	0	0	0
23	SLU 11	4	0	766	0	0	0
23	SLU 12	4	0	769	0	0	0
23	SLU 13	4	1	765	0	0	0
23	SLU 14	3	1	774	0	0	0
23	SLU 15	4	1	776	0	0	0
23	SLU 16	3	0	769	0	0	0
23	SLU 17	4	1	771	0	0	0
23	SLU 18	3	-1	790	0	0	0
23	SLU 19	4	0	793	0	0	0
23	SLU 20	3	0	798	0	0	0
23	SLU 21	3	1	800	0	0	0
23	SLU 22	5	2	762	0	0	0
23	SLU 23	5	2	766	0	0	0
23	SLU 24	5	2	775	0	0	0
23	SLU 25	5	3	777	0	0	0
23	SLU 26	5	3	774	0	0	0
23	SLU 27	4	3	782	0	0	0
23	SLU 28	4	4	785	0	0	0
23	SLU 29	4	3	777	0	0	0
23	SLU 30	4	3	780	0	0	0
23	SLU 31	4	3	852	0	0	0
23	SLU 32	3	3	860	0	0	0
23	SLU 33	3	4	863	0	0	0
23	SLU 34	3	4	859	0	0	0
23	SLU 35	3	4	868	0	0	0
23	SLU 36	3	4	870	0	0	0
23	SLU 37	3	4	863	0	0	0
23	SLU 38	3	4	865	0	0	0
23	SLU 39	3	3	885	0	0	0
23	SLU 40	3	3	887	0	0	0
23	SLU 41	2	3	892	0	0	0
23	SLU 42	3	4	895	0	0	0
23	SLU 43	7	-3	836	0	0	0
23	SLU 44	8	-2	840	0	0	0
23	SLU 45	7	-2	848	0	0	0
23	SLU 46	7	-2	851	0	0	0
23	SLU 47	8	-2	847	0	0	0
23	SLU 48	7	-1	856	0	0	0
23	SLU 49	7	-1	858	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
23	SLU 50	7	-2	851	0	0	0
23	SLU 51	7	-1	853	0	0	0
23	SLU 52	6	-2	926	0	0	0
23	SLU 53	6	-2	934	0	0	0
23	SLU 54	6	-1	937	0	0	0
23	SLU 55	6	-1	933	0	0	0
23	SLU 56	5	-1	942	0	0	0
23	SLU 57	6	0	944	0	0	0
23	SLU 58	5	-1	937	0	0	0
23	SLU 59	6	-1	939	0	0	0
23	SLU 60	5	-2	958	0	0	0
23	SLU 61	6	-2	961	0	0	0
23	SLU 62	5	-1	966	0	0	0
23	SLU 63	5	-1	968	0	0	0
23	SLU 64	7	0	930	0	0	0
23	SLU 65	7	1	934	0	0	0
23	SLU 66	6	1	943	0	0	0
23	SLU 67	7	1	945	0	0	0
23	SLU 68	7	1	942	0	0	0
23	SLU 69	6	2	950	0	0	0
23	SLU 70	6	2	953	0	0	0
23	SLU 71	6	1	945	0	0	0
23	SLU 72	6	2	947	0	0	0
23	SLU 73	6	1	1020	0	0	0
23	SLU 74	5	2	1028	0	0	0
23	SLU 75	5	2	1031	0	0	0
23	SLU 76	5	2	1027	0	0	0
23	SLU 77	5	2	1036	0	0	0
23	SLU 78	5	3	1038	0	0	0
23	SLU 79	5	2	1031	0	0	0
23	SLU 80	5	3	1033	0	0	0
23	SLU 81	5	1	1052	0	0	0
23	SLU 82	5	1	1055	0	0	0
23	SLU 83	4	2	1060	0	0	0
23	SLU 84	5	2	1063	0	0	0
23	SLE RA 1	5	-1	695	0	0	0
23	SLE RA 2	6	0	697	0	0	0
23	SLE RA 3	5	0	703	0	0	0
23	SLE RA 4	5	0	705	0	0	0
23	SLE RA 5	5	0	702	0	0	0
23	SLE RA 6	5	0	708	0	0	0
23	SLE RA 7	5	1	710	0	0	0
23	SLE RA 8	5	0	705	0	0	0
23	SLE RA 9	5	1	706	0	0	0
23	SLE RA 10	5	0	755	0	0	0
23	SLE RA 11	4	0	760	0	0	0
23	SLE RA 12	4	1	762	0	0	0
23	SLE RA 13	4	1	760	0	0	0
23	SLE RA 14	4	1	765	0	0	0
23	SLE RA 15	4	1	767	0	0	0
23	SLE RA 16	4	1	762	0	0	0
23	SLE RA 17	4	1	764	0	0	0
23	SLE RA 18	4	0	776	0	0	0
23	SLE RA 19	4	0	778	0	0	0
23	SLE RA 20	4	0	781	0	0	0
23	SLE RA 21	4	1	783	0	0	0
23	SLE FR 1	5	-1	695	0	0	0
23	SLE FR 2	5	-1	695	0	0	0
23	SLE FR 3	5	0	697	0	0	0
23	SLE FR 4	5	0	720	0	0	0
23	SLE FR 5	5	0	721	0	0	0
23	SLE FR 6	5	0	735	0	0	0
23	SLE QP 1	5	-1	695	0	0	0
23	SLE QP 2	5	0	719	0	0	0
23	SLD 1	35	6	693	0	0	0
23	SLD 2	39	10	692	0	0	0
23	SLD 3	30	-2	643	0	0	0
23	SLD 4	34	2	643	0	0	0
23	SLD 5	21	13	786	0	0	0
23	SLD 6	24	16	786	0	0	0
23	SLD 7	4	-14	622	0	0	0
23	SLD 8	7	-11	621	0	0	0
23	SLD 9	3	10	817	0	0	0
23	SLD 10	6	13	816	0	0	0
23	SLD 11	-14	-17	653	0	0	0
23	SLD 12	-11	-13	652	0	0	0
23	SLD 13	-24	-3	796	0	0	0
23	SLD 14	-20	1	795	0	0	0
23	SLD 15	-29	-11	746	0	0	0
23	SLD 16	-25	-7	746	0	0	0
23	SLV 1	53	10	679	0	0	0
23	SLV 2	59	17	678	0	0	0
23	SLV 3	44	-3	600	0	0	0
23	SLV 4	51	4	598	0	0	0
23	SLV 5	31	21	828	0	0	0
23	SLV 6	35	26	827	0	0	0
23	SLV 7	3	-23	563	0	0	0
23	SLV 8	7	-18	562	0	0	0
23	SLV 9	3	17	877	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
23	SLV 10	7	22	876	0	0	0
23	SLV 11	-25	-27	611	0	0	0
23	SLV 12	-21	-22	610	0	0	0
23	SLV 13	-41	-5	840	0	0	0
23	SLV 14	-35	3	839	0	0	0
23	SLV 15	-49	-18	760	0	0	0
23	SLV 16	-43	-10	759	0	0	0
23	SLV FO 1	58	11	675	0	0	0
23	SLV FO 2	64	19	674	0	0	0
23	SLV FO 3	48	-4	588	0	0	0
23	SLV FO 4	55	4	586	0	0	0
23	SLV FO 5	33	23	839	0	0	0
23	SLV FO 6	38	29	838	0	0	0
23	SLV FO 7	3	-25	547	0	0	0
23	SLV FO 8	7	-19	546	0	0	0
23	SLV FO 9	3	18	892	0	0	0
23	SLV FO 10	7	24	891	0	0	0
23	SLV FO 11	-28	-29	600	0	0	0
23	SLV FO 12	-24	-24	599	0	0	0
23	SLV FO 13	-45	-5	852	0	0	0
23	SLV FO 14	-38	3	851	0	0	0
23	SLV FO 15	-55	-19	764	0	0	0
23	SLV FO 16	-48	-11	763	0	0	0
24	SLU 1	2	-2	422	0	0	0
24	SLU 2	3	-2	424	0	0	0
24	SLU 3	2	-2	430	0	0	0
24	SLU 4	2	-1	431	0	0	0
24	SLU 5	2	-1	429	0	0	0
24	SLU 6	2	-1	435	0	0	0
24	SLU 7	2	-1	436	0	0	0
24	SLU 8	2	-1	432	0	0	0
24	SLU 9	2	-1	433	0	0	0
24	SLU 10	1	-1	478	0	0	0
24	SLU 11	1	-1	485	0	0	0
24	SLU 12	1	-1	486	0	0	0
24	SLU 13	1	-1	484	0	0	0
24	SLU 14	1	-1	490	0	0	0
24	SLU 15	1	-1	491	0	0	0
24	SLU 16	1	-1	486	0	0	0
24	SLU 17	1	-1	488	0	0	0
24	SLU 18	1	-2	500	0	0	0
24	SLU 19	1	-1	501	0	0	0
24	SLU 20	1	-1	505	0	0	0
24	SLU 21	1	-1	506	0	0	0
24	SLU 22	2	0	482	0	0	0
24	SLU 23	2	0	484	0	0	0
24	SLU 24	1	0	490	0	0	0
24	SLU 25	2	1	492	0	0	0
24	SLU 26	2	1	489	0	0	0
24	SLU 27	1	1	496	0	0	0
24	SLU 28	1	1	497	0	0	0
24	SLU 29	1	1	492	0	0	0
24	SLU 30	1	1	493	0	0	0
24	SLU 31	1	1	539	0	0	0
24	SLU 32	0	1	545	0	0	0
24	SLU 33	1	1	547	0	0	0
24	SLU 34	1	1	544	0	0	0
24	SLU 35	0	1	550	0	0	0
24	SLU 36	0	1	552	0	0	0
24	SLU 37	0	1	547	0	0	0
24	SLU 38	0	1	548	0	0	0
24	SLU 39	0	0	561	0	0	0
24	SLU 40	0	0	562	0	0	0
24	SLU 41	0	1	566	0	0	0
24	SLU 42	0	1	567	0	0	0
24	SLU 43	3	-3	527	0	0	0
24	SLU 44	3	-3	529	0	0	0
24	SLU 45	3	-3	536	0	0	0
24	SLU 46	3	-3	537	0	0	0
24	SLU 47	3	-2	534	0	0	0
24	SLU 48	3	-2	541	0	0	0
24	SLU 49	3	-2	542	0	0	0
24	SLU 50	3	-2	537	0	0	0
24	SLU 51	3	-2	539	0	0	0
24	SLU 52	2	-3	584	0	0	0
24	SLU 53	2	-3	590	0	0	0
24	SLU 54	2	-2	592	0	0	0
24	SLU 55	2	-2	589	0	0	0
24	SLU 56	2	-2	595	0	0	0
24	SLU 57	2	-2	597	0	0	0
24	SLU 58	2	-2	592	0	0	0
24	SLU 59	2	-2	593	0	0	0
24	SLU 60	2	-3	606	0	0	0
24	SLU 61	2	-3	607	0	0	0
24	SLU 62	1	-2	611	0	0	0
24	SLU 63	2	-2	612	0	0	0
24	SLU 64	3	-1	588	0	0	0
24	SLU 65	3	-1	590	0	0	0
24	SLU 66	2	-1	596	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLU 67	2	-1	597	0	0	0
24	SLU 68	3	-1	595	0	0	0
24	SLU 69	2	-1	601	0	0	0
24	SLU 70	2	0	602	0	0	0
24	SLU 71	2	-1	598	0	0	0
24	SLU 72	2	0	599	0	0	0
24	SLU 73	2	-1	645	0	0	0
24	SLU 74	1	-1	651	0	0	0
24	SLU 75	1	0	652	0	0	0
24	SLU 76	2	0	650	0	0	0
24	SLU 77	1	0	656	0	0	0
24	SLU 78	1	0	657	0	0	0
24	SLU 79	1	0	653	0	0	0
24	SLU 80	1	0	654	0	0	0
24	SLU 81	1	-1	666	0	0	0
24	SLU 82	1	-1	667	0	0	0
24	SLU 83	1	-1	671	0	0	0
24	SLU 84	1	0	673	0	0	0
24	SLE RA 1	2	-2	439	0	0	0
24	SLE RA 2	2	-1	440	0	0	0
24	SLE RA 3	2	-1	444	0	0	0
24	SLE RA 4	2	-1	445	0	0	0
24	SLE RA 5	2	-1	444	0	0	0
24	SLE RA 6	2	-1	448	0	0	0
24	SLE RA 7	2	-1	449	0	0	0
24	SLE RA 8	2	-1	446	0	0	0
24	SLE RA 9	2	-1	446	0	0	0
24	SLE RA 10	2	-1	477	0	0	0
24	SLE RA 11	1	-1	481	0	0	0
24	SLE RA 12	1	-1	482	0	0	0
24	SLE RA 13	1	-1	480	0	0	0
24	SLE RA 14	1	-1	484	0	0	0
24	SLE RA 15	1	-1	485	0	0	0
24	SLE RA 16	1	-1	482	0	0	0
24	SLE RA 17	1	-1	483	0	0	0
24	SLE RA 18	1	-1	491	0	0	0
24	SLE RA 19	1	-1	492	0	0	0
24	SLE RA 20	1	-1	494	0	0	0
24	SLE RA 21	1	-1	495	0	0	0
24	SLE FR 1	2	-2	439	0	0	0
24	SLE FR 2	2	-1	439	0	0	0
24	SLE FR 3	2	-1	440	0	0	0
24	SLE FR 4	2	-1	455	0	0	0
24	SLE FR 5	2	-1	456	0	0	0
24	SLE FR 6	2	-1	465	0	0	0
24	SLE QP 1	2	-2	439	0	0	0
24	SLE QP 2	2	-1	455	0	0	0
24	SLD 1	22	3	440	0	0	0
24	SLD 2	24	6	440	0	0	0
24	SLD 3	18	-2	416	0	0	0
24	SLD 4	20	0	416	0	0	0
24	SLD 5	12	7	487	0	0	0
24	SLD 6	14	9	487	0	0	0
24	SLD 7	1	-10	406	0	0	0
24	SLD 8	3	-8	406	0	0	0
24	SLD 9	1	5	503	0	0	0
24	SLD 10	2	7	503	0	0	0
24	SLD 11	-10	-12	422	0	0	0
24	SLD 12	-9	-10	422	0	0	0
24	SLD 13	-17	-3	494	0	0	0
24	SLD 14	-15	-1	493	0	0	0
24	SLD 15	-20	-8	469	0	0	0
24	SLD 16	-18	-6	469	0	0	0
24	SLV 1	33	6	433	0	0	0
24	SLV 2	36	10	433	0	0	0
24	SLV 3	28	-3	394	0	0	0
24	SLV 4	31	1	393	0	0	0
24	SLV 5	19	13	508	0	0	0
24	SLV 6	21	15	508	0	0	0
24	SLV 7	1	-15	376	0	0	0
24	SLV 8	3	-13	376	0	0	0
24	SLV 9	0	10	533	0	0	0
24	SLV 10	3	13	533	0	0	0
24	SLV 11	-17	-18	401	0	0	0
24	SLV 12	-15	-16	401	0	0	0
24	SLV 13	-27	-4	516	0	0	0
24	SLV 14	-24	0	515	0	0	0
24	SLV 15	-33	-13	477	0	0	0
24	SLV 16	-29	-8	476	0	0	0
24	SLV FO 1	36	6	431	0	0	0
24	SLV FO 2	40	11	430	0	0	0
24	SLV FO 3	30	-3	388	0	0	0
24	SLV FO 4	34	2	387	0	0	0
24	SLV FO 5	20	14	514	0	0	0
24	SLV FO 6	23	17	513	0	0	0
24	SLV FO 7	1	-17	369	0	0	0
24	SLV FO 8	3	-14	368	0	0	0
24	SLV FO 9	0	11	541	0	0	0
24	SLV FO 10	3	14	540	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
24	SLV FO 11	-19	-20	396	0	0	0
24	SLV FO 12	-17	-17	396	0	0	0
24	SLV FO 13	-30	-5	522	0	0	0
24	SLV FO 14	-27	0	522	0	0	0
24	SLV FO 15	-36	-14	479	0	0	0
24	SLV FO 16	-32	-9	478	0	0	0
25	SLU 1	2	-11	466	0	0	0
25	SLU 2	3	-11	468	0	0	0
25	SLU 3	2	-11	476	0	0	0
25	SLU 4	2	-10	477	0	0	0
25	SLU 5	3	-10	474	0	0	0
25	SLU 6	2	-10	482	0	0	0
25	SLU 7	2	-10	483	0	0	0
25	SLU 8	2	-10	478	0	0	0
25	SLU 9	2	-10	479	0	0	0
25	SLU 10	2	-11	531	0	0	0
25	SLU 11	1	-11	539	0	0	0
25	SLU 12	1	-11	540	0	0	0
25	SLU 13	1	-11	538	0	0	0
25	SLU 14	1	-11	545	0	0	0
25	SLU 15	1	-10	547	0	0	0
25	SLU 16	1	-11	542	0	0	0
25	SLU 17	1	-11	543	0	0	0
25	SLU 18	1	-12	557	0	0	0
25	SLU 19	1	-12	558	0	0	0
25	SLU 20	1	-12	563	0	0	0
25	SLU 21	1	-11	564	0	0	0
25	SLU 22	2	-10	535	0	0	0
25	SLU 23	2	-10	537	0	0	0
25	SLU 24	2	-10	545	0	0	0
25	SLU 25	2	-9	546	0	0	0
25	SLU 26	2	-9	543	0	0	0
25	SLU 27	1	-9	551	0	0	0
25	SLU 28	2	-9	552	0	0	0
25	SLU 29	1	-9	548	0	0	0
25	SLU 30	2	-9	549	0	0	0
25	SLU 31	1	-10	601	0	0	0
25	SLU 32	1	-10	609	0	0	0
25	SLU 33	1	-10	610	0	0	0
25	SLU 34	1	-10	607	0	0	0
25	SLU 35	0	-10	615	0	0	0
25	SLU 36	0	-9	616	0	0	0
25	SLU 37	0	-10	611	0	0	0
25	SLU 38	0	-9	612	0	0	0
25	SLU 39	0	-11	626	0	0	0
25	SLU 40	0	-11	627	0	0	0
25	SLU 41	0	-10	632	0	0	0
25	SLU 42	0	-10	633	0	0	0
25	SLU 43	3	-15	582	0	0	0
25	SLU 44	4	-14	584	0	0	0
25	SLU 45	3	-14	592	0	0	0
25	SLU 46	3	-14	593	0	0	0
25	SLU 47	4	-14	590	0	0	0
25	SLU 48	3	-14	598	0	0	0
25	SLU 49	3	-14	599	0	0	0
25	SLU 50	3	-14	594	0	0	0
25	SLU 51	3	-14	595	0	0	0
25	SLU 52	3	-15	647	0	0	0
25	SLU 53	2	-15	655	0	0	0
25	SLU 54	2	-15	656	0	0	0
25	SLU 55	2	-14	653	0	0	0
25	SLU 56	2	-15	661	0	0	0
25	SLU 57	2	-14	663	0	0	0
25	SLU 58	2	-15	658	0	0	0
25	SLU 59	2	-14	659	0	0	0
25	SLU 60	2	-16	673	0	0	0
25	SLU 61	2	-15	674	0	0	0
25	SLU 62	2	-15	679	0	0	0
25	SLU 63	2	-15	680	0	0	0
25	SLU 64	3	-14	651	0	0	0
25	SLU 65	3	-13	653	0	0	0
25	SLU 66	3	-13	661	0	0	0
25	SLU 67	3	-13	662	0	0	0
25	SLU 68	3	-13	659	0	0	0
25	SLU 69	2	-13	667	0	0	0
25	SLU 70	3	-13	668	0	0	0
25	SLU 71	2	-13	664	0	0	0
25	SLU 72	3	-13	665	0	0	0
25	SLU 73	2	-14	717	0	0	0
25	SLU 74	1	-14	725	0	0	0
25	SLU 75	2	-14	726	0	0	0
25	SLU 76	2	-13	723	0	0	0
25	SLU 77	1	-13	731	0	0	0
25	SLU 78	1	-13	732	0	0	0
25	SLU 79	1	-13	727	0	0	0
25	SLU 80	1	-13	728	0	0	0
25	SLU 81	1	-15	742	0	0	0
25	SLU 82	1	-14	743	0	0	0
25	SLU 83	1	-14	748	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
25	SLU 84	1	-14	749	0	0	0
25	SLE RA 1	2	-11	486	0	0	0
25	SLE RA 2	3	-11	487	0	0	0
25	SLE RA 3	2	-11	492	0	0	0
25	SLE RA 4	2	-10	493	0	0	0
25	SLE RA 5	2	-10	491	0	0	0
25	SLE RA 6	2	-10	496	0	0	0
25	SLE RA 7	2	-10	497	0	0	0
25	SLE RA 8	2	-10	494	0	0	0
25	SLE RA 9	2	-10	495	0	0	0
25	SLE RA 10	2	-11	529	0	0	0
25	SLE RA 11	1	-11	535	0	0	0
25	SLE RA 12	2	-11	535	0	0	0
25	SLE RA 13	2	-11	533	0	0	0
25	SLE RA 14	1	-11	539	0	0	0
25	SLE RA 15	1	-10	539	0	0	0
25	SLE RA 16	1	-11	536	0	0	0
25	SLE RA 17	1	-10	537	0	0	0
25	SLE RA 18	1	-11	546	0	0	0
25	SLE RA 19	1	-11	547	0	0	0
25	SLE RA 20	1	-11	550	0	0	0
25	SLE RA 21	1	-11	551	0	0	0
25	SLE FR 1	2	-11	486	0	0	0
25	SLE FR 2	2	-11	486	0	0	0
25	SLE FR 3	2	-11	487	0	0	0
25	SLE FR 4	2	-11	504	0	0	0
25	SLE FR 5	2	-11	505	0	0	0
25	SLE FR 6	2	-11	516	0	0	0
25	SLE QP 1	2	-11	486	0	0	0
25	SLE QP 2	2	-11	504	0	0	0
25	SLD 1	24	-3	523	0	0	0
25	SLD 2	26	-2	524	0	0	0
25	SLD 3	20	-9	500	0	0	0
25	SLD 4	23	-8	500	0	0	0
25	SLD 5	14	1	545	0	0	0
25	SLD 6	15	1	545	0	0	0
25	SLD 7	1	-20	467	0	0	0
25	SLD 8	3	-19	467	0	0	0
25	SLD 9	1	-3	540	0	0	0
25	SLD 10	3	-2	541	0	0	0
25	SLD 11	-11	-23	462	0	0	0
25	SLD 12	-10	-23	463	0	0	0
25	SLD 13	-19	-14	507	0	0	0
25	SLD 14	-16	-13	508	0	0	0
25	SLD 15	-22	-20	484	0	0	0
25	SLD 16	-20	-20	485	0	0	0
25	SLV 1	36	3	534	0	0	0
25	SLV 2	40	4	536	0	0	0
25	SLV 3	30	-8	497	0	0	0
25	SLV 4	34	-7	498	0	0	0
25	SLV 5	21	8	570	0	0	0
25	SLV 6	23	9	571	0	0	0
25	SLV 7	1	-26	444	0	0	0
25	SLV 8	3	-25	445	0	0	0
25	SLV 9	1	3	563	0	0	0
25	SLV 10	3	4	564	0	0	0
25	SLV 11	-19	-31	437	0	0	0
25	SLV 12	-17	-30	437	0	0	0
25	SLV 13	-30	-15	510	0	0	0
25	SLV 14	-26	-14	511	0	0	0
25	SLV 15	-36	-26	472	0	0	0
25	SLV 16	-32	-25	473	0	0	0
25	SLV FO 1	40	4	538	0	0	0
25	SLV FO 2	44	5	539	0	0	0
25	SLV FO 3	33	-7	496	0	0	0
25	SLV FO 4	37	-6	497	0	0	0
25	SLV FO 5	22	10	577	0	0	0
25	SLV FO 6	25	11	578	0	0	0
25	SLV FO 7	1	-27	438	0	0	0
25	SLV FO 8	4	-26	439	0	0	0
25	SLV FO 9	0	4	569	0	0	0
25	SLV FO 10	3	5	570	0	0	0
25	SLV FO 11	-21	-33	430	0	0	0
25	SLV FO 12	-18	-32	431	0	0	0
25	SLV FO 13	-33	-16	510	0	0	0
25	SLV FO 14	-29	-15	512	0	0	0
25	SLV FO 15	-40	-27	469	0	0	0
25	SLV FO 16	-36	-26	470	0	0	0
26	SLU 1	4	-15	736	0	0	0
26	SLU 2	4	-14	739	0	0	0
26	SLU 3	4	-14	751	0	0	0
26	SLU 4	4	-13	753	0	0	0
26	SLU 5	4	-13	749	0	0	0
26	SLU 6	3	-13	761	0	0	0
26	SLU 7	3	-13	763	0	0	0
26	SLU 8	3	-13	755	0	0	0
26	SLU 9	3	-13	757	0	0	0
26	SLU 10	3	-14	839	0	0	0
26	SLU 11	2	-14	851	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLU 12	2	-14	853	0	0	0
26	SLU 13	2	-14	848	0	0	0
26	SLU 14	1	-14	860	0	0	0
26	SLU 15	2	-13	862	0	0	0
26	SLU 16	1	-14	855	0	0	0
26	SLU 17	2	-13	856	0	0	0
26	SLU 18	1	-15	878	0	0	0
26	SLU 19	2	-15	880	0	0	0
26	SLU 20	1	-15	888	0	0	0
26	SLU 21	1	-14	889	0	0	0
26	SLU 22	3	-13	845	0	0	0
26	SLU 23	3	-12	848	0	0	0
26	SLU 24	3	-12	860	0	0	0
26	SLU 25	3	-11	862	0	0	0
26	SLU 26	3	-11	857	0	0	0
26	SLU 27	2	-11	870	0	0	0
26	SLU 28	2	-11	872	0	0	0
26	SLU 29	2	-11	864	0	0	0
26	SLU 30	2	-11	866	0	0	0
26	SLU 31	2	-12	947	0	0	0
26	SLU 32	1	-12	959	0	0	0
26	SLU 33	1	-12	961	0	0	0
26	SLU 34	1	-12	957	0	0	0
26	SLU 35	0	-12	969	0	0	0
26	SLU 36	1	-11	971	0	0	0
26	SLU 37	0	-12	963	0	0	0
26	SLU 38	1	-11	965	0	0	0
26	SLU 39	0	-13	987	0	0	0
26	SLU 40	1	-13	989	0	0	0
26	SLU 41	0	-13	996	0	0	0
26	SLU 42	0	-12	998	0	0	0
26	SLU 43	5	-20	919	0	0	0
26	SLU 44	6	-19	923	0	0	0
26	SLU 45	5	-19	935	0	0	0
26	SLU 46	5	-18	937	0	0	0
26	SLU 47	5	-18	932	0	0	0
26	SLU 48	5	-18	944	0	0	0
26	SLU 49	5	-18	946	0	0	0
26	SLU 50	5	-18	939	0	0	0
26	SLU 51	5	-18	940	0	0	0
26	SLU 52	4	-19	1022	0	0	0
26	SLU 53	3	-19	1034	0	0	0
26	SLU 54	4	-19	1036	0	0	0
26	SLU 55	4	-19	1032	0	0	0
26	SLU 56	3	-19	1044	0	0	0
26	SLU 57	3	-18	1046	0	0	0
26	SLU 58	3	-19	1038	0	0	0
26	SLU 59	3	-18	1040	0	0	0
26	SLU 60	3	-20	1061	0	0	0
26	SLU 61	3	-20	1063	0	0	0
26	SLU 62	2	-20	1071	0	0	0
26	SLU 63	3	-19	1073	0	0	0
26	SLU 64	4	-18	1028	0	0	0
26	SLU 65	5	-17	1031	0	0	0
26	SLU 66	4	-17	1043	0	0	0
26	SLU 67	4	-16	1045	0	0	0
26	SLU 68	5	-16	1041	0	0	0
26	SLU 69	4	-16	1053	0	0	0
26	SLU 70	4	-16	1055	0	0	0
26	SLU 71	4	-16	1047	0	0	0
26	SLU 72	4	-16	1049	0	0	0
26	SLU 73	3	-17	1131	0	0	0
26	SLU 74	2	-17	1143	0	0	0
26	SLU 75	3	-17	1145	0	0	0
26	SLU 76	3	-17	1140	0	0	0
26	SLU 77	2	-17	1153	0	0	0
26	SLU 78	2	-16	1154	0	0	0
26	SLU 79	2	-17	1147	0	0	0
26	SLU 80	2	-16	1149	0	0	0
26	SLU 81	2	-18	1170	0	0	0
26	SLU 82	2	-18	1172	0	0	0
26	SLU 83	1	-18	1180	0	0	0
26	SLU 84	2	-17	1182	0	0	0
26	SLE RA 1	4	-14	767	0	0	0
26	SLE RA 2	4	-13	769	0	0	0
26	SLE RA 3	3	-14	777	0	0	0
26	SLE RA 4	4	-13	778	0	0	0
26	SLE RA 5	4	-13	775	0	0	0
26	SLE RA 6	3	-13	784	0	0	0
26	SLE RA 7	3	-13	785	0	0	0
26	SLE RA 8	3	-13	780	0	0	0
26	SLE RA 9	3	-13	781	0	0	0
26	SLE RA 10	3	-14	835	0	0	0
26	SLE RA 11	2	-14	843	0	0	0
26	SLE RA 12	2	-14	845	0	0	0
26	SLE RA 13	2	-13	842	0	0	0
26	SLE RA 14	2	-13	850	0	0	0
26	SLE RA 15	2	-13	851	0	0	0
26	SLE RA 16	2	-13	846	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
26	SLE RA 17	2	-13	847	0	0	0
26	SLE RA 18	2	-15	862	0	0	0
26	SLE RA 19	2	-14	863	0	0	0
26	SLE RA 20	2	-14	868	0	0	0
26	SLE RA 21	2	-14	869	0	0	0
26	SLE FR 1	4	-14	767	0	0	0
26	SLE FR 2	4	-14	767	0	0	0
26	SLE FR 3	4	-14	770	0	0	0
26	SLE FR 4	3	-14	796	0	0	0
26	SLE FR 5	3	-14	798	0	0	0
26	SLE FR 6	3	-14	814	0	0	0
26	SLE QP 1	4	-14	767	0	0	0
26	SLE QP 2	3	-14	795	0	0	0
26	SLD 1	38	-2	812	0	0	0
26	SLD 2	41	0	812	0	0	0
26	SLD 3	32	-12	774	0	0	0
26	SLD 4	36	-10	774	0	0	0
26	SLD 5	21	4	858	0	0	0
26	SLD 6	24	5	858	0	0	0
26	SLD 7	2	-28	731	0	0	0
26	SLD 8	5	-27	731	0	0	0
26	SLD 9	1	-1	859	0	0	0
26	SLD 10	4	0	860	0	0	0
26	SLD 11	-18	-33	732	0	0	0
26	SLD 12	-15	-32	733	0	0	0
26	SLD 13	-29	-19	817	0	0	0
26	SLD 14	-26	-17	817	0	0	0
26	SLD 15	-35	-28	778	0	0	0
26	SLD 16	-31	-26	779	0	0	0
26	SLV 1	57	5	822	0	0	0
26	SLV 2	63	8	823	0	0	0
26	SLV 3	48	-11	760	0	0	0
26	SLV 4	54	-8	761	0	0	0
26	SLV 5	32	15	896	0	0	0
26	SLV 6	36	17	897	0	0	0
26	SLV 7	1	-38	691	0	0	0
26	SLV 8	5	-36	692	0	0	0
26	SLV 9	1	7	899	0	0	0
26	SLV 10	5	9	900	0	0	0
26	SLV 11	-30	-46	694	0	0	0
26	SLV 12	-26	-43	694	0	0	0
26	SLV 13	-48	-21	830	0	0	0
26	SLV 14	-42	-18	831	0	0	0
26	SLV 15	-57	-37	768	0	0	0
26	SLV 16	-51	-34	769	0	0	0
26	SLV FO 1	63	7	824	0	0	0
26	SLV FO 2	69	10	826	0	0	0
26	SLV FO 3	53	-10	756	0	0	0
26	SLV FO 4	59	-7	758	0	0	0
26	SLV FO 5	35	18	907	0	0	0
26	SLV FO 6	40	20	907	0	0	0
26	SLV FO 7	1	-40	681	0	0	0
26	SLV FO 8	6	-38	682	0	0	0
26	SLV FO 9	1	10	909	0	0	0
26	SLV FO 10	5	12	910	0	0	0
26	SLV FO 11	-34	-49	683	0	0	0
26	SLV FO 12	-29	-46	684	0	0	0
26	SLV FO 13	-53	-21	833	0	0	0
26	SLV FO 14	-46	-18	834	0	0	0
26	SLV FO 15	-63	-39	765	0	0	0
26	SLV FO 16	-57	-35	767	0	0	0
27	SLU 1	4	-12	739	0	0	0
27	SLU 2	4	-11	742	0	0	0
27	SLU 3	3	-11	754	0	0	0
27	SLU 4	4	-10	756	0	0	0
27	SLU 5	4	-10	752	0	0	0
27	SLU 6	3	-10	763	0	0	0
27	SLU 7	3	-10	765	0	0	0
27	SLU 8	3	-10	758	0	0	0
27	SLU 9	3	-10	760	0	0	0
27	SLU 10	3	-11	841	0	0	0
27	SLU 11	2	-11	853	0	0	0
27	SLU 12	2	-11	855	0	0	0
27	SLU 13	2	-10	850	0	0	0
27	SLU 14	1	-10	862	0	0	0
27	SLU 15	2	-10	864	0	0	0
27	SLU 16	1	-10	857	0	0	0
27	SLU 17	2	-10	858	0	0	0
27	SLU 18	1	-12	880	0	0	0
27	SLU 19	2	-12	882	0	0	0
27	SLU 20	1	-11	889	0	0	0
27	SLU 21	1	-11	891	0	0	0
27	SLU 22	3	-9	847	0	0	0
27	SLU 23	3	-8	851	0	0	0
27	SLU 24	2	-8	863	0	0	0
27	SLU 25	3	-8	864	0	0	0
27	SLU 26	3	-8	860	0	0	0
27	SLU 27	2	-8	872	0	0	0
27	SLU 28	2	-7	874	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLU 29	2	-8	866	0	0	0
27	SLU 30	2	-7	868	0	0	0
27	SLU 31	2	-9	949	0	0	0
27	SLU 32	1	-9	961	0	0	0
27	SLU 33	1	-8	963	0	0	0
27	SLU 34	1	-8	959	0	0	0
27	SLU 35	0	-8	971	0	0	0
27	SLU 36	1	-8	973	0	0	0
27	SLU 37	0	-8	965	0	0	0
27	SLU 38	1	-8	967	0	0	0
27	SLU 39	0	-10	989	0	0	0
27	SLU 40	1	-9	991	0	0	0
27	SLU 41	0	-9	998	0	0	0
27	SLU 42	0	-8	1000	0	0	0
27	SLU 43	5	-16	923	0	0	0
27	SLU 44	6	-15	927	0	0	0
27	SLU 45	5	-15	938	0	0	0
27	SLU 46	5	-15	940	0	0	0
27	SLU 47	5	-14	936	0	0	0
27	SLU 48	5	-14	948	0	0	0
27	SLU 49	5	-14	950	0	0	0
27	SLU 50	5	-14	942	0	0	0
27	SLU 51	5	-14	944	0	0	0
27	SLU 52	4	-15	1025	0	0	0
27	SLU 53	3	-15	1037	0	0	0
27	SLU 54	3	-15	1039	0	0	0
27	SLU 55	4	-15	1035	0	0	0
27	SLU 56	3	-15	1047	0	0	0
27	SLU 57	3	-14	1049	0	0	0
27	SLU 58	3	-15	1041	0	0	0
27	SLU 59	3	-14	1043	0	0	0
27	SLU 60	3	-16	1065	0	0	0
27	SLU 61	3	-16	1067	0	0	0
27	SLU 62	2	-16	1074	0	0	0
27	SLU 63	3	-15	1076	0	0	0
27	SLU 64	4	-14	1032	0	0	0
27	SLU 65	5	-13	1035	0	0	0
27	SLU 66	4	-13	1047	0	0	0
27	SLU 67	4	-12	1049	0	0	0
27	SLU 68	4	-12	1045	0	0	0
27	SLU 69	4	-12	1056	0	0	0
27	SLU 70	4	-12	1058	0	0	0
27	SLU 71	4	-12	1051	0	0	0
27	SLU 72	4	-12	1053	0	0	0
27	SLU 73	3	-13	1134	0	0	0
27	SLU 74	2	-13	1146	0	0	0
27	SLU 75	2	-13	1148	0	0	0
27	SLU 76	3	-12	1143	0	0	0
27	SLU 77	2	-12	1155	0	0	0
27	SLU 78	2	-12	1157	0	0	0
27	SLU 79	2	-12	1149	0	0	0
27	SLU 80	2	-12	1151	0	0	0
27	SLU 81	2	-14	1173	0	0	0
27	SLU 82	2	-13	1175	0	0	0
27	SLU 83	1	-13	1182	0	0	0
27	SLU 84	2	-13	1184	0	0	0
27	SLE RA 1	4	-11	770	0	0	0
27	SLE RA 2	4	-10	772	0	0	0
27	SLE RA 3	3	-10	780	0	0	0
27	SLE RA 4	4	-10	781	0	0	0
27	SLE RA 5	4	-10	778	0	0	0
27	SLE RA 6	3	-10	786	0	0	0
27	SLE RA 7	3	-10	788	0	0	0
27	SLE RA 8	3	-10	782	0	0	0
27	SLE RA 9	3	-10	784	0	0	0
27	SLE RA 10	3	-11	838	0	0	0
27	SLE RA 11	2	-11	846	0	0	0
27	SLE RA 12	2	-10	847	0	0	0
27	SLE RA 13	2	-10	844	0	0	0
27	SLE RA 14	2	-10	852	0	0	0
27	SLE RA 15	2	-10	853	0	0	0
27	SLE RA 16	2	-10	848	0	0	0
27	SLE RA 17	2	-10	850	0	0	0
27	SLE RA 18	2	-11	864	0	0	0
27	SLE RA 19	2	-11	865	0	0	0
27	SLE RA 20	2	-11	870	0	0	0
27	SLE RA 21	2	-10	872	0	0	0
27	SLE FR 1	4	-11	770	0	0	0
27	SLE FR 2	4	-11	770	0	0	0
27	SLE FR 3	3	-11	772	0	0	0
27	SLE FR 4	3	-11	799	0	0	0
27	SLE FR 5	3	-11	801	0	0	0
27	SLE FR 6	3	-11	817	0	0	0
27	SLE QP 1	4	-11	770	0	0	0
27	SLE QP 2	3	-11	798	0	0	0
27	SLD 1	38	0	804	0	0	0
27	SLD 2	41	2	805	0	0	0
27	SLD 3	32	-10	765	0	0	0
27	SLD 4	36	-7	765	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
27	SLD 5	21	6	859	0	0	0
27	SLD 6	24	8	860	0	0	0
27	SLD 7	2	-25	729	0	0	0
27	SLD 8	5	-24	729	0	0	0
27	SLD 9	1	2	867	0	0	0
27	SLD 10	4	3	868	0	0	0
27	SLD 11	-18	-30	737	0	0	0
27	SLD 12	-15	-28	737	0	0	0
27	SLD 13	-30	-15	831	0	0	0
27	SLD 14	-26	-12	831	0	0	0
27	SLD 15	-35	-25	792	0	0	0
27	SLD 16	-32	-22	792	0	0	0
27	SLV 1	58	6	809	0	0	0
27	SLV 2	64	11	809	0	0	0
27	SLV 3	48	-9	745	0	0	0
27	SLV 4	54	-5	746	0	0	0
27	SLV 5	32	17	897	0	0	0
27	SLV 6	37	20	898	0	0	0
27	SLV 7	1	-35	686	0	0	0
27	SLV 8	5	-32	686	0	0	0
27	SLV 9	1	10	910	0	0	0
27	SLV 10	5	13	910	0	0	0
27	SLV 11	-30	-42	698	0	0	0
27	SLV 12	-26	-39	699	0	0	0
27	SLV 13	-48	-17	850	0	0	0
27	SLV 14	-42	-13	851	0	0	0
27	SLV 15	-57	-33	787	0	0	0
27	SLV 16	-51	-28	787	0	0	0
27	SLV FO 1	63	8	810	0	0	0
27	SLV FO 2	70	13	810	0	0	0
27	SLV FO 3	53	-9	740	0	0	0
27	SLV FO 4	59	-4	741	0	0	0
27	SLV FO 5	35	20	907	0	0	0
27	SLV FO 6	40	23	908	0	0	0
27	SLV FO 7	1	-37	675	0	0	0
27	SLV FO 8	6	-34	675	0	0	0
27	SLV FO 9	1	12	921	0	0	0
27	SLV FO 10	5	15	921	0	0	0
27	SLV FO 11	-34	-45	688	0	0	0
27	SLV FO 12	-29	-42	689	0	0	0
27	SLV FO 13	-53	-18	856	0	0	0
27	SLV FO 14	-47	-13	856	0	0	0
27	SLV FO 15	-64	-35	786	0	0	0
27	SLV FO 16	-57	-30	786	0	0	0
28	SLU 1	4	-9	759	0	0	0
28	SLU 2	4	-8	763	0	0	0
28	SLU 3	4	-8	774	0	0	0
28	SLU 4	4	-7	777	0	0	0
28	SLU 5	4	-7	772	0	0	0
28	SLU 6	3	-7	784	0	0	0
28	SLU 7	3	-7	786	0	0	0
28	SLU 8	3	-7	778	0	0	0
28	SLU 9	3	-7	780	0	0	0
28	SLU 10	3	-8	863	0	0	0
28	SLU 11	2	-8	875	0	0	0
28	SLU 12	2	-7	877	0	0	0
28	SLU 13	2	-7	873	0	0	0
28	SLU 14	1	-7	884	0	0	0
28	SLU 15	2	-7	887	0	0	0
28	SLU 16	1	-7	879	0	0	0
28	SLU 17	1	-7	881	0	0	0
28	SLU 18	1	-9	903	0	0	0
28	SLU 19	2	-8	905	0	0	0
28	SLU 20	1	-8	912	0	0	0
28	SLU 21	1	-8	914	0	0	0
28	SLU 22	3	-6	870	0	0	0
28	SLU 23	3	-5	873	0	0	0
28	SLU 24	2	-5	885	0	0	0
28	SLU 25	3	-5	887	0	0	0
28	SLU 26	3	-4	883	0	0	0
28	SLU 27	2	-4	895	0	0	0
28	SLU 28	2	-4	897	0	0	0
28	SLU 29	2	-5	889	0	0	0
28	SLU 30	2	-4	891	0	0	0
28	SLU 31	1	-5	974	0	0	0
28	SLU 32	1	-5	986	0	0	0
28	SLU 33	1	-5	988	0	0	0
28	SLU 34	1	-4	983	0	0	0
28	SLU 35	0	-4	995	0	0	0
28	SLU 36	0	-4	997	0	0	0
28	SLU 37	0	-5	989	0	0	0
28	SLU 38	0	-4	991	0	0	0
28	SLU 39	0	-6	1013	0	0	0
28	SLU 40	0	-6	1015	0	0	0
28	SLU 41	0	-5	1023	0	0	0
28	SLU 42	0	-5	1025	0	0	0
28	SLU 43	5	-12	949	0	0	0
28	SLU 44	6	-12	952	0	0	0
28	SLU 45	5	-12	964	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLU 46	5	-11	966	0	0	0
28	SLU 47	5	-11	962	0	0	0
28	SLU 48	5	-11	974	0	0	0
28	SLU 49	5	-10	976	0	0	0
28	SLU 50	5	-11	968	0	0	0
28	SLU 51	5	-10	970	0	0	0
28	SLU 52	4	-12	1053	0	0	0
28	SLU 53	3	-11	1065	0	0	0
28	SLU 54	3	-11	1067	0	0	0
28	SLU 55	4	-11	1062	0	0	0
28	SLU 56	3	-11	1074	0	0	0
28	SLU 57	3	-10	1076	0	0	0
28	SLU 58	3	-11	1068	0	0	0
28	SLU 59	3	-10	1070	0	0	0
28	SLU 60	3	-12	1093	0	0	0
28	SLU 61	3	-12	1095	0	0	0
28	SLU 62	2	-12	1102	0	0	0
28	SLU 63	3	-11	1104	0	0	0
28	SLU 64	4	-10	1060	0	0	0
28	SLU 65	5	-9	1063	0	0	0
28	SLU 66	4	-9	1075	0	0	0
28	SLU 67	4	-8	1077	0	0	0
28	SLU 68	4	-8	1072	0	0	0
28	SLU 69	4	-8	1084	0	0	0
28	SLU 70	4	-8	1086	0	0	0
28	SLU 71	4	-8	1078	0	0	0
28	SLU 72	4	-8	1081	0	0	0
28	SLU 73	3	-9	1164	0	0	0
28	SLU 74	2	-9	1175	0	0	0
28	SLU 75	2	-8	1178	0	0	0
28	SLU 76	3	-8	1173	0	0	0
28	SLU 77	2	-8	1185	0	0	0
28	SLU 78	2	-8	1187	0	0	0
28	SLU 79	2	-8	1179	0	0	0
28	SLU 80	2	-8	1181	0	0	0
28	SLU 81	2	-10	1203	0	0	0
28	SLU 82	2	-9	1205	0	0	0
28	SLU 83	1	-9	1213	0	0	0
28	SLU 84	2	-8	1215	0	0	0
28	SLE RA 1	4	-8	791	0	0	0
28	SLE RA 2	4	-7	793	0	0	0
28	SLE RA 3	3	-7	801	0	0	0
28	SLE RA 4	4	-7	802	0	0	0
28	SLE RA 5	4	-7	799	0	0	0
28	SLE RA 6	3	-7	807	0	0	0
28	SLE RA 7	3	-7	809	0	0	0
28	SLE RA 8	3	-7	803	0	0	0
28	SLE RA 9	3	-7	805	0	0	0
28	SLE RA 10	3	-7	860	0	0	0
28	SLE RA 11	2	-7	868	0	0	0
28	SLE RA 12	2	-7	869	0	0	0
28	SLE RA 13	2	-7	866	0	0	0
28	SLE RA 14	2	-7	874	0	0	0
28	SLE RA 15	2	-7	876	0	0	0
28	SLE RA 16	2	-7	870	0	0	0
28	SLE RA 17	2	-7	872	0	0	0
28	SLE RA 18	2	-8	886	0	0	0
28	SLE RA 19	2	-8	888	0	0	0
28	SLE RA 20	2	-8	893	0	0	0
28	SLE RA 21	2	-7	894	0	0	0
28	SLE FR 1	4	-8	791	0	0	0
28	SLE FR 2	4	-8	791	0	0	0
28	SLE FR 3	3	-8	793	0	0	0
28	SLE FR 4	3	-8	820	0	0	0
28	SLE FR 5	3	-8	822	0	0	0
28	SLE FR 6	3	-8	839	0	0	0
28	SLE QP 1	4	-8	791	0	0	0
28	SLE QP 2	3	-8	819	0	0	0
28	SLD 1	39	2	814	0	0	0
28	SLD 2	43	5	814	0	0	0
28	SLD 3	33	-8	772	0	0	0
28	SLD 4	37	-4	772	0	0	0
28	SLD 5	22	9	880	0	0	0
28	SLD 6	25	11	880	0	0	0
28	SLD 7	2	-23	743	0	0	0
28	SLD 8	5	-21	743	0	0	0
28	SLD 9	1	5	896	0	0	0
28	SLD 10	4	7	896	0	0	0
28	SLD 11	-18	-27	759	0	0	0
28	SLD 12	-16	-25	759	0	0	0
28	SLD 13	-30	-12	867	0	0	0
28	SLD 14	-27	-8	867	0	0	0
28	SLD 15	-36	-21	825	0	0	0
28	SLD 16	-32	-18	825	0	0	0
28	SLV 1	59	8	812	0	0	0
28	SLV 2	65	13	811	0	0	0
28	SLV 3	49	-8	745	0	0	0
28	SLV 4	56	-2	745	0	0	0
28	SLV 5	33	19	918	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
28	SLV 6	37	23	918	0	0	0
28	SLV 7	1	-33	696	0	0	0
28	SLV 8	5	-29	696	0	0	0
28	SLV 9	1	13	943	0	0	0
28	SLV 10	5	17	943	0	0	0
28	SLV 11	-31	-39	721	0	0	0
28	SLV 12	-27	-35	721	0	0	0
28	SLV 13	-49	-14	894	0	0	0
28	SLV 14	-43	-8	894	0	0	0
28	SLV 15	-59	-29	827	0	0	0
28	SLV 16	-53	-24	827	0	0	0
28	SLV FO 1	65	9	811	0	0	0
28	SLV FO 2	71	15	811	0	0	0
28	SLV FO 3	54	-8	737	0	0	0
28	SLV FO 4	61	-2	737	0	0	0
28	SLV FO 5	36	22	928	0	0	0
28	SLV FO 6	41	26	928	0	0	0
28	SLV FO 7	1	-35	683	0	0	0
28	SLV FO 8	6	-31	683	0	0	0
28	SLV FO 9	0	15	956	0	0	0
28	SLV FO 10	5	19	955	0	0	0
28	SLV FO 11	-35	-42	711	0	0	0
28	SLV FO 12	-30	-38	711	0	0	0
28	SLV FO 13	-55	-14	902	0	0	0
28	SLV FO 14	-48	-8	902	0	0	0
28	SLV FO 15	-65	-31	828	0	0	0
28	SLV FO 16	-58	-25	828	0	0	0
29	SLU 1	3	-5	640	0	0	0
29	SLU 2	4	-4	643	0	0	0
29	SLU 3	3	-4	652	0	0	0
29	SLU 4	3	-4	654	0	0	0
29	SLU 5	3	-3	650	0	0	0
29	SLU 6	2	-3	660	0	0	0
29	SLU 7	3	-3	662	0	0	0
29	SLU 8	2	-4	655	0	0	0
29	SLU 9	3	-3	657	0	0	0
29	SLU 10	2	-4	727	0	0	0
29	SLU 11	1	-4	736	0	0	0
29	SLU 12	1	-3	738	0	0	0
29	SLU 13	2	-3	734	0	0	0
29	SLU 14	1	-3	744	0	0	0
29	SLU 15	1	-3	746	0	0	0
29	SLU 16	1	-3	739	0	0	0
29	SLU 17	1	-3	741	0	0	0
29	SLU 18	1	-4	760	0	0	0
29	SLU 19	1	-4	761	0	0	0
29	SLU 20	0	-4	767	0	0	0
29	SLU 21	1	-3	769	0	0	0
29	SLU 22	2	-2	732	0	0	0
29	SLU 23	3	-2	735	0	0	0
29	SLU 24	2	-1	745	0	0	0
29	SLU 25	2	-1	747	0	0	0
29	SLU 26	2	-1	743	0	0	0
29	SLU 27	2	-1	753	0	0	0
29	SLU 28	2	0	755	0	0	0
29	SLU 29	2	-1	748	0	0	0
29	SLU 30	2	-1	750	0	0	0
29	SLU 31	1	-1	819	0	0	0
29	SLU 32	0	-1	829	0	0	0
29	SLU 33	1	-1	831	0	0	0
29	SLU 34	1	-1	827	0	0	0
29	SLU 35	0	-1	837	0	0	0
29	SLU 36	0	0	839	0	0	0
29	SLU 37	0	-1	832	0	0	0
29	SLU 38	0	0	834	0	0	0
29	SLU 39	0	-2	852	0	0	0
29	SLU 40	0	-1	854	0	0	0
29	SLU 41	0	-1	860	0	0	0
29	SLU 42	0	-1	862	0	0	0
29	SLU 43	4	-7	800	0	0	0
29	SLU 44	5	-6	803	0	0	0
29	SLU 45	4	-6	813	0	0	0
29	SLU 46	4	-6	814	0	0	0
29	SLU 47	4	-6	811	0	0	0
29	SLU 48	4	-6	820	0	0	0
29	SLU 49	4	-5	822	0	0	0
29	SLU 50	4	-6	815	0	0	0
29	SLU 51	4	-5	817	0	0	0
29	SLU 52	3	-6	887	0	0	0
29	SLU 53	2	-6	896	0	0	0
29	SLU 54	3	-6	898	0	0	0
29	SLU 55	3	-6	894	0	0	0
29	SLU 56	2	-5	904	0	0	0
29	SLU 57	2	-5	906	0	0	0
29	SLU 58	2	-6	899	0	0	0
29	SLU 59	2	-5	901	0	0	0
29	SLU 60	2	-7	920	0	0	0
29	SLU 61	2	-6	921	0	0	0
29	SLU 62	2	-6	927	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLU 63	2	-6	929	0	0	0
29	SLU 64	3	-5	892	0	0	0
29	SLU 65	4	-4	895	0	0	0
29	SLU 66	3	-4	905	0	0	0
29	SLU 67	3	-3	907	0	0	0
29	SLU 68	4	-3	903	0	0	0
29	SLU 69	3	-3	913	0	0	0
29	SLU 70	3	-3	915	0	0	0
29	SLU 71	3	-3	908	0	0	0
29	SLU 72	3	-3	910	0	0	0
29	SLU 73	2	-4	979	0	0	0
29	SLU 74	2	-4	989	0	0	0
29	SLU 75	2	-3	991	0	0	0
29	SLU 76	2	-3	987	0	0	0
29	SLU 77	1	-3	997	0	0	0
29	SLU 78	1	-2	999	0	0	0
29	SLU 79	1	-3	992	0	0	0
29	SLU 80	1	-3	994	0	0	0
29	SLU 81	1	-4	1012	0	0	0
29	SLU 82	1	-4	1014	0	0	0
29	SLU 83	1	-4	1020	0	0	0
29	SLU 84	1	-3	1022	0	0	0
29	SLE RA 1	3	-4	666	0	0	0
29	SLE RA 2	3	-4	668	0	0	0
29	SLE RA 3	3	-4	675	0	0	0
29	SLE RA 4	3	-3	676	0	0	0
29	SLE RA 5	3	-3	673	0	0	0
29	SLE RA 6	2	-3	680	0	0	0
29	SLE RA 7	3	-3	681	0	0	0
29	SLE RA 8	2	-3	677	0	0	0
29	SLE RA 9	3	-3	678	0	0	0
29	SLE RA 10	2	-3	724	0	0	0
29	SLE RA 11	2	-3	731	0	0	0
29	SLE RA 12	2	-3	732	0	0	0
29	SLE RA 13	2	-3	729	0	0	0
29	SLE RA 14	1	-3	736	0	0	0
29	SLE RA 15	1	-3	737	0	0	0
29	SLE RA 16	1	-3	732	0	0	0
29	SLE RA 17	1	-3	734	0	0	0
29	SLE RA 18	1	-4	746	0	0	0
29	SLE RA 19	1	-4	747	0	0	0
29	SLE RA 20	1	-3	751	0	0	0
29	SLE RA 21	1	-3	752	0	0	0
29	SLE FR 1	3	-4	666	0	0	0
29	SLE FR 2	3	-4	667	0	0	0
29	SLE FR 3	3	-4	668	0	0	0
29	SLE FR 4	2	-4	691	0	0	0
29	SLE FR 5	2	-4	692	0	0	0
29	SLE FR 6	2	-4	706	0	0	0
29	SLE QP 1	3	-4	666	0	0	0
29	SLE QP 2	2	-4	690	0	0	0
29	SLD 1	32	3	675	0	0	0
29	SLD 2	36	7	674	0	0	0
29	SLD 3	27	-5	640	0	0	0
29	SLD 4	31	-1	639	0	0	0
29	SLD 5	18	9	739	0	0	0
29	SLD 6	21	12	738	0	0	0
29	SLD 7	2	-17	622	0	0	0
29	SLD 8	4	-14	622	0	0	0
29	SLD 9	1	6	758	0	0	0
29	SLD 10	3	9	758	0	0	0
29	SLD 11	-16	-20	642	0	0	0
29	SLD 12	-14	-17	642	0	0	0
29	SLD 13	-26	-7	741	0	0	0
29	SLD 14	-23	-3	740	0	0	0
29	SLD 15	-31	-15	706	0	0	0
29	SLD 16	-28	-11	705	0	0	0
29	SLV 1	50	8	667	0	0	0
29	SLV 2	55	13	666	0	0	0
29	SLV 3	42	-5	611	0	0	0
29	SLV 4	47	0	610	0	0	0
29	SLV 5	28	18	769	0	0	0
29	SLV 6	31	22	769	0	0	0
29	SLV 7	1	-25	581	0	0	0
29	SLV 8	4	-21	580	0	0	0
29	SLV 9	0	13	800	0	0	0
29	SLV 10	4	17	800	0	0	0
29	SLV 11	-27	-30	612	0	0	0
29	SLV 12	-23	-26	611	0	0	0
29	SLV 13	-42	-8	770	0	0	0
29	SLV 14	-37	-3	770	0	0	0
29	SLV 15	-50	-21	714	0	0	0
29	SLV 16	-45	-16	713	0	0	0
29	SLV FO 1	54	9	665	0	0	0
29	SLV FO 2	60	15	664	0	0	0
29	SLV FO 3	45	-5	603	0	0	0
29	SLV FO 4	51	1	602	0	0	0
29	SLV FO 5	30	20	777	0	0	0
29	SLV FO 6	34	24	776	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
29	SLV FO 7	1	-27	570	0	0	0
29	SLV FO 8	5	-23	569	0	0	0
29	SLV FO 9	0	15	811	0	0	0
29	SLV FO 10	4	19	810	0	0	0
29	SLV FO 11	-30	-32	604	0	0	0
29	SLV FO 12	-26	-28	603	0	0	0
29	SLV FO 13	-46	-9	778	0	0	0
29	SLV FO 14	-41	-3	778	0	0	0
29	SLV FO 15	-55	-23	716	0	0	0
29	SLV FO 16	-50	-17	715	0	0	0
30	SLU 1	2	-11	378	0	0	0
30	SLU 2	2	-11	379	0	0	0
30	SLU 3	2	-11	386	0	0	0
30	SLU 4	2	-10	387	0	0	0
30	SLU 5	2	-10	384	0	0	0
30	SLU 6	1	-10	391	0	0	0
30	SLU 7	1	-10	392	0	0	0
30	SLU 8	1	-10	388	0	0	0
30	SLU 9	1	-10	389	0	0	0
30	SLU 10	1	-11	431	0	0	0
30	SLU 11	1	-11	438	0	0	0
30	SLU 12	1	-11	439	0	0	0
30	SLU 13	1	-11	436	0	0	0
30	SLU 14	0	-11	443	0	0	0
30	SLU 15	1	-11	444	0	0	0
30	SLU 16	0	-11	440	0	0	0
30	SLU 17	1	-11	441	0	0	0
30	SLU 18	0	-12	452	0	0	0
30	SLU 19	1	-12	453	0	0	0
30	SLU 20	0	-12	457	0	0	0
30	SLU 21	0	-11	458	0	0	0
30	SLU 22	1	-10	435	0	0	0
30	SLU 23	1	-10	436	0	0	0
30	SLU 24	1	-10	443	0	0	0
30	SLU 25	1	-10	444	0	0	0
30	SLU 26	1	-10	441	0	0	0
30	SLU 27	1	-10	448	0	0	0
30	SLU 28	1	-9	449	0	0	0
30	SLU 29	1	-10	445	0	0	0
30	SLU 30	1	-9	446	0	0	0
30	SLU 31	1	-11	488	0	0	0
30	SLU 32	0	-11	495	0	0	0
30	SLU 33	0	-10	496	0	0	0
30	SLU 34	0	-10	493	0	0	0
30	SLU 35	0	-10	500	0	0	0
30	SLU 36	0	-10	501	0	0	0
30	SLU 37	0	-10	497	0	0	0
30	SLU 38	0	-10	498	0	0	0
30	SLU 39	0	-11	509	0	0	0
30	SLU 40	0	-11	510	0	0	0
30	SLU 41	0	-11	514	0	0	0
30	SLU 42	0	-11	515	0	0	0
30	SLU 43	2	-15	471	0	0	0
30	SLU 44	3	-14	473	0	0	0
30	SLU 45	2	-14	480	0	0	0
30	SLU 46	2	-14	480	0	0	0
30	SLU 47	2	-14	478	0	0	0
30	SLU 48	2	-14	485	0	0	0
30	SLU 49	2	-14	486	0	0	0
30	SLU 50	2	-14	482	0	0	0
30	SLU 51	2	-14	483	0	0	0
30	SLU 52	2	-15	525	0	0	0
30	SLU 53	1	-15	532	0	0	0
30	SLU 54	1	-15	533	0	0	0
30	SLU 55	2	-14	530	0	0	0
30	SLU 56	1	-14	537	0	0	0
30	SLU 57	1	-14	538	0	0	0
30	SLU 58	1	-14	534	0	0	0
30	SLU 59	1	-14	535	0	0	0
30	SLU 60	1	-15	546	0	0	0
30	SLU 61	1	-15	547	0	0	0
30	SLU 62	1	-15	551	0	0	0
30	SLU 63	1	-15	552	0	0	0
30	SLU 64	2	-14	528	0	0	0
30	SLU 65	2	-13	530	0	0	0
30	SLU 66	2	-14	537	0	0	0
30	SLU 67	2	-13	537	0	0	0
30	SLU 68	2	-13	535	0	0	0
30	SLU 69	2	-13	542	0	0	0
30	SLU 70	2	-13	543	0	0	0
30	SLU 71	2	-13	539	0	0	0
30	SLU 72	2	-13	540	0	0	0
30	SLU 73	1	-14	582	0	0	0
30	SLU 74	1	-14	589	0	0	0
30	SLU 75	1	-14	590	0	0	0
30	SLU 76	1	-14	587	0	0	0
30	SLU 77	1	-14	594	0	0	0
30	SLU 78	1	-14	595	0	0	0
30	SLU 79	1	-14	591	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
30	SLU 80	1	-14	592	0	0	0
30	SLU 81	1	-15	603	0	0	0
30	SLU 82	1	-15	604	0	0	0
30	SLU 83	0	-14	608	0	0	0
30	SLU 84	1	-14	609	0	0	0
30	SLE RA 1	2	-11	394	0	0	0
30	SLE RA 2	2	-11	395	0	0	0
30	SLE RA 3	1	-11	399	0	0	0
30	SLE RA 4	2	-10	400	0	0	0
30	SLE RA 5	2	-10	398	0	0	0
30	SLE RA 6	1	-10	403	0	0	0
30	SLE RA 7	1	-10	403	0	0	0
30	SLE RA 8	1	-10	401	0	0	0
30	SLE RA 9	1	-10	401	0	0	0
30	SLE RA 10	1	-11	430	0	0	0
30	SLE RA 11	1	-11	434	0	0	0
30	SLE RA 12	1	-11	435	0	0	0
30	SLE RA 13	1	-11	433	0	0	0
30	SLE RA 14	1	-11	438	0	0	0
30	SLE RA 15	1	-11	438	0	0	0
30	SLE RA 16	1	-11	436	0	0	0
30	SLE RA 17	1	-11	436	0	0	0
30	SLE RA 18	1	-11	444	0	0	0
30	SLE RA 19	1	-11	444	0	0	0
30	SLE RA 20	1	-11	447	0	0	0
30	SLE RA 21	1	-11	448	0	0	0
30	SLE FR 1	2	-11	394	0	0	0
30	SLE FR 2	2	-11	394	0	0	0
30	SLE FR 3	2	-11	395	0	0	0
30	SLE FR 4	1	-11	409	0	0	0
30	SLE FR 5	1	-11	410	0	0	0
30	SLE FR 6	1	-11	419	0	0	0
30	SLE QP 1	2	-11	394	0	0	0
30	SLE QP 2	1	-11	409	0	0	0
30	SLD 1	19	-3	432	0	0	0
30	SLD 2	21	-3	432	0	0	0
30	SLD 3	16	-8	415	0	0	0
30	SLD 4	18	-8	416	0	0	0
30	SLD 5	11	-1	441	0	0	0
30	SLD 6	12	-1	441	0	0	0
30	SLD 7	1	-18	385	0	0	0
30	SLD 8	2	-18	386	0	0	0
30	SLD 9	0	-4	432	0	0	0
30	SLD 10	2	-4	432	0	0	0
30	SLD 11	-9	-21	377	0	0	0
30	SLD 12	-8	-21	377	0	0	0
30	SLD 13	-15	-14	402	0	0	0
30	SLD 14	-14	-14	403	0	0	0
30	SLD 15	-18	-19	385	0	0	0
30	SLD 16	-16	-19	386	0	0	0
30	SLV 1	29	1	445	0	0	0
30	SLV 2	32	2	446	0	0	0
30	SLV 3	25	-7	418	0	0	0
30	SLV 4	28	-7	419	0	0	0
30	SLV 5	16	6	460	0	0	0
30	SLV 6	18	6	461	0	0	0
30	SLV 7	0	-23	371	0	0	0
30	SLV 8	2	-23	372	0	0	0
30	SLV 9	0	1	446	0	0	0
30	SLV 10	2	1	447	0	0	0
30	SLV 11	-16	-28	357	0	0	0
30	SLV 12	-14	-28	358	0	0	0
30	SLV 13	-25	-15	399	0	0	0
30	SLV 14	-22	-15	400	0	0	0
30	SLV 15	-30	-24	372	0	0	0
30	SLV 16	-27	-23	373	0	0	0
30	SLV FO 1	32	3	448	0	0	0
30	SLV FO 2	36	3	450	0	0	0
30	SLV FO 3	27	-7	419	0	0	0
30	SLV FO 4	30	-7	420	0	0	0
30	SLV FO 5	18	7	465	0	0	0
30	SLV FO 6	20	7	466	0	0	0
30	SLV FO 7	0	-24	367	0	0	0
30	SLV FO 8	3	-24	368	0	0	0
30	SLV FO 9	0	2	450	0	0	0
30	SLV FO 10	2	2	451	0	0	0
30	SLV FO 11	-18	-30	352	0	0	0
30	SLV FO 12	-15	-29	353	0	0	0
30	SLV FO 13	-28	-15	398	0	0	0
30	SLV FO 14	-24	-15	399	0	0	0
30	SLV FO 15	-33	-25	368	0	0	0
30	SLV FO 16	-30	-25	369	0	0	0
31	SLU 1	2	-12	468	0	0	0
31	SLU 2	2	-12	470	0	0	0
31	SLU 3	2	-12	478	0	0	0
31	SLU 4	2	-11	479	0	0	0
31	SLU 5	2	-11	476	0	0	0
31	SLU 6	2	-11	485	0	0	0
31	SLU 7	2	-11	486	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLU 8	2	-11	481	0	0	0
31	SLU 9	2	-11	482	0	0	0
31	SLU 10	1	-12	534	0	0	0
31	SLU 11	1	-12	542	0	0	0
31	SLU 12	1	-12	544	0	0	0
31	SLU 13	1	-12	541	0	0	0
31	SLU 14	0	-12	549	0	0	0
31	SLU 15	1	-12	550	0	0	0
31	SLU 16	0	-12	545	0	0	0
31	SLU 17	1	-12	546	0	0	0
31	SLU 18	0	-13	560	0	0	0
31	SLU 19	1	-13	561	0	0	0
31	SLU 20	0	-13	566	0	0	0
31	SLU 21	0	-12	567	0	0	0
31	SLU 22	1	-11	538	0	0	0
31	SLU 23	2	-11	540	0	0	0
31	SLU 24	1	-11	548	0	0	0
31	SLU 25	1	-10	549	0	0	0
31	SLU 26	2	-10	547	0	0	0
31	SLU 27	1	-10	555	0	0	0
31	SLU 28	1	-10	556	0	0	0
31	SLU 29	1	-10	551	0	0	0
31	SLU 30	1	-10	552	0	0	0
31	SLU 31	1	-11	604	0	0	0
31	SLU 32	0	-11	613	0	0	0
31	SLU 33	0	-11	614	0	0	0
31	SLU 34	0	-11	611	0	0	0
31	SLU 35	0	-11	619	0	0	0
31	SLU 36	0	-11	620	0	0	0
31	SLU 37	0	-11	615	0	0	0
31	SLU 38	0	-11	616	0	0	0
31	SLU 39	0	-12	630	0	0	0
31	SLU 40	0	-12	631	0	0	0
31	SLU 41	0	-12	637	0	0	0
31	SLU 42	0	-11	638	0	0	0
31	SLU 43	3	-16	585	0	0	0
31	SLU 44	3	-16	586	0	0	0
31	SLU 45	3	-16	595	0	0	0
31	SLU 46	3	-15	596	0	0	0
31	SLU 47	3	-15	593	0	0	0
31	SLU 48	2	-15	601	0	0	0
31	SLU 49	3	-15	602	0	0	0
31	SLU 50	2	-15	597	0	0	0
31	SLU 51	3	-15	598	0	0	0
31	SLU 52	2	-16	651	0	0	0
31	SLU 53	2	-16	659	0	0	0
31	SLU 54	2	-16	660	0	0	0
31	SLU 55	2	-16	657	0	0	0
31	SLU 56	1	-16	665	0	0	0
31	SLU 57	1	-16	666	0	0	0
31	SLU 58	1	-16	662	0	0	0
31	SLU 59	1	-16	663	0	0	0
31	SLU 60	1	-17	676	0	0	0
31	SLU 61	1	-17	677	0	0	0
31	SLU 62	1	-17	683	0	0	0
31	SLU 63	1	-16	684	0	0	0
31	SLU 64	2	-15	655	0	0	0
31	SLU 65	3	-15	657	0	0	0
31	SLU 66	2	-15	665	0	0	0
31	SLU 67	2	-14	666	0	0	0
31	SLU 68	2	-14	663	0	0	0
31	SLU 69	2	-14	671	0	0	0
31	SLU 70	2	-14	672	0	0	0
31	SLU 71	2	-14	668	0	0	0
31	SLU 72	2	-14	669	0	0	0
31	SLU 73	1	-15	721	0	0	0
31	SLU 74	1	-15	729	0	0	0
31	SLU 75	1	-15	730	0	0	0
31	SLU 76	1	-15	727	0	0	0
31	SLU 77	1	-15	735	0	0	0
31	SLU 78	1	-15	736	0	0	0
31	SLU 79	1	-15	732	0	0	0
31	SLU 80	1	-15	733	0	0	0
31	SLU 81	1	-16	747	0	0	0
31	SLU 82	1	-16	748	0	0	0
31	SLU 83	0	-16	753	0	0	0
31	SLU 84	1	-15	754	0	0	0
31	SLE RA 1	2	-12	488	0	0	0
31	SLE RA 2	2	-12	489	0	0	0
31	SLE RA 3	2	-12	495	0	0	0
31	SLE RA 4	2	-11	496	0	0	0
31	SLE RA 5	2	-11	494	0	0	0
31	SLE RA 6	2	-11	499	0	0	0
31	SLE RA 7	2	-11	500	0	0	0
31	SLE RA 8	2	-11	497	0	0	0
31	SLE RA 9	2	-11	497	0	0	0
31	SLE RA 10	1	-12	532	0	0	0
31	SLE RA 11	1	-12	538	0	0	0
31	SLE RA 12	1	-12	538	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
31	SLE RA 13	1	-12	536	0	0	0
31	SLE RA 14	1	-12	542	0	0	0
31	SLE RA 15	1	-12	543	0	0	0
31	SLE RA 16	1	-12	540	0	0	0
31	SLE RA 17	1	-12	540	0	0	0
31	SLE RA 18	1	-13	549	0	0	0
31	SLE RA 19	1	-12	550	0	0	0
31	SLE RA 20	1	-12	554	0	0	0
31	SLE RA 21	1	-12	554	0	0	0
31	SLE FR 1	2	-12	488	0	0	0
31	SLE FR 2	2	-12	488	0	0	0
31	SLE FR 3	2	-12	490	0	0	0
31	SLE FR 4	2	-12	507	0	0	0
31	SLE FR 5	2	-12	508	0	0	0
31	SLE FR 6	1	-12	519	0	0	0
31	SLE QP 1	2	-12	488	0	0	0
31	SLE QP 2	2	-12	507	0	0	0
31	SLD 1	24	-3	529	0	0	0
31	SLD 2	26	-3	530	0	0	0
31	SLD 3	20	-9	508	0	0	0
31	SLD 4	22	-9	509	0	0	0
31	SLD 5	13	0	545	0	0	0
31	SLD 6	15	0	545	0	0	0
31	SLD 7	1	-21	475	0	0	0
31	SLD 8	3	-21	476	0	0	0
31	SLD 9	1	-4	537	0	0	0
31	SLD 10	2	-3	538	0	0	0
31	SLD 11	-12	-25	468	0	0	0
31	SLD 12	-10	-24	468	0	0	0
31	SLD 13	-19	-15	504	0	0	0
31	SLD 14	-17	-15	505	0	0	0
31	SLD 15	-23	-22	483	0	0	0
31	SLD 16	-20	-21	484	0	0	0
31	SLV 1	36	2	542	0	0	0
31	SLV 2	40	3	543	0	0	0
31	SLV 3	30	-8	508	0	0	0
31	SLV 4	34	-7	510	0	0	0
31	SLV 5	20	8	568	0	0	0
31	SLV 6	23	8	569	0	0	0
31	SLV 7	1	-27	456	0	0	0
31	SLV 8	3	-26	456	0	0	0
31	SLV 9	0	2	557	0	0	0
31	SLV 10	3	3	558	0	0	0
31	SLV 11	-20	-33	444	0	0	0
31	SLV 12	-17	-32	445	0	0	0
31	SLV 13	-31	-17	504	0	0	0
31	SLV 14	-27	-16	505	0	0	0
31	SLV 15	-37	-27	470	0	0	0
31	SLV 16	-33	-26	471	0	0	0
31	SLV FO 1	40	4	546	0	0	0
31	SLV FO 2	44	5	547	0	0	0
31	SLV FO 3	33	-8	509	0	0	0
31	SLV FO 4	37	-7	510	0	0	0
31	SLV FO 5	22	10	575	0	0	0
31	SLV FO 6	25	10	575	0	0	0
31	SLV FO 7	0	-28	451	0	0	0
31	SLV FO 8	3	-28	451	0	0	0
31	SLV FO 9	0	4	562	0	0	0
31	SLV FO 10	3	4	563	0	0	0
31	SLV FO 11	-22	-35	438	0	0	0
31	SLV FO 12	-19	-34	439	0	0	0
31	SLV FO 13	-34	-17	503	0	0	0
31	SLV FO 14	-30	-16	505	0	0	0
31	SLV FO 15	-41	-29	466	0	0	0
31	SLV FO 16	-37	-29	467	0	0	0
32	SLU 1	1	-1	291	0	0	0
32	SLU 2	1	0	292	0	0	0
32	SLU 3	1	0	297	0	0	0
32	SLU 4	1	0	297	0	0	0
32	SLU 5	1	0	296	0	0	0
32	SLU 6	1	0	300	0	0	0
32	SLU 7	1	0	301	0	0	0
32	SLU 8	1	0	298	0	0	0
32	SLU 9	1	0	299	0	0	0
32	SLU 10	1	0	330	0	0	0
32	SLU 11	0	0	334	0	0	0
32	SLU 12	0	0	335	0	0	0
32	SLU 13	1	0	333	0	0	0
32	SLU 14	0	0	338	0	0	0
32	SLU 15	0	0	339	0	0	0
32	SLU 16	0	0	336	0	0	0
32	SLU 17	0	0	336	0	0	0
32	SLU 18	0	0	345	0	0	0
32	SLU 19	0	0	346	0	0	0
32	SLU 20	0	0	348	0	0	0
32	SLU 21	0	0	349	0	0	0
32	SLU 22	1	1	333	0	0	0
32	SLU 23	1	1	334	0	0	0
32	SLU 24	1	1	339	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLU 25	1	1	339	0	0	0
32	SLU 26	1	1	338	0	0	0
32	SLU 27	0	1	342	0	0	0
32	SLU 28	1	2	343	0	0	0
32	SLU 29	0	1	340	0	0	0
32	SLU 30	1	1	341	0	0	0
32	SLU 31	0	1	372	0	0	0
32	SLU 32	0	1	376	0	0	0
32	SLU 33	0	2	377	0	0	0
32	SLU 34	0	2	375	0	0	0
32	SLU 35	0	2	380	0	0	0
32	SLU 36	0	2	381	0	0	0
32	SLU 37	0	2	378	0	0	0
32	SLU 38	0	2	378	0	0	0
32	SLU 39	0	1	387	0	0	0
32	SLU 40	0	1	388	0	0	0
32	SLU 41	0	1	390	0	0	0
32	SLU 42	0	2	391	0	0	0
32	SLU 43	2	-1	364	0	0	0
32	SLU 44	2	-1	365	0	0	0
32	SLU 45	2	-1	370	0	0	0
32	SLU 46	2	-1	370	0	0	0
32	SLU 47	2	-1	369	0	0	0
32	SLU 48	1	-1	373	0	0	0
32	SLU 49	2	0	374	0	0	0
32	SLU 50	1	-1	371	0	0	0
32	SLU 51	2	-1	372	0	0	0
32	SLU 52	1	-1	403	0	0	0
32	SLU 53	1	-1	407	0	0	0
32	SLU 54	1	0	408	0	0	0
32	SLU 55	1	0	406	0	0	0
32	SLU 56	1	0	411	0	0	0
32	SLU 57	1	0	412	0	0	0
32	SLU 58	1	0	409	0	0	0
32	SLU 59	1	0	409	0	0	0
32	SLU 60	1	-1	418	0	0	0
32	SLU 61	1	-1	419	0	0	0
32	SLU 62	1	-1	421	0	0	0
32	SLU 63	1	0	422	0	0	0
32	SLU 64	1	0	406	0	0	0
32	SLU 65	1	0	407	0	0	0
32	SLU 66	1	0	412	0	0	0
32	SLU 67	1	1	412	0	0	0
32	SLU 68	1	1	411	0	0	0
32	SLU 69	1	1	415	0	0	0
32	SLU 70	1	1	416	0	0	0
32	SLU 71	1	1	413	0	0	0
32	SLU 72	1	1	414	0	0	0
32	SLU 73	1	1	445	0	0	0
32	SLU 74	0	1	449	0	0	0
32	SLU 75	1	1	450	0	0	0
32	SLU 76	1	1	448	0	0	0
32	SLU 77	0	1	453	0	0	0
32	SLU 78	0	1	453	0	0	0
32	SLU 79	0	1	450	0	0	0
32	SLU 80	0	1	451	0	0	0
32	SLU 81	0	0	460	0	0	0
32	SLU 82	0	1	460	0	0	0
32	SLU 83	0	1	463	0	0	0
32	SLU 84	0	1	464	0	0	0
32	SLE RA 1	1	0	303	0	0	0
32	SLE RA 2	1	0	304	0	0	0
32	SLE RA 3	1	0	307	0	0	0
32	SLE RA 4	1	0	307	0	0	0
32	SLE RA 5	1	0	306	0	0	0
32	SLE RA 6	1	0	309	0	0	0
32	SLE RA 7	1	0	310	0	0	0
32	SLE RA 8	1	0	308	0	0	0
32	SLE RA 9	1	0	308	0	0	0
32	SLE RA 10	1	0	329	0	0	0
32	SLE RA 11	0	0	332	0	0	0
32	SLE RA 12	1	0	332	0	0	0
32	SLE RA 13	1	0	331	0	0	0
32	SLE RA 14	0	0	334	0	0	0
32	SLE RA 15	0	0	335	0	0	0
32	SLE RA 16	0	0	333	0	0	0
32	SLE RA 17	0	0	333	0	0	0
32	SLE RA 18	0	0	339	0	0	0
32	SLE RA 19	0	0	339	0	0	0
32	SLE RA 20	0	0	341	0	0	0
32	SLE RA 21	0	0	342	0	0	0
32	SLE FR 1	1	0	303	0	0	0
32	SLE FR 2	1	0	303	0	0	0
32	SLE FR 3	1	0	304	0	0	0
32	SLE FR 4	1	0	314	0	0	0
32	SLE FR 5	1	0	315	0	0	0
32	SLE FR 6	1	0	321	0	0	0
32	SLE QP 1	1	0	303	0	0	0
32	SLE QP 2	1	0	314	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
32	SLD 1	15	3	300	0	0	0
32	SLD 2	16	5	300	0	0	0
32	SLD 3	12	-1	285	0	0	0
32	SLD 4	14	1	285	0	0	0
32	SLD 5	8	6	333	0	0	0
32	SLD 6	9	7	333	0	0	0
32	SLD 7	1	-6	282	0	0	0
32	SLD 8	2	-5	281	0	0	0
32	SLD 9	0	4	346	0	0	0
32	SLD 10	1	6	346	0	0	0
32	SLD 11	-7	-7	294	0	0	0
32	SLD 12	-6	-6	294	0	0	0
32	SLD 13	-12	-1	343	0	0	0
32	SLD 14	-11	1	342	0	0	0
32	SLD 15	-14	-5	327	0	0	0
32	SLD 16	-13	-3	327	0	0	0
32	SLV 1	23	4	293	0	0	0
32	SLV 2	25	7	293	0	0	0
32	SLV 3	19	-2	268	0	0	0
32	SLV 4	21	2	268	0	0	0
32	SLV 5	13	9	346	0	0	0
32	SLV 6	14	11	345	0	0	0
32	SLV 7	0	-10	262	0	0	0
32	SLV 8	2	-8	262	0	0	0
32	SLV 9	0	7	366	0	0	0
32	SLV 10	2	10	365	0	0	0
32	SLV 11	-12	-12	282	0	0	0
32	SLV 12	-11	-10	282	0	0	0
32	SLV 13	-20	-2	360	0	0	0
32	SLV 14	-17	1	359	0	0	0
32	SLV 15	-23	-8	335	0	0	0
32	SLV 16	-21	-5	334	0	0	0
32	SLV FO 1	25	5	291	0	0	0
32	SLV FO 2	27	8	291	0	0	0
32	SLV FO 3	21	-2	264	0	0	0
32	SLV FO 4	23	2	263	0	0	0
32	SLV FO 5	14	10	349	0	0	0
32	SLV FO 6	16	13	349	0	0	0
32	SLV FO 7	0	-11	257	0	0	0
32	SLV FO 8	2	-9	257	0	0	0
32	SLV FO 9	0	8	371	0	0	0
32	SLV FO 10	2	11	370	0	0	0
32	SLV FO 11	-14	-13	279	0	0	0
32	SLV FO 12	-12	-11	278	0	0	0
32	SLV FO 13	-22	-2	364	0	0	0
32	SLV FO 14	-19	1	364	0	0	0
32	SLV FO 15	-26	-9	337	0	0	0
32	SLV FO 16	-23	-5	336	0	0	0
33	SLU 1	1	-4	167	0	0	0
33	SLU 2	1	-4	168	0	0	0
33	SLU 3	1	-4	171	0	0	0
33	SLU 4	1	-4	171	0	0	0
33	SLU 5	1	-4	170	0	0	0
33	SLU 6	1	-4	173	0	0	0
33	SLU 7	1	-4	174	0	0	0
33	SLU 8	1	-4	172	0	0	0
33	SLU 9	1	-4	172	0	0	0
33	SLU 10	0	-4	191	0	0	0
33	SLU 11	0	-4	194	0	0	0
33	SLU 12	0	-4	194	0	0	0
33	SLU 13	0	-4	193	0	0	0
33	SLU 14	0	-4	196	0	0	0
33	SLU 15	0	-4	196	0	0	0
33	SLU 16	0	-4	195	0	0	0
33	SLU 17	0	-4	195	0	0	0
33	SLU 18	0	-4	200	0	0	0
33	SLU 19	0	-4	200	0	0	0
33	SLU 20	0	-4	202	0	0	0
33	SLU 21	0	-4	203	0	0	0
33	SLU 22	0	-4	192	0	0	0
33	SLU 23	1	-4	193	0	0	0
33	SLU 24	0	-4	196	0	0	0
33	SLU 25	0	-4	196	0	0	0
33	SLU 26	0	-3	195	0	0	0
33	SLU 27	0	-4	198	0	0	0
33	SLU 28	0	-3	199	0	0	0
33	SLU 29	0	-4	197	0	0	0
33	SLU 30	0	-3	197	0	0	0
33	SLU 31	0	-4	216	0	0	0
33	SLU 32	0	-4	219	0	0	0
33	SLU 33	0	-4	219	0	0	0
33	SLU 34	0	-4	218	0	0	0
33	SLU 35	0	-4	221	0	0	0
33	SLU 36	0	-4	222	0	0	0
33	SLU 37	0	-4	220	0	0	0
33	SLU 38	0	-4	220	0	0	0
33	SLU 39	0	-4	225	0	0	0
33	SLU 40	0	-4	226	0	0	0
33	SLU 41	0	-4	227	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLU 42	0	-4	228	0	0	0
33	SLU 43	1	-6	209	0	0	0
33	SLU 44	1	-5	210	0	0	0
33	SLU 45	1	-5	213	0	0	0
33	SLU 46	1	-5	213	0	0	0
33	SLU 47	1	-5	212	0	0	0
33	SLU 48	1	-5	215	0	0	0
33	SLU 49	1	-5	215	0	0	0
33	SLU 50	1	-5	213	0	0	0
33	SLU 51	1	-5	214	0	0	0
33	SLU 52	1	-6	232	0	0	0
33	SLU 53	0	-6	235	0	0	0
33	SLU 54	1	-5	236	0	0	0
33	SLU 55	1	-5	235	0	0	0
33	SLU 56	0	-5	238	0	0	0
33	SLU 57	0	-5	238	0	0	0
33	SLU 58	0	-5	236	0	0	0
33	SLU 59	0	-5	237	0	0	0
33	SLU 60	0	-6	242	0	0	0
33	SLU 61	0	-6	242	0	0	0
33	SLU 62	0	-6	244	0	0	0
33	SLU 63	0	-6	244	0	0	0
33	SLU 64	1	-5	234	0	0	0
33	SLU 65	1	-5	235	0	0	0
33	SLU 66	1	-5	238	0	0	0
33	SLU 67	1	-5	238	0	0	0
33	SLU 68	1	-5	237	0	0	0
33	SLU 69	1	-5	240	0	0	0
33	SLU 70	1	-5	240	0	0	0
33	SLU 71	1	-5	239	0	0	0
33	SLU 72	1	-5	239	0	0	0
33	SLU 73	0	-5	258	0	0	0
33	SLU 74	0	-5	261	0	0	0
33	SLU 75	0	-5	261	0	0	0
33	SLU 76	0	-5	260	0	0	0
33	SLU 77	0	-5	263	0	0	0
33	SLU 78	0	-5	263	0	0	0
33	SLU 79	0	-5	261	0	0	0
33	SLU 80	0	-5	262	0	0	0
33	SLU 81	0	-6	267	0	0	0
33	SLU 82	0	-5	267	0	0	0
33	SLU 83	0	-5	269	0	0	0
33	SLU 84	0	-5	269	0	0	0
33	SLE RA 1	1	-4	175	0	0	0
33	SLE RA 2	1	-4	175	0	0	0
33	SLE RA 3	1	-4	177	0	0	0
33	SLE RA 4	1	-4	177	0	0	0
33	SLE RA 5	1	-4	176	0	0	0
33	SLE RA 6	1	-4	178	0	0	0
33	SLE RA 7	1	-4	179	0	0	0
33	SLE RA 8	0	-4	178	0	0	0
33	SLE RA 9	1	-4	178	0	0	0
33	SLE RA 10	0	-4	190	0	0	0
33	SLE RA 11	0	-4	192	0	0	0
33	SLE RA 12	0	-4	192	0	0	0
33	SLE RA 13	0	-4	192	0	0	0
33	SLE RA 14	0	-4	194	0	0	0
33	SLE RA 15	0	-4	194	0	0	0
33	SLE RA 16	0	-4	193	0	0	0
33	SLE RA 17	0	-4	193	0	0	0
33	SLE RA 18	0	-4	196	0	0	0
33	SLE RA 19	0	-4	197	0	0	0
33	SLE RA 20	0	-4	198	0	0	0
33	SLE RA 21	0	-4	198	0	0	0
33	SLE FR 1	1	-4	175	0	0	0
33	SLE FR 2	1	-4	175	0	0	0
33	SLE FR 3	1	-4	175	0	0	0
33	SLE FR 4	1	-4	181	0	0	0
33	SLE FR 5	0	-4	182	0	0	0
33	SLE FR 6	0	-4	185	0	0	0
33	SLE QP 1	1	-4	175	0	0	0
33	SLE QP 2	0	-4	181	0	0	0
33	SLD 1	8	-1	188	0	0	0
33	SLD 2	9	-1	189	0	0	0
33	SLD 3	7	-3	181	0	0	0
33	SLD 4	8	-3	181	0	0	0
33	SLD 5	5	0	194	0	0	0
33	SLD 6	5	0	194	0	0	0
33	SLD 7	0	-7	170	0	0	0
33	SLD 8	1	-7	170	0	0	0
33	SLD 9	0	-1	192	0	0	0
33	SLD 10	1	-1	192	0	0	0
33	SLD 11	-4	-9	168	0	0	0
33	SLD 12	-4	-8	168	0	0	0
33	SLD 13	-7	-5	181	0	0	0
33	SLD 14	-6	-5	181	0	0	0
33	SLD 15	-8	-8	174	0	0	0
33	SLD 16	-7	-7	174	0	0	0
33	SLV 1	13	1	193	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
33	SLV 2	14	1	193	0	0	0
33	SLV 3	11	-3	181	0	0	0
33	SLV 4	12	-3	181	0	0	0
33	SLV 5	7	3	202	0	0	0
33	SLV 6	8	3	202	0	0	0
33	SLV 7	0	-9	163	0	0	0
33	SLV 8	1	-9	164	0	0	0
33	SLV 9	0	1	199	0	0	0
33	SLV 10	1	1	199	0	0	0
33	SLV 11	-7	-11	160	0	0	0
33	SLV 12	-6	-11	160	0	0	0
33	SLV 13	-11	-6	181	0	0	0
33	SLV 14	-10	-5	181	0	0	0
33	SLV 15	-13	-9	169	0	0	0
33	SLV 16	-12	-9	170	0	0	0
33	SLV FO 1	14	1	194	0	0	0
33	SLV FO 2	16	2	194	0	0	0
33	SLV FO 3	12	-3	181	0	0	0
33	SLV FO 4	13	-2	181	0	0	0
33	SLV FO 5	8	4	204	0	0	0
33	SLV FO 6	9	4	204	0	0	0
33	SLV FO 7	0	-10	162	0	0	0
33	SLV FO 8	1	-10	162	0	0	0
33	SLV FO 9	0	1	200	0	0	0
33	SLV FO 10	1	2	201	0	0	0
33	SLV FO 11	-8	-12	158	0	0	0
33	SLV FO 12	-7	-12	158	0	0	0
33	SLV FO 13	-12	-6	181	0	0	0
33	SLV FO 14	-11	-6	181	0	0	0
33	SLV FO 15	-15	-10	168	0	0	0
33	SLV FO 16	-13	-10	168	0	0	0
34	SLU 1	1	-2	490	0	0	0
34	SLU 2	2	-2	492	0	0	0
34	SLU 3	1	-2	500	0	0	0
34	SLU 4	1	-2	501	0	0	0
34	SLU 5	1	-1	498	0	0	0
34	SLU 6	1	-1	506	0	0	0
34	SLU 7	1	-1	507	0	0	0
34	SLU 8	1	-1	502	0	0	0
34	SLU 9	1	-1	503	0	0	0
34	SLU 10	0	-2	556	0	0	0
34	SLU 11	0	-1	564	0	0	0
34	SLU 12	0	-1	565	0	0	0
34	SLU 13	0	-1	562	0	0	0
34	SLU 14	-1	-1	570	0	0	0
34	SLU 15	0	-1	571	0	0	0
34	SLU 16	-1	-1	566	0	0	0
34	SLU 17	0	-1	567	0	0	0
34	SLU 18	-1	-2	582	0	0	0
34	SLU 19	0	-2	583	0	0	0
34	SLU 20	-1	-1	588	0	0	0
34	SLU 21	-1	-1	589	0	0	0
34	SLU 22	0	0	561	0	0	0
34	SLU 23	1	0	563	0	0	0
34	SLU 24	0	0	571	0	0	0
34	SLU 25	0	1	572	0	0	0
34	SLU 26	1	1	569	0	0	0
34	SLU 27	0	1	577	0	0	0
34	SLU 28	0	1	579	0	0	0
34	SLU 29	0	1	574	0	0	0
34	SLU 30	0	1	575	0	0	0
34	SLU 31	-1	1	627	0	0	0
34	SLU 32	-1	1	635	0	0	0
34	SLU 33	-1	1	637	0	0	0
34	SLU 34	-1	1	634	0	0	0
34	SLU 35	-1	1	642	0	0	0
34	SLU 36	-1	1	643	0	0	0
34	SLU 37	-1	1	638	0	0	0
34	SLU 38	-1	1	639	0	0	0
34	SLU 39	-1	0	653	0	0	0
34	SLU 40	-1	1	654	0	0	0
34	SLU 41	-2	1	659	0	0	0
34	SLU 42	-2	1	660	0	0	0
34	SLU 43	2	-4	613	0	0	0
34	SLU 44	2	-3	614	0	0	0
34	SLU 45	2	-3	622	0	0	0
34	SLU 46	2	-3	624	0	0	0
34	SLU 47	2	-3	620	0	0	0
34	SLU 48	1	-3	629	0	0	0
34	SLU 49	2	-2	630	0	0	0
34	SLU 50	1	-3	625	0	0	0
34	SLU 51	2	-3	626	0	0	0
34	SLU 52	1	-3	679	0	0	0
34	SLU 53	0	-3	687	0	0	0
34	SLU 54	1	-3	688	0	0	0
34	SLU 55	1	-3	685	0	0	0
34	SLU 56	0	-2	693	0	0	0
34	SLU 57	0	-2	694	0	0	0
34	SLU 58	0	-3	689	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
34	SLU 59	0	-2	690	0	0	0
34	SLU 60	0	-3	704	0	0	0
34	SLU 61	0	-3	705	0	0	0
34	SLU 62	0	-3	710	0	0	0
34	SLU 63	0	-3	711	0	0	0
34	SLU 64	1	-2	684	0	0	0
34	SLU 65	1	-1	686	0	0	0
34	SLU 66	1	-1	694	0	0	0
34	SLU 67	1	-1	695	0	0	0
34	SLU 68	1	-1	692	0	0	0
34	SLU 69	1	-1	700	0	0	0
34	SLU 70	1	0	701	0	0	0
34	SLU 71	1	-1	696	0	0	0
34	SLU 72	1	0	697	0	0	0
34	SLU 73	0	-1	750	0	0	0
34	SLU 74	0	-1	758	0	0	0
34	SLU 75	0	0	759	0	0	0
34	SLU 76	0	0	756	0	0	0
34	SLU 77	-1	0	764	0	0	0
34	SLU 78	-1	0	765	0	0	0
34	SLU 79	-1	0	760	0	0	0
34	SLU 80	-1	0	761	0	0	0
34	SLU 81	-1	-1	776	0	0	0
34	SLU 82	-1	-1	777	0	0	0
34	SLU 83	-1	-1	782	0	0	0
34	SLU 84	-1	0	783	0	0	0
34	SLE RA 1	1	-2	510	0	0	0
34	SLE RA 2	1	-1	512	0	0	0
34	SLE RA 3	1	-1	517	0	0	0
34	SLE RA 4	1	-1	518	0	0	0
34	SLE RA 5	1	-1	516	0	0	0
34	SLE RA 6	1	-1	521	0	0	0
34	SLE RA 7	1	-1	522	0	0	0
34	SLE RA 8	1	-1	519	0	0	0
34	SLE RA 9	1	-1	519	0	0	0
34	SLE RA 10	0	-1	554	0	0	0
34	SLE RA 11	0	-1	560	0	0	0
34	SLE RA 12	0	-1	561	0	0	0
34	SLE RA 13	0	-1	558	0	0	0
34	SLE RA 14	0	-1	564	0	0	0
34	SLE RA 15	0	-1	565	0	0	0
34	SLE RA 16	0	-1	561	0	0	0
34	SLE RA 17	0	-1	562	0	0	0
34	SLE RA 18	0	-1	572	0	0	0
34	SLE RA 19	0	-1	572	0	0	0
34	SLE RA 20	0	-1	576	0	0	0
34	SLE RA 21	0	-1	576	0	0	0
34	SLE FR 1	1	-2	510	0	0	0
34	SLE FR 2	1	-2	511	0	0	0
34	SLE FR 3	1	-2	512	0	0	0
34	SLE FR 4	1	-2	529	0	0	0
34	SLE FR 5	1	-2	530	0	0	0
34	SLE FR 6	0	-2	541	0	0	0
34	SLE QP 1	1	-2	510	0	0	0
34	SLE QP 2	1	-2	529	0	0	0
34	SLD 1	24	3	510	0	0	0
34	SLD 2	27	6	510	0	0	0
34	SLD 3	20	-3	489	0	0	0
34	SLD 4	23	1	488	0	0	0
34	SLD 5	13	8	556	0	0	0
34	SLD 6	15	10	556	0	0	0
34	SLD 7	0	-12	484	0	0	0
34	SLD 8	2	-10	484	0	0	0
34	SLD 9	0	6	574	0	0	0
34	SLD 10	1	8	574	0	0	0
34	SLD 11	-13	-14	502	0	0	0
34	SLD 12	-12	-12	501	0	0	0
34	SLD 13	-21	-4	569	0	0	0
34	SLD 14	-19	-1	569	0	0	0
34	SLD 15	-25	-10	548	0	0	0
34	SLD 16	-23	-7	547	0	0	0
34	SLV 1	38	6	501	0	0	0
34	SLV 2	41	11	500	0	0	0
34	SLV 3	32	-3	466	0	0	0
34	SLV 4	35	2	465	0	0	0
34	SLV 5	21	15	574	0	0	0
34	SLV 6	23	18	573	0	0	0
34	SLV 7	0	-18	457	0	0	0
34	SLV 8	2	-15	456	0	0	0
34	SLV 9	-1	11	601	0	0	0
34	SLV 10	2	15	601	0	0	0
34	SLV 11	-22	-21	484	0	0	0
34	SLV 12	-19	-18	484	0	0	0
34	SLV 13	-34	-5	593	0	0	0
34	SLV 14	-30	0	592	0	0	0
34	SLV 15	-40	-15	557	0	0	0
34	SLV 16	-37	-10	557	0	0	0
34	SLV FO 1	42	7	498	0	0	0
34	SLV FO 2	46	13	497	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
34	SLV FO 3	35	-4	459	0	0	0
34	SLV FO 4	39	2	459	0	0	0
34	SLV FO 5	23	16	578	0	0	0
34	SLV FO 6	25	20	578	0	0	0
34	SLV FO 7	0	-20	450	0	0	0
34	SLV FO 8	2	-16	449	0	0	0
34	SLV FO 9	-1	13	608	0	0	0
34	SLV FO 10	2	16	608	0	0	0
34	SLV FO 11	-24	-23	480	0	0	0
34	SLV FO 12	-21	-20	479	0	0	0
34	SLV FO 13	-37	-5	599	0	0	0
34	SLV FO 14	-33	0	598	0	0	0
34	SLV FO 15	-44	-16	560	0	0	0
34	SLV FO 16	-40	-11	560	0	0	0
35	SLU 1	0	-4	144	0	0	0
35	SLU 2	0	-3	144	0	0	0
35	SLU 3	0	-3	147	0	0	0
35	SLU 4	0	-3	147	0	0	0
35	SLU 5	0	-3	146	0	0	0
35	SLU 6	0	-3	149	0	0	0
35	SLU 7	0	-3	149	0	0	0
35	SLU 8	0	-3	148	0	0	0
35	SLU 9	0	-3	148	0	0	0
35	SLU 10	0	-4	164	0	0	0
35	SLU 11	0	-4	167	0	0	0
35	SLU 12	0	-4	167	0	0	0
35	SLU 13	0	-3	166	0	0	0
35	SLU 14	0	-4	169	0	0	0
35	SLU 15	0	-3	169	0	0	0
35	SLU 16	0	-4	168	0	0	0
35	SLU 17	0	-3	168	0	0	0
35	SLU 18	0	-4	172	0	0	0
35	SLU 19	0	-4	172	0	0	0
35	SLU 20	0	-4	174	0	0	0
35	SLU 21	0	-4	174	0	0	0
35	SLU 22	0	-3	166	0	0	0
35	SLU 23	0	-3	166	0	0	0
35	SLU 24	0	-3	169	0	0	0
35	SLU 25	0	-3	169	0	0	0
35	SLU 26	0	-3	168	0	0	0
35	SLU 27	0	-3	171	0	0	0
35	SLU 28	0	-3	171	0	0	0
35	SLU 29	0	-3	170	0	0	0
35	SLU 30	0	-3	170	0	0	0
35	SLU 31	0	-3	186	0	0	0
35	SLU 32	0	-3	188	0	0	0
35	SLU 33	0	-3	189	0	0	0
35	SLU 34	0	-3	188	0	0	0
35	SLU 35	0	-3	190	0	0	0
35	SLU 36	0	-3	191	0	0	0
35	SLU 37	0	-3	189	0	0	0
35	SLU 38	0	-3	190	0	0	0
35	SLU 39	0	-4	194	0	0	0
35	SLU 40	0	-3	194	0	0	0
35	SLU 41	-1	-3	196	0	0	0
35	SLU 42	0	-3	196	0	0	0
35	SLU 43	1	-5	180	0	0	0
35	SLU 44	1	-5	180	0	0	0
35	SLU 45	0	-5	183	0	0	0
35	SLU 46	1	-5	183	0	0	0
35	SLU 47	1	-4	182	0	0	0
35	SLU 48	0	-5	185	0	0	0
35	SLU 49	0	-4	185	0	0	0
35	SLU 50	0	-5	184	0	0	0
35	SLU 51	0	-4	184	0	0	0
35	SLU 52	0	-5	200	0	0	0
35	SLU 53	0	-5	202	0	0	0
35	SLU 54	0	-5	203	0	0	0
35	SLU 55	0	-5	202	0	0	0
35	SLU 56	0	-5	204	0	0	0
35	SLU 57	0	-5	205	0	0	0
35	SLU 58	0	-5	203	0	0	0
35	SLU 59	0	-5	204	0	0	0
35	SLU 60	0	-5	208	0	0	0
35	SLU 61	0	-5	208	0	0	0
35	SLU 62	0	-5	210	0	0	0
35	SLU 63	0	-5	210	0	0	0
35	SLU 64	0	-4	201	0	0	0
35	SLU 65	0	-4	202	0	0	0
35	SLU 66	0	-4	204	0	0	0
35	SLU 67	0	-4	205	0	0	0
35	SLU 68	0	-4	204	0	0	0
35	SLU 69	0	-4	206	0	0	0
35	SLU 70	0	-4	207	0	0	0
35	SLU 71	0	-4	205	0	0	0
35	SLU 72	0	-4	206	0	0	0
35	SLU 73	0	-5	221	0	0	0
35	SLU 74	0	-5	224	0	0	0
35	SLU 75	0	-4	224	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
35	SLU 76	0	-4	223	0	0	0
35	SLU 77	0	-4	226	0	0	0
35	SLU 78	0	-4	226	0	0	0
35	SLU 79	0	-4	225	0	0	0
35	SLU 80	0	-4	225	0	0	0
35	SLU 81	0	-5	230	0	0	0
35	SLU 82	0	-5	230	0	0	0
35	SLU 83	0	-5	232	0	0	0
35	SLU 84	0	-5	232	0	0	0
35	SLE RA 1	0	-4	150	0	0	0
35	SLE RA 2	0	-3	150	0	0	0
35	SLE RA 3	0	-3	152	0	0	0
35	SLE RA 4	0	-3	152	0	0	0
35	SLE RA 5	0	-3	152	0	0	0
35	SLE RA 6	0	-3	153	0	0	0
35	SLE RA 7	0	-3	154	0	0	0
35	SLE RA 8	0	-3	153	0	0	0
35	SLE RA 9	0	-3	153	0	0	0
35	SLE RA 10	0	-4	164	0	0	0
35	SLE RA 11	0	-4	165	0	0	0
35	SLE RA 12	0	-3	165	0	0	0
35	SLE RA 13	0	-3	165	0	0	0
35	SLE RA 14	0	-3	167	0	0	0
35	SLE RA 15	0	-3	167	0	0	0
35	SLE RA 16	0	-3	166	0	0	0
35	SLE RA 17	0	-3	166	0	0	0
35	SLE RA 18	0	-4	169	0	0	0
35	SLE RA 19	0	-4	169	0	0	0
35	SLE RA 20	0	-4	170	0	0	0
35	SLE RA 21	0	-4	170	0	0	0
35	SLE FR 1	0	-4	150	0	0	0
35	SLE FR 2	0	-3	150	0	0	0
35	SLE FR 3	0	-3	151	0	0	0
35	SLE FR 4	0	-4	156	0	0	0
35	SLE FR 5	0	-4	156	0	0	0
35	SLE FR 6	0	-4	159	0	0	0
35	SLE QP 1	0	-4	150	0	0	0
35	SLE QP 2	0	-4	156	0	0	0
35	SLD 1	7	-1	161	0	0	0
35	SLD 2	8	-1	162	0	0	0
35	SLD 3	6	-3	157	0	0	0
35	SLD 4	7	-3	157	0	0	0
35	SLD 5	4	0	165	0	0	0
35	SLD 6	4	0	165	0	0	0
35	SLD 7	0	-6	149	0	0	0
35	SLD 8	0	-6	149	0	0	0
35	SLD 9	0	-1	163	0	0	0
35	SLD 10	0	-1	163	0	0	0
35	SLD 11	-4	-7	147	0	0	0
35	SLD 12	-4	-7	147	0	0	0
35	SLD 13	-6	-5	155	0	0	0
35	SLD 14	-6	-4	155	0	0	0
35	SLD 15	-7	-6	150	0	0	0
35	SLD 16	-7	-6	150	0	0	0
35	SLV 1	11	1	165	0	0	0
35	SLV 2	12	1	165	0	0	0
35	SLV 3	9	-2	157	0	0	0
35	SLV 4	10	-2	157	0	0	0
35	SLV 5	6	3	170	0	0	0
35	SLV 6	7	3	170	0	0	0
35	SLV 7	0	-8	144	0	0	0
35	SLV 8	1	-8	145	0	0	0
35	SLV 9	0	1	167	0	0	0
35	SLV 10	0	1	167	0	0	0
35	SLV 11	-6	-10	141	0	0	0
35	SLV 12	-6	-10	141	0	0	0
35	SLV 13	-10	-5	154	0	0	0
35	SLV 14	-9	-5	154	0	0	0
35	SLV 15	-12	-8	146	0	0	0
35	SLV 16	-11	-8	147	0	0	0
35	SLV FO 1	12	1	166	0	0	0
35	SLV FO 2	13	2	166	0	0	0
35	SLV FO 3	10	-2	157	0	0	0
35	SLV FO 4	11	-2	158	0	0	0
35	SLV FO 5	7	3	171	0	0	0
35	SLV FO 6	7	3	172	0	0	0
35	SLV FO 7	0	-9	143	0	0	0
35	SLV FO 8	1	-8	144	0	0	0
35	SLV FO 9	0	1	168	0	0	0
35	SLV FO 10	0	1	168	0	0	0
35	SLV FO 11	-7	-10	140	0	0	0
35	SLV FO 12	-6	-10	140	0	0	0
35	SLV FO 13	-11	-5	154	0	0	0
35	SLV FO 14	-10	-5	154	0	0	0
35	SLV FO 15	-13	-9	145	0	0	0
35	SLV FO 16	-12	-8	146	0	0	0
36	SLU 1	1	-11	467	0	0	0
36	SLU 2	1	-11	468	0	0	0
36	SLU 3	1	-11	477	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLU 4	1	-10	478	0	0	0
36	SLU 5	1	-10	474	0	0	0
36	SLU 6	1	-10	483	0	0	0
36	SLU 7	1	-10	484	0	0	0
36	SLU 8	1	-10	480	0	0	0
36	SLU 9	1	-10	480	0	0	0
36	SLU 10	0	-11	532	0	0	0
36	SLU 11	0	-11	541	0	0	0
36	SLU 12	0	-11	542	0	0	0
36	SLU 13	0	-11	538	0	0	0
36	SLU 14	-1	-11	547	0	0	0
36	SLU 15	-1	-11	548	0	0	0
36	SLU 16	-1	-11	544	0	0	0
36	SLU 17	-1	-11	544	0	0	0
36	SLU 18	-1	-12	558	0	0	0
36	SLU 19	-1	-12	559	0	0	0
36	SLU 20	-1	-12	565	0	0	0
36	SLU 21	-1	-11	565	0	0	0
36	SLU 22	0	-10	537	0	0	0
36	SLU 23	1	-10	538	0	0	0
36	SLU 24	0	-10	547	0	0	0
36	SLU 25	0	-9	548	0	0	0
36	SLU 26	0	-9	545	0	0	0
36	SLU 27	0	-9	554	0	0	0
36	SLU 28	0	-9	555	0	0	0
36	SLU 29	0	-9	550	0	0	0
36	SLU 30	0	-9	551	0	0	0
36	SLU 31	-1	-10	602	0	0	0
36	SLU 32	-1	-10	611	0	0	0
36	SLU 33	-1	-10	612	0	0	0
36	SLU 34	-1	-10	609	0	0	0
36	SLU 35	-2	-10	618	0	0	0
36	SLU 36	-1	-9	618	0	0	0
36	SLU 37	-2	-10	614	0	0	0
36	SLU 38	-1	-9	615	0	0	0
36	SLU 39	-2	-11	629	0	0	0
36	SLU 40	-1	-11	629	0	0	0
36	SLU 41	-2	-10	635	0	0	0
36	SLU 42	-2	-10	636	0	0	0
36	SLU 43	2	-15	583	0	0	0
36	SLU 44	2	-14	584	0	0	0
36	SLU 45	1	-14	593	0	0	0
36	SLU 46	2	-14	594	0	0	0
36	SLU 47	2	-14	590	0	0	0
36	SLU 48	1	-14	599	0	0	0
36	SLU 49	1	-14	600	0	0	0
36	SLU 50	1	-14	596	0	0	0
36	SLU 51	1	-14	596	0	0	0
36	SLU 52	1	-15	648	0	0	0
36	SLU 53	0	-15	657	0	0	0
36	SLU 54	0	-15	658	0	0	0
36	SLU 55	0	-14	654	0	0	0
36	SLU 56	0	-15	663	0	0	0
36	SLU 57	0	-14	664	0	0	0
36	SLU 58	0	-15	659	0	0	0
36	SLU 59	0	-14	660	0	0	0
36	SLU 60	0	-16	674	0	0	0
36	SLU 61	0	-15	675	0	0	0
36	SLU 62	0	-15	680	0	0	0
36	SLU 63	0	-15	681	0	0	0
36	SLU 64	1	-14	653	0	0	0
36	SLU 65	1	-13	654	0	0	0
36	SLU 66	1	-13	663	0	0	0
36	SLU 67	1	-13	664	0	0	0
36	SLU 68	1	-13	661	0	0	0
36	SLU 69	0	-13	670	0	0	0
36	SLU 70	1	-13	670	0	0	0
36	SLU 71	0	-13	666	0	0	0
36	SLU 72	1	-13	667	0	0	0
36	SLU 73	0	-14	718	0	0	0
36	SLU 74	-1	-14	727	0	0	0
36	SLU 75	-1	-14	728	0	0	0
36	SLU 76	0	-13	725	0	0	0
36	SLU 77	-1	-13	734	0	0	0
36	SLU 78	-1	-13	734	0	0	0
36	SLU 79	-1	-14	730	0	0	0
36	SLU 80	-1	-13	731	0	0	0
36	SLU 81	-1	-15	744	0	0	0
36	SLU 82	-1	-14	745	0	0	0
36	SLU 83	-1	-14	751	0	0	0
36	SLU 84	-1	-14	752	0	0	0
36	SLE RA 1	1	-11	487	0	0	0
36	SLE RA 2	1	-11	488	0	0	0
36	SLE RA 3	1	-11	494	0	0	0
36	SLE RA 4	1	-10	494	0	0	0
36	SLE RA 5	1	-10	492	0	0	0
36	SLE RA 6	0	-10	498	0	0	0
36	SLE RA 7	1	-10	498	0	0	0
36	SLE RA 8	0	-10	495	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
36	SLE RA 9	1	-10	496	0	0	0
36	SLE RA 10	0	-11	530	0	0	0
36	SLE RA 11	0	-11	536	0	0	0
36	SLE RA 12	0	-11	537	0	0	0
36	SLE RA 13	0	-11	535	0	0	0
36	SLE RA 14	0	-11	541	0	0	0
36	SLE RA 15	0	-10	541	0	0	0
36	SLE RA 16	0	-11	538	0	0	0
36	SLE RA 17	0	-10	539	0	0	0
36	SLE RA 18	0	-11	548	0	0	0
36	SLE RA 19	0	-11	548	0	0	0
36	SLE RA 20	-1	-11	552	0	0	0
36	SLE RA 21	0	-11	553	0	0	0
36	SLE FR 1	1	-11	487	0	0	0
36	SLE FR 2	1	-11	487	0	0	0
36	SLE FR 3	1	-11	489	0	0	0
36	SLE FR 4	0	-11	505	0	0	0
36	SLE FR 5	0	-11	507	0	0	0
36	SLE FR 6	0	-11	517	0	0	0
36	SLE QP 1	1	-11	487	0	0	0
36	SLE QP 2	0	-11	505	0	0	0
36	SLD 1	23	-3	522	0	0	0
36	SLD 2	25	-2	522	0	0	0
36	SLD 3	19	-9	506	0	0	0
36	SLD 4	21	-8	507	0	0	0
36	SLD 5	12	1	533	0	0	0
36	SLD 6	14	1	533	0	0	0
36	SLD 7	0	-20	482	0	0	0
36	SLD 8	1	-19	483	0	0	0
36	SLD 9	-1	-3	528	0	0	0
36	SLD 10	1	-2	528	0	0	0
36	SLD 11	-13	-23	477	0	0	0
36	SLD 12	-12	-23	477	0	0	0
36	SLD 13	-20	-14	503	0	0	0
36	SLD 14	-18	-13	504	0	0	0
36	SLD 15	-24	-20	488	0	0	0
36	SLD 16	-22	-20	489	0	0	0
36	SLV 1	36	3	531	0	0	0
36	SLV 2	39	4	532	0	0	0
36	SLV 3	30	-8	507	0	0	0
36	SLV 4	33	-7	508	0	0	0
36	SLV 5	20	8	550	0	0	0
36	SLV 6	22	9	551	0	0	0
36	SLV 7	0	-26	468	0	0	0
36	SLV 8	2	-25	469	0	0	0
36	SLV 9	-1	3	542	0	0	0
36	SLV 10	1	4	542	0	0	0
36	SLV 11	-21	-31	460	0	0	0
36	SLV 12	-19	-31	460	0	0	0
36	SLV 13	-32	-16	503	0	0	0
36	SLV 14	-29	-14	504	0	0	0
36	SLV 15	-38	-26	478	0	0	0
36	SLV 16	-35	-25	479	0	0	0
36	SLV FO 1	39	4	534	0	0	0
36	SLV FO 2	43	5	535	0	0	0
36	SLV FO 3	33	-7	507	0	0	0
36	SLV FO 4	36	-6	508	0	0	0
36	SLV FO 5	21	10	555	0	0	0
36	SLV FO 6	24	11	555	0	0	0
36	SLV FO 7	0	-27	464	0	0	0
36	SLV FO 8	2	-26	465	0	0	0
36	SLV FO 9	-1	4	545	0	0	0
36	SLV FO 10	1	5	546	0	0	0
36	SLV FO 11	-23	-33	455	0	0	0
36	SLV FO 12	-21	-32	456	0	0	0
36	SLV FO 13	-35	-16	503	0	0	0
36	SLV FO 14	-32	-15	504	0	0	0
36	SLV FO 15	-42	-27	475	0	0	0
36	SLV FO 16	-38	-26	476	0	0	0
37	SLU 1	2	-15	732	0	0	0
37	SLU 2	2	-14	734	0	0	0
37	SLU 3	1	-14	748	0	0	0
37	SLU 4	1	-13	749	0	0	0
37	SLU 5	2	-13	744	0	0	0
37	SLU 6	1	-13	758	0	0	0
37	SLU 7	1	-13	759	0	0	0
37	SLU 8	1	-13	752	0	0	0
37	SLU 9	1	-13	753	0	0	0
37	SLU 10	0	-14	834	0	0	0
37	SLU 11	-1	-14	847	0	0	0
37	SLU 12	-1	-14	848	0	0	0
37	SLU 13	0	-14	843	0	0	0
37	SLU 14	-1	-14	857	0	0	0
37	SLU 15	-1	-13	858	0	0	0
37	SLU 16	-1	-14	851	0	0	0
37	SLU 17	-1	-13	852	0	0	0
37	SLU 18	-1	-15	874	0	0	0
37	SLU 19	-1	-15	875	0	0	0
37	SLU 20	-2	-15	884	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
37	SLU 21	-1	-14	885	0	0	0
37	SLU 22	0	-13	842	0	0	0
37	SLU 23	1	-12	844	0	0	0
37	SLU 24	0	-12	857	0	0	0
37	SLU 25	0	-11	859	0	0	0
37	SLU 26	0	-11	854	0	0	0
37	SLU 27	0	-11	867	0	0	0
37	SLU 28	0	-11	869	0	0	0
37	SLU 29	0	-11	861	0	0	0
37	SLU 30	0	-11	863	0	0	0
37	SLU 31	-1	-12	943	0	0	0
37	SLU 32	-2	-12	957	0	0	0
37	SLU 33	-2	-12	958	0	0	0
37	SLU 34	-2	-12	953	0	0	0
37	SLU 35	-3	-12	967	0	0	0
37	SLU 36	-2	-11	968	0	0	0
37	SLU 37	-3	-12	961	0	0	0
37	SLU 38	-2	-11	962	0	0	0
37	SLU 39	-3	-13	984	0	0	0
37	SLU 40	-2	-13	985	0	0	0
37	SLU 41	-3	-13	994	0	0	0
37	SLU 42	-3	-12	995	0	0	0
37	SLU 43	2	-20	914	0	0	0
37	SLU 44	3	-19	916	0	0	0
37	SLU 45	2	-19	930	0	0	0
37	SLU 46	2	-18	931	0	0	0
37	SLU 47	3	-18	926	0	0	0
37	SLU 48	2	-18	940	0	0	0
37	SLU 49	2	-18	941	0	0	0
37	SLU 50	2	-18	934	0	0	0
37	SLU 51	2	-18	935	0	0	0
37	SLU 52	1	-19	1016	0	0	0
37	SLU 53	0	-19	1029	0	0	0
37	SLU 54	0	-19	1030	0	0	0
37	SLU 55	1	-19	1025	0	0	0
37	SLU 56	0	-19	1039	0	0	0
37	SLU 57	0	-18	1040	0	0	0
37	SLU 58	0	-19	1033	0	0	0
37	SLU 59	0	-18	1034	0	0	0
37	SLU 60	0	-20	1056	0	0	0
37	SLU 61	0	-20	1057	0	0	0
37	SLU 62	-1	-20	1066	0	0	0
37	SLU 63	-1	-19	1067	0	0	0
37	SLU 64	1	-18	1024	0	0	0
37	SLU 65	2	-17	1026	0	0	0
37	SLU 66	1	-17	1039	0	0	0
37	SLU 67	1	-16	1041	0	0	0
37	SLU 68	1	-16	1036	0	0	0
37	SLU 69	0	-16	1049	0	0	0
37	SLU 70	1	-16	1051	0	0	0
37	SLU 71	0	-16	1043	0	0	0
37	SLU 72	1	-16	1045	0	0	0
37	SLU 73	0	-17	1125	0	0	0
37	SLU 74	-1	-17	1139	0	0	0
37	SLU 75	-1	-17	1140	0	0	0
37	SLU 76	-1	-17	1135	0	0	0
37	SLU 77	-2	-17	1149	0	0	0
37	SLU 78	-1	-16	1150	0	0	0
37	SLU 79	-2	-17	1143	0	0	0
37	SLU 80	-1	-16	1144	0	0	0
37	SLU 81	-2	-18	1166	0	0	0
37	SLU 82	-1	-18	1167	0	0	0
37	SLU 83	-2	-18	1176	0	0	0
37	SLU 84	-2	-17	1177	0	0	0
37	SLE RA 1	1	-14	763	0	0	0
37	SLE RA 2	2	-13	765	0	0	0
37	SLE RA 3	1	-13	774	0	0	0
37	SLE RA 4	1	-13	775	0	0	0
37	SLE RA 5	1	-13	771	0	0	0
37	SLE RA 6	1	-13	780	0	0	0
37	SLE RA 7	1	-13	781	0	0	0
37	SLE RA 8	1	-13	777	0	0	0
37	SLE RA 9	1	-13	777	0	0	0
37	SLE RA 10	0	-14	831	0	0	0
37	SLE RA 11	0	-14	840	0	0	0
37	SLE RA 12	0	-14	841	0	0	0
37	SLE RA 13	0	-13	838	0	0	0
37	SLE RA 14	-1	-13	847	0	0	0
37	SLE RA 15	0	-13	847	0	0	0
37	SLE RA 16	-1	-13	843	0	0	0
37	SLE RA 17	0	-13	844	0	0	0
37	SLE RA 18	-1	-15	858	0	0	0
37	SLE RA 19	-1	-14	859	0	0	0
37	SLE RA 20	-1	-14	865	0	0	0
37	SLE RA 21	-1	-14	865	0	0	0
37	SLE FR 1	1	-14	763	0	0	0
37	SLE FR 2	1	-14	764	0	0	0
37	SLE FR 3	1	-14	766	0	0	0
37	SLE FR 4	1	-14	792	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
37	SLE FR 5	1	-14	794	0	0	0
37	SLE FR 6	0	-14	811	0	0	0
37	SLE QP 1	1	-14	763	0	0	0
37	SLE QP 2	1	-14	792	0	0	0
37	SLD 1	36	-2	807	0	0	0
37	SLD 2	39	0	808	0	0	0
37	SLD 3	30	-12	782	0	0	0
37	SLD 4	33	-10	782	0	0	0
37	SLD 5	19	4	834	0	0	0
37	SLD 6	22	5	835	0	0	0
37	SLD 7	0	-28	751	0	0	0
37	SLD 8	2	-27	751	0	0	0
37	SLD 9	-1	-1	833	0	0	0
37	SLD 10	1	0	833	0	0	0
37	SLD 11	-20	-33	749	0	0	0
37	SLD 12	-18	-32	749	0	0	0
37	SLD 13	-32	-19	801	0	0	0
37	SLD 14	-29	-17	802	0	0	0
37	SLD 15	-38	-28	776	0	0	0
37	SLD 16	-35	-26	776	0	0	0
37	SLV 1	56	5	817	0	0	0
37	SLV 2	61	8	817	0	0	0
37	SLV 3	47	-11	776	0	0	0
37	SLV 4	52	-8	777	0	0	0
37	SLV 5	31	15	861	0	0	0
37	SLV 6	34	17	861	0	0	0
37	SLV 7	-1	-38	725	0	0	0
37	SLV 8	3	-36	726	0	0	0
37	SLV 9	-1	7	858	0	0	0
37	SLV 10	2	9	858	0	0	0
37	SLV 11	-33	-45	722	0	0	0
37	SLV 12	-29	-43	723	0	0	0
37	SLV 13	-51	-21	807	0	0	0
37	SLV 14	-46	-18	808	0	0	0
37	SLV 15	-60	-36	766	0	0	0
37	SLV 16	-55	-33	767	0	0	0
37	SLV FO 1	62	7	819	0	0	0
37	SLV FO 2	67	10	820	0	0	0
37	SLV FO 3	52	-10	774	0	0	0
37	SLV FO 4	57	-7	775	0	0	0
37	SLV FO 5	34	18	868	0	0	0
37	SLV FO 6	37	20	868	0	0	0
37	SLV FO 7	-1	-40	718	0	0	0
37	SLV FO 8	3	-38	719	0	0	0
37	SLV FO 9	-2	10	864	0	0	0
37	SLV FO 10	2	12	865	0	0	0
37	SLV FO 11	-36	-49	715	0	0	0
37	SLV FO 12	-32	-46	716	0	0	0
37	SLV FO 13	-56	-21	808	0	0	0
37	SLV FO 14	-50	-18	809	0	0	0
37	SLV FO 15	-66	-39	764	0	0	0
37	SLV FO 16	-61	-35	765	0	0	0
38	SLU 1	1	-12	733	0	0	0
38	SLU 2	2	-11	735	0	0	0
38	SLU 3	1	-11	748	0	0	0
38	SLU 4	1	-10	750	0	0	0
38	SLU 5	2	-10	745	0	0	0
38	SLU 6	1	-10	758	0	0	0
38	SLU 7	1	-10	759	0	0	0
38	SLU 8	1	-10	752	0	0	0
38	SLU 9	1	-10	754	0	0	0
38	SLU 10	0	-11	834	0	0	0
38	SLU 11	-1	-11	847	0	0	0
38	SLU 12	-1	-11	848	0	0	0
38	SLU 13	0	-10	843	0	0	0
38	SLU 14	-1	-10	857	0	0	0
38	SLU 15	-1	-10	858	0	0	0
38	SLU 16	-1	-10	851	0	0	0
38	SLU 17	-1	-10	852	0	0	0
38	SLU 18	-1	-12	874	0	0	0
38	SLU 19	-1	-11	875	0	0	0
38	SLU 20	-2	-11	883	0	0	0
38	SLU 21	-2	-11	885	0	0	0
38	SLU 22	0	-9	842	0	0	0
38	SLU 23	1	-8	844	0	0	0
38	SLU 24	0	-8	858	0	0	0
38	SLU 25	0	-8	859	0	0	0
38	SLU 26	0	-8	854	0	0	0
38	SLU 27	-1	-8	867	0	0	0
38	SLU 28	0	-7	869	0	0	0
38	SLU 29	-1	-8	861	0	0	0
38	SLU 30	0	-7	863	0	0	0
38	SLU 31	-1	-9	943	0	0	0
38	SLU 32	-2	-9	956	0	0	0
38	SLU 33	-2	-8	957	0	0	0
38	SLU 34	-2	-8	953	0	0	0
38	SLU 35	-3	-8	966	0	0	0
38	SLU 36	-2	-8	967	0	0	0
38	SLU 37	-3	-8	960	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLU 38	-2	-8	961	0	0	0
38	SLU 39	-3	-10	983	0	0	0
38	SLU 40	-2	-9	984	0	0	0
38	SLU 41	-3	-9	993	0	0	0
38	SLU 42	-3	-8	994	0	0	0
38	SLU 43	2	-16	915	0	0	0
38	SLU 44	3	-15	918	0	0	0
38	SLU 45	2	-15	931	0	0	0
38	SLU 46	2	-15	932	0	0	0
38	SLU 47	2	-14	927	0	0	0
38	SLU 48	2	-14	941	0	0	0
38	SLU 49	2	-14	942	0	0	0
38	SLU 50	2	-14	935	0	0	0
38	SLU 51	2	-14	936	0	0	0
38	SLU 52	1	-15	1016	0	0	0
38	SLU 53	0	-15	1029	0	0	0
38	SLU 54	0	-15	1031	0	0	0
38	SLU 55	0	-15	1026	0	0	0
38	SLU 56	0	-15	1039	0	0	0
38	SLU 57	0	-14	1041	0	0	0
38	SLU 58	0	-15	1033	0	0	0
38	SLU 59	0	-14	1035	0	0	0
38	SLU 60	-1	-16	1056	0	0	0
38	SLU 61	0	-16	1058	0	0	0
38	SLU 62	-1	-16	1066	0	0	0
38	SLU 63	-1	-15	1067	0	0	0
38	SLU 64	1	-14	1025	0	0	0
38	SLU 65	2	-13	1027	0	0	0
38	SLU 66	1	-13	1040	0	0	0
38	SLU 67	1	-12	1041	0	0	0
38	SLU 68	1	-12	1037	0	0	0
38	SLU 69	0	-12	1050	0	0	0
38	SLU 70	1	-12	1051	0	0	0
38	SLU 71	0	-12	1044	0	0	0
38	SLU 72	1	-12	1045	0	0	0
38	SLU 73	0	-13	1125	0	0	0
38	SLU 74	-1	-13	1139	0	0	0
38	SLU 75	-1	-12	1140	0	0	0
38	SLU 76	-1	-12	1135	0	0	0
38	SLU 77	-2	-12	1148	0	0	0
38	SLU 78	-1	-12	1150	0	0	0
38	SLU 79	-2	-12	1143	0	0	0
38	SLU 80	-1	-12	1144	0	0	0
38	SLU 81	-2	-14	1165	0	0	0
38	SLU 82	-1	-13	1167	0	0	0
38	SLU 83	-2	-13	1175	0	0	0
38	SLU 84	-2	-13	1176	0	0	0
38	SLE RA 1	1	-11	764	0	0	0
38	SLE RA 2	1	-10	766	0	0	0
38	SLE RA 3	1	-10	774	0	0	0
38	SLE RA 4	1	-10	775	0	0	0
38	SLE RA 5	1	-10	772	0	0	0
38	SLE RA 6	1	-10	781	0	0	0
38	SLE RA 7	1	-10	782	0	0	0
38	SLE RA 8	1	-10	777	0	0	0
38	SLE RA 9	1	-10	778	0	0	0
38	SLE RA 10	0	-11	831	0	0	0
38	SLE RA 11	0	-11	840	0	0	0
38	SLE RA 12	0	-10	841	0	0	0
38	SLE RA 13	0	-10	838	0	0	0
38	SLE RA 14	-1	-10	847	0	0	0
38	SLE RA 15	-1	-10	848	0	0	0
38	SLE RA 16	-1	-10	843	0	0	0
38	SLE RA 17	-1	-10	844	0	0	0
38	SLE RA 18	-1	-11	858	0	0	0
38	SLE RA 19	-1	-11	859	0	0	0
38	SLE RA 20	-1	-11	864	0	0	0
38	SLE RA 21	-1	-10	865	0	0	0
38	SLE FR 1	1	-11	764	0	0	0
38	SLE FR 2	1	-11	764	0	0	0
38	SLE FR 3	1	-11	767	0	0	0
38	SLE FR 4	1	-11	793	0	0	0
38	SLE FR 5	0	-11	795	0	0	0
38	SLE FR 6	0	-11	811	0	0	0
38	SLE QP 1	1	-11	764	0	0	0
38	SLE QP 2	1	-11	792	0	0	0
38	SLD 1	36	0	795	0	0	0
38	SLD 2	39	3	795	0	0	0
38	SLD 3	30	-10	768	0	0	0
38	SLD 4	33	-7	768	0	0	0
38	SLD 5	19	6	833	0	0	0
38	SLD 6	22	8	833	0	0	0
38	SLD 7	0	-25	745	0	0	0
38	SLD 8	2	-24	745	0	0	0
38	SLD 9	-1	2	840	0	0	0
38	SLD 10	1	3	840	0	0	0
38	SLD 11	-20	-30	751	0	0	0
38	SLD 12	-18	-28	752	0	0	0
38	SLD 13	-32	-15	816	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
38	SLD 14	-29	-12	817	0	0	0
38	SLD 15	-38	-24	790	0	0	0
38	SLD 16	-35	-22	790	0	0	0
38	SLV 1	56	6	797	0	0	0
38	SLV 2	62	11	797	0	0	0
38	SLV 3	47	-9	754	0	0	0
38	SLV 4	52	-5	754	0	0	0
38	SLV 5	31	17	858	0	0	0
38	SLV 6	34	20	859	0	0	0
38	SLV 7	-1	-35	716	0	0	0
38	SLV 8	3	-32	716	0	0	0
38	SLV 9	-2	10	869	0	0	0
38	SLV 10	2	13	869	0	0	0
38	SLV 11	-33	-42	726	0	0	0
38	SLV 12	-30	-39	726	0	0	0
38	SLV 13	-51	-17	831	0	0	0
38	SLV 14	-46	-13	831	0	0	0
38	SLV 15	-60	-33	788	0	0	0
38	SLV 16	-55	-28	788	0	0	0
38	SLV FO 1	62	8	797	0	0	0
38	SLV FO 2	68	13	797	0	0	0
38	SLV FO 3	52	-9	750	0	0	0
38	SLV FO 4	57	-4	750	0	0	0
38	SLV FO 5	34	20	865	0	0	0
38	SLV FO 6	37	23	865	0	0	0
38	SLV FO 7	-1	-37	708	0	0	0
38	SLV FO 8	3	-34	708	0	0	0
38	SLV FO 9	-2	12	876	0	0	0
38	SLV FO 10	2	15	876	0	0	0
38	SLV FO 11	-36	-45	719	0	0	0
38	SLV FO 12	-33	-42	720	0	0	0
38	SLV FO 13	-56	-18	834	0	0	0
38	SLV FO 14	-51	-13	835	0	0	0
38	SLV FO 15	-67	-35	787	0	0	0
38	SLV FO 16	-61	-30	788	0	0	0
39	SLU 1	1	-8	713	0	0	0
39	SLU 2	2	-8	716	0	0	0
39	SLU 3	1	-8	728	0	0	0
39	SLU 4	1	-7	729	0	0	0
39	SLU 5	1	-7	725	0	0	0
39	SLU 6	1	-7	737	0	0	0
39	SLU 7	1	-6	739	0	0	0
39	SLU 8	1	-7	732	0	0	0
39	SLU 9	1	-6	733	0	0	0
39	SLU 10	0	-8	811	0	0	0
39	SLU 11	-1	-7	823	0	0	0
39	SLU 12	-1	-7	824	0	0	0
39	SLU 13	-1	-7	820	0	0	0
39	SLU 14	-1	-7	832	0	0	0
39	SLU 15	-1	-6	834	0	0	0
39	SLU 16	-1	-7	827	0	0	0
39	SLU 17	-1	-6	828	0	0	0
39	SLU 18	-1	-8	849	0	0	0
39	SLU 19	-1	-8	850	0	0	0
39	SLU 20	-2	-8	858	0	0	0
39	SLU 21	-2	-7	860	0	0	0
39	SLU 22	0	-6	819	0	0	0
39	SLU 23	1	-5	821	0	0	0
39	SLU 24	0	-5	834	0	0	0
39	SLU 25	0	-4	835	0	0	0
39	SLU 26	0	-4	830	0	0	0
39	SLU 27	-1	-4	843	0	0	0
39	SLU 28	0	-4	844	0	0	0
39	SLU 29	-1	-4	837	0	0	0
39	SLU 30	0	-4	839	0	0	0
39	SLU 31	-1	-5	916	0	0	0
39	SLU 32	-2	-5	929	0	0	0
39	SLU 33	-2	-4	930	0	0	0
39	SLU 34	-2	-4	925	0	0	0
39	SLU 35	-3	-4	938	0	0	0
39	SLU 36	-2	-4	939	0	0	0
39	SLU 37	-3	-4	932	0	0	0
39	SLU 38	-2	-4	934	0	0	0
39	SLU 39	-3	-6	954	0	0	0
39	SLU 40	-2	-5	956	0	0	0
39	SLU 41	-3	-5	964	0	0	0
39	SLU 42	-3	-5	965	0	0	0
39	SLU 43	2	-12	891	0	0	0
39	SLU 44	3	-11	893	0	0	0
39	SLU 45	2	-11	906	0	0	0
39	SLU 46	2	-10	907	0	0	0
39	SLU 47	2	-10	903	0	0	0
39	SLU 48	1	-10	915	0	0	0
39	SLU 49	2	-10	916	0	0	0
39	SLU 50	1	-10	909	0	0	0
39	SLU 51	2	-10	911	0	0	0
39	SLU 52	1	-11	988	0	0	0
39	SLU 53	0	-11	1001	0	0	0
39	SLU 54	0	-10	1002	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLU 55	0	-10	998	0	0	0
39	SLU 56	-1	-10	1010	0	0	0
39	SLU 57	0	-10	1011	0	0	0
39	SLU 58	-1	-10	1004	0	0	0
39	SLU 59	0	-10	1006	0	0	0
39	SLU 60	-1	-12	1027	0	0	0
39	SLU 61	0	-11	1028	0	0	0
39	SLU 62	-1	-11	1036	0	0	0
39	SLU 63	-1	-11	1037	0	0	0
39	SLU 64	1	-9	996	0	0	0
39	SLU 65	1	-8	999	0	0	0
39	SLU 66	1	-8	1011	0	0	0
39	SLU 67	1	-8	1013	0	0	0
39	SLU 68	1	-8	1008	0	0	0
39	SLU 69	0	-8	1021	0	0	0
39	SLU 70	0	-7	1022	0	0	0
39	SLU 71	0	-8	1015	0	0	0
39	SLU 72	0	-7	1016	0	0	0
39	SLU 73	-1	-8	1094	0	0	0
39	SLU 74	-1	-8	1106	0	0	0
39	SLU 75	-1	-8	1108	0	0	0
39	SLU 76	-1	-8	1103	0	0	0
39	SLU 77	-2	-8	1116	0	0	0
39	SLU 78	-1	-7	1117	0	0	0
39	SLU 79	-2	-8	1110	0	0	0
39	SLU 80	-1	-7	1111	0	0	0
39	SLU 81	-2	-9	1132	0	0	0
39	SLU 82	-2	-9	1134	0	0	0
39	SLU 83	-2	-8	1141	0	0	0
39	SLU 84	-2	-8	1143	0	0	0
39	SLE RA 1	1	-8	743	0	0	0
39	SLE RA 2	1	-7	745	0	0	0
39	SLE RA 3	1	-7	753	0	0	0
39	SLE RA 4	1	-7	754	0	0	0
39	SLE RA 5	1	-7	751	0	0	0
39	SLE RA 6	1	-7	759	0	0	0
39	SLE RA 7	1	-6	760	0	0	0
39	SLE RA 8	1	-7	756	0	0	0
39	SLE RA 9	1	-6	757	0	0	0
39	SLE RA 10	0	-7	808	0	0	0
39	SLE RA 11	-1	-7	817	0	0	0
39	SLE RA 12	0	-7	817	0	0	0
39	SLE RA 13	0	-7	814	0	0	0
39	SLE RA 14	-1	-7	823	0	0	0
39	SLE RA 15	-1	-6	824	0	0	0
39	SLE RA 16	-1	-7	819	0	0	0
39	SLE RA 17	-1	-6	820	0	0	0
39	SLE RA 18	-1	-8	834	0	0	0
39	SLE RA 19	-1	-7	835	0	0	0
39	SLE RA 20	-1	-7	840	0	0	0
39	SLE RA 21	-1	-7	841	0	0	0
39	SLE FR 1	1	-8	743	0	0	0
39	SLE FR 2	1	-7	744	0	0	0
39	SLE FR 3	1	-7	746	0	0	0
39	SLE FR 4	1	-7	771	0	0	0
39	SLE FR 5	0	-7	773	0	0	0
39	SLE FR 6	0	-8	789	0	0	0
39	SLE QP 1	1	-8	743	0	0	0
39	SLE QP 2	0	-8	770	0	0	0
39	SLD 1	35	2	762	0	0	0
39	SLD 2	38	5	761	0	0	0
39	SLD 3	29	-7	735	0	0	0
39	SLD 4	33	-4	734	0	0	0
39	SLD 5	19	8	809	0	0	0
39	SLD 6	21	10	809	0	0	0
39	SLD 7	0	-22	719	0	0	0
39	SLD 8	2	-20	719	0	0	0
39	SLD 9	-1	4	822	0	0	0
39	SLD 10	1	7	822	0	0	0
39	SLD 11	-20	-26	732	0	0	0
39	SLD 12	-18	-23	732	0	0	0
39	SLD 13	-32	-11	806	0	0	0
39	SLD 14	-28	-8	806	0	0	0
39	SLD 15	-37	-20	780	0	0	0
39	SLD 16	-34	-17	779	0	0	0
39	SLV 1	55	7	757	0	0	0
39	SLV 2	60	13	757	0	0	0
39	SLV 3	46	-8	714	0	0	0
39	SLV 4	51	-2	714	0	0	0
39	SLV 5	30	18	833	0	0	0
39	SLV 6	33	22	832	0	0	0
39	SLV 7	-1	-31	687	0	0	0
39	SLV 8	3	-27	687	0	0	0
39	SLV 9	-2	12	854	0	0	0
39	SLV 10	2	16	853	0	0	0
39	SLV 11	-32	-37	709	0	0	0
39	SLV 12	-29	-34	708	0	0	0
39	SLV 13	-50	-13	827	0	0	0
39	SLV 14	-45	-8	827	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
39	SLV 15	-59	-28	784	0	0	0
39	SLV 16	-54	-22	784	0	0	0
39	SLV FO 1	60	9	756	0	0	0
39	SLV FO 2	66	15	756	0	0	0
39	SLV FO 3	50	-8	708	0	0	0
39	SLV FO 4	56	-2	708	0	0	0
39	SLV FO 5	33	21	839	0	0	0
39	SLV FO 6	36	25	839	0	0	0
39	SLV FO 7	-1	-33	679	0	0	0
39	SLV FO 8	3	-29	679	0	0	0
39	SLV FO 9	-2	14	862	0	0	0
39	SLV FO 10	2	18	862	0	0	0
39	SLV FO 11	-35	-40	702	0	0	0
39	SLV FO 12	-32	-36	702	0	0	0
39	SLV FO 13	-55	-13	833	0	0	0
39	SLV FO 14	-49	-8	833	0	0	0
39	SLV FO 15	-65	-30	785	0	0	0
39	SLV FO 16	-59	-24	785	0	0	0
40	SLU 1	1	-5	599	0	0	0
40	SLU 2	1	-4	601	0	0	0
40	SLU 3	1	-4	611	0	0	0
40	SLU 4	1	-3	612	0	0	0
40	SLU 5	1	-3	608	0	0	0
40	SLU 6	0	-3	619	0	0	0
40	SLU 7	0	-3	620	0	0	0
40	SLU 8	0	-3	614	0	0	0
40	SLU 9	0	-3	615	0	0	0
40	SLU 10	0	-4	680	0	0	0
40	SLU 11	-1	-4	690	0	0	0
40	SLU 12	-1	-3	691	0	0	0
40	SLU 13	-1	-3	687	0	0	0
40	SLU 14	-2	-3	698	0	0	0
40	SLU 15	-1	-3	699	0	0	0
40	SLU 16	-2	-3	693	0	0	0
40	SLU 17	-1	-3	694	0	0	0
40	SLU 18	-2	-4	712	0	0	0
40	SLU 19	-1	-4	713	0	0	0
40	SLU 20	-2	-4	719	0	0	0
40	SLU 21	-2	-3	720	0	0	0
40	SLU 22	0	-2	687	0	0	0
40	SLU 23	0	-1	689	0	0	0
40	SLU 24	-1	-1	699	0	0	0
40	SLU 25	0	-1	700	0	0	0
40	SLU 26	0	-1	696	0	0	0
40	SLU 27	-1	-1	707	0	0	0
40	SLU 28	-1	0	708	0	0	0
40	SLU 29	-1	-1	702	0	0	0
40	SLU 30	-1	-1	703	0	0	0
40	SLU 31	-2	-1	768	0	0	0
40	SLU 32	-2	-1	778	0	0	0
40	SLU 33	-2	-1	779	0	0	0
40	SLU 34	-2	-1	776	0	0	0
40	SLU 35	-3	-1	786	0	0	0
40	SLU 36	-2	0	787	0	0	0
40	SLU 37	-3	-1	781	0	0	0
40	SLU 38	-2	0	782	0	0	0
40	SLU 39	-3	-2	800	0	0	0
40	SLU 40	-2	-1	801	0	0	0
40	SLU 41	-3	-1	807	0	0	0
40	SLU 42	-3	-1	809	0	0	0
40	SLU 43	1	-7	748	0	0	0
40	SLU 44	2	-6	750	0	0	0
40	SLU 45	1	-6	761	0	0	0
40	SLU 46	1	-6	762	0	0	0
40	SLU 47	2	-6	758	0	0	0
40	SLU 48	1	-5	768	0	0	0
40	SLU 49	1	-5	769	0	0	0
40	SLU 50	1	-6	763	0	0	0
40	SLU 51	1	-5	765	0	0	0
40	SLU 52	0	-6	829	0	0	0
40	SLU 53	-1	-6	840	0	0	0
40	SLU 54	0	-5	841	0	0	0
40	SLU 55	0	-5	837	0	0	0
40	SLU 56	-1	-5	847	0	0	0
40	SLU 57	-1	-5	848	0	0	0
40	SLU 58	-1	-5	843	0	0	0
40	SLU 59	-1	-5	844	0	0	0
40	SLU 60	-1	-6	861	0	0	0
40	SLU 61	-1	-6	862	0	0	0
40	SLU 62	-1	-6	869	0	0	0
40	SLU 63	-1	-5	870	0	0	0
40	SLU 64	0	-4	836	0	0	0
40	SLU 65	1	-4	838	0	0	0
40	SLU 66	0	-4	849	0	0	0
40	SLU 67	0	-3	850	0	0	0
40	SLU 68	0	-3	846	0	0	0
40	SLU 69	0	-3	856	0	0	0
40	SLU 70	0	-3	857	0	0	0
40	SLU 71	0	-3	852	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
40	SLU 72	0	-3	853	0	0	0
40	SLU 73	-1	-3	917	0	0	0
40	SLU 74	-2	-3	928	0	0	0
40	SLU 75	-1	-3	929	0	0	0
40	SLU 76	-1	-3	925	0	0	0
40	SLU 77	-2	-3	935	0	0	0
40	SLU 78	-2	-2	937	0	0	0
40	SLU 79	-2	-3	931	0	0	0
40	SLU 80	-2	-2	932	0	0	0
40	SLU 81	-2	-4	949	0	0	0
40	SLU 82	-2	-4	950	0	0	0
40	SLU 83	-2	-3	957	0	0	0
40	SLU 84	-2	-3	958	0	0	0
40	SLE RA 1	1	-4	624	0	0	0
40	SLE RA 2	1	-3	625	0	0	0
40	SLE RA 3	0	-3	632	0	0	0
40	SLE RA 4	0	-3	633	0	0	0
40	SLE RA 5	1	-3	630	0	0	0
40	SLE RA 6	0	-3	637	0	0	0
40	SLE RA 7	0	-3	638	0	0	0
40	SLE RA 8	0	-3	634	0	0	0
40	SLE RA 9	0	-3	635	0	0	0
40	SLE RA 10	0	-3	678	0	0	0
40	SLE RA 11	-1	-3	685	0	0	0
40	SLE RA 12	-1	-3	686	0	0	0
40	SLE RA 13	-1	-3	683	0	0	0
40	SLE RA 14	-1	-3	690	0	0	0
40	SLE RA 15	-1	-3	691	0	0	0
40	SLE RA 16	-1	-3	687	0	0	0
40	SLE RA 17	-1	-3	688	0	0	0
40	SLE RA 18	-1	-4	699	0	0	0
40	SLE RA 19	-1	-3	700	0	0	0
40	SLE RA 20	-1	-3	704	0	0	0
40	SLE RA 21	-1	-3	705	0	0	0
40	SLE FR 1	1	-4	624	0	0	0
40	SLE FR 2	1	-4	624	0	0	0
40	SLE FR 3	0	-4	626	0	0	0
40	SLE FR 4	0	-4	647	0	0	0
40	SLE FR 5	0	-4	649	0	0	0
40	SLE FR 6	0	-4	662	0	0	0
40	SLE QP 1	1	-4	624	0	0	0
40	SLE QP 2	0	-4	647	0	0	0
40	SLD 1	29	3	629	0	0	0
40	SLD 2	32	6	629	0	0	0
40	SLD 3	24	-4	607	0	0	0
40	SLD 4	27	-1	607	0	0	0
40	SLD 5	16	9	675	0	0	0
40	SLD 6	17	11	675	0	0	0
40	SLD 7	0	-16	601	0	0	0
40	SLD 8	1	-14	601	0	0	0
40	SLD 9	-1	6	692	0	0	0
40	SLD 10	0	8	692	0	0	0
40	SLD 11	-17	-19	618	0	0	0
40	SLD 12	-15	-16	618	0	0	0
40	SLD 13	-27	-7	687	0	0	0
40	SLD 14	-24	-3	686	0	0	0
40	SLD 15	-32	-14	664	0	0	0
40	SLD 16	-29	-11	664	0	0	0
40	SLV 1	46	7	620	0	0	0
40	SLV 2	50	13	619	0	0	0
40	SLV 3	38	-5	584	0	0	0
40	SLV 4	42	0	584	0	0	0
40	SLV 5	25	17	693	0	0	0
40	SLV 6	28	21	693	0	0	0
40	SLV 7	-1	-24	574	0	0	0
40	SLV 8	2	-20	573	0	0	0
40	SLV 9	-2	12	720	0	0	0
40	SLV 10	1	16	720	0	0	0
40	SLV 11	-27	-28	600	0	0	0
40	SLV 12	-25	-25	600	0	0	0
40	SLV 13	-42	-8	710	0	0	0
40	SLV 14	-38	-3	709	0	0	0
40	SLV 15	-50	-20	674	0	0	0
40	SLV 16	-46	-15	673	0	0	0
40	SLV FO 1	51	8	617	0	0	0
40	SLV FO 2	55	14	617	0	0	0
40	SLV FO 3	42	-5	578	0	0	0
40	SLV FO 4	47	1	577	0	0	0
40	SLV FO 5	27	19	698	0	0	0
40	SLV FO 6	30	23	697	0	0	0
40	SLV FO 7	-1	-26	566	0	0	0
40	SLV FO 8	2	-22	566	0	0	0
40	SLV FO 9	-2	14	727	0	0	0
40	SLV FO 10	1	18	727	0	0	0
40	SLV FO 11	-30	-31	596	0	0	0
40	SLV FO 12	-27	-27	595	0	0	0
40	SLV FO 13	-47	-8	716	0	0	0
40	SLV FO 14	-42	-2	715	0	0	0
40	SLV FO 15	-55	-22	676	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
40	SLV FO 16	-51	-16	676	0	0	0
41	SLU 1	0	-14	551	0	0	0
41	SLU 2	1	-14	552	0	0	0
41	SLU 3	0	-14	563	0	0	0
41	SLU 4	0	-13	564	0	0	0
41	SLU 5	0	-13	560	0	0	0
41	SLU 6	0	-13	571	0	0	0
41	SLU 7	0	-13	572	0	0	0
41	SLU 8	0	-13	567	0	0	0
41	SLU 9	0	-13	567	0	0	0
41	SLU 10	-1	-15	628	0	0	0
41	SLU 11	-1	-15	639	0	0	0
41	SLU 12	-1	-14	640	0	0	0
41	SLU 13	-1	-14	636	0	0	0
41	SLU 14	-2	-14	647	0	0	0
41	SLU 15	-2	-14	648	0	0	0
41	SLU 16	-2	-14	643	0	0	0
41	SLU 17	-2	-14	643	0	0	0
41	SLU 18	-2	-15	660	0	0	0
41	SLU 19	-2	-15	660	0	0	0
41	SLU 20	-2	-15	668	0	0	0
41	SLU 21	-2	-15	668	0	0	0
41	SLU 22	-1	-13	635	0	0	0
41	SLU 23	0	-13	636	0	0	0
41	SLU 24	-1	-13	647	0	0	0
41	SLU 25	-1	-12	648	0	0	0
41	SLU 26	-1	-12	644	0	0	0
41	SLU 27	-1	-12	655	0	0	0
41	SLU 28	-1	-12	656	0	0	0
41	SLU 29	-1	-12	651	0	0	0
41	SLU 30	-1	-12	651	0	0	0
41	SLU 31	-2	-13	712	0	0	0
41	SLU 32	-2	-14	723	0	0	0
41	SLU 33	-2	-13	724	0	0	0
41	SLU 34	-2	-13	720	0	0	0
41	SLU 35	-3	-13	731	0	0	0
41	SLU 36	-3	-13	732	0	0	0
41	SLU 37	-3	-13	727	0	0	0
41	SLU 38	-3	-13	727	0	0	0
41	SLU 39	-3	-14	744	0	0	0
41	SLU 40	-3	-14	744	0	0	0
41	SLU 41	-3	-14	751	0	0	0
41	SLU 42	-3	-13	752	0	0	0
41	SLU 43	1	-19	688	0	0	0
41	SLU 44	1	-18	689	0	0	0
41	SLU 45	1	-19	700	0	0	0
41	SLU 46	1	-18	700	0	0	0
41	SLU 47	1	-18	697	0	0	0
41	SLU 48	0	-18	708	0	0	0
41	SLU 49	0	-18	708	0	0	0
41	SLU 50	0	-18	703	0	0	0
41	SLU 51	0	-18	704	0	0	0
41	SLU 52	0	-19	765	0	0	0
41	SLU 53	-1	-19	776	0	0	0
41	SLU 54	-1	-19	777	0	0	0
41	SLU 55	-1	-19	773	0	0	0
41	SLU 56	-1	-19	784	0	0	0
41	SLU 57	-1	-18	784	0	0	0
41	SLU 58	-1	-19	779	0	0	0
41	SLU 59	-1	-18	780	0	0	0
41	SLU 60	-1	-20	796	0	0	0
41	SLU 61	-1	-20	797	0	0	0
41	SLU 62	-2	-20	804	0	0	0
41	SLU 63	-1	-19	805	0	0	0
41	SLU 64	0	-18	772	0	0	0
41	SLU 65	0	-17	773	0	0	0
41	SLU 66	0	-17	784	0	0	0
41	SLU 67	0	-17	784	0	0	0
41	SLU 68	0	-17	780	0	0	0
41	SLU 69	-1	-17	792	0	0	0
41	SLU 70	-1	-17	792	0	0	0
41	SLU 71	-1	-17	787	0	0	0
41	SLU 72	-1	-17	788	0	0	0
41	SLU 73	-1	-18	849	0	0	0
41	SLU 74	-2	-18	860	0	0	0
41	SLU 75	-2	-18	860	0	0	0
41	SLU 76	-2	-18	857	0	0	0
41	SLU 77	-2	-18	868	0	0	0
41	SLU 78	-2	-17	868	0	0	0
41	SLU 79	-2	-18	863	0	0	0
41	SLU 80	-2	-17	864	0	0	0
41	SLU 81	-2	-19	880	0	0	0
41	SLU 82	-2	-19	881	0	0	0
41	SLU 83	-3	-19	888	0	0	0
41	SLU 84	-2	-18	889	0	0	0
41	SLE RA 1	0	-14	575	0	0	0
41	SLE RA 2	0	-14	576	0	0	0
41	SLE RA 3	0	-14	583	0	0	0
41	SLE RA 4	0	-13	584	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
41	SLE RA 5	0	-13	581	0	0	0
41	SLE RA 6	0	-13	588	0	0	0
41	SLE RA 7	0	-13	589	0	0	0
41	SLE RA 8	0	-13	585	0	0	0
41	SLE RA 9	0	-13	586	0	0	0
41	SLE RA 10	-1	-14	627	0	0	0
41	SLE RA 11	-1	-14	634	0	0	0
41	SLE RA 12	-1	-14	634	0	0	0
41	SLE RA 13	-1	-14	632	0	0	0
41	SLE RA 14	-1	-14	639	0	0	0
41	SLE RA 15	-1	-14	640	0	0	0
41	SLE RA 16	-1	-14	636	0	0	0
41	SLE RA 17	-1	-14	637	0	0	0
41	SLE RA 18	-1	-15	648	0	0	0
41	SLE RA 19	-1	-15	648	0	0	0
41	SLE RA 20	-2	-14	653	0	0	0
41	SLE RA 21	-1	-14	653	0	0	0
41	SLE FR 1	0	-14	575	0	0	0
41	SLE FR 2	0	-14	575	0	0	0
41	SLE FR 3	0	-14	577	0	0	0
41	SLE FR 4	0	-14	597	0	0	0
41	SLE FR 5	0	-14	599	0	0	0
41	SLE FR 6	-1	-14	611	0	0	0
41	SLE QP 1	0	-14	575	0	0	0
41	SLE QP 2	0	-14	597	0	0	0
41	SLD 1	27	-4	619	0	0	0
41	SLD 2	29	-3	620	0	0	0
41	SLD 3	22	-11	607	0	0	0
41	SLD 4	24	-11	607	0	0	0
41	SLD 5	14	0	623	0	0	0
41	SLD 6	15	0	623	0	0	0
41	SLD 7	-1	-25	580	0	0	0
41	SLD 8	1	-24	581	0	0	0
41	SLD 9	-2	-4	613	0	0	0
41	SLD 10	0	-4	613	0	0	0
41	SLD 11	-16	-29	570	0	0	0
41	SLD 12	-15	-29	571	0	0	0
41	SLD 13	-25	-18	586	0	0	0
41	SLD 14	-23	-17	587	0	0	0
41	SLD 15	-29	-26	574	0	0	0
41	SLD 16	-27	-25	574	0	0	0
41	SLV 1	42	3	632	0	0	0
41	SLV 2	45	4	633	0	0	0
41	SLV 3	35	-10	612	0	0	0
41	SLV 4	38	-9	613	0	0	0
41	SLV 5	22	9	639	0	0	0
41	SLV 6	25	10	639	0	0	0
41	SLV 7	-1	-32	570	0	0	0
41	SLV 8	1	-31	570	0	0	0
41	SLV 9	-2	3	623	0	0	0
41	SLV 10	0	3	624	0	0	0
41	SLV 11	-25	-38	554	0	0	0
41	SLV 12	-23	-38	555	0	0	0
41	SLV 13	-39	-20	581	0	0	0
41	SLV 14	-36	-19	582	0	0	0
41	SLV 15	-46	-32	560	0	0	0
41	SLV 16	-43	-31	561	0	0	0
41	SLV FO 1	46	4	636	0	0	0
41	SLV FO 2	50	5	637	0	0	0
41	SLV FO 3	38	-9	613	0	0	0
41	SLV FO 4	42	-8	614	0	0	0
41	SLV FO 5	25	12	643	0	0	0
41	SLV FO 6	27	12	644	0	0	0
41	SLV FO 7	-1	-33	567	0	0	0
41	SLV FO 8	1	-33	568	0	0	0
41	SLV FO 9	-2	4	626	0	0	0
41	SLV FO 10	1	5	627	0	0	0
41	SLV FO 11	-28	-41	550	0	0	0
41	SLV FO 12	-25	-40	551	0	0	0
41	SLV FO 13	-43	-20	579	0	0	0
41	SLV FO 14	-39	-19	580	0	0	0
41	SLV FO 15	-51	-34	557	0	0	0
41	SLV FO 16	-47	-33	558	0	0	0
42	SLU 1	0	-10	335	0	0	0
42	SLU 2	0	-9	336	0	0	0
42	SLU 3	0	-9	343	0	0	0
42	SLU 4	0	-9	343	0	0	0
42	SLU 5	0	-9	340	0	0	0
42	SLU 6	0	-9	347	0	0	0
42	SLU 7	0	-9	348	0	0	0
42	SLU 8	0	-9	345	0	0	0
42	SLU 9	0	-9	345	0	0	0
42	SLU 10	0	-10	382	0	0	0
42	SLU 11	-1	-10	389	0	0	0
42	SLU 12	-1	-10	389	0	0	0
42	SLU 13	-1	-10	387	0	0	0
42	SLU 14	-1	-10	394	0	0	0
42	SLU 15	-1	-9	394	0	0	0
42	SLU 16	-1	-10	391	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLU 17	-1	-9	392	0	0	0
42	SLU 18	-1	-11	402	0	0	0
42	SLU 19	-1	-10	402	0	0	0
42	SLU 20	-1	-10	406	0	0	0
42	SLU 21	-1	-10	407	0	0	0
42	SLU 22	0	-9	386	0	0	0
42	SLU 23	0	-9	387	0	0	0
42	SLU 24	-1	-9	394	0	0	0
42	SLU 25	0	-9	394	0	0	0
42	SLU 26	0	-9	392	0	0	0
42	SLU 27	-1	-9	399	0	0	0
42	SLU 28	-1	-8	399	0	0	0
42	SLU 29	-1	-9	396	0	0	0
42	SLU 30	-1	-8	396	0	0	0
42	SLU 31	-1	-9	433	0	0	0
42	SLU 32	-2	-9	440	0	0	0
42	SLU 33	-1	-9	441	0	0	0
42	SLU 34	-1	-9	438	0	0	0
42	SLU 35	-2	-9	445	0	0	0
42	SLU 36	-2	-9	446	0	0	0
42	SLU 37	-2	-9	442	0	0	0
42	SLU 38	-2	-9	443	0	0	0
42	SLU 39	-2	-10	453	0	0	0
42	SLU 40	-2	-10	453	0	0	0
42	SLU 41	-2	-10	458	0	0	0
42	SLU 42	-2	-9	458	0	0	0
42	SLU 43	1	-13	418	0	0	0
42	SLU 44	1	-13	419	0	0	0
42	SLU 45	0	-13	425	0	0	0
42	SLU 46	0	-12	426	0	0	0
42	SLU 47	1	-12	423	0	0	0
42	SLU 48	0	-12	430	0	0	0
42	SLU 49	0	-12	431	0	0	0
42	SLU 50	0	-12	428	0	0	0
42	SLU 51	0	-12	428	0	0	0
42	SLU 52	0	-13	465	0	0	0
42	SLU 53	-1	-13	472	0	0	0
42	SLU 54	0	-13	472	0	0	0
42	SLU 55	0	-13	470	0	0	0
42	SLU 56	-1	-13	477	0	0	0
42	SLU 57	-1	-13	477	0	0	0
42	SLU 58	-1	-13	474	0	0	0
42	SLU 59	-1	-13	475	0	0	0
42	SLU 60	-1	-14	485	0	0	0
42	SLU 61	-1	-13	485	0	0	0
42	SLU 62	-1	-13	489	0	0	0
42	SLU 63	-1	-13	490	0	0	0
42	SLU 64	0	-12	469	0	0	0
42	SLU 65	0	-12	470	0	0	0
42	SLU 66	0	-12	477	0	0	0
42	SLU 67	0	-12	477	0	0	0
42	SLU 68	0	-12	475	0	0	0
42	SLU 69	0	-12	482	0	0	0
42	SLU 70	0	-11	482	0	0	0
42	SLU 71	0	-12	479	0	0	0
42	SLU 72	0	-11	479	0	0	0
42	SLU 73	-1	-13	516	0	0	0
42	SLU 74	-1	-13	523	0	0	0
42	SLU 75	-1	-12	524	0	0	0
42	SLU 76	-1	-12	521	0	0	0
42	SLU 77	-1	-12	528	0	0	0
42	SLU 78	-1	-12	528	0	0	0
42	SLU 79	-1	-12	525	0	0	0
42	SLU 80	-1	-12	526	0	0	0
42	SLU 81	-1	-13	536	0	0	0
42	SLU 82	-1	-13	536	0	0	0
42	SLU 83	-2	-13	541	0	0	0
42	SLU 84	-2	-13	541	0	0	0
42	SLE RA 1	0	-10	350	0	0	0
42	SLE RA 2	0	-9	350	0	0	0
42	SLE RA 3	0	-9	355	0	0	0
42	SLE RA 4	0	-9	355	0	0	0
42	SLE RA 5	0	-9	353	0	0	0
42	SLE RA 6	0	-9	358	0	0	0
42	SLE RA 7	0	-9	358	0	0	0
42	SLE RA 8	0	-9	356	0	0	0
42	SLE RA 9	0	-9	356	0	0	0
42	SLE RA 10	0	-10	381	0	0	0
42	SLE RA 11	-1	-10	386	0	0	0
42	SLE RA 12	-1	-10	386	0	0	0
42	SLE RA 13	-1	-10	384	0	0	0
42	SLE RA 14	-1	-10	389	0	0	0
42	SLE RA 15	-1	-9	389	0	0	0
42	SLE RA 16	-1	-10	387	0	0	0
42	SLE RA 17	-1	-9	387	0	0	0
42	SLE RA 18	-1	-10	394	0	0	0
42	SLE RA 19	-1	-10	394	0	0	0
42	SLE RA 20	-1	-10	397	0	0	0
42	SLE RA 21	-1	-10	397	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
42	SLE FR 1	0	-10	350	0	0	0
42	SLE FR 2	0	-10	350	0	0	0
42	SLE FR 3	0	-10	351	0	0	0
42	SLE FR 4	0	-10	363	0	0	0
42	SLE FR 5	0	-10	364	0	0	0
42	SLE FR 6	0	-10	372	0	0	0
42	SLE QP 1	0	-10	350	0	0	0
42	SLE QP 2	0	-10	363	0	0	0
42	SLD 1	16	-3	381	0	0	0
42	SLD 2	17	-3	381	0	0	0
42	SLD 3	13	-7	373	0	0	0
42	SLD 4	15	-7	374	0	0	0
42	SLD 5	8	-1	379	0	0	0
42	SLD 6	9	-1	380	0	0	0
42	SLD 7	0	-16	355	0	0	0
42	SLD 8	1	-16	355	0	0	0
42	SLD 9	-1	-4	371	0	0	0
42	SLD 10	0	-3	371	0	0	0
42	SLD 11	-10	-19	347	0	0	0
42	SLD 12	-9	-19	347	0	0	0
42	SLD 13	-15	-12	352	0	0	0
42	SLD 14	-14	-12	353	0	0	0
42	SLD 15	-18	-17	345	0	0	0
42	SLD 16	-17	-17	346	0	0	0
42	SLV 1	26	1	391	0	0	0
42	SLV 2	28	1	391	0	0	0
42	SLV 3	21	-6	379	0	0	0
42	SLV 4	23	-6	380	0	0	0
42	SLV 5	14	5	389	0	0	0
42	SLV 6	15	5	389	0	0	0
42	SLV 7	-1	-20	350	0	0	0
42	SLV 8	1	-20	350	0	0	0
42	SLV 9	-1	1	376	0	0	0
42	SLV 10	0	1	376	0	0	0
42	SLV 11	-15	-25	337	0	0	0
42	SLV 12	-14	-25	337	0	0	0
42	SLV 13	-24	-13	346	0	0	0
42	SLV 14	-22	-13	347	0	0	0
42	SLV 15	-28	-21	335	0	0	0
42	SLV 16	-26	-21	335	0	0	0
42	SLV FO 1	28	2	393	0	0	0
42	SLV FO 2	30	3	394	0	0	0
42	SLV FO 3	23	-6	380	0	0	0
42	SLV FO 4	26	-6	381	0	0	0
42	SLV FO 5	15	7	392	0	0	0
42	SLV FO 6	17	7	392	0	0	0
42	SLV FO 7	-1	-21	349	0	0	0
42	SLV FO 8	1	-21	349	0	0	0
42	SLV FO 9	-1	2	377	0	0	0
42	SLV FO 10	0	2	378	0	0	0
42	SLV FO 11	-17	-26	334	0	0	0
42	SLV FO 12	-15	-26	334	0	0	0
42	SLV FO 13	-26	-14	345	0	0	0
42	SLV FO 14	-24	-14	346	0	0	0
42	SLV FO 15	-31	-22	332	0	0	0
42	SLV FO 16	-28	-22	333	0	0	0
43	SLU 1	0	-1	310	0	0	0
43	SLU 2	0	0	311	0	0	0
43	SLU 3	0	0	317	0	0	0
43	SLU 4	0	0	317	0	0	0
43	SLU 5	0	0	315	0	0	0
43	SLU 6	0	0	321	0	0	0
43	SLU 7	0	0	321	0	0	0
43	SLU 8	0	0	318	0	0	0
43	SLU 9	0	0	319	0	0	0
43	SLU 10	-1	0	352	0	0	0
43	SLU 11	-1	0	357	0	0	0
43	SLU 12	-1	0	358	0	0	0
43	SLU 13	-1	0	356	0	0	0
43	SLU 14	-1	0	361	0	0	0
43	SLU 15	-1	1	362	0	0	0
43	SLU 16	-1	0	359	0	0	0
43	SLU 17	-1	0	359	0	0	0
43	SLU 18	-1	0	368	0	0	0
43	SLU 19	-1	0	369	0	0	0
43	SLU 20	-2	0	372	0	0	0
43	SLU 21	-1	0	373	0	0	0
43	SLU 22	-1	1	356	0	0	0
43	SLU 23	0	1	357	0	0	0
43	SLU 24	-1	1	362	0	0	0
43	SLU 25	-1	1	363	0	0	0
43	SLU 26	-1	1	361	0	0	0
43	SLU 27	-1	1	366	0	0	0
43	SLU 28	-1	2	367	0	0	0
43	SLU 29	-1	1	364	0	0	0
43	SLU 30	-1	2	364	0	0	0
43	SLU 31	-1	1	397	0	0	0
43	SLU 32	-2	1	403	0	0	0
43	SLU 33	-2	2	403	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
43	SLU 34	-1	2	401	0	0	0
43	SLU 35	-2	2	407	0	0	0
43	SLU 36	-2	2	407	0	0	0
43	SLU 37	-2	2	404	0	0	0
43	SLU 38	-2	2	405	0	0	0
43	SLU 39	-2	1	414	0	0	0
43	SLU 40	-2	1	414	0	0	0
43	SLU 41	-2	2	418	0	0	0
43	SLU 42	-2	2	418	0	0	0
43	SLU 43	0	-1	388	0	0	0
43	SLU 44	0	-1	389	0	0	0
43	SLU 45	0	-1	394	0	0	0
43	SLU 46	0	-1	395	0	0	0
43	SLU 47	0	-1	393	0	0	0
43	SLU 48	0	-1	398	0	0	0
43	SLU 49	0	-1	399	0	0	0
43	SLU 50	0	-1	396	0	0	0
43	SLU 51	0	-1	396	0	0	0
43	SLU 52	-1	-1	429	0	0	0
43	SLU 53	-1	-1	435	0	0	0
43	SLU 54	-1	-1	435	0	0	0
43	SLU 55	-1	0	433	0	0	0
43	SLU 56	-1	0	439	0	0	0
43	SLU 57	-1	0	439	0	0	0
43	SLU 58	-1	-1	436	0	0	0
43	SLU 59	-1	0	437	0	0	0
43	SLU 60	-1	-1	446	0	0	0
43	SLU 61	-1	-1	446	0	0	0
43	SLU 62	-1	-1	450	0	0	0
43	SLU 63	-1	0	450	0	0	0
43	SLU 64	0	0	433	0	0	0
43	SLU 65	0	0	434	0	0	0
43	SLU 66	-1	0	440	0	0	0
43	SLU 67	0	1	440	0	0	0
43	SLU 68	0	1	438	0	0	0
43	SLU 69	-1	1	444	0	0	0
43	SLU 70	-1	1	444	0	0	0
43	SLU 71	-1	1	441	0	0	0
43	SLU 72	-1	1	442	0	0	0
43	SLU 73	-1	1	475	0	0	0
43	SLU 74	-2	1	480	0	0	0
43	SLU 75	-1	1	481	0	0	0
43	SLU 76	-1	1	479	0	0	0
43	SLU 77	-2	1	484	0	0	0
43	SLU 78	-2	1	485	0	0	0
43	SLU 79	-2	1	482	0	0	0
43	SLU 80	-2	1	482	0	0	0
43	SLU 81	-2	0	491	0	0	0
43	SLU 82	-2	1	492	0	0	0
43	SLU 83	-2	1	495	0	0	0
43	SLU 84	-2	1	496	0	0	0
43	SLE RA 1	0	0	323	0	0	0
43	SLE RA 2	0	0	324	0	0	0
43	SLE RA 3	0	0	328	0	0	0
43	SLE RA 4	0	0	328	0	0	0
43	SLE RA 5	0	0	327	0	0	0
43	SLE RA 6	0	0	330	0	0	0
43	SLE RA 7	0	0	331	0	0	0
43	SLE RA 8	0	0	329	0	0	0
43	SLE RA 9	0	0	329	0	0	0
43	SLE RA 10	-1	0	351	0	0	0
43	SLE RA 11	-1	0	355	0	0	0
43	SLE RA 12	-1	0	355	0	0	0
43	SLE RA 13	-1	0	354	0	0	0
43	SLE RA 14	-1	0	357	0	0	0
43	SLE RA 15	-1	1	358	0	0	0
43	SLE RA 16	-1	0	356	0	0	0
43	SLE RA 17	-1	0	356	0	0	0
43	SLE RA 18	-1	0	362	0	0	0
43	SLE RA 19	-1	0	362	0	0	0
43	SLE RA 20	-1	0	365	0	0	0
43	SLE RA 21	-1	0	365	0	0	0
43	SLE FR 1	0	0	323	0	0	0
43	SLE FR 2	0	0	323	0	0	0
43	SLE FR 3	0	0	324	0	0	0
43	SLE FR 4	0	0	335	0	0	0
43	SLE FR 5	0	0	336	0	0	0
43	SLE FR 6	-1	0	343	0	0	0
43	SLE QP 1	0	0	323	0	0	0
43	SLE QP 2	0	0	335	0	0	0
43	SLD 1	15	3	319	0	0	0
43	SLD 2	16	5	319	0	0	0
43	SLD 3	13	-1	309	0	0	0
43	SLD 4	14	1	308	0	0	0
43	SLD 5	8	6	346	0	0	0
43	SLD 6	9	7	345	0	0	0
43	SLD 7	-1	-7	312	0	0	0
43	SLD 8	0	-5	312	0	0	0
43	SLD 9	-1	5	358	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
43	SLD 10	0	6	358	0	0	0
43	SLD 11	-9	-8	324	0	0	0
43	SLD 12	-9	-6	324	0	0	0
43	SLD 13	-15	-2	361	0	0	0
43	SLD 14	-13	1	361	0	0	0
43	SLD 15	-17	-5	351	0	0	0
43	SLD 16	-16	-3	351	0	0	0
43	SLV 1	24	5	310	0	0	0
43	SLV 2	26	8	310	0	0	0
43	SLV 3	20	-2	294	0	0	0
43	SLV 4	22	2	293	0	0	0
43	SLV 5	13	10	353	0	0	0
43	SLV 6	14	12	352	0	0	0
43	SLV 7	-1	-11	298	0	0	0
43	SLV 8	0	-8	297	0	0	0
43	SLV 9	-1	8	372	0	0	0
43	SLV 10	0	10	372	0	0	0
43	SLV 11	-15	-13	318	0	0	0
43	SLV 12	-14	-10	317	0	0	0
43	SLV 13	-23	-2	377	0	0	0
43	SLV 14	-21	1	376	0	0	0
43	SLV 15	-27	-8	360	0	0	0
43	SLV 16	-25	-5	360	0	0	0
43	SLV FO 1	26	5	308	0	0	0
43	SLV FO 2	29	9	307	0	0	0
43	SLV FO 3	22	-2	290	0	0	0
43	SLV FO 4	24	2	289	0	0	0
43	SLV FO 5	14	11	354	0	0	0
43	SLV FO 6	15	14	354	0	0	0
43	SLV FO 7	-1	-12	294	0	0	0
43	SLV FO 8	1	-9	294	0	0	0
43	SLV FO 9	-1	9	376	0	0	0
43	SLV FO 10	0	11	376	0	0	0
43	SLV FO 11	-16	-14	316	0	0	0
43	SLV FO 12	-15	-11	316	0	0	0
43	SLV FO 13	-25	-2	381	0	0	0
43	SLV FO 14	-23	1	380	0	0	0
43	SLV FO 15	-29	-9	363	0	0	0
43	SLV FO 16	-27	-5	362	0	0	0
44	SLU 1	-1	-3	551	0	0	0
44	SLU 2	0	-2	552	0	0	0
44	SLU 3	-1	-2	562	0	0	0
44	SLU 4	-1	-2	563	0	0	0
44	SLU 5	-1	-2	559	0	0	0
44	SLU 6	-1	-2	569	0	0	0
44	SLU 7	-1	-1	570	0	0	0
44	SLU 8	-1	-2	565	0	0	0
44	SLU 9	-1	-1	566	0	0	0
44	SLU 10	-2	-2	624	0	0	0
44	SLU 11	-3	-2	635	0	0	0
44	SLU 12	-2	-1	635	0	0	0
44	SLU 13	-2	-1	632	0	0	0
44	SLU 14	-3	-1	642	0	0	0
44	SLU 15	-3	-1	643	0	0	0
44	SLU 16	-3	-1	637	0	0	0
44	SLU 17	-3	-1	638	0	0	0
44	SLU 18	-3	-2	654	0	0	0
44	SLU 19	-3	-2	655	0	0	0
44	SLU 20	-3	-2	661	0	0	0
44	SLU 21	-3	-1	662	0	0	0
44	SLU 22	-2	0	632	0	0	0
44	SLU 23	-1	0	633	0	0	0
44	SLU 24	-2	0	644	0	0	0
44	SLU 25	-2	1	644	0	0	0
44	SLU 26	-2	1	641	0	0	0
44	SLU 27	-2	1	651	0	0	0
44	SLU 28	-2	1	652	0	0	0
44	SLU 29	-2	1	646	0	0	0
44	SLU 30	-2	1	647	0	0	0
44	SLU 31	-3	1	706	0	0	0
44	SLU 32	-4	1	716	0	0	0
44	SLU 33	-4	1	717	0	0	0
44	SLU 34	-3	1	713	0	0	0
44	SLU 35	-4	1	723	0	0	0
44	SLU 36	-4	2	724	0	0	0
44	SLU 37	-4	1	719	0	0	0
44	SLU 38	-4	1	720	0	0	0
44	SLU 39	-4	0	736	0	0	0
44	SLU 40	-4	1	737	0	0	0
44	SLU 41	-5	1	743	0	0	0
44	SLU 42	-4	1	744	0	0	0
44	SLU 43	0	-4	688	0	0	0
44	SLU 44	0	-4	689	0	0	0
44	SLU 45	-1	-4	699	0	0	0
44	SLU 46	0	-3	700	0	0	0
44	SLU 47	0	-3	696	0	0	0
44	SLU 48	-1	-3	706	0	0	0
44	SLU 49	-1	-3	707	0	0	0
44	SLU 50	-1	-3	702	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
44	SLU 51	-1	-3	703	0	0	0
44	SLU 52	-2	-4	762	0	0	0
44	SLU 53	-2	-3	772	0	0	0
44	SLU 54	-2	-3	773	0	0	0
44	SLU 55	-2	-3	769	0	0	0
44	SLU 56	-3	-3	779	0	0	0
44	SLU 57	-3	-2	780	0	0	0
44	SLU 58	-3	-3	775	0	0	0
44	SLU 59	-2	-3	775	0	0	0
44	SLU 60	-3	-4	791	0	0	0
44	SLU 61	-3	-4	792	0	0	0
44	SLU 62	-3	-3	799	0	0	0
44	SLU 63	-3	-3	799	0	0	0
44	SLU 64	-2	-2	769	0	0	0
44	SLU 65	-1	-1	771	0	0	0
44	SLU 66	-2	-1	781	0	0	0
44	SLU 67	-2	-1	782	0	0	0
44	SLU 68	-1	-1	778	0	0	0
44	SLU 69	-2	-1	788	0	0	0
44	SLU 70	-2	0	789	0	0	0
44	SLU 71	-2	-1	784	0	0	0
44	SLU 72	-2	-1	784	0	0	0
44	SLU 73	-3	-1	843	0	0	0
44	SLU 74	-4	-1	853	0	0	0
44	SLU 75	-3	-1	854	0	0	0
44	SLU 76	-3	-1	850	0	0	0
44	SLU 77	-4	0	861	0	0	0
44	SLU 78	-4	0	861	0	0	0
44	SLU 79	-4	-1	856	0	0	0
44	SLU 80	-4	0	857	0	0	0
44	SLU 81	-4	-2	873	0	0	0
44	SLU 82	-4	-1	874	0	0	0
44	SLU 83	-4	-1	880	0	0	0
44	SLU 84	-4	-1	881	0	0	0
44	SLE RA 1	-1	-2	574	0	0	0
44	SLE RA 2	-1	-2	575	0	0	0
44	SLE RA 3	-1	-2	582	0	0	0
44	SLE RA 4	-1	-1	582	0	0	0
44	SLE RA 5	-1	-1	579	0	0	0
44	SLE RA 6	-1	-1	586	0	0	0
44	SLE RA 7	-1	-1	587	0	0	0
44	SLE RA 8	-1	-1	583	0	0	0
44	SLE RA 9	-1	-1	584	0	0	0
44	SLE RA 10	-2	-1	623	0	0	0
44	SLE RA 11	-2	-1	630	0	0	0
44	SLE RA 12	-2	-1	630	0	0	0
44	SLE RA 13	-2	-1	628	0	0	0
44	SLE RA 14	-2	-1	635	0	0	0
44	SLE RA 15	-2	-1	635	0	0	0
44	SLE RA 16	-2	-1	632	0	0	0
44	SLE RA 17	-2	-1	632	0	0	0
44	SLE RA 18	-3	-2	643	0	0	0
44	SLE RA 19	-2	-2	643	0	0	0
44	SLE RA 20	-3	-1	648	0	0	0
44	SLE RA 21	-3	-1	648	0	0	0
44	SLE FR 1	-1	-2	574	0	0	0
44	SLE FR 2	-1	-2	574	0	0	0
44	SLE FR 3	-1	-2	576	0	0	0
44	SLE FR 4	-1	-2	595	0	0	0
44	SLE FR 5	-1	-2	596	0	0	0
44	SLE FR 6	-2	-2	608	0	0	0
44	SLE QP 1	-1	-2	574	0	0	0
44	SLE QP 2	-1	-2	595	0	0	0
44	SLD 1	26	4	571	0	0	0
44	SLD 2	28	7	571	0	0	0
44	SLD 3	22	-3	557	0	0	0
44	SLD 4	24	1	557	0	0	0
44	SLD 5	13	9	609	0	0	0
44	SLD 6	15	12	609	0	0	0
44	SLD 7	-2	-13	562	0	0	0
44	SLD 8	0	-11	562	0	0	0
44	SLD 9	-3	7	628	0	0	0
44	SLD 10	-1	9	627	0	0	0
44	SLD 11	-17	-16	580	0	0	0
44	SLD 12	-16	-13	580	0	0	0
44	SLD 13	-27	-5	633	0	0	0
44	SLD 14	-25	-1	632	0	0	0
44	SLD 15	-31	-11	618	0	0	0
44	SLD 16	-29	-8	618	0	0	0
44	SLV 1	42	7	559	0	0	0
44	SLV 2	45	13	558	0	0	0
44	SLV 3	35	-4	536	0	0	0
44	SLV 4	38	2	535	0	0	0
44	SLV 5	22	17	619	0	0	0
44	SLV 6	24	20	618	0	0	0
44	SLV 7	-2	-21	542	0	0	0
44	SLV 8	0	-17	542	0	0	0
44	SLV 9	-3	13	647	0	0	0
44	SLV 10	-1	17	647	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
44	SLV 11	-27	-24	571	0	0	0
44	SLV 12	-25	-21	571	0	0	0
44	SLV 13	-41	-6	654	0	0	0
44	SLV 14	-38	0	654	0	0	0
44	SLV 15	-48	-17	631	0	0	0
44	SLV 16	-45	-11	631	0	0	0
44	SLV FO 1	47	8	555	0	0	0
44	SLV FO 2	50	14	554	0	0	0
44	SLV FO 3	39	-4	530	0	0	0
44	SLV FO 4	42	2	529	0	0	0
44	SLV FO 5	24	19	621	0	0	0
44	SLV FO 6	27	23	620	0	0	0
44	SLV FO 7	-2	-22	537	0	0	0
44	SLV FO 8	0	-18	537	0	0	0
44	SLV FO 9	-3	14	653	0	0	0
44	SLV FO 10	-1	18	652	0	0	0
44	SLV FO 11	-30	-27	569	0	0	0
44	SLV FO 12	-27	-23	568	0	0	0
44	SLV FO 13	-45	-6	660	0	0	0
44	SLV FO 14	-41	0	659	0	0	0
44	SLV FO 15	-53	-18	635	0	0	0
44	SLV FO 16	-49	-12	634	0	0	0
45	SLU 1	-1	-13	558	0	0	0
45	SLU 2	0	-13	559	0	0	0
45	SLU 3	-1	-13	571	0	0	0
45	SLU 4	-1	-12	571	0	0	0
45	SLU 5	0	-12	567	0	0	0
45	SLU 6	-1	-12	579	0	0	0
45	SLU 7	-1	-12	579	0	0	0
45	SLU 8	-1	-12	574	0	0	0
45	SLU 9	-1	-12	574	0	0	0
45	SLU 10	-2	-13	636	0	0	0
45	SLU 11	-3	-13	647	0	0	0
45	SLU 12	-2	-13	648	0	0	0
45	SLU 13	-2	-13	644	0	0	0
45	SLU 14	-3	-13	655	0	0	0
45	SLU 15	-3	-13	656	0	0	0
45	SLU 16	-3	-13	651	0	0	0
45	SLU 17	-3	-13	651	0	0	0
45	SLU 18	-3	-14	668	0	0	0
45	SLU 19	-3	-14	668	0	0	0
45	SLU 20	-3	-14	676	0	0	0
45	SLU 21	-3	-13	676	0	0	0
45	SLU 22	-2	-12	643	0	0	0
45	SLU 23	-1	-11	644	0	0	0
45	SLU 24	-2	-12	656	0	0	0
45	SLU 25	-2	-11	656	0	0	0
45	SLU 26	-2	-11	652	0	0	0
45	SLU 27	-2	-11	664	0	0	0
45	SLU 28	-2	-11	664	0	0	0
45	SLU 29	-2	-11	659	0	0	0
45	SLU 30	-2	-11	660	0	0	0
45	SLU 31	-3	-12	721	0	0	0
45	SLU 32	-4	-12	733	0	0	0
45	SLU 33	-3	-12	733	0	0	0
45	SLU 34	-3	-12	729	0	0	0
45	SLU 35	-4	-12	741	0	0	0
45	SLU 36	-4	-11	741	0	0	0
45	SLU 37	-4	-12	736	0	0	0
45	SLU 38	-4	-11	737	0	0	0
45	SLU 39	-4	-13	753	0	0	0
45	SLU 40	-4	-13	754	0	0	0
45	SLU 41	-4	-13	761	0	0	0
45	SLU 42	-4	-12	762	0	0	0
45	SLU 43	0	-18	696	0	0	0
45	SLU 44	0	-17	697	0	0	0
45	SLU 45	-1	-17	709	0	0	0
45	SLU 46	0	-17	709	0	0	0
45	SLU 47	0	-17	705	0	0	0
45	SLU 48	-1	-17	717	0	0	0
45	SLU 49	-1	-16	717	0	0	0
45	SLU 50	-1	-17	712	0	0	0
45	SLU 51	-1	-16	713	0	0	0
45	SLU 52	-2	-18	774	0	0	0
45	SLU 53	-2	-18	786	0	0	0
45	SLU 54	-2	-17	786	0	0	0
45	SLU 55	-2	-17	782	0	0	0
45	SLU 56	-3	-17	794	0	0	0
45	SLU 57	-2	-17	794	0	0	0
45	SLU 58	-3	-17	789	0	0	0
45	SLU 59	-2	-17	790	0	0	0
45	SLU 60	-3	-19	806	0	0	0
45	SLU 61	-2	-18	807	0	0	0
45	SLU 62	-3	-18	814	0	0	0
45	SLU 63	-3	-18	815	0	0	0
45	SLU 64	-1	-17	782	0	0	0
45	SLU 65	-1	-16	782	0	0	0
45	SLU 66	-2	-16	794	0	0	0
45	SLU 67	-2	-16	795	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
45	SLU 68	-1	-15	790	0	0	0
45	SLU 69	-2	-15	802	0	0	0
45	SLU 70	-2	-15	802	0	0	0
45	SLU 71	-2	-15	798	0	0	0
45	SLU 72	-2	-15	798	0	0	0
45	SLU 73	-3	-17	859	0	0	0
45	SLU 74	-3	-17	871	0	0	0
45	SLU 75	-3	-16	871	0	0	0
45	SLU 76	-3	-16	867	0	0	0
45	SLU 77	-4	-16	879	0	0	0
45	SLU 78	-4	-16	879	0	0	0
45	SLU 79	-4	-16	874	0	0	0
45	SLU 80	-4	-16	875	0	0	0
45	SLU 81	-4	-17	891	0	0	0
45	SLU 82	-4	-17	892	0	0	0
45	SLU 83	-4	-17	899	0	0	0
45	SLU 84	-4	-17	900	0	0	0
45	SLE RA 1	-1	-13	583	0	0	0
45	SLE RA 2	-1	-13	583	0	0	0
45	SLE RA 3	-1	-13	591	0	0	0
45	SLE RA 4	-1	-12	591	0	0	0
45	SLE RA 5	-1	-12	588	0	0	0
45	SLE RA 6	-1	-12	596	0	0	0
45	SLE RA 7	-1	-12	596	0	0	0
45	SLE RA 8	-1	-12	593	0	0	0
45	SLE RA 9	-1	-12	593	0	0	0
45	SLE RA 10	-2	-13	634	0	0	0
45	SLE RA 11	-2	-13	642	0	0	0
45	SLE RA 12	-2	-13	642	0	0	0
45	SLE RA 13	-2	-13	640	0	0	0
45	SLE RA 14	-2	-13	647	0	0	0
45	SLE RA 15	-2	-12	648	0	0	0
45	SLE RA 16	-2	-13	644	0	0	0
45	SLE RA 17	-2	-12	645	0	0	0
45	SLE RA 18	-2	-14	656	0	0	0
45	SLE RA 19	-2	-13	656	0	0	0
45	SLE RA 20	-3	-13	661	0	0	0
45	SLE RA 21	-3	-13	661	0	0	0
45	SLE FR 1	-1	-13	583	0	0	0
45	SLE FR 2	-1	-13	583	0	0	0
45	SLE FR 3	-1	-13	585	0	0	0
45	SLE FR 4	-1	-13	605	0	0	0
45	SLE FR 5	-1	-13	607	0	0	0
45	SLE FR 6	-2	-13	619	0	0	0
45	SLE QP 1	-1	-13	583	0	0	0
45	SLE QP 2	-1	-13	605	0	0	0
45	SLD 1	26	-3	621	0	0	0
45	SLD 2	28	-2	621	0	0	0
45	SLD 3	22	-10	613	0	0	0
45	SLD 4	24	-9	613	0	0	0
45	SLD 5	13	1	622	0	0	0
45	SLD 6	15	2	622	0	0	0
45	SLD 7	-2	-24	594	0	0	0
45	SLD 8	0	-23	595	0	0	0
45	SLD 9	-3	-3	615	0	0	0
45	SLD 10	-1	-3	615	0	0	0
45	SLD 11	-17	-28	587	0	0	0
45	SLD 12	-16	-27	587	0	0	0
45	SLD 13	-27	-17	596	0	0	0
45	SLD 14	-24	-16	596	0	0	0
45	SLD 15	-31	-24	588	0	0	0
45	SLD 16	-29	-23	588	0	0	0
45	SLV 1	42	3	630	0	0	0
45	SLV 2	45	5	631	0	0	0
45	SLV 3	35	-9	617	0	0	0
45	SLV 4	38	-8	618	0	0	0
45	SLV 5	22	10	633	0	0	0
45	SLV 6	24	11	633	0	0	0
45	SLV 7	-2	-31	588	0	0	0
45	SLV 8	0	-30	588	0	0	0
45	SLV 9	-3	4	621	0	0	0
45	SLV 10	-1	5	621	0	0	0
45	SLV 11	-27	-37	576	0	0	0
45	SLV 12	-25	-36	576	0	0	0
45	SLV 13	-41	-19	591	0	0	0
45	SLV 14	-38	-17	592	0	0	0
45	SLV 15	-48	-31	578	0	0	0
45	SLV 16	-45	-29	579	0	0	0
45	SLV FO 1	47	5	633	0	0	0
45	SLV FO 2	50	6	634	0	0	0
45	SLV FO 3	39	-9	618	0	0	0
45	SLV FO 4	42	-7	619	0	0	0
45	SLV FO 5	24	12	635	0	0	0
45	SLV FO 6	27	14	636	0	0	0
45	SLV FO 7	-2	-33	586	0	0	0
45	SLV FO 8	0	-32	586	0	0	0
45	SLV FO 9	-3	5	623	0	0	0
45	SLV FO 10	-1	6	623	0	0	0
45	SLV FO 11	-29	-40	573	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
45	SLV FO 12	-27	-39	574	0	0	0
45	SLV FO 13	-45	-19	590	0	0	0
45	SLV FO 14	-41	-18	591	0	0	0
45	SLV FO 15	-53	-33	575	0	0	0
45	SLV FO 16	-49	-31	576	0	0	0
46	SLU 1	-1	-14	727	0	0	0
46	SLU 2	0	-14	728	0	0	0
46	SLU 3	-1	-14	743	0	0	0
46	SLU 4	-1	-13	743	0	0	0
46	SLU 5	-1	-13	738	0	0	0
46	SLU 6	-2	-13	753	0	0	0
46	SLU 7	-1	-13	753	0	0	0
46	SLU 8	-2	-13	747	0	0	0
46	SLU 9	-1	-13	748	0	0	0
46	SLU 10	-3	-14	827	0	0	0
46	SLU 11	-3	-14	842	0	0	0
46	SLU 12	-3	-14	842	0	0	0
46	SLU 13	-3	-14	837	0	0	0
46	SLU 14	-4	-14	852	0	0	0
46	SLU 15	-4	-13	852	0	0	0
46	SLU 16	-4	-14	846	0	0	0
46	SLU 17	-4	-13	847	0	0	0
46	SLU 18	-4	-15	868	0	0	0
46	SLU 19	-4	-15	869	0	0	0
46	SLU 20	-4	-15	878	0	0	0
46	SLU 21	-4	-14	879	0	0	0
46	SLU 22	-2	-12	837	0	0	0
46	SLU 23	-2	-12	838	0	0	0
46	SLU 24	-3	-12	853	0	0	0
46	SLU 25	-2	-11	854	0	0	0
46	SLU 26	-2	-11	848	0	0	0
46	SLU 27	-3	-11	863	0	0	0
46	SLU 28	-3	-11	864	0	0	0
46	SLU 29	-3	-11	857	0	0	0
46	SLU 30	-3	-11	858	0	0	0
46	SLU 31	-4	-12	937	0	0	0
46	SLU 32	-5	-12	952	0	0	0
46	SLU 33	-5	-12	953	0	0	0
46	SLU 34	-4	-12	947	0	0	0
46	SLU 35	-5	-12	962	0	0	0
46	SLU 36	-5	-11	963	0	0	0
46	SLU 37	-5	-12	956	0	0	0
46	SLU 38	-5	-11	957	0	0	0
46	SLU 39	-5	-13	979	0	0	0
46	SLU 40	-5	-13	979	0	0	0
46	SLU 41	-6	-13	989	0	0	0
46	SLU 42	-6	-12	989	0	0	0
46	SLU 43	0	-19	907	0	0	0
46	SLU 44	0	-19	908	0	0	0
46	SLU 45	-1	-19	923	0	0	0
46	SLU 46	-1	-18	923	0	0	0
46	SLU 47	0	-18	918	0	0	0
46	SLU 48	-1	-18	933	0	0	0
46	SLU 49	-1	-18	933	0	0	0
46	SLU 50	-1	-18	927	0	0	0
46	SLU 51	-1	-18	928	0	0	0
46	SLU 52	-2	-19	1007	0	0	0
46	SLU 53	-3	-19	1022	0	0	0
46	SLU 54	-3	-19	1022	0	0	0
46	SLU 55	-3	-19	1017	0	0	0
46	SLU 56	-4	-19	1032	0	0	0
46	SLU 57	-3	-18	1033	0	0	0
46	SLU 58	-4	-19	1026	0	0	0
46	SLU 59	-3	-18	1027	0	0	0
46	SLU 60	-4	-20	1048	0	0	0
46	SLU 61	-3	-20	1049	0	0	0
46	SLU 62	-4	-20	1059	0	0	0
46	SLU 63	-4	-19	1059	0	0	0
46	SLU 64	-2	-18	1017	0	0	0
46	SLU 65	-1	-17	1018	0	0	0
46	SLU 66	-2	-17	1033	0	0	0
46	SLU 67	-2	-16	1034	0	0	0
46	SLU 68	-2	-16	1028	0	0	0
46	SLU 69	-3	-16	1043	0	0	0
46	SLU 70	-3	-16	1044	0	0	0
46	SLU 71	-3	-16	1037	0	0	0
46	SLU 72	-3	-16	1038	0	0	0
46	SLU 73	-4	-17	1117	0	0	0
46	SLU 74	-5	-17	1132	0	0	0
46	SLU 75	-4	-17	1133	0	0	0
46	SLU 76	-4	-17	1127	0	0	0
46	SLU 77	-5	-17	1142	0	0	0
46	SLU 78	-5	-16	1143	0	0	0
46	SLU 79	-5	-17	1137	0	0	0
46	SLU 80	-5	-16	1137	0	0	0
46	SLU 81	-5	-18	1159	0	0	0
46	SLU 82	-5	-18	1159	0	0	0
46	SLU 83	-6	-18	1169	0	0	0
46	SLU 84	-5	-17	1170	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
46	SLE RA 1	-1	-14	758	0	0	0
46	SLE RA 2	-1	-13	759	0	0	0
46	SLE RA 3	-1	-13	769	0	0	0
46	SLE RA 4	-1	-13	769	0	0	0
46	SLE RA 5	-1	-13	766	0	0	0
46	SLE RA 6	-2	-13	776	0	0	0
46	SLE RA 7	-2	-13	776	0	0	0
46	SLE RA 8	-2	-13	772	0	0	0
46	SLE RA 9	-2	-13	772	0	0	0
46	SLE RA 10	-2	-14	825	0	0	0
46	SLE RA 11	-3	-14	835	0	0	0
46	SLE RA 12	-3	-13	835	0	0	0
46	SLE RA 13	-3	-13	832	0	0	0
46	SLE RA 14	-3	-13	842	0	0	0
46	SLE RA 15	-3	-13	842	0	0	0
46	SLE RA 16	-3	-13	838	0	0	0
46	SLE RA 17	-3	-13	838	0	0	0
46	SLE RA 18	-3	-14	853	0	0	0
46	SLE RA 19	-3	-14	853	0	0	0
46	SLE RA 20	-4	-14	859	0	0	0
46	SLE RA 21	-3	-14	860	0	0	0
46	SLE FR 1	-1	-14	758	0	0	0
46	SLE FR 2	-1	-14	758	0	0	0
46	SLE FR 3	-1	-14	761	0	0	0
46	SLE FR 4	-2	-14	787	0	0	0
46	SLE FR 5	-2	-14	789	0	0	0
46	SLE FR 6	-2	-14	805	0	0	0
46	SLE QP 1	-1	-14	758	0	0	0
46	SLE QP 2	-2	-14	786	0	0	0
46	SLD 1	34	-2	797	0	0	0
46	SLD 2	37	0	797	0	0	0
46	SLD 3	28	-12	785	0	0	0
46	SLD 4	31	-10	785	0	0	0
46	SLD 5	17	4	808	0	0	0
46	SLD 6	19	5	808	0	0	0
46	SLD 7	-2	-28	767	0	0	0
46	SLD 8	0	-27	768	0	0	0
46	SLD 9	-3	-1	805	0	0	0
46	SLD 10	-2	0	806	0	0	0
46	SLD 11	-23	-33	765	0	0	0
46	SLD 12	-21	-32	765	0	0	0
46	SLD 13	-35	-18	788	0	0	0
46	SLD 14	-32	-17	788	0	0	0
46	SLD 15	-41	-28	776	0	0	0
46	SLD 16	-38	-26	776	0	0	0
46	SLV 1	55	5	804	0	0	0
46	SLV 2	59	8	804	0	0	0
46	SLV 3	46	-11	784	0	0	0
46	SLV 4	50	-8	784	0	0	0
46	SLV 5	29	15	822	0	0	0
46	SLV 6	32	17	822	0	0	0
46	SLV 7	-3	-38	755	0	0	0
46	SLV 8	0	-35	756	0	0	0
46	SLV 9	-4	7	817	0	0	0
46	SLV 10	-1	9	818	0	0	0
46	SLV 11	-35	-45	751	0	0	0
46	SLV 12	-32	-43	751	0	0	0
46	SLV 13	-54	-21	789	0	0	0
46	SLV 14	-49	-18	789	0	0	0
46	SLV 15	-63	-36	769	0	0	0
46	SLV 16	-59	-33	769	0	0	0
46	SLV FO 1	61	7	805	0	0	0
46	SLV FO 2	65	10	806	0	0	0
46	SLV FO 3	50	-10	783	0	0	0
46	SLV FO 4	55	-7	784	0	0	0
46	SLV FO 5	32	18	825	0	0	0
46	SLV FO 6	35	20	826	0	0	0
46	SLV FO 7	-3	-40	752	0	0	0
46	SLV FO 8	0	-38	753	0	0	0
46	SLV FO 9	-4	9	820	0	0	0
46	SLV FO 10	-1	12	821	0	0	0
46	SLV FO 11	-39	-48	747	0	0	0
46	SLV FO 12	-36	-46	748	0	0	0
46	SLV FO 13	-59	-21	789	0	0	0
46	SLV FO 14	-54	-18	790	0	0	0
46	SLV FO 15	-69	-39	767	0	0	0
46	SLV FO 16	-64	-35	768	0	0	0
47	SLU 1	-1	-11	725	0	0	0
47	SLU 2	0	-11	726	0	0	0
47	SLU 3	-1	-11	740	0	0	0
47	SLU 4	-1	-10	741	0	0	0
47	SLU 5	-1	-10	736	0	0	0
47	SLU 6	-2	-10	750	0	0	0
47	SLU 7	-1	-9	751	0	0	0
47	SLU 8	-2	-10	745	0	0	0
47	SLU 9	-1	-10	745	0	0	0
47	SLU 10	-3	-11	824	0	0	0
47	SLU 11	-4	-11	838	0	0	0
47	SLU 12	-3	-10	839	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLU 13	-3	-10	834	0	0	0
47	SLU 14	-4	-10	848	0	0	0
47	SLU 15	-4	-10	849	0	0	0
47	SLU 16	-4	-10	843	0	0	0
47	SLU 17	-4	-10	843	0	0	0
47	SLU 18	-4	-12	865	0	0	0
47	SLU 19	-4	-11	865	0	0	0
47	SLU 20	-4	-11	875	0	0	0
47	SLU 21	-4	-11	875	0	0	0
47	SLU 22	-2	-9	834	0	0	0
47	SLU 23	-2	-8	835	0	0	0
47	SLU 24	-3	-8	850	0	0	0
47	SLU 25	-2	-8	851	0	0	0
47	SLU 26	-2	-8	845	0	0	0
47	SLU 27	-3	-8	860	0	0	0
47	SLU 28	-3	-7	860	0	0	0
47	SLU 29	-3	-8	854	0	0	0
47	SLU 30	-3	-7	855	0	0	0
47	SLU 31	-4	-9	933	0	0	0
47	SLU 32	-5	-9	948	0	0	0
47	SLU 33	-5	-8	949	0	0	0
47	SLU 34	-5	-8	943	0	0	0
47	SLU 35	-5	-8	958	0	0	0
47	SLU 36	-5	-7	958	0	0	0
47	SLU 37	-5	-8	952	0	0	0
47	SLU 38	-5	-8	953	0	0	0
47	SLU 39	-6	-10	974	0	0	0
47	SLU 40	-5	-9	975	0	0	0
47	SLU 41	-6	-9	984	0	0	0
47	SLU 42	-6	-8	985	0	0	0
47	SLU 43	-1	-16	905	0	0	0
47	SLU 44	0	-15	906	0	0	0
47	SLU 45	-1	-15	920	0	0	0
47	SLU 46	-1	-14	921	0	0	0
47	SLU 47	-1	-14	916	0	0	0
47	SLU 48	-1	-14	930	0	0	0
47	SLU 49	-1	-14	931	0	0	0
47	SLU 50	-1	-14	924	0	0	0
47	SLU 51	-1	-14	925	0	0	0
47	SLU 52	-2	-15	1004	0	0	0
47	SLU 53	-3	-15	1018	0	0	0
47	SLU 54	-3	-15	1019	0	0	0
47	SLU 55	-3	-14	1014	0	0	0
47	SLU 56	-4	-14	1028	0	0	0
47	SLU 57	-3	-14	1029	0	0	0
47	SLU 58	-4	-15	1022	0	0	0
47	SLU 59	-3	-14	1023	0	0	0
47	SLU 60	-4	-16	1045	0	0	0
47	SLU 61	-3	-16	1045	0	0	0
47	SLU 62	-4	-15	1055	0	0	0
47	SLU 63	-4	-15	1055	0	0	0
47	SLU 64	-2	-13	1014	0	0	0
47	SLU 65	-2	-13	1015	0	0	0
47	SLU 66	-3	-13	1030	0	0	0
47	SLU 67	-2	-12	1030	0	0	0
47	SLU 68	-2	-12	1025	0	0	0
47	SLU 69	-3	-12	1040	0	0	0
47	SLU 70	-3	-11	1040	0	0	0
47	SLU 71	-3	-12	1034	0	0	0
47	SLU 72	-3	-12	1035	0	0	0
47	SLU 73	-4	-13	1113	0	0	0
47	SLU 74	-5	-13	1128	0	0	0
47	SLU 75	-4	-12	1128	0	0	0
47	SLU 76	-4	-12	1123	0	0	0
47	SLU 77	-5	-12	1138	0	0	0
47	SLU 78	-5	-12	1138	0	0	0
47	SLU 79	-5	-12	1132	0	0	0
47	SLU 80	-5	-12	1133	0	0	0
47	SLU 81	-5	-14	1154	0	0	0
47	SLU 82	-5	-13	1155	0	0	0
47	SLU 83	-6	-13	1164	0	0	0
47	SLU 84	-5	-13	1165	0	0	0
47	SLE RA 1	-1	-11	756	0	0	0
47	SLE RA 2	-1	-10	757	0	0	0
47	SLE RA 3	-2	-10	766	0	0	0
47	SLE RA 4	-1	-10	767	0	0	0
47	SLE RA 5	-1	-10	763	0	0	0
47	SLE RA 6	-2	-10	773	0	0	0
47	SLE RA 7	-2	-10	774	0	0	0
47	SLE RA 8	-2	-10	769	0	0	0
47	SLE RA 9	-2	-10	770	0	0	0
47	SLE RA 10	-2	-10	822	0	0	0
47	SLE RA 11	-3	-10	832	0	0	0
47	SLE RA 12	-3	-10	832	0	0	0
47	SLE RA 13	-3	-10	829	0	0	0
47	SLE RA 14	-3	-10	838	0	0	0
47	SLE RA 15	-3	-10	839	0	0	0
47	SLE RA 16	-3	-10	835	0	0	0
47	SLE RA 17	-3	-10	835	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
47	SLE RA 18	-3	-11	849	0	0	0
47	SLE RA 19	-3	-11	850	0	0	0
47	SLE RA 20	-4	-11	856	0	0	0
47	SLE RA 21	-3	-10	856	0	0	0
47	SLE FR 1	-1	-11	756	0	0	0
47	SLE FR 2	-1	-11	756	0	0	0
47	SLE FR 3	-1	-11	759	0	0	0
47	SLE FR 4	-2	-11	784	0	0	0
47	SLE FR 5	-2	-11	787	0	0	0
47	SLE FR 6	-2	-11	803	0	0	0
47	SLE QP 1	-1	-11	756	0	0	0
47	SLE QP 2	-2	-11	784	0	0	0
47	SLD 1	34	0	782	0	0	0
47	SLD 2	37	3	782	0	0	0
47	SLD 3	28	-10	769	0	0	0
47	SLD 4	31	-7	769	0	0	0
47	SLD 5	17	6	804	0	0	0
47	SLD 6	19	8	804	0	0	0
47	SLD 7	-2	-25	759	0	0	0
47	SLD 8	0	-23	759	0	0	0
47	SLD 9	-3	2	809	0	0	0
47	SLD 10	-2	3	809	0	0	0
47	SLD 11	-23	-30	764	0	0	0
47	SLD 12	-21	-28	764	0	0	0
47	SLD 13	-35	-15	799	0	0	0
47	SLD 14	-32	-12	799	0	0	0
47	SLD 15	-41	-24	786	0	0	0
47	SLD 16	-38	-22	786	0	0	0
47	SLV 1	55	6	782	0	0	0
47	SLV 2	59	10	782	0	0	0
47	SLV 3	46	-9	760	0	0	0
47	SLV 4	50	-5	760	0	0	0
47	SLV 5	29	17	817	0	0	0
47	SLV 6	32	20	817	0	0	0
47	SLV 7	-3	-35	743	0	0	0
47	SLV 8	0	-32	743	0	0	0
47	SLV 9	-4	10	825	0	0	0
47	SLV 10	-1	13	825	0	0	0
47	SLV 11	-35	-42	751	0	0	0
47	SLV 12	-33	-39	751	0	0	0
47	SLV 13	-54	-17	808	0	0	0
47	SLV 14	-49	-13	808	0	0	0
47	SLV 15	-63	-32	786	0	0	0
47	SLV 16	-59	-28	786	0	0	0
47	SLV FO 1	61	8	782	0	0	0
47	SLV FO 2	65	13	782	0	0	0
47	SLV FO 3	50	-9	757	0	0	0
47	SLV FO 4	55	-4	757	0	0	0
47	SLV FO 5	32	20	820	0	0	0
47	SLV FO 6	35	23	820	0	0	0
47	SLV FO 7	-3	-37	739	0	0	0
47	SLV FO 8	0	-34	739	0	0	0
47	SLV FO 9	-4	12	829	0	0	0
47	SLV FO 10	-1	15	829	0	0	0
47	SLV FO 11	-39	-45	748	0	0	0
47	SLV FO 12	-36	-42	748	0	0	0
47	SLV FO 13	-59	-17	811	0	0	0
47	SLV FO 14	-54	-13	811	0	0	0
47	SLV FO 15	-69	-34	786	0	0	0
47	SLV FO 16	-65	-30	786	0	0	0
48	SLU 1	-1	-8	722	0	0	0
48	SLU 2	0	-8	723	0	0	0
48	SLU 3	-1	-8	737	0	0	0
48	SLU 4	-1	-7	738	0	0	0
48	SLU 5	-1	-7	733	0	0	0
48	SLU 6	-2	-7	747	0	0	0
48	SLU 7	-1	-6	747	0	0	0
48	SLU 8	-2	-7	741	0	0	0
48	SLU 9	-1	-7	742	0	0	0
48	SLU 10	-3	-8	820	0	0	0
48	SLU 11	-4	-8	834	0	0	0
48	SLU 12	-3	-7	834	0	0	0
48	SLU 13	-3	-7	829	0	0	0
48	SLU 14	-4	-7	843	0	0	0
48	SLU 15	-4	-6	844	0	0	0
48	SLU 16	-4	-7	838	0	0	0
48	SLU 17	-4	-7	838	0	0	0
48	SLU 18	-4	-8	860	0	0	0
48	SLU 19	-4	-8	860	0	0	0
48	SLU 20	-5	-8	869	0	0	0
48	SLU 21	-4	-7	870	0	0	0
48	SLU 22	-2	-6	830	0	0	0
48	SLU 23	-2	-5	831	0	0	0
48	SLU 24	-3	-5	845	0	0	0
48	SLU 25	-3	-5	846	0	0	0
48	SLU 26	-2	-4	841	0	0	0
48	SLU 27	-3	-4	855	0	0	0
48	SLU 28	-3	-4	856	0	0	0
48	SLU 29	-3	-4	849	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLU 30	-3	-4	850	0	0	0
48	SLU 31	-4	-5	928	0	0	0
48	SLU 32	-5	-5	942	0	0	0
48	SLU 33	-5	-4	943	0	0	0
48	SLU 34	-5	-4	938	0	0	0
48	SLU 35	-6	-4	952	0	0	0
48	SLU 36	-5	-4	952	0	0	0
48	SLU 37	-5	-4	946	0	0	0
48	SLU 38	-5	-4	947	0	0	0
48	SLU 39	-6	-6	968	0	0	0
48	SLU 40	-5	-5	969	0	0	0
48	SLU 41	-6	-5	978	0	0	0
48	SLU 42	-6	-5	978	0	0	0
48	SLU 43	-1	-12	901	0	0	0
48	SLU 44	0	-11	902	0	0	0
48	SLU 45	-1	-11	916	0	0	0
48	SLU 46	-1	-11	917	0	0	0
48	SLU 47	-1	-10	912	0	0	0
48	SLU 48	-2	-10	926	0	0	0
48	SLU 49	-1	-10	927	0	0	0
48	SLU 50	-1	-11	920	0	0	0
48	SLU 51	-1	-10	921	0	0	0
48	SLU 52	-2	-11	999	0	0	0
48	SLU 53	-3	-11	1013	0	0	0
48	SLU 54	-3	-11	1014	0	0	0
48	SLU 55	-3	-10	1009	0	0	0
48	SLU 56	-4	-10	1023	0	0	0
48	SLU 57	-3	-10	1024	0	0	0
48	SLU 58	-4	-10	1017	0	0	0
48	SLU 59	-3	-10	1018	0	0	0
48	SLU 60	-4	-12	1039	0	0	0
48	SLU 61	-4	-11	1040	0	0	0
48	SLU 62	-4	-11	1049	0	0	0
48	SLU 63	-4	-11	1049	0	0	0
48	SLU 64	-2	-9	1009	0	0	0
48	SLU 65	-2	-9	1010	0	0	0
48	SLU 66	-3	-8	1025	0	0	0
48	SLU 67	-2	-8	1025	0	0	0
48	SLU 68	-2	-8	1020	0	0	0
48	SLU 69	-3	-8	1034	0	0	0
48	SLU 70	-3	-7	1035	0	0	0
48	SLU 71	-3	-8	1029	0	0	0
48	SLU 72	-3	-7	1029	0	0	0
48	SLU 73	-4	-8	1107	0	0	0
48	SLU 74	-5	-8	1121	0	0	0
48	SLU 75	-5	-8	1122	0	0	0
48	SLU 76	-4	-8	1117	0	0	0
48	SLU 77	-5	-8	1131	0	0	0
48	SLU 78	-5	-7	1132	0	0	0
48	SLU 79	-5	-8	1125	0	0	0
48	SLU 80	-5	-7	1126	0	0	0
48	SLU 81	-5	-9	1147	0	0	0
48	SLU 82	-5	-9	1148	0	0	0
48	SLU 83	-6	-9	1157	0	0	0
48	SLU 84	-6	-8	1158	0	0	0
48	SLE RA 1	-1	-8	752	0	0	0
48	SLE RA 2	-1	-7	753	0	0	0
48	SLE RA 3	-2	-7	763	0	0	0
48	SLE RA 4	-1	-7	763	0	0	0
48	SLE RA 5	-1	-7	760	0	0	0
48	SLE RA 6	-2	-7	769	0	0	0
48	SLE RA 7	-2	-6	770	0	0	0
48	SLE RA 8	-2	-7	765	0	0	0
48	SLE RA 9	-2	-6	766	0	0	0
48	SLE RA 10	-3	-7	818	0	0	0
48	SLE RA 11	-3	-7	827	0	0	0
48	SLE RA 12	-3	-7	828	0	0	0
48	SLE RA 13	-3	-7	824	0	0	0
48	SLE RA 14	-3	-7	834	0	0	0
48	SLE RA 15	-3	-6	834	0	0	0
48	SLE RA 16	-3	-7	830	0	0	0
48	SLE RA 17	-3	-6	830	0	0	0
48	SLE RA 18	-3	-8	845	0	0	0
48	SLE RA 19	-3	-7	845	0	0	0
48	SLE RA 20	-4	-7	851	0	0	0
48	SLE RA 21	-4	-7	852	0	0	0
48	SLE FR 1	-1	-8	752	0	0	0
48	SLE FR 2	-1	-8	753	0	0	0
48	SLE FR 3	-1	-8	755	0	0	0
48	SLE FR 4	-2	-8	780	0	0	0
48	SLE FR 5	-2	-8	783	0	0	0
48	SLE FR 6	-2	-8	798	0	0	0
48	SLE QP 1	-1	-8	752	0	0	0
48	SLE QP 2	-2	-8	780	0	0	0
48	SLD 1	34	2	767	0	0	0
48	SLD 2	37	5	767	0	0	0
48	SLD 3	28	-7	752	0	0	0
48	SLD 4	31	-4	752	0	0	0
48	SLD 5	17	8	799	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
48	SLD 6	19	11	799	0	0	0
48	SLD 7	-2	-22	749	0	0	0
48	SLD 8	0	-20	749	0	0	0
48	SLD 9	-4	4	811	0	0	0
48	SLD 10	-2	7	811	0	0	0
48	SLD 11	-23	-26	761	0	0	0
48	SLD 12	-21	-24	761	0	0	0
48	SLD 13	-35	-11	808	0	0	0
48	SLD 14	-32	-8	808	0	0	0
48	SLD 15	-41	-21	793	0	0	0
48	SLD 16	-38	-17	793	0	0	0
48	SLV 1	55	7	761	0	0	0
48	SLV 2	59	13	761	0	0	0
48	SLV 3	46	-8	736	0	0	0
48	SLV 4	50	-2	736	0	0	0
48	SLV 5	29	19	811	0	0	0
48	SLV 6	31	22	811	0	0	0
48	SLV 7	-3	-32	730	0	0	0
48	SLV 8	0	-28	730	0	0	0
48	SLV 9	-4	13	830	0	0	0
48	SLV 10	-1	16	830	0	0	0
48	SLV 11	-35	-38	749	0	0	0
48	SLV 12	-33	-34	749	0	0	0
48	SLV 13	-54	-13	824	0	0	0
48	SLV 14	-49	-8	824	0	0	0
48	SLV 15	-63	-28	800	0	0	0
48	SLV 16	-59	-23	799	0	0	0
48	SLV FO 1	61	9	759	0	0	0
48	SLV FO 2	65	15	759	0	0	0
48	SLV FO 3	50	-8	732	0	0	0
48	SLV FO 4	55	-2	732	0	0	0
48	SLV FO 5	32	21	814	0	0	0
48	SLV FO 6	35	25	814	0	0	0
48	SLV FO 7	-3	-34	725	0	0	0
48	SLV FO 8	0	-30	725	0	0	0
48	SLV FO 9	-4	15	835	0	0	0
48	SLV FO 10	-1	19	835	0	0	0
48	SLV FO 11	-39	-41	746	0	0	0
48	SLV FO 12	-36	-37	746	0	0	0
48	SLV FO 13	-59	-14	828	0	0	0
48	SLV FO 14	-54	-8	828	0	0	0
48	SLV FO 15	-69	-30	802	0	0	0
48	SLV FO 16	-65	-24	801	0	0	0
50	SLU 1	-1	-4	569	-33.23	0	-0.05
50	SLU 2	0	-4	570	-33.29	0	-0.02
50	SLU 3	-1	-4	581	-33.93	0	-0.07
50	SLU 4	-1	-3	582	-33.97	0	-0.05
50	SLU 5	-1	-3	578	-33.73	0	-0.04
50	SLU 6	-1	-3	589	-34.37	0	-0.08
50	SLU 7	-1	-3	590	-34.41	0	-0.07
50	SLU 8	-1	-3	584	-34.1	0	-0.08
50	SLU 9	-1	-3	585	-34.14	0	-0.07
50	SLU 10	-2	-4	646	-37.7	0	-0.13
50	SLU 11	-3	-3	657	-38.34	0	-0.17
50	SLU 12	-3	-3	658	-38.38	0	-0.16
50	SLU 13	-2	-3	654	-38.14	0	-0.15
50	SLU 14	-3	-3	664	-38.78	0	-0.19
50	SLU 15	-3	-3	665	-38.82	0	-0.17
50	SLU 16	-3	-3	660	-38.51	0	-0.19
50	SLU 17	-3	-3	661	-38.55	0	-0.17
50	SLU 18	-3	-4	677	-39.53	0	-0.19
50	SLU 19	-3	-4	678	-39.57	0	-0.18
50	SLU 20	-4	-3	685	-39.96	0	-0.21
50	SLU 21	-3	-3	685	-40.01	0	-0.2
50	SLU 22	-2	-2	654	-38.18	0	-0.12
50	SLU 23	-2	-1	655	-38.25	0	-0.09
50	SLU 24	-2	-1	666	-38.88	0	-0.13
50	SLU 25	-2	-1	667	-38.93	0	-0.12
50	SLU 26	-2	-1	663	-38.69	0	-0.11
50	SLU 27	-3	-1	674	-39.32	0	-0.15
50	SLU 28	-2	0	674	-39.36	0	-0.14
50	SLU 29	-3	-1	669	-39.06	0	-0.15
50	SLU 30	-2	-1	670	-39.1	0	-0.14
50	SLU 31	-3	-1	731	-42.66	0	-0.2
50	SLU 32	-4	-1	742	-43.3	0	-0.24
50	SLU 33	-4	-1	742	-43.34	0	-0.23
50	SLU 34	-4	-1	738	-43.1	0	-0.22
50	SLU 35	-4	-1	749	-43.73	0	-0.26
50	SLU 36	-4	0	750	-43.77	0	-0.24
50	SLU 37	-4	-1	745	-43.47	0	-0.26
50	SLU 38	-4	0	745	-43.51	0	-0.24
50	SLU 39	-5	-2	762	-44.48	0	-0.26
50	SLU 40	-4	-1	763	-44.52	0	-0.25
50	SLU 41	-5	-1	770	-44.92	0	-0.28
50	SLU 42	-5	-1	770	-44.96	0	-0.27
50	SLU 43	-1	-7	711	-41.49	0	-0.03
50	SLU 44	0	-6	712	-41.56	0	-0.01
50	SLU 45	-1	-6	723	-42.2	0	-0.05
50	SLU 46	-1	-5	724	-42.24	0	-0.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
50	SLU 47	-1	-5	720	-42	0	-0.03
50	SLU 48	-1	-5	730	-42.64	0	-0.07
50	SLU 49	-1	-5	731	-42.68	0	-0.06
50	SLU 50	-1	-5	726	-42.37	0	-0.07
50	SLU 51	-1	-5	727	-42.41	0	-0.06
50	SLU 52	-2	-6	788	-45.97	0	-0.12
50	SLU 53	-3	-6	799	-46.61	0	-0.16
50	SLU 54	-2	-5	799	-46.65	0	-0.15
50	SLU 55	-2	-5	795	-46.41	0	-0.14
50	SLU 56	-3	-5	806	-47.05	0	-0.18
50	SLU 57	-3	-5	807	-47.09	0	-0.16
50	SLU 58	-3	-5	802	-46.78	0	-0.18
50	SLU 59	-3	-5	802	-46.82	0	-0.16
50	SLU 60	-3	-6	819	-47.8	0	-0.18
50	SLU 61	-3	-6	820	-47.84	0	-0.17
50	SLU 62	-3	-6	826	-48.23	0	-0.2
50	SLU 63	-3	-5	827	-48.27	0	-0.19
50	SLU 64	-2	-4	796	-46.45	0	-0.1
50	SLU 65	-1	-4	797	-46.52	0	-0.08
50	SLU 66	-2	-3	808	-47.15	0	-0.12
50	SLU 67	-2	-3	809	-47.19	0	-0.11
50	SLU 68	-2	-3	805	-46.96	0	-0.1
50	SLU 69	-2	-3	815	-47.59	0	-0.14
50	SLU 70	-2	-3	816	-47.63	0	-0.13
50	SLU 71	-2	-3	811	-47.33	0	-0.14
50	SLU 72	-2	-3	812	-47.37	0	-0.13
50	SLU 73	-3	-3	873	-50.93	0	-0.19
50	SLU 74	-4	-3	883	-51.56	0	-0.23
50	SLU 75	-4	-3	884	-51.6	0	-0.22
50	SLU 76	-4	-3	880	-51.37	0	-0.21
50	SLU 77	-4	-3	891	-52	0	-0.25
50	SLU 78	-4	-2	892	-52.04	0	-0.23
50	SLU 79	-4	-3	886	-51.74	0	-0.25
50	SLU 80	-4	-2	887	-51.78	0	-0.23
50	SLU 81	-4	-4	904	-52.75	0	-0.25
50	SLU 82	-4	-3	904	-52.79	0	-0.24
50	SLU 83	-5	-3	911	-53.19	0	-0.27
50	SLU 84	-4	-3	912	-53.23	0	-0.26
50	SLE RA 1	-1	-4	594	-34.64	0	-0.07
50	SLE RA 2	-1	-3	594	-34.69	0	-0.05
50	SLE RA 3	-1	-3	602	-35.11	0	-0.08
50	SLE RA 4	-1	-3	602	-35.14	0	-0.07
50	SLE RA 5	-1	-3	599	-34.98	0	-0.06
50	SLE RA 6	-2	-3	607	-35.4	0	-0.09
50	SLE RA 7	-1	-3	607	-35.43	0	-0.08
50	SLE RA 8	-2	-3	604	-35.23	0	-0.09
50	SLE RA 9	-1	-3	604	-35.25	0	-0.08
50	SLE RA 10	-2	-3	645	-37.63	0	-0.12
50	SLE RA 11	-3	-3	652	-38.05	0	-0.15
50	SLE RA 12	-2	-3	652	-38.08	0	-0.14
50	SLE RA 13	-2	-3	650	-37.92	0	-0.13
50	SLE RA 14	-3	-3	657	-38.34	0	-0.16
50	SLE RA 15	-3	-2	657	-38.37	0	-0.15
50	SLE RA 16	-3	-3	654	-38.17	0	-0.16
50	SLE RA 17	-3	-3	654	-38.19	0	-0.15
50	SLE RA 18	-3	-3	665	-38.84	0	-0.16
50	SLE RA 19	-3	-3	666	-38.87	0	-0.16
50	SLE RA 20	-3	-3	670	-39.13	0	-0.18
50	SLE RA 21	-3	-3	671	-39.16	0	-0.17
50	SLE FR 1	-1	-4	594	-34.64	0	-0.07
50	SLE FR 2	-1	-4	594	-34.65	0	-0.06
50	SLE FR 3	-1	-4	596	-34.76	0	-0.07
50	SLE FR 4	-2	-4	615	-35.91	0	-0.09
50	SLE FR 5	-2	-3	617	-36.02	0	-0.1
50	SLE FR 6	-2	-4	630	-36.74	0	-0.11
50	SLE QP 1	-1	-4	594	-34.64	0	-0.07
50	SLE QP 2	-2	-4	615	-35.9	0	-0.1
50	SLD 1	27	3	596	-34.8	0	1.58
50	SLD 2	29	6	596	-34.78	0	1.7
50	SLD 3	22	-4	583	-34.04	0	1.31
50	SLD 4	24	-1	583	-34.02	0	1.43
50	SLD 5	14	8	629	-36.72	0	0.79
50	SLD 6	15	11	629	-36.71	0	0.87
50	SLD 7	-2	-15	586	-34.2	0	-0.1
50	SLD 8	0	-13	586	-34.19	0	-0.02
50	SLD 9	-3	6	645	-37.62	0	-0.17
50	SLD 10	-1	8	644	-37.6	0	-0.09
50	SLD 11	-18	-18	601	-35.09	0	-1.06
50	SLD 12	-17	-16	601	-35.08	0	-0.98
50	SLD 13	-28	-6	647	-37.78	0	-1.62
50	SLD 14	-26	-3	647	-37.76	0	-1.5
50	SLD 15	-32	-13	634	-37.02	0	-1.89
50	SLD 16	-30	-10	634	-37	0	-1.77
50	SLV 1	43	7	586	-34.21	0	2.54
50	SLV 2	47	12	586	-34.17	0	2.73
50	SLV 3	36	-5	565	-32.98	0	2.1
50	SLV 4	39	0	565	-32.95	0	2.29
50	SLV 5	23	16	638	-37.26	0	1.32
50	SLV 6	25	20	638	-37.24	0	1.45



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
50	SLV 7	-2	-23	568	-33.17	0	-0.13
50	SLV 8	0	-19	568	-33.15	0	0
50	SLV 9	-3	12	662	-38.65	0	-0.19
50	SLV 10	-1	15	662	-38.63	0	-0.06
50	SLV 11	-28	-27	592	-34.57	0	-1.64
50	SLV 12	-26	-24	592	-34.54	0	-1.51
50	SLV 13	-43	-8	666	-38.86	0	-2.48
50	SLV 14	-39	-2	665	-38.82	0	-2.29
50	SLV 15	-50	-19	645	-37.63	0	-2.92
50	SLV 16	-47	-14	644	-37.6	0	-2.73
50	SLV FO 1	48	8	583	-34.04	0	2.8
50	SLV FO 2	52	14	583	-34	0	3.01
50	SLV FO 3	40	-5	560	-32.69	0	2.32
50	SLV FO 4	43	1	559	-32.65	0	2.53
50	SLV FO 5	25	18	641	-37.39	0	1.46
50	SLV FO 6	27	22	640	-37.37	0	1.6
50	SLV FO 7	-2	-25	564	-32.9	0	-0.14
50	SLV FO 8	0	-21	563	-32.87	0	0
50	SLV FO 9	-3	14	667	-38.93	0	-0.19
50	SLV FO 10	-1	17	667	-38.9	0	-0.05
50	SLV FO 11	-31	-29	590	-34.43	0	-1.79
50	SLV FO 12	-28	-26	590	-34.41	0	-1.65
50	SLV FO 13	-47	-8	671	-39.15	0	-2.72
50	SLV FO 14	-43	-2	670	-39.12	0	-2.51
50	SLV FO 15	-55	-21	648	-37.8	0	-3.2
50	SLV FO 16	-51	-15	647	-37.77	0	-2.99
50	CRTFP Ux+	0	0	0	0	0	0
50	CRTFP Ux-	0	0	0	0	0	0
50	CRTFP Uy+	0	0	0	0	0	0
50	CRTFP Uy-	0	0	0	0	0	0
51	SLU 1	-1	-9	307	0	0	0
51	SLU 2	-1	-9	307	0	0	0
51	SLU 3	-1	-9	314	0	0	0
51	SLU 4	-1	-8	314	0	0	0
51	SLU 5	-1	-8	311	0	0	0
51	SLU 6	-1	-8	318	0	0	0
51	SLU 7	-1	-8	318	0	0	0
51	SLU 8	-1	-8	316	0	0	0
51	SLU 9	-1	-8	316	0	0	0
51	SLU 10	-2	-9	350	0	0	0
51	SLU 11	-2	-9	357	0	0	0
51	SLU 12	-2	-9	357	0	0	0
51	SLU 13	-2	-9	354	0	0	0
51	SLU 14	-2	-9	361	0	0	0
51	SLU 15	-2	-9	361	0	0	0
51	SLU 16	-2	-9	359	0	0	0
51	SLU 17	-2	-9	359	0	0	0
51	SLU 18	-2	-10	368	0	0	0
51	SLU 19	-2	-9	368	0	0	0
51	SLU 20	-3	-9	372	0	0	0
51	SLU 21	-2	-9	372	0	0	0
51	SLU 22	-2	-8	354	0	0	0
51	SLU 23	-1	-8	354	0	0	0
51	SLU 24	-2	-8	361	0	0	0
51	SLU 25	-2	-8	361	0	0	0
51	SLU 26	-2	-8	359	0	0	0
51	SLU 27	-2	-8	366	0	0	0
51	SLU 28	-2	-8	366	0	0	0
51	SLU 29	-2	-8	364	0	0	0
51	SLU 30	-2	-8	364	0	0	0
51	SLU 31	-2	-9	397	0	0	0
51	SLU 32	-3	-9	404	0	0	0
51	SLU 33	-3	-8	404	0	0	0
51	SLU 34	-3	-8	402	0	0	0
51	SLU 35	-3	-8	409	0	0	0
51	SLU 36	-3	-8	409	0	0	0
51	SLU 37	-3	-8	406	0	0	0
51	SLU 38	-3	-8	406	0	0	0
51	SLU 39	-3	-9	416	0	0	0
51	SLU 40	-3	-9	416	0	0	0
51	SLU 41	-3	-9	420	0	0	0
51	SLU 42	-3	-9	420	0	0	0
51	SLU 43	-1	-12	382	0	0	0
51	SLU 44	-1	-11	382	0	0	0
51	SLU 45	-1	-11	390	0	0	0
51	SLU 46	-1	-11	389	0	0	0
51	SLU 47	-1	-11	387	0	0	0
51	SLU 48	-1	-11	394	0	0	0
51	SLU 49	-1	-11	394	0	0	0
51	SLU 50	-1	-11	392	0	0	0
51	SLU 51	-1	-11	392	0	0	0
51	SLU 52	-2	-12	425	0	0	0
51	SLU 53	-2	-12	432	0	0	0
51	SLU 54	-2	-12	432	0	0	0
51	SLU 55	-2	-12	430	0	0	0
51	SLU 56	-2	-12	437	0	0	0
51	SLU 57	-2	-12	437	0	0	0
51	SLU 58	-2	-12	434	0	0	0
51	SLU 59	-2	-12	434	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLU 60	-2	-13	444	0	0	0
51	SLU 61	-2	-12	444	0	0	0
51	SLU 62	-3	-12	448	0	0	0
51	SLU 63	-3	-12	448	0	0	0
51	SLU 64	-2	-11	430	0	0	0
51	SLU 65	-2	-11	430	0	0	0
51	SLU 66	-2	-11	437	0	0	0
51	SLU 67	-2	-11	437	0	0	0
51	SLU 68	-2	-11	435	0	0	0
51	SLU 69	-2	-11	442	0	0	0
51	SLU 70	-2	-10	442	0	0	0
51	SLU 71	-2	-11	439	0	0	0
51	SLU 72	-2	-11	439	0	0	0
51	SLU 73	-3	-11	473	0	0	0
51	SLU 74	-3	-11	480	0	0	0
51	SLU 75	-3	-11	480	0	0	0
51	SLU 76	-3	-11	477	0	0	0
51	SLU 77	-3	-11	484	0	0	0
51	SLU 78	-3	-11	484	0	0	0
51	SLU 79	-3	-11	482	0	0	0
51	SLU 80	-3	-11	482	0	0	0
51	SLU 81	-3	-12	491	0	0	0
51	SLU 82	-3	-12	491	0	0	0
51	SLU 83	-3	-12	496	0	0	0
51	SLU 84	-3	-12	496	0	0	0
51	SLE RA 1	-1	-9	320	0	0	0
51	SLE RA 2	-1	-9	320	0	0	0
51	SLE RA 3	-1	-9	325	0	0	0
51	SLE RA 4	-1	-8	325	0	0	0
51	SLE RA 5	-1	-8	323	0	0	0
51	SLE RA 6	-1	-8	328	0	0	0
51	SLE RA 7	-1	-8	328	0	0	0
51	SLE RA 8	-1	-8	326	0	0	0
51	SLE RA 9	-1	-8	326	0	0	0
51	SLE RA 10	-2	-9	349	0	0	0
51	SLE RA 11	-2	-9	354	0	0	0
51	SLE RA 12	-2	-9	354	0	0	0
51	SLE RA 13	-2	-9	352	0	0	0
51	SLE RA 14	-2	-9	357	0	0	0
51	SLE RA 15	-2	-9	357	0	0	0
51	SLE RA 16	-2	-9	355	0	0	0
51	SLE RA 17	-2	-9	355	0	0	0
51	SLE RA 18	-2	-9	361	0	0	0
51	SLE RA 19	-2	-9	361	0	0	0
51	SLE RA 20	-2	-9	364	0	0	0
51	SLE RA 21	-2	-9	364	0	0	0
51	SLE FR 1	-1	-9	320	0	0	0
51	SLE FR 2	-1	-9	320	0	0	0
51	SLE FR 3	-1	-9	322	0	0	0
51	SLE FR 4	-1	-9	333	0	0	0
51	SLE FR 5	-2	-9	334	0	0	0
51	SLE FR 6	-2	-9	341	0	0	0
51	SLE QP 1	-1	-9	320	0	0	0
51	SLE QP 2	-1	-9	333	0	0	0
51	SLD 1	14	-3	347	0	0	0
51	SLD 2	15	-3	347	0	0	0
51	SLD 3	11	-7	346	0	0	0
51	SLD 4	12	-7	346	0	0	0
51	SLD 5	7	-1	338	0	0	0
51	SLD 6	7	-1	339	0	0	0
51	SLD 7	-1	-15	335	0	0	0
51	SLD 8	-1	-15	335	0	0	0
51	SLD 9	-2	-3	330	0	0	0
51	SLD 10	-1	-3	330	0	0	0
51	SLD 11	-10	-17	327	0	0	0
51	SLD 12	-10	-17	327	0	0	0
51	SLD 13	-15	-11	319	0	0	0
51	SLD 14	-14	-11	319	0	0	0
51	SLD 15	-18	-15	318	0	0	0
51	SLD 16	-17	-15	318	0	0	0
51	SLV 1	23	1	355	0	0	0
51	SLV 2	24	1	355	0	0	0
51	SLV 3	19	-6	353	0	0	0
51	SLV 4	20	-6	354	0	0	0
51	SLV 5	12	5	342	0	0	0
51	SLV 6	13	5	342	0	0	0
51	SLV 7	-2	-19	336	0	0	0
51	SLV 8	-1	-18	336	0	0	0
51	SLV 9	-2	1	329	0	0	0
51	SLV 10	-1	1	329	0	0	0
51	SLV 11	-16	-23	323	0	0	0
51	SLV 12	-15	-22	323	0	0	0
51	SLV 13	-23	-12	312	0	0	0
51	SLV 14	-22	-12	312	0	0	0
51	SLV 15	-27	-19	310	0	0	0
51	SLV 16	-26	-19	310	0	0	0
51	SLV FO 1	25	2	357	0	0	0
51	SLV FO 2	27	2	358	0	0	0
51	SLV FO 3	21	-5	355	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
51	SLV FO 4	23	-5	356	0	0	0
51	SLV FO 5	13	6	343	0	0	0
51	SLV FO 6	14	6	343	0	0	0
51	SLV FO 7	-2	-20	336	0	0	0
51	SLV FO 8	-1	-19	337	0	0	0
51	SLV FO 9	-2	2	329	0	0	0
51	SLV FO 10	-1	2	329	0	0	0
51	SLV FO 11	-17	-24	322	0	0	0
51	SLV FO 12	-16	-24	322	0	0	0
51	SLV FO 13	-25	-13	309	0	0	0
51	SLV FO 14	-24	-12	310	0	0	0
51	SLV FO 15	-30	-20	307	0	0	0
51	SLV FO 16	-28	-20	308	0	0	0
52	SLU 1	-2	-15	560	0	0	0
52	SLU 2	-2	-14	560	0	0	0
52	SLU 3	-2	-14	573	0	0	0
52	SLU 4	-2	-14	573	0	0	0
52	SLU 5	-2	-14	568	0	0	0
52	SLU 6	-3	-14	581	0	0	0
52	SLU 7	-2	-13	581	0	0	0
52	SLU 8	-3	-14	576	0	0	0
52	SLU 9	-2	-13	576	0	0	0
52	SLU 10	-3	-15	638	0	0	0
52	SLU 11	-4	-15	650	0	0	0
52	SLU 12	-4	-15	650	0	0	0
52	SLU 13	-4	-14	646	0	0	0
52	SLU 14	-4	-15	659	0	0	0
52	SLU 15	-4	-14	659	0	0	0
52	SLU 16	-4	-15	654	0	0	0
52	SLU 17	-4	-14	654	0	0	0
52	SLU 18	-5	-16	671	0	0	0
52	SLU 19	-4	-16	671	0	0	0
52	SLU 20	-5	-15	679	0	0	0
52	SLU 21	-5	-15	679	0	0	0
52	SLU 22	-3	-14	647	0	0	0
52	SLU 23	-3	-13	647	0	0	0
52	SLU 24	-4	-13	659	0	0	0
52	SLU 25	-3	-13	659	0	0	0
52	SLU 26	-3	-13	655	0	0	0
52	SLU 27	-4	-13	668	0	0	0
52	SLU 28	-4	-12	668	0	0	0
52	SLU 29	-4	-13	663	0	0	0
52	SLU 30	-4	-12	663	0	0	0
52	SLU 31	-5	-14	724	0	0	0
52	SLU 32	-5	-14	737	0	0	0
52	SLU 33	-5	-14	737	0	0	0
52	SLU 34	-5	-13	733	0	0	0
52	SLU 35	-6	-13	745	0	0	0
52	SLU 36	-5	-13	745	0	0	0
52	SLU 37	-6	-13	741	0	0	0
52	SLU 38	-5	-13	741	0	0	0
52	SLU 39	-6	-15	758	0	0	0
52	SLU 40	-6	-14	758	0	0	0
52	SLU 41	-6	-14	766	0	0	0
52	SLU 42	-6	-14	766	0	0	0
52	SLU 43	-2	-20	698	0	0	0
52	SLU 44	-2	-19	698	0	0	0
52	SLU 45	-2	-19	711	0	0	0
52	SLU 46	-2	-19	711	0	0	0
52	SLU 47	-2	-18	706	0	0	0
52	SLU 48	-3	-19	719	0	0	0
52	SLU 49	-2	-18	719	0	0	0
52	SLU 50	-3	-19	715	0	0	0
52	SLU 51	-2	-18	715	0	0	0
52	SLU 52	-3	-20	776	0	0	0
52	SLU 53	-4	-20	789	0	0	0
52	SLU 54	-4	-19	789	0	0	0
52	SLU 55	-4	-19	784	0	0	0
52	SLU 56	-5	-19	797	0	0	0
52	SLU 57	-4	-19	797	0	0	0
52	SLU 58	-5	-19	792	0	0	0
52	SLU 59	-4	-19	792	0	0	0
52	SLU 60	-5	-21	809	0	0	0
52	SLU 61	-4	-20	809	0	0	0
52	SLU 62	-5	-20	817	0	0	0
52	SLU 63	-5	-20	817	0	0	0
52	SLU 64	-3	-18	785	0	0	0
52	SLU 65	-3	-18	785	0	0	0
52	SLU 66	-4	-18	798	0	0	0
52	SLU 67	-3	-18	798	0	0	0
52	SLU 68	-3	-17	793	0	0	0
52	SLU 69	-4	-17	806	0	0	0
52	SLU 70	-4	-17	806	0	0	0
52	SLU 71	-4	-17	801	0	0	0
52	SLU 72	-4	-17	801	0	0	0
52	SLU 73	-5	-19	863	0	0	0
52	SLU 74	-5	-19	875	0	0	0
52	SLU 75	-5	-18	875	0	0	0
52	SLU 76	-5	-18	871	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
52	SLU 77	-6	-18	884	0	0	0
52	SLU 78	-6	-18	884	0	0	0
52	SLU 79	-6	-18	879	0	0	0
52	SLU 80	-6	-18	879	0	0	0
52	SLU 81	-6	-20	896	0	0	0
52	SLU 82	-6	-19	896	0	0	0
52	SLU 83	-6	-19	904	0	0	0
52	SLU 84	-6	-19	904	0	0	0
52	SLE RA 1	-2	-14	585	0	0	0
52	SLE RA 2	-2	-14	585	0	0	0
52	SLE RA 3	-2	-14	593	0	0	0
52	SLE RA 4	-2	-14	593	0	0	0
52	SLE RA 5	-2	-14	590	0	0	0
52	SLE RA 6	-3	-14	599	0	0	0
52	SLE RA 7	-3	-13	599	0	0	0
52	SLE RA 8	-3	-14	596	0	0	0
52	SLE RA 9	-3	-14	596	0	0	0
52	SLE RA 10	-3	-15	637	0	0	0
52	SLE RA 11	-4	-15	645	0	0	0
52	SLE RA 12	-4	-14	645	0	0	0
52	SLE RA 13	-3	-14	642	0	0	0
52	SLE RA 14	-4	-14	651	0	0	0
52	SLE RA 15	-4	-14	651	0	0	0
52	SLE RA 16	-4	-14	647	0	0	0
52	SLE RA 17	-4	-14	647	0	0	0
52	SLE RA 18	-4	-15	659	0	0	0
52	SLE RA 19	-4	-15	659	0	0	0
52	SLE RA 20	-4	-15	664	0	0	0
52	SLE RA 21	-4	-15	664	0	0	0
52	SLE FR 1	-2	-14	585	0	0	0
52	SLE FR 2	-2	-14	585	0	0	0
52	SLE FR 3	-2	-14	587	0	0	0
52	SLE FR 4	-3	-15	607	0	0	0
52	SLE FR 5	-3	-15	609	0	0	0
52	SLE FR 6	-3	-15	622	0	0	0
52	SLE QP 1	-2	-14	585	0	0	0
52	SLE QP 2	-3	-15	607	0	0	0
52	SLD 1	25	-4	627	0	0	0
52	SLD 2	27	-3	627	0	0	0
52	SLD 3	21	-11	625	0	0	0
52	SLD 4	23	-11	626	0	0	0
52	SLD 5	12	0	615	0	0	0
52	SLD 6	13	0	616	0	0	0
52	SLD 7	-3	-25	610	0	0	0
52	SLD 8	-2	-25	610	0	0	0
52	SLD 9	-4	-4	604	0	0	0
52	SLD 10	-3	-4	604	0	0	0
52	SLD 11	-19	-30	598	0	0	0
52	SLD 12	-18	-29	598	0	0	0
52	SLD 13	-28	-19	588	0	0	0
52	SLD 14	-27	-18	589	0	0	0
52	SLD 15	-33	-26	586	0	0	0
52	SLD 16	-31	-26	587	0	0	0
52	SLV 1	42	3	638	0	0	0
52	SLV 2	44	4	639	0	0	0
52	SLV 3	34	-10	635	0	0	0
52	SLV 4	37	-9	636	0	0	0
52	SLV 5	21	9	621	0	0	0
52	SLV 6	23	10	621	0	0	0
52	SLV 7	-3	-32	611	0	0	0
52	SLV 8	-1	-32	611	0	0	0
52	SLV 9	-4	2	602	0	0	0
52	SLV 10	-2	3	603	0	0	0
52	SLV 11	-28	-39	593	0	0	0
52	SLV 12	-27	-39	593	0	0	0
52	SLV 13	-43	-20	578	0	0	0
52	SLV 14	-40	-20	578	0	0	0
52	SLV 15	-50	-33	575	0	0	0
52	SLV 16	-47	-32	575	0	0	0
52	SLV FO 1	46	4	641	0	0	0
52	SLV FO 2	49	5	642	0	0	0
52	SLV FO 3	38	-9	638	0	0	0
52	SLV FO 4	41	-8	639	0	0	0
52	SLV FO 5	23	12	622	0	0	0
52	SLV FO 6	25	12	622	0	0	0
52	SLV FO 7	-3	-34	611	0	0	0
52	SLV FO 8	-1	-33	612	0	0	0
52	SLV FO 9	-4	4	602	0	0	0
52	SLV FO 10	-2	5	602	0	0	0
52	SLV FO 11	-31	-42	591	0	0	0
52	SLV FO 12	-29	-41	592	0	0	0
52	SLV FO 13	-47	-21	575	0	0	0
52	SLV FO 14	-44	-20	576	0	0	0
52	SLV FO 15	-55	-35	572	0	0	0
52	SLV FO 16	-52	-34	572	0	0	0
53	SLU 1	-1	-1	332	0	0	0
53	SLU 2	-1	0	332	0	0	0
53	SLU 3	-2	0	339	0	0	0
53	SLU 4	-1	0	339	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
53	SLU 5	-1	0	337	0	0	0
53	SLU 6	-2	0	343	0	0	0
53	SLU 7	-2	0	344	0	0	0
53	SLU 8	-2	0	341	0	0	0
53	SLU 9	-2	0	341	0	0	0
53	SLU 10	-2	0	376	0	0	0
53	SLU 11	-3	0	383	0	0	0
53	SLU 12	-3	0	383	0	0	0
53	SLU 13	-3	0	381	0	0	0
53	SLU 14	-3	0	387	0	0	0
53	SLU 15	-3	1	387	0	0	0
53	SLU 16	-3	0	385	0	0	0
53	SLU 17	-3	0	385	0	0	0
53	SLU 18	-3	0	394	0	0	0
53	SLU 19	-3	0	395	0	0	0
53	SLU 20	-3	0	399	0	0	0
53	SLU 21	-3	0	399	0	0	0
53	SLU 22	-2	1	382	0	0	0
53	SLU 23	-2	1	382	0	0	0
53	SLU 24	-2	1	389	0	0	0
53	SLU 25	-2	1	389	0	0	0
53	SLU 26	-2	2	387	0	0	0
53	SLU 27	-3	2	393	0	0	0
53	SLU 28	-2	2	393	0	0	0
53	SLU 29	-3	2	391	0	0	0
53	SLU 30	-2	2	391	0	0	0
53	SLU 31	-3	2	426	0	0	0
53	SLU 32	-4	2	433	0	0	0
53	SLU 33	-3	2	433	0	0	0
53	SLU 34	-3	2	430	0	0	0
53	SLU 35	-4	2	437	0	0	0
53	SLU 36	-4	2	437	0	0	0
53	SLU 37	-4	2	434	0	0	0
53	SLU 38	-4	2	435	0	0	0
53	SLU 39	-4	1	444	0	0	0
53	SLU 40	-4	2	444	0	0	0
53	SLU 41	-4	2	449	0	0	0
53	SLU 42	-4	2	449	0	0	0
53	SLU 43	-2	-2	414	0	0	0
53	SLU 44	-1	-1	415	0	0	0
53	SLU 45	-2	-1	422	0	0	0
53	SLU 46	-2	-1	422	0	0	0
53	SLU 47	-2	-1	419	0	0	0
53	SLU 48	-2	-1	426	0	0	0
53	SLU 49	-2	-1	426	0	0	0
53	SLU 50	-2	-1	423	0	0	0
53	SLU 51	-2	-1	424	0	0	0
53	SLU 52	-2	-1	459	0	0	0
53	SLU 53	-3	-1	465	0	0	0
53	SLU 54	-3	-1	466	0	0	0
53	SLU 55	-3	-1	463	0	0	0
53	SLU 56	-3	0	470	0	0	0
53	SLU 57	-3	0	470	0	0	0
53	SLU 58	-3	-1	467	0	0	0
53	SLU 59	-3	0	467	0	0	0
53	SLU 60	-3	-1	477	0	0	0
53	SLU 61	-3	-1	477	0	0	0
53	SLU 62	-3	-1	481	0	0	0
53	SLU 63	-3	-1	482	0	0	0
53	SLU 64	-2	0	464	0	0	0
53	SLU 65	-2	0	465	0	0	0
53	SLU 66	-3	0	471	0	0	0
53	SLU 67	-2	1	472	0	0	0
53	SLU 68	-2	1	469	0	0	0
53	SLU 69	-3	1	476	0	0	0
53	SLU 70	-3	1	476	0	0	0
53	SLU 71	-3	1	473	0	0	0
53	SLU 72	-3	1	473	0	0	0
53	SLU 73	-3	1	508	0	0	0
53	SLU 74	-4	1	515	0	0	0
53	SLU 75	-4	1	515	0	0	0
53	SLU 76	-3	1	513	0	0	0
53	SLU 77	-4	1	520	0	0	0
53	SLU 78	-4	1	520	0	0	0
53	SLU 79	-4	1	517	0	0	0
53	SLU 80	-4	1	517	0	0	0
53	SLU 81	-4	1	527	0	0	0
53	SLU 82	-4	1	527	0	0	0
53	SLU 83	-4	1	531	0	0	0
53	SLU 84	-4	1	531	0	0	0
53	SLE RA 1	-2	0	346	0	0	0
53	SLE RA 2	-1	0	346	0	0	0
53	SLE RA 3	-2	0	351	0	0	0
53	SLE RA 4	-2	0	351	0	0	0
53	SLE RA 5	-2	0	349	0	0	0
53	SLE RA 6	-2	0	354	0	0	0
53	SLE RA 7	-2	0	354	0	0	0
53	SLE RA 8	-2	0	352	0	0	0
53	SLE RA 9	-2	0	352	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
53	SLE RA 10	-2	0	376	0	0	0
53	SLE RA 11	-3	0	380	0	0	0
53	SLE RA 12	-2	0	380	0	0	0
53	SLE RA 13	-2	0	379	0	0	0
53	SLE RA 14	-3	0	383	0	0	0
53	SLE RA 15	-3	1	383	0	0	0
53	SLE RA 16	-3	0	381	0	0	0
53	SLE RA 17	-3	1	381	0	0	0
53	SLE RA 18	-3	0	388	0	0	0
53	SLE RA 19	-3	0	388	0	0	0
53	SLE RA 20	-3	0	391	0	0	0
53	SLE RA 21	-3	0	391	0	0	0
53	SLE FR 1	-2	0	346	0	0	0
53	SLE FR 2	-2	0	346	0	0	0
53	SLE FR 3	-2	0	347	0	0	0
53	SLE FR 4	-2	0	359	0	0	0
53	SLE FR 5	-2	0	360	0	0	0
53	SLE FR 6	-2	0	367	0	0	0
53	SLE QP 1	-2	0	346	0	0	0
53	SLE QP 2	-2	0	359	0	0	0
53	SLD 1	15	3	340	0	0	0
53	SLD 2	16	5	339	0	0	0
53	SLD 3	13	-1	336	0	0	0
53	SLD 4	14	1	335	0	0	0
53	SLD 5	7	6	359	0	0	0
53	SLD 6	8	8	359	0	0	0
53	SLD 7	-2	-7	346	0	0	0
53	SLD 8	-1	-6	346	0	0	0
53	SLD 9	-3	5	372	0	0	0
53	SLD 10	-2	7	371	0	0	0
53	SLD 11	-12	-9	359	0	0	0
53	SLD 12	-11	-7	358	0	0	0
53	SLD 13	-18	-2	382	0	0	0
53	SLD 14	-17	1	382	0	0	0
53	SLD 15	-20	-6	378	0	0	0
53	SLD 16	-19	-3	378	0	0	0
53	SLV 1	25	5	329	0	0	0
53	SLV 2	27	9	328	0	0	0
53	SLV 3	21	-2	323	0	0	0
53	SLV 4	22	2	322	0	0	0
53	SLV 5	13	11	359	0	0	0
53	SLV 6	14	13	359	0	0	0
53	SLV 7	-2	-12	338	0	0	0
53	SLV 8	-1	-9	338	0	0	0
53	SLV 9	-3	9	379	0	0	0
53	SLV 10	-2	11	379	0	0	0
53	SLV 11	-18	-14	358	0	0	0
53	SLV 12	-17	-11	358	0	0	0
53	SLV 13	-26	-2	395	0	0	0
53	SLV 14	-25	1	395	0	0	0
53	SLV 15	-31	-9	389	0	0	0
53	SLV 16	-29	-5	388	0	0	0
53	SLV FO 1	28	5	326	0	0	0
53	SLV FO 2	30	10	325	0	0	0
53	SLV FO 3	23	-2	319	0	0	0
53	SLV FO 4	25	2	319	0	0	0
53	SLV FO 5	14	12	359	0	0	0
53	SLV FO 6	15	15	359	0	0	0
53	SLV FO 7	-2	-13	336	0	0	0
53	SLV FO 8	-1	-10	336	0	0	0
53	SLV FO 9	-3	10	381	0	0	0
53	SLV FO 10	-2	12	381	0	0	0
53	SLV FO 11	-19	-15	358	0	0	0
53	SLV FO 12	-18	-12	358	0	0	0
53	SLV FO 13	-29	-3	399	0	0	0
53	SLV FO 14	-27	2	398	0	0	0
53	SLV FO 15	-34	-10	392	0	0	0
53	SLV FO 16	-32	-6	391	0	0	0
54	SLU 1	-2	-14	599	0	0	0
54	SLU 2	-2	-14	599	0	0	0
54	SLU 3	-3	-14	612	0	0	0
54	SLU 4	-3	-13	612	0	0	0
54	SLU 5	-2	-13	607	0	0	0
54	SLU 6	-3	-13	621	0	0	0
54	SLU 7	-3	-13	621	0	0	0
54	SLU 8	-3	-13	616	0	0	0
54	SLU 9	-3	-13	616	0	0	0
54	SLU 10	-4	-14	681	0	0	0
54	SLU 11	-5	-14	695	0	0	0
54	SLU 12	-5	-14	695	0	0	0
54	SLU 13	-4	-14	690	0	0	0
54	SLU 14	-5	-14	704	0	0	0
54	SLU 15	-5	-13	704	0	0	0
54	SLU 16	-5	-14	699	0	0	0
54	SLU 17	-5	-13	699	0	0	0
54	SLU 18	-5	-15	717	0	0	0
54	SLU 19	-5	-15	717	0	0	0
54	SLU 20	-6	-15	726	0	0	0
54	SLU 21	-5	-14	726	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLU 22	-4	-13	691	0	0	0
54	SLU 23	-3	-12	691	0	0	0
54	SLU 24	-4	-12	705	0	0	0
54	SLU 25	-4	-12	705	0	0	0
54	SLU 26	-4	-12	700	0	0	0
54	SLU 27	-5	-12	714	0	0	0
54	SLU 28	-4	-11	714	0	0	0
54	SLU 29	-5	-12	709	0	0	0
54	SLU 30	-4	-11	709	0	0	0
54	SLU 31	-5	-13	774	0	0	0
54	SLU 32	-6	-13	788	0	0	0
54	SLU 33	-6	-13	788	0	0	0
54	SLU 34	-6	-12	783	0	0	0
54	SLU 35	-7	-12	796	0	0	0
54	SLU 36	-6	-12	796	0	0	0
54	SLU 37	-7	-13	792	0	0	0
54	SLU 38	-6	-12	792	0	0	0
54	SLU 39	-7	-14	810	0	0	0
54	SLU 40	-6	-14	809	0	0	0
54	SLU 41	-7	-13	818	0	0	0
54	SLU 42	-7	-13	818	0	0	0
54	SLU 43	-3	-19	746	0	0	0
54	SLU 44	-2	-18	746	0	0	0
54	SLU 45	-3	-18	760	0	0	0
54	SLU 46	-3	-18	760	0	0	0
54	SLU 47	-3	-18	755	0	0	0
54	SLU 48	-3	-18	769	0	0	0
54	SLU 49	-3	-17	769	0	0	0
54	SLU 50	-3	-18	764	0	0	0
54	SLU 51	-3	-18	764	0	0	0
54	SLU 52	-4	-19	829	0	0	0
54	SLU 53	-5	-19	843	0	0	0
54	SLU 54	-5	-19	843	0	0	0
54	SLU 55	-5	-19	838	0	0	0
54	SLU 56	-5	-19	852	0	0	0
54	SLU 57	-5	-18	852	0	0	0
54	SLU 58	-5	-19	847	0	0	0
54	SLU 59	-5	-18	847	0	0	0
54	SLU 60	-6	-20	865	0	0	0
54	SLU 61	-5	-20	865	0	0	0
54	SLU 62	-6	-19	873	0	0	0
54	SLU 63	-6	-19	873	0	0	0
54	SLU 64	-4	-18	839	0	0	0
54	SLU 65	-4	-17	839	0	0	0
54	SLU 66	-5	-17	853	0	0	0
54	SLU 67	-4	-17	853	0	0	0
54	SLU 68	-4	-16	848	0	0	0
54	SLU 69	-5	-17	862	0	0	0
54	SLU 70	-5	-16	861	0	0	0
54	SLU 71	-5	-17	857	0	0	0
54	SLU 72	-5	-16	857	0	0	0
54	SLU 73	-6	-18	922	0	0	0
54	SLU 74	-7	-18	936	0	0	0
54	SLU 75	-6	-17	935	0	0	0
54	SLU 76	-6	-17	931	0	0	0
54	SLU 77	-7	-17	944	0	0	0
54	SLU 78	-7	-17	944	0	0	0
54	SLU 79	-7	-17	939	0	0	0
54	SLU 80	-7	-17	939	0	0	0
54	SLU 81	-7	-19	957	0	0	0
54	SLU 82	-7	-18	957	0	0	0
54	SLU 83	-7	-18	966	0	0	0
54	SLU 84	-7	-18	966	0	0	0
54	SLE RA 1	-3	-14	625	0	0	0
54	SLE RA 2	-3	-13	625	0	0	0
54	SLE RA 3	-3	-13	634	0	0	0
54	SLE RA 4	-3	-13	634	0	0	0
54	SLE RA 5	-3	-13	631	0	0	0
54	SLE RA 6	-3	-13	640	0	0	0
54	SLE RA 7	-3	-13	640	0	0	0
54	SLE RA 8	-3	-13	637	0	0	0
54	SLE RA 9	-3	-13	637	0	0	0
54	SLE RA 10	-4	-14	680	0	0	0
54	SLE RA 11	-4	-14	689	0	0	0
54	SLE RA 12	-4	-14	689	0	0	0
54	SLE RA 13	-4	-14	686	0	0	0
54	SLE RA 14	-5	-14	695	0	0	0
54	SLE RA 15	-5	-13	695	0	0	0
54	SLE RA 16	-5	-14	692	0	0	0
54	SLE RA 17	-4	-13	692	0	0	0
54	SLE RA 18	-5	-15	704	0	0	0
54	SLE RA 19	-5	-14	704	0	0	0
54	SLE RA 20	-5	-14	710	0	0	0
54	SLE RA 21	-5	-14	710	0	0	0
54	SLE FR 1	-3	-14	625	0	0	0
54	SLE FR 2	-3	-14	625	0	0	0
54	SLE FR 3	-3	-14	627	0	0	0
54	SLE FR 4	-3	-14	649	0	0	0
54	SLE FR 5	-4	-14	651	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
54	SLE FR 6	-4	-14	665	0	0	0
54	SLE QP 1	-3	-14	625	0	0	0
54	SLE QP 2	-3	-14	649	0	0	0
54	SLD 1	27	-3	662	0	0	0
54	SLD 2	29	-2	663	0	0	0
54	SLD 3	22	-11	665	0	0	0
54	SLD 4	24	-10	665	0	0	0
54	SLD 5	13	1	649	0	0	0
54	SLD 6	14	2	649	0	0	0
54	SLD 7	-3	-26	657	0	0	0
54	SLD 8	-2	-25	658	0	0	0
54	SLD 9	-5	-3	640	0	0	0
54	SLD 10	-3	-3	640	0	0	0
54	SLD 11	-21	-30	648	0	0	0
54	SLD 12	-20	-29	649	0	0	0
54	SLD 13	-31	-18	632	0	0	0
54	SLD 14	-29	-17	633	0	0	0
54	SLD 15	-36	-26	635	0	0	0
54	SLD 16	-34	-25	635	0	0	0
54	SLV 1	44	3	670	0	0	0
54	SLV 2	47	5	670	0	0	0
54	SLV 3	37	-10	674	0	0	0
54	SLV 4	39	-8	675	0	0	0
54	SLV 5	22	11	649	0	0	0
54	SLV 6	24	12	649	0	0	0
54	SLV 7	-4	-33	663	0	0	0
54	SLV 8	-2	-32	663	0	0	0
54	SLV 9	-5	4	635	0	0	0
54	SLV 10	-3	5	635	0	0	0
54	SLV 11	-31	-40	649	0	0	0
54	SLV 12	-29	-39	649	0	0	0
54	SLV 13	-46	-20	623	0	0	0
54	SLV 14	-44	-18	623	0	0	0
54	SLV 15	-54	-33	627	0	0	0
54	SLV 16	-51	-32	627	0	0	0
54	SLV FO 1	49	5	672	0	0	0
54	SLV FO 2	52	7	673	0	0	0
54	SLV FO 3	41	-9	677	0	0	0
54	SLV FO 4	44	-8	677	0	0	0
54	SLV FO 5	25	13	649	0	0	0
54	SLV FO 6	27	15	649	0	0	0
54	SLV FO 7	-4	-35	664	0	0	0
54	SLV FO 8	-2	-34	664	0	0	0
54	SLV FO 9	-5	6	633	0	0	0
54	SLV FO 10	-3	7	633	0	0	0
54	SLV FO 11	-34	-43	649	0	0	0
54	SLV FO 12	-32	-42	649	0	0	0
54	SLV FO 13	-51	-21	620	0	0	0
54	SLV FO 14	-48	-19	621	0	0	0
54	SLV FO 15	-59	-35	625	0	0	0
54	SLV FO 16	-56	-33	625	0	0	0
55	SLU 1	-3	-14	718	0	0	0
55	SLU 2	-3	-14	718	0	0	0
55	SLU 3	-3	-14	734	0	0	0
55	SLU 4	-3	-13	734	0	0	0
55	SLU 5	-3	-13	728	0	0	0
55	SLU 6	-4	-13	744	0	0	0
55	SLU 7	-4	-12	744	0	0	0
55	SLU 8	-4	-13	739	0	0	0
55	SLU 9	-4	-12	739	0	0	0
55	SLU 10	-5	-14	816	0	0	0
55	SLU 11	-6	-14	832	0	0	0
55	SLU 12	-6	-14	832	0	0	0
55	SLU 13	-5	-13	827	0	0	0
55	SLU 14	-6	-13	843	0	0	0
55	SLU 15	-6	-13	843	0	0	0
55	SLU 16	-6	-13	837	0	0	0
55	SLU 17	-6	-13	837	0	0	0
55	SLU 18	-7	-15	858	0	0	0
55	SLU 19	-6	-15	858	0	0	0
55	SLU 20	-7	-14	869	0	0	0
55	SLU 21	-7	-14	869	0	0	0
55	SLU 22	-5	-12	828	0	0	0
55	SLU 23	-4	-12	828	0	0	0
55	SLU 24	-5	-12	844	0	0	0
55	SLU 25	-5	-11	844	0	0	0
55	SLU 26	-5	-11	839	0	0	0
55	SLU 27	-6	-11	855	0	0	0
55	SLU 28	-5	-10	855	0	0	0
55	SLU 29	-6	-11	849	0	0	0
55	SLU 30	-5	-10	849	0	0	0
55	SLU 31	-7	-12	927	0	0	0
55	SLU 32	-8	-12	943	0	0	0
55	SLU 33	-7	-12	943	0	0	0
55	SLU 34	-7	-11	937	0	0	0
55	SLU 35	-8	-11	953	0	0	0
55	SLU 36	-8	-11	953	0	0	0
55	SLU 37	-8	-12	947	0	0	0
55	SLU 38	-8	-11	947	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLU 39	-8	-13	969	0	0	0
55	SLU 40	-8	-13	969	0	0	0
55	SLU 41	-9	-12	979	0	0	0
55	SLU 42	-8	-12	979	0	0	0
55	SLU 43	-3	-19	895	0	0	0
55	SLU 44	-3	-18	895	0	0	0
55	SLU 45	-4	-19	911	0	0	0
55	SLU 46	-4	-18	911	0	0	0
55	SLU 47	-3	-18	906	0	0	0
55	SLU 48	-4	-18	922	0	0	0
55	SLU 49	-4	-17	922	0	0	0
55	SLU 50	-4	-18	916	0	0	0
55	SLU 51	-4	-17	916	0	0	0
55	SLU 52	-5	-19	994	0	0	0
55	SLU 53	-6	-19	1010	0	0	0
55	SLU 54	-6	-19	1010	0	0	0
55	SLU 55	-6	-18	1004	0	0	0
55	SLU 56	-7	-18	1020	0	0	0
55	SLU 57	-6	-18	1020	0	0	0
55	SLU 58	-7	-18	1014	0	0	0
55	SLU 59	-6	-18	1014	0	0	0
55	SLU 60	-7	-20	1036	0	0	0
55	SLU 61	-7	-20	1036	0	0	0
55	SLU 62	-7	-19	1046	0	0	0
55	SLU 63	-7	-19	1046	0	0	0
55	SLU 64	-5	-17	1006	0	0	0
55	SLU 65	-5	-17	1006	0	0	0
55	SLU 66	-6	-17	1022	0	0	0
55	SLU 67	-5	-16	1022	0	0	0
55	SLU 68	-5	-16	1016	0	0	0
55	SLU 69	-6	-16	1032	0	0	0
55	SLU 70	-6	-15	1032	0	0	0
55	SLU 71	-6	-16	1026	0	0	0
55	SLU 72	-6	-15	1027	0	0	0
55	SLU 73	-7	-17	1104	0	0	0
55	SLU 74	-8	-17	1120	0	0	0
55	SLU 75	-8	-17	1120	0	0	0
55	SLU 76	-7	-16	1115	0	0	0
55	SLU 77	-8	-16	1131	0	0	0
55	SLU 78	-8	-16	1131	0	0	0
55	SLU 79	-8	-16	1125	0	0	0
55	SLU 80	-8	-16	1125	0	0	0
55	SLU 81	-9	-18	1146	0	0	0
55	SLU 82	-8	-18	1146	0	0	0
55	SLU 83	-9	-17	1157	0	0	0
55	SLU 84	-9	-17	1157	0	0	0
55	SLE RA 1	-4	-14	749	0	0	0
55	SLE RA 2	-3	-13	749	0	0	0
55	SLE RA 3	-4	-13	760	0	0	0
55	SLE RA 4	-4	-13	760	0	0	0
55	SLE RA 5	-3	-13	756	0	0	0
55	SLE RA 6	-4	-13	767	0	0	0
55	SLE RA 7	-4	-12	767	0	0	0
55	SLE RA 8	-4	-13	763	0	0	0
55	SLE RA 9	-4	-13	763	0	0	0
55	SLE RA 10	-5	-14	815	0	0	0
55	SLE RA 11	-5	-14	826	0	0	0
55	SLE RA 12	-5	-13	826	0	0	0
55	SLE RA 13	-5	-13	822	0	0	0
55	SLE RA 14	-6	-13	833	0	0	0
55	SLE RA 15	-6	-13	833	0	0	0
55	SLE RA 16	-6	-13	829	0	0	0
55	SLE RA 17	-6	-13	829	0	0	0
55	SLE RA 18	-6	-14	843	0	0	0
55	SLE RA 19	-6	-14	843	0	0	0
55	SLE RA 20	-6	-14	850	0	0	0
55	SLE RA 21	-6	-13	850	0	0	0
55	SLE FR 1	-4	-14	749	0	0	0
55	SLE FR 2	-3	-14	749	0	0	0
55	SLE FR 3	-4	-14	752	0	0	0
55	SLE FR 4	-4	-14	778	0	0	0
55	SLE FR 5	-4	-14	780	0	0	0
55	SLE FR 6	-5	-14	796	0	0	0
55	SLE QP 1	-4	-14	749	0	0	0
55	SLE QP 2	-4	-14	778	0	0	0
55	SLD 1	33	-2	785	0	0	0
55	SLD 2	35	0	785	0	0	0
55	SLD 3	27	-11	783	0	0	0
55	SLD 4	29	-10	783	0	0	0
55	SLD 5	15	4	782	0	0	0
55	SLD 6	17	5	783	0	0	0
55	SLD 7	-4	-28	777	0	0	0
55	SLD 8	-3	-27	777	0	0	0
55	SLD 9	-6	-1	778	0	0	0
55	SLD 10	-4	0	779	0	0	0
55	SLD 11	-25	-33	773	0	0	0
55	SLD 12	-24	-31	773	0	0	0
55	SLD 13	-37	-18	772	0	0	0
55	SLD 14	-35	-16	772	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
55	SLD 15	-43	-28	770	0	0	0
55	SLD 16	-41	-26	770	0	0	0
55	SLV 1	54	5	789	0	0	0
55	SLV 2	57	8	790	0	0	0
55	SLV 3	44	-10	786	0	0	0
55	SLV 4	47	-7	787	0	0	0
55	SLV 5	27	15	786	0	0	0
55	SLV 6	29	17	786	0	0	0
55	SLV 7	-5	-37	776	0	0	0
55	SLV 8	-2	-35	776	0	0	0
55	SLV 9	-6	7	779	0	0	0
55	SLV 10	-4	9	779	0	0	0
55	SLV 11	-38	-45	769	0	0	0
55	SLV 12	-35	-43	769	0	0	0
55	SLV 13	-56	-20	768	0	0	0
55	SLV 14	-53	-17	769	0	0	0
55	SLV 15	-65	-36	765	0	0	0
55	SLV 16	-62	-33	766	0	0	0
55	SLV FO 1	59	7	791	0	0	0
55	SLV FO 2	63	10	791	0	0	0
55	SLV FO 3	49	-10	787	0	0	0
55	SLV FO 4	53	-7	788	0	0	0
55	SLV FO 5	30	18	786	0	0	0
55	SLV FO 6	32	20	787	0	0	0
55	SLV FO 7	-5	-39	775	0	0	0
55	SLV FO 8	-2	-37	776	0	0	0
55	SLV FO 9	-6	9	779	0	0	0
55	SLV FO 10	-4	12	780	0	0	0
55	SLV FO 11	-41	-48	769	0	0	0
55	SLV FO 12	-38	-46	769	0	0	0
55	SLV FO 13	-61	-21	768	0	0	0
55	SLV FO 14	-57	-18	768	0	0	0
55	SLV FO 15	-71	-38	764	0	0	0
55	SLV FO 16	-68	-35	764	0	0	0
56	SLU 1	-3	-11	711	0	0	0
56	SLU 2	-3	-11	711	0	0	0
56	SLU 3	-4	-11	727	0	0	0
56	SLU 4	-3	-10	727	0	0	0
56	SLU 5	-3	-10	721	0	0	0
56	SLU 6	-4	-10	737	0	0	0
56	SLU 7	-4	-9	737	0	0	0
56	SLU 8	-4	-10	731	0	0	0
56	SLU 9	-4	-9	731	0	0	0
56	SLU 10	-5	-11	808	0	0	0
56	SLU 11	-6	-11	823	0	0	0
56	SLU 12	-6	-10	823	0	0	0
56	SLU 13	-5	-10	818	0	0	0
56	SLU 14	-6	-10	833	0	0	0
56	SLU 15	-6	-10	833	0	0	0
56	SLU 16	-6	-10	828	0	0	0
56	SLU 17	-6	-10	828	0	0	0
56	SLU 18	-7	-12	849	0	0	0
56	SLU 19	-6	-11	849	0	0	0
56	SLU 20	-7	-11	859	0	0	0
56	SLU 21	-7	-11	859	0	0	0
56	SLU 22	-5	-9	820	0	0	0
56	SLU 23	-4	-8	820	0	0	0
56	SLU 24	-5	-8	835	0	0	0
56	SLU 25	-5	-8	836	0	0	0
56	SLU 26	-5	-8	830	0	0	0
56	SLU 27	-6	-8	846	0	0	0
56	SLU 28	-5	-7	846	0	0	0
56	SLU 29	-6	-8	840	0	0	0
56	SLU 30	-5	-7	840	0	0	0
56	SLU 31	-7	-8	916	0	0	0
56	SLU 32	-8	-8	932	0	0	0
56	SLU 33	-7	-8	932	0	0	0
56	SLU 34	-7	-8	927	0	0	0
56	SLU 35	-8	-8	942	0	0	0
56	SLU 36	-8	-7	942	0	0	0
56	SLU 37	-8	-8	936	0	0	0
56	SLU 38	-8	-7	937	0	0	0
56	SLU 39	-8	-9	958	0	0	0
56	SLU 40	-8	-9	958	0	0	0
56	SLU 41	-9	-9	968	0	0	0
56	SLU 42	-8	-8	968	0	0	0
56	SLU 43	-3	-15	887	0	0	0
56	SLU 44	-3	-15	887	0	0	0
56	SLU 45	-4	-15	903	0	0	0
56	SLU 46	-4	-14	903	0	0	0
56	SLU 47	-3	-14	897	0	0	0
56	SLU 48	-4	-14	913	0	0	0
56	SLU 49	-4	-14	913	0	0	0
56	SLU 50	-4	-14	907	0	0	0
56	SLU 51	-4	-14	907	0	0	0
56	SLU 52	-5	-15	984	0	0	0
56	SLU 53	-6	-15	999	0	0	0
56	SLU 54	-6	-14	999	0	0	0
56	SLU 55	-6	-14	994	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLU 56	-7	-14	1009	0	0	0
56	SLU 57	-6	-14	1009	0	0	0
56	SLU 58	-7	-14	1004	0	0	0
56	SLU 59	-6	-14	1004	0	0	0
56	SLU 60	-7	-16	1025	0	0	0
56	SLU 61	-7	-15	1025	0	0	0
56	SLU 62	-7	-15	1035	0	0	0
56	SLU 63	-7	-15	1035	0	0	0
56	SLU 64	-5	-13	996	0	0	0
56	SLU 65	-5	-12	996	0	0	0
56	SLU 66	-6	-12	1011	0	0	0
56	SLU 67	-5	-12	1011	0	0	0
56	SLU 68	-5	-12	1006	0	0	0
56	SLU 69	-6	-12	1021	0	0	0
56	SLU 70	-6	-11	1022	0	0	0
56	SLU 71	-6	-12	1016	0	0	0
56	SLU 72	-6	-11	1016	0	0	0
56	SLU 73	-7	-13	1092	0	0	0
56	SLU 74	-8	-13	1108	0	0	0
56	SLU 75	-8	-12	1108	0	0	0
56	SLU 76	-8	-12	1102	0	0	0
56	SLU 77	-8	-12	1118	0	0	0
56	SLU 78	-8	-11	1118	0	0	0
56	SLU 79	-8	-12	1112	0	0	0
56	SLU 80	-8	-12	1112	0	0	0
56	SLU 81	-9	-14	1134	0	0	0
56	SLU 82	-8	-13	1134	0	0	0
56	SLU 83	-9	-13	1144	0	0	0
56	SLU 84	-9	-12	1144	0	0	0
56	SLE RA 1	-4	-11	742	0	0	0
56	SLE RA 2	-3	-10	742	0	0	0
56	SLE RA 3	-4	-10	752	0	0	0
56	SLE RA 4	-4	-10	753	0	0	0
56	SLE RA 5	-4	-10	749	0	0	0
56	SLE RA 6	-4	-10	759	0	0	0
56	SLE RA 7	-4	-9	759	0	0	0
56	SLE RA 8	-4	-10	755	0	0	0
56	SLE RA 9	-4	-9	755	0	0	0
56	SLE RA 10	-5	-10	806	0	0	0
56	SLE RA 11	-6	-10	817	0	0	0
56	SLE RA 12	-5	-10	817	0	0	0
56	SLE RA 13	-5	-10	813	0	0	0
56	SLE RA 14	-6	-10	824	0	0	0
56	SLE RA 15	-6	-10	824	0	0	0
56	SLE RA 16	-6	-10	820	0	0	0
56	SLE RA 17	-6	-10	820	0	0	0
56	SLE RA 18	-6	-11	834	0	0	0
56	SLE RA 19	-6	-11	834	0	0	0
56	SLE RA 20	-6	-10	841	0	0	0
56	SLE RA 21	-6	-10	841	0	0	0
56	SLE FR 1	-4	-11	742	0	0	0
56	SLE FR 2	-4	-11	742	0	0	0
56	SLE FR 3	-4	-10	745	0	0	0
56	SLE FR 4	-4	-11	770	0	0	0
56	SLE FR 5	-4	-11	772	0	0	0
56	SLE FR 6	-5	-11	788	0	0	0
56	SLE QP 1	-4	-11	742	0	0	0
56	SLE QP 2	-4	-11	770	0	0	0
56	SLD 1	32	0	764	0	0	0
56	SLD 2	34	2	764	0	0	0
56	SLD 3	27	-9	763	0	0	0
56	SLD 4	29	-7	763	0	0	0
56	SLD 5	15	6	771	0	0	0
56	SLD 6	16	8	771	0	0	0
56	SLD 7	-4	-25	765	0	0	0
56	SLD 8	-3	-23	765	0	0	0
56	SLD 9	-6	2	774	0	0	0
56	SLD 10	-4	3	774	0	0	0
56	SLD 11	-25	-29	768	0	0	0
56	SLD 12	-24	-27	768	0	0	0
56	SLD 13	-37	-15	776	0	0	0
56	SLD 14	-35	-12	776	0	0	0
56	SLD 15	-43	-24	775	0	0	0
56	SLD 16	-41	-21	775	0	0	0
56	SLV 1	53	6	762	0	0	0
56	SLV 2	57	10	761	0	0	0
56	SLV 3	44	-9	759	0	0	0
56	SLV 4	47	-5	758	0	0	0
56	SLV 5	27	17	772	0	0	0
56	SLV 6	29	19	772	0	0	0
56	SLV 7	-5	-34	762	0	0	0
56	SLV 8	-3	-31	762	0	0	0
56	SLV 9	-6	10	777	0	0	0
56	SLV 10	-4	13	777	0	0	0
56	SLV 11	-37	-41	767	0	0	0
56	SLV 12	-35	-38	767	0	0	0
56	SLV 13	-56	-17	781	0	0	0
56	SLV 14	-53	-12	780	0	0	0
56	SLV 15	-65	-32	778	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
56	SLV 16	-62	-28	777	0	0	0
56	SLV FO 1	59	8	761	0	0	0
56	SLV FO 2	63	12	761	0	0	0
56	SLV FO 3	49	-9	758	0	0	0
56	SLV FO 4	52	-4	757	0	0	0
56	SLV FO 5	30	19	772	0	0	0
56	SLV FO 6	32	22	772	0	0	0
56	SLV FO 7	-5	-36	761	0	0	0
56	SLV FO 8	-2	-33	761	0	0	0
56	SLV FO 9	-6	12	778	0	0	0
56	SLV FO 10	-4	15	778	0	0	0
56	SLV FO 11	-41	-44	767	0	0	0
56	SLV FO 12	-38	-41	767	0	0	0
56	SLV FO 13	-61	-17	782	0	0	0
56	SLV FO 14	-57	-13	782	0	0	0
56	SLV FO 15	-71	-34	778	0	0	0
56	SLV FO 16	-68	-29	778	0	0	0
57	SLU 1	-3	-8	716	0	0	0
57	SLU 2	-3	-8	717	0	0	0
57	SLU 3	-4	-8	732	0	0	0
57	SLU 4	-3	-7	732	0	0	0
57	SLU 5	-3	-7	727	0	0	0
57	SLU 6	-4	-7	742	0	0	0
57	SLU 7	-4	-6	742	0	0	0
57	SLU 8	-4	-7	736	0	0	0
57	SLU 9	-4	-7	736	0	0	0
57	SLU 10	-5	-8	813	0	0	0
57	SLU 11	-6	-8	828	0	0	0
57	SLU 12	-6	-7	829	0	0	0
57	SLU 13	-6	-7	823	0	0	0
57	SLU 14	-7	-7	838	0	0	0
57	SLU 15	-6	-6	839	0	0	0
57	SLU 16	-7	-7	833	0	0	0
57	SLU 17	-6	-7	833	0	0	0
57	SLU 18	-7	-8	854	0	0	0
57	SLU 19	-6	-8	854	0	0	0
57	SLU 20	-7	-8	864	0	0	0
57	SLU 21	-7	-7	864	0	0	0
57	SLU 22	-5	-6	825	0	0	0
57	SLU 23	-4	-5	826	0	0	0
57	SLU 24	-5	-5	841	0	0	0
57	SLU 25	-5	-5	841	0	0	0
57	SLU 26	-5	-4	836	0	0	0
57	SLU 27	-6	-4	851	0	0	0
57	SLU 28	-6	-4	851	0	0	0
57	SLU 29	-6	-4	845	0	0	0
57	SLU 30	-6	-4	845	0	0	0
57	SLU 31	-7	-5	922	0	0	0
57	SLU 32	-8	-5	938	0	0	0
57	SLU 33	-8	-4	938	0	0	0
57	SLU 34	-7	-4	932	0	0	0
57	SLU 35	-8	-4	947	0	0	0
57	SLU 36	-8	-4	948	0	0	0
57	SLU 37	-8	-4	942	0	0	0
57	SLU 38	-8	-4	942	0	0	0
57	SLU 39	-9	-6	963	0	0	0
57	SLU 40	-8	-5	963	0	0	0
57	SLU 41	-9	-5	973	0	0	0
57	SLU 42	-9	-5	973	0	0	0
57	SLU 43	-4	-12	894	0	0	0
57	SLU 44	-3	-11	894	0	0	0
57	SLU 45	-4	-11	909	0	0	0
57	SLU 46	-4	-11	910	0	0	0
57	SLU 47	-4	-10	904	0	0	0
57	SLU 48	-4	-10	919	0	0	0
57	SLU 49	-4	-10	920	0	0	0
57	SLU 50	-4	-10	914	0	0	0
57	SLU 51	-4	-10	914	0	0	0
57	SLU 52	-6	-11	991	0	0	0
57	SLU 53	-7	-11	1006	0	0	0
57	SLU 54	-6	-11	1006	0	0	0
57	SLU 55	-6	-10	1001	0	0	0
57	SLU 56	-7	-10	1016	0	0	0
57	SLU 57	-7	-10	1016	0	0	0
57	SLU 58	-7	-10	1010	0	0	0
57	SLU 59	-7	-10	1010	0	0	0
57	SLU 60	-7	-12	1032	0	0	0
57	SLU 61	-7	-11	1032	0	0	0
57	SLU 62	-8	-11	1042	0	0	0
57	SLU 63	-7	-11	1042	0	0	0
57	SLU 64	-5	-9	1003	0	0	0
57	SLU 65	-5	-8	1003	0	0	0
57	SLU 66	-6	-8	1018	0	0	0
57	SLU 67	-6	-8	1019	0	0	0
57	SLU 68	-5	-8	1013	0	0	0
57	SLU 69	-6	-8	1028	0	0	0
57	SLU 70	-6	-7	1029	0	0	0
57	SLU 71	-6	-8	1023	0	0	0
57	SLU 72	-6	-7	1023	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
57	SLU 73	-7	-8	1100	0	0	0
57	SLU 74	-8	-8	1115	0	0	0
57	SLU 75	-8	-8	1115	0	0	0
57	SLU 76	-8	-8	1110	0	0	0
57	SLU 77	-9	-8	1125	0	0	0
57	SLU 78	-8	-7	1125	0	0	0
57	SLU 79	-9	-8	1119	0	0	0
57	SLU 80	-8	-7	1119	0	0	0
57	SLU 81	-9	-9	1141	0	0	0
57	SLU 82	-9	-9	1141	0	0	0
57	SLU 83	-9	-9	1151	0	0	0
57	SLU 84	-9	-8	1151	0	0	0
57	SLE RA 1	-4	-8	747	0	0	0
57	SLE RA 2	-3	-7	748	0	0	0
57	SLE RA 3	-4	-7	758	0	0	0
57	SLE RA 4	-4	-7	758	0	0	0
57	SLE RA 5	-4	-7	754	0	0	0
57	SLE RA 6	-4	-7	764	0	0	0
57	SLE RA 7	-4	-6	765	0	0	0
57	SLE RA 8	-4	-7	761	0	0	0
57	SLE RA 9	-4	-6	761	0	0	0
57	SLE RA 10	-5	-7	812	0	0	0
57	SLE RA 11	-6	-7	822	0	0	0
57	SLE RA 12	-5	-7	822	0	0	0
57	SLE RA 13	-5	-7	819	0	0	0
57	SLE RA 14	-6	-7	829	0	0	0
57	SLE RA 15	-6	-6	829	0	0	0
57	SLE RA 16	-6	-7	825	0	0	0
57	SLE RA 17	-6	-6	825	0	0	0
57	SLE RA 18	-6	-8	839	0	0	0
57	SLE RA 19	-6	-7	839	0	0	0
57	SLE RA 20	-6	-7	846	0	0	0
57	SLE RA 21	-6	-7	846	0	0	0
57	SLE FR 1	-4	-8	747	0	0	0
57	SLE FR 2	-4	-8	747	0	0	0
57	SLE FR 3	-4	-8	750	0	0	0
57	SLE FR 4	-4	-8	775	0	0	0
57	SLE FR 5	-5	-8	778	0	0	0
57	SLE FR 6	-5	-8	793	0	0	0
57	SLE QP 1	-4	-8	747	0	0	0
57	SLE QP 2	-4	-8	775	0	0	0
57	SLD 1	33	2	759	0	0	0
57	SLD 2	35	5	759	0	0	0
57	SLD 3	27	-7	756	0	0	0
57	SLD 4	29	-4	756	0	0	0
57	SLD 5	15	8	775	0	0	0
57	SLD 6	17	11	775	0	0	0
57	SLD 7	-4	-22	765	0	0	0
57	SLD 8	-3	-20	765	0	0	0
57	SLD 9	-6	4	785	0	0	0
57	SLD 10	-4	7	785	0	0	0
57	SLD 11	-25	-26	775	0	0	0
57	SLD 12	-24	-24	775	0	0	0
57	SLD 13	-38	-11	794	0	0	0
57	SLD 14	-36	-8	794	0	0	0
57	SLD 15	-44	-21	791	0	0	0
57	SLD 16	-42	-17	791	0	0	0
57	SLV 1	54	7	750	0	0	0
57	SLV 2	57	13	750	0	0	0
57	SLV 3	44	-8	745	0	0	0
57	SLV 4	48	-2	745	0	0	0
57	SLV 5	27	19	775	0	0	0
57	SLV 6	29	22	775	0	0	0
57	SLV 7	-5	-32	759	0	0	0
57	SLV 8	-3	-28	758	0	0	0
57	SLV 9	-6	13	791	0	0	0
57	SLV 10	-4	16	791	0	0	0
57	SLV 11	-38	-38	775	0	0	0
57	SLV 12	-36	-34	775	0	0	0
57	SLV 13	-57	-13	805	0	0	0
57	SLV 14	-53	-8	805	0	0	0
57	SLV 15	-66	-28	800	0	0	0
57	SLV 16	-63	-23	800	0	0	0
57	SLV FO 1	60	9	748	0	0	0
57	SLV FO 2	63	15	747	0	0	0
57	SLV FO 3	49	-8	742	0	0	0
57	SLV FO 4	53	-2	742	0	0	0
57	SLV FO 5	30	21	775	0	0	0
57	SLV FO 6	32	25	775	0	0	0
57	SLV FO 7	-5	-34	757	0	0	0
57	SLV FO 8	-2	-30	757	0	0	0
57	SLV FO 9	-6	15	793	0	0	0
57	SLV FO 10	-4	19	793	0	0	0
57	SLV FO 11	-41	-41	775	0	0	0
57	SLV FO 12	-39	-37	775	0	0	0
57	SLV FO 13	-62	-14	808	0	0	0
57	SLV FO 14	-58	-8	808	0	0	0
57	SLV FO 15	-72	-30	803	0	0	0
57	SLV FO 16	-69	-24	802	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
59	SLU 1	-3	-3	526	0	0	0
59	SLU 2	-3	-2	526	0	0	0
59	SLU 3	-3	-2	537	0	0	0
59	SLU 4	-3	-2	537	0	0	0
59	SLU 5	-3	-2	533	0	0	0
59	SLU 6	-4	-2	544	0	0	0
59	SLU 7	-3	-1	544	0	0	0
59	SLU 8	-3	-2	540	0	0	0
59	SLU 9	-3	-1	540	0	0	0
59	SLU 10	-4	-2	596	0	0	0
59	SLU 11	-5	-2	607	0	0	0
59	SLU 12	-5	-1	607	0	0	0
59	SLU 13	-5	-1	603	0	0	0
59	SLU 14	-5	-1	614	0	0	0
59	SLU 15	-5	-1	614	0	0	0
59	SLU 16	-5	-1	610	0	0	0
59	SLU 17	-5	-1	610	0	0	0
59	SLU 18	-6	-2	626	0	0	0
59	SLU 19	-5	-2	626	0	0	0
59	SLU 20	-6	-2	633	0	0	0
59	SLU 21	-6	-1	633	0	0	0
59	SLU 22	-4	-1	605	0	0	0
59	SLU 23	-4	0	605	0	0	0
59	SLU 24	-5	0	617	0	0	0
59	SLU 25	-4	0	617	0	0	0
59	SLU 26	-4	1	613	0	0	0
59	SLU 27	-5	1	624	0	0	0
59	SLU 28	-5	1	624	0	0	0
59	SLU 29	-5	1	620	0	0	0
59	SLU 30	-5	1	620	0	0	0
59	SLU 31	-6	0	675	0	0	0
59	SLU 32	-6	1	687	0	0	0
59	SLU 33	-6	1	687	0	0	0
59	SLU 34	-6	1	683	0	0	0
59	SLU 35	-7	1	694	0	0	0
59	SLU 36	-7	1	694	0	0	0
59	SLU 37	-7	1	690	0	0	0
59	SLU 38	-7	1	690	0	0	0
59	SLU 39	-7	0	705	0	0	0
59	SLU 40	-7	0	705	0	0	0
59	SLU 41	-7	1	712	0	0	0
59	SLU 42	-7	1	713	0	0	0
59	SLU 43	-3	-5	656	0	0	0
59	SLU 44	-3	-4	656	0	0	0
59	SLU 45	-4	-4	667	0	0	0
59	SLU 46	-3	-4	668	0	0	0
59	SLU 47	-3	-3	663	0	0	0
59	SLU 48	-4	-3	675	0	0	0
59	SLU 49	-4	-3	675	0	0	0
59	SLU 50	-4	-3	670	0	0	0
59	SLU 51	-4	-3	671	0	0	0
59	SLU 52	-5	-4	726	0	0	0
59	SLU 53	-5	-4	737	0	0	0
59	SLU 54	-5	-3	738	0	0	0
59	SLU 55	-5	-3	733	0	0	0
59	SLU 56	-6	-3	745	0	0	0
59	SLU 57	-6	-3	745	0	0	0
59	SLU 58	-6	-3	740	0	0	0
59	SLU 59	-6	-3	741	0	0	0
59	SLU 60	-6	-4	756	0	0	0
59	SLU 61	-6	-4	756	0	0	0
59	SLU 62	-6	-3	763	0	0	0
59	SLU 63	-6	-3	763	0	0	0
59	SLU 64	-5	-2	736	0	0	0
59	SLU 65	-4	-2	736	0	0	0
59	SLU 66	-5	-2	747	0	0	0
59	SLU 67	-5	-1	747	0	0	0
59	SLU 68	-5	-1	743	0	0	0
59	SLU 69	-5	-1	754	0	0	0
59	SLU 70	-5	-1	754	0	0	0
59	SLU 71	-5	-1	750	0	0	0
59	SLU 72	-5	-1	750	0	0	0
59	SLU 73	-6	-1	806	0	0	0
59	SLU 74	-7	-1	817	0	0	0
59	SLU 75	-7	-1	817	0	0	0
59	SLU 76	-6	-1	813	0	0	0
59	SLU 77	-7	-1	824	0	0	0
59	SLU 78	-7	0	824	0	0	0
59	SLU 79	-7	-1	820	0	0	0
59	SLU 80	-7	0	820	0	0	0
59	SLU 81	-7	-2	836	0	0	0
59	SLU 82	-7	-1	836	0	0	0
59	SLU 83	-8	-1	843	0	0	0
59	SLU 84	-7	-1	843	0	0	0
59	SLE RA 1	-3	-2	548	0	0	0
59	SLE RA 2	-3	-2	549	0	0	0
59	SLE RA 3	-3	-2	556	0	0	0
59	SLE RA 4	-3	-2	556	0	0	0
59	SLE RA 5	-3	-1	553	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
59	SLE RA 6	-4	-1	561	0	0	0
59	SLE RA 7	-4	-1	561	0	0	0
59	SLE RA 8	-4	-1	558	0	0	0
59	SLE RA 9	-4	-1	558	0	0	0
59	SLE RA 10	-4	-2	595	0	0	0
59	SLE RA 11	-5	-2	603	0	0	0
59	SLE RA 12	-5	-1	603	0	0	0
59	SLE RA 13	-4	-1	600	0	0	0
59	SLE RA 14	-5	-1	607	0	0	0
59	SLE RA 15	-5	-1	608	0	0	0
59	SLE RA 16	-5	-1	605	0	0	0
59	SLE RA 17	-5	-1	605	0	0	0
59	SLE RA 18	-5	-2	615	0	0	0
59	SLE RA 19	-5	-2	615	0	0	0
59	SLE RA 20	-5	-1	620	0	0	0
59	SLE RA 21	-5	-1	620	0	0	0
59	SLE FR 1	-3	-2	548	0	0	0
59	SLE FR 2	-3	-2	548	0	0	0
59	SLE FR 3	-3	-2	550	0	0	0
59	SLE FR 4	-4	-2	568	0	0	0
59	SLE FR 5	-4	-2	570	0	0	0
59	SLE FR 6	-4	-2	582	0	0	0
59	SLE QP 1	-3	-2	548	0	0	0
59	SLE QP 2	-4	-2	568	0	0	0
59	SLD 1	24	4	543	0	0	0
59	SLD 2	25	7	543	0	0	0
59	SLD 3	20	-3	541	0	0	0
59	SLD 4	21	0	541	0	0	0
59	SLD 5	11	9	564	0	0	0
59	SLD 6	12	11	564	0	0	0
59	SLD 7	-4	-13	557	0	0	0
59	SLD 8	-3	-11	557	0	0	0
59	SLD 9	-5	7	580	0	0	0
59	SLD 10	-4	9	579	0	0	0
59	SLD 11	-19	-15	573	0	0	0
59	SLD 12	-18	-13	573	0	0	0
59	SLD 13	-29	-5	596	0	0	0
59	SLD 14	-27	-1	595	0	0	0
59	SLD 15	-33	-11	594	0	0	0
59	SLD 16	-32	-8	593	0	0	0
59	SLV 1	40	7	529	0	0	0
59	SLV 2	42	12	529	0	0	0
59	SLV 3	33	-4	526	0	0	0
59	SLV 4	35	1	526	0	0	0
59	SLV 5	20	16	562	0	0	0
59	SLV 6	21	20	561	0	0	0
59	SLV 7	-4	-20	551	0	0	0
59	SLV 8	-3	-16	551	0	0	0
59	SLV 9	-5	12	586	0	0	0
59	SLV 10	-4	16	586	0	0	0
59	SLV 11	-29	-24	576	0	0	0
59	SLV 12	-27	-20	575	0	0	0
59	SLV 13	-43	-6	611	0	0	0
59	SLV 14	-40	0	610	0	0	0
59	SLV 15	-50	-16	608	0	0	0
59	SLV 16	-47	-11	607	0	0	0
59	SLV FO 1	44	8	526	0	0	0
59	SLV FO 2	47	14	525	0	0	0
59	SLV FO 3	36	-4	522	0	0	0
59	SLV FO 4	39	2	521	0	0	0
59	SLV FO 5	22	18	561	0	0	0
59	SLV FO 6	24	22	560	0	0	0
59	SLV FO 7	-4	-22	549	0	0	0
59	SLV FO 8	-2	-18	549	0	0	0
59	SLV FO 9	-5	14	588	0	0	0
59	SLV FO 10	-4	18	587	0	0	0
59	SLV FO 11	-31	-26	576	0	0	0
59	SLV FO 12	-30	-22	576	0	0	0
59	SLV FO 13	-46	-6	615	0	0	0
59	SLV FO 14	-44	0	615	0	0	0
59	SLV FO 15	-54	-18	612	0	0	0
59	SLV FO 16	-52	-12	611	0	0	0
60	SLU 1	-3	-4	550	-42.77	0	-0.2
60	SLU 2	-2	-4	550	-42.8	0	-0.17
60	SLU 3	-3	-4	562	-43.7	0	-0.23
60	SLU 4	-3	-3	562	-43.72	0	-0.21
60	SLU 5	-3	-3	558	-43.39	0	-0.2
60	SLU 6	-3	-3	569	-44.29	0	-0.25
60	SLU 7	-3	-3	569	-44.31	0	-0.23
60	SLU 8	-3	-3	565	-43.95	0	-0.25
60	SLU 9	-3	-3	565	-43.96	0	-0.23
60	SLU 10	-4	-3	623	-48.52	0	-0.32
60	SLU 11	-5	-3	635	-49.42	0	-0.38
60	SLU 12	-5	-3	635	-49.44	0	-0.36
60	SLU 13	-4	-3	631	-49.1	0	-0.34
60	SLU 14	-5	-3	643	-50.01	0	-0.4
60	SLU 15	-5	-2	643	-50.02	0	-0.38
60	SLU 16	-5	-3	638	-49.66	0	-0.4
60	SLU 17	-5	-3	638	-49.68	0	-0.38



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
60	SLU 18	-5	-4	655	-50.94	0	-0.41
60	SLU 19	-5	-4	655	-50.96	0	-0.39
60	SLU 20	-6	-3	662	-51.52	0	-0.44
60	SLU 21	-5	-3	662	-51.54	0	-0.42
60	SLU 22	-4	-2	633	-49.25	0	-0.31
60	SLU 23	-4	-1	633	-49.28	0	-0.28
60	SLU 24	-4	-1	645	-50.18	0	-0.33
60	SLU 25	-4	-1	645	-50.2	0	-0.32
60	SLU 26	-4	-1	641	-49.87	0	-0.3
60	SLU 27	-5	-1	652	-50.77	0	-0.36
60	SLU 28	-4	0	653	-50.79	0	-0.34
60	SLU 29	-5	-1	648	-50.42	0	-0.36
60	SLU 30	-4	0	648	-50.44	0	-0.34
60	SLU 31	-5	-1	707	-55	0	-0.43
60	SLU 32	-6	-1	718	-55.9	0	-0.48
60	SLU 33	-6	-1	719	-55.92	0	-0.46
60	SLU 34	-6	-1	714	-55.58	0	-0.45
60	SLU 35	-7	0	726	-56.49	0	-0.51
60	SLU 36	-6	0	726	-56.5	0	-0.49
60	SLU 37	-6	-1	721	-56.14	0	-0.51
60	SLU 38	-6	0	722	-56.16	0	-0.49
60	SLU 39	-7	-2	738	-57.42	0	-0.52
60	SLU 40	-6	-1	738	-57.43	0	-0.5
60	SLU 41	-7	-1	745	-58	0	-0.54
60	SLU 42	-7	-1	746	-58.02	0	-0.53
60	SLU 43	-3	-6	686	-53.38	0	-0.22
60	SLU 44	-2	-6	686	-53.41	0	-0.19
60	SLU 45	-3	-6	698	-54.31	0	-0.25
60	SLU 46	-3	-5	698	-54.33	0	-0.23
60	SLU 47	-3	-5	694	-54	0	-0.22
60	SLU 48	-4	-5	705	-54.9	0	-0.28
60	SLU 49	-3	-5	706	-54.92	0	-0.26
60	SLU 50	-4	-5	701	-54.56	0	-0.27
60	SLU 51	-3	-5	701	-54.57	0	-0.26
60	SLU 52	-4	-5	760	-59.13	0	-0.34
60	SLU 53	-5	-5	771	-60.03	0	-0.4
60	SLU 54	-5	-5	772	-60.05	0	-0.38
60	SLU 55	-5	-5	767	-59.71	0	-0.37
60	SLU 56	-5	-5	779	-60.62	0	-0.43
60	SLU 57	-5	-4	779	-60.64	0	-0.41
60	SLU 58	-5	-5	774	-60.27	0	-0.42
60	SLU 59	-5	-5	775	-60.29	0	-0.4
60	SLU 60	-6	-6	791	-61.55	0	-0.44
60	SLU 61	-5	-6	791	-61.57	0	-0.42
60	SLU 62	-6	-5	798	-62.13	0	-0.46
60	SLU 63	-6	-5	799	-62.15	0	-0.44
60	SLU 64	-4	-4	769	-59.86	0	-0.33
60	SLU 65	-4	-3	770	-59.89	0	-0.3
60	SLU 66	-5	-3	781	-60.79	0	-0.36
60	SLU 67	-4	-3	781	-60.81	0	-0.34
60	SLU 68	-4	-3	777	-60.48	0	-0.33
60	SLU 69	-5	-3	789	-61.38	0	-0.38
60	SLU 70	-5	-2	789	-61.4	0	-0.36
60	SLU 71	-5	-3	784	-61.03	0	-0.38
60	SLU 72	-5	-3	785	-61.05	0	-0.36
60	SLU 73	-6	-3	843	-65.61	0	-0.45
60	SLU 74	-7	-3	855	-66.51	0	-0.51
60	SLU 75	-6	-3	855	-66.53	0	-0.49
60	SLU 76	-6	-3	851	-66.19	0	-0.47
60	SLU 77	-7	-3	862	-67.1	0	-0.53
60	SLU 78	-7	-2	862	-67.11	0	-0.51
60	SLU 79	-7	-3	858	-66.75	0	-0.53
60	SLU 80	-7	-2	858	-66.77	0	-0.51
60	SLU 81	-7	-4	874	-68.03	0	-0.54
60	SLU 82	-7	-3	874	-68.04	0	-0.52
60	SLU 83	-7	-3	882	-68.61	0	-0.57
60	SLU 84	-7	-3	882	-68.63	0	-0.55
60	SLE RA 1	-3	-4	573	-44.62	0	-0.23
60	SLE RA 2	-3	-3	574	-44.64	0	-0.21
60	SLE RA 3	-3	-3	581	-45.24	0	-0.25
60	SLE RA 4	-3	-3	582	-45.26	0	-0.24
60	SLE RA 5	-3	-3	579	-45.03	0	-0.23
60	SLE RA 6	-3	-3	586	-45.64	0	-0.27
60	SLE RA 7	-3	-3	587	-45.65	0	-0.25
60	SLE RA 8	-3	-3	583	-45.4	0	-0.26
60	SLE RA 9	-3	-3	584	-45.42	0	-0.25
60	SLE RA 10	-4	-3	623	-48.45	0	-0.31
60	SLE RA 11	-4	-3	630	-49.05	0	-0.35
60	SLE RA 12	-4	-3	630	-49.07	0	-0.34
60	SLE RA 13	-4	-3	628	-48.84	0	-0.33
60	SLE RA 14	-5	-3	635	-49.45	0	-0.36
60	SLE RA 15	-5	-2	636	-49.46	0	-0.35
60	SLE RA 16	-5	-3	632	-49.22	0	-0.36
60	SLE RA 17	-5	-2	633	-49.23	0	-0.35
60	SLE RA 18	-5	-3	643	-50.07	0	-0.37
60	SLE RA 19	-5	-3	643	-50.08	0	-0.36
60	SLE RA 20	-5	-3	648	-50.46	0	-0.39
60	SLE RA 21	-5	-3	649	-50.47	0	-0.38
60	SLE FR 1	-3	-4	573	-44.62	0	-0.23



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
60	SLE FR 2	-3	-4	573	-44.63	0	-0.23
60	SLE FR 3	-3	-3	575	-44.78	0	-0.24
60	SLE FR 4	-3	-3	594	-46.26	0	-0.27
60	SLE FR 5	-4	-3	596	-46.41	0	-0.28
60	SLE FR 6	-4	-3	608	-47.34	0	-0.3
60	SLE QP 1	-3	-4	573	-44.62	0	-0.23
60	SLE QP 2	-4	-4	594	-46.26	0	-0.27
60	SLD 1	25	3	574	-44.63	0	1.95
60	SLD 2	27	6	573	-44.61	0	2.08
60	SLD 3	21	-4	570	-44.38	0	1.6
60	SLD 4	22	-1	570	-44.35	0	1.72
60	SLD 5	12	8	593	-46.17	0	0.91
60	SLD 6	13	10	593	-46.15	0	0.99
60	SLD 7	-3	-15	582	-45.3	0	-0.27
60	SLD 8	-2	-13	582	-45.29	0	-0.19
60	SLD 9	-5	6	607	-47.22	0	-0.36
60	SLD 10	-4	8	607	-47.21	0	-0.28
60	SLD 11	-20	-17	596	-46.36	0	-1.54
60	SLD 12	-19	-15	596	-46.35	0	-1.45
60	SLD 13	-29	-6	619	-48.16	0	-2.27
60	SLD 14	-28	-3	619	-48.14	0	-2.15
60	SLD 15	-34	-13	616	-47.9	0	-2.62
60	SLD 16	-32	-10	615	-47.88	0	-2.5
60	SLV 1	42	7	562	-43.73	0	3.23
60	SLV 2	44	12	561	-43.69	0	3.43
60	SLV 3	34	-5	557	-43.31	0	2.66
60	SLV 4	37	0	556	-43.27	0	2.86
60	SLV 5	21	16	593	-46.14	0	1.61
60	SLV 6	22	19	593	-46.12	0	1.74
60	SLV 7	-4	-22	575	-44.74	0	-0.3
60	SLV 8	-2	-19	575	-44.72	0	-0.17
60	SLV 9	-5	12	614	-47.79	0	-0.38
60	SLV 10	-3	15	614	-47.77	0	-0.25
60	SLV 11	-29	-26	596	-46.4	0	-2.29
60	SLV 12	-28	-23	596	-46.37	0	-2.16
60	SLV 13	-44	-7	633	-49.24	0	-3.4
60	SLV 14	-41	-2	632	-49.2	0	-3.21
60	SLV 15	-51	-19	627	-48.82	0	-3.97
60	SLV 16	-49	-14	627	-48.78	0	-3.78
60	SLV FO 1	46	8	559	-43.48	0	3.59
60	SLV FO 2	49	13	558	-43.44	0	3.8
60	SLV FO 3	38	-5	553	-43.02	0	2.96
60	SLV FO 4	41	1	552	-42.97	0	3.17
60	SLV FO 5	23	18	593	-46.13	0	1.8
60	SLV FO 6	25	22	592	-46.1	0	1.94
60	SLV FO 7	-4	-24	573	-44.59	0	-0.3
60	SLV FO 8	-2	-20	573	-44.56	0	-0.16
60	SLV FO 9	-5	13	616	-47.95	0	-0.39
60	SLV FO 10	-3	17	616	-47.92	0	-0.25
60	SLV FO 11	-32	-29	596	-46.41	0	-2.49
60	SLV FO 12	-30	-25	596	-46.38	0	-2.35
60	SLV FO 13	-48	-8	637	-49.54	0	-3.71
60	SLV FO 14	-45	-2	636	-49.49	0	-3.5
60	SLV FO 15	-56	-20	631	-49.07	0	-4.34
60	SLV FO 16	-53	-15	630	-49.03	0	-4.13
60	CRTFP Ux+	0	0	0	0	0	0
60	CRTFP Ux-	0	0	0	0	0	0
61	SLU 1	-4	-14	523	0	0	0
61	SLU 2	-3	-13	522	0	0	0
61	SLU 3	-4	-13	536	0	0	0
61	SLU 4	-4	-13	535	0	0	0
61	SLU 5	-4	-13	530	0	0	0
61	SLU 6	-4	-13	543	0	0	0
61	SLU 7	-4	-12	543	0	0	0
61	SLU 8	-4	-13	539	0	0	0
61	SLU 9	-4	-13	539	0	0	0
61	SLU 10	-5	-14	595	0	0	0
61	SLU 11	-6	-14	609	0	0	0
61	SLU 12	-6	-14	608	0	0	0
61	SLU 13	-6	-14	603	0	0	0
61	SLU 14	-6	-14	616	0	0	0
61	SLU 15	-6	-13	616	0	0	0
61	SLU 16	-6	-14	612	0	0	0
61	SLU 17	-6	-13	612	0	0	0
61	SLU 18	-6	-15	628	0	0	0
61	SLU 19	-6	-15	627	0	0	0
61	SLU 20	-7	-14	635	0	0	0
61	SLU 21	-6	-14	635	0	0	0
61	SLU 22	-5	-13	605	0	0	0
61	SLU 23	-5	-12	605	0	0	0
61	SLU 24	-5	-12	618	0	0	0
61	SLU 25	-5	-12	617	0	0	0
61	SLU 26	-5	-12	613	0	0	0
61	SLU 27	-6	-12	626	0	0	0
61	SLU 28	-6	-11	625	0	0	0
61	SLU 29	-6	-12	621	0	0	0
61	SLU 30	-5	-11	621	0	0	0
61	SLU 31	-7	-13	678	0	0	0
61	SLU 32	-7	-13	691	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLU 33	-7	-13	690	0	0	0
61	SLU 34	-7	-12	686	0	0	0
61	SLU 35	-8	-13	699	0	0	0
61	SLU 36	-7	-12	698	0	0	0
61	SLU 37	-8	-13	694	0	0	0
61	SLU 38	-7	-12	694	0	0	0
61	SLU 39	-8	-14	710	0	0	0
61	SLU 40	-8	-14	709	0	0	0
61	SLU 41	-8	-13	718	0	0	0
61	SLU 42	-8	-13	717	0	0	0
61	SLU 43	-4	-18	652	0	0	0
61	SLU 44	-4	-18	651	0	0	0
61	SLU 45	-5	-18	664	0	0	0
61	SLU 46	-4	-17	664	0	0	0
61	SLU 47	-4	-17	659	0	0	0
61	SLU 48	-5	-17	672	0	0	0
61	SLU 49	-5	-17	672	0	0	0
61	SLU 50	-5	-17	668	0	0	0
61	SLU 51	-5	-17	667	0	0	0
61	SLU 52	-6	-18	724	0	0	0
61	SLU 53	-7	-19	737	0	0	0
61	SLU 54	-6	-18	737	0	0	0
61	SLU 55	-6	-18	732	0	0	0
61	SLU 56	-7	-18	745	0	0	0
61	SLU 57	-7	-18	745	0	0	0
61	SLU 58	-7	-18	741	0	0	0
61	SLU 59	-7	-18	740	0	0	0
61	SLU 60	-7	-19	756	0	0	0
61	SLU 61	-7	-19	756	0	0	0
61	SLU 62	-7	-19	764	0	0	0
61	SLU 63	-7	-19	764	0	0	0
61	SLU 64	-6	-17	734	0	0	0
61	SLU 65	-5	-17	733	0	0	0
61	SLU 66	-6	-17	746	0	0	0
61	SLU 67	-6	-16	746	0	0	0
61	SLU 68	-6	-16	741	0	0	0
61	SLU 69	-6	-16	754	0	0	0
61	SLU 70	-6	-16	754	0	0	0
61	SLU 71	-6	-16	750	0	0	0
61	SLU 72	-6	-16	750	0	0	0
61	SLU 73	-7	-17	806	0	0	0
61	SLU 74	-8	-18	819	0	0	0
61	SLU 75	-8	-17	819	0	0	0
61	SLU 76	-8	-17	814	0	0	0
61	SLU 77	-8	-17	827	0	0	0
61	SLU 78	-8	-17	827	0	0	0
61	SLU 79	-8	-17	823	0	0	0
61	SLU 80	-8	-17	823	0	0	0
61	SLU 81	-8	-18	839	0	0	0
61	SLU 82	-8	-18	838	0	0	0
61	SLU 83	-9	-18	846	0	0	0
61	SLU 84	-9	-18	846	0	0	0
61	SLE RA 1	-4	-14	547	0	0	0
61	SLE RA 2	-4	-13	546	0	0	0
61	SLE RA 3	-4	-13	555	0	0	0
61	SLE RA 4	-4	-13	555	0	0	0
61	SLE RA 5	-4	-13	551	0	0	0
61	SLE RA 6	-5	-13	560	0	0	0
61	SLE RA 7	-4	-13	560	0	0	0
61	SLE RA 8	-5	-13	557	0	0	0
61	SLE RA 9	-4	-13	557	0	0	0
61	SLE RA 10	-5	-14	595	0	0	0
61	SLE RA 11	-6	-14	604	0	0	0
61	SLE RA 12	-5	-13	603	0	0	0
61	SLE RA 13	-5	-13	600	0	0	0
61	SLE RA 14	-6	-13	609	0	0	0
61	SLE RA 15	-6	-13	609	0	0	0
61	SLE RA 16	-6	-13	606	0	0	0
61	SLE RA 17	-6	-13	606	0	0	0
61	SLE RA 18	-6	-14	616	0	0	0
61	SLE RA 19	-6	-14	616	0	0	0
61	SLE RA 20	-6	-14	622	0	0	0
61	SLE RA 21	-6	-14	621	0	0	0
61	SLE FR 1	-4	-14	547	0	0	0
61	SLE FR 2	-4	-13	547	0	0	0
61	SLE FR 3	-4	-13	549	0	0	0
61	SLE FR 4	-5	-14	567	0	0	0
61	SLE FR 5	-5	-14	570	0	0	0
61	SLE FR 6	-5	-14	582	0	0	0
61	SLE QP 1	-4	-14	547	0	0	0
61	SLE QP 2	-5	-14	568	0	0	0
61	SLD 1	23	-4	582	0	0	0
61	SLD 2	24	-3	582	0	0	0
61	SLD 3	18	-11	593	0	0	0
61	SLD 4	19	-10	593	0	0	0
61	SLD 5	10	0	555	0	0	0
61	SLD 6	10	0	555	0	0	0
61	SLD 7	-4	-24	592	0	0	0
61	SLD 8	-4	-23	593	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
61	SLD 9	-6	-4	543	0	0	0
61	SLD 10	-5	-4	543	0	0	0
61	SLD 11	-20	-28	580	0	0	0
61	SLD 12	-19	-27	581	0	0	0
61	SLD 13	-29	-17	542	0	0	0
61	SLD 14	-28	-17	542	0	0	0
61	SLD 15	-33	-24	553	0	0	0
61	SLD 16	-32	-24	553	0	0	0
61	SLV 1	38	2	590	0	0	0
61	SLV 2	40	3	590	0	0	0
61	SLV 3	31	-9	608	0	0	0
61	SLV 4	33	-8	608	0	0	0
61	SLV 5	18	9	546	0	0	0
61	SLV 6	19	9	547	0	0	0
61	SLV 7	-5	-30	607	0	0	0
61	SLV 8	-3	-30	608	0	0	0
61	SLV 9	-6	2	528	0	0	0
61	SLV 10	-5	3	528	0	0	0
61	SLV 11	-29	-37	589	0	0	0
61	SLV 12	-28	-36	589	0	0	0
61	SLV 13	-42	-19	527	0	0	0
61	SLV 14	-41	-18	527	0	0	0
61	SLV 15	-49	-31	545	0	0	0
61	SLV 16	-47	-30	546	0	0	0
61	SLV FO 1	42	4	592	0	0	0
61	SLV FO 2	44	5	592	0	0	0
61	SLV FO 3	35	-9	612	0	0	0
61	SLV FO 4	37	-8	612	0	0	0
61	SLV FO 5	21	11	544	0	0	0
61	SLV FO 6	22	12	544	0	0	0
61	SLV FO 7	-5	-32	611	0	0	0
61	SLV FO 8	-3	-31	612	0	0	0
61	SLV FO 9	-6	4	524	0	0	0
61	SLV FO 10	-5	4	524	0	0	0
61	SLV FO 11	-31	-39	591	0	0	0
61	SLV FO 12	-30	-38	591	0	0	0
61	SLV FO 13	-46	-20	523	0	0	0
61	SLV FO 14	-44	-19	523	0	0	0
61	SLV FO 15	-54	-32	543	0	0	0
61	SLV FO 16	-52	-32	543	0	0	0
62	SLU 1	-2	-8	288	0	0	0
62	SLU 2	-2	-8	288	0	0	0
62	SLU 3	-2	-8	295	0	0	0
62	SLU 4	-2	-8	295	0	0	0
62	SLU 5	-2	-8	292	0	0	0
62	SLU 6	-2	-8	299	0	0	0
62	SLU 7	-2	-8	299	0	0	0
62	SLU 8	-2	-8	297	0	0	0
62	SLU 9	-2	-8	297	0	0	0
62	SLU 10	-3	-9	328	0	0	0
62	SLU 11	-3	-9	335	0	0	0
62	SLU 12	-3	-8	335	0	0	0
62	SLU 13	-3	-8	332	0	0	0
62	SLU 14	-3	-8	340	0	0	0
62	SLU 15	-3	-8	339	0	0	0
62	SLU 16	-3	-8	337	0	0	0
62	SLU 17	-3	-8	337	0	0	0
62	SLU 18	-4	-9	346	0	0	0
62	SLU 19	-3	-9	346	0	0	0
62	SLU 20	-4	-9	350	0	0	0
62	SLU 21	-4	-9	350	0	0	0
62	SLU 22	-3	-8	334	0	0	0
62	SLU 23	-3	-8	333	0	0	0
62	SLU 24	-3	-8	340	0	0	0
62	SLU 25	-3	-7	340	0	0	0
62	SLU 26	-3	-7	338	0	0	0
62	SLU 27	-3	-7	345	0	0	0
62	SLU 28	-3	-7	345	0	0	0
62	SLU 29	-3	-7	342	0	0	0
62	SLU 30	-3	-7	342	0	0	0
62	SLU 31	-4	-8	373	0	0	0
62	SLU 32	-4	-8	381	0	0	0
62	SLU 33	-4	-8	380	0	0	0
62	SLU 34	-4	-8	378	0	0	0
62	SLU 35	-4	-8	385	0	0	0
62	SLU 36	-4	-8	385	0	0	0
62	SLU 37	-4	-8	383	0	0	0
62	SLU 38	-4	-8	383	0	0	0
62	SLU 39	-4	-9	391	0	0	0
62	SLU 40	-4	-8	391	0	0	0
62	SLU 41	-4	-8	396	0	0	0
62	SLU 42	-4	-8	395	0	0	0
62	SLU 43	-2	-11	359	0	0	0
62	SLU 44	-2	-11	359	0	0	0
62	SLU 45	-3	-11	366	0	0	0
62	SLU 46	-2	-11	366	0	0	0
62	SLU 47	-2	-10	363	0	0	0
62	SLU 48	-3	-11	370	0	0	0
62	SLU 49	-3	-10	370	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
62	SLU 50	-3	-11	368	0	0	0
62	SLU 51	-3	-10	368	0	0	0
62	SLU 52	-3	-11	399	0	0	0
62	SLU 53	-4	-11	406	0	0	0
62	SLU 54	-4	-11	406	0	0	0
62	SLU 55	-3	-11	403	0	0	0
62	SLU 56	-4	-11	411	0	0	0
62	SLU 57	-4	-11	410	0	0	0
62	SLU 58	-4	-11	408	0	0	0
62	SLU 59	-4	-11	408	0	0	0
62	SLU 60	-4	-12	417	0	0	0
62	SLU 61	-4	-12	416	0	0	0
62	SLU 62	-4	-11	421	0	0	0
62	SLU 63	-4	-11	421	0	0	0
62	SLU 64	-3	-11	405	0	0	0
62	SLU 65	-3	-10	404	0	0	0
62	SLU 66	-3	-10	411	0	0	0
62	SLU 67	-3	-10	411	0	0	0
62	SLU 68	-3	-10	408	0	0	0
62	SLU 69	-4	-10	416	0	0	0
62	SLU 70	-3	-10	415	0	0	0
62	SLU 71	-4	-10	413	0	0	0
62	SLU 72	-3	-10	413	0	0	0
62	SLU 73	-4	-11	444	0	0	0
62	SLU 74	-4	-11	452	0	0	0
62	SLU 75	-4	-11	451	0	0	0
62	SLU 76	-4	-10	449	0	0	0
62	SLU 77	-5	-11	456	0	0	0
62	SLU 78	-4	-10	456	0	0	0
62	SLU 79	-5	-11	454	0	0	0
62	SLU 80	-4	-10	453	0	0	0
62	SLU 81	-5	-11	462	0	0	0
62	SLU 82	-5	-11	462	0	0	0
62	SLU 83	-5	-11	467	0	0	0
62	SLU 84	-5	-11	466	0	0	0
62	SLE RA 1	-2	-8	301	0	0	0
62	SLE RA 2	-2	-8	301	0	0	0
62	SLE RA 3	-2	-8	306	0	0	0
62	SLE RA 4	-2	-8	305	0	0	0
62	SLE RA 5	-2	-8	304	0	0	0
62	SLE RA 6	-3	-8	309	0	0	0
62	SLE RA 7	-2	-8	308	0	0	0
62	SLE RA 8	-3	-8	307	0	0	0
62	SLE RA 9	-2	-8	307	0	0	0
62	SLE RA 10	-3	-8	328	0	0	0
62	SLE RA 11	-3	-8	333	0	0	0
62	SLE RA 12	-3	-8	332	0	0	0
62	SLE RA 13	-3	-8	331	0	0	0
62	SLE RA 14	-3	-8	336	0	0	0
62	SLE RA 15	-3	-8	335	0	0	0
62	SLE RA 16	-3	-8	334	0	0	0
62	SLE RA 17	-3	-8	334	0	0	0
62	SLE RA 18	-3	-9	340	0	0	0
62	SLE RA 19	-3	-9	339	0	0	0
62	SLE RA 20	-3	-9	343	0	0	0
62	SLE RA 21	-3	-8	342	0	0	0
62	SLE FR 1	-2	-8	301	0	0	0
62	SLE FR 2	-2	-8	301	0	0	0
62	SLE FR 3	-2	-8	302	0	0	0
62	SLE FR 4	-3	-8	313	0	0	0
62	SLE FR 5	-3	-8	314	0	0	0
62	SLE FR 6	-3	-8	320	0	0	0
62	SLE QP 1	-2	-8	301	0	0	0
62	SLE QP 2	-3	-8	313	0	0	0
62	SLD 1	12	-2	323	0	0	0
62	SLD 2	13	-2	323	0	0	0
62	SLD 3	10	-6	330	0	0	0
62	SLD 4	11	-6	330	0	0	0
62	SLD 5	5	-1	305	0	0	0
62	SLD 6	6	-1	306	0	0	0
62	SLD 7	-2	-14	328	0	0	0
62	SLD 8	-2	-14	328	0	0	0
62	SLD 9	-3	-3	297	0	0	0
62	SLD 10	-3	-3	297	0	0	0
62	SLD 11	-11	-16	320	0	0	0
62	SLD 12	-10	-16	320	0	0	0
62	SLD 13	-16	-10	295	0	0	0
62	SLD 14	-15	-10	295	0	0	0
62	SLD 15	-18	-14	302	0	0	0
62	SLD 16	-18	-14	302	0	0	0
62	SLV 1	21	1	329	0	0	0
62	SLV 2	22	1	329	0	0	0
62	SLV 3	17	-5	340	0	0	0
62	SLV 4	18	-5	340	0	0	0
62	SLV 5	10	4	301	0	0	0
62	SLV 6	11	4	301	0	0	0
62	SLV 7	-3	-17	338	0	0	0
62	SLV 8	-2	-17	338	0	0	0
62	SLV 9	-3	1	288	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
62	SLV 10	-3	1	288	0	0	0
62	SLV 11	-16	-21	325	0	0	0
62	SLV 12	-15	-21	325	0	0	0
62	SLV 13	-23	-11	285	0	0	0
62	SLV 14	-22	-11	285	0	0	0
62	SLV 15	-27	-18	296	0	0	0
62	SLV 16	-26	-18	296	0	0	0
62	SLV FO 1	23	2	331	0	0	0
62	SLV FO 2	24	2	331	0	0	0
62	SLV FO 3	19	-5	343	0	0	0
62	SLV FO 4	20	-5	343	0	0	0
62	SLV FO 5	11	6	300	0	0	0
62	SLV FO 6	12	6	300	0	0	0
62	SLV FO 7	-3	-18	340	0	0	0
62	SLV FO 8	-2	-18	340	0	0	0
62	SLV FO 9	-3	1	285	0	0	0
62	SLV FO 10	-3	2	285	0	0	0
62	SLV FO 11	-17	-22	326	0	0	0
62	SLV FO 12	-16	-22	326	0	0	0
62	SLV FO 13	-25	-12	282	0	0	0
62	SLV FO 14	-24	-12	283	0	0	0
62	SLV FO 15	-29	-19	295	0	0	0
62	SLV FO 16	-28	-19	295	0	0	0
63	SLU 1	-1	-1	137	0	0	0
63	SLU 2	-1	-1	137	0	0	0
63	SLU 3	-1	-1	140	0	0	0
63	SLU 4	-1	-1	140	0	0	0
63	SLU 5	-1	-1	139	0	0	0
63	SLU 6	-1	-1	142	0	0	0
63	SLU 7	-1	-1	142	0	0	0
63	SLU 8	-1	-1	141	0	0	0
63	SLU 9	-1	-1	141	0	0	0
63	SLU 10	-1	-1	156	0	0	0
63	SLU 11	-2	-1	159	0	0	0
63	SLU 12	-2	-1	159	0	0	0
63	SLU 13	-2	-1	158	0	0	0
63	SLU 14	-2	-1	161	0	0	0
63	SLU 15	-2	0	161	0	0	0
63	SLU 16	-2	-1	160	0	0	0
63	SLU 17	-2	0	160	0	0	0
63	SLU 18	-2	-1	164	0	0	0
63	SLU 19	-2	-1	164	0	0	0
63	SLU 20	-2	-1	166	0	0	0
63	SLU 21	-2	-1	166	0	0	0
63	SLU 22	-1	0	158	0	0	0
63	SLU 23	-1	0	158	0	0	0
63	SLU 24	-2	0	162	0	0	0
63	SLU 25	-1	0	162	0	0	0
63	SLU 26	-1	0	160	0	0	0
63	SLU 27	-2	0	163	0	0	0
63	SLU 28	-2	0	163	0	0	0
63	SLU 29	-2	0	162	0	0	0
63	SLU 30	-2	0	162	0	0	0
63	SLU 31	-2	0	177	0	0	0
63	SLU 32	-2	0	180	0	0	0
63	SLU 33	-2	0	180	0	0	0
63	SLU 34	-2	0	179	0	0	0
63	SLU 35	-2	0	182	0	0	0
63	SLU 36	-2	0	182	0	0	0
63	SLU 37	-2	0	181	0	0	0
63	SLU 38	-2	0	181	0	0	0
63	SLU 39	-2	0	185	0	0	0
63	SLU 40	-2	0	185	0	0	0
63	SLU 41	-2	0	187	0	0	0
63	SLU 42	-2	0	187	0	0	0
63	SLU 43	-1	-1	171	0	0	0
63	SLU 44	-1	-1	171	0	0	0
63	SLU 45	-1	-1	174	0	0	0
63	SLU 46	-1	-1	174	0	0	0
63	SLU 47	-1	-1	173	0	0	0
63	SLU 48	-1	-1	176	0	0	0
63	SLU 49	-1	-1	176	0	0	0
63	SLU 50	-1	-1	175	0	0	0
63	SLU 51	-1	-1	175	0	0	0
63	SLU 52	-2	-1	190	0	0	0
63	SLU 53	-2	-1	193	0	0	0
63	SLU 54	-2	-1	193	0	0	0
63	SLU 55	-2	-1	192	0	0	0
63	SLU 56	-2	-1	195	0	0	0
63	SLU 57	-2	-1	195	0	0	0
63	SLU 58	-2	-1	194	0	0	0
63	SLU 59	-2	-1	194	0	0	0
63	SLU 60	-2	-1	198	0	0	0
63	SLU 61	-2	-1	198	0	0	0
63	SLU 62	-2	-1	200	0	0	0
63	SLU 63	-2	-1	200	0	0	0
63	SLU 64	-2	-1	192	0	0	0
63	SLU 65	-2	-1	192	0	0	0
63	SLU 66	-2	-1	196	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLU 67	-2	-1	196	0	0	0
63	SLU 68	-2	0	194	0	0	0
63	SLU 69	-2	0	198	0	0	0
63	SLU 70	-2	0	197	0	0	0
63	SLU 71	-2	-1	196	0	0	0
63	SLU 72	-2	0	196	0	0	0
63	SLU 73	-2	-1	211	0	0	0
63	SLU 74	-2	-1	214	0	0	0
63	SLU 75	-2	0	214	0	0	0
63	SLU 76	-2	0	213	0	0	0
63	SLU 77	-2	0	216	0	0	0
63	SLU 78	-2	0	216	0	0	0
63	SLU 79	-2	0	215	0	0	0
63	SLU 80	-2	0	215	0	0	0
63	SLU 81	-2	-1	219	0	0	0
63	SLU 82	-2	-1	219	0	0	0
63	SLU 83	-2	-1	221	0	0	0
63	SLU 84	-2	0	221	0	0	0
63	SLE RA 1	-1	-1	143	0	0	0
63	SLE RA 2	-1	-1	143	0	0	0
63	SLE RA 3	-1	-1	145	0	0	0
63	SLE RA 4	-1	-1	145	0	0	0
63	SLE RA 5	-1	-1	145	0	0	0
63	SLE RA 6	-1	-1	147	0	0	0
63	SLE RA 7	-1	0	147	0	0	0
63	SLE RA 8	-1	-1	146	0	0	0
63	SLE RA 9	-1	0	146	0	0	0
63	SLE RA 10	-1	-1	156	0	0	0
63	SLE RA 11	-2	-1	158	0	0	0
63	SLE RA 12	-2	-1	158	0	0	0
63	SLE RA 13	-2	0	157	0	0	0
63	SLE RA 14	-2	0	159	0	0	0
63	SLE RA 15	-2	0	159	0	0	0
63	SLE RA 16	-2	0	158	0	0	0
63	SLE RA 17	-2	0	158	0	0	0
63	SLE RA 18	-2	-1	161	0	0	0
63	SLE RA 19	-2	-1	161	0	0	0
63	SLE RA 20	-2	-1	162	0	0	0
63	SLE RA 21	-2	-1	162	0	0	0
63	SLE FR 1	-1	-1	143	0	0	0
63	SLE FR 2	-1	-1	143	0	0	0
63	SLE FR 3	-1	-1	144	0	0	0
63	SLE FR 4	-1	-1	149	0	0	0
63	SLE FR 5	-1	-1	149	0	0	0
63	SLE FR 6	-1	-1	152	0	0	0
63	SLE QP 1	-1	-1	143	0	0	0
63	SLE QP 2	-1	-1	149	0	0	0
63	SLD 1	6	1	142	0	0	0
63	SLD 2	6	2	142	0	0	0
63	SLD 3	5	-1	143	0	0	0
63	SLD 4	5	0	143	0	0	0
63	SLD 5	3	2	145	0	0	0
63	SLD 6	3	3	145	0	0	0
63	SLD 7	-1	-4	149	0	0	0
63	SLD 8	-1	-3	149	0	0	0
63	SLD 9	-2	2	149	0	0	0
63	SLD 10	-1	2	148	0	0	0
63	SLD 11	-5	-4	152	0	0	0
63	SLD 12	-5	-4	152	0	0	0
63	SLD 13	-8	-1	154	0	0	0
63	SLD 14	-8	-1	154	0	0	0
63	SLD 15	-9	-3	155	0	0	0
63	SLD 16	-9	-2	155	0	0	0
63	SLV 1	10	2	139	0	0	0
63	SLV 2	11	3	139	0	0	0
63	SLV 3	8	-1	141	0	0	0
63	SLV 4	9	0	140	0	0	0
63	SLV 5	5	4	143	0	0	0
63	SLV 6	5	5	143	0	0	0
63	SLV 7	-1	-5	149	0	0	0
63	SLV 8	-1	-5	149	0	0	0
63	SLV 9	-2	3	148	0	0	0
63	SLV 10	-1	4	148	0	0	0
63	SLV 11	-8	-6	155	0	0	0
63	SLV 12	-8	-6	155	0	0	0
63	SLV 13	-12	-2	157	0	0	0
63	SLV 14	-11	0	157	0	0	0
63	SLV 15	-13	-5	159	0	0	0
63	SLV 16	-13	-3	159	0	0	0
63	SLV FO 1	11	2	138	0	0	0
63	SLV FO 2	12	3	138	0	0	0
63	SLV FO 3	9	-1	140	0	0	0
63	SLV FO 4	10	0	140	0	0	0
63	SLV FO 5	6	5	142	0	0	0
63	SLV FO 6	6	6	142	0	0	0
63	SLV FO 7	-1	-6	149	0	0	0
63	SLV FO 8	-1	-5	149	0	0	0
63	SLV FO 9	-2	3	148	0	0	0
63	SLV FO 10	-1	4	148	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
63	SLV FO 11	-9	-7	155	0	0	0
63	SLV FO 12	-8	-6	155	0	0	0
63	SLV FO 13	-13	-2	158	0	0	0
63	SLV FO 14	-12	0	158	0	0	0
63	SLV FO 15	-15	-5	160	0	0	0
63	SLV FO 16	-14	-3	160	0	0	0
64	SLU 1	-5	-11	684	0	0	0
64	SLU 2	-5	-10	684	0	0	0
64	SLU 3	-6	-10	700	0	0	0
64	SLU 4	-5	-10	699	0	0	0
64	SLU 5	-5	-9	694	0	0	0
64	SLU 6	-6	-9	710	0	0	0
64	SLU 7	-6	-9	710	0	0	0
64	SLU 8	-6	-10	704	0	0	0
64	SLU 9	-6	-9	704	0	0	0
64	SLU 10	-7	-10	777	0	0	0
64	SLU 11	-8	-10	793	0	0	0
64	SLU 12	-8	-10	793	0	0	0
64	SLU 13	-8	-10	787	0	0	0
64	SLU 14	-9	-10	804	0	0	0
64	SLU 15	-8	-9	803	0	0	0
64	SLU 16	-9	-10	798	0	0	0
64	SLU 17	-8	-9	797	0	0	0
64	SLU 18	-9	-11	818	0	0	0
64	SLU 19	-9	-11	817	0	0	0
64	SLU 20	-9	-11	828	0	0	0
64	SLU 21	-9	-10	828	0	0	0
64	SLU 22	-7	-9	790	0	0	0
64	SLU 23	-7	-8	790	0	0	0
64	SLU 24	-8	-8	806	0	0	0
64	SLU 25	-7	-7	806	0	0	0
64	SLU 26	-7	-7	800	0	0	0
64	SLU 27	-8	-7	816	0	0	0
64	SLU 28	-8	-7	816	0	0	0
64	SLU 29	-8	-7	811	0	0	0
64	SLU 30	-8	-7	810	0	0	0
64	SLU 31	-9	-8	883	0	0	0
64	SLU 32	-10	-8	900	0	0	0
64	SLU 33	-10	-8	899	0	0	0
64	SLU 34	-10	-8	893	0	0	0
64	SLU 35	-10	-7	910	0	0	0
64	SLU 36	-10	-7	909	0	0	0
64	SLU 37	-10	-8	904	0	0	0
64	SLU 38	-10	-7	904	0	0	0
64	SLU 39	-11	-9	924	0	0	0
64	SLU 40	-10	-9	924	0	0	0
64	SLU 41	-11	-8	934	0	0	0
64	SLU 42	-11	-8	934	0	0	0
64	SLU 43	-6	-15	853	0	0	0
64	SLU 44	-6	-14	852	0	0	0
64	SLU 45	-7	-14	869	0	0	0
64	SLU 46	-6	-14	868	0	0	0
64	SLU 47	-6	-13	862	0	0	0
64	SLU 48	-7	-13	879	0	0	0
64	SLU 49	-7	-13	878	0	0	0
64	SLU 50	-7	-14	873	0	0	0
64	SLU 51	-7	-13	873	0	0	0
64	SLU 52	-8	-14	946	0	0	0
64	SLU 53	-9	-14	962	0	0	0
64	SLU 54	-9	-14	962	0	0	0
64	SLU 55	-9	-14	956	0	0	0
64	SLU 56	-9	-14	972	0	0	0
64	SLU 57	-9	-13	972	0	0	0
64	SLU 58	-9	-14	967	0	0	0
64	SLU 59	-9	-13	966	0	0	0
64	SLU 60	-10	-15	987	0	0	0
64	SLU 61	-9	-15	986	0	0	0
64	SLU 62	-10	-15	997	0	0	0
64	SLU 63	-10	-14	996	0	0	0
64	SLU 64	-8	-13	959	0	0	0
64	SLU 65	-7	-12	959	0	0	0
64	SLU 66	-8	-12	975	0	0	0
64	SLU 67	-8	-11	975	0	0	0
64	SLU 68	-8	-11	969	0	0	0
64	SLU 69	-9	-11	985	0	0	0
64	SLU 70	-9	-11	985	0	0	0
64	SLU 71	-9	-11	979	0	0	0
64	SLU 72	-8	-11	979	0	0	0
64	SLU 73	-10	-12	1052	0	0	0
64	SLU 74	-11	-12	1069	0	0	0
64	SLU 75	-11	-12	1068	0	0	0
64	SLU 76	-10	-12	1062	0	0	0
64	SLU 77	-11	-12	1079	0	0	0
64	SLU 78	-11	-11	1078	0	0	0
64	SLU 79	-11	-12	1073	0	0	0
64	SLU 80	-11	-11	1073	0	0	0
64	SLU 81	-12	-13	1093	0	0	0
64	SLU 82	-11	-13	1093	0	0	0
64	SLU 83	-12	-12	1103	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
64	SLU 84	-12	-12	1103	0	0	0
64	SLE RA 1	-6	-10	715	0	0	0
64	SLE RA 2	-5	-10	714	0	0	0
64	SLE RA 3	-6	-10	725	0	0	0
64	SLE RA 4	-6	-9	725	0	0	0
64	SLE RA 5	-6	-9	721	0	0	0
64	SLE RA 6	-6	-9	732	0	0	0
64	SLE RA 7	-6	-9	731	0	0	0
64	SLE RA 8	-6	-9	728	0	0	0
64	SLE RA 9	-6	-9	728	0	0	0
64	SLE RA 10	-7	-10	777	0	0	0
64	SLE RA 11	-8	-10	787	0	0	0
64	SLE RA 12	-8	-10	787	0	0	0
64	SLE RA 13	-7	-9	783	0	0	0
64	SLE RA 14	-8	-9	794	0	0	0
64	SLE RA 15	-8	-9	794	0	0	0
64	SLE RA 16	-8	-10	790	0	0	0
64	SLE RA 17	-8	-9	790	0	0	0
64	SLE RA 18	-8	-11	804	0	0	0
64	SLE RA 19	-8	-10	803	0	0	0
64	SLE RA 20	-8	-10	810	0	0	0
64	SLE RA 21	-8	-10	810	0	0	0
64	SLE FR 1	-6	-10	715	0	0	0
64	SLE FR 2	-6	-10	715	0	0	0
64	SLE FR 3	-6	-10	717	0	0	0
64	SLE FR 4	-6	-10	741	0	0	0
64	SLE FR 5	-7	-10	744	0	0	0
64	SLE FR 6	-7	-10	759	0	0	0
64	SLE QP 1	-6	-10	715	0	0	0
64	SLE QP 2	-6	-10	741	0	0	0
64	SLD 1	30	0	732	0	0	0
64	SLD 2	31	2	732	0	0	0
64	SLD 3	24	-9	743	0	0	0
64	SLD 4	26	-6	743	0	0	0
64	SLD 5	13	6	723	0	0	0
64	SLD 6	14	7	722	0	0	0
64	SLD 7	-6	-24	758	0	0	0
64	SLD 8	-5	-22	758	0	0	0
64	SLD 9	-8	2	725	0	0	0
64	SLD 10	-7	3	725	0	0	0
64	SLD 11	-27	-28	760	0	0	0
64	SLD 12	-26	-26	760	0	0	0
64	SLD 13	-38	-14	740	0	0	0
64	SLD 14	-37	-12	740	0	0	0
64	SLD 15	-44	-23	751	0	0	0
64	SLD 16	-43	-21	750	0	0	0
64	SLV 1	51	6	727	0	0	0
64	SLV 2	53	10	727	0	0	0
64	SLV 3	41	-9	744	0	0	0
64	SLV 4	44	-5	744	0	0	0
64	SLV 5	24	16	711	0	0	0
64	SLV 6	26	19	711	0	0	0
64	SLV 7	-6	-33	768	0	0	0
64	SLV 8	-5	-30	768	0	0	0
64	SLV 9	-8	10	715	0	0	0
64	SLV 10	-6	12	715	0	0	0
64	SLV 11	-39	-39	772	0	0	0
64	SLV 12	-37	-37	772	0	0	0
64	SLV 13	-57	-16	739	0	0	0
64	SLV 14	-54	-12	739	0	0	0
64	SLV 15	-66	-31	756	0	0	0
64	SLV 16	-64	-27	756	0	0	0
64	SLV FO 1	56	8	725	0	0	0
64	SLV FO 2	59	12	725	0	0	0
64	SLV FO 3	46	-9	744	0	0	0
64	SLV FO 4	49	-4	744	0	0	0
64	SLV FO 5	27	19	708	0	0	0
64	SLV FO 6	29	22	708	0	0	0
64	SLV FO 7	-6	-35	771	0	0	0
64	SLV FO 8	-5	-32	771	0	0	0
64	SLV FO 9	-8	11	712	0	0	0
64	SLV FO 10	-6	14	712	0	0	0
64	SLV FO 11	-42	-42	775	0	0	0
64	SLV FO 12	-40	-39	775	0	0	0
64	SLV FO 13	-62	-17	739	0	0	0
64	SLV FO 14	-59	-12	739	0	0	0
64	SLV FO 15	-72	-33	758	0	0	0
64	SLV FO 16	-69	-28	757	0	0	0
65	SLU 1	-5	-14	703	0	0	0
65	SLU 2	-5	-13	702	0	0	0
65	SLU 3	-6	-13	719	0	0	0
65	SLU 4	-5	-13	719	0	0	0
65	SLU 5	-5	-13	713	0	0	0
65	SLU 6	-6	-13	730	0	0	0
65	SLU 7	-6	-12	729	0	0	0
65	SLU 8	-6	-13	724	0	0	0
65	SLU 9	-6	-12	724	0	0	0
65	SLU 10	-7	-14	799	0	0	0
65	SLU 11	-8	-14	816	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
65	SLU 12	-8	-13	816	0	0	0
65	SLU 13	-8	-13	810	0	0	0
65	SLU 14	-9	-13	827	0	0	0
65	SLU 15	-8	-13	826	0	0	0
65	SLU 16	-9	-13	821	0	0	0
65	SLU 17	-8	-13	820	0	0	0
65	SLU 18	-9	-15	842	0	0	0
65	SLU 19	-9	-14	841	0	0	0
65	SLU 20	-9	-14	852	0	0	0
65	SLU 21	-9	-14	851	0	0	0
65	SLU 22	-7	-12	813	0	0	0
65	SLU 23	-7	-11	812	0	0	0
65	SLU 24	-8	-11	829	0	0	0
65	SLU 25	-7	-11	828	0	0	0
65	SLU 26	-7	-11	822	0	0	0
65	SLU 27	-8	-11	839	0	0	0
65	SLU 28	-8	-10	839	0	0	0
65	SLU 29	-8	-11	834	0	0	0
65	SLU 30	-8	-10	833	0	0	0
65	SLU 31	-9	-12	909	0	0	0
65	SLU 32	-10	-12	926	0	0	0
65	SLU 33	-10	-11	925	0	0	0
65	SLU 34	-10	-11	919	0	0	0
65	SLU 35	-11	-11	936	0	0	0
65	SLU 36	-10	-11	936	0	0	0
65	SLU 37	-11	-11	931	0	0	0
65	SLU 38	-10	-11	930	0	0	0
65	SLU 39	-11	-13	951	0	0	0
65	SLU 40	-11	-12	951	0	0	0
65	SLU 41	-11	-12	962	0	0	0
65	SLU 42	-11	-12	961	0	0	0
65	SLU 43	-6	-19	877	0	0	0
65	SLU 44	-6	-18	876	0	0	0
65	SLU 45	-7	-18	893	0	0	0
65	SLU 46	-6	-18	892	0	0	0
65	SLU 47	-6	-17	886	0	0	0
65	SLU 48	-7	-17	903	0	0	0
65	SLU 49	-7	-17	903	0	0	0
65	SLU 50	-7	-18	897	0	0	0
65	SLU 51	-7	-17	897	0	0	0
65	SLU 52	-8	-19	972	0	0	0
65	SLU 53	-9	-19	990	0	0	0
65	SLU 54	-9	-18	989	0	0	0
65	SLU 55	-9	-18	983	0	0	0
65	SLU 56	-10	-18	1000	0	0	0
65	SLU 57	-9	-18	1000	0	0	0
65	SLU 58	-10	-18	994	0	0	0
65	SLU 59	-9	-18	994	0	0	0
65	SLU 60	-10	-20	1015	0	0	0
65	SLU 61	-10	-19	1014	0	0	0
65	SLU 62	-10	-19	1025	0	0	0
65	SLU 63	-10	-19	1025	0	0	0
65	SLU 64	-8	-17	986	0	0	0
65	SLU 65	-8	-16	985	0	0	0
65	SLU 66	-9	-16	1002	0	0	0
65	SLU 67	-8	-16	1002	0	0	0
65	SLU 68	-8	-15	996	0	0	0
65	SLU 69	-9	-16	1013	0	0	0
65	SLU 70	-9	-15	1012	0	0	0
65	SLU 71	-9	-16	1007	0	0	0
65	SLU 72	-9	-15	1007	0	0	0
65	SLU 73	-10	-17	1082	0	0	0
65	SLU 74	-11	-17	1099	0	0	0
65	SLU 75	-11	-16	1099	0	0	0
65	SLU 76	-11	-16	1093	0	0	0
65	SLU 77	-12	-16	1110	0	0	0
65	SLU 78	-11	-16	1109	0	0	0
65	SLU 79	-11	-16	1104	0	0	0
65	SLU 80	-11	-16	1103	0	0	0
65	SLU 81	-12	-18	1125	0	0	0
65	SLU 82	-11	-17	1124	0	0	0
65	SLU 83	-12	-17	1135	0	0	0
65	SLU 84	-12	-17	1134	0	0	0
65	SLE RA 1	-6	-13	734	0	0	0
65	SLE RA 2	-5	-13	734	0	0	0
65	SLE RA 3	-6	-13	745	0	0	0
65	SLE RA 4	-6	-13	745	0	0	0
65	SLE RA 5	-6	-12	741	0	0	0
65	SLE RA 6	-6	-13	752	0	0	0
65	SLE RA 7	-6	-12	752	0	0	0
65	SLE RA 8	-6	-13	748	0	0	0
65	SLE RA 9	-6	-12	748	0	0	0
65	SLE RA 10	-7	-13	798	0	0	0
65	SLE RA 11	-8	-13	810	0	0	0
65	SLE RA 12	-8	-13	810	0	0	0
65	SLE RA 13	-7	-13	805	0	0	0
65	SLE RA 14	-8	-13	817	0	0	0
65	SLE RA 15	-8	-13	816	0	0	0
65	SLE RA 16	-8	-13	813	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
65	SLE RA 17	-8	-13	813	0	0	0
65	SLE RA 18	-8	-14	827	0	0	0
65	SLE RA 19	-8	-14	826	0	0	0
65	SLE RA 20	-9	-14	834	0	0	0
65	SLE RA 21	-8	-13	833	0	0	0
65	SLE FR 1	-6	-13	734	0	0	0
65	SLE FR 2	-6	-13	734	0	0	0
65	SLE FR 3	-6	-13	737	0	0	0
65	SLE FR 4	-6	-14	762	0	0	0
65	SLE FR 5	-7	-13	765	0	0	0
65	SLE FR 6	-7	-14	781	0	0	0
65	SLE QP 1	-6	-13	734	0	0	0
65	SLE QP 2	-7	-14	762	0	0	0
65	SLD 1	30	-2	764	0	0	0
65	SLD 2	32	0	764	0	0	0
65	SLD 3	25	-11	777	0	0	0
65	SLD 4	26	-9	777	0	0	0
65	SLD 5	13	4	743	0	0	0
65	SLD 6	14	5	743	0	0	0
65	SLD 7	-6	-27	786	0	0	0
65	SLD 8	-5	-26	786	0	0	0
65	SLD 9	-8	-1	738	0	0	0
65	SLD 10	-7	0	738	0	0	0
65	SLD 11	-27	-32	781	0	0	0
65	SLD 12	-26	-31	781	0	0	0
65	SLD 13	-39	-18	747	0	0	0
65	SLD 14	-38	-16	747	0	0	0
65	SLD 15	-45	-27	760	0	0	0
65	SLD 16	-44	-25	760	0	0	0
65	SLV 1	52	5	765	0	0	0
65	SLV 2	54	8	765	0	0	0
65	SLV 3	42	-10	786	0	0	0
65	SLV 4	45	-7	786	0	0	0
65	SLV 5	25	15	731	0	0	0
65	SLV 6	26	17	731	0	0	0
65	SLV 7	-7	-36	801	0	0	0
65	SLV 8	-5	-34	801	0	0	0
65	SLV 9	-8	7	723	0	0	0
65	SLV 10	-7	9	723	0	0	0
65	SLV 11	-39	-44	793	0	0	0
65	SLV 12	-38	-42	793	0	0	0
65	SLV 13	-58	-20	738	0	0	0
65	SLV 14	-55	-17	738	0	0	0
65	SLV 15	-67	-35	759	0	0	0
65	SLV 16	-65	-32	759	0	0	0
65	SLV FO 1	58	7	766	0	0	0
65	SLV FO 2	60	10	766	0	0	0
65	SLV FO 3	47	-10	789	0	0	0
65	SLV FO 4	50	-7	789	0	0	0
65	SLV FO 5	28	17	728	0	0	0
65	SLV FO 6	30	20	728	0	0	0
65	SLV FO 7	-7	-39	805	0	0	0
65	SLV FO 8	-5	-36	805	0	0	0
65	SLV FO 9	-8	9	719	0	0	0
65	SLV FO 10	-7	11	719	0	0	0
65	SLV FO 11	-43	-47	796	0	0	0
65	SLV FO 12	-41	-45	796	0	0	0
65	SLV FO 13	-63	-21	736	0	0	0
65	SLV FO 14	-60	-17	736	0	0	0
65	SLV FO 15	-73	-37	759	0	0	0
65	SLV FO 16	-71	-34	759	0	0	0
66	SLU 1	-4	-14	596	0	0	0
66	SLU 2	-4	-14	595	0	0	0
66	SLU 3	-5	-14	610	0	0	0
66	SLU 4	-5	-13	609	0	0	0
66	SLU 5	-4	-13	604	0	0	0
66	SLU 6	-5	-13	619	0	0	0
66	SLU 7	-5	-13	618	0	0	0
66	SLU 8	-5	-13	614	0	0	0
66	SLU 9	-5	-13	613	0	0	0
66	SLU 10	-6	-14	678	0	0	0
66	SLU 11	-7	-14	693	0	0	0
66	SLU 12	-7	-14	692	0	0	0
66	SLU 13	-6	-14	687	0	0	0
66	SLU 14	-7	-14	702	0	0	0
66	SLU 15	-7	-13	701	0	0	0
66	SLU 16	-7	-14	697	0	0	0
66	SLU 17	-7	-13	696	0	0	0
66	SLU 18	-7	-15	714	0	0	0
66	SLU 19	-7	-15	714	0	0	0
66	SLU 20	-8	-15	723	0	0	0
66	SLU 21	-8	-14	723	0	0	0
66	SLU 22	-6	-13	689	0	0	0
66	SLU 23	-6	-12	688	0	0	0
66	SLU 24	-6	-12	703	0	0	0
66	SLU 25	-6	-12	703	0	0	0
66	SLU 26	-6	-12	697	0	0	0
66	SLU 27	-7	-12	712	0	0	0
66	SLU 28	-6	-11	712	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLU 29	-7	-12	707	0	0	0
66	SLU 30	-6	-11	707	0	0	0
66	SLU 31	-8	-13	771	0	0	0
66	SLU 32	-9	-13	786	0	0	0
66	SLU 33	-8	-13	785	0	0	0
66	SLU 34	-8	-12	780	0	0	0
66	SLU 35	-9	-12	795	0	0	0
66	SLU 36	-9	-12	794	0	0	0
66	SLU 37	-9	-12	790	0	0	0
66	SLU 38	-9	-12	790	0	0	0
66	SLU 39	-9	-14	808	0	0	0
66	SLU 40	-9	-13	807	0	0	0
66	SLU 41	-9	-13	817	0	0	0
66	SLU 42	-9	-13	816	0	0	0
66	SLU 43	-5	-19	743	0	0	0
66	SLU 44	-5	-18	742	0	0	0
66	SLU 45	-6	-18	757	0	0	0
66	SLU 46	-5	-18	756	0	0	0
66	SLU 47	-5	-18	751	0	0	0
66	SLU 48	-6	-18	766	0	0	0
66	SLU 49	-6	-17	765	0	0	0
66	SLU 50	-6	-18	761	0	0	0
66	SLU 51	-6	-17	760	0	0	0
66	SLU 52	-7	-19	825	0	0	0
66	SLU 53	-8	-19	839	0	0	0
66	SLU 54	-7	-19	839	0	0	0
66	SLU 55	-7	-18	834	0	0	0
66	SLU 56	-8	-18	848	0	0	0
66	SLU 57	-8	-18	848	0	0	0
66	SLU 58	-8	-19	843	0	0	0
66	SLU 59	-8	-18	843	0	0	0
66	SLU 60	-8	-20	861	0	0	0
66	SLU 61	-8	-20	860	0	0	0
66	SLU 62	-9	-19	870	0	0	0
66	SLU 63	-8	-19	869	0	0	0
66	SLU 64	-7	-18	836	0	0	0
66	SLU 65	-6	-17	835	0	0	0
66	SLU 66	-7	-17	850	0	0	0
66	SLU 67	-7	-17	849	0	0	0
66	SLU 68	-7	-16	844	0	0	0
66	SLU 69	-7	-16	859	0	0	0
66	SLU 70	-7	-16	858	0	0	0
66	SLU 71	-7	-16	854	0	0	0
66	SLU 72	-7	-16	854	0	0	0
66	SLU 73	-9	-18	918	0	0	0
66	SLU 74	-9	-18	933	0	0	0
66	SLU 75	-9	-17	932	0	0	0
66	SLU 76	-9	-17	927	0	0	0
66	SLU 77	-10	-17	942	0	0	0
66	SLU 78	-9	-17	941	0	0	0
66	SLU 79	-10	-17	937	0	0	0
66	SLU 80	-9	-17	936	0	0	0
66	SLU 81	-10	-19	954	0	0	0
66	SLU 82	-10	-18	954	0	0	0
66	SLU 83	-10	-18	963	0	0	0
66	SLU 84	-10	-18	963	0	0	0
66	SLE RA 1	-5	-14	623	0	0	0
66	SLE RA 2	-5	-13	622	0	0	0
66	SLE RA 3	-5	-13	632	0	0	0
66	SLE RA 4	-5	-13	632	0	0	0
66	SLE RA 5	-5	-13	628	0	0	0
66	SLE RA 6	-5	-13	638	0	0	0
66	SLE RA 7	-5	-13	638	0	0	0
66	SLE RA 8	-5	-13	635	0	0	0
66	SLE RA 9	-5	-13	634	0	0	0
66	SLE RA 10	-6	-14	677	0	0	0
66	SLE RA 11	-7	-14	687	0	0	0
66	SLE RA 12	-6	-14	687	0	0	0
66	SLE RA 13	-6	-13	683	0	0	0
66	SLE RA 14	-7	-14	693	0	0	0
66	SLE RA 15	-7	-13	693	0	0	0
66	SLE RA 16	-7	-14	690	0	0	0
66	SLE RA 17	-7	-13	689	0	0	0
66	SLE RA 18	-7	-14	701	0	0	0
66	SLE RA 19	-7	-14	701	0	0	0
66	SLE RA 20	-7	-14	707	0	0	0
66	SLE RA 21	-7	-14	707	0	0	0
66	SLE FR 1	-5	-14	623	0	0	0
66	SLE FR 2	-5	-14	623	0	0	0
66	SLE FR 3	-5	-14	625	0	0	0
66	SLE FR 4	-5	-14	646	0	0	0
66	SLE FR 5	-6	-14	649	0	0	0
66	SLE FR 6	-6	-14	662	0	0	0
66	SLE QP 1	-5	-14	623	0	0	0
66	SLE QP 2	-5	-14	646	0	0	0
66	SLD 1	26	-3	657	0	0	0
66	SLD 2	27	-2	657	0	0	0
66	SLD 3	21	-11	669	0	0	0
66	SLD 4	22	-10	669	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
66	SLD 5	11	1	630	0	0	0
66	SLD 6	12	2	630	0	0	0
66	SLD 7	-5	-25	673	0	0	0
66	SLD 8	-4	-25	673	0	0	0
66	SLD 9	-7	-3	620	0	0	0
66	SLD 10	-6	-3	620	0	0	0
66	SLD 11	-23	-30	663	0	0	0
66	SLD 12	-22	-29	663	0	0	0
66	SLD 13	-33	-18	623	0	0	0
66	SLD 14	-32	-17	623	0	0	0
66	SLD 15	-38	-26	636	0	0	0
66	SLD 16	-37	-25	636	0	0	0
66	SLV 1	44	3	662	0	0	0
66	SLV 2	45	5	662	0	0	0
66	SLV 3	36	-10	683	0	0	0
66	SLV 4	38	-8	683	0	0	0
66	SLV 5	21	11	620	0	0	0
66	SLV 6	22	12	620	0	0	0
66	SLV 7	-5	-33	689	0	0	0
66	SLV 8	-4	-32	689	0	0	0
66	SLV 9	-7	4	604	0	0	0
66	SLV 10	-5	5	604	0	0	0
66	SLV 11	-33	-40	673	0	0	0
66	SLV 12	-32	-39	673	0	0	0
66	SLV 13	-49	-20	610	0	0	0
66	SLV 14	-47	-18	610	0	0	0
66	SLV 15	-56	-33	630	0	0	0
66	SLV 16	-54	-31	630	0	0	0
66	SLV FO 1	48	5	664	0	0	0
66	SLV FO 2	51	7	664	0	0	0
66	SLV FO 3	40	-9	687	0	0	0
66	SLV FO 4	42	-8	687	0	0	0
66	SLV FO 5	23	13	617	0	0	0
66	SLV FO 6	25	14	617	0	0	0
66	SLV FO 7	-5	-35	693	0	0	0
66	SLV FO 8	-4	-34	693	0	0	0
66	SLV FO 9	-7	6	600	0	0	0
66	SLV FO 10	-5	7	600	0	0	0
66	SLV FO 11	-36	-43	675	0	0	0
66	SLV FO 12	-34	-41	675	0	0	0
66	SLV FO 13	-53	-20	606	0	0	0
66	SLV FO 14	-51	-19	606	0	0	0
66	SLV FO 15	-61	-35	629	0	0	0
66	SLV FO 16	-59	-33	629	0	0	0
67	SLU 1	-5	-8	696	0	0	0
67	SLU 2	-5	-7	695	0	0	0
67	SLU 3	-6	-7	712	0	0	0
67	SLU 4	-6	-7	711	0	0	0
67	SLU 5	-5	-7	705	0	0	0
67	SLU 6	-6	-7	722	0	0	0
67	SLU 7	-6	-6	721	0	0	0
67	SLU 8	-6	-7	716	0	0	0
67	SLU 9	-6	-6	716	0	0	0
67	SLU 10	-8	-7	790	0	0	0
67	SLU 11	-8	-7	806	0	0	0
67	SLU 12	-8	-7	806	0	0	0
67	SLU 13	-8	-7	800	0	0	0
67	SLU 14	-9	-7	816	0	0	0
67	SLU 15	-9	-6	816	0	0	0
67	SLU 16	-9	-7	810	0	0	0
67	SLU 17	-9	-6	810	0	0	0
67	SLU 18	-9	-8	831	0	0	0
67	SLU 19	-9	-8	830	0	0	0
67	SLU 20	-10	-8	841	0	0	0
67	SLU 21	-9	-7	841	0	0	0
67	SLU 22	-7	-6	803	0	0	0
67	SLU 23	-7	-5	803	0	0	0
67	SLU 24	-8	-5	819	0	0	0
67	SLU 25	-8	-4	819	0	0	0
67	SLU 26	-7	-4	813	0	0	0
67	SLU 27	-8	-4	829	0	0	0
67	SLU 28	-8	-4	829	0	0	0
67	SLU 29	-8	-4	824	0	0	0
67	SLU 30	-8	-4	823	0	0	0
67	SLU 31	-9	-5	897	0	0	0
67	SLU 32	-10	-5	914	0	0	0
67	SLU 33	-10	-4	913	0	0	0
67	SLU 34	-10	-4	907	0	0	0
67	SLU 35	-11	-4	924	0	0	0
67	SLU 36	-11	-4	923	0	0	0
67	SLU 37	-11	-4	918	0	0	0
67	SLU 38	-11	-4	918	0	0	0
67	SLU 39	-11	-6	938	0	0	0
67	SLU 40	-11	-5	938	0	0	0
67	SLU 41	-12	-5	948	0	0	0
67	SLU 42	-11	-4	948	0	0	0
67	SLU 43	-6	-12	868	0	0	0
67	SLU 44	-6	-11	867	0	0	0
67	SLU 45	-7	-11	884	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLU 46	-6	-10	883	0	0	0
67	SLU 47	-6	-10	877	0	0	0
67	SLU 48	-7	-10	894	0	0	0
67	SLU 49	-7	-10	893	0	0	0
67	SLU 50	-7	-10	888	0	0	0
67	SLU 51	-7	-10	888	0	0	0
67	SLU 52	-8	-11	962	0	0	0
67	SLU 53	-9	-11	978	0	0	0
67	SLU 54	-9	-10	978	0	0	0
67	SLU 55	-9	-10	972	0	0	0
67	SLU 56	-10	-10	988	0	0	0
67	SLU 57	-10	-10	988	0	0	0
67	SLU 58	-10	-10	982	0	0	0
67	SLU 59	-9	-10	982	0	0	0
67	SLU 60	-10	-12	1003	0	0	0
67	SLU 61	-10	-11	1002	0	0	0
67	SLU 62	-10	-11	1013	0	0	0
67	SLU 63	-10	-10	1012	0	0	0
67	SLU 64	-8	-9	975	0	0	0
67	SLU 65	-8	-8	975	0	0	0
67	SLU 66	-9	-8	991	0	0	0
67	SLU 67	-8	-8	991	0	0	0
67	SLU 68	-8	-8	985	0	0	0
67	SLU 69	-9	-8	1001	0	0	0
67	SLU 70	-9	-7	1001	0	0	0
67	SLU 71	-9	-8	995	0	0	0
67	SLU 72	-9	-7	995	0	0	0
67	SLU 73	-10	-8	1069	0	0	0
67	SLU 74	-11	-8	1086	0	0	0
67	SLU 75	-11	-8	1085	0	0	0
67	SLU 76	-11	-8	1079	0	0	0
67	SLU 77	-12	-7	1096	0	0	0
67	SLU 78	-11	-7	1095	0	0	0
67	SLU 79	-12	-8	1090	0	0	0
67	SLU 80	-11	-7	1090	0	0	0
67	SLU 81	-12	-9	1110	0	0	0
67	SLU 82	-12	-9	1110	0	0	0
67	SLU 83	-12	-8	1120	0	0	0
67	SLU 84	-12	-8	1120	0	0	0
67	SLE RA 1	-6	-8	727	0	0	0
67	SLE RA 2	-6	-7	726	0	0	0
67	SLE RA 3	-6	-7	737	0	0	0
67	SLE RA 4	-6	-7	737	0	0	0
67	SLE RA 5	-6	-7	733	0	0	0
67	SLE RA 6	-7	-7	744	0	0	0
67	SLE RA 7	-6	-6	744	0	0	0
67	SLE RA 8	-6	-7	740	0	0	0
67	SLE RA 9	-6	-6	740	0	0	0
67	SLE RA 10	-7	-7	789	0	0	0
67	SLE RA 11	-8	-7	800	0	0	0
67	SLE RA 12	-8	-7	800	0	0	0
67	SLE RA 13	-8	-7	796	0	0	0
67	SLE RA 14	-8	-6	807	0	0	0
67	SLE RA 15	-8	-6	807	0	0	0
67	SLE RA 16	-8	-7	803	0	0	0
67	SLE RA 17	-8	-6	803	0	0	0
67	SLE RA 18	-8	-7	817	0	0	0
67	SLE RA 19	-8	-7	816	0	0	0
67	SLE RA 20	-9	-7	823	0	0	0
67	SLE RA 21	-9	-7	823	0	0	0
67	SLE FR 1	-6	-8	727	0	0	0
67	SLE FR 2	-6	-7	727	0	0	0
67	SLE FR 3	-6	-7	729	0	0	0
67	SLE FR 4	-7	-7	754	0	0	0
67	SLE FR 5	-7	-7	756	0	0	0
67	SLE FR 6	-7	-8	772	0	0	0
67	SLE QP 1	-6	-8	727	0	0	0
67	SLE QP 2	-7	-8	754	0	0	0
67	SLD 1	30	2	735	0	0	0
67	SLD 2	32	5	734	0	0	0
67	SLD 3	25	-7	744	0	0	0
67	SLD 4	26	-4	743	0	0	0
67	SLD 5	13	8	734	0	0	0
67	SLD 6	14	10	734	0	0	0
67	SLD 7	-6	-22	764	0	0	0
67	SLD 8	-5	-19	764	0	0	0
67	SLD 9	-8	4	743	0	0	0
67	SLD 10	-7	7	743	0	0	0
67	SLD 11	-27	-25	773	0	0	0
67	SLD 12	-26	-23	773	0	0	0
67	SLD 13	-40	-11	764	0	0	0
67	SLD 14	-38	-8	764	0	0	0
67	SLD 15	-45	-20	773	0	0	0
67	SLD 16	-44	-17	773	0	0	0
67	SLV 1	52	7	724	0	0	0
67	SLV 2	54	13	723	0	0	0
67	SLV 3	42	-7	738	0	0	0
67	SLV 4	45	-2	738	0	0	0
67	SLV 5	25	18	723	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
67	SLV 6	26	22	722	0	0	0
67	SLV 7	-7	-31	771	0	0	0
67	SLV 8	-5	-27	771	0	0	0
67	SLV 9	-8	12	736	0	0	0
67	SLV 10	-7	16	736	0	0	0
67	SLV 11	-40	-37	785	0	0	0
67	SLV 12	-38	-33	785	0	0	0
67	SLV 13	-58	-13	770	0	0	0
67	SLV 14	-56	-8	769	0	0	0
67	SLV 15	-68	-28	784	0	0	0
67	SLV 16	-65	-22	784	0	0	0
67	SLV FO 1	58	9	721	0	0	0
67	SLV FO 2	60	15	720	0	0	0
67	SLV FO 3	47	-7	737	0	0	0
67	SLV FO 4	50	-2	736	0	0	0
67	SLV FO 5	28	21	720	0	0	0
67	SLV FO 6	30	25	719	0	0	0
67	SLV FO 7	-7	-33	773	0	0	0
67	SLV FO 8	-5	-29	773	0	0	0
67	SLV FO 9	-8	14	735	0	0	0
67	SLV FO 10	-7	18	734	0	0	0
67	SLV FO 11	-43	-40	788	0	0	0
67	SLV FO 12	-41	-36	788	0	0	0
67	SLV FO 13	-63	-13	771	0	0	0
67	SLV FO 14	-61	-8	771	0	0	0
67	SLV FO 15	-74	-30	787	0	0	0
67	SLV FO 16	-71	-24	787	0	0	0
69	SLU 1	-3	-1	339	0	0	0
69	SLU 2	-3	0	339	0	0	0
69	SLU 3	-3	0	347	0	0	0
69	SLU 4	-3	0	347	0	0	0
69	SLU 5	-3	0	344	0	0	0
69	SLU 6	-3	0	352	0	0	0
69	SLU 7	-3	0	351	0	0	0
69	SLU 8	-3	0	349	0	0	0
69	SLU 9	-3	0	349	0	0	0
69	SLU 10	-4	0	384	0	0	0
69	SLU 11	-5	0	392	0	0	0
69	SLU 12	-4	0	392	0	0	0
69	SLU 13	-4	0	389	0	0	0
69	SLU 14	-5	0	397	0	0	0
69	SLU 15	-5	1	397	0	0	0
69	SLU 16	-5	0	394	0	0	0
69	SLU 17	-5	0	394	0	0	0
69	SLU 18	-5	0	404	0	0	0
69	SLU 19	-5	0	404	0	0	0
69	SLU 20	-5	0	409	0	0	0
69	SLU 21	-5	0	408	0	0	0
69	SLU 22	-4	1	391	0	0	0
69	SLU 23	-4	1	391	0	0	0
69	SLU 24	-4	1	399	0	0	0
69	SLU 25	-4	2	399	0	0	0
69	SLU 26	-4	2	396	0	0	0
69	SLU 27	-4	2	403	0	0	0
69	SLU 28	-4	2	403	0	0	0
69	SLU 29	-4	2	401	0	0	0
69	SLU 30	-4	2	401	0	0	0
69	SLU 31	-5	2	436	0	0	0
69	SLU 32	-6	2	444	0	0	0
69	SLU 33	-5	2	444	0	0	0
69	SLU 34	-5	2	441	0	0	0
69	SLU 35	-6	2	449	0	0	0
69	SLU 36	-6	2	449	0	0	0
69	SLU 37	-6	2	446	0	0	0
69	SLU 38	-6	2	446	0	0	0
69	SLU 39	-6	1	456	0	0	0
69	SLU 40	-6	2	456	0	0	0
69	SLU 41	-6	2	460	0	0	0
69	SLU 42	-6	2	460	0	0	0
69	SLU 43	-3	-2	423	0	0	0
69	SLU 44	-3	-1	423	0	0	0
69	SLU 45	-4	-1	431	0	0	0
69	SLU 46	-4	-1	431	0	0	0
69	SLU 47	-3	-1	428	0	0	0
69	SLU 48	-4	-1	436	0	0	0
69	SLU 49	-4	-1	435	0	0	0
69	SLU 50	-4	-1	433	0	0	0
69	SLU 51	-4	-1	433	0	0	0
69	SLU 52	-5	-1	468	0	0	0
69	SLU 53	-5	-1	476	0	0	0
69	SLU 54	-5	-1	476	0	0	0
69	SLU 55	-5	-1	473	0	0	0
69	SLU 56	-5	0	481	0	0	0
69	SLU 57	-5	0	481	0	0	0
69	SLU 58	-5	-1	478	0	0	0
69	SLU 59	-5	0	478	0	0	0
69	SLU 60	-5	-1	488	0	0	0
69	SLU 61	-5	-1	488	0	0	0
69	SLU 62	-6	-1	493	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
69	SLU 63	-5	-1	492	0	0	0
69	SLU 64	-4	0	475	0	0	0
69	SLU 65	-4	0	475	0	0	0
69	SLU 66	-5	1	483	0	0	0
69	SLU 67	-5	1	483	0	0	0
69	SLU 68	-4	1	480	0	0	0
69	SLU 69	-5	1	487	0	0	0
69	SLU 70	-5	1	487	0	0	0
69	SLU 71	-5	1	485	0	0	0
69	SLU 72	-5	1	485	0	0	0
69	SLU 73	-6	1	520	0	0	0
69	SLU 74	-6	1	528	0	0	0
69	SLU 75	-6	1	528	0	0	0
69	SLU 76	-6	1	525	0	0	0
69	SLU 77	-6	1	533	0	0	0
69	SLU 78	-6	1	533	0	0	0
69	SLU 79	-6	1	530	0	0	0
69	SLU 80	-6	1	530	0	0	0
69	SLU 81	-6	1	540	0	0	0
69	SLU 82	-6	1	540	0	0	0
69	SLU 83	-7	1	544	0	0	0
69	SLU 84	-6	1	544	0	0	0
69	SLE RA 1	-3	0	354	0	0	0
69	SLE RA 2	-3	0	354	0	0	0
69	SLE RA 3	-3	0	359	0	0	0
69	SLE RA 4	-3	0	359	0	0	0
69	SLE RA 5	-3	0	357	0	0	0
69	SLE RA 6	-4	0	362	0	0	0
69	SLE RA 7	-3	0	362	0	0	0
69	SLE RA 8	-4	0	360	0	0	0
69	SLE RA 9	-3	0	360	0	0	0
69	SLE RA 10	-4	0	384	0	0	0
69	SLE RA 11	-4	0	389	0	0	0
69	SLE RA 12	-4	0	389	0	0	0
69	SLE RA 13	-4	0	387	0	0	0
69	SLE RA 14	-4	0	392	0	0	0
69	SLE RA 15	-4	1	392	0	0	0
69	SLE RA 16	-4	0	391	0	0	0
69	SLE RA 17	-4	1	390	0	0	0
69	SLE RA 18	-5	0	397	0	0	0
69	SLE RA 19	-4	0	397	0	0	0
69	SLE RA 20	-5	0	400	0	0	0
69	SLE RA 21	-5	0	400	0	0	0
69	SLE FR 1	-3	0	354	0	0	0
69	SLE FR 2	-3	0	354	0	0	0
69	SLE FR 3	-3	0	355	0	0	0
69	SLE FR 4	-4	0	367	0	0	0
69	SLE FR 5	-4	0	368	0	0	0
69	SLE FR 6	-4	0	376	0	0	0
69	SLE QP 1	-3	0	354	0	0	0
69	SLE QP 2	-4	0	367	0	0	0
69	SLD 1	15	3	345	0	0	0
69	SLD 2	16	6	345	0	0	0
69	SLD 3	12	-1	349	0	0	0
69	SLD 4	13	1	349	0	0	0
69	SLD 5	6	7	355	0	0	0
69	SLD 6	7	8	355	0	0	0
69	SLD 7	-3	-7	367	0	0	0
69	SLD 8	-3	-6	367	0	0	0
69	SLD 9	-4	5	367	0	0	0
69	SLD 10	-4	7	367	0	0	0
69	SLD 11	-14	-9	379	0	0	0
69	SLD 12	-13	-7	379	0	0	0
69	SLD 13	-20	-2	385	0	0	0
69	SLD 14	-19	1	385	0	0	0
69	SLD 15	-23	-6	389	0	0	0
69	SLD 16	-22	-3	389	0	0	0
69	SLV 1	26	5	333	0	0	0
69	SLV 2	27	9	333	0	0	0
69	SLV 3	21	-2	339	0	0	0
69	SLV 4	22	2	338	0	0	0
69	SLV 5	12	11	348	0	0	0
69	SLV 6	13	14	348	0	0	0
69	SLV 7	-4	-12	367	0	0	0
69	SLV 8	-3	-9	367	0	0	0
69	SLV 9	-4	9	367	0	0	0
69	SLV 10	-4	12	367	0	0	0
69	SLV 11	-20	-14	386	0	0	0
69	SLV 12	-19	-12	386	0	0	0
69	SLV 13	-29	-2	396	0	0	0
69	SLV 14	-28	1	395	0	0	0
69	SLV 15	-34	-9	401	0	0	0
69	SLV 16	-33	-6	401	0	0	0
69	SLV FO 1	29	6	330	0	0	0
69	SLV FO 2	30	10	329	0	0	0
69	SLV FO 3	23	-2	336	0	0	0
69	SLV FO 4	25	2	335	0	0	0
69	SLV FO 5	14	12	347	0	0	0
69	SLV FO 6	14	15	346	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
69	SLV FO 7	-4	-13	367	0	0	0
69	SLV FO 8	-3	-10	367	0	0	0
69	SLV FO 9	-4	10	367	0	0	0
69	SLV FO 10	-4	13	367	0	0	0
69	SLV FO 11	-22	-16	388	0	0	0
69	SLV FO 12	-21	-13	387	0	0	0
69	SLV FO 13	-32	-3	399	0	0	0
69	SLV FO 14	-31	2	398	0	0	0
69	SLV FO 15	-37	-10	405	0	0	0
69	SLV FO 16	-36	-6	404	0	0	0
70	SLU 1	-4	-3	463	0	0	0
70	SLU 2	-4	-2	462	0	0	0
70	SLU 3	-5	-2	473	0	0	0
70	SLU 4	-4	-2	473	0	0	0
70	SLU 5	-4	-2	469	0	0	0
70	SLU 6	-5	-1	480	0	0	0
70	SLU 7	-5	-1	479	0	0	0
70	SLU 8	-5	-2	476	0	0	0
70	SLU 9	-5	-1	476	0	0	0
70	SLU 10	-6	-2	524	0	0	0
70	SLU 11	-6	-2	535	0	0	0
70	SLU 12	-6	-1	535	0	0	0
70	SLU 13	-6	-1	531	0	0	0
70	SLU 14	-7	-1	542	0	0	0
70	SLU 15	-6	-1	541	0	0	0
70	SLU 16	-7	-1	538	0	0	0
70	SLU 17	-6	-1	538	0	0	0
70	SLU 18	-7	-2	551	0	0	0
70	SLU 19	-7	-2	551	0	0	0
70	SLU 20	-7	-2	558	0	0	0
70	SLU 21	-7	-1	558	0	0	0
70	SLU 22	-6	0	534	0	0	0
70	SLU 23	-5	0	533	0	0	0
70	SLU 24	-6	0	544	0	0	0
70	SLU 25	-6	0	544	0	0	0
70	SLU 26	-6	1	540	0	0	0
70	SLU 27	-6	1	551	0	0	0
70	SLU 28	-6	1	551	0	0	0
70	SLU 29	-6	0	547	0	0	0
70	SLU 30	-6	1	547	0	0	0
70	SLU 31	-7	0	595	0	0	0
70	SLU 32	-8	0	606	0	0	0
70	SLU 33	-8	1	606	0	0	0
70	SLU 34	-7	1	602	0	0	0
70	SLU 35	-8	1	613	0	0	0
70	SLU 36	-8	1	613	0	0	0
70	SLU 37	-8	1	609	0	0	0
70	SLU 38	-8	1	609	0	0	0
70	SLU 39	-8	0	623	0	0	0
70	SLU 40	-8	0	622	0	0	0
70	SLU 41	-9	0	629	0	0	0
70	SLU 42	-8	1	629	0	0	0
70	SLU 43	-5	-4	577	0	0	0
70	SLU 44	-5	-4	576	0	0	0
70	SLU 45	-5	-3	587	0	0	0
70	SLU 46	-5	-3	587	0	0	0
70	SLU 47	-5	-3	583	0	0	0
70	SLU 48	-6	-3	594	0	0	0
70	SLU 49	-5	-3	594	0	0	0
70	SLU 50	-6	-3	590	0	0	0
70	SLU 51	-5	-3	590	0	0	0
70	SLU 52	-7	-3	638	0	0	0
70	SLU 53	-7	-3	649	0	0	0
70	SLU 54	-7	-3	649	0	0	0
70	SLU 55	-7	-3	645	0	0	0
70	SLU 56	-7	-3	656	0	0	0
70	SLU 57	-7	-2	656	0	0	0
70	SLU 58	-7	-3	652	0	0	0
70	SLU 59	-7	-2	652	0	0	0
70	SLU 60	-8	-4	666	0	0	0
70	SLU 61	-7	-3	665	0	0	0
70	SLU 62	-8	-3	672	0	0	0
70	SLU 63	-8	-3	672	0	0	0
70	SLU 64	-6	-2	648	0	0	0
70	SLU 65	-6	-1	648	0	0	0
70	SLU 66	-7	-1	659	0	0	0
70	SLU 67	-7	-1	658	0	0	0
70	SLU 68	-6	-1	654	0	0	0
70	SLU 69	-7	-1	665	0	0	0
70	SLU 70	-7	-1	665	0	0	0
70	SLU 71	-7	-1	661	0	0	0
70	SLU 72	-7	-1	661	0	0	0
70	SLU 73	-8	-1	710	0	0	0
70	SLU 74	-9	-1	721	0	0	0
70	SLU 75	-8	-1	720	0	0	0
70	SLU 76	-8	-1	716	0	0	0
70	SLU 77	-9	-1	727	0	0	0
70	SLU 78	-9	0	727	0	0	0
70	SLU 79	-9	-1	724	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
70	SLU 80	-9	0	723	0	0	0
70	SLU 81	-9	-2	737	0	0	0
70	SLU 82	-9	-1	737	0	0	0
70	SLU 83	-9	-1	743	0	0	0
70	SLU 84	-9	-1	743	0	0	0
70	SLE RA 1	-5	-2	483	0	0	0
70	SLE RA 2	-4	-2	483	0	0	0
70	SLE RA 3	-5	-2	490	0	0	0
70	SLE RA 4	-5	-1	490	0	0	0
70	SLE RA 5	-5	-1	487	0	0	0
70	SLE RA 6	-5	-1	494	0	0	0
70	SLE RA 7	-5	-1	494	0	0	0
70	SLE RA 8	-5	-1	492	0	0	0
70	SLE RA 9	-5	-1	492	0	0	0
70	SLE RA 10	-6	-1	524	0	0	0
70	SLE RA 11	-6	-1	531	0	0	0
70	SLE RA 12	-6	-1	531	0	0	0
70	SLE RA 13	-6	-1	528	0	0	0
70	SLE RA 14	-6	-1	536	0	0	0
70	SLE RA 15	-6	-1	535	0	0	0
70	SLE RA 16	-6	-1	533	0	0	0
70	SLE RA 17	-6	-1	533	0	0	0
70	SLE RA 18	-6	-2	542	0	0	0
70	SLE RA 19	-6	-1	542	0	0	0
70	SLE RA 20	-7	-1	546	0	0	0
70	SLE RA 21	-6	-1	546	0	0	0
70	SLE FR 1	-5	-2	483	0	0	0
70	SLE FR 2	-5	-2	483	0	0	0
70	SLE FR 3	-5	-2	485	0	0	0
70	SLE FR 4	-5	-2	501	0	0	0
70	SLE FR 5	-5	-2	502	0	0	0
70	SLE FR 6	-6	-2	512	0	0	0
70	SLE QP 1	-5	-2	483	0	0	0
70	SLE QP 2	-5	-2	501	0	0	0
70	SLD 1	20	3	476	0	0	0
70	SLD 2	21	6	476	0	0	0
70	SLD 3	16	-3	483	0	0	0
70	SLD 4	17	0	483	0	0	0
70	SLD 5	8	8	483	0	0	0
70	SLD 6	9	10	482	0	0	0
70	SLD 7	-5	-12	506	0	0	0
70	SLD 8	-4	-10	506	0	0	0
70	SLD 9	-6	6	495	0	0	0
70	SLD 10	-5	8	495	0	0	0
70	SLD 11	-19	-14	519	0	0	0
70	SLD 12	-19	-12	519	0	0	0
70	SLD 13	-27	-4	518	0	0	0
70	SLD 14	-27	-1	518	0	0	0
70	SLD 15	-31	-10	525	0	0	0
70	SLD 16	-31	-7	525	0	0	0
70	SLV 1	35	6	462	0	0	0
70	SLV 2	36	11	462	0	0	0
70	SLV 3	28	-3	474	0	0	0
70	SLV 4	30	1	473	0	0	0
70	SLV 5	16	14	472	0	0	0
70	SLV 6	17	17	472	0	0	0
70	SLV 7	-5	-18	510	0	0	0
70	SLV 8	-4	-15	510	0	0	0
70	SLV 9	-6	11	492	0	0	0
70	SLV 10	-5	14	491	0	0	0
70	SLV 11	-27	-21	530	0	0	0
70	SLV 12	-27	-18	529	0	0	0
70	SLV 13	-40	-5	528	0	0	0
70	SLV 14	-39	0	527	0	0	0
70	SLV 15	-46	-15	539	0	0	0
70	SLV 16	-45	-10	539	0	0	0
70	SLV FO 1	39	7	459	0	0	0
70	SLV FO 2	40	12	458	0	0	0
70	SLV FO 3	32	-4	471	0	0	0
70	SLV FO 4	33	2	471	0	0	0
70	SLV FO 5	18	16	469	0	0	0
70	SLV FO 6	19	19	469	0	0	0
70	SLV FO 7	-5	-19	511	0	0	0
70	SLV FO 8	-4	-16	511	0	0	0
70	SLV FO 9	-6	12	491	0	0	0
70	SLV FO 10	-5	16	490	0	0	0
70	SLV FO 11	-30	-23	533	0	0	0
70	SLV FO 12	-29	-20	532	0	0	0
70	SLV FO 13	-43	-5	531	0	0	0
70	SLV FO 14	-42	0	530	0	0	0
70	SLV FO 15	-50	-16	543	0	0	0
70	SLV FO 16	-49	-11	543	0	0	0
71	SLU 1	-4	-3	444	-43.16	0	-0.35
71	SLU 2	-3	-3	443	-43.13	0	-0.32
71	SLU 3	-4	-3	454	-44.13	0	-0.38
71	SLU 4	-4	-3	453	-44.11	0	-0.36
71	SLU 5	-4	-3	450	-43.74	0	-0.34
71	SLU 6	-4	-2	460	-44.74	0	-0.4
71	SLU 7	-4	-2	460	-44.72	0	-0.39



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
71	SLU 8	-4	-3	456	-44.39	0	-0.4
71	SLU 9	-4	-2	456	-44.37	0	-0.38
71	SLU 10	-5	-3	503	-48.93	0	-0.48
71	SLU 11	-6	-3	513	-49.93	0	-0.54
71	SLU 12	-5	-2	513	-49.92	0	-0.52
71	SLU 13	-5	-2	509	-49.55	0	-0.51
71	SLU 14	-6	-2	520	-50.55	0	-0.57
71	SLU 15	-6	-2	519	-50.53	0	-0.55
71	SLU 16	-6	-2	516	-50.2	0	-0.57
71	SLU 17	-6	-2	516	-50.18	0	-0.55
71	SLU 18	-6	-3	529	-51.45	0	-0.58
71	SLU 19	-6	-3	529	-51.44	0	-0.57
71	SLU 20	-6	-3	535	-52.07	0	-0.61
71	SLU 21	-6	-2	535	-52.05	0	-0.59
71	SLU 22	-5	-2	512	-49.8	0	-0.47
71	SLU 23	-5	-1	512	-49.76	0	-0.44
71	SLU 24	-5	-1	522	-50.76	0	-0.5
71	SLU 25	-5	-1	522	-50.75	0	-0.48
71	SLU 26	-5	-1	518	-50.38	0	-0.47
71	SLU 27	-5	-1	528	-51.38	0	-0.53
71	SLU 28	-5	0	528	-51.36	0	-0.51
71	SLU 29	-5	-1	525	-51.03	0	-0.52
71	SLU 30	-5	0	524	-51.01	0	-0.51
71	SLU 31	-6	-1	571	-55.57	0	-0.61
71	SLU 32	-7	-1	582	-56.57	0	-0.67
71	SLU 33	-7	-1	581	-56.55	0	-0.65
71	SLU 34	-7	0	578	-56.19	0	-0.63
71	SLU 35	-7	0	588	-57.19	0	-0.69
71	SLU 36	-7	0	588	-57.17	0	-0.67
71	SLU 37	-7	0	584	-56.84	0	-0.69
71	SLU 38	-7	0	584	-56.82	0	-0.67
71	SLU 39	-7	-1	597	-58.09	0	-0.71
71	SLU 40	-7	-1	597	-58.07	0	-0.69
71	SLU 41	-8	-1	604	-58.71	0	-0.74
71	SLU 42	-7	-1	603	-58.69	0	-0.72
71	SLU 43	-4	-5	553	-53.83	0	-0.41
71	SLU 44	-4	-5	553	-53.8	0	-0.38
71	SLU 45	-5	-5	563	-54.8	0	-0.44
71	SLU 46	-4	-4	563	-54.78	0	-0.42
71	SLU 47	-4	-4	559	-54.41	0	-0.41
71	SLU 48	-5	-4	570	-55.41	0	-0.47
71	SLU 49	-5	-4	569	-55.39	0	-0.45
71	SLU 50	-5	-4	566	-55.06	0	-0.46
71	SLU 51	-5	-4	566	-55.04	0	-0.44
71	SLU 52	-6	-4	613	-59.61	0	-0.54
71	SLU 53	-6	-4	623	-60.6	0	-0.61
71	SLU 54	-6	-4	623	-60.59	0	-0.59
71	SLU 55	-6	-4	619	-60.22	0	-0.57
71	SLU 56	-6	-4	629	-61.22	0	-0.63
71	SLU 57	-6	-4	629	-61.2	0	-0.61
71	SLU 58	-6	-4	626	-60.87	0	-0.63
71	SLU 59	-6	-4	626	-60.85	0	-0.61
71	SLU 60	-7	-5	639	-62.13	0	-0.65
71	SLU 61	-6	-5	638	-62.11	0	-0.63
71	SLU 62	-7	-4	645	-62.74	0	-0.67
71	SLU 63	-7	-4	645	-62.72	0	-0.65
71	SLU 64	-5	-3	622	-60.47	0	-0.53
71	SLU 65	-5	-3	621	-60.44	0	-0.5
71	SLU 66	-6	-3	632	-61.43	0	-0.56
71	SLU 67	-6	-2	631	-61.42	0	-0.55
71	SLU 68	-5	-2	628	-61.05	0	-0.53
71	SLU 69	-6	-2	638	-62.05	0	-0.59
71	SLU 70	-6	-2	638	-62.03	0	-0.57
71	SLU 71	-6	-2	634	-61.7	0	-0.59
71	SLU 72	-6	-2	634	-61.68	0	-0.57
71	SLU 73	-7	-3	681	-66.24	0	-0.67
71	SLU 74	-7	-2	691	-67.24	0	-0.73
71	SLU 75	-7	-2	691	-67.22	0	-0.71
71	SLU 76	-7	-2	687	-66.86	0	-0.69
71	SLU 77	-8	-2	698	-67.86	0	-0.76
71	SLU 78	-8	-2	697	-67.84	0	-0.74
71	SLU 79	-8	-2	694	-67.51	0	-0.75
71	SLU 80	-8	-2	694	-67.49	0	-0.73
71	SLU 81	-8	-3	707	-68.76	0	-0.77
71	SLU 82	-8	-3	707	-68.75	0	-0.75
71	SLU 83	-8	-3	713	-69.38	0	-0.8
71	SLU 84	-8	-2	713	-69.36	0	-0.78
71	SLE RA 1	-4	-3	463	-45.05	0	-0.38
71	SLE RA 2	-4	-3	463	-45.03	0	-0.36
71	SLE RA 3	-4	-3	470	-45.7	0	-0.4
71	SLE RA 4	-4	-2	470	-45.69	0	-0.39
71	SLE RA 5	-4	-2	467	-45.44	0	-0.38
71	SLE RA 6	-4	-2	474	-46.11	0	-0.42
71	SLE RA 7	-4	-2	474	-46.1	0	-0.41
71	SLE RA 8	-4	-2	472	-45.87	0	-0.42
71	SLE RA 9	-4	-2	471	-45.86	0	-0.41
71	SLE RA 10	-5	-2	503	-48.91	0	-0.47
71	SLE RA 11	-5	-2	510	-49.57	0	-0.51
71	SLE RA 12	-5	-2	509	-49.56	0	-0.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
71	SLE RA 13	-5	-2	507	-49.32	0	-0.49
71	SLE RA 14	-5	-2	514	-49.98	0	-0.53
71	SLE RA 15	-5	-2	514	-49.97	0	-0.52
71	SLE RA 16	-5	-2	511	-49.75	0	-0.53
71	SLE RA 17	-5	-2	511	-49.73	0	-0.52
71	SLE RA 18	-6	-3	520	-50.59	0	-0.54
71	SLE RA 19	-5	-3	520	-50.57	0	-0.53
71	SLE RA 20	-6	-2	524	-51	0	-0.56
71	SLE RA 21	-6	-2	524	-50.98	0	-0.55
71	SLE FR 1	-4	-3	463	-45.05	0	-0.38
71	SLE FR 2	-4	-3	463	-45.05	0	-0.38
71	SLE FR 3	-4	-3	465	-45.22	0	-0.39
71	SLE FR 4	-4	-3	480	-46.71	0	-0.43
71	SLE FR 5	-5	-3	482	-46.88	0	-0.44
71	SLE FR 6	-5	-3	492	-47.82	0	-0.46
71	SLE QP 1	-4	-3	463	-45.05	0	-0.38
71	SLE QP 2	-4	-3	480	-46.71	0	-0.43
71	SLD 1	19	2	461	-44.86	0	1.9
71	SLD 2	20	5	461	-44.83	0	1.99
71	SLD 3	16	-3	466	-45.35	0	1.53
71	SLD 4	17	-1	466	-45.32	0	1.62
71	SLD 5	8	7	467	-45.42	0	0.8
71	SLD 6	9	8	467	-45.4	0	0.86
71	SLD 7	-4	-12	484	-47.05	0	-0.41
71	SLD 8	-4	-10	484	-47.03	0	-0.35
71	SLD 9	-5	5	477	-46.39	0	-0.51
71	SLD 10	-5	6	477	-46.37	0	-0.45
71	SLD 11	-18	-14	494	-48.02	0	-1.72
71	SLD 12	-17	-12	494	-48.01	0	-1.66
71	SLD 13	-26	-5	494	-48.1	0	-2.48
71	SLD 14	-25	-2	494	-48.08	0	-2.39
71	SLD 15	-29	-11	500	-48.59	0	-2.85
71	SLD 16	-28	-8	499	-48.57	0	-2.76
71	SLV 1	33	5	450	-43.81	0	3.23
71	SLV 2	35	10	450	-43.77	0	3.37
71	SLV 3	27	-4	458	-44.6	0	2.64
71	SLV 4	29	0	458	-44.56	0	2.78
71	SLV 5	16	13	459	-44.65	0	1.54
71	SLV 6	17	16	459	-44.62	0	1.63
71	SLV 7	-4	-18	486	-47.29	0	-0.43
71	SLV 8	-3	-15	486	-47.26	0	-0.33
71	SLV 9	-5	10	475	-46.17	0	-0.53
71	SLV 10	-4	12	474	-46.14	0	-0.43
71	SLV 11	-26	-21	502	-48.8	0	-2.49
71	SLV 12	-25	-19	501	-48.78	0	-2.4
71	SLV 13	-37	6	502	-48.87	0	-3.65
71	SLV 14	-36	-2	502	-48.83	0	-3.5
71	SLV 15	-44	-15	510	-49.66	0	-4.23
71	SLV 16	-42	-11	510	-49.62	0	-4.09
71	SLV FO 1	37	6	447	-43.52	0	3.6
71	SLV FO 2	39	11	447	-43.47	0	3.75
71	SLV FO 3	30	-4	456	-44.39	0	2.95
71	SLV FO 4	32	1	456	-44.34	0	3.1
71	SLV FO 5	18	15	457	-44.44	0	1.73
71	SLV FO 6	19	18	457	-44.41	0	1.84
71	SLV FO 7	-4	-19	487	-47.34	0	-0.43
71	SLV FO 8	-3	-16	486	-47.31	0	-0.32
71	SLV FO 9	-6	11	474	-46.11	0	-0.54
71	SLV FO 10	-4	14	474	-46.08	0	-0.43
71	SLV FO 11	-28	-23	504	-49.01	0	-2.7
71	SLV FO 12	-27	-20	504	-48.98	0	-2.59
71	SLV FO 13	-41	-6	505	-49.08	0	-3.97
71	SLV FO 14	-39	-2	504	-49.04	0	-3.81
71	SLV FO 15	-47	-16	514	-49.95	0	-4.61
71	SLV FO 16	-46	-12	513	-49.91	0	-4.46
71	CRTFP Ux+	0	0	0	0	0	0
71	CRTFP Ux-	0	0	0	0	0	0
72	SLU 1	-1	-1	112	0	0	0
72	SLU 2	-1	-1	111	0	0	0
72	SLU 3	-1	-1	114	0	0	0
72	SLU 4	-1	-1	114	0	0	0
72	SLU 5	-1	-1	113	0	0	0
72	SLU 6	-1	0	116	0	0	0
72	SLU 7	-1	0	116	0	0	0
72	SLU 8	-1	-1	115	0	0	0
72	SLU 9	-1	0	115	0	0	0
72	SLU 10	-1	-1	126	0	0	0
72	SLU 11	-2	-1	129	0	0	0
72	SLU 12	-2	0	129	0	0	0
72	SLU 13	-1	0	128	0	0	0
72	SLU 14	-2	0	131	0	0	0
72	SLU 15	-2	0	131	0	0	0
72	SLU 16	-2	0	130	0	0	0
72	SLU 17	-2	0	130	0	0	0
72	SLU 18	-2	-1	133	0	0	0
72	SLU 19	-2	-1	133	0	0	0
72	SLU 20	-2	-1	135	0	0	0
72	SLU 21	-2	0	134	0	0	0
72	SLU 22	-1	0	129	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
72	SLU 23	-1	0	129	0	0	0
72	SLU 24	-1	0	131	0	0	0
72	SLU 25	-1	0	131	0	0	0
72	SLU 26	-1	0	130	0	0	0
72	SLU 27	-2	0	133	0	0	0
72	SLU 28	-1	0	133	0	0	0
72	SLU 29	-2	0	132	0	0	0
72	SLU 30	-1	0	132	0	0	0
72	SLU 31	-2	0	144	0	0	0
72	SLU 32	-2	0	146	0	0	0
72	SLU 33	-2	0	146	0	0	0
72	SLU 34	-2	0	145	0	0	0
72	SLU 35	-2	0	148	0	0	0
72	SLU 36	-2	0	148	0	0	0
72	SLU 37	-2	0	147	0	0	0
72	SLU 38	-2	0	147	0	0	0
72	SLU 39	-2	0	150	0	0	0
72	SLU 40	-2	0	150	0	0	0
72	SLU 41	-2	0	152	0	0	0
72	SLU 42	-2	0	152	0	0	0
72	SLU 43	-1	-1	139	0	0	0
72	SLU 44	-1	-1	139	0	0	0
72	SLU 45	-1	-1	142	0	0	0
72	SLU 46	-1	-1	142	0	0	0
72	SLU 47	-1	-1	141	0	0	0
72	SLU 48	-1	-1	143	0	0	0
72	SLU 49	-1	-1	143	0	0	0
72	SLU 50	-1	-1	142	0	0	0
72	SLU 51	-1	-1	142	0	0	0
72	SLU 52	-2	-1	154	0	0	0
72	SLU 53	-2	-1	157	0	0	0
72	SLU 54	-2	-1	157	0	0	0
72	SLU 55	-2	-1	156	0	0	0
72	SLU 56	-2	-1	158	0	0	0
72	SLU 57	-2	-1	158	0	0	0
72	SLU 58	-2	-1	157	0	0	0
72	SLU 59	-2	-1	157	0	0	0
72	SLU 60	-2	-1	161	0	0	0
72	SLU 61	-2	-1	160	0	0	0
72	SLU 62	-2	-1	162	0	0	0
72	SLU 63	-2	-1	162	0	0	0
72	SLU 64	-2	-1	156	0	0	0
72	SLU 65	-2	-1	156	0	0	0
72	SLU 66	-2	-1	159	0	0	0
72	SLU 67	-2	0	159	0	0	0
72	SLU 68	-2	0	158	0	0	0
72	SLU 69	-2	0	160	0	0	0
72	SLU 70	-2	0	160	0	0	0
72	SLU 71	-2	0	160	0	0	0
72	SLU 72	-2	0	159	0	0	0
72	SLU 73	-2	0	171	0	0	0
72	SLU 74	-2	0	174	0	0	0
72	SLU 75	-2	0	174	0	0	0
72	SLU 76	-2	0	173	0	0	0
72	SLU 77	-2	0	175	0	0	0
72	SLU 78	-2	0	175	0	0	0
72	SLU 79	-2	0	175	0	0	0
72	SLU 80	-2	0	174	0	0	0
72	SLU 81	-2	-1	178	0	0	0
72	SLU 82	-2	0	178	0	0	0
72	SLU 83	-2	0	179	0	0	0
72	SLU 84	-2	0	179	0	0	0
72	SLE RA 1	-1	-1	116	0	0	0
72	SLE RA 2	-1	-1	116	0	0	0
72	SLE RA 3	-1	-1	118	0	0	0
72	SLE RA 4	-1	0	118	0	0	0
72	SLE RA 5	-1	0	117	0	0	0
72	SLE RA 6	-1	0	119	0	0	0
72	SLE RA 7	-1	0	119	0	0	0
72	SLE RA 8	-1	0	119	0	0	0
72	SLE RA 9	-1	0	119	0	0	0
72	SLE RA 10	-1	0	126	0	0	0
72	SLE RA 11	-2	0	128	0	0	0
72	SLE RA 12	-1	0	128	0	0	0
72	SLE RA 13	-1	0	127	0	0	0
72	SLE RA 14	-2	0	129	0	0	0
72	SLE RA 15	-2	0	129	0	0	0
72	SLE RA 16	-2	0	129	0	0	0
72	SLE RA 17	-2	0	129	0	0	0
72	SLE RA 18	-2	-1	131	0	0	0
72	SLE RA 19	-2	0	131	0	0	0
72	SLE RA 20	-2	0	132	0	0	0
72	SLE RA 21	-2	0	132	0	0	0
72	SLE FR 1	-1	-1	116	0	0	0
72	SLE FR 2	-1	-1	116	0	0	0
72	SLE FR 3	-1	-1	117	0	0	0
72	SLE FR 4	-1	-1	121	0	0	0
72	SLE FR 5	-1	-1	121	0	0	0
72	SLE FR 6	-1	-1	124	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
72	SLE QP 1	-1	-1	116	0	0	0
72	SLE QP 2	-1	-1	121	0	0	0
72	SLD 1	5	1	115	0	0	0
72	SLD 2	5	1	115	0	0	0
72	SLD 3	4	-1	117	0	0	0
72	SLD 4	4	0	117	0	0	0
72	SLD 5	2	2	116	0	0	0
72	SLD 6	2	2	116	0	0	0
72	SLD 7	-1	-3	123	0	0	0
72	SLD 8	-1	-2	123	0	0	0
72	SLD 9	-1	1	119	0	0	0
72	SLD 10	-1	2	119	0	0	0
72	SLD 11	-5	-3	125	0	0	0
72	SLD 12	-5	-3	125	0	0	0
72	SLD 13	-7	-1	124	0	0	0
72	SLD 14	-6	0	124	0	0	0
72	SLD 15	-8	-3	126	0	0	0
72	SLD 16	-7	-2	126	0	0	0
72	SLV 1	8	1	112	0	0	0
72	SLV 2	9	3	112	0	0	0
72	SLV 3	7	-1	115	0	0	0
72	SLV 4	7	0	115	0	0	0
72	SLV 5	4	3	113	0	0	0
72	SLV 6	4	4	113	0	0	0
72	SLV 7	-1	-4	124	0	0	0
72	SLV 8	-1	-4	124	0	0	0
72	SLV 9	-2	3	118	0	0	0
72	SLV 10	-1	3	117	0	0	0
72	SLV 11	-7	-5	128	0	0	0
72	SLV 12	-6	-5	128	0	0	0
72	SLV 13	-10	-1	126	0	0	0
72	SLV 14	-9	0	126	0	0	0
72	SLV 15	-11	-4	129	0	0	0
72	SLV 16	-11	-3	129	0	0	0
72	SLV FO 1	9	2	111	0	0	0
72	SLV FO 2	10	3	111	0	0	0
72	SLV FO 3	8	-1	115	0	0	0
72	SLV FO 4	8	0	115	0	0	0
72	SLV FO 5	4	4	113	0	0	0
72	SLV FO 6	5	5	113	0	0	0
72	SLV FO 7	-1	-5	124	0	0	0
72	SLV FO 8	-1	-4	124	0	0	0
72	SLV FO 9	-2	3	117	0	0	0
72	SLV FO 10	-1	4	117	0	0	0
72	SLV FO 11	-7	-6	129	0	0	0
72	SLV FO 12	-7	-5	129	0	0	0
72	SLV FO 13	-11	-1	127	0	0	0
72	SLV FO 14	-10	0	127	0	0	0
72	SLV FO 15	-12	-4	130	0	0	0
72	SLV FO 16	-12	-3	130	0	0	0
73	SLU 1	-6	-10	608	0	0	0
73	SLU 2	-6	-9	607	0	0	0
73	SLU 3	-7	-9	623	0	0	0
73	SLU 4	-7	-9	622	0	0	0
73	SLU 5	-6	-8	616	0	0	0
73	SLU 6	-7	-8	632	0	0	0
73	SLU 7	-7	-8	631	0	0	0
73	SLU 8	-7	-9	627	0	0	0
73	SLU 9	-7	-8	626	0	0	0
73	SLU 10	-8	-9	690	0	0	0
73	SLU 11	-9	-9	706	0	0	0
73	SLU 12	-9	-9	705	0	0	0
73	SLU 13	-9	-9	700	0	0	0
73	SLU 14	-10	-9	715	0	0	0
73	SLU 15	-9	-8	714	0	0	0
73	SLU 16	-10	-9	710	0	0	0
73	SLU 17	-9	-8	709	0	0	0
73	SLU 18	-10	-10	728	0	0	0
73	SLU 19	-10	-10	727	0	0	0
73	SLU 20	-10	-9	737	0	0	0
73	SLU 21	-10	-9	736	0	0	0
73	SLU 22	-8	-8	704	0	0	0
73	SLU 23	-8	-7	702	0	0	0
73	SLU 24	-9	-7	718	0	0	0
73	SLU 25	-9	-7	717	0	0	0
73	SLU 26	-8	-6	712	0	0	0
73	SLU 27	-9	-6	727	0	0	0
73	SLU 28	-9	-6	726	0	0	0
73	SLU 29	-9	-7	722	0	0	0
73	SLU 30	-9	-6	721	0	0	0
73	SLU 31	-10	-7	786	0	0	0
73	SLU 32	-11	-7	802	0	0	0
73	SLU 33	-11	-7	801	0	0	0
73	SLU 34	-11	-7	795	0	0	0
73	SLU 35	-12	-7	811	0	0	0
73	SLU 36	-11	-6	810	0	0	0
73	SLU 37	-12	-7	806	0	0	0
73	SLU 38	-11	-6	805	0	0	0
73	SLU 39	-12	-8	823	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
73	SLU 40	-12	-8	823	0	0	0
73	SLU 41	-12	-7	833	0	0	0
73	SLU 42	-12	-7	832	0	0	0
73	SLU 43	-8	-13	758	0	0	0
73	SLU 44	-7	-13	757	0	0	0
73	SLU 45	-8	-13	772	0	0	0
73	SLU 46	-8	-12	771	0	0	0
73	SLU 47	-8	-12	766	0	0	0
73	SLU 48	-9	-12	781	0	0	0
73	SLU 49	-8	-12	781	0	0	0
73	SLU 50	-8	-12	776	0	0	0
73	SLU 51	-8	-12	776	0	0	0
73	SLU 52	-10	-13	840	0	0	0
73	SLU 53	-11	-13	856	0	0	0
73	SLU 54	-10	-12	855	0	0	0
73	SLU 55	-10	-12	849	0	0	0
73	SLU 56	-11	-12	865	0	0	0
73	SLU 57	-11	-12	864	0	0	0
73	SLU 58	-11	-12	860	0	0	0
73	SLU 59	-11	-12	859	0	0	0
73	SLU 60	-11	-14	877	0	0	0
73	SLU 61	-11	-13	877	0	0	0
73	SLU 62	-12	-13	887	0	0	0
73	SLU 63	-11	-13	886	0	0	0
73	SLU 64	-10	-11	854	0	0	0
73	SLU 65	-9	-11	852	0	0	0
73	SLU 66	-10	-11	868	0	0	0
73	SLU 67	-10	-10	867	0	0	0
73	SLU 68	-10	-10	861	0	0	0
73	SLU 69	-10	-10	877	0	0	0
73	SLU 70	-10	-10	876	0	0	0
73	SLU 71	-10	-10	872	0	0	0
73	SLU 72	-10	-10	871	0	0	0
73	SLU 73	-12	-11	936	0	0	0
73	SLU 74	-13	-11	951	0	0	0
73	SLU 75	-12	-10	951	0	0	0
73	SLU 76	-12	-10	945	0	0	0
73	SLU 77	-13	-10	961	0	0	0
73	SLU 78	-13	-10	960	0	0	0
73	SLU 79	-13	-10	956	0	0	0
73	SLU 80	-13	-10	955	0	0	0
73	SLU 81	-13	-12	973	0	0	0
73	SLU 82	-13	-11	972	0	0	0
73	SLU 83	-14	-11	982	0	0	0
73	SLU 84	-13	-11	981	0	0	0
73	SLE RA 1	-7	-9	636	0	0	0
73	SLE RA 2	-7	-9	635	0	0	0
73	SLE RA 3	-7	-9	645	0	0	0
73	SLE RA 4	-7	-8	645	0	0	0
73	SLE RA 5	-7	-8	641	0	0	0
73	SLE RA 6	-8	-8	651	0	0	0
73	SLE RA 7	-7	-8	651	0	0	0
73	SLE RA 8	-7	-8	648	0	0	0
73	SLE RA 9	-7	-8	647	0	0	0
73	SLE RA 10	-8	-9	690	0	0	0
73	SLE RA 11	-9	-9	701	0	0	0
73	SLE RA 12	-9	-9	700	0	0	0
73	SLE RA 13	-9	-8	697	0	0	0
73	SLE RA 14	-9	-8	707	0	0	0
73	SLE RA 15	-9	-8	706	0	0	0
73	SLE RA 16	-9	-8	704	0	0	0
73	SLE RA 17	-9	-8	703	0	0	0
73	SLE RA 18	-9	-9	715	0	0	0
73	SLE RA 19	-9	-9	715	0	0	0
73	SLE RA 20	-10	-9	721	0	0	0
73	SLE RA 21	-9	-9	721	0	0	0
73	SLE FR 1	-7	-9	636	0	0	0
73	SLE FR 2	-7	-9	635	0	0	0
73	SLE FR 3	-7	-9	638	0	0	0
73	SLE FR 4	-8	-9	659	0	0	0
73	SLE FR 5	-8	-9	662	0	0	0
73	SLE FR 6	-8	-9	675	0	0	0
73	SLE QP 1	-7	-9	636	0	0	0
73	SLE QP 2	-8	-9	660	0	0	0
73	SLD 1	25	0	648	0	0	0
73	SLD 2	26	2	647	0	0	0
73	SLD 3	20	-8	667	0	0	0
73	SLD 4	21	-6	667	0	0	0
73	SLD 5	10	5	627	0	0	0
73	SLD 6	10	7	627	0	0	0
73	SLD 7	-7	-21	691	0	0	0
73	SLD 8	-7	-20	691	0	0	0
73	SLD 9	-9	1	628	0	0	0
73	SLD 10	-8	3	628	0	0	0
73	SLD 11	-26	-25	692	0	0	0
73	SLD 12	-25	-24	692	0	0	0
73	SLD 13	-37	-13	652	0	0	0
73	SLD 14	-36	-10	652	0	0	0
73	SLD 15	-42	-21	672	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
73	SLD 16	-41	-18	671	0	0	0
73	SLV 1	44	5	640	0	0	0
73	SLV 2	46	9	640	0	0	0
73	SLV 3	36	-8	671	0	0	0
73	SLV 4	37	-4	671	0	0	0
73	SLV 5	20	14	607	0	0	0
73	SLV 6	21	17	606	0	0	0
73	SLV 7	-7	-29	710	0	0	0
73	SLV 8	-7	-27	710	0	0	0
73	SLV 9	-9	8	609	0	0	0
73	SLV 10	-8	11	609	0	0	0
73	SLV 11	-37	-35	713	0	0	0
73	SLV 12	-36	-33	712	0	0	0
73	SLV 13	-53	-14	648	0	0	0
73	SLV 14	-52	-11	648	0	0	0
73	SLV 15	-61	-27	679	0	0	0
73	SLV 16	-60	-24	679	0	0	0
73	SLV FO 1	50	7	638	0	0	0
73	SLV FO 2	51	11	638	0	0	0
73	SLV FO 3	40	-8	673	0	0	0
73	SLV FO 4	42	-4	672	0	0	0
73	SLV FO 5	23	17	601	0	0	0
73	SLV FO 6	24	19	601	0	0	0
73	SLV FO 7	-7	-31	715	0	0	0
73	SLV FO 8	-6	-29	715	0	0	0
73	SLV FO 9	-9	10	604	0	0	0
73	SLV FO 10	-8	13	604	0	0	0
73	SLV FO 11	-39	-38	718	0	0	0
73	SLV FO 12	-38	-35	718	0	0	0
73	SLV FO 13	-57	-15	647	0	0	0
73	SLV FO 14	-56	-11	646	0	0	0
73	SLV FO 15	-66	-29	681	0	0	0
73	SLV FO 16	-65	-25	681	0	0	0
74	SLU 1	-6	-7	549	0	0	0
74	SLU 2	-6	-6	547	0	0	0
74	SLU 3	-6	-6	561	0	0	0
74	SLU 4	-6	-6	561	0	0	0
74	SLU 5	-6	-5	556	0	0	0
74	SLU 6	-7	-5	569	0	0	0
74	SLU 7	-6	-5	569	0	0	0
74	SLU 8	-7	-5	565	0	0	0
74	SLU 9	-6	-5	564	0	0	0
74	SLU 10	-8	-6	622	0	0	0
74	SLU 11	-9	-6	636	0	0	0
74	SLU 12	-8	-5	635	0	0	0
74	SLU 13	-8	-5	630	0	0	0
74	SLU 14	-9	-5	644	0	0	0
74	SLU 15	-9	-5	644	0	0	0
74	SLU 16	-9	-5	640	0	0	0
74	SLU 17	-9	-5	639	0	0	0
74	SLU 18	-9	-6	655	0	0	0
74	SLU 19	-9	-6	655	0	0	0
74	SLU 20	-9	-6	664	0	0	0
74	SLU 21	-9	-6	663	0	0	0
74	SLU 22	-8	-4	634	0	0	0
74	SLU 23	-7	-4	633	0	0	0
74	SLU 24	-8	-4	647	0	0	0
74	SLU 25	-8	-3	646	0	0	0
74	SLU 26	-8	-3	641	0	0	0
74	SLU 27	-8	-3	655	0	0	0
74	SLU 28	-8	-3	655	0	0	0
74	SLU 29	-8	-3	651	0	0	0
74	SLU 30	-8	-3	650	0	0	0
74	SLU 31	-10	-4	708	0	0	0
74	SLU 32	-10	-4	722	0	0	0
74	SLU 33	-10	-3	721	0	0	0
74	SLU 34	-10	-3	716	0	0	0
74	SLU 35	-11	-3	730	0	0	0
74	SLU 36	-10	-3	729	0	0	0
74	SLU 37	-11	-3	726	0	0	0
74	SLU 38	-10	-3	725	0	0	0
74	SLU 39	-11	-4	741	0	0	0
74	SLU 40	-11	-4	741	0	0	0
74	SLU 41	-11	-4	750	0	0	0
74	SLU 42	-11	-4	749	0	0	0
74	SLU 43	-7	-9	684	0	0	0
74	SLU 44	-7	-9	683	0	0	0
74	SLU 45	-7	-9	696	0	0	0
74	SLU 46	-7	-8	696	0	0	0
74	SLU 47	-7	-8	691	0	0	0
74	SLU 48	-8	-8	705	0	0	0
74	SLU 49	-8	-8	704	0	0	0
74	SLU 50	-8	-8	700	0	0	0
74	SLU 51	-8	-8	699	0	0	0
74	SLU 52	-9	-9	757	0	0	0
74	SLU 53	-10	-9	771	0	0	0
74	SLU 54	-9	-8	771	0	0	0
74	SLU 55	-9	-8	766	0	0	0
74	SLU 56	-10	-8	779	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
74	SLU 57	-10	-8	779	0	0	0
74	SLU 58	-10	-8	775	0	0	0
74	SLU 59	-10	-8	774	0	0	0
74	SLU 60	-10	-9	791	0	0	0
74	SLU 61	-10	-9	790	0	0	0
74	SLU 62	-11	-9	799	0	0	0
74	SLU 63	-10	-8	798	0	0	0
74	SLU 64	-9	-7	770	0	0	0
74	SLU 65	-8	-7	768	0	0	0
74	SLU 66	-9	-6	782	0	0	0
74	SLU 67	-9	-6	782	0	0	0
74	SLU 68	-9	-6	777	0	0	0
74	SLU 69	-10	-6	790	0	0	0
74	SLU 70	-9	-6	790	0	0	0
74	SLU 71	-10	-6	786	0	0	0
74	SLU 72	-9	-6	785	0	0	0
74	SLU 73	-11	-6	843	0	0	0
74	SLU 74	-11	-6	857	0	0	0
74	SLU 75	-11	-6	856	0	0	0
74	SLU 76	-11	-6	851	0	0	0
74	SLU 77	-12	-6	865	0	0	0
74	SLU 78	-12	-6	865	0	0	0
74	SLU 79	-12	-6	861	0	0	0
74	SLU 80	-12	-6	860	0	0	0
74	SLU 81	-12	-7	876	0	0	0
74	SLU 82	-12	-7	876	0	0	0
74	SLU 83	-12	-7	885	0	0	0
74	SLU 84	-12	-6	884	0	0	0
74	SLE RA 1	-6	-6	573	0	0	0
74	SLE RA 2	-6	-6	572	0	0	0
74	SLE RA 3	-7	-6	582	0	0	0
74	SLE RA 4	-7	-5	581	0	0	0
74	SLE RA 5	-6	-5	578	0	0	0
74	SLE RA 6	-7	-5	587	0	0	0
74	SLE RA 7	-7	-5	587	0	0	0
74	SLE RA 8	-7	-5	584	0	0	0
74	SLE RA 9	-7	-5	584	0	0	0
74	SLE RA 10	-8	-6	622	0	0	0
74	SLE RA 11	-8	-5	631	0	0	0
74	SLE RA 12	-8	-5	631	0	0	0
74	SLE RA 13	-8	-5	628	0	0	0
74	SLE RA 14	-8	-5	637	0	0	0
74	SLE RA 15	-8	-5	636	0	0	0
74	SLE RA 16	-8	-5	634	0	0	0
74	SLE RA 17	-8	-5	633	0	0	0
74	SLE RA 18	-9	-6	644	0	0	0
74	SLE RA 19	-8	-6	644	0	0	0
74	SLE RA 20	-9	-6	650	0	0	0
74	SLE RA 21	-9	-5	649	0	0	0
74	SLE FR 1	-6	-6	573	0	0	0
74	SLE FR 2	-6	-6	573	0	0	0
74	SLE FR 3	-7	-6	575	0	0	0
74	SLE FR 4	-7	-6	594	0	0	0
74	SLE FR 5	-7	-6	597	0	0	0
74	SLE FR 6	-7	-6	609	0	0	0
74	SLE QP 1	-6	-6	573	0	0	0
74	SLE QP 2	-7	-6	594	0	0	0
74	SLD 1	23	1	577	0	0	0
74	SLD 2	24	4	577	0	0	0
74	SLD 3	18	-6	593	0	0	0
74	SLD 4	19	-3	592	0	0	0
74	SLD 5	9	7	565	0	0	0
74	SLD 6	9	8	565	0	0	0
74	SLD 7	-7	-17	618	0	0	0
74	SLD 8	-6	-15	618	0	0	0
74	SLD 9	-8	3	571	0	0	0
74	SLD 10	-7	5	571	0	0	0
74	SLD 11	-24	-20	624	0	0	0
74	SLD 12	-23	-18	624	0	0	0
74	SLD 13	-33	-9	597	0	0	0
74	SLD 14	-33	-6	596	0	0	0
74	SLD 15	-38	-16	612	0	0	0
74	SLD 16	-37	-13	612	0	0	0
74	SLV 1	40	6	567	0	0	0
74	SLV 2	42	10	566	0	0	0
74	SLV 3	33	-6	592	0	0	0
74	SLV 4	34	-2	592	0	0	0
74	SLV 5	18	14	548	0	0	0
74	SLV 6	19	17	547	0	0	0
74	SLV 7	-7	-24	632	0	0	0
74	SLV 8	-6	-22	632	0	0	0
74	SLV 9	-8	10	557	0	0	0
74	SLV 10	-7	13	556	0	0	0
74	SLV 11	-33	-29	642	0	0	0
74	SLV 12	-33	-26	641	0	0	0
74	SLV 13	-48	-10	597	0	0	0
74	SLV 14	-47	-6	597	0	0	0
74	SLV 15	-56	-22	623	0	0	0
74	SLV 16	-54	-18	622	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
74	SLV FO 1	45	7	564	0	0	0
74	SLV FO 2	46	11	563	0	0	0
74	SLV FO 3	37	-6	592	0	0	0
74	SLV FO 4	38	-1	591	0	0	0
74	SLV FO 5	21	17	543	0	0	0
74	SLV FO 6	22	20	543	0	0	0
74	SLV FO 7	-7	-26	636	0	0	0
74	SLV FO 8	-6	-23	636	0	0	0
74	SLV FO 9	-8	11	553	0	0	0
74	SLV FO 10	-7	14	553	0	0	0
74	SLV FO 11	-36	-31	646	0	0	0
74	SLV FO 12	-35	-28	646	0	0	0
74	SLV FO 13	-52	-11	598	0	0	0
74	SLV FO 14	-51	-6	597	0	0	0
74	SLV FO 15	-61	-23	626	0	0	0
74	SLV FO 16	-59	-19	625	0	0	0
75	SLU 1	-7	-14	682	0	0	0
75	SLU 2	-7	-13	681	0	0	0
75	SLU 3	-8	-13	699	0	0	0
75	SLU 4	-7	-12	697	0	0	0
75	SLU 5	-7	-12	691	0	0	0
75	SLU 6	-8	-12	709	0	0	0
75	SLU 7	-8	-12	708	0	0	0
75	SLU 8	-8	-12	703	0	0	0
75	SLU 9	-8	-12	702	0	0	0
75	SLU 10	-9	-13	775	0	0	0
75	SLU 11	-10	-13	793	0	0	0
75	SLU 12	-10	-13	792	0	0	0
75	SLU 13	-10	-13	786	0	0	0
75	SLU 14	-11	-13	804	0	0	0
75	SLU 15	-11	-12	802	0	0	0
75	SLU 16	-11	-13	798	0	0	0
75	SLU 17	-10	-12	797	0	0	0
75	SLU 18	-11	-14	817	0	0	0
75	SLU 19	-11	-14	816	0	0	0
75	SLU 20	-12	-14	828	0	0	0
75	SLU 21	-11	-13	827	0	0	0
75	SLU 22	-9	-12	790	0	0	0
75	SLU 23	-9	-11	788	0	0	0
75	SLU 24	-10	-11	806	0	0	0
75	SLU 25	-10	-11	805	0	0	0
75	SLU 26	-9	-10	799	0	0	0
75	SLU 27	-10	-10	817	0	0	0
75	SLU 28	-10	-10	816	0	0	0
75	SLU 29	-10	-10	811	0	0	0
75	SLU 30	-10	-10	810	0	0	0
75	SLU 31	-12	-11	883	0	0	0
75	SLU 32	-13	-12	901	0	0	0
75	SLU 33	-12	-11	900	0	0	0
75	SLU 34	-12	-11	893	0	0	0
75	SLU 35	-13	-11	911	0	0	0
75	SLU 36	-13	-10	910	0	0	0
75	SLU 37	-13	-11	906	0	0	0
75	SLU 38	-13	-10	905	0	0	0
75	SLU 39	-13	-12	925	0	0	0
75	SLU 40	-13	-12	924	0	0	0
75	SLU 41	-14	-12	936	0	0	0
75	SLU 42	-13	-11	935	0	0	0
75	SLU 43	-9	-18	850	0	0	0
75	SLU 44	-8	-18	848	0	0	0
75	SLU 45	-9	-18	866	0	0	0
75	SLU 46	-9	-17	865	0	0	0
75	SLU 47	-9	-17	859	0	0	0
75	SLU 48	-10	-17	877	0	0	0
75	SLU 49	-9	-16	876	0	0	0
75	SLU 50	-9	-17	871	0	0	0
75	SLU 51	-9	-17	870	0	0	0
75	SLU 52	-11	-18	943	0	0	0
75	SLU 53	-12	-18	961	0	0	0
75	SLU 54	-12	-18	960	0	0	0
75	SLU 55	-11	-17	953	0	0	0
75	SLU 56	-12	-17	971	0	0	0
75	SLU 57	-12	-17	970	0	0	0
75	SLU 58	-12	-18	966	0	0	0
75	SLU 59	-12	-17	965	0	0	0
75	SLU 60	-13	-19	985	0	0	0
75	SLU 61	-12	-19	984	0	0	0
75	SLU 62	-13	-18	996	0	0	0
75	SLU 63	-13	-18	995	0	0	0
75	SLU 64	-11	-16	958	0	0	0
75	SLU 65	-10	-16	956	0	0	0
75	SLU 66	-11	-16	974	0	0	0
75	SLU 67	-11	-15	973	0	0	0
75	SLU 68	-11	-15	967	0	0	0
75	SLU 69	-12	-15	985	0	0	0
75	SLU 70	-11	-15	983	0	0	0
75	SLU 71	-12	-15	979	0	0	0
75	SLU 72	-11	-15	978	0	0	0
75	SLU 73	-13	-16	1051	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
75	SLU 74	-14	-16	1069	0	0	0
75	SLU 75	-14	-16	1067	0	0	0
75	SLU 76	-13	-16	1061	0	0	0
75	SLU 77	-14	-16	1079	0	0	0
75	SLU 78	-14	-15	1078	0	0	0
75	SLU 79	-14	-16	1073	0	0	0
75	SLU 80	-14	-15	1072	0	0	0
75	SLU 81	-15	-17	1093	0	0	0
75	SLU 82	-14	-17	1092	0	0	0
75	SLU 83	-15	-17	1103	0	0	0
75	SLU 84	-15	-16	1102	0	0	0
75	SLE RA 1	-8	-13	713	0	0	0
75	SLE RA 2	-7	-13	712	0	0	0
75	SLE RA 3	-8	-13	724	0	0	0
75	SLE RA 4	-8	-12	723	0	0	0
75	SLE RA 5	-8	-12	719	0	0	0
75	SLE RA 6	-8	-12	731	0	0	0
75	SLE RA 7	-8	-12	730	0	0	0
75	SLE RA 8	-8	-12	727	0	0	0
75	SLE RA 9	-8	-12	726	0	0	0
75	SLE RA 10	-9	-13	775	0	0	0
75	SLE RA 11	-10	-13	787	0	0	0
75	SLE RA 12	-10	-13	786	0	0	0
75	SLE RA 13	-10	-12	782	0	0	0
75	SLE RA 14	-10	-12	794	0	0	0
75	SLE RA 15	-10	-12	793	0	0	0
75	SLE RA 16	-10	-13	790	0	0	0
75	SLE RA 17	-10	-12	789	0	0	0
75	SLE RA 18	-10	-14	803	0	0	0
75	SLE RA 19	-10	-13	802	0	0	0
75	SLE RA 20	-11	-13	810	0	0	0
75	SLE RA 21	-10	-13	809	0	0	0
75	SLE FR 1	-8	-13	713	0	0	0
75	SLE FR 2	-8	-13	713	0	0	0
75	SLE FR 3	-8	-13	716	0	0	0
75	SLE FR 4	-9	-13	740	0	0	0
75	SLE FR 5	-9	-13	743	0	0	0
75	SLE FR 6	-9	-13	758	0	0	0
75	SLE QP 1	-8	-13	713	0	0	0
75	SLE QP 2	-9	-13	740	0	0	0
75	SLD 1	28	-2	739	0	0	0
75	SLD 2	29	0	739	0	0	0
75	SLD 3	23	-11	763	0	0	0
75	SLD 4	23	-9	763	0	0	0
75	SLD 5	11	4	703	0	0	0
75	SLD 6	12	5	703	0	0	0
75	SLD 7	-8	-26	784	0	0	0
75	SLD 8	-7	-25	784	0	0	0
75	SLD 9	-10	-1	697	0	0	0
75	SLD 10	-9	0	697	0	0	0
75	SLD 11	-29	-31	777	0	0	0
75	SLD 12	-28	-30	777	0	0	0
75	SLD 13	-41	-17	718	0	0	0
75	SLD 14	-40	-16	717	0	0	0
75	SLD 15	-46	-26	742	0	0	0
75	SLD 16	-45	-25	742	0	0	0
75	SLV 1	49	5	738	0	0	0
75	SLV 2	51	8	737	0	0	0
75	SLV 3	40	-10	777	0	0	0
75	SLV 4	42	-7	776	0	0	0
75	SLV 5	22	14	680	0	0	0
75	SLV 6	23	16	680	0	0	0
75	SLV 7	-8	-35	810	0	0	0
75	SLV 8	-7	-33	810	0	0	0
75	SLV 9	-10	7	670	0	0	0
75	SLV 10	-9	9	670	0	0	0
75	SLV 11	-41	-43	800	0	0	0
75	SLV 12	-40	-41	800	0	0	0
75	SLV 13	-59	-19	704	0	0	0
75	SLV 14	-57	-17	704	0	0	0
75	SLV 15	-68	-34	743	0	0	0
75	SLV 16	-67	-31	743	0	0	0
75	SLV FO 1	55	7	737	0	0	0
75	SLV FO 2	57	10	737	0	0	0
75	SLV FO 3	45	-10	780	0	0	0
75	SLV FO 4	47	-6	780	0	0	0
75	SLV FO 5	26	17	674	0	0	0
75	SLV FO 6	27	19	674	0	0	0
75	SLV FO 7	-8	-38	817	0	0	0
75	SLV FO 8	-7	-35	817	0	0	0
75	SLV FO 9	-10	9	663	0	0	0
75	SLV FO 10	-9	11	663	0	0	0
75	SLV FO 11	-44	-46	807	0	0	0
75	SLV FO 12	-43	-43	806	0	0	0
75	SLV FO 13	-64	-20	701	0	0	0
75	SLV FO 14	-62	-17	700	0	0	0
75	SLV FO 15	-74	-36	744	0	0	0
75	SLV FO 16	-72	-33	743	0	0	0
76	SLU 1	-5	-13	476	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
76	SLU 2	-5	-12	474	0	0	0
76	SLU 3	-5	-12	487	0	0	0
76	SLU 4	-5	-12	486	0	0	0
76	SLU 5	-5	-12	482	0	0	0
76	SLU 6	-6	-12	494	0	0	0
76	SLU 7	-5	-11	494	0	0	0
76	SLU 8	-6	-12	491	0	0	0
76	SLU 9	-5	-11	490	0	0	0
76	SLU 10	-7	-13	541	0	0	0
76	SLU 11	-7	-13	554	0	0	0
76	SLU 12	-7	-12	553	0	0	0
76	SLU 13	-7	-12	548	0	0	0
76	SLU 14	-7	-12	561	0	0	0
76	SLU 15	-7	-12	560	0	0	0
76	SLU 16	-7	-12	557	0	0	0
76	SLU 17	-7	-12	556	0	0	0
76	SLU 18	-8	-14	571	0	0	0
76	SLU 19	-7	-13	570	0	0	0
76	SLU 20	-8	-13	578	0	0	0
76	SLU 21	-8	-13	577	0	0	0
76	SLU 22	-6	-12	551	0	0	0
76	SLU 23	-6	-11	550	0	0	0
76	SLU 24	-7	-11	563	0	0	0
76	SLU 25	-7	-11	562	0	0	0
76	SLU 26	-6	-11	557	0	0	0
76	SLU 27	-7	-11	570	0	0	0
76	SLU 28	-7	-10	569	0	0	0
76	SLU 29	-7	-11	566	0	0	0
76	SLU 30	-7	-10	565	0	0	0
76	SLU 31	-8	-12	616	0	0	0
76	SLU 32	-9	-12	629	0	0	0
76	SLU 33	-8	-12	628	0	0	0
76	SLU 34	-8	-11	624	0	0	0
76	SLU 35	-9	-11	637	0	0	0
76	SLU 36	-9	-11	636	0	0	0
76	SLU 37	-9	-11	633	0	0	0
76	SLU 38	-9	-11	632	0	0	0
76	SLU 39	-9	-13	647	0	0	0
76	SLU 40	-9	-12	646	0	0	0
76	SLU 41	-9	-12	654	0	0	0
76	SLU 42	-9	-12	653	0	0	0
76	SLU 43	-6	-17	592	0	0	0
76	SLU 44	-6	-16	591	0	0	0
76	SLU 45	-6	-16	604	0	0	0
76	SLU 46	-6	-16	603	0	0	0
76	SLU 47	-6	-16	598	0	0	0
76	SLU 48	-7	-16	611	0	0	0
76	SLU 49	-6	-15	610	0	0	0
76	SLU 50	-7	-16	607	0	0	0
76	SLU 51	-6	-15	606	0	0	0
76	SLU 52	-8	-17	657	0	0	0
76	SLU 53	-8	-17	670	0	0	0
76	SLU 54	-8	-17	670	0	0	0
76	SLU 55	-8	-16	665	0	0	0
76	SLU 56	-8	-16	678	0	0	0
76	SLU 57	-8	-16	677	0	0	0
76	SLU 58	-8	-16	674	0	0	0
76	SLU 59	-8	-16	673	0	0	0
76	SLU 60	-9	-18	688	0	0	0
76	SLU 61	-8	-17	687	0	0	0
76	SLU 62	-9	-17	695	0	0	0
76	SLU 63	-9	-17	694	0	0	0
76	SLU 64	-7	-16	668	0	0	0
76	SLU 65	-7	-15	667	0	0	0
76	SLU 66	-8	-15	679	0	0	0
76	SLU 67	-8	-15	679	0	0	0
76	SLU 68	-7	-15	674	0	0	0
76	SLU 69	-8	-15	687	0	0	0
76	SLU 70	-8	-15	686	0	0	0
76	SLU 71	-8	-15	683	0	0	0
76	SLU 72	-8	-15	682	0	0	0
76	SLU 73	-9	-16	733	0	0	0
76	SLU 74	-10	-16	746	0	0	0
76	SLU 75	-9	-16	745	0	0	0
76	SLU 76	-9	-15	741	0	0	0
76	SLU 77	-10	-16	754	0	0	0
76	SLU 78	-10	-15	753	0	0	0
76	SLU 79	-10	-16	750	0	0	0
76	SLU 80	-10	-15	749	0	0	0
76	SLU 81	-10	-17	763	0	0	0
76	SLU 82	-10	-16	762	0	0	0
76	SLU 83	-10	-16	771	0	0	0
76	SLU 84	-10	-16	770	0	0	0
76	SLE RA 1	-5	-12	497	0	0	0
76	SLE RA 2	-5	-12	496	0	0	0
76	SLE RA 3	-6	-12	505	0	0	0
76	SLE RA 4	-5	-12	504	0	0	0
76	SLE RA 5	-5	-12	501	0	0	0
76	SLE RA 6	-6	-12	510	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
76	SLE RA 7	-6	-12	509	0	0	0
76	SLE RA 8	-6	-12	507	0	0	0
76	SLE RA 9	-6	-12	507	0	0	0
76	SLE RA 10	-6	-12	541	0	0	0
76	SLE RA 11	-7	-12	549	0	0	0
76	SLE RA 12	-7	-12	549	0	0	0
76	SLE RA 13	-7	-12	546	0	0	0
76	SLE RA 14	-7	-12	554	0	0	0
76	SLE RA 15	-7	-12	554	0	0	0
76	SLE RA 16	-7	-12	552	0	0	0
76	SLE RA 17	-7	-12	551	0	0	0
76	SLE RA 18	-7	-13	561	0	0	0
76	SLE RA 19	-7	-13	560	0	0	0
76	SLE RA 20	-7	-13	566	0	0	0
76	SLE RA 21	-7	-12	565	0	0	0
76	SLE FR 1	-5	-12	497	0	0	0
76	SLE FR 2	-5	-12	497	0	0	0
76	SLE FR 3	-5	-12	499	0	0	0
76	SLE FR 4	-6	-12	516	0	0	0
76	SLE FR 5	-6	-12	518	0	0	0
76	SLE FR 6	-6	-13	529	0	0	0
76	SLE QP 1	-5	-12	497	0	0	0
76	SLE QP 2	-6	-13	516	0	0	0
76	SLD 1	19	-3	526	0	0	0
76	SLD 2	20	-3	526	0	0	0
76	SLD 3	16	-10	546	0	0	0
76	SLD 4	16	-9	546	0	0	0
76	SLD 5	7	0	490	0	0	0
76	SLD 6	8	0	490	0	0	0
76	SLD 7	-6	-21	554	0	0	0
76	SLD 8	-5	-21	554	0	0	0
76	SLD 9	-7	-4	478	0	0	0
76	SLD 10	-6	-4	478	0	0	0
76	SLD 11	-20	-25	543	0	0	0
76	SLD 12	-19	-25	543	0	0	0
76	SLD 13	-28	-16	487	0	0	0
76	SLD 14	-27	-15	487	0	0	0
76	SLD 15	-32	-22	506	0	0	0
76	SLD 16	-31	-22	506	0	0	0
76	SLV 1	34	2	532	0	0	0
76	SLV 2	35	3	531	0	0	0
76	SLV 3	28	-8	563	0	0	0
76	SLV 4	29	-8	563	0	0	0
76	SLV 5	15	8	474	0	0	0
76	SLV 6	16	8	473	0	0	0
76	SLV 7	-6	-27	578	0	0	0
76	SLV 8	-5	-27	577	0	0	0
76	SLV 9	-7	2	455	0	0	0
76	SLV 10	-6	2	455	0	0	0
76	SLV 11	-28	-33	559	0	0	0
76	SLV 12	-27	-33	559	0	0	0
76	SLV 13	-41	-17	470	0	0	0
76	SLV 14	-40	-17	470	0	0	0
76	SLV 15	-47	-28	501	0	0	0
76	SLV 16	-46	-27	501	0	0	0
76	SLV FO 1	38	4	533	0	0	0
76	SLV FO 2	39	5	533	0	0	0
76	SLV FO 3	31	-8	567	0	0	0
76	SLV FO 4	32	-7	567	0	0	0
76	SLV FO 5	18	10	469	0	0	0
76	SLV FO 6	18	10	469	0	0	0
76	SLV FO 7	-6	-29	584	0	0	0
76	SLV FO 8	-5	-28	584	0	0	0
76	SLV FO 9	-7	3	449	0	0	0
76	SLV FO 10	-6	4	449	0	0	0
76	SLV FO 11	-30	-35	563	0	0	0
76	SLV FO 12	-30	-35	563	0	0	0
76	SLV FO 13	-44	-18	465	0	0	0
76	SLV FO 14	-43	-17	465	0	0	0
76	SLV FO 15	-51	-30	500	0	0	0
76	SLV FO 16	-50	-29	500	0	0	0
77	SLU 1	-6	-14	583	0	0	0
77	SLU 2	-6	-13	582	0	0	0
77	SLU 3	-7	-13	597	0	0	0
77	SLU 4	-6	-13	596	0	0	0
77	SLU 5	-6	-13	591	0	0	0
77	SLU 6	-7	-13	606	0	0	0
77	SLU 7	-7	-12	605	0	0	0
77	SLU 8	-7	-13	602	0	0	0
77	SLU 9	-7	-12	601	0	0	0
77	SLU 10	-8	-14	663	0	0	0
77	SLU 11	-9	-14	679	0	0	0
77	SLU 12	-9	-14	678	0	0	0
77	SLU 13	-8	-13	672	0	0	0
77	SLU 14	-9	-13	688	0	0	0
77	SLU 15	-9	-13	687	0	0	0
77	SLU 16	-9	-14	683	0	0	0
77	SLU 17	-9	-13	682	0	0	0
77	SLU 18	-9	-15	700	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
77	SLU 19	-9	-15	699	0	0	0
77	SLU 20	-10	-14	709	0	0	0
77	SLU 21	-10	-14	708	0	0	0
77	SLU 22	-8	-13	676	0	0	0
77	SLU 23	-8	-12	674	0	0	0
77	SLU 24	-8	-12	690	0	0	0
77	SLU 25	-8	-12	689	0	0	0
77	SLU 26	-8	-11	683	0	0	0
77	SLU 27	-9	-11	699	0	0	0
77	SLU 28	-8	-11	698	0	0	0
77	SLU 29	-9	-12	694	0	0	0
77	SLU 30	-8	-11	693	0	0	0
77	SLU 31	-10	-13	756	0	0	0
77	SLU 32	-11	-13	771	0	0	0
77	SLU 33	-10	-12	770	0	0	0
77	SLU 34	-10	-12	765	0	0	0
77	SLU 35	-11	-12	780	0	0	0
77	SLU 36	-11	-12	779	0	0	0
77	SLU 37	-11	-12	776	0	0	0
77	SLU 38	-11	-12	775	0	0	0
77	SLU 39	-11	-14	792	0	0	0
77	SLU 40	-11	-13	791	0	0	0
77	SLU 41	-12	-13	801	0	0	0
77	SLU 42	-11	-13	800	0	0	0
77	SLU 43	-7	-19	727	0	0	0
77	SLU 44	-7	-18	725	0	0	0
77	SLU 45	-8	-18	741	0	0	0
77	SLU 46	-8	-18	740	0	0	0
77	SLU 47	-7	-17	734	0	0	0
77	SLU 48	-8	-17	750	0	0	0
77	SLU 49	-8	-17	749	0	0	0
77	SLU 50	-8	-17	745	0	0	0
77	SLU 51	-8	-17	744	0	0	0
77	SLU 52	-9	-19	806	0	0	0
77	SLU 53	-10	-19	822	0	0	0
77	SLU 54	-10	-18	821	0	0	0
77	SLU 55	-10	-18	815	0	0	0
77	SLU 56	-10	-18	831	0	0	0
77	SLU 57	-10	-18	830	0	0	0
77	SLU 58	-10	-18	826	0	0	0
77	SLU 59	-10	-18	825	0	0	0
77	SLU 60	-11	-20	843	0	0	0
77	SLU 61	-10	-19	842	0	0	0
77	SLU 62	-11	-19	852	0	0	0
77	SLU 63	-11	-19	851	0	0	0
77	SLU 64	-9	-17	819	0	0	0
77	SLU 65	-9	-17	818	0	0	0
77	SLU 66	-10	-17	833	0	0	0
77	SLU 67	-9	-16	832	0	0	0
77	SLU 68	-9	-16	827	0	0	0
77	SLU 69	-10	-16	842	0	0	0
77	SLU 70	-10	-16	841	0	0	0
77	SLU 71	-10	-16	838	0	0	0
77	SLU 72	-10	-16	836	0	0	0
77	SLU 73	-11	-17	899	0	0	0
77	SLU 74	-12	-17	915	0	0	0
77	SLU 75	-12	-17	914	0	0	0
77	SLU 76	-11	-17	908	0	0	0
77	SLU 77	-12	-17	924	0	0	0
77	SLU 78	-12	-16	923	0	0	0
77	SLU 79	-12	-17	919	0	0	0
77	SLU 80	-12	-16	918	0	0	0
77	SLU 81	-13	-18	936	0	0	0
77	SLU 82	-12	-18	935	0	0	0
77	SLU 83	-13	-18	945	0	0	0
77	SLU 84	-13	-17	944	0	0	0
77	SLE RA 1	-7	-14	610	0	0	0
77	SLE RA 2	-6	-13	609	0	0	0
77	SLE RA 3	-7	-13	619	0	0	0
77	SLE RA 4	-7	-13	618	0	0	0
77	SLE RA 5	-7	-13	615	0	0	0
77	SLE RA 6	-7	-13	625	0	0	0
77	SLE RA 7	-7	-13	625	0	0	0
77	SLE RA 8	-7	-13	622	0	0	0
77	SLE RA 9	-7	-13	621	0	0	0
77	SLE RA 10	-8	-14	663	0	0	0
77	SLE RA 11	-8	-14	673	0	0	0
77	SLE RA 12	-8	-13	673	0	0	0
77	SLE RA 13	-8	-13	669	0	0	0
77	SLE RA 14	-9	-13	680	0	0	0
77	SLE RA 15	-9	-13	679	0	0	0
77	SLE RA 16	-9	-13	676	0	0	0
77	SLE RA 17	-9	-13	676	0	0	0
77	SLE RA 18	-9	-14	687	0	0	0
77	SLE RA 19	-9	-14	687	0	0	0
77	SLE RA 20	-9	-14	694	0	0	0
77	SLE RA 21	-9	-14	693	0	0	0
77	SLE FR 1	-7	-14	610	0	0	0
77	SLE FR 2	-7	-13	610	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
77	SLE FR 3	-7	-13	612	0	0	0
77	SLE FR 4	-7	-14	633	0	0	0
77	SLE FR 5	-7	-14	636	0	0	0
77	SLE FR 6	-8	-14	649	0	0	0
77	SLE QP 1	-7	-14	610	0	0	0
77	SLE QP 2	-7	-14	633	0	0	0
77	SLD 1	24	-3	640	0	0	0
77	SLD 2	25	-2	640	0	0	0
77	SLD 3	19	-11	663	0	0	0
77	SLD 4	20	-10	663	0	0	0
77	SLD 5	9	1	601	0	0	0
77	SLD 6	10	2	600	0	0	0
77	SLD 7	-7	-25	677	0	0	0
77	SLD 8	-6	-24	677	0	0	0
77	SLD 9	-8	-3	590	0	0	0
77	SLD 10	-8	-3	589	0	0	0
77	SLD 11	-24	-29	666	0	0	0
77	SLD 12	-24	-29	666	0	0	0
77	SLD 13	-35	-18	604	0	0	0
77	SLD 14	-34	-17	603	0	0	0
77	SLD 15	-39	-25	626	0	0	0
77	SLD 16	-39	-24	626	0	0	0
77	SLV 1	42	3	643	0	0	0
77	SLV 2	43	5	643	0	0	0
77	SLV 3	34	-10	680	0	0	0
77	SLV 4	35	-8	680	0	0	0
77	SLV 5	19	11	580	0	0	0
77	SLV 6	20	12	580	0	0	0
77	SLV 7	-7	-32	703	0	0	0
77	SLV 8	-6	-31	703	0	0	0
77	SLV 9	-8	4	563	0	0	0
77	SLV 10	-8	5	563	0	0	0
77	SLV 11	-35	-39	686	0	0	0
77	SLV 12	-34	-38	686	0	0	0
77	SLV 13	-50	-19	586	0	0	0
77	SLV 14	-49	-18	586	0	0	0
77	SLV 15	-58	-32	623	0	0	0
77	SLV 16	-57	-31	623	0	0	0
77	SLV FO 1	47	5	644	0	0	0
77	SLV FO 2	48	7	644	0	0	0
77	SLV FO 3	38	-9	685	0	0	0
77	SLV FO 4	39	-7	685	0	0	0
77	SLV FO 5	22	13	575	0	0	0
77	SLV FO 6	23	14	575	0	0	0
77	SLV FO 7	-7	-34	711	0	0	0
77	SLV FO 8	-6	-33	710	0	0	0
77	SLV FO 9	-9	6	556	0	0	0
77	SLV FO 10	-8	7	556	0	0	0
77	SLV FO 11	-37	-42	692	0	0	0
77	SLV FO 12	-36	-41	691	0	0	0
77	SLV FO 13	-54	-20	582	0	0	0
77	SLV FO 14	-53	-18	581	0	0	0
77	SLV FO 15	-63	-34	622	0	0	0
77	SLV FO 16	-61	-33	622	0	0	0
79	SLU 1	-3	-8	276	0	0	0
79	SLU 2	-3	-8	275	0	0	0
79	SLU 3	-3	-8	283	0	0	0
79	SLU 4	-3	-8	282	0	0	0
79	SLU 5	-3	-7	280	0	0	0
79	SLU 6	-3	-8	287	0	0	0
79	SLU 7	-3	-7	287	0	0	0
79	SLU 8	-3	-8	285	0	0	0
79	SLU 9	-3	-7	284	0	0	0
79	SLU 10	-4	-8	314	0	0	0
79	SLU 11	-4	-8	322	0	0	0
79	SLU 12	-4	-8	321	0	0	0
79	SLU 13	-4	-8	318	0	0	0
79	SLU 14	-5	-8	326	0	0	0
79	SLU 15	-4	-8	326	0	0	0
79	SLU 16	-5	-8	324	0	0	0
79	SLU 17	-4	-8	323	0	0	0
79	SLU 18	-5	-9	332	0	0	0
79	SLU 19	-5	-9	331	0	0	0
79	SLU 20	-5	-8	336	0	0	0
79	SLU 21	-5	-8	336	0	0	0
79	SLU 22	-4	-8	320	0	0	0
79	SLU 23	-4	-7	319	0	0	0
79	SLU 24	-4	-7	327	0	0	0
79	SLU 25	-4	-7	326	0	0	0
79	SLU 26	-4	-7	324	0	0	0
79	SLU 27	-4	-7	331	0	0	0
79	SLU 28	-4	-7	331	0	0	0
79	SLU 29	-4	-7	329	0	0	0
79	SLU 30	-4	-7	329	0	0	0
79	SLU 31	-5	-8	358	0	0	0
79	SLU 32	-5	-8	366	0	0	0
79	SLU 33	-5	-8	365	0	0	0
79	SLU 34	-5	-7	363	0	0	0
79	SLU 35	-5	-8	370	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
79	SLU 36	-5	-7	370	0	0	0
79	SLU 37	-5	-8	368	0	0	0
79	SLU 38	-5	-7	367	0	0	0
79	SLU 39	-6	-8	376	0	0	0
79	SLU 40	-5	-8	375	0	0	0
79	SLU 41	-6	-8	380	0	0	0
79	SLU 42	-6	-8	380	0	0	0
79	SLU 43	-4	-11	344	0	0	0
79	SLU 44	-4	-10	343	0	0	0
79	SLU 45	-4	-10	351	0	0	0
79	SLU 46	-4	-10	350	0	0	0
79	SLU 47	-4	-10	347	0	0	0
79	SLU 48	-4	-10	355	0	0	0
79	SLU 49	-4	-10	354	0	0	0
79	SLU 50	-4	-10	353	0	0	0
79	SLU 51	-4	-10	352	0	0	0
79	SLU 52	-5	-11	382	0	0	0
79	SLU 53	-5	-11	389	0	0	0
79	SLU 54	-5	-11	389	0	0	0
79	SLU 55	-5	-11	386	0	0	0
79	SLU 56	-5	-11	394	0	0	0
79	SLU 57	-5	-10	393	0	0	0
79	SLU 58	-5	-11	392	0	0	0
79	SLU 59	-5	-10	391	0	0	0
79	SLU 60	-5	-11	399	0	0	0
79	SLU 61	-5	-11	399	0	0	0
79	SLU 62	-5	-11	404	0	0	0
79	SLU 63	-5	-11	403	0	0	0
79	SLU 64	-5	-10	388	0	0	0
79	SLU 65	-4	-10	387	0	0	0
79	SLU 66	-5	-10	395	0	0	0
79	SLU 67	-5	-10	394	0	0	0
79	SLU 68	-5	-10	391	0	0	0
79	SLU 69	-5	-10	399	0	0	0
79	SLU 70	-5	-9	399	0	0	0
79	SLU 71	-5	-10	397	0	0	0
79	SLU 72	-5	-9	396	0	0	0
79	SLU 73	-5	-10	426	0	0	0
79	SLU 74	-6	-10	434	0	0	0
79	SLU 75	-6	-10	433	0	0	0
79	SLU 76	-6	-10	430	0	0	0
79	SLU 77	-6	-10	438	0	0	0
79	SLU 78	-6	-10	437	0	0	0
79	SLU 79	-6	-10	436	0	0	0
79	SLU 80	-6	-10	435	0	0	0
79	SLU 81	-6	-11	444	0	0	0
79	SLU 82	-6	-11	443	0	0	0
79	SLU 83	-6	-11	448	0	0	0
79	SLU 84	-6	-10	447	0	0	0
79	SLE RA 1	-3	-8	289	0	0	0
79	SLE RA 2	-3	-8	288	0	0	0
79	SLE RA 3	-3	-8	293	0	0	0
79	SLE RA 4	-3	-8	293	0	0	0
79	SLE RA 5	-3	-8	291	0	0	0
79	SLE RA 6	-4	-8	296	0	0	0
79	SLE RA 7	-3	-7	296	0	0	0
79	SLE RA 8	-4	-8	295	0	0	0
79	SLE RA 9	-3	-7	294	0	0	0
79	SLE RA 10	-4	-8	314	0	0	0
79	SLE RA 11	-4	-8	319	0	0	0
79	SLE RA 12	-4	-8	319	0	0	0
79	SLE RA 13	-4	-8	317	0	0	0
79	SLE RA 14	-4	-8	322	0	0	0
79	SLE RA 15	-4	-8	322	0	0	0
79	SLE RA 16	-4	-8	321	0	0	0
79	SLE RA 17	-4	-8	320	0	0	0
79	SLE RA 18	-4	-8	326	0	0	0
79	SLE RA 19	-4	-8	325	0	0	0
79	SLE RA 20	-4	-8	329	0	0	0
79	SLE RA 21	-4	-8	328	0	0	0
79	SLE FR 1	-3	-8	289	0	0	0
79	SLE FR 2	-3	-8	289	0	0	0
79	SLE FR 3	-3	-8	290	0	0	0
79	SLE FR 4	-4	-8	300	0	0	0
79	SLE FR 5	-4	-8	301	0	0	0
79	SLE FR 6	-4	-8	307	0	0	0
79	SLE QP 1	-3	-8	289	0	0	0
79	SLE QP 2	-4	-8	300	0	0	0
79	SLD 1	11	-2	308	0	0	0
79	SLD 2	11	-2	308	0	0	0
79	SLD 3	9	-6	321	0	0	0
79	SLD 4	9	-6	321	0	0	0
79	SLD 5	4	-1	283	0	0	0
79	SLD 6	4	-1	283	0	0	0
79	SLD 7	-3	-13	325	0	0	0
79	SLD 8	-3	-13	325	0	0	0
79	SLD 9	-4	-3	275	0	0	0
79	SLD 10	-4	-3	274	0	0	0
79	SLD 11	-12	-16	317	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
79	SLD 12	-11	-15	317	0	0	0
79	SLD 13	-16	-10	279	0	0	0
79	SLD 14	-16	-10	279	0	0	0
79	SLD 15	-19	-14	292	0	0	0
79	SLD 16	-18	-14	292	0	0	0
79	SLV 1	20	1	312	0	0	0
79	SLV 2	20	1	312	0	0	0
79	SLV 3	16	-5	333	0	0	0
79	SLV 4	16	-5	333	0	0	0
79	SLV 5	9	4	273	0	0	0
79	SLV 6	9	4	273	0	0	0
79	SLV 7	-3	-17	341	0	0	0
79	SLV 8	-3	-17	341	0	0	0
79	SLV 9	-4	0	259	0	0	0
79	SLV 10	-4	1	259	0	0	0
79	SLV 11	-16	-20	327	0	0	0
79	SLV 12	-16	-20	327	0	0	0
79	SLV 13	-24	-11	267	0	0	0
79	SLV 14	-23	-11	267	0	0	0
79	SLV 15	-27	-17	288	0	0	0
79	SLV 16	-27	-17	288	0	0	0
79	SLV FO 1	22	2	313	0	0	0
79	SLV FO 2	22	2	313	0	0	0
79	SLV FO 3	18	-5	336	0	0	0
79	SLV FO 4	18	-5	336	0	0	0
79	SLV FO 5	10	5	270	0	0	0
79	SLV FO 6	10	5	270	0	0	0
79	SLV FO 7	-3	-18	345	0	0	0
79	SLV FO 8	-3	-17	345	0	0	0
79	SLV FO 9	-4	1	255	0	0	0
79	SLV FO 10	-4	1	255	0	0	0
79	SLV FO 11	-18	-21	330	0	0	0
79	SLV FO 12	-17	-21	330	0	0	0
79	SLV FO 13	-26	-11	264	0	0	0
79	SLV FO 14	-25	-11	264	0	0	0
79	SLV FO 15	-30	-18	286	0	0	0
79	SLV FO 16	-29	-18	286	0	0	0
81	SLU 1	-7	-11	540	50.63	-0.02	0.69
81	SLU 2	-7	-10	538	50.42	-0.02	0.65
81	SLU 3	-8	-10	553	51.85	-0.02	0.73
81	SLU 4	-8	-10	552	51.73	-0.02	0.71
81	SLU 5	-7	-10	546	51.22	-0.02	0.68
81	SLU 6	-8	-10	562	52.65	-0.02	0.76
81	SLU 7	-8	-9	560	52.53	-0.02	0.74
81	SLU 8	-8	-10	557	52.23	-0.02	0.75
81	SLU 9	-8	-9	556	52.1	-0.02	0.73
81	SLU 10	-9	-11	613	57.47	-0.02	0.87
81	SLU 11	-10	-11	628	58.9	-0.02	0.95
81	SLU 12	-10	-10	627	58.77	-0.02	0.92
81	SLU 13	-10	-10	622	58.27	-0.02	0.9
81	SLU 14	-10	-10	637	59.7	-0.02	0.98
81	SLU 15	-10	-10	635	59.57	-0.02	0.95
81	SLU 16	-10	-10	632	59.27	-0.02	0.97
81	SLU 17	-10	-10	631	59.15	-0.02	0.95
81	SLU 18	-11	-11	647	60.69	-0.02	1
81	SLU 19	-10	-11	646	60.57	-0.02	0.98
81	SLU 20	-11	-11	656	61.49	-0.02	1.03
81	SLU 21	-11	-10	655	61.37	-0.02	1.01
81	SLU 22	-9	-9	626	58.72	-0.02	0.86
81	SLU 23	-9	-9	624	58.52	-0.02	0.83
81	SLU 24	-10	-9	639	59.95	-0.02	0.9
81	SLU 25	-9	-8	638	59.82	-0.02	0.88
81	SLU 26	-9	-8	633	59.32	-0.02	0.86
81	SLU 27	-10	-8	648	60.75	-0.02	0.93
81	SLU 28	-10	-8	647	60.62	-0.02	0.91
81	SLU 29	-10	-8	643	60.32	-0.02	0.93
81	SLU 30	-10	-8	642	60.2	-0.02	0.9
81	SLU 31	-11	-9	699	65.56	-0.02	1.05
81	SLU 32	-12	-9	715	66.99	-0.02	1.12
81	SLU 33	-12	-9	713	66.87	-0.02	1.1
81	SLU 34	-11	-9	708	66.36	-0.02	1.08
81	SLU 35	-12	-9	723	67.79	-0.02	1.15
81	SLU 36	-12	-8	722	67.67	-0.02	1.13
81	SLU 37	-12	-9	719	67.37	-0.02	1.14
81	SLU 38	-12	-8	717	67.24	-0.02	1.12
81	SLU 39	-13	-10	734	68.79	-0.02	1.18
81	SLU 40	-12	-9	732	68.66	-0.02	1.15
81	SLU 41	-13	-9	742	69.59	-0.02	1.21
81	SLU 42	-13	-9	741	69.46	-0.02	1.18
81	SLU 43	-9	-14	672	63.04	-0.02	0.84
81	SLU 44	-9	-14	670	62.84	-0.02	0.8
81	SLU 45	-9	-14	685	64.26	-0.02	0.87
81	SLU 46	-9	-14	684	64.14	-0.02	0.85
81	SLU 47	-9	-13	679	63.63	-0.02	0.83
81	SLU 48	-10	-13	694	65.06	-0.02	0.91
81	SLU 49	-9	-13	693	64.94	-0.02	0.88
81	SLU 50	-10	-13	689	64.64	-0.02	0.9
81	SLU 51	-9	-13	688	64.51	-0.02	0.88
81	SLU 52	-11	-14	745	69.88	-0.02	1.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
81	SLU 53	-12	-14	761	71.31	-0.02	1.09
81	SLU 54	-11	-14	759	71.19	-0.02	1.07
81	SLU 55	-11	-14	754	70.68	-0.02	1.05
81	SLU 56	-12	-14	769	72.11	-0.02	1.12
81	SLU 57	-12	-13	768	71.98	-0.02	1.1
81	SLU 58	-12	-14	765	71.68	-0.02	1.12
81	SLU 59	-12	-14	763	71.56	-0.02	1.09
81	SLU 60	-12	-15	780	73.11	-0.02	1.15
81	SLU 61	-12	-15	778	72.98	-0.02	1.13
81	SLU 62	-13	-15	788	73.91	-0.02	1.18
81	SLU 63	-12	-14	787	73.78	-0.02	1.16
81	SLU 64	-11	-13	759	71.14	-0.02	1.01
81	SLU 65	-10	-12	757	70.93	-0.02	0.97
81	SLU 66	-11	-12	772	72.36	-0.02	1.05
81	SLU 67	-11	-12	771	72.24	-0.02	1.03
81	SLU 68	-11	-12	765	71.73	-0.02	1.01
81	SLU 69	-12	-12	780	73.16	-0.02	1.08
81	SLU 70	-11	-12	779	73.03	-0.02	1.06
81	SLU 71	-11	-12	776	72.73	-0.02	1.07
81	SLU 72	-11	-12	775	72.61	-0.02	1.05
81	SLU 73	-13	-13	832	77.98	-0.03	1.19
81	SLU 74	-14	-13	847	79.41	-0.03	1.27
81	SLU 75	-13	-12	846	79.28	-0.03	1.24
81	SLU 76	-13	-12	840	78.77	-0.03	1.22
81	SLU 77	-14	-12	856	80.2	-0.03	1.3
81	SLU 78	-14	-12	854	80.08	-0.03	1.28
81	SLU 79	-14	-12	851	79.78	-0.03	1.29
81	SLU 80	-14	-12	850	79.66	-0.03	1.27
81	SLU 81	-14	-14	866	81.2	-0.03	1.32
81	SLU 82	-14	-13	865	81.08	-0.03	1.3
81	SLU 83	-14	-13	875	82	-0.03	1.35
81	SLU 84	-14	-13	873	81.88	-0.03	1.33
81	SLE RA 1	-8	-10	565	52.94	-0.02	0.74
81	SLE RA 2	-8	-10	563	52.8	-0.02	0.72
81	SLE RA 3	-8	-10	573	53.76	-0.02	0.76
81	SLE RA 4	-8	-10	573	53.67	-0.02	0.75
81	SLE RA 5	-8	-10	569	53.34	-0.02	0.74
81	SLE RA 6	-8	-10	579	54.29	-0.02	0.79
81	SLE RA 7	-8	-9	578	54.21	-0.02	0.77
81	SLE RA 8	-8	-10	576	54.01	-0.02	0.78
81	SLE RA 9	-8	-9	575	53.92	-0.02	0.77
81	SLE RA 10	-9	-10	613	57.5	-0.02	0.86
81	SLE RA 11	-10	-10	624	58.45	-0.02	0.91
81	SLE RA 12	-10	-10	623	58.37	-0.02	0.9
81	SLE RA 13	-9	-10	619	58.03	-0.02	0.88
81	SLE RA 14	-10	-10	629	58.99	-0.02	0.93
81	SLE RA 15	-10	-10	628	58.9	-0.02	0.92
81	SLE RA 16	-10	-10	626	58.7	-0.02	0.93
81	SLE RA 17	-10	-10	625	58.62	-0.02	0.91
81	SLE RA 18	-10	-11	636	59.65	-0.02	0.95
81	SLE RA 19	-10	-10	635	59.57	-0.02	0.93
81	SLE RA 20	-10	-10	642	60.18	-0.02	0.97
81	SLE RA 21	-10	-10	641	60.1	-0.02	0.95
81	SLE FR 1	-8	-10	565	52.94	-0.02	0.74
81	SLE FR 2	-8	-10	564	52.91	-0.02	0.74
81	SLE FR 3	-8	-10	567	53.15	-0.02	0.75
81	SLE FR 4	-9	-10	586	54.93	-0.02	0.8
81	SLE FR 5	-9	-10	588	55.17	-0.02	0.81
81	SLE FR 6	-9	-11	600	56.3	-0.02	0.84
81	SLE QP 1	-8	-10	565	52.94	-0.02	0.74
81	SLE QP 2	-9	-10	586	54.95	-0.02	0.8
81	SLD 1	21	-1	582	54.6	-0.02	-2
81	SLD 2	22	0	582	54.56	-0.02	-2.03
81	SLD 3	17	-9	610	57.23	-0.02	-1.57
81	SLD 4	17	-7	610	57.2	-0.02	-1.6
81	SLD 5	7	3	542	50.85	-0.02	-0.68
81	SLD 6	7	4	542	50.83	-0.02	-0.7
81	SLD 7	-8	-21	636	59.64	-0.02	0.74
81	SLD 8	-8	-20	636	59.62	-0.02	0.72
81	SLD 9	-9	-1	536	50.29	-0.02	0.88
81	SLD 10	-9	0	536	50.27	-0.02	0.86
81	SLD 11	-25	-25	630	59.08	-0.02	2.31
81	SLD 12	-24	-24	630	59.06	-0.02	2.29
81	SLD 13	-34	-14	562	52.71	-0.02	3.21
81	SLD 14	-34	-12	562	52.68	-0.02	3.18
81	SLD 15	-39	-21	590	55.35	-0.02	3.64
81	SLD 16	-38	-19	590	55.31	-0.02	3.61
81	SLV 1	38	4	580	54.33	-0.02	-3.61
81	SLV 2	39	6	579	54.28	-0.02	-3.66
81	SLV 3	31	-8	625	58.59	-0.02	-2.91
81	SLV 4	32	-6	624	58.54	-0.02	-2.96
81	SLV 5	17	11	515	48.31	-0.02	-1.56
81	SLV 6	17	13	515	48.28	-0.02	-1.6
81	SLV 7	-8	-28	667	62.52	-0.02	0.75
81	SLV 8	-8	-26	666	62.48	-0.02	0.71
81	SLV 9	-9	6	506	47.43	-0.02	0.89
81	SLV 10	-9	7	506	47.39	-0.02	0.86
81	SLV 11	-34	-34	657	61.63	-0.02	3.2
81	SLV 12	-34	-32	657	61.6	-0.02	3.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
81	SLV 13	-49	-15	548	51.37	-0.02	4.57
81	SLV 14	-48	-13	547	51.32	-0.02	4.52
81	SLV 15	-56	-27	593	55.63	-0.02	5.26
81	SLV 16	-56	-25	593	55.58	-0.02	5.21
81	SLV FO 1	43	5	579	54.27	-0.02	-4.05
81	SLV FO 2	44	8	578	54.21	-0.02	-4.1
81	SLV FO 3	35	-8	629	58.95	-0.02	-3.29
81	SLV FO 4	36	-5	628	58.9	-0.02	-3.34
81	SLV FO 5	19	13	508	47.65	-0.02	-1.8
81	SLV FO 6	20	15	508	47.61	-0.02	-1.83
81	SLV FO 7	-8	-30	675	63.27	-0.02	0.74
81	SLV FO 8	-8	-28	675	63.24	-0.02	0.71
81	SLV FO 9	-10	7	498	46.67	-0.02	0.9
81	SLV FO 10	-9	9	497	46.63	-0.02	0.86
81	SLV FO 11	-37	-36	665	62.3	-0.02	3.44
81	SLV FO 12	-36	-34	664	62.26	-0.02	3.4
81	SLV FO 13	-53	-16	544	51.01	-0.02	4.94
81	SLV FO 14	-52	-13	544	50.96	-0.02	4.89
81	SLV FO 15	-61	-29	594	55.7	-0.02	5.71
81	SLV FO 16	-60	-26	594	55.64	-0.02	5.65
81	CRTFP Ux+	0	0	0	0	0	0
81	CRTFP Ux-	0	0	0	0	0	0
81	CRTFP Uy+	0	0	0	0	0	0
81	CRTFP Uy-	0	0	0	0	0	0
82	SLU 1	-8	-9	562	35.13	-0.01	0.47
82	SLU 2	-7	-8	560	35.01	-0.01	0.45
82	SLU 3	-8	-8	576	35.97	-0.01	0.5
82	SLU 4	-8	-8	574	35.9	-0.01	0.49
82	SLU 5	-8	-8	569	35.55	-0.01	0.47
82	SLU 6	-8	-8	584	36.52	-0.01	0.52
82	SLU 7	-8	-7	583	36.44	-0.01	0.51
82	SLU 8	-8	-8	580	36.23	-0.01	0.52
82	SLU 9	-8	-7	578	36.15	-0.01	0.5
82	SLU 10	-10	-9	638	39.86	-0.01	0.6
82	SLU 11	-10	-9	653	40.83	-0.01	0.65
82	SLU 12	-10	-8	652	40.75	-0.01	0.64
82	SLU 13	-10	-8	647	40.41	-0.01	0.62
82	SLU 14	-11	-8	662	41.37	-0.01	0.67
82	SLU 15	-11	-8	661	41.3	-0.01	0.66
82	SLU 16	-11	-8	657	41.08	-0.01	0.67
82	SLU 17	-10	-8	656	41	-0.01	0.65
82	SLU 18	-11	-9	673	42.07	-0.01	0.69
82	SLU 19	-11	-9	672	41.99	-0.01	0.68
82	SLU 20	-11	-9	682	42.61	-0.01	0.71
82	SLU 21	-11	-8	681	42.54	-0.01	0.7
82	SLU 22	-10	-7	652	40.72	-0.01	0.6
82	SLU 23	-9	-7	650	40.6	-0.01	0.57
82	SLU 24	-10	-6	665	41.56	-0.01	0.62
82	SLU 25	-10	-6	664	41.49	-0.01	0.61
82	SLU 26	-9	-6	658	41.14	-0.01	0.59
82	SLU 27	-10	-6	674	42.11	-0.01	0.64
82	SLU 28	-10	-6	673	42.03	-0.01	0.63
82	SLU 29	-10	-6	669	41.82	-0.01	0.64
82	SLU 30	-10	-6	668	41.74	-0.01	0.62
82	SLU 31	-12	-7	727	45.45	-0.02	0.72
82	SLU 32	-12	-7	743	46.42	-0.02	0.77
82	SLU 33	-12	-6	741	46.34	-0.02	0.76
82	SLU 34	-12	-6	736	46	-0.02	0.74
82	SLU 35	-13	-6	751	46.96	-0.02	0.8
82	SLU 36	-12	-6	750	46.89	-0.02	0.78
82	SLU 37	-13	-6	747	46.67	-0.02	0.79
82	SLU 38	-12	-6	745	46.59	-0.02	0.78
82	SLU 39	-13	-7	763	47.66	-0.02	0.81
82	SLU 40	-13	-7	761	47.58	-0.02	0.8
82	SLU 41	-13	-7	771	48.2	-0.02	0.84
82	SLU 42	-13	-6	770	48.13	-0.02	0.82
82	SLU 43	-9	-12	700	43.76	-0.01	0.58
82	SLU 44	-9	-12	698	43.63	-0.01	0.55
82	SLU 45	-10	-12	714	44.6	-0.01	0.6
82	SLU 46	-9	-11	712	44.52	-0.01	0.59
82	SLU 47	-9	-11	707	44.18	-0.01	0.57
82	SLU 48	-10	-11	722	45.14	-0.02	0.62
82	SLU 49	-10	-11	721	45.07	-0.02	0.61
82	SLU 50	-10	-11	718	44.85	-0.02	0.62
82	SLU 51	-10	-11	716	44.77	-0.01	0.6
82	SLU 52	-11	-12	776	48.48	-0.02	0.7
82	SLU 53	-12	-12	791	49.45	-0.02	0.75
82	SLU 54	-12	-11	790	49.38	-0.02	0.74
82	SLU 55	-12	-11	784	49.03	-0.02	0.72
82	SLU 56	-12	-11	800	50	-0.02	0.78
82	SLU 57	-12	-11	799	49.92	-0.02	0.76
82	SLU 58	-12	-11	795	49.7	-0.02	0.77
82	SLU 59	-12	-11	794	49.63	-0.02	0.76
82	SLU 60	-13	-13	811	50.69	-0.02	0.79
82	SLU 61	-12	-12	810	50.62	-0.02	0.78
82	SLU 62	-13	-12	820	51.24	-0.02	0.81
82	SLU 63	-13	-12	819	51.16	-0.02	0.8
82	SLU 64	-11	-10	790	49.35	-0.02	0.7
82	SLU 65	-11	-10	788	49.22	-0.02	0.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLU 66	-12	-10	803	50.19	-0.02	0.72
82	SLU 67	-11	-9	802	50.11	-0.02	0.71
82	SLU 68	-11	-9	796	49.77	-0.02	0.69
82	SLU 69	-12	-9	812	50.73	-0.02	0.74
82	SLU 70	-12	-9	811	50.66	-0.02	0.73
82	SLU 71	-12	-9	807	50.44	-0.02	0.74
82	SLU 72	-12	-9	806	50.36	-0.02	0.72
82	SLU 73	-13	-10	865	54.07	-0.02	0.82
82	SLU 74	-14	-10	881	55.04	-0.02	0.88
82	SLU 75	-14	-10	879	54.97	-0.02	0.86
82	SLU 76	-14	-9	874	54.62	-0.02	0.85
82	SLU 77	-14	-9	889	55.59	-0.02	0.9
82	SLU 78	-14	-9	888	55.51	-0.02	0.88
82	SLU 79	-14	-10	885	55.29	-0.02	0.89
82	SLU 80	-14	-9	883	55.22	-0.02	0.88
82	SLU 81	-15	-11	901	56.28	-0.02	0.91
82	SLU 82	-14	-10	899	56.21	-0.02	0.9
82	SLU 83	-15	-10	909	56.83	-0.02	0.94
82	SLU 84	-15	-10	908	56.75	-0.02	0.92
82	SLE RA 1	-8	-8	588	36.73	-0.01	0.51
82	SLE RA 2	-8	-8	586	36.65	-0.01	0.49
82	SLE RA 3	-8	-8	597	37.29	-0.01	0.53
82	SLE RA 4	-8	-8	596	37.24	-0.01	0.52
82	SLE RA 5	-8	-8	592	37.01	-0.01	0.51
82	SLE RA 6	-9	-8	602	37.66	-0.01	0.54
82	SLE RA 7	-8	-7	602	37.6	-0.01	0.53
82	SLE RA 8	-9	-8	599	37.46	-0.01	0.54
82	SLE RA 9	-8	-7	599	37.41	-0.01	0.53
82	SLE RA 10	-10	-8	638	39.88	-0.01	0.59
82	SLE RA 11	-10	-8	648	40.53	-0.01	0.63
82	SLE RA 12	-10	-8	648	40.48	-0.01	0.62
82	SLE RA 13	-10	-8	644	40.25	-0.01	0.61
82	SLE RA 14	-10	-8	654	40.89	-0.01	0.64
82	SLE RA 15	-10	-8	653	40.84	-0.01	0.63
82	SLE RA 16	-10	-8	651	40.7	-0.01	0.64
82	SLE RA 17	-10	-8	650	40.64	-0.01	0.63
82	SLE RA 18	-10	-9	662	41.35	-0.01	0.65
82	SLE RA 19	-10	-8	661	41.3	-0.01	0.64
82	SLE RA 20	-11	-8	667	41.72	-0.01	0.67
82	SLE RA 21	-11	-8	667	41.67	-0.01	0.66
82	SLE FR 1	-8	-8	588	36.73	-0.01	0.51
82	SLE FR 2	-8	-8	587	36.71	-0.01	0.51
82	SLE FR 3	-8	-8	590	36.88	-0.01	0.52
82	SLE FR 4	-9	-8	610	38.1	-0.01	0.55
82	SLE FR 5	-9	-8	612	38.26	-0.01	0.56
82	SLE FR 6	-9	-9	625	39.04	-0.01	0.58
82	SLE QP 1	-8	-8	588	36.73	-0.01	0.51
82	SLE QP 2	-9	-8	610	38.12	-0.01	0.55
82	SLD 1	23	0	599	37.46	-0.01	-1.41
82	SLD 2	23	2	599	37.43	-0.01	-1.43
82	SLD 3	18	-7	626	39.1	-0.01	-1.11
82	SLD 4	18	-5	625	39.08	-0.01	-1.13
82	SLD 5	8	5	567	35.42	-0.01	-0.49
82	SLD 6	8	6	567	35.41	-0.01	-0.5
82	SLD 7	-8	-20	655	40.92	-0.01	0.52
82	SLD 8	-8	-18	654	40.9	-0.01	0.5
82	SLD 9	-10	1	565	35.33	-0.01	0.61
82	SLD 10	-9	3	565	35.32	-0.01	0.59
82	SLD 11	-26	-23	653	40.83	-0.01	1.61
82	SLD 12	-25	-22	653	40.81	-0.01	1.59
82	SLD 13	-36	-12	594	37.15	-0.01	2.24
82	SLD 14	-35	-10	594	37.13	-0.01	2.21
82	SLD 15	-41	-19	621	38.8	-0.01	2.54
82	SLD 16	-40	-17	621	38.78	-0.01	2.51
82	SLV 1	40	5	593	37.05	-0.01	-2.53
82	SLV 2	41	8	592	37.02	-0.01	-2.57
82	SLV 3	33	-7	635	39.71	-0.01	-2.04
82	SLV 4	33	-4	635	39.68	-0.01	-2.08
82	SLV 5	18	13	540	33.77	-0.01	-1.1
82	SLV 6	18	16	540	33.74	-0.01	-1.13
82	SLV 7	-8	-27	682	42.64	-0.01	0.52
82	SLV 8	-8	-25	682	42.62	-0.01	0.49
82	SLV 9	-10	8	538	33.62	-0.01	0.61
82	SLV 10	-9	10	538	33.6	-0.01	0.59
82	SLV 11	-36	-33	680	42.49	-0.01	2.24
82	SLV 12	-35	-30	680	42.47	-0.01	2.21
82	SLV 13	-51	-13	585	36.56	-0.01	3.19
82	SLV 14	-50	-10	584	36.53	-0.01	3.15
82	SLV 15	-59	-25	628	39.22	-0.01	3.68
82	SLV 16	-58	-22	627	39.19	-0.01	3.64
82	SLV FO 1	45	6	591	36.94	-0.01	-2.84
82	SLV FO 2	46	10	590	36.9	-0.01	-2.88
82	SLV FO 3	37	-7	638	39.87	-0.01	-2.3
82	SLV FO 4	38	-3	637	39.83	-0.01	-2.35
82	SLV FO 5	20	16	533	33.33	-0.01	-1.27
82	SLV FO 6	21	18	533	33.31	-0.01	-1.3
82	SLV FO 7	-8	-29	689	43.09	-0.01	0.52
82	SLV FO 8	-8	-27	689	43.07	-0.01	0.49
82	SLV FO 9	-10	10	531	33.17	-0.01	0.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
82	SLV FO 10	-9	12	530	33.14	-0.01	0.59
82	SLV FO 11	-38	-35	687	42.93	-0.01	2.4
82	SLV FO 12	-38	-33	686	42.91	-0.01	2.37
82	SLV FO 13	-55	-14	582	36.4	-0.01	3.45
82	SLV FO 14	-55	-10	582	36.37	-0.01	3.41
82	SLV FO 15	-64	-27	629	39.33	-0.01	3.99
82	SLV FO 16	-63	-23	629	39.3	-0.01	3.95
82	CRTFP Uy+	0	0	0	0	0	0
82	CRTFP Uy-	0	0	0	0	0	0
83	SLU 1	-7	-6	506	0	0	0
83	SLU 2	-6	-5	504	0	0	0
83	SLU 3	-7	-5	518	0	0	0
83	SLU 4	-7	-5	517	0	0	0
83	SLU 5	-6	-5	512	0	0	0
83	SLU 6	-7	-5	525	0	0	0
83	SLU 7	-7	-5	524	0	0	0
83	SLU 8	-7	-5	521	0	0	0
83	SLU 9	-7	-5	520	0	0	0
83	SLU 10	-8	-5	573	0	0	0
83	SLU 11	-9	-5	587	0	0	0
83	SLU 12	-9	-5	586	0	0	0
83	SLU 13	-9	-5	581	0	0	0
83	SLU 14	-9	-5	595	0	0	0
83	SLU 15	-9	-5	594	0	0	0
83	SLU 16	-9	-5	590	0	0	0
83	SLU 17	-9	-5	589	0	0	0
83	SLU 18	-10	-6	605	0	0	0
83	SLU 19	-9	-6	604	0	0	0
83	SLU 20	-10	-5	612	0	0	0
83	SLU 21	-10	-5	611	0	0	0
83	SLU 22	-8	-4	586	0	0	0
83	SLU 23	-8	-4	584	0	0	0
83	SLU 24	-9	-4	598	0	0	0
83	SLU 25	-8	-3	597	0	0	0
83	SLU 26	-8	-3	592	0	0	0
83	SLU 27	-9	-3	605	0	0	0
83	SLU 28	-9	-3	604	0	0	0
83	SLU 29	-9	-3	601	0	0	0
83	SLU 30	-9	-3	600	0	0	0
83	SLU 31	-10	-4	653	0	0	0
83	SLU 32	-11	-3	667	0	0	0
83	SLU 33	-11	-3	666	0	0	0
83	SLU 34	-10	-3	661	0	0	0
83	SLU 35	-11	-3	675	0	0	0
83	SLU 36	-11	-3	674	0	0	0
83	SLU 37	-11	-3	670	0	0	0
83	SLU 38	-11	-3	669	0	0	0
83	SLU 39	-11	-4	685	0	0	0
83	SLU 40	-11	-4	684	0	0	0
83	SLU 41	-12	-4	692	0	0	0
83	SLU 42	-11	-3	691	0	0	0
83	SLU 43	-8	-8	630	0	0	0
83	SLU 44	-8	-8	629	0	0	0
83	SLU 45	-8	-8	642	0	0	0
83	SLU 46	-8	-8	641	0	0	0
83	SLU 47	-8	-7	636	0	0	0
83	SLU 48	-9	-7	650	0	0	0
83	SLU 49	-8	-7	649	0	0	0
83	SLU 50	-9	-7	645	0	0	0
83	SLU 51	-8	-7	645	0	0	0
83	SLU 52	-10	-8	698	0	0	0
83	SLU 53	-10	-8	711	0	0	0
83	SLU 54	-10	-8	710	0	0	0
83	SLU 55	-10	-7	706	0	0	0
83	SLU 56	-11	-7	719	0	0	0
83	SLU 57	-11	-7	718	0	0	0
83	SLU 58	-11	-7	715	0	0	0
83	SLU 59	-10	-7	714	0	0	0
83	SLU 60	-11	-8	729	0	0	0
83	SLU 61	-11	-8	728	0	0	0
83	SLU 62	-11	-8	737	0	0	0
83	SLU 63	-11	-8	736	0	0	0
83	SLU 64	-10	-7	710	0	0	0
83	SLU 65	-9	-6	708	0	0	0
83	SLU 66	-10	-6	722	0	0	0
83	SLU 67	-10	-6	721	0	0	0
83	SLU 68	-10	-6	716	0	0	0
83	SLU 69	-10	-5	730	0	0	0
83	SLU 70	-10	-5	729	0	0	0
83	SLU 71	-10	-6	725	0	0	0
83	SLU 72	-10	-5	724	0	0	0
83	SLU 73	-11	-6	778	0	0	0
83	SLU 74	-12	-6	791	0	0	0
83	SLU 75	-12	-6	790	0	0	0
83	SLU 76	-12	-5	785	0	0	0
83	SLU 77	-12	-5	799	0	0	0
83	SLU 78	-12	-5	798	0	0	0
83	SLU 79	-12	-6	795	0	0	0
83	SLU 80	-12	-5	794	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
83	SLU 81	-13	-7	809	0	0	0
83	SLU 82	-12	-6	808	0	0	0
83	SLU 83	-13	-6	817	0	0	0
83	SLU 84	-13	-6	816	0	0	0
83	SLE RA 1	-7	-5	529	0	0	0
83	SLE RA 2	-7	-5	528	0	0	0
83	SLE RA 3	-7	-5	536	0	0	0
83	SLE RA 4	-7	-5	536	0	0	0
83	SLE RA 5	-7	-5	533	0	0	0
83	SLE RA 6	-7	-5	542	0	0	0
83	SLE RA 7	-7	-5	541	0	0	0
83	SLE RA 8	-7	-5	539	0	0	0
83	SLE RA 9	-7	-5	538	0	0	0
83	SLE RA 10	-8	-5	574	0	0	0
83	SLE RA 11	-9	-5	583	0	0	0
83	SLE RA 12	-9	-5	582	0	0	0
83	SLE RA 13	-8	-5	579	0	0	0
83	SLE RA 14	-9	-5	588	0	0	0
83	SLE RA 15	-9	-4	587	0	0	0
83	SLE RA 16	-9	-5	585	0	0	0
83	SLE RA 17	-9	-5	584	0	0	0
83	SLE RA 18	-9	-5	595	0	0	0
83	SLE RA 19	-9	-5	594	0	0	0
83	SLE RA 20	-9	-5	600	0	0	0
83	SLE RA 21	-9	-5	599	0	0	0
83	SLE FR 1	-7	-5	529	0	0	0
83	SLE FR 2	-7	-5	528	0	0	0
83	SLE FR 3	-7	-5	531	0	0	0
83	SLE FR 4	-8	-5	548	0	0	0
83	SLE FR 5	-8	-5	550	0	0	0
83	SLE FR 6	-8	-5	562	0	0	0
83	SLE QP 1	-7	-5	529	0	0	0
83	SLE QP 2	-8	-5	548	0	0	0
83	SLD 1	21	1	530	0	0	0
83	SLD 2	21	4	530	0	0	0
83	SLD 3	16	-5	550	0	0	0
83	SLD 4	17	-3	550	0	0	0
83	SLD 5	7	6	513	0	0	0
83	SLD 6	8	8	512	0	0	0
83	SLD 7	-7	-16	579	0	0	0
83	SLD 8	-7	-14	579	0	0	0
83	SLD 9	-8	3	517	0	0	0
83	SLD 10	-8	5	517	0	0	0
83	SLD 11	-23	-19	584	0	0	0
83	SLD 12	-23	-17	584	0	0	0
83	SLD 13	-32	-8	546	0	0	0
83	SLD 14	-32	-6	546	0	0	0
83	SLD 15	-36	-15	566	0	0	0
83	SLD 16	-36	-12	566	0	0	0
83	SLV 1	37	5	520	0	0	0
83	SLV 2	38	9	519	0	0	0
83	SLV 3	30	-5	552	0	0	0
83	SLV 4	31	-2	552	0	0	0
83	SLV 5	16	13	491	0	0	0
83	SLV 6	17	16	491	0	0	0
83	SLV 7	-7	-23	599	0	0	0
83	SLV 8	-7	-20	598	0	0	0
83	SLV 9	-9	9	498	0	0	0
83	SLV 10	-8	12	498	0	0	0
83	SLV 11	-32	-27	606	0	0	0
83	SLV 12	-32	-24	606	0	0	0
83	SLV 13	-46	-9	545	0	0	0
83	SLV 14	-45	-6	544	0	0	0
83	SLV 15	-53	-20	577	0	0	0
83	SLV 16	-52	-16	577	0	0	0
83	SLV FO 1	41	6	517	0	0	0
83	SLV FO 2	42	11	517	0	0	0
83	SLV FO 3	34	-5	553	0	0	0
83	SLV FO 4	34	-1	552	0	0	0
83	SLV FO 5	19	15	485	0	0	0
83	SLV FO 6	19	18	485	0	0	0
83	SLV FO 7	-7	-24	604	0	0	0
83	SLV FO 8	-7	-21	603	0	0	0
83	SLV FO 9	-9	10	493	0	0	0
83	SLV FO 10	-8	13	493	0	0	0
83	SLV FO 11	-34	-29	612	0	0	0
83	SLV FO 12	-34	-26	612	0	0	0
83	SLV FO 13	-50	-10	544	0	0	0
83	SLV FO 14	-49	-6	544	0	0	0
83	SLV FO 15	-57	-22	580	0	0	0
83	SLV FO 16	-57	-17	580	0	0	0
84	SLU 1	-4	-3	343	-40.08	0	-0.46
84	SLU 2	-4	-2	343	-39.99	0	-0.43
84	SLU 3	-4	-2	351	-41	0	-0.49
84	SLU 4	-4	-2	351	-40.95	0	-0.47
84	SLU 5	-4	-2	348	-40.59	0	-0.46
84	SLU 6	-4	-2	356	-41.6	0	-0.52
84	SLU 7	-4	-2	356	-41.55	0	-0.5
84	SLU 8	-4	-2	354	-41.27	0	-0.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
84	SLU 9	-4	-2	353	-41.21	0	-0.49
84	SLU 10	-5	-2	389	-45.43	0	-0.6
84	SLU 11	-6	-2	398	-46.44	0	-0.66
84	SLU 12	-6	-2	397	-46.38	0	-0.64
84	SLU 13	-5	-2	394	-46.02	0	-0.63
84	SLU 14	-6	-2	403	-47.03	0	-0.68
84	SLU 15	-6	-2	402	-46.98	0	-0.67
84	SLU 16	-6	-2	400	-46.7	0	-0.68
84	SLU 17	-6	-2	400	-46.65	0	-0.66
84	SLU 18	-6	-2	410	-47.84	0	-0.7
84	SLU 19	-6	-2	409	-47.79	0	-0.69
84	SLU 20	-6	-2	415	-48.43	0	-0.73
84	SLU 21	-6	-2	414	-48.38	0	-0.71
84	SLU 22	-5	-1	397	-46.34	0	-0.59
84	SLU 23	-5	-1	396	-46.25	0	-0.56
84	SLU 24	-5	-1	405	-47.27	0	-0.62
84	SLU 25	-5	-1	404	-47.21	0	-0.61
84	SLU 26	-5	0	401	-46.85	0	-0.59
84	SLU 27	-6	0	410	-47.86	0	-0.65
84	SLU 28	-5	0	410	-47.81	0	-0.63
84	SLU 29	-6	-1	407	-47.53	0	-0.64
84	SLU 30	-5	0	407	-47.48	0	-0.63
84	SLU 31	-6	-1	443	-51.69	0	-0.73
84	SLU 32	-7	-1	451	-52.7	0	-0.79
84	SLU 33	-7	0	451	-52.65	0	-0.77
84	SLU 34	-6	0	448	-52.28	0	-0.76
84	SLU 35	-7	0	457	-53.29	0	-0.82
84	SLU 36	-7	0	456	-53.24	0	-0.8
84	SLU 37	-7	0	454	-52.96	0	-0.81
84	SLU 38	-7	0	453	-52.91	0	-0.79
84	SLU 39	-7	-1	463	-54.1	0	-0.83
84	SLU 40	-7	-1	463	-54.05	0	-0.82
84	SLU 41	-7	-1	469	-54.69	0	-0.86
84	SLU 42	-7	0	468	-54.64	0	-0.84
84	SLU 43	-5	-4	428	-49.96	0	-0.56
84	SLU 44	-5	-4	427	-49.87	0	-0.53
84	SLU 45	-5	-4	436	-50.88	0	-0.59
84	SLU 46	-5	-3	435	-50.83	0	-0.57
84	SLU 47	-5	-3	432	-50.46	0	-0.55
84	SLU 48	-5	-3	441	-51.47	0	-0.61
84	SLU 49	-5	-3	441	-51.42	0	-0.59
84	SLU 50	-5	-3	438	-51.14	0	-0.61
84	SLU 51	-5	-3	438	-51.09	0	-0.59
84	SLU 52	-6	-3	474	-55.3	0	-0.7
84	SLU 53	-6	-3	482	-56.31	0	-0.75
84	SLU 54	-6	-3	482	-56.26	0	-0.74
84	SLU 55	-6	-3	479	-55.9	0	-0.72
84	SLU 56	-7	-3	487	-56.91	0	-0.78
84	SLU 57	-7	-3	487	-56.86	0	-0.76
84	SLU 58	-7	-3	485	-56.57	0	-0.77
84	SLU 59	-6	-3	484	-56.52	0	-0.76
84	SLU 60	-7	-4	494	-57.72	0	-0.8
84	SLU 61	-7	-4	494	-57.66	0	-0.78
84	SLU 62	-7	-3	500	-58.31	0	-0.82
84	SLU 63	-7	-3	499	-58.26	0	-0.8
84	SLU 64	-6	-3	482	-56.22	0	-0.69
84	SLU 65	-6	-2	481	-56.13	0	-0.66
84	SLU 66	-6	-2	490	-57.14	0	-0.72
84	SLU 67	-6	-2	489	-57.09	0	-0.7
84	SLU 68	-6	-2	486	-56.72	0	-0.68
84	SLU 69	-6	-2	495	-57.74	0	-0.74
84	SLU 70	-6	-2	494	-57.68	0	-0.72
84	SLU 71	-6	-2	492	-57.4	0	-0.74
84	SLU 72	-6	-2	491	-57.35	0	-0.72
84	SLU 73	-7	-2	527	-61.56	0	-0.83
84	SLU 74	-8	-2	536	-62.57	0	-0.89
84	SLU 75	-7	-2	536	-62.52	0	-0.87
84	SLU 76	-7	-2	532	-62.16	0	-0.85
84	SLU 77	-8	-2	541	-63.17	0	-0.91
84	SLU 78	-8	-1	541	-63.12	0	-0.89
84	SLU 79	-8	-2	538	-62.84	0	-0.91
84	SLU 80	-8	-1	538	-62.78	0	-0.89
84	SLU 81	-8	-2	548	-63.98	0	-0.93
84	SLU 82	-8	-2	548	-63.92	0	-0.91
84	SLU 83	-8	-2	553	-64.57	0	-0.95
84	SLU 84	-8	-2	553	-64.52	0	-0.94
84	SLE RA 1	-4	-2	359	-41.87	0	-0.5
84	SLE RA 2	-4	-2	358	-41.81	0	-0.48
84	SLE RA 3	-4	-2	364	-42.48	0	-0.52
84	SLE RA 4	-4	-2	364	-42.45	0	-0.51
84	SLE RA 5	-4	-2	362	-42.21	0	-0.5
84	SLE RA 6	-5	-2	367	-42.88	0	-0.54
84	SLE RA 7	-4	-2	367	-42.85	0	-0.52
84	SLE RA 8	-5	-2	365	-42.66	0	-0.53
84	SLE RA 9	-4	-2	365	-42.62	0	-0.52
84	SLE RA 10	-5	-2	389	-45.43	0	-0.59
84	SLE RA 11	-5	-2	395	-46.11	0	-0.63
84	SLE RA 12	-5	-2	395	-46.07	0	-0.62
84	SLE RA 13	-5	-2	393	-45.83	0	-0.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
84	SLE RA 14	-6	-2	398	-46.5	0	-0.65
84	SLE RA 15	-5	-1	398	-46.47	0	-0.64
84	SLE RA 16	-6	-2	396	-46.28	0	-0.65
84	SLE RA 17	-5	-2	396	-46.25	0	-0.63
84	SLE RA 18	-6	-2	403	-47.04	0	-0.66
84	SLE RA 19	-6	-2	403	-47.01	0	-0.65
84	SLE RA 20	-6	-2	406	-47.44	0	-0.68
84	SLE RA 21	-6	-2	406	-47.4	0	-0.67
84	SLE FR 1	-4	-2	359	-41.87	0	-0.5
84	SLE FR 2	-4	-2	359	-41.86	0	-0.5
84	SLE FR 3	-4	-2	360	-42.03	0	-0.51
84	SLE FR 4	-5	-2	372	-43.41	0	-0.54
84	SLE FR 5	-5	-2	373	-43.58	0	-0.56
84	SLE FR 6	-5	-2	381	-44.45	0	-0.58
84	SLE QP 1	-4	-2	359	-41.87	0	-0.5
84	SLE QP 2	-5	-2	372	-43.42	0	-0.55
84	SLD 1	14	2	355	-41.49	0	1.69
84	SLD 2	15	4	355	-41.47	0	1.74
84	SLD 3	11	-3	365	-42.65	0	1.34
84	SLD 4	12	-1	365	-42.63	0	1.39
84	SLD 5	5	5	352	-41.09	0	0.64
84	SLD 6	6	7	352	-41.07	0	0.67
84	SLD 7	-4	-9	385	-44.95	0	-0.51
84	SLD 8	-4	-8	385	-44.93	0	-0.48
84	SLD 9	-5	4	359	-41.91	0	-0.62
84	SLD 10	-5	5	359	-41.89	0	-0.58
84	SLD 11	-15	-11	392	-45.76	0	-1.77
84	SLD 12	-15	-10	392	-45.75	0	-1.73
84	SLD 13	-21	-4	379	-44.21	0	-2.49
84	SLD 14	-21	-2	379	-44.19	0	-2.44
84	SLD 15	-24	-8	389	-45.37	0	-2.83
84	SLD 16	-24	-6	388	-45.35	0	-2.78
84	SLV 1	25	4	346	-40.38	0	2.97
84	SLV 2	26	7	346	-40.34	0	3.05
84	SLV 3	21	-3	362	-42.25	0	2.41
84	SLV 4	21	0	362	-42.22	0	2.49
84	SLV 5	11	10	340	-39.68	0	1.34
84	SLV 6	12	12	340	-39.65	0	1.39
84	SLV 7	-4	-14	393	-45.91	0	-0.52
84	SLV 8	-4	-12	393	-45.89	0	-0.47
84	SLV 9	-5	7	351	-40.95	0	-0.63
84	SLV 10	-5	10	351	-40.92	0	-0.57
84	SLV 11	-21	-17	404	-47.19	0	-2.49
84	SLV 12	-21	-15	404	-47.16	0	-2.44
84	SLV 13	-31	-5	382	-44.62	0	-3.59
84	SLV 14	-30	-1	382	-44.59	0	-3.51
84	SLV 15	-36	-12	398	-46.49	0	-4.15
84	SLV 16	-35	-9	398	-46.46	0	-4.07
84	SLV FO 1	28	5	343	-40.08	0	3.32
84	SLV FO 2	29	8	343	-40.04	0	3.41
84	SLV FO 3	23	-3	361	-42.14	0	2.71
84	SLV FO 4	24	0	361	-42.09	0	2.79
84	SLV FO 5	13	11	337	-39.3	0	1.53
84	SLV FO 6	14	14	336	-39.27	0	1.59
84	SLV FO 7	-4	-15	395	-46.16	0	-0.52
84	SLV FO 8	-4	-13	395	-46.14	0	-0.46
84	SLV FO 9	-5	8	349	-40.7	0	-0.63
84	SLV FO 10	-5	11	348	-40.67	0	-0.58
84	SLV FO 11	-23	-18	407	-47.56	0	-2.68
84	SLV FO 12	-22	-16	407	-47.54	0	-2.63
84	SLV FO 13	-33	-5	383	-44.74	0	-3.89
84	SLV FO 14	-33	-1	383	-44.7	0	-3.8
84	SLV FO 15	-39	-13	401	-46.8	0	-4.5
84	SLV FO 16	-38	-9	401	-46.76	0	-4.42
84	CRTFP Ux+	0	0	0	0	0	0
84	CRTFP Ux-	0	0	0	0	0	0
84	CRTFP Uy+	0	0	0	0	0	0
84	CRTFP Uy-	0	0	0	0	0	0
85	SLU 1	-9	-6	711	0	0	0
85	SLU 2	-9	-5	709	0	0	0
85	SLU 3	-10	-5	728	0	0	0
85	SLU 4	-9	-4	726	0	0	0
85	SLU 5	-9	-4	720	0	0	0
85	SLU 6	-10	-4	738	0	0	0
85	SLU 7	-10	-3	737	0	0	0
85	SLU 8	-10	-4	732	0	0	0
85	SLU 9	-10	-4	731	0	0	0
85	SLU 10	-12	-4	806	0	0	0
85	SLU 11	-13	-4	824	0	0	0
85	SLU 12	-13	-4	823	0	0	0
85	SLU 13	-12	-4	816	0	0	0
85	SLU 14	-13	-4	835	0	0	0
85	SLU 15	-13	-3	834	0	0	0
85	SLU 16	-13	-4	829	0	0	0
85	SLU 17	-13	-3	828	0	0	0
85	SLU 18	-14	-5	849	0	0	0
85	SLU 19	-13	-5	848	0	0	0
85	SLU 20	-14	-4	860	0	0	0
85	SLU 21	-14	-4	859	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
85	SLU 22	-12	-3	823	0	0	0
85	SLU 23	-11	-2	821	0	0	0
85	SLU 24	-12	-2	839	0	0	0
85	SLU 25	-12	-1	838	0	0	0
85	SLU 26	-12	-1	832	0	0	0
85	SLU 27	-13	-1	850	0	0	0
85	SLU 28	-12	0	849	0	0	0
85	SLU 29	-13	-1	844	0	0	0
85	SLU 30	-12	-1	843	0	0	0
85	SLU 31	-14	-1	918	0	0	0
85	SLU 32	-15	-1	936	0	0	0
85	SLU 33	-15	-1	935	0	0	0
85	SLU 34	-15	-1	928	0	0	0
85	SLU 35	-16	-1	947	0	0	0
85	SLU 36	-15	0	946	0	0	0
85	SLU 37	-16	-1	941	0	0	0
85	SLU 38	-15	0	940	0	0	0
85	SLU 39	-16	-2	961	0	0	0
85	SLU 40	-16	-2	960	0	0	0
85	SLU 41	-17	-1	972	0	0	0
85	SLU 42	-16	-1	970	0	0	0
85	SLU 43	-11	-8	886	0	0	0
85	SLU 44	-11	-7	884	0	0	0
85	SLU 45	-12	-7	903	0	0	0
85	SLU 46	-11	-7	901	0	0	0
85	SLU 47	-11	-7	895	0	0	0
85	SLU 48	-12	-7	913	0	0	0
85	SLU 49	-12	-6	912	0	0	0
85	SLU 50	-12	-7	907	0	0	0
85	SLU 51	-12	-6	906	0	0	0
85	SLU 52	-14	-7	981	0	0	0
85	SLU 53	-15	-7	999	0	0	0
85	SLU 54	-15	-7	998	0	0	0
85	SLU 55	-14	-6	991	0	0	0
85	SLU 56	-15	-6	1010	0	0	0
85	SLU 57	-15	-6	1009	0	0	0
85	SLU 58	-15	-6	1004	0	0	0
85	SLU 59	-15	-6	1003	0	0	0
85	SLU 60	-16	-8	1024	0	0	0
85	SLU 61	-15	-7	1023	0	0	0
85	SLU 62	-16	-7	1035	0	0	0
85	SLU 63	-16	-7	1034	0	0	0
85	SLU 64	-14	-5	998	0	0	0
85	SLU 65	-13	-4	996	0	0	0
85	SLU 66	-14	-4	1014	0	0	0
85	SLU 67	-14	-4	1013	0	0	0
85	SLU 68	-14	-4	1007	0	0	0
85	SLU 69	-15	-4	1025	0	0	0
85	SLU 70	-14	-3	1024	0	0	0
85	SLU 71	-15	-4	1019	0	0	0
85	SLU 72	-14	-3	1018	0	0	0
85	SLU 73	-16	-4	1092	0	0	0
85	SLU 74	-17	-4	1111	0	0	0
85	SLU 75	-17	-4	1110	0	0	0
85	SLU 76	-17	-3	1103	0	0	0
85	SLU 77	-18	-3	1122	0	0	0
85	SLU 78	-17	-3	1121	0	0	0
85	SLU 79	-18	-3	1116	0	0	0
85	SLU 80	-17	-3	1115	0	0	0
85	SLU 81	-18	-5	1136	0	0	0
85	SLU 82	-18	-4	1135	0	0	0
85	SLU 83	-19	-4	1147	0	0	0
85	SLU 84	-18	-4	1145	0	0	0
85	SLE RA 1	-10	-5	743	0	0	0
85	SLE RA 2	-10	-4	742	0	0	0
85	SLE RA 3	-10	-4	754	0	0	0
85	SLE RA 4	-10	-4	753	0	0	0
85	SLE RA 5	-10	-4	749	0	0	0
85	SLE RA 6	-11	-4	761	0	0	0
85	SLE RA 7	-10	-3	760	0	0	0
85	SLE RA 8	-11	-4	757	0	0	0
85	SLE RA 9	-10	-3	756	0	0	0
85	SLE RA 10	-12	-4	806	0	0	0
85	SLE RA 11	-12	-4	818	0	0	0
85	SLE RA 12	-12	-4	818	0	0	0
85	SLE RA 13	-12	-3	813	0	0	0
85	SLE RA 14	-13	-3	826	0	0	0
85	SLE RA 15	-12	-3	825	0	0	0
85	SLE RA 16	-13	-3	822	0	0	0
85	SLE RA 17	-12	-3	821	0	0	0
85	SLE RA 18	-13	-4	835	0	0	0
85	SLE RA 19	-13	-4	834	0	0	0
85	SLE RA 20	-13	-4	842	0	0	0
85	SLE RA 21	-13	-4	841	0	0	0
85	SLE FR 1	-10	-5	743	0	0	0
85	SLE FR 2	-10	-5	743	0	0	0
85	SLE FR 3	-10	-4	746	0	0	0
85	SLE FR 4	-11	-4	770	0	0	0
85	SLE FR 5	-11	-4	773	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
85	SLE FR 6	-11	-5	789	0	0	0
85	SLE QP 1	-10	-5	743	0	0	0
85	SLE QP 2	-11	-5	771	0	0	0
85	SLD 1	29	4	735	0	0	0
85	SLD 2	30	8	734	0	0	0
85	SLD 3	23	-5	761	0	0	0
85	SLD 4	24	-1	760	0	0	0
85	SLD 5	10	11	721	0	0	0
85	SLD 6	11	14	720	0	0	0
85	SLD 7	-10	-19	807	0	0	0
85	SLD 8	-10	-17	807	0	0	0
85	SLD 9	-12	7	734	0	0	0
85	SLD 10	-12	10	734	0	0	0
85	SLD 11	-33	-23	821	0	0	0
85	SLD 12	-32	-20	821	0	0	0
85	SLD 13	-46	-8	781	0	0	0
85	SLD 14	-45	-4	780	0	0	0
85	SLD 15	-52	-17	807	0	0	0
85	SLD 16	-51	-13	806	0	0	0
85	SLV 1	52	9	714	0	0	0
85	SLV 2	53	15	713	0	0	0
85	SLV 3	42	-6	756	0	0	0
85	SLV 4	43	0	755	0	0	0
85	SLV 5	23	21	690	0	0	0
85	SLV 6	24	25	690	0	0	0
85	SLV 7	-10	-29	830	0	0	0
85	SLV 8	-10	-25	829	0	0	0
85	SLV 9	-12	15	712	0	0	0
85	SLV 10	-11	20	711	0	0	0
85	SLV 11	-46	-35	851	0	0	0
85	SLV 12	-45	-30	851	0	0	0
85	SLV 13	-65	-10	786	0	0	0
85	SLV 14	-64	-3	785	0	0	0
85	SLV 15	-75	-25	828	0	0	0
85	SLV 16	-74	-18	827	0	0	0
85	SLV FO 1	59	10	708	0	0	0
85	SLV FO 2	60	17	708	0	0	0
85	SLV FO 3	48	-6	755	0	0	0
85	SLV FO 4	49	1	754	0	0	0
85	SLV FO 5	27	23	682	0	0	0
85	SLV FO 6	27	28	682	0	0	0
85	SLV FO 7	-10	-31	836	0	0	0
85	SLV FO 8	-9	-27	835	0	0	0
85	SLV FO 9	-12	17	706	0	0	0
85	SLV FO 10	-12	22	705	0	0	0
85	SLV FO 11	-49	-38	860	0	0	0
85	SLV FO 12	-48	-33	859	0	0	0
85	SLV FO 13	-71	-10	787	0	0	0
85	SLV FO 14	-69	-3	787	0	0	0
85	SLV FO 15	-82	-27	833	0	0	0
85	SLV FO 16	-80	-19	833	0	0	0
86	SLU 1	-6	-1	449	0	0	0
86	SLU 2	-6	-1	448	0	0	0
86	SLU 3	-6	0	459	0	0	0
86	SLU 4	-6	0	458	0	0	0
86	SLU 5	-6	0	454	0	0	0
86	SLU 6	-7	0	466	0	0	0
86	SLU 7	-6	0	465	0	0	0
86	SLU 8	-6	0	462	0	0	0
86	SLU 9	-6	0	461	0	0	0
86	SLU 10	-8	0	508	0	0	0
86	SLU 11	-8	0	519	0	0	0
86	SLU 12	-8	0	519	0	0	0
86	SLU 13	-8	0	515	0	0	0
86	SLU 14	-9	0	526	0	0	0
86	SLU 15	-8	1	525	0	0	0
86	SLU 16	-8	0	522	0	0	0
86	SLU 17	-8	1	522	0	0	0
86	SLU 18	-9	0	535	0	0	0
86	SLU 19	-9	0	534	0	0	0
86	SLU 20	-9	0	541	0	0	0
86	SLU 21	-9	0	541	0	0	0
86	SLU 22	-7	1	519	0	0	0
86	SLU 23	-7	2	518	0	0	0
86	SLU 24	-8	2	529	0	0	0
86	SLU 25	-8	2	528	0	0	0
86	SLU 26	-7	2	524	0	0	0
86	SLU 27	-8	2	536	0	0	0
86	SLU 28	-8	3	535	0	0	0
86	SLU 29	-8	2	532	0	0	0
86	SLU 30	-8	2	531	0	0	0
86	SLU 31	-9	2	578	0	0	0
86	SLU 32	-10	2	589	0	0	0
86	SLU 33	-10	3	589	0	0	0
86	SLU 34	-9	3	585	0	0	0
86	SLU 35	-10	3	596	0	0	0
86	SLU 36	-10	3	595	0	0	0
86	SLU 37	-10	3	592	0	0	0
86	SLU 38	-10	3	592	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
86	SLU 39	-10	2	605	0	0	0
86	SLU 40	-10	2	604	0	0	0
86	SLU 41	-11	2	611	0	0	0
86	SLU 42	-10	3	611	0	0	0
86	SLU 43	-7	-2	559	0	0	0
86	SLU 44	-7	-2	558	0	0	0
86	SLU 45	-7	-2	570	0	0	0
86	SLU 46	-7	-1	569	0	0	0
86	SLU 47	-7	-1	565	0	0	0
86	SLU 48	-8	-1	576	0	0	0
86	SLU 49	-8	-1	576	0	0	0
86	SLU 50	-8	-1	572	0	0	0
86	SLU 51	-8	-1	572	0	0	0
86	SLU 52	-9	-1	618	0	0	0
86	SLU 53	-9	-1	630	0	0	0
86	SLU 54	-9	-1	629	0	0	0
86	SLU 55	-9	-1	625	0	0	0
86	SLU 56	-10	-1	637	0	0	0
86	SLU 57	-10	0	636	0	0	0
86	SLU 58	-10	-1	633	0	0	0
86	SLU 59	-10	0	632	0	0	0
86	SLU 60	-10	-1	645	0	0	0
86	SLU 61	-10	-1	645	0	0	0
86	SLU 62	-10	-1	652	0	0	0
86	SLU 63	-10	-1	651	0	0	0
86	SLU 64	-9	0	629	0	0	0
86	SLU 65	-8	1	628	0	0	0
86	SLU 66	-9	1	640	0	0	0
86	SLU 67	-9	1	639	0	0	0
86	SLU 68	-9	1	635	0	0	0
86	SLU 69	-9	1	646	0	0	0
86	SLU 70	-9	1	646	0	0	0
86	SLU 71	-9	1	643	0	0	0
86	SLU 72	-9	1	642	0	0	0
86	SLU 73	-10	1	689	0	0	0
86	SLU 74	-11	1	700	0	0	0
86	SLU 75	-11	1	699	0	0	0
86	SLU 76	-11	2	695	0	0	0
86	SLU 77	-11	2	707	0	0	0
86	SLU 78	-11	2	706	0	0	0
86	SLU 79	-11	2	703	0	0	0
86	SLU 80	-11	2	702	0	0	0
86	SLU 81	-12	1	715	0	0	0
86	SLU 82	-11	1	715	0	0	0
86	SLU 83	-12	1	722	0	0	0
86	SLU 84	-12	2	721	0	0	0
86	SLE RA 1	-6	0	469	0	0	0
86	SLE RA 2	-6	0	468	0	0	0
86	SLE RA 3	-7	0	476	0	0	0
86	SLE RA 4	-6	0	475	0	0	0
86	SLE RA 5	-6	0	472	0	0	0
86	SLE RA 6	-7	0	480	0	0	0
86	SLE RA 7	-7	1	480	0	0	0
86	SLE RA 8	-7	0	478	0	0	0
86	SLE RA 9	-7	0	477	0	0	0
86	SLE RA 10	-7	0	508	0	0	0
86	SLE RA 11	-8	0	516	0	0	0
86	SLE RA 12	-8	0	515	0	0	0
86	SLE RA 13	-8	1	513	0	0	0
86	SLE RA 14	-8	1	520	0	0	0
86	SLE RA 15	-8	1	520	0	0	0
86	SLE RA 16	-8	1	518	0	0	0
86	SLE RA 17	-8	1	517	0	0	0
86	SLE RA 18	-8	0	526	0	0	0
86	SLE RA 19	-8	0	526	0	0	0
86	SLE RA 20	-8	0	531	0	0	0
86	SLE RA 21	-8	1	530	0	0	0
86	SLE FR 1	-6	0	469	0	0	0
86	SLE FR 2	-6	0	469	0	0	0
86	SLE FR 3	-6	0	470	0	0	0
86	SLE FR 4	-7	0	486	0	0	0
86	SLE FR 5	-7	0	488	0	0	0
86	SLE FR 6	-7	0	497	0	0	0
86	SLE QP 1	-6	0	469	0	0	0
86	SLE QP 2	-7	0	486	0	0	0
86	SLD 1	19	4	454	0	0	0
86	SLD 2	19	7	454	0	0	0
86	SLD 3	15	-2	469	0	0	0
86	SLD 4	15	2	469	0	0	0
86	SLD 5	7	9	454	0	0	0
86	SLD 6	7	11	454	0	0	0
86	SLD 7	-6	-10	503	0	0	0
86	SLD 8	-6	-8	503	0	0	0
86	SLD 9	-8	7	469	0	0	0
86	SLD 10	-7	9	469	0	0	0
86	SLD 11	-21	-12	518	0	0	0
86	SLD 12	-21	-10	518	0	0	0
86	SLD 13	-29	-2	503	0	0	0
86	SLD 14	-29	1	503	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
86	SLD 15	-33	-8	518	0	0	0
86	SLD 16	-33	-5	518	0	0	0
86	SLV 1	34	7	436	0	0	0
86	SLV 2	34	12	436	0	0	0
86	SLV 3	27	-3	460	0	0	0
86	SLV 4	28	3	459	0	0	0
86	SLV 5	15	15	435	0	0	0
86	SLV 6	15	19	435	0	0	0
86	SLV 7	-7	-16	514	0	0	0
86	SLV 8	-6	-13	514	0	0	0
86	SLV 9	-8	12	458	0	0	0
86	SLV 10	-7	15	457	0	0	0
86	SLV 11	-29	-19	537	0	0	0
86	SLV 12	-29	-16	537	0	0	0
86	SLV 13	-42	-3	512	0	0	0
86	SLV 14	-41	2	512	0	0	0
86	SLV 15	-48	-13	536	0	0	0
86	SLV 16	-47	-7	536	0	0	0
86	SLV FO 1	38	7	431	0	0	0
86	SLV FO 2	38	13	431	0	0	0
86	SLV FO 3	31	-3	457	0	0	0
86	SLV FO 4	31	3	457	0	0	0
86	SLV FO 5	17	17	430	0	0	0
86	SLV FO 6	17	20	429	0	0	0
86	SLV FO 7	-6	-18	517	0	0	0
86	SLV FO 8	-6	-14	517	0	0	0
86	SLV FO 9	-8	13	455	0	0	0
86	SLV FO 10	-7	17	455	0	0	0
86	SLV FO 11	-31	-21	542	0	0	0
86	SLV FO 12	-31	-17	542	0	0	0
86	SLV FO 13	-45	-4	515	0	0	0
86	SLV FO 14	-44	2	514	0	0	0
86	SLV FO 15	-52	-14	541	0	0	0
86	SLV FO 16	-52	-8	541	0	0	0
88	SLU 1	-4	-8	292	0	0	0
88	SLU 2	-4	-7	291	0	0	0
88	SLU 3	-4	-7	299	0	0	0
88	SLU 4	-4	-7	298	0	0	0
88	SLU 5	-4	-7	295	0	0	0
88	SLU 6	-4	-7	304	0	0	0
88	SLU 7	-4	-7	303	0	0	0
88	SLU 8	-4	-7	301	0	0	0
88	SLU 9	-4	-7	300	0	0	0
88	SLU 10	-5	-8	332	0	0	0
88	SLU 11	-5	-8	340	0	0	0
88	SLU 12	-5	-8	339	0	0	0
88	SLU 13	-5	-8	336	0	0	0
88	SLU 14	-5	-8	345	0	0	0
88	SLU 15	-5	-7	344	0	0	0
88	SLU 16	-5	-8	342	0	0	0
88	SLU 17	-5	-7	342	0	0	0
88	SLU 18	-6	-8	351	0	0	0
88	SLU 19	-5	-8	350	0	0	0
88	SLU 20	-6	-8	355	0	0	0
88	SLU 21	-6	-8	354	0	0	0
88	SLU 22	-5	-7	339	0	0	0
88	SLU 23	-5	-7	338	0	0	0
88	SLU 24	-5	-7	346	0	0	0
88	SLU 25	-5	-7	345	0	0	0
88	SLU 26	-5	-7	342	0	0	0
88	SLU 27	-5	-7	351	0	0	0
88	SLU 28	-5	-6	350	0	0	0
88	SLU 29	-5	-7	348	0	0	0
88	SLU 30	-5	-6	347	0	0	0
88	SLU 31	-6	-7	379	0	0	0
88	SLU 32	-6	-7	387	0	0	0
88	SLU 33	-6	-7	386	0	0	0
88	SLU 34	-6	-7	383	0	0	0
88	SLU 35	-6	-7	392	0	0	0
88	SLU 36	-6	-7	391	0	0	0
88	SLU 37	-6	-7	389	0	0	0
88	SLU 38	-6	-7	388	0	0	0
88	SLU 39	-7	-8	397	0	0	0
88	SLU 40	-6	-8	397	0	0	0
88	SLU 41	-7	-7	402	0	0	0
88	SLU 42	-7	-7	401	0	0	0
88	SLU 43	-5	-10	363	0	0	0
88	SLU 44	-4	-10	362	0	0	0
88	SLU 45	-5	-10	371	0	0	0
88	SLU 46	-5	-10	370	0	0	0
88	SLU 47	-5	-10	367	0	0	0
88	SLU 48	-5	-10	375	0	0	0
88	SLU 49	-5	-9	374	0	0	0
88	SLU 50	-5	-10	373	0	0	0
88	SLU 51	-5	-10	372	0	0	0
88	SLU 52	-6	-10	403	0	0	0
88	SLU 53	-6	-10	412	0	0	0
88	SLU 54	-6	-10	411	0	0	0
88	SLU 55	-6	-10	408	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
88	SLU 56	-6	-10	416	0	0	0
88	SLU 57	-6	-10	415	0	0	0
88	SLU 58	-6	-10	414	0	0	0
88	SLU 59	-6	-10	413	0	0	0
88	SLU 60	-6	-11	422	0	0	0
88	SLU 61	-6	-11	421	0	0	0
88	SLU 62	-7	-11	427	0	0	0
88	SLU 63	-6	-10	426	0	0	0
88	SLU 64	-6	-10	410	0	0	0
88	SLU 65	-5	-9	409	0	0	0
88	SLU 66	-6	-9	417	0	0	0
88	SLU 67	-6	-9	417	0	0	0
88	SLU 68	-6	-9	414	0	0	0
88	SLU 69	-6	-9	422	0	0	0
88	SLU 70	-6	-9	421	0	0	0
88	SLU 71	-6	-9	420	0	0	0
88	SLU 72	-6	-9	419	0	0	0
88	SLU 73	-7	-10	450	0	0	0
88	SLU 74	-7	-10	458	0	0	0
88	SLU 75	-7	-10	458	0	0	0
88	SLU 76	-7	-9	455	0	0	0
88	SLU 77	-7	-10	463	0	0	0
88	SLU 78	-7	-9	462	0	0	0
88	SLU 79	-7	-10	461	0	0	0
88	SLU 80	-7	-9	460	0	0	0
88	SLU 81	-7	-10	469	0	0	0
88	SLU 82	-7	-10	468	0	0	0
88	SLU 83	-8	-10	474	0	0	0
88	SLU 84	-7	-10	473	0	0	0
88	SLE RA 1	-4	-8	305	0	0	0
88	SLE RA 2	-4	-7	304	0	0	0
88	SLE RA 3	-4	-7	310	0	0	0
88	SLE RA 4	-4	-7	310	0	0	0
88	SLE RA 5	-4	-7	308	0	0	0
88	SLE RA 6	-4	-7	313	0	0	0
88	SLE RA 7	-4	-7	313	0	0	0
88	SLE RA 8	-4	-7	312	0	0	0
88	SLE RA 9	-4	-7	311	0	0	0
88	SLE RA 10	-5	-8	332	0	0	0
88	SLE RA 11	-5	-8	337	0	0	0
88	SLE RA 12	-5	-8	337	0	0	0
88	SLE RA 13	-5	-7	335	0	0	0
88	SLE RA 14	-5	-7	341	0	0	0
88	SLE RA 15	-5	-7	340	0	0	0
88	SLE RA 16	-5	-7	339	0	0	0
88	SLE RA 17	-5	-7	338	0	0	0
88	SLE RA 18	-5	-8	344	0	0	0
88	SLE RA 19	-5	-8	344	0	0	0
88	SLE RA 20	-5	-8	348	0	0	0
88	SLE RA 21	-5	-8	347	0	0	0
88	SLE FR 1	-4	-8	305	0	0	0
88	SLE FR 2	-4	-8	305	0	0	0
88	SLE FR 3	-4	-7	307	0	0	0
88	SLE FR 4	-4	-8	317	0	0	0
88	SLE FR 5	-5	-8	318	0	0	0
88	SLE FR 6	-5	-8	325	0	0	0
88	SLE QP 1	-4	-8	305	0	0	0
88	SLE QP 2	-4	-8	317	0	0	0
88	SLD 1	11	-2	322	0	0	0
88	SLD 2	12	-2	322	0	0	0
88	SLD 3	9	-6	338	0	0	0
88	SLD 4	9	-6	338	0	0	0
88	SLD 5	4	0	294	0	0	0
88	SLD 6	4	0	294	0	0	0
88	SLD 7	-4	-13	348	0	0	0
88	SLD 8	-4	-13	348	0	0	0
88	SLD 9	-5	-2	286	0	0	0
88	SLD 10	-5	-2	286	0	0	0
88	SLD 11	-13	-16	340	0	0	0
88	SLD 12	-13	-15	340	0	0	0
88	SLD 13	-18	-10	296	0	0	0
88	SLD 14	-18	-9	296	0	0	0
88	SLD 15	-21	-14	312	0	0	0
88	SLD 16	-20	-13	312	0	0	0
88	SLV 1	21	1	324	0	0	0
88	SLV 2	21	2	324	0	0	0
88	SLV 3	17	-5	350	0	0	0
88	SLV 4	17	-5	350	0	0	0
88	SLV 5	9	5	280	0	0	0
88	SLV 6	9	5	280	0	0	0
88	SLV 7	-4	-17	367	0	0	0
88	SLV 8	-4	-17	366	0	0	0
88	SLV 9	-5	1	268	0	0	0
88	SLV 10	-5	2	268	0	0	0
88	SLV 11	-18	-21	355	0	0	0
88	SLV 12	-18	-20	354	0	0	0
88	SLV 13	-26	-11	284	0	0	0
88	SLV 14	-26	-10	284	0	0	0
88	SLV 15	-30	-17	310	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
88	SLV 16	-29	-17	310	0	0	0
88	SLV FO 1	23	2	325	0	0	0
88	SLV FO 2	23	3	325	0	0	0
88	SLV FO 3	19	-5	354	0	0	0
88	SLV FO 4	19	-4	353	0	0	0
88	SLV FO 5	10	6	276	0	0	0
88	SLV FO 6	11	6	276	0	0	0
88	SLV FO 7	-4	-18	371	0	0	0
88	SLV FO 8	-4	-17	371	0	0	0
88	SLV FO 9	-5	2	263	0	0	0
88	SLV FO 10	-5	2	263	0	0	0
88	SLV FO 11	-19	-22	358	0	0	0
88	SLV FO 12	-19	-21	358	0	0	0
88	SLV FO 13	-28	-11	281	0	0	0
88	SLV FO 14	-28	-11	281	0	0	0
88	SLV FO 15	-32	-18	309	0	0	0
88	SLV FO 16	-32	-18	309	0	0	0
90	SLU 1	-7	-12	488	0	0	0
90	SLU 2	-6	-11	486	0	0	0
90	SLU 3	-7	-11	500	0	0	0
90	SLU 4	-7	-11	498	0	0	0
90	SLU 5	-7	-11	493	0	0	0
90	SLU 6	-7	-11	508	0	0	0
90	SLU 7	-7	-10	506	0	0	0
90	SLU 8	-7	-11	503	0	0	0
90	SLU 9	-7	-10	502	0	0	0
90	SLU 10	-9	-12	554	0	0	0
90	SLU 11	-9	-12	568	0	0	0
90	SLU 12	-9	-11	567	0	0	0
90	SLU 13	-9	-11	562	0	0	0
90	SLU 14	-10	-11	576	0	0	0
90	SLU 15	-9	-11	575	0	0	0
90	SLU 16	-9	-11	572	0	0	0
90	SLU 17	-9	-11	571	0	0	0
90	SLU 18	-10	-12	586	0	0	0
90	SLU 19	-10	-12	584	0	0	0
90	SLU 20	-10	-12	593	0	0	0
90	SLU 21	-10	-12	592	0	0	0
90	SLU 22	-8	-11	566	0	0	0
90	SLU 23	-8	-10	564	0	0	0
90	SLU 24	-9	-10	578	0	0	0
90	SLU 25	-9	-10	577	0	0	0
90	SLU 26	-8	-10	572	0	0	0
90	SLU 27	-9	-10	586	0	0	0
90	SLU 28	-9	-9	585	0	0	0
90	SLU 29	-9	-10	582	0	0	0
90	SLU 30	-9	-9	581	0	0	0
90	SLU 31	-10	-11	632	0	0	0
90	SLU 32	-11	-11	647	0	0	0
90	SLU 33	-11	-10	645	0	0	0
90	SLU 34	-10	-10	640	0	0	0
90	SLU 35	-11	-10	654	0	0	0
90	SLU 36	-11	-10	653	0	0	0
90	SLU 37	-11	-10	650	0	0	0
90	SLU 38	-11	-10	649	0	0	0
90	SLU 39	-11	-11	664	0	0	0
90	SLU 40	-11	-11	663	0	0	0
90	SLU 41	-12	-11	672	0	0	0
90	SLU 42	-12	-11	670	0	0	0
90	SLU 43	-8	-16	607	0	0	0
90	SLU 44	-8	-15	605	0	0	0
90	SLU 45	-9	-15	619	0	0	0
90	SLU 46	-8	-15	618	0	0	0
90	SLU 47	-8	-15	613	0	0	0
90	SLU 48	-9	-15	627	0	0	0
90	SLU 49	-9	-14	626	0	0	0
90	SLU 50	-9	-15	623	0	0	0
90	SLU 51	-9	-14	622	0	0	0
90	SLU 52	-10	-16	674	0	0	0
90	SLU 53	-11	-16	688	0	0	0
90	SLU 54	-10	-15	686	0	0	0
90	SLU 55	-10	-15	681	0	0	0
90	SLU 56	-11	-15	695	0	0	0
90	SLU 57	-11	-15	694	0	0	0
90	SLU 58	-11	-15	691	0	0	0
90	SLU 59	-11	-15	690	0	0	0
90	SLU 60	-11	-16	705	0	0	0
90	SLU 61	-11	-16	704	0	0	0
90	SLU 62	-12	-16	713	0	0	0
90	SLU 63	-11	-16	711	0	0	0
90	SLU 64	-10	-14	686	0	0	0
90	SLU 65	-10	-14	684	0	0	0
90	SLU 66	-10	-14	698	0	0	0
90	SLU 67	-10	-14	696	0	0	0
90	SLU 68	-10	-13	691	0	0	0
90	SLU 69	-11	-14	705	0	0	0
90	SLU 70	-10	-13	704	0	0	0
90	SLU 71	-10	-14	701	0	0	0
90	SLU 72	-10	-13	700	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
90	SLU 73	-12	-14	752	0	0	0
90	SLU 74	-12	-15	766	0	0	0
90	SLU 75	-12	-14	765	0	0	0
90	SLU 76	-12	-14	760	0	0	0
90	SLU 77	-13	-14	774	0	0	0
90	SLU 78	-12	-14	772	0	0	0
90	SLU 79	-13	-14	770	0	0	0
90	SLU 80	-12	-14	768	0	0	0
90	SLU 81	-13	-15	783	0	0	0
90	SLU 82	-13	-15	782	0	0	0
90	SLU 83	-13	-15	791	0	0	0
90	SLU 84	-13	-14	790	0	0	0
90	SLE RA 1	-7	-11	510	0	0	0
90	SLE RA 2	-7	-11	509	0	0	0
90	SLE RA 3	-7	-11	518	0	0	0
90	SLE RA 4	-7	-11	517	0	0	0
90	SLE RA 5	-7	-11	514	0	0	0
90	SLE RA 6	-8	-11	523	0	0	0
90	SLE RA 7	-8	-11	523	0	0	0
90	SLE RA 8	-8	-11	521	0	0	0
90	SLE RA 9	-7	-11	520	0	0	0
90	SLE RA 10	-8	-11	554	0	0	0
90	SLE RA 11	-9	-11	564	0	0	0
90	SLE RA 12	-9	-11	563	0	0	0
90	SLE RA 13	-9	-11	560	0	0	0
90	SLE RA 14	-9	-11	569	0	0	0
90	SLE RA 15	-9	-11	568	0	0	0
90	SLE RA 16	-9	-11	566	0	0	0
90	SLE RA 17	-9	-11	565	0	0	0
90	SLE RA 18	-9	-12	575	0	0	0
90	SLE RA 19	-9	-12	574	0	0	0
90	SLE RA 20	-9	-12	581	0	0	0
90	SLE RA 21	-9	-11	580	0	0	0
90	SLE FR 1	-7	-11	510	0	0	0
90	SLE FR 2	-7	-11	510	0	0	0
90	SLE FR 3	-7	-11	512	0	0	0
90	SLE FR 4	-8	-11	529	0	0	0
90	SLE FR 5	-8	-11	532	0	0	0
90	SLE FR 6	-8	-12	543	0	0	0
90	SLE QP 1	-7	-11	510	0	0	0
90	SLE QP 2	-8	-12	530	0	0	0
90	SLD 1	19	-3	533	0	0	0
90	SLD 2	19	-2	533	0	0	0
90	SLD 3	15	-9	561	0	0	0
90	SLD 4	15	-8	560	0	0	0
90	SLD 5	6	1	489	0	0	0
90	SLD 6	7	1	488	0	0	0
90	SLD 7	-7	-21	581	0	0	0
90	SLD 8	-7	-20	581	0	0	0
90	SLD 9	-9	-3	478	0	0	0
90	SLD 10	-8	-2	478	0	0	0
90	SLD 11	-22	-24	571	0	0	0
90	SLD 12	-22	-24	571	0	0	0
90	SLD 13	-31	-15	499	0	0	0
90	SLD 14	-31	-14	499	0	0	0
90	SLD 15	-35	-21	527	0	0	0
90	SLD 16	-35	-20	527	0	0	0
90	SLV 1	34	3	534	0	0	0
90	SLV 2	35	4	533	0	0	0
90	SLV 3	28	-8	579	0	0	0
90	SLV 4	28	-7	578	0	0	0
90	SLV 5	15	9	463	0	0	0
90	SLV 6	15	10	463	0	0	0
90	SLV 7	-7	-27	613	0	0	0
90	SLV 8	-7	-26	612	0	0	0
90	SLV 9	-9	3	447	0	0	0
90	SLV 10	-8	4	447	0	0	0
90	SLV 11	-31	-33	597	0	0	0
90	SLV 12	-30	-32	597	0	0	0
90	SLV 13	-44	-16	481	0	0	0
90	SLV 14	-43	-15	481	0	0	0
90	SLV 15	-50	-27	526	0	0	0
90	SLV 16	-50	-26	526	0	0	0
90	SLV FO 1	39	4	534	0	0	0
90	SLV FO 2	39	6	534	0	0	0
90	SLV FO 3	31	-8	584	0	0	0
90	SLV FO 4	32	-6	583	0	0	0
90	SLV FO 5	17	11	456	0	0	0
90	SLV FO 6	17	12	456	0	0	0
90	SLV FO 7	-7	-29	621	0	0	0
90	SLV FO 8	-7	-28	621	0	0	0
90	SLV FO 9	-9	5	439	0	0	0
90	SLV FO 10	-8	6	438	0	0	0
90	SLV FO 11	-33	-35	604	0	0	0
90	SLV FO 12	-33	-34	603	0	0	0
90	SLV FO 13	-47	-17	476	0	0	0
90	SLV FO 14	-47	-15	476	0	0	0
90	SLV FO 15	-55	-29	526	0	0	0
90	SLV FO 16	-54	-27	525	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
92	SLU 1	-4	-7	257	0	0	0
92	SLU 2	-4	-7	256	0	0	0
92	SLU 3	-4	-7	264	0	0	0
92	SLU 4	-4	-7	263	0	0	0
92	SLU 5	-4	-7	260	0	0	0
92	SLU 6	-4	-7	268	0	0	0
92	SLU 7	-4	-7	267	0	0	0
92	SLU 8	-4	-7	266	0	0	0
92	SLU 9	-4	-7	265	0	0	0
92	SLU 10	-5	-8	292	0	0	0
92	SLU 11	-5	-8	300	0	0	0
92	SLU 12	-5	-7	299	0	0	0
92	SLU 13	-5	-7	297	0	0	0
92	SLU 14	-5	-7	304	0	0	0
92	SLU 15	-5	-7	304	0	0	0
92	SLU 16	-5	-7	302	0	0	0
92	SLU 17	-5	-7	301	0	0	0
92	SLU 18	-6	-8	309	0	0	0
92	SLU 19	-5	-8	309	0	0	0
92	SLU 20	-6	-8	314	0	0	0
92	SLU 21	-6	-8	313	0	0	0
92	SLU 22	-5	-7	299	0	0	0
92	SLU 23	-5	-7	298	0	0	0
92	SLU 24	-5	-7	306	0	0	0
92	SLU 25	-5	-7	305	0	0	0
92	SLU 26	-5	-7	302	0	0	0
92	SLU 27	-5	-7	310	0	0	0
92	SLU 28	-5	-6	309	0	0	0
92	SLU 29	-5	-7	308	0	0	0
92	SLU 30	-5	-6	307	0	0	0
92	SLU 31	-6	-7	334	0	0	0
92	SLU 32	-6	-7	342	0	0	0
92	SLU 33	-6	-7	341	0	0	0
92	SLU 34	-6	-7	338	0	0	0
92	SLU 35	-6	-7	346	0	0	0
92	SLU 36	-6	-7	345	0	0	0
92	SLU 37	-6	-7	344	0	0	0
92	SLU 38	-6	-7	343	0	0	0
92	SLU 39	-6	-8	351	0	0	0
92	SLU 40	-6	-8	350	0	0	0
92	SLU 41	-7	-7	355	0	0	0
92	SLU 42	-6	-7	355	0	0	0
92	SLU 43	-5	-10	320	0	0	0
92	SLU 44	-5	-10	319	0	0	0
92	SLU 45	-5	-10	327	0	0	0
92	SLU 46	-5	-9	326	0	0	0
92	SLU 47	-5	-9	323	0	0	0
92	SLU 48	-5	-9	331	0	0	0
92	SLU 49	-5	-9	330	0	0	0
92	SLU 50	-5	-9	329	0	0	0
92	SLU 51	-5	-9	328	0	0	0
92	SLU 52	-6	-10	355	0	0	0
92	SLU 53	-6	-10	363	0	0	0
92	SLU 54	-6	-10	362	0	0	0
92	SLU 55	-6	-10	360	0	0	0
92	SLU 56	-6	-10	367	0	0	0
92	SLU 57	-6	-10	366	0	0	0
92	SLU 58	-6	-10	365	0	0	0
92	SLU 59	-6	-10	364	0	0	0
92	SLU 60	-6	-10	372	0	0	0
92	SLU 61	-6	-10	371	0	0	0
92	SLU 62	-7	-10	377	0	0	0
92	SLU 63	-6	-10	376	0	0	0
92	SLU 64	-6	-9	362	0	0	0
92	SLU 65	-5	-9	361	0	0	0
92	SLU 66	-6	-9	368	0	0	0
92	SLU 67	-6	-9	368	0	0	0
92	SLU 68	-6	-9	365	0	0	0
92	SLU 69	-6	-9	373	0	0	0
92	SLU 70	-6	-9	372	0	0	0
92	SLU 71	-6	-9	370	0	0	0
92	SLU 72	-6	-9	370	0	0	0
92	SLU 73	-7	-10	397	0	0	0
92	SLU 74	-7	-10	405	0	0	0
92	SLU 75	-7	-9	404	0	0	0
92	SLU 76	-7	-9	401	0	0	0
92	SLU 77	-7	-9	409	0	0	0
92	SLU 78	-7	-9	408	0	0	0
92	SLU 79	-7	-9	407	0	0	0
92	SLU 80	-7	-9	406	0	0	0
92	SLU 81	-7	-10	414	0	0	0
92	SLU 82	-7	-10	413	0	0	0
92	SLU 83	-7	-10	418	0	0	0
92	SLU 84	-7	-10	417	0	0	0
92	SLE RA 1	-4	-7	269	0	0	0
92	SLE RA 2	-4	-7	268	0	0	0
92	SLE RA 3	-4	-7	274	0	0	0
92	SLE RA 4	-4	-7	273	0	0	0
92	SLE RA 5	-4	-7	271	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
92	SLE RA 6	-4	-7	276	0	0	0
92	SLE RA 7	-4	-7	276	0	0	0
92	SLE RA 8	-4	-7	275	0	0	0
92	SLE RA 9	-4	-7	274	0	0	0
92	SLE RA 10	-5	-7	293	0	0	0
92	SLE RA 11	-5	-7	298	0	0	0
92	SLE RA 12	-5	-7	297	0	0	0
92	SLE RA 13	-5	-7	295	0	0	0
92	SLE RA 14	-5	-7	301	0	0	0
92	SLE RA 15	-5	-7	300	0	0	0
92	SLE RA 16	-5	-7	299	0	0	0
92	SLE RA 17	-5	-7	299	0	0	0
92	SLE RA 18	-5	-8	304	0	0	0
92	SLE RA 19	-5	-8	303	0	0	0
92	SLE RA 20	-5	-8	307	0	0	0
92	SLE RA 21	-5	-8	306	0	0	0
92	SLE FR 1	-4	-7	269	0	0	0
92	SLE FR 2	-4	-7	269	0	0	0
92	SLE FR 3	-4	-7	270	0	0	0
92	SLE FR 4	-4	-7	280	0	0	0
92	SLE FR 5	-5	-7	281	0	0	0
92	SLE FR 6	-5	-8	287	0	0	0
92	SLE QP 1	-4	-7	269	0	0	0
92	SLE QP 2	-4	-7	280	0	0	0
92	SLD 1	10	-2	285	0	0	0
92	SLD 2	10	-2	285	0	0	0
92	SLD 3	8	-6	303	0	0	0
92	SLD 4	8	-6	303	0	0	0
92	SLD 5	3	-1	255	0	0	0
92	SLD 6	3	-1	255	0	0	0
92	SLD 7	-4	-12	313	0	0	0
92	SLD 8	-4	-12	313	0	0	0
92	SLD 9	-5	-3	246	0	0	0
92	SLD 10	-5	-3	246	0	0	0
92	SLD 11	-12	-14	305	0	0	0
92	SLD 12	-12	-14	304	0	0	0
92	SLD 13	-17	-9	257	0	0	0
92	SLD 14	-17	-9	257	0	0	0
92	SLD 15	-19	-13	274	0	0	0
92	SLD 16	-19	-13	274	0	0	0
92	SLV 1	18	1	288	0	0	0
92	SLV 2	18	1	288	0	0	0
92	SLV 3	14	-5	316	0	0	0
92	SLV 4	14	-5	316	0	0	0
92	SLV 5	7	4	239	0	0	0
92	SLV 6	8	4	239	0	0	0
92	SLV 7	-4	-16	334	0	0	0
92	SLV 8	-4	-15	333	0	0	0
92	SLV 9	-5	0	226	0	0	0
92	SLV 10	-5	1	226	0	0	0
92	SLV 11	-16	-19	320	0	0	0
92	SLV 12	-16	-19	320	0	0	0
92	SLV 13	-23	-10	243	0	0	0
92	SLV 14	-23	-10	243	0	0	0
92	SLV 15	-27	-16	272	0	0	0
92	SLV 16	-27	-16	271	0	0	0
92	SLV FO 1	20	2	289	0	0	0
92	SLV FO 2	20	2	289	0	0	0
92	SLV FO 3	16	-5	320	0	0	0
92	SLV FO 4	16	-4	320	0	0	0
92	SLV FO 5	9	5	235	0	0	0
92	SLV FO 6	9	5	235	0	0	0
92	SLV FO 7	-4	-16	339	0	0	0
92	SLV FO 8	-4	-16	339	0	0	0
92	SLV FO 9	-5	1	221	0	0	0
92	SLV FO 10	-5	1	220	0	0	0
92	SLV FO 11	-18	-20	324	0	0	0
92	SLV FO 12	-18	-20	324	0	0	0
92	SLV FO 13	-25	-11	240	0	0	0
92	SLV FO 14	-25	-10	239	0	0	0
92	SLV FO 15	-29	-17	271	0	0	0
92	SLV FO 16	-29	-17	270	0	0	0
93	SLU 1	-3	-4	182	0	0	0
93	SLU 2	-3	-4	181	0	0	0
93	SLU 3	-3	-4	187	0	0	0
93	SLU 4	-3	-4	186	0	0	0
93	SLU 5	-3	-4	184	0	0	0
93	SLU 6	-3	-4	190	0	0	0
93	SLU 7	-3	-4	189	0	0	0
93	SLU 8	-3	-4	188	0	0	0
93	SLU 9	-3	-4	187	0	0	0
93	SLU 10	-3	-4	207	0	0	0
93	SLU 11	-4	-4	212	0	0	0
93	SLU 12	-4	-4	212	0	0	0
93	SLU 13	-4	-4	210	0	0	0
93	SLU 14	-4	-4	215	0	0	0
93	SLU 15	-4	-4	215	0	0	0
93	SLU 16	-4	-4	214	0	0	0
93	SLU 17	-4	-4	213	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
93	SLU 18	-4	-5	219	0	0	0
93	SLU 19	-4	-5	218	0	0	0
93	SLU 20	-4	-4	222	0	0	0
93	SLU 21	-4	-4	221	0	0	0
93	SLU 22	-3	-4	212	0	0	0
93	SLU 23	-3	-4	211	0	0	0
93	SLU 24	-4	-4	216	0	0	0
93	SLU 25	-3	-4	215	0	0	0
93	SLU 26	-3	-4	214	0	0	0
93	SLU 27	-4	-4	219	0	0	0
93	SLU 28	-4	-3	218	0	0	0
93	SLU 29	-4	-4	217	0	0	0
93	SLU 30	-4	-3	217	0	0	0
93	SLU 31	-4	-4	236	0	0	0
93	SLU 32	-4	-4	242	0	0	0
93	SLU 33	-4	-4	241	0	0	0
93	SLU 34	-4	-4	239	0	0	0
93	SLU 35	-4	-4	245	0	0	0
93	SLU 36	-4	-4	244	0	0	0
93	SLU 37	-4	-4	243	0	0	0
93	SLU 38	-4	-4	242	0	0	0
93	SLU 39	-5	-4	248	0	0	0
93	SLU 40	-5	-4	248	0	0	0
93	SLU 41	-5	-4	251	0	0	0
93	SLU 42	-5	-4	250	0	0	0
93	SLU 43	-3	-6	227	0	0	0
93	SLU 44	-3	-6	226	0	0	0
93	SLU 45	-4	-6	231	0	0	0
93	SLU 46	-3	-6	231	0	0	0
93	SLU 47	-3	-5	229	0	0	0
93	SLU 48	-4	-5	234	0	0	0
93	SLU 49	-4	-5	234	0	0	0
93	SLU 50	-4	-5	233	0	0	0
93	SLU 51	-4	-5	232	0	0	0
93	SLU 52	-4	-6	251	0	0	0
93	SLU 53	-4	-6	257	0	0	0
93	SLU 54	-4	-6	256	0	0	0
93	SLU 55	-4	-6	254	0	0	0
93	SLU 56	-4	-6	260	0	0	0
93	SLU 57	-4	-6	259	0	0	0
93	SLU 58	-4	-6	258	0	0	0
93	SLU 59	-4	-6	258	0	0	0
93	SLU 60	-5	-6	263	0	0	0
93	SLU 61	-4	-6	263	0	0	0
93	SLU 62	-5	-6	266	0	0	0
93	SLU 63	-5	-6	266	0	0	0
93	SLU 64	-4	-5	256	0	0	0
93	SLU 65	-4	-5	255	0	0	0
93	SLU 66	-4	-5	261	0	0	0
93	SLU 67	-4	-5	260	0	0	0
93	SLU 68	-4	-5	258	0	0	0
93	SLU 69	-4	-5	264	0	0	0
93	SLU 70	-4	-5	263	0	0	0
93	SLU 71	-4	-5	262	0	0	0
93	SLU 72	-4	-5	261	0	0	0
93	SLU 73	-5	-5	281	0	0	0
93	SLU 74	-5	-5	286	0	0	0
93	SLU 75	-5	-5	286	0	0	0
93	SLU 76	-5	-5	284	0	0	0
93	SLU 77	-5	-5	289	0	0	0
93	SLU 78	-5	-5	289	0	0	0
93	SLU 79	-5	-5	288	0	0	0
93	SLU 80	-5	-5	287	0	0	0
93	SLU 81	-5	-6	293	0	0	0
93	SLU 82	-5	-6	292	0	0	0
93	SLU 83	-5	-6	296	0	0	0
93	SLU 84	-5	-5	295	0	0	0
93	SLE RA 1	-3	-4	191	0	0	0
93	SLE RA 2	-3	-4	190	0	0	0
93	SLE RA 3	-3	-4	194	0	0	0
93	SLE RA 4	-3	-4	193	0	0	0
93	SLE RA 5	-3	-4	192	0	0	0
93	SLE RA 6	-3	-4	195	0	0	0
93	SLE RA 7	-3	-4	195	0	0	0
93	SLE RA 8	-3	-4	194	0	0	0
93	SLE RA 9	-3	-4	194	0	0	0
93	SLE RA 10	-3	-4	207	0	0	0
93	SLE RA 11	-4	-4	211	0	0	0
93	SLE RA 12	-4	-4	210	0	0	0
93	SLE RA 13	-3	-4	209	0	0	0
93	SLE RA 14	-4	-4	213	0	0	0
93	SLE RA 15	-4	-4	212	0	0	0
93	SLE RA 16	-4	-4	212	0	0	0
93	SLE RA 17	-4	-4	211	0	0	0
93	SLE RA 18	-4	-4	215	0	0	0
93	SLE RA 19	-4	-4	215	0	0	0
93	SLE RA 20	-4	-4	217	0	0	0
93	SLE RA 21	-4	-4	216	0	0	0
93	SLE FR 1	-3	-4	191	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
93	SLE FR 2	-3	-4	190	0	0	0
93	SLE FR 3	-3	-4	191	0	0	0
93	SLE FR 4	-3	-4	198	0	0	0
93	SLE FR 5	-3	-4	199	0	0	0
93	SLE FR 6	-3	-4	203	0	0	0
93	SLE QP 1	-3	-4	191	0	0	0
93	SLE QP 2	-3	-4	198	0	0	0
93	SLD 1	7	-1	199	0	0	0
93	SLD 2	7	-1	198	0	0	0
93	SLD 3	5	-3	210	0	0	0
93	SLD 4	5	-3	210	0	0	0
93	SLD 5	2	0	180	0	0	0
93	SLD 6	2	1	180	0	0	0
93	SLD 7	-3	-8	219	0	0	0
93	SLD 8	-3	-8	219	0	0	0
93	SLD 9	-3	-1	176	0	0	0
93	SLD 10	-3	-1	176	0	0	0
93	SLD 11	-9	-9	216	0	0	0
93	SLD 12	-9	-9	215	0	0	0
93	SLD 13	-12	-6	186	0	0	0
93	SLD 14	-12	-5	185	0	0	0
93	SLD 15	-13	-8	197	0	0	0
93	SLD 16	-13	-8	197	0	0	0
93	SLV 1	13	1	199	0	0	0
93	SLV 2	13	2	198	0	0	0
93	SLV 3	10	-3	218	0	0	0
93	SLV 4	10	-3	217	0	0	0
93	SLV 5	5	3	169	0	0	0
93	SLV 6	5	4	169	0	0	0
93	SLV 7	-3	-10	233	0	0	0
93	SLV 8	-3	-10	233	0	0	0
93	SLV 9	-3	1	163	0	0	0
93	SLV 10	-3	1	163	0	0	0
93	SLV 11	-12	-12	227	0	0	0
93	SLV 12	-12	-12	226	0	0	0
93	SLV 13	-17	-6	178	0	0	0
93	SLV 14	-17	-6	178	0	0	0
93	SLV 15	-19	-10	197	0	0	0
93	SLV 16	-19	-10	197	0	0	0
93	SLV FO 1	14	2	199	0	0	0
93	SLV FO 2	14	2	198	0	0	0
93	SLV FO 3	12	-3	220	0	0	0
93	SLV FO 4	12	-2	219	0	0	0
93	SLV FO 5	6	4	166	0	0	0
93	SLV FO 6	6	4	166	0	0	0
93	SLV FO 7	-3	-11	236	0	0	0
93	SLV FO 8	-3	-10	236	0	0	0
93	SLV FO 9	-4	2	160	0	0	0
93	SLV FO 10	-3	2	160	0	0	0
93	SLV FO 11	-13	-13	229	0	0	0
93	SLV FO 12	-13	-13	229	0	0	0
93	SLV FO 13	-18	-6	176	0	0	0
93	SLV FO 14	-18	-6	176	0	0	0
93	SLV FO 15	-21	-11	197	0	0	0
93	SLV FO 16	-21	-10	197	0	0	0
94	SLU 1	-3	-4	196	0	0	0
94	SLU 2	-3	-4	195	0	0	0
94	SLU 3	-3	-4	201	0	0	0
94	SLU 4	-3	-4	200	0	0	0
94	SLU 5	-3	-3	198	0	0	0
94	SLU 6	-3	-4	204	0	0	0
94	SLU 7	-3	-3	203	0	0	0
94	SLU 8	-3	-4	202	0	0	0
94	SLU 9	-3	-3	202	0	0	0
94	SLU 10	-4	-4	222	0	0	0
94	SLU 11	-4	-4	228	0	0	0
94	SLU 12	-4	-4	227	0	0	0
94	SLU 13	-4	-4	225	0	0	0
94	SLU 14	-4	-4	231	0	0	0
94	SLU 15	-4	-4	230	0	0	0
94	SLU 16	-4	-4	229	0	0	0
94	SLU 17	-4	-4	229	0	0	0
94	SLU 18	-4	-4	235	0	0	0
94	SLU 19	-4	-4	234	0	0	0
94	SLU 20	-4	-4	238	0	0	0
94	SLU 21	-4	-4	237	0	0	0
94	SLU 22	-4	-3	227	0	0	0
94	SLU 23	-4	-3	226	0	0	0
94	SLU 24	-4	-3	232	0	0	0
94	SLU 25	-4	-3	232	0	0	0
94	SLU 26	-4	-3	230	0	0	0
94	SLU 27	-4	-3	235	0	0	0
94	SLU 28	-4	-3	235	0	0	0
94	SLU 29	-4	-3	234	0	0	0
94	SLU 30	-4	-3	233	0	0	0
94	SLU 31	-4	-3	254	0	0	0
94	SLU 32	-5	-3	259	0	0	0
94	SLU 33	-5	-3	259	0	0	0
94	SLU 34	-5	-3	257	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
94	SLU 35	-5	-3	263	0	0	0
94	SLU 36	-5	-3	262	0	0	0
94	SLU 37	-5	-3	261	0	0	0
94	SLU 38	-5	-3	260	0	0	0
94	SLU 39	-5	-4	266	0	0	0
94	SLU 40	-5	-3	266	0	0	0
94	SLU 41	-5	-3	269	0	0	0
94	SLU 42	-5	-3	269	0	0	0
94	SLU 43	-4	-5	244	0	0	0
94	SLU 44	-4	-5	243	0	0	0
94	SLU 45	-4	-5	249	0	0	0
94	SLU 46	-4	-5	248	0	0	0
94	SLU 47	-4	-5	246	0	0	0
94	SLU 48	-4	-5	252	0	0	0
94	SLU 49	-4	-5	251	0	0	0
94	SLU 50	-4	-5	250	0	0	0
94	SLU 51	-4	-5	249	0	0	0
94	SLU 52	-4	-5	270	0	0	0
94	SLU 53	-5	-5	276	0	0	0
94	SLU 54	-5	-5	275	0	0	0
94	SLU 55	-5	-5	273	0	0	0
94	SLU 56	-5	-5	279	0	0	0
94	SLU 57	-5	-5	278	0	0	0
94	SLU 58	-5	-5	277	0	0	0
94	SLU 59	-5	-5	277	0	0	0
94	SLU 60	-5	-5	283	0	0	0
94	SLU 61	-5	-5	282	0	0	0
94	SLU 62	-5	-5	286	0	0	0
94	SLU 63	-5	-5	285	0	0	0
94	SLU 64	-4	-5	275	0	0	0
94	SLU 65	-4	-4	274	0	0	0
94	SLU 66	-5	-5	280	0	0	0
94	SLU 67	-4	-4	279	0	0	0
94	SLU 68	-4	-4	277	0	0	0
94	SLU 69	-5	-4	283	0	0	0
94	SLU 70	-5	-4	283	0	0	0
94	SLU 71	-5	-4	282	0	0	0
94	SLU 72	-5	-4	281	0	0	0
94	SLU 73	-5	-5	302	0	0	0
94	SLU 74	-5	-5	307	0	0	0
94	SLU 75	-5	-5	307	0	0	0
94	SLU 76	-5	-4	305	0	0	0
94	SLU 77	-6	-4	311	0	0	0
94	SLU 78	-5	-4	310	0	0	0
94	SLU 79	-6	-4	309	0	0	0
94	SLU 80	-5	-4	308	0	0	0
94	SLU 81	-6	-5	314	0	0	0
94	SLU 82	-6	-5	314	0	0	0
94	SLU 83	-6	-5	317	0	0	0
94	SLU 84	-6	-5	317	0	0	0
94	SLE RA 1	-3	-4	205	0	0	0
94	SLE RA 2	-3	-4	204	0	0	0
94	SLE RA 3	-3	-4	208	0	0	0
94	SLE RA 4	-3	-4	208	0	0	0
94	SLE RA 5	-3	-3	206	0	0	0
94	SLE RA 6	-3	-3	210	0	0	0
94	SLE RA 7	-3	-3	210	0	0	0
94	SLE RA 8	-3	-3	209	0	0	0
94	SLE RA 9	-3	-3	209	0	0	0
94	SLE RA 10	-4	-4	222	0	0	0
94	SLE RA 11	-4	-4	226	0	0	0
94	SLE RA 12	-4	-4	226	0	0	0
94	SLE RA 13	-4	-4	224	0	0	0
94	SLE RA 14	-4	-4	228	0	0	0
94	SLE RA 15	-4	-3	228	0	0	0
94	SLE RA 16	-4	-4	227	0	0	0
94	SLE RA 17	-4	-4	227	0	0	0
94	SLE RA 18	-4	-4	231	0	0	0
94	SLE RA 19	-4	-4	230	0	0	0
94	SLE RA 20	-4	-4	233	0	0	0
94	SLE RA 21	-4	-4	233	0	0	0
94	SLE FR 1	-3	-4	205	0	0	0
94	SLE FR 2	-3	-4	205	0	0	0
94	SLE FR 3	-3	-4	206	0	0	0
94	SLE FR 4	-3	-4	212	0	0	0
94	SLE FR 5	-4	-4	213	0	0	0
94	SLE FR 6	-4	-4	218	0	0	0
94	SLE QP 1	-3	-4	205	0	0	0
94	SLE QP 2	-3	-4	213	0	0	0
94	SLD 1	8	-1	211	0	0	0
94	SLD 2	8	0	210	0	0	0
94	SLD 3	6	-3	223	0	0	0
94	SLD 4	6	-3	223	0	0	0
94	SLD 5	2	1	194	0	0	0
94	SLD 6	2	1	194	0	0	0
94	SLD 7	-3	-8	234	0	0	0
94	SLD 8	-3	-7	234	0	0	0
94	SLD 9	-4	0	191	0	0	0
94	SLD 10	-4	0	191	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
94	SLD 11	-9	-9	232	0	0	0
94	SLD 12	-9	-9	232	0	0	0
94	SLD 13	-13	-5	203	0	0	0
94	SLD 14	-13	-4	202	0	0	0
94	SLD 15	-15	-8	215	0	0	0
94	SLD 16	-14	-7	215	0	0	0
94	SLV 1	14	1	209	0	0	0
94	SLV 2	14	2	209	0	0	0
94	SLV 3	11	-3	229	0	0	0
94	SLV 4	11	-2	229	0	0	0
94	SLV 5	6	4	182	0	0	0
94	SLV 6	6	5	182	0	0	0
94	SLV 7	-3	-10	247	0	0	0
94	SLV 8	-3	-10	247	0	0	0
94	SLV 9	-4	2	178	0	0	0
94	SLV 10	-4	3	178	0	0	0
94	SLV 11	-13	-12	243	0	0	0
94	SLV 12	-13	-12	243	0	0	0
94	SLV 13	-18	-6	197	0	0	0
94	SLV 14	-18	-5	196	0	0	0
94	SLV 15	-21	-10	216	0	0	0
94	SLV 16	-21	-9	216	0	0	0
94	SLV FO 1	16	2	209	0	0	0
94	SLV FO 2	16	3	209	0	0	0
94	SLV FO 3	13	-3	230	0	0	0
94	SLV FO 4	13	-2	230	0	0	0
94	SLV FO 5	7	5	179	0	0	0
94	SLV FO 6	7	6	179	0	0	0
94	SLV FO 7	-3	-11	251	0	0	0
94	SLV FO 8	-3	-10	250	0	0	0
94	SLV FO 9	-4	3	175	0	0	0
94	SLV FO 10	-4	3	175	0	0	0
94	SLV FO 11	-14	-13	246	0	0	0
94	SLV FO 12	-14	-12	246	0	0	0
94	SLV FO 13	-20	-6	195	0	0	0
94	SLV FO 14	-20	-5	195	0	0	0
94	SLV FO 15	-23	-10	217	0	0	0
94	SLV FO 16	-23	-10	216	0	0	0
95	SLU 1	-4	-4	240	0	0	0
95	SLU 2	-4	-4	239	0	0	0
95	SLU 3	-4	-4	246	0	0	0
95	SLU 4	-4	-3	245	0	0	0
95	SLU 5	-4	-3	243	0	0	0
95	SLU 6	-4	-3	250	0	0	0
95	SLU 7	-4	-3	249	0	0	0
95	SLU 8	-4	-3	248	0	0	0
95	SLU 9	-4	-3	247	0	0	0
95	SLU 10	-5	-4	272	0	0	0
95	SLU 11	-5	-4	279	0	0	0
95	SLU 12	-5	-3	278	0	0	0
95	SLU 13	-5	-3	276	0	0	0
95	SLU 14	-5	-3	283	0	0	0
95	SLU 15	-5	-3	282	0	0	0
95	SLU 16	-5	-3	281	0	0	0
95	SLU 17	-5	-3	280	0	0	0
95	SLU 18	-5	-4	288	0	0	0
95	SLU 19	-5	-4	287	0	0	0
95	SLU 20	-5	-4	291	0	0	0
95	SLU 21	-5	-4	291	0	0	0
95	SLU 22	-5	-3	279	0	0	0
95	SLU 23	-4	-3	277	0	0	0
95	SLU 24	-5	-3	284	0	0	0
95	SLU 25	-5	-3	284	0	0	0
95	SLU 26	-5	-3	281	0	0	0
95	SLU 27	-5	-3	288	0	0	0
95	SLU 28	-5	-2	288	0	0	0
95	SLU 29	-5	-3	286	0	0	0
95	SLU 30	-5	-2	285	0	0	0
95	SLU 31	-6	-3	311	0	0	0
95	SLU 32	-6	-3	318	0	0	0
95	SLU 33	-6	-3	317	0	0	0
95	SLU 34	-6	-3	315	0	0	0
95	SLU 35	-6	-3	321	0	0	0
95	SLU 36	-6	-2	321	0	0	0
95	SLU 37	-6	-3	319	0	0	0
95	SLU 38	-6	-3	319	0	0	0
95	SLU 39	-6	-3	326	0	0	0
95	SLU 40	-6	-3	325	0	0	0
95	SLU 41	-6	-3	330	0	0	0
95	SLU 42	-6	-3	329	0	0	0
95	SLU 43	-5	-5	299	0	0	0
95	SLU 44	-4	-5	298	0	0	0
95	SLU 45	-5	-5	305	0	0	0
95	SLU 46	-5	-5	304	0	0	0
95	SLU 47	-5	-5	302	0	0	0
95	SLU 48	-5	-5	308	0	0	0
95	SLU 49	-5	-5	308	0	0	0
95	SLU 50	-5	-5	306	0	0	0
95	SLU 51	-5	-5	306	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
95	SLU 52	-5	-5	331	0	0	0
95	SLU 53	-6	-5	338	0	0	0
95	SLU 54	-6	-5	337	0	0	0
95	SLU 55	-6	-5	335	0	0	0
95	SLU 56	-6	-5	342	0	0	0
95	SLU 57	-6	-5	341	0	0	0
95	SLU 58	-6	-5	340	0	0	0
95	SLU 59	-6	-5	339	0	0	0
95	SLU 60	-6	-5	346	0	0	0
95	SLU 61	-6	-5	346	0	0	0
95	SLU 62	-6	-5	350	0	0	0
95	SLU 63	-6	-5	349	0	0	0
95	SLU 64	-5	-4	337	0	0	0
95	SLU 65	-5	-4	336	0	0	0
95	SLU 66	-6	-4	343	0	0	0
95	SLU 67	-6	-4	342	0	0	0
95	SLU 68	-5	-4	340	0	0	0
95	SLU 69	-6	-4	347	0	0	0
95	SLU 70	-6	-4	346	0	0	0
95	SLU 71	-6	-4	345	0	0	0
95	SLU 72	-6	-4	344	0	0	0
95	SLU 73	-6	-4	370	0	0	0
95	SLU 74	-7	-4	376	0	0	0
95	SLU 75	-7	-4	376	0	0	0
95	SLU 76	-7	-4	373	0	0	0
95	SLU 77	-7	-4	380	0	0	0
95	SLU 78	-7	-4	380	0	0	0
95	SLU 79	-7	-4	378	0	0	0
95	SLU 80	-7	-4	378	0	0	0
95	SLU 81	-7	-5	385	0	0	0
95	SLU 82	-7	-4	384	0	0	0
95	SLU 83	-7	-4	389	0	0	0
95	SLU 84	-7	-4	388	0	0	0
95	SLE RA 1	-4	-4	251	0	0	0
95	SLE RA 2	-4	-3	250	0	0	0
95	SLE RA 3	-4	-3	255	0	0	0
95	SLE RA 4	-4	-3	254	0	0	0
95	SLE RA 5	-4	-3	253	0	0	0
95	SLE RA 6	-4	-3	257	0	0	0
95	SLE RA 7	-4	-3	257	0	0	0
95	SLE RA 8	-4	-3	256	0	0	0
95	SLE RA 9	-4	-3	256	0	0	0
95	SLE RA 10	-5	-3	272	0	0	0
95	SLE RA 11	-5	-3	277	0	0	0
95	SLE RA 12	-5	-3	277	0	0	0
95	SLE RA 13	-5	-3	275	0	0	0
95	SLE RA 14	-5	-3	280	0	0	0
95	SLE RA 15	-5	-3	279	0	0	0
95	SLE RA 16	-5	-3	278	0	0	0
95	SLE RA 17	-5	-3	278	0	0	0
95	SLE RA 18	-5	-4	283	0	0	0
95	SLE RA 19	-5	-4	282	0	0	0
95	SLE RA 20	-5	-4	285	0	0	0
95	SLE RA 21	-5	-3	285	0	0	0
95	SLE FR 1	-4	-4	251	0	0	0
95	SLE FR 2	-4	-4	251	0	0	0
95	SLE FR 3	-4	-4	252	0	0	0
95	SLE FR 4	-4	-4	260	0	0	0
95	SLE FR 5	-4	-4	262	0	0	0
95	SLE FR 6	-5	-4	267	0	0	0
95	SLE QP 1	-4	-4	251	0	0	0
95	SLE QP 2	-4	-4	261	0	0	0
95	SLD 1	9	0	255	0	0	0
95	SLD 2	9	1	255	0	0	0
95	SLD 3	7	-3	269	0	0	0
95	SLD 4	7	-2	269	0	0	0
95	SLD 5	3	2	238	0	0	0
95	SLD 6	3	3	237	0	0	0
95	SLD 7	-4	-8	284	0	0	0
95	SLD 8	-4	-8	284	0	0	0
95	SLD 9	-5	1	237	0	0	0
95	SLD 10	-5	1	237	0	0	0
95	SLD 11	-12	-10	284	0	0	0
95	SLD 12	-12	-9	283	0	0	0
95	SLD 13	-16	-5	252	0	0	0
95	SLD 14	-16	-4	252	0	0	0
95	SLD 15	-18	-8	266	0	0	0
95	SLD 16	-18	-7	266	0	0	0
95	SLV 1	17	2	252	0	0	0
95	SLV 2	17	4	251	0	0	0
95	SLV 3	14	-3	274	0	0	0
95	SLV 4	14	-2	274	0	0	0
95	SLV 5	7	6	223	0	0	0
95	SLV 6	7	7	223	0	0	0
95	SLV 7	-4	-12	299	0	0	0
95	SLV 8	-4	-11	299	0	0	0
95	SLV 9	-5	3	222	0	0	0
95	SLV 10	-5	4	222	0	0	0
95	SLV 11	-16	-14	298	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
95	SLV 12	-16	-13	298	0	0	0
95	SLV 13	-22	-6	247	0	0	0
95	SLV 14	-22	-4	247	0	0	0
95	SLV 15	-26	-11	270	0	0	0
95	SLV 16	-26	-9	270	0	0	0
95	SLV FO 1	19	3	251	0	0	0
95	SLV FO 2	19	4	250	0	0	0
95	SLV FO 3	16	-3	276	0	0	0
95	SLV FO 4	16	-1	275	0	0	0
95	SLV FO 5	8	7	220	0	0	0
95	SLV FO 6	8	8	219	0	0	0
95	SLV FO 7	-4	-12	303	0	0	0
95	SLV FO 8	-4	-11	303	0	0	0
95	SLV FO 9	-5	4	218	0	0	0
95	SLV FO 10	-5	5	218	0	0	0
95	SLV FO 11	-17	-15	302	0	0	0
95	SLV FO 12	-17	-14	301	0	0	0
95	SLV FO 13	-24	-6	246	0	0	0
95	SLV FO 14	-24	-4	245	0	0	0
95	SLV FO 15	-28	-12	271	0	0	0
95	SLV FO 16	-28	-10	270	0	0	0
96	SLU 1	-5	-4	304	0	0	0
96	SLU 2	-5	-3	302	0	0	0
96	SLU 3	-5	-3	311	0	0	0
96	SLU 4	-5	-3	310	0	0	0
96	SLU 5	-5	-3	307	0	0	0
96	SLU 6	-5	-3	316	0	0	0
96	SLU 7	-5	-3	315	0	0	0
96	SLU 8	-5	-3	313	0	0	0
96	SLU 9	-5	-3	312	0	0	0
96	SLU 10	-6	-3	344	0	0	0
96	SLU 11	-6	-3	353	0	0	0
96	SLU 12	-6	-3	352	0	0	0
96	SLU 13	-6	-3	349	0	0	0
96	SLU 14	-7	-3	357	0	0	0
96	SLU 15	-6	-3	357	0	0	0
96	SLU 16	-7	-3	355	0	0	0
96	SLU 17	-6	-3	354	0	0	0
96	SLU 18	-7	-4	363	0	0	0
96	SLU 19	-7	-3	362	0	0	0
96	SLU 20	-7	-3	368	0	0	0
96	SLU 21	-7	-3	367	0	0	0
96	SLU 22	-6	-2	352	0	0	0
96	SLU 23	-6	-2	351	0	0	0
96	SLU 24	-6	-2	359	0	0	0
96	SLU 25	-6	-2	359	0	0	0
96	SLU 26	-6	-2	356	0	0	0
96	SLU 27	-6	-2	364	0	0	0
96	SLU 28	-6	-2	363	0	0	0
96	SLU 29	-6	-2	362	0	0	0
96	SLU 30	-6	-2	361	0	0	0
96	SLU 31	-7	-2	393	0	0	0
96	SLU 32	-8	-2	401	0	0	0
96	SLU 33	-7	-2	400	0	0	0
96	SLU 34	-7	-2	397	0	0	0
96	SLU 35	-8	-2	406	0	0	0
96	SLU 36	-8	-2	405	0	0	0
96	SLU 37	-8	-2	403	0	0	0
96	SLU 38	-8	-2	403	0	0	0
96	SLU 39	-8	-2	412	0	0	0
96	SLU 40	-8	-2	411	0	0	0
96	SLU 41	-8	-2	417	0	0	0
96	SLU 42	-8	-2	416	0	0	0
96	SLU 43	-6	-5	378	0	0	0
96	SLU 44	-6	-5	377	0	0	0
96	SLU 45	-6	-5	385	0	0	0
96	SLU 46	-6	-5	384	0	0	0
96	SLU 47	-6	-4	381	0	0	0
96	SLU 48	-6	-4	390	0	0	0
96	SLU 49	-6	-4	389	0	0	0
96	SLU 50	-6	-5	387	0	0	0
96	SLU 51	-6	-4	387	0	0	0
96	SLU 52	-7	-5	418	0	0	0
96	SLU 53	-7	-5	427	0	0	0
96	SLU 54	-7	-5	426	0	0	0
96	SLU 55	-7	-4	423	0	0	0
96	SLU 56	-8	-4	432	0	0	0
96	SLU 57	-8	-4	431	0	0	0
96	SLU 58	-8	-4	429	0	0	0
96	SLU 59	-8	-4	428	0	0	0
96	SLU 60	-8	-5	438	0	0	0
96	SLU 61	-8	-5	437	0	0	0
96	SLU 62	-8	-5	442	0	0	0
96	SLU 63	-8	-5	442	0	0	0
96	SLU 64	-7	-4	426	0	0	0
96	SLU 65	-7	-4	425	0	0	0
96	SLU 66	-7	-4	434	0	0	0
96	SLU 67	-7	-3	433	0	0	0
96	SLU 68	-7	-3	430	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
96	SLU 69	-7	-3	439	0	0	0
96	SLU 70	-7	-3	438	0	0	0
96	SLU 71	-7	-3	436	0	0	0
96	SLU 72	-7	-3	435	0	0	0
96	SLU 73	-8	-4	467	0	0	0
96	SLU 74	-9	-4	476	0	0	0
96	SLU 75	-8	-3	475	0	0	0
96	SLU 76	-8	-3	472	0	0	0
96	SLU 77	-9	-3	480	0	0	0
96	SLU 78	-9	-3	480	0	0	0
96	SLU 79	-9	-3	478	0	0	0
96	SLU 80	-9	-3	477	0	0	0
96	SLU 81	-9	-4	486	0	0	0
96	SLU 82	-9	-4	485	0	0	0
96	SLU 83	-9	-4	491	0	0	0
96	SLU 84	-9	-3	490	0	0	0
96	SLE RA 1	-5	-3	317	0	0	0
96	SLE RA 2	-5	-3	317	0	0	0
96	SLE RA 3	-5	-3	322	0	0	0
96	SLE RA 4	-5	-3	322	0	0	0
96	SLE RA 5	-5	-3	320	0	0	0
96	SLE RA 6	-5	-3	325	0	0	0
96	SLE RA 7	-5	-3	325	0	0	0
96	SLE RA 8	-5	-3	324	0	0	0
96	SLE RA 9	-5	-3	323	0	0	0
96	SLE RA 10	-6	-3	344	0	0	0
96	SLE RA 11	-6	-3	350	0	0	0
96	SLE RA 12	-6	-3	350	0	0	0
96	SLE RA 13	-6	-3	348	0	0	0
96	SLE RA 14	-6	-3	353	0	0	0
96	SLE RA 15	-6	-3	353	0	0	0
96	SLE RA 16	-6	-3	352	0	0	0
96	SLE RA 17	-6	-3	351	0	0	0
96	SLE RA 18	-6	-3	357	0	0	0
96	SLE RA 19	-6	-3	357	0	0	0
96	SLE RA 20	-7	-3	360	0	0	0
96	SLE RA 21	-7	-3	360	0	0	0
96	SLE FR 1	-5	-3	317	0	0	0
96	SLE FR 2	-5	-3	317	0	0	0
96	SLE FR 3	-5	-3	319	0	0	0
96	SLE FR 4	-6	-3	329	0	0	0
96	SLE FR 5	-6	-3	331	0	0	0
96	SLE FR 6	-6	-3	337	0	0	0
96	SLE QP 1	-5	-3	317	0	0	0
96	SLE QP 2	-6	-3	329	0	0	0
96	SLD 1	12	1	317	0	0	0
96	SLD 2	12	2	317	0	0	0
96	SLD 3	9	-3	334	0	0	0
96	SLD 4	9	-2	334	0	0	0
96	SLD 5	4	4	300	0	0	0
96	SLD 6	4	5	300	0	0	0
96	SLD 7	-5	-10	356	0	0	0
96	SLD 8	-5	-9	356	0	0	0
96	SLD 9	-6	2	303	0	0	0
96	SLD 10	-6	3	302	0	0	0
96	SLD 11	-15	-11	359	0	0	0
96	SLD 12	-15	-10	358	0	0	0
96	SLD 13	-20	-5	325	0	0	0
96	SLD 14	-20	-3	325	0	0	0
96	SLD 15	-23	-9	342	0	0	0
96	SLD 16	-23	-7	341	0	0	0
96	SLV 1	22	3	310	0	0	0
96	SLV 2	22	6	310	0	0	0
96	SLV 3	18	-3	337	0	0	0
96	SLV 4	18	-1	337	0	0	0
96	SLV 5	9	8	282	0	0	0
96	SLV 6	9	10	282	0	0	0
96	SLV 7	-5	-14	373	0	0	0
96	SLV 8	-5	-12	373	0	0	0
96	SLV 9	-6	5	286	0	0	0
96	SLV 10	-6	7	286	0	0	0
96	SLV 11	-20	-16	376	0	0	0
96	SLV 12	-20	-15	376	0	0	0
96	SLV 13	-29	-6	322	0	0	0
96	SLV 14	-29	-3	322	0	0	0
96	SLV 15	-33	-12	349	0	0	0
96	SLV 16	-33	-10	349	0	0	0
96	SLV FO 1	25	4	308	0	0	0
96	SLV FO 2	25	6	308	0	0	0
96	SLV FO 3	20	-3	338	0	0	0
96	SLV FO 4	20	-1	337	0	0	0
96	SLV FO 5	11	9	278	0	0	0
96	SLV FO 6	11	11	277	0	0	0
96	SLV FO 7	-5	-15	377	0	0	0
96	SLV FO 8	-5	-13	377	0	0	0
96	SLV FO 9	-6	6	282	0	0	0
96	SLV FO 10	-6	8	281	0	0	0
96	SLV FO 11	-22	-18	381	0	0	0
96	SLV FO 12	-22	-16	381	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
96	SLV FO 13	-31	-6	321	0	0	0
96	SLV FO 14	-31	-3	321	0	0	0
96	SLV FO 15	-36	-13	351	0	0	0
96	SLV FO 16	-36	-10	351	0	0	0
97	SLU 1	-6	-3	354	0	0	0
97	SLU 2	-5	-2	353	0	0	0
97	SLU 3	-6	-2	363	0	0	0
97	SLU 4	-6	-2	362	0	0	0
97	SLU 5	-6	-2	358	0	0	0
97	SLU 6	-6	-2	368	0	0	0
97	SLU 7	-6	-2	367	0	0	0
97	SLU 8	-6	-2	365	0	0	0
97	SLU 9	-6	-2	364	0	0	0
97	SLU 10	-7	-2	401	0	0	0
97	SLU 11	-8	-2	411	0	0	0
97	SLU 12	-7	-2	410	0	0	0
97	SLU 13	-7	-2	407	0	0	0
97	SLU 14	-8	-2	417	0	0	0
97	SLU 15	-8	-2	416	0	0	0
97	SLU 16	-8	-2	414	0	0	0
97	SLU 17	-8	-2	413	0	0	0
97	SLU 18	-8	-3	424	0	0	0
97	SLU 19	-8	-2	423	0	0	0
97	SLU 20	-8	-2	429	0	0	0
97	SLU 21	-8	-2	428	0	0	0
97	SLU 22	-7	-1	411	0	0	0
97	SLU 23	-7	-1	409	0	0	0
97	SLU 24	-7	-1	419	0	0	0
97	SLU 25	-7	-1	418	0	0	0
97	SLU 26	-7	0	415	0	0	0
97	SLU 27	-8	0	425	0	0	0
97	SLU 28	-7	0	424	0	0	0
97	SLU 29	-7	-1	422	0	0	0
97	SLU 30	-7	0	421	0	0	0
97	SLU 31	-8	-1	458	0	0	0
97	SLU 32	-9	-1	468	0	0	0
97	SLU 33	-9	0	467	0	0	0
97	SLU 34	-9	0	463	0	0	0
97	SLU 35	-9	0	473	0	0	0
97	SLU 36	-9	0	472	0	0	0
97	SLU 37	-9	0	470	0	0	0
97	SLU 38	-9	0	469	0	0	0
97	SLU 39	-9	-1	480	0	0	0
97	SLU 40	-9	-1	479	0	0	0
97	SLU 41	-10	-1	485	0	0	0
97	SLU 42	-9	0	485	0	0	0
97	SLU 43	-7	-4	441	0	0	0
97	SLU 44	-7	-4	440	0	0	0
97	SLU 45	-7	-4	450	0	0	0
97	SLU 46	-7	-3	449	0	0	0
97	SLU 47	-7	-3	445	0	0	0
97	SLU 48	-7	-3	455	0	0	0
97	SLU 49	-7	-3	454	0	0	0
97	SLU 50	-7	-3	452	0	0	0
97	SLU 51	-7	-3	451	0	0	0
97	SLU 52	-8	-4	488	0	0	0
97	SLU 53	-9	-4	498	0	0	0
97	SLU 54	-9	-3	497	0	0	0
97	SLU 55	-9	-3	494	0	0	0
97	SLU 56	-9	-3	504	0	0	0
97	SLU 57	-9	-3	503	0	0	0
97	SLU 58	-9	-3	501	0	0	0
97	SLU 59	-9	-3	500	0	0	0
97	SLU 60	-9	-4	510	0	0	0
97	SLU 61	-9	-4	510	0	0	0
97	SLU 62	-10	-4	516	0	0	0
97	SLU 63	-9	-3	515	0	0	0
97	SLU 64	-8	-3	498	0	0	0
97	SLU 65	-8	-2	496	0	0	0
97	SLU 66	-9	-2	506	0	0	0
97	SLU 67	-8	-2	505	0	0	0
97	SLU 68	-8	-2	502	0	0	0
97	SLU 69	-9	-2	512	0	0	0
97	SLU 70	-9	-2	511	0	0	0
97	SLU 71	-9	-2	509	0	0	0
97	SLU 72	-9	-2	508	0	0	0
97	SLU 73	-10	-2	545	0	0	0
97	SLU 74	-10	-2	555	0	0	0
97	SLU 75	-10	-2	554	0	0	0
97	SLU 76	-10	-2	550	0	0	0
97	SLU 77	-10	-2	560	0	0	0
97	SLU 78	-10	-1	559	0	0	0
97	SLU 79	-10	-2	557	0	0	0
97	SLU 80	-10	-1	556	0	0	0
97	SLU 81	-11	-2	567	0	0	0
97	SLU 82	-10	-2	566	0	0	0
97	SLU 83	-11	-2	572	0	0	0
97	SLU 84	-11	-2	572	0	0	0
97	SLE RA 1	-6	-2	370	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
97	SLE RA 2	-6	-2	369	0	0	0
97	SLE RA 3	-6	-2	376	0	0	0
97	SLE RA 4	-6	-2	376	0	0	0
97	SLE RA 5	-6	-2	373	0	0	0
97	SLE RA 6	-6	-2	380	0	0	0
97	SLE RA 7	-6	-2	379	0	0	0
97	SLE RA 8	-6	-2	378	0	0	0
97	SLE RA 9	-6	-2	377	0	0	0
97	SLE RA 10	-7	-2	402	0	0	0
97	SLE RA 11	-7	-2	408	0	0	0
97	SLE RA 12	-7	-2	408	0	0	0
97	SLE RA 13	-7	-2	405	0	0	0
97	SLE RA 14	-8	-2	412	0	0	0
97	SLE RA 15	-7	-2	411	0	0	0
97	SLE RA 16	-7	-2	410	0	0	0
97	SLE RA 17	-7	-2	410	0	0	0
97	SLE RA 18	-8	-2	417	0	0	0
97	SLE RA 19	-8	-2	416	0	0	0
97	SLE RA 20	-8	-2	420	0	0	0
97	SLE RA 21	-8	-2	420	0	0	0
97	SLE FR 1	-6	-2	370	0	0	0
97	SLE FR 2	-6	-2	370	0	0	0
97	SLE FR 3	-6	-2	372	0	0	0
97	SLE FR 4	-7	-2	384	0	0	0
97	SLE FR 5	-7	-2	386	0	0	0
97	SLE FR 6	-7	-2	394	0	0	0
97	SLE QP 1	-6	-2	370	0	0	0
97	SLE QP 2	-7	-2	384	0	0	0
97	SLD 1	14	2	365	0	0	0
97	SLD 2	14	4	365	0	0	0
97	SLD 3	11	-3	383	0	0	0
97	SLD 4	11	-1	383	0	0	0
97	SLD 5	4	5	350	0	0	0
97	SLD 6	4	7	350	0	0	0
97	SLD 7	-6	-10	412	0	0	0
97	SLD 8	-6	-8	412	0	0	0
97	SLD 9	-7	4	357	0	0	0
97	SLD 10	-7	5	356	0	0	0
97	SLD 11	-18	-11	418	0	0	0
97	SLD 12	-17	-10	418	0	0	0
97	SLD 13	-24	-4	385	0	0	0
97	SLD 14	-24	-2	385	0	0	0
97	SLD 15	-27	-9	404	0	0	0
97	SLD 16	-27	-6	404	0	0	0
97	SLV 1	26	4	353	0	0	0
97	SLV 2	26	8	353	0	0	0
97	SLV 3	21	-3	383	0	0	0
97	SLV 4	21	0	383	0	0	0
97	SLV 5	11	10	330	0	0	0
97	SLV 6	11	13	329	0	0	0
97	SLV 7	-6	-15	429	0	0	0
97	SLV 8	-6	-12	429	0	0	0
97	SLV 9	-7	8	339	0	0	0
97	SLV 10	-7	10	339	0	0	0
97	SLV 11	-24	-17	439	0	0	0
97	SLV 12	-24	-15	439	0	0	0
97	SLV 13	-34	-5	386	0	0	0
97	SLV 14	-34	-2	385	0	0	0
97	SLV 15	-39	-12	416	0	0	0
97	SLV 16	-39	-9	415	0	0	0
97	SLV FO 1	29	5	350	0	0	0
97	SLV FO 2	29	9	350	0	0	0
97	SLV FO 3	24	-3	383	0	0	0
97	SLV FO 4	24	0	383	0	0	0
97	SLV FO 5	13	12	324	0	0	0
97	SLV FO 6	13	14	324	0	0	0
97	SLV FO 7	-6	-16	434	0	0	0
97	SLV FO 8	-6	-13	434	0	0	0
97	SLV FO 9	-7	9	335	0	0	0
97	SLV FO 10	-7	11	335	0	0	0
97	SLV FO 11	-26	-19	445	0	0	0
97	SLV FO 12	-26	-16	444	0	0	0
97	SLV FO 13	-37	-5	386	0	0	0
97	SLV FO 14	-37	-1	385	0	0	0
97	SLV FO 15	-42	-13	419	0	0	0
97	SLV FO 16	-42	-10	418	0	0	0
98	SLU 1	-3	0	196	0	0	0
98	SLU 2	-3	0	195	0	0	0
98	SLU 3	-3	0	201	0	0	0
98	SLU 4	-3	0	200	0	0	0
98	SLU 5	-3	0	198	0	0	0
98	SLU 6	-3	0	204	0	0	0
98	SLU 7	-3	0	203	0	0	0
98	SLU 8	-3	0	202	0	0	0
98	SLU 9	-3	0	202	0	0	0
98	SLU 10	-4	0	222	0	0	0
98	SLU 11	-4	0	227	0	0	0
98	SLU 12	-4	0	227	0	0	0
98	SLU 13	-4	0	225	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
98	SLU 14	-4	0	230	0	0	0
98	SLU 15	-4	0	230	0	0	0
98	SLU 16	-4	0	229	0	0	0
98	SLU 17	-4	0	228	0	0	0
98	SLU 18	-5	0	234	0	0	0
98	SLU 19	-4	0	234	0	0	0
98	SLU 20	-5	0	237	0	0	0
98	SLU 21	-5	0	237	0	0	0
98	SLU 22	-4	1	227	0	0	0
98	SLU 23	-4	1	227	0	0	0
98	SLU 24	-4	1	232	0	0	0
98	SLU 25	-4	1	231	0	0	0
98	SLU 26	-4	1	230	0	0	0
98	SLU 27	-4	1	235	0	0	0
98	SLU 28	-4	1	234	0	0	0
98	SLU 29	-4	1	233	0	0	0
98	SLU 30	-4	1	233	0	0	0
98	SLU 31	-5	1	253	0	0	0
98	SLU 32	-5	1	258	0	0	0
98	SLU 33	-5	1	258	0	0	0
98	SLU 34	-5	1	256	0	0	0
98	SLU 35	-5	1	261	0	0	0
98	SLU 36	-5	1	261	0	0	0
98	SLU 37	-5	1	260	0	0	0
98	SLU 38	-5	1	259	0	0	0
98	SLU 39	-5	1	265	0	0	0
98	SLU 40	-5	1	265	0	0	0
98	SLU 41	-5	1	268	0	0	0
98	SLU 42	-5	1	268	0	0	0
98	SLU 43	-4	-1	244	0	0	0
98	SLU 44	-4	-1	244	0	0	0
98	SLU 45	-4	-1	249	0	0	0
98	SLU 46	-4	-1	249	0	0	0
98	SLU 47	-4	-1	247	0	0	0
98	SLU 48	-4	0	252	0	0	0
98	SLU 49	-4	0	252	0	0	0
98	SLU 50	-4	-1	250	0	0	0
98	SLU 51	-4	0	250	0	0	0
98	SLU 52	-5	-1	270	0	0	0
98	SLU 53	-5	0	276	0	0	0
98	SLU 54	-5	0	275	0	0	0
98	SLU 55	-5	0	273	0	0	0
98	SLU 56	-5	0	279	0	0	0
98	SLU 57	-5	0	278	0	0	0
98	SLU 58	-5	0	277	0	0	0
98	SLU 59	-5	0	276	0	0	0
98	SLU 60	-5	-1	282	0	0	0
98	SLU 61	-5	-1	282	0	0	0
98	SLU 62	-5	0	285	0	0	0
98	SLU 63	-5	0	285	0	0	0
98	SLU 64	-5	0	275	0	0	0
98	SLU 65	-5	0	275	0	0	0
98	SLU 66	-5	0	280	0	0	0
98	SLU 67	-5	0	280	0	0	0
98	SLU 68	-5	0	278	0	0	0
98	SLU 69	-5	1	283	0	0	0
98	SLU 70	-5	1	283	0	0	0
98	SLU 71	-5	0	281	0	0	0
98	SLU 72	-5	1	281	0	0	0
98	SLU 73	-5	0	301	0	0	0
98	SLU 74	-6	1	307	0	0	0
98	SLU 75	-6	1	306	0	0	0
98	SLU 76	-6	1	304	0	0	0
98	SLU 77	-6	1	310	0	0	0
98	SLU 78	-6	1	309	0	0	0
98	SLU 79	-6	1	308	0	0	0
98	SLU 80	-6	1	308	0	0	0
98	SLU 81	-6	0	313	0	0	0
98	SLU 82	-6	0	313	0	0	0
98	SLU 83	-6	1	316	0	0	0
98	SLU 84	-6	1	316	0	0	0
98	SLE RA 1	-3	0	205	0	0	0
98	SLE RA 2	-3	0	205	0	0	0
98	SLE RA 3	-4	0	208	0	0	0
98	SLE RA 4	-3	0	208	0	0	0
98	SLE RA 5	-3	0	207	0	0	0
98	SLE RA 6	-4	0	210	0	0	0
98	SLE RA 7	-4	0	210	0	0	0
98	SLE RA 8	-4	0	209	0	0	0
98	SLE RA 9	-4	0	209	0	0	0
98	SLE RA 10	-4	0	222	0	0	0
98	SLE RA 11	-4	0	226	0	0	0
98	SLE RA 12	-4	0	226	0	0	0
98	SLE RA 13	-4	0	224	0	0	0
98	SLE RA 14	-4	0	228	0	0	0
98	SLE RA 15	-4	0	228	0	0	0
98	SLE RA 16	-4	0	227	0	0	0
98	SLE RA 17	-4	0	226	0	0	0
98	SLE RA 18	-4	0	230	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
98	SLE RA 19	-4	0	230	0	0	0
98	SLE RA 20	-4	0	232	0	0	0
98	SLE RA 21	-4	0	232	0	0	0
98	SLE FR 1	-3	0	205	0	0	0
98	SLE FR 2	-3	0	205	0	0	0
98	SLE FR 3	-3	0	206	0	0	0
98	SLE FR 4	-4	0	213	0	0	0
98	SLE FR 5	-4	0	213	0	0	0
98	SLE FR 6	-4	0	218	0	0	0
98	SLE QP 1	-3	0	205	0	0	0
98	SLE QP 2	-4	0	213	0	0	0
98	SLD 1	8	2	198	0	0	0
98	SLD 2	8	3	198	0	0	0
98	SLD 3	6	-1	207	0	0	0
98	SLD 4	6	1	207	0	0	0
98	SLD 5	2	4	194	0	0	0
98	SLD 6	2	5	194	0	0	0
98	SLD 7	-3	-4	226	0	0	0
98	SLD 8	-3	-3	225	0	0	0
98	SLD 9	-4	3	200	0	0	0
98	SLD 10	-4	4	200	0	0	0
98	SLD 11	-10	-5	232	0	0	0
98	SLD 12	-10	-4	232	0	0	0
98	SLD 13	-14	-1	218	0	0	0
98	SLD 14	-14	0	218	0	0	0
98	SLD 15	-15	-4	228	0	0	0
98	SLD 16	-15	-2	227	0	0	0
98	SLV 1	15	3	189	0	0	0
98	SLV 2	15	5	189	0	0	0
98	SLV 3	12	-1	205	0	0	0
98	SLV 4	12	1	205	0	0	0
98	SLV 5	6	7	182	0	0	0
98	SLV 6	6	8	182	0	0	0
98	SLV 7	-3	-7	234	0	0	0
98	SLV 8	-3	-6	234	0	0	0
98	SLV 9	-4	5	192	0	0	0
98	SLV 10	-4	7	192	0	0	0
98	SLV 11	-14	-8	243	0	0	0
98	SLV 12	-13	-7	243	0	0	0
98	SLV 13	-19	-1	221	0	0	0
98	SLV 14	-19	1	221	0	0	0
98	SLV 15	-22	-6	236	0	0	0
98	SLV 16	-22	-3	236	0	0	0
98	SLV FO 1	16	3	187	0	0	0
98	SLV FO 2	16	6	187	0	0	0
98	SLV FO 3	13	-1	204	0	0	0
98	SLV FO 4	13	1	204	0	0	0
98	SLV FO 5	7	7	179	0	0	0
98	SLV FO 6	7	9	179	0	0	0
98	SLV FO 7	-3	-8	236	0	0	0
98	SLV FO 8	-3	-6	236	0	0	0
98	SLV FO 9	-4	6	190	0	0	0
98	SLV FO 10	-4	8	189	0	0	0
98	SLV FO 11	-15	-9	246	0	0	0
98	SLV FO 12	-14	-8	246	0	0	0
98	SLV FO 13	-21	-2	222	0	0	0
98	SLV FO 14	-21	1	221	0	0	0
98	SLV FO 15	-24	-6	239	0	0	0
98	SLV FO 16	-24	-4	238	0	0	0
170	SLU 1	0	-6	263	0	0	0
170	SLU 2	0	-5	270	0	0	0
170	SLU 3	0	-6	267	0	0	0
170	SLU 4	0	-5	271	0	0	0
170	SLU 5	0	-5	273	0	0	0
170	SLU 6	0	-6	269	0	0	0
170	SLU 7	0	-5	274	0	0	0
170	SLU 8	0	-6	267	0	0	0
170	SLU 9	0	-5	272	0	0	0
170	SLU 10	0	-5	305	0	0	0
170	SLU 11	0	-6	301	0	0	0
170	SLU 12	0	-6	306	0	0	0
170	SLU 13	0	-5	307	0	0	0
170	SLU 14	0	-6	304	0	0	0
170	SLU 15	0	-6	308	0	0	0
170	SLU 16	0	-6	302	0	0	0
170	SLU 17	0	-6	307	0	0	0
170	SLU 18	0	-6	312	0	0	0
170	SLU 19	0	-6	317	0	0	0
170	SLU 20	0	-7	314	0	0	0
170	SLU 21	0	-6	319	0	0	0
170	SLU 22	0	-6	298	0	0	0
170	SLU 23	0	-5	305	0	0	0
170	SLU 24	0	-6	302	0	0	0
170	SLU 25	0	-6	306	0	0	0
170	SLU 26	0	-5	308	0	0	0
170	SLU 27	0	-6	304	0	0	0
170	SLU 28	0	-6	308	0	0	0
170	SLU 29	0	-6	302	0	0	0
170	SLU 30	0	-6	307	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLU 31	0	-6	340	0	0	0
170	SLU 32	0	-7	336	0	0	0
170	SLU 33	0	-6	341	0	0	0
170	SLU 34	0	-6	342	0	0	0
170	SLU 35	0	-7	339	0	0	0
170	SLU 36	0	-6	343	0	0	0
170	SLU 37	0	-7	337	0	0	0
170	SLU 38	0	-6	341	0	0	0
170	SLU 39	0	-7	347	0	0	0
170	SLU 40	0	-7	351	0	0	0
170	SLU 41	0	-7	349	0	0	0
170	SLU 42	0	-7	354	0	0	0
170	SLU 43	0	-7	330	0	0	0
170	SLU 44	0	-6	337	0	0	0
170	SLU 45	0	-7	333	0	0	0
170	SLU 46	0	-7	338	0	0	0
170	SLU 47	0	-6	339	0	0	0
170	SLU 48	0	-7	336	0	0	0
170	SLU 49	0	-7	340	0	0	0
170	SLU 50	0	-7	334	0	0	0
170	SLU 51	0	-7	339	0	0	0
170	SLU 52	0	-7	372	0	0	0
170	SLU 53	0	-8	368	0	0	0
170	SLU 54	0	-7	373	0	0	0
170	SLU 55	0	-7	374	0	0	0
170	SLU 56	0	-8	370	0	0	0
170	SLU 57	0	-7	375	0	0	0
170	SLU 58	0	-8	369	0	0	0
170	SLU 59	0	-7	373	0	0	0
170	SLU 60	0	-8	379	0	0	0
170	SLU 61	0	-7	383	0	0	0
170	SLU 62	0	-8	381	0	0	0
170	SLU 63	0	-7	386	0	0	0
170	SLU 64	0	-8	364	0	0	0
170	SLU 65	0	-7	372	0	0	0
170	SLU 66	0	-8	368	0	0	0
170	SLU 67	0	-7	373	0	0	0
170	SLU 68	0	-7	374	0	0	0
170	SLU 69	0	-8	371	0	0	0
170	SLU 70	0	-7	375	0	0	0
170	SLU 71	0	-8	369	0	0	0
170	SLU 72	0	-7	374	0	0	0
170	SLU 73	0	-7	407	0	0	0
170	SLU 74	0	-8	403	0	0	0
170	SLU 75	0	-8	407	0	0	0
170	SLU 76	0	-7	409	0	0	0
170	SLU 77	0	-8	405	0	0	0
170	SLU 78	0	-8	410	0	0	0
170	SLU 79	0	-8	404	0	0	0
170	SLU 80	0	-8	408	0	0	0
170	SLU 81	0	-9	414	0	0	0
170	SLU 82	0	-8	418	0	0	0
170	SLU 83	0	-9	416	0	0	0
170	SLU 84	0	-8	421	0	0	0
170	SLE RA 1	0	-6	273	0	0	0
170	SLE RA 2	0	-5	278	0	0	0
170	SLE RA 3	0	-6	275	0	0	0
170	SLE RA 4	0	-6	278	0	0	0
170	SLE RA 5	0	-5	279	0	0	0
170	SLE RA 6	0	-6	277	0	0	0
170	SLE RA 7	0	-6	280	0	0	0
170	SLE RA 8	0	-6	276	0	0	0
170	SLE RA 9	0	-6	279	0	0	0
170	SLE RA 10	0	-6	301	0	0	0
170	SLE RA 11	0	-6	298	0	0	0
170	SLE RA 12	0	-6	301	0	0	0
170	SLE RA 13	0	-6	302	0	0	0
170	SLE RA 14	0	-6	300	0	0	0
170	SLE RA 15	0	-6	303	0	0	0
170	SLE RA 16	0	-6	299	0	0	0
170	SLE RA 17	0	-6	302	0	0	0
170	SLE RA 18	0	-6	306	0	0	0
170	SLE RA 19	0	-6	309	0	0	0
170	SLE RA 20	0	-6	307	0	0	0
170	SLE RA 21	0	-6	310	0	0	0
170	SLE FR 1	0	-6	273	0	0	0
170	SLE FR 2	0	-6	274	0	0	0
170	SLE FR 3	0	-6	273	0	0	0
170	SLE FR 4	0	-6	284	0	0	0
170	SLE FR 5	0	-6	283	0	0	0
170	SLE FR 6	0	-6	289	0	0	0
170	SLE QP 1	0	-6	273	0	0	0
170	SLE QP 2	0	-6	283	0	0	0
170	SLD 1	20	-3	356	0	0	0
170	SLD 2	25	-5	353	0	0	0
170	SLD 3	21	-13	261	0	0	0
170	SLD 4	26	-15	258	0	0	0
170	SLD 5	4	11	450	0	0	0
170	SLD 6	6	9	448	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLD 7	7	-23	132	0	0	0
170	SLD 8	10	-25	130	0	0	0
170	SLD 9	-10	13	435	0	0	0
170	SLD 10	-7	11	433	0	0	0
170	SLD 11	-7	-21	117	0	0	0
170	SLD 12	-4	-23	116	0	0	0
170	SLD 13	-26	3	307	0	0	0
170	SLD 14	-21	1	304	0	0	0
170	SLD 15	-25	-7	212	0	0	0
170	SLD 16	-20	-9	209	0	0	0
170	SLV 1	32	-1	400	0	0	0
170	SLV 2	39	-4	396	0	0	0
170	SLV 3	33	-17	246	0	0	0
170	SLV 4	40	-21	242	0	0	0
170	SLV 5	6	21	552	0	0	0
170	SLV 6	10	19	549	0	0	0
170	SLV 7	11	-34	39	0	0	0
170	SLV 8	16	-36	36	0	0	0
170	SLV 9	-16	24	529	0	0	0
170	SLV 10	-11	22	526	0	0	0
170	SLV 11	-11	-31	16	0	0	0
170	SLV 12	-6	-33	13	0	0	0
170	SLV 13	-41	9	324	0	0	0
170	SLV 14	-34	5	319	0	0	0
170	SLV 15	-39	-8	170	0	0	0
170	SLV 16	-32	-11	165	0	0	0
170	SLV FO 1	35	0	412	0	0	0
170	SLV FO 2	42	-4	407	0	0	0
170	SLV FO 3	37	-18	242	0	0	0
170	SLV FO 4	44	-22	237	0	0	0
170	SLV FO 5	6	24	579	0	0	0
170	SLV FO 6	11	21	576	0	0	0
170	SLV FO 7	12	-36	14	0	0	0
170	SLV FO 8	17	-39	11	0	0	0
170	SLV FO 9	-18	27	554	0	0	0
170	SLV FO 10	-13	24	551	0	0	0
170	SLV FO 11	-12	-33	-11	0	0	0
170	SLV FO 12	-6	-36	-14	0	0	0
170	SLV FO 13	-45	10	328	0	0	0
170	SLV FO 14	-37	6	323	0	0	0
170	SLV FO 15	-43	-8	158	0	0	0
170	SLV FO 16	-35	-12	154	0	0	0
170	CRTFP Uy+	0	0	0	0	0	0
170	CRTFP Uy-	0	0	0	0	0	0
171	SLU 1	0	-10	512	0	0	0
171	SLU 2	0	-8	527	0	0	0
171	SLU 3	0	-10	520	0	0	0
171	SLU 4	0	-9	529	0	0	0
171	SLU 5	0	-8	532	0	0	0
171	SLU 6	0	-10	525	0	0	0
171	SLU 7	0	-9	533	0	0	0
171	SLU 8	0	-10	522	0	0	0
171	SLU 9	0	-9	530	0	0	0
171	SLU 10	0	-9	594	0	0	0
171	SLU 11	0	-11	588	0	0	0
171	SLU 12	0	-10	596	0	0	0
171	SLU 13	0	-9	599	0	0	0
171	SLU 14	0	-11	592	0	0	0
171	SLU 15	0	-10	601	0	0	0
171	SLU 16	0	-11	589	0	0	0
171	SLU 17	0	-10	598	0	0	0
171	SLU 18	0	-12	609	0	0	0
171	SLU 19	0	-11	618	0	0	0
171	SLU 20	0	-12	613	0	0	0
171	SLU 21	0	-11	622	0	0	0
171	SLU 22	0	-11	580	0	0	0
171	SLU 23	0	-9	595	0	0	0
171	SLU 24	-1	-11	588	0	0	0
171	SLU 25	-1	-10	597	0	0	0
171	SLU 26	-1	-10	600	0	0	0
171	SLU 27	-1	-12	593	0	0	0
171	SLU 28	-1	-10	601	0	0	0
171	SLU 29	-1	-11	590	0	0	0
171	SLU 30	-1	-10	598	0	0	0
171	SLU 31	0	-11	662	0	0	0
171	SLU 32	0	-13	655	0	0	0
171	SLU 33	0	-11	664	0	0	0
171	SLU 34	0	-11	667	0	0	0
171	SLU 35	0	-13	660	0	0	0
171	SLU 36	0	-12	669	0	0	0
171	SLU 37	0	-13	657	0	0	0
171	SLU 38	0	-11	666	0	0	0
171	SLU 39	0	-13	677	0	0	0
171	SLU 40	0	-12	685	0	0	0
171	SLU 41	0	-13	681	0	0	0
171	SLU 42	0	-12	690	0	0	0
171	SLU 43	0	-13	643	0	0	0
171	SLU 44	0	-11	657	0	0	0
171	SLU 45	0	-13	651	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLU 46	0	-12	659	0	0	0
171	SLU 47	0	-11	662	0	0	0
171	SLU 48	0	-13	655	0	0	0
171	SLU 49	-1	-12	664	0	0	0
171	SLU 50	0	-13	652	0	0	0
171	SLU 51	-1	-12	661	0	0	0
171	SLU 52	0	-12	725	0	0	0
171	SLU 53	0	-14	718	0	0	0
171	SLU 54	0	-13	727	0	0	0
171	SLU 55	0	-12	730	0	0	0
171	SLU 56	0	-14	723	0	0	0
171	SLU 57	0	-13	731	0	0	0
171	SLU 58	0	-14	720	0	0	0
171	SLU 59	0	-13	728	0	0	0
171	SLU 60	0	-14	739	0	0	0
171	SLU 61	0	-13	748	0	0	0
171	SLU 62	0	-14	744	0	0	0
171	SLU 63	0	-13	753	0	0	0
171	SLU 64	-1	-14	711	0	0	0
171	SLU 65	-1	-12	725	0	0	0
171	SLU 66	-1	-14	718	0	0	0
171	SLU 67	-1	-13	727	0	0	0
171	SLU 68	-1	-12	730	0	0	0
171	SLU 69	-1	-14	723	0	0	0
171	SLU 70	-1	-13	732	0	0	0
171	SLU 71	-1	-14	720	0	0	0
171	SLU 72	-1	-13	729	0	0	0
171	SLU 73	0	-13	793	0	0	0
171	SLU 74	0	-15	786	0	0	0
171	SLU 75	0	-14	795	0	0	0
171	SLU 76	0	-13	797	0	0	0
171	SLU 77	0	-15	790	0	0	0
171	SLU 78	0	-14	799	0	0	0
171	SLU 79	0	-15	787	0	0	0
171	SLU 80	0	-14	796	0	0	0
171	SLU 81	0	-15	807	0	0	0
171	SLU 82	0	-14	816	0	0	0
171	SLU 83	0	-16	812	0	0	0
171	SLU 84	0	-14	821	0	0	0
171	SLE RA 1	0	-10	532	0	0	0
171	SLE RA 2	0	-9	542	0	0	0
171	SLE RA 3	0	-11	537	0	0	0
171	SLE RA 4	0	-10	543	0	0	0
171	SLE RA 5	0	-9	545	0	0	0
171	SLE RA 6	0	-11	540	0	0	0
171	SLE RA 7	0	-10	546	0	0	0
171	SLE RA 8	0	-11	538	0	0	0
171	SLE RA 9	0	-10	544	0	0	0
171	SLE RA 10	0	-10	587	0	0	0
171	SLE RA 11	0	-11	582	0	0	0
171	SLE RA 12	0	-11	588	0	0	0
171	SLE RA 13	0	-10	590	0	0	0
171	SLE RA 14	0	-11	585	0	0	0
171	SLE RA 15	0	-11	591	0	0	0
171	SLE RA 16	0	-11	583	0	0	0
171	SLE RA 17	0	-11	589	0	0	0
171	SLE RA 18	0	-11	596	0	0	0
171	SLE RA 19	0	-11	602	0	0	0
171	SLE RA 20	0	-12	599	0	0	0
171	SLE RA 21	0	-11	605	0	0	0
171	SLE FR 1	0	-10	532	0	0	0
171	SLE FR 2	0	-10	534	0	0	0
171	SLE FR 3	0	-10	533	0	0	0
171	SLE FR 4	0	-10	553	0	0	0
171	SLE FR 5	0	-11	552	0	0	0
171	SLE FR 6	0	-11	564	0	0	0
171	SLE QP 1	0	-10	532	0	0	0
171	SLE QP 2	0	-11	551	0	0	0
171	SLD 1	40	-4	689	0	0	0
171	SLD 2	48	-8	684	0	0	0
171	SLD 3	42	-24	504	0	0	0
171	SLD 4	50	-28	499	0	0	0
171	SLD 5	7	23	875	0	0	0
171	SLD 6	13	20	871	0	0	0
171	SLD 7	14	-45	257	0	0	0
171	SLD 8	20	-48	253	0	0	0
171	SLD 9	-20	26	849	0	0	0
171	SLD 10	-14	24	846	0	0	0
171	SLD 11	-13	-42	231	0	0	0
171	SLD 12	-8	-44	227	0	0	0
171	SLD 13	-51	7	603	0	0	0
171	SLD 14	-42	3	598	0	0	0
171	SLD 15	-49	-14	418	0	0	0
171	SLD 16	-40	-18	413	0	0	0
171	SLV 1	62	1	772	0	0	0
171	SLV 2	76	-5	764	0	0	0
171	SLV 3	65	-32	472	0	0	0
171	SLV 4	79	-38	465	0	0	0
171	SLV 5	11	44	1073	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
171	SLV 6	20	40	1068	0	0	0
171	SLV 7	22	-66	74	0	0	0
171	SLV 8	31	-70	69	0	0	0
171	SLV 9	-32	49	1033	0	0	0
171	SLV 10	-22	45	1028	0	0	0
171	SLV 11	-21	-61	34	0	0	0
171	SLV 12	-12	-65	29	0	0	0
171	SLV 13	-80	17	638	0	0	0
171	SLV 14	-66	11	630	0	0	0
171	SLV 15	-77	-16	338	0	0	0
171	SLV 16	-63	-22	330	0	0	0
171	SLV FO 1	68	2	794	0	0	0
171	SLV FO 2	84	-5	786	0	0	0
171	SLV FO 3	72	-34	464	0	0	0
171	SLV FO 4	87	-41	456	0	0	0
171	SLV FO 5	12	49	1126	0	0	0
171	SLV FO 6	22	45	1120	0	0	0
171	SLV FO 7	24	-72	27	0	0	0
171	SLV FO 8	34	-76	21	0	0	0
171	SLV FO 9	-35	55	1081	0	0	0
171	SLV FO 10	-25	50	1075	0	0	0
171	SLV FO 11	-23	-66	-18	0	0	0
171	SLV FO 12	-13	-71	-23	0	0	0
171	SLV FO 13	-88	20	646	0	0	0
171	SLV FO 14	-73	13	638	0	0	0
171	SLV FO 15	-84	-17	317	0	0	0
171	SLV FO 16	-69	-23	308	0	0	0
171	CRTFP Uy+	0	0	0	0	0	0
171	CRTFP Uy-	0	0	0	0	0	0
172	SLU 1	0	-9	512	0	0	0
172	SLU 2	0	-7	526	0	0	0
172	SLU 3	0	-9	519	0	0	0
172	SLU 4	0	-8	528	0	0	0
172	SLU 5	0	-8	531	0	0	0
172	SLU 6	0	-10	524	0	0	0
172	SLU 7	0	-8	533	0	0	0
172	SLU 8	0	-10	521	0	0	0
172	SLU 9	0	-8	530	0	0	0
172	SLU 10	0	-8	594	0	0	0
172	SLU 11	0	-10	587	0	0	0
172	SLU 12	0	-9	595	0	0	0
172	SLU 13	0	-9	598	0	0	0
172	SLU 14	0	-11	591	0	0	0
172	SLU 15	0	-9	600	0	0	0
172	SLU 16	0	-11	588	0	0	0
172	SLU 17	0	-9	597	0	0	0
172	SLU 18	0	-11	608	0	0	0
172	SLU 19	0	-10	617	0	0	0
172	SLU 20	0	-11	612	0	0	0
172	SLU 21	0	-10	621	0	0	0
172	SLU 22	-1	-10	579	0	0	0
172	SLU 23	-1	-9	594	0	0	0
172	SLU 24	-1	-11	587	0	0	0
172	SLU 25	-1	-9	595	0	0	0
172	SLU 26	-1	-9	598	0	0	0
172	SLU 27	-1	-11	591	0	0	0
172	SLU 28	-1	-10	600	0	0	0
172	SLU 29	-1	-11	588	0	0	0
172	SLU 30	-1	-10	597	0	0	0
172	SLU 31	0	-10	661	0	0	0
172	SLU 32	0	-12	654	0	0	0
172	SLU 33	0	-10	663	0	0	0
172	SLU 34	0	-10	666	0	0	0
172	SLU 35	0	-12	659	0	0	0
172	SLU 36	0	-11	667	0	0	0
172	SLU 37	0	-12	656	0	0	0
172	SLU 38	0	-11	664	0	0	0
172	SLU 39	0	-12	675	0	0	0
172	SLU 40	0	-11	684	0	0	0
172	SLU 41	0	-12	680	0	0	0
172	SLU 42	0	-11	689	0	0	0
172	SLU 43	0	-12	642	0	0	0
172	SLU 44	0	-10	656	0	0	0
172	SLU 45	0	-12	649	0	0	0
172	SLU 46	-1	-11	658	0	0	0
172	SLU 47	-1	-10	661	0	0	0
172	SLU 48	-1	-12	654	0	0	0
172	SLU 49	-1	-11	663	0	0	0
172	SLU 50	-1	-12	651	0	0	0
172	SLU 51	-1	-11	660	0	0	0
172	SLU 52	0	-11	724	0	0	0
172	SLU 53	0	-13	717	0	0	0
172	SLU 54	0	-12	726	0	0	0
172	SLU 55	0	-11	728	0	0	0
172	SLU 56	0	-13	721	0	0	0
172	SLU 57	0	-12	730	0	0	0
172	SLU 58	0	-13	718	0	0	0
172	SLU 59	0	-12	727	0	0	0
172	SLU 60	0	-13	738	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLU 61	0	-12	747	0	0	0
172	SLU 62	0	-13	743	0	0	0
172	SLU 63	0	-12	752	0	0	0
172	SLU 64	-1	-13	709	0	0	0
172	SLU 65	-1	-11	724	0	0	0
172	SLU 66	-1	-13	717	0	0	0
172	SLU 67	-1	-12	726	0	0	0
172	SLU 68	-1	-11	729	0	0	0
172	SLU 69	-1	-13	722	0	0	0
172	SLU 70	-1	-12	730	0	0	0
172	SLU 71	-1	-13	719	0	0	0
172	SLU 72	-1	-12	727	0	0	0
172	SLU 73	0	-12	791	0	0	0
172	SLU 74	0	-14	784	0	0	0
172	SLU 75	0	-13	793	0	0	0
172	SLU 76	0	-12	796	0	0	0
172	SLU 77	0	-14	789	0	0	0
172	SLU 78	0	-13	798	0	0	0
172	SLU 79	0	-14	786	0	0	0
172	SLU 80	0	-13	795	0	0	0
172	SLU 81	0	-14	806	0	0	0
172	SLU 82	0	-13	814	0	0	0
172	SLU 83	0	-14	810	0	0	0
172	SLU 84	0	-13	819	0	0	0
172	SLE RA 1	0	-10	531	0	0	0
172	SLE RA 2	0	-8	541	0	0	0
172	SLE RA 3	0	-10	536	0	0	0
172	SLE RA 4	0	-9	542	0	0	0
172	SLE RA 5	0	-8	544	0	0	0
172	SLE RA 6	0	-10	539	0	0	0
172	SLE RA 7	0	-9	545	0	0	0
172	SLE RA 8	0	-10	537	0	0	0
172	SLE RA 9	0	-9	543	0	0	0
172	SLE RA 10	0	-9	585	0	0	0
172	SLE RA 11	0	-10	581	0	0	0
172	SLE RA 12	0	-10	587	0	0	0
172	SLE RA 13	0	-9	589	0	0	0
172	SLE RA 14	0	-10	584	0	0	0
172	SLE RA 15	0	-10	590	0	0	0
172	SLE RA 16	0	-10	582	0	0	0
172	SLE RA 17	0	-10	588	0	0	0
172	SLE RA 18	0	-11	595	0	0	0
172	SLE RA 19	0	-10	601	0	0	0
172	SLE RA 20	0	-11	598	0	0	0
172	SLE RA 21	0	-10	604	0	0	0
172	SLE FR 1	0	-10	531	0	0	0
172	SLE FR 2	0	-9	533	0	0	0
172	SLE FR 3	0	-10	532	0	0	0
172	SLE FR 4	0	-10	552	0	0	0
172	SLE FR 5	0	-10	551	0	0	0
172	SLE FR 6	0	-10	563	0	0	0
172	SLE QP 1	0	-10	531	0	0	0
172	SLE QP 2	0	-10	550	0	0	0
172	SLD 1	40	-2	683	0	0	0
172	SLD 2	49	-6	678	0	0	0
172	SLD 3	42	-23	498	0	0	0
172	SLD 4	51	-27	494	0	0	0
172	SLD 5	7	25	871	0	0	0
172	SLD 6	13	22	868	0	0	0
172	SLD 7	14	-45	255	0	0	0
172	SLD 8	20	-47	252	0	0	0
172	SLD 9	-20	28	848	0	0	0
172	SLD 10	-14	25	845	0	0	0
172	SLD 11	-14	-42	232	0	0	0
172	SLD 12	-8	-45	229	0	0	0
172	SLD 13	-51	7	606	0	0	0
172	SLD 14	-43	3	602	0	0	0
172	SLD 15	-49	-14	422	0	0	0
172	SLD 16	-41	-18	417	0	0	0
172	SLV 1	63	3	763	0	0	0
172	SLV 2	76	-3	755	0	0	0
172	SLV 3	66	-31	464	0	0	0
172	SLV 4	80	-37	457	0	0	0
172	SLV 5	11	46	1068	0	0	0
172	SLV 6	20	43	1063	0	0	0
172	SLV 7	22	-67	73	0	0	0
172	SLV 8	31	-70	68	0	0	0
172	SLV 9	-32	51	1032	0	0	0
172	SLV 10	-22	47	1027	0	0	0
172	SLV 11	-21	-62	37	0	0	0
172	SLV 12	-12	-66	32	0	0	0
172	SLV 13	-80	17	643	0	0	0
172	SLV 14	-66	11	636	0	0	0
172	SLV 15	-77	-17	345	0	0	0
172	SLV 16	-63	-22	337	0	0	0
172	SLV FO 1	69	4	784	0	0	0
172	SLV FO 2	84	-2	776	0	0	0
172	SLV FO 3	72	-33	456	0	0	0
172	SLV FO 4	88	-39	448	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
172	SLV FO 5	12	52	1120	0	0	0
172	SLV FO 6	22	48	1114	0	0	0
172	SLV FO 7	24	-72	25	0	0	0
172	SLV FO 8	34	-76	20	0	0	0
172	SLV FO 9	-35	57	1080	0	0	0
172	SLV FO 10	-25	52	1075	0	0	0
172	SLV FO 11	-23	-68	-14	0	0	0
172	SLV FO 12	-13	-72	-20	0	0	0
172	SLV FO 13	-88	20	653	0	0	0
172	SLV FO 14	-73	14	645	0	0	0
172	SLV FO 15	-85	-18	324	0	0	0
172	SLV FO 16	-70	-24	316	0	0	0
172	CRTFP Uy+	0	0	0	0	0	0
172	CRTFP Uy-	0	0	0	0	0	0
173	SLU 1	0	-9	513	0	0	0
173	SLU 2	0	-7	527	0	0	0
173	SLU 3	0	-9	520	0	0	0
173	SLU 4	0	-8	529	0	0	0
173	SLU 5	0	-7	532	0	0	0
173	SLU 6	0	-9	525	0	0	0
173	SLU 7	0	-8	534	0	0	0
173	SLU 8	0	-9	522	0	0	0
173	SLU 9	0	-8	531	0	0	0
173	SLU 10	0	-8	595	0	0	0
173	SLU 11	0	-10	588	0	0	0
173	SLU 12	0	-9	597	0	0	0
173	SLU 13	0	-8	600	0	0	0
173	SLU 14	0	-10	593	0	0	0
173	SLU 15	0	-9	601	0	0	0
173	SLU 16	0	-10	590	0	0	0
173	SLU 17	0	-9	598	0	0	0
173	SLU 18	0	-10	609	0	0	0
173	SLU 19	0	-9	618	0	0	0
173	SLU 20	0	-10	614	0	0	0
173	SLU 21	0	-9	623	0	0	0
173	SLU 22	0	-10	580	0	0	0
173	SLU 23	0	-8	595	0	0	0
173	SLU 24	-1	-10	588	0	0	0
173	SLU 25	-1	-9	597	0	0	0
173	SLU 26	-1	-8	599	0	0	0
173	SLU 27	-1	-10	592	0	0	0
173	SLU 28	-1	-9	601	0	0	0
173	SLU 29	-1	-10	589	0	0	0
173	SLU 30	-1	-9	598	0	0	0
173	SLU 31	0	-9	662	0	0	0
173	SLU 32	0	-11	655	0	0	0
173	SLU 33	0	-10	664	0	0	0
173	SLU 34	0	-9	667	0	0	0
173	SLU 35	0	-11	660	0	0	0
173	SLU 36	0	-10	669	0	0	0
173	SLU 37	0	-11	657	0	0	0
173	SLU 38	0	-10	666	0	0	0
173	SLU 39	0	-11	677	0	0	0
173	SLU 40	0	-10	686	0	0	0
173	SLU 41	0	-11	681	0	0	0
173	SLU 42	0	-10	690	0	0	0
173	SLU 43	0	-11	643	0	0	0
173	SLU 44	0	-9	658	0	0	0
173	SLU 45	0	-11	651	0	0	0
173	SLU 46	0	-10	660	0	0	0
173	SLU 47	0	-9	663	0	0	0
173	SLU 48	-1	-11	656	0	0	0
173	SLU 49	-1	-10	664	0	0	0
173	SLU 50	-1	-11	653	0	0	0
173	SLU 51	-1	-10	661	0	0	0
173	SLU 52	0	-10	726	0	0	0
173	SLU 53	0	-12	719	0	0	0
173	SLU 54	0	-11	727	0	0	0
173	SLU 55	0	-10	730	0	0	0
173	SLU 56	0	-12	723	0	0	0
173	SLU 57	0	-11	732	0	0	0
173	SLU 58	0	-12	720	0	0	0
173	SLU 59	0	-11	729	0	0	0
173	SLU 60	0	-12	740	0	0	0
173	SLU 61	0	-11	749	0	0	0
173	SLU 62	0	-12	745	0	0	0
173	SLU 63	0	-11	753	0	0	0
173	SLU 64	-1	-12	711	0	0	0
173	SLU 65	-1	-10	725	0	0	0
173	SLU 66	-1	-12	718	0	0	0
173	SLU 67	-1	-11	727	0	0	0
173	SLU 68	-1	-10	730	0	0	0
173	SLU 69	-1	-12	723	0	0	0
173	SLU 70	-1	-11	732	0	0	0
173	SLU 71	-1	-12	720	0	0	0
173	SLU 72	-1	-11	729	0	0	0
173	SLU 73	0	-11	793	0	0	0
173	SLU 74	0	-13	786	0	0	0
173	SLU 75	0	-12	795	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
173	SLU 76	0	-11	798	0	0	0
173	SLU 77	0	-13	791	0	0	0
173	SLU 78	0	-12	800	0	0	0
173	SLU 79	0	-13	788	0	0	0
173	SLU 80	0	-12	797	0	0	0
173	SLU 81	0	-13	807	0	0	0
173	SLU 82	0	-12	816	0	0	0
173	SLU 83	0	-13	812	0	0	0
173	SLU 84	0	-12	821	0	0	0
173	SLE RA 1	0	-9	532	0	0	0
173	SLE RA 2	0	-8	542	0	0	0
173	SLE RA 3	0	-9	537	0	0	0
173	SLE RA 4	0	-8	543	0	0	0
173	SLE RA 5	0	-8	545	0	0	0
173	SLE RA 6	0	-9	540	0	0	0
173	SLE RA 7	0	-8	546	0	0	0
173	SLE RA 8	0	-9	538	0	0	0
173	SLE RA 9	0	-8	544	0	0	0
173	SLE RA 10	0	-8	587	0	0	0
173	SLE RA 11	0	-10	582	0	0	0
173	SLE RA 12	0	-9	588	0	0	0
173	SLE RA 13	0	-8	590	0	0	0
173	SLE RA 14	0	-10	585	0	0	0
173	SLE RA 15	0	-9	591	0	0	0
173	SLE RA 16	0	-10	583	0	0	0
173	SLE RA 17	0	-9	589	0	0	0
173	SLE RA 18	0	-10	596	0	0	0
173	SLE RA 19	0	-9	602	0	0	0
173	SLE RA 20	0	-10	599	0	0	0
173	SLE RA 21	0	-9	605	0	0	0
173	SLE FR 1	0	-9	532	0	0	0
173	SLE FR 2	0	-9	534	0	0	0
173	SLE FR 3	0	-9	533	0	0	0
173	SLE FR 4	0	-9	553	0	0	0
173	SLE FR 5	0	-9	552	0	0	0
173	SLE FR 6	0	-9	564	0	0	0
173	SLE QP 1	0	-9	532	0	0	0
173	SLE QP 2	0	-9	551	0	0	0
173	SLD 1	40	-1	679	0	0	0
173	SLD 2	49	-4	675	0	0	0
173	SLD 3	42	-22	495	0	0	0
173	SLD 4	51	-26	490	0	0	0
173	SLD 5	7	27	871	0	0	0
173	SLD 6	13	24	868	0	0	0
173	SLD 7	14	-45	255	0	0	0
173	SLD 8	20	-47	252	0	0	0
173	SLD 9	-20	29	850	0	0	0
173	SLD 10	-14	27	848	0	0	0
173	SLD 11	-14	-43	235	0	0	0
173	SLD 12	-8	-45	232	0	0	0
173	SLD 13	-52	7	612	0	0	0
173	SLD 14	-43	4	608	0	0	0
173	SLD 15	-50	-14	428	0	0	0
173	SLD 16	-41	-17	423	0	0	0
173	SLV 1	63	4	756	0	0	0
173	SLV 2	77	-1	749	0	0	0
173	SLV 3	66	-30	458	0	0	0
173	SLV 4	80	-35	451	0	0	0
173	SLV 5	11	49	1067	0	0	0
173	SLV 6	21	45	1062	0	0	0
173	SLV 7	22	-67	72	0	0	0
173	SLV 8	31	-71	67	0	0	0
173	SLV 9	-32	52	1035	0	0	0
173	SLV 10	-22	49	1031	0	0	0
173	SLV 11	-21	-64	40	0	0	0
173	SLV 12	-12	-67	36	0	0	0
173	SLV 13	-81	17	652	0	0	0
173	SLV 14	-67	12	645	0	0	0
173	SLV 15	-78	-18	353	0	0	0
173	SLV 16	-64	-23	346	0	0	0
173	SLV FO 1	69	6	777	0	0	0
173	SLV FO 2	85	0	769	0	0	0
173	SLV FO 3	73	-33	448	0	0	0
173	SLV FO 4	88	-38	441	0	0	0
173	SLV FO 5	12	54	1118	0	0	0
173	SLV FO 6	23	51	1113	0	0	0
173	SLV FO 7	24	-73	24	0	0	0
173	SLV FO 8	34	-77	19	0	0	0
173	SLV FO 9	-35	59	1084	0	0	0
173	SLV FO 10	-25	55	1079	0	0	0
173	SLV FO 11	-23	-69	-11	0	0	0
173	SLV FO 12	-13	-73	-16	0	0	0
173	SLV FO 13	-89	20	662	0	0	0
173	SLV FO 14	-74	14	654	0	0	0
173	SLV FO 15	-85	-19	333	0	0	0
173	SLV FO 16	-70	-24	326	0	0	0
173	CRTFP Uy+	0	0	0	0	0	0
173	CRTFP Uy-	0	0	0	0	0	0
174	SLU 1	0	-8	515	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLU 2	0	-6	529	0	0	0
174	SLU 3	0	-8	522	0	0	0
174	SLU 4	0	-7	531	0	0	0
174	SLU 5	0	-6	534	0	0	0
174	SLU 6	0	-8	527	0	0	0
174	SLU 7	0	-7	536	0	0	0
174	SLU 8	0	-8	524	0	0	0
174	SLU 9	0	-7	533	0	0	0
174	SLU 10	0	-7	598	0	0	0
174	SLU 11	0	-9	591	0	0	0
174	SLU 12	0	-8	599	0	0	0
174	SLU 13	0	-7	602	0	0	0
174	SLU 14	0	-9	595	0	0	0
174	SLU 15	0	-8	604	0	0	0
174	SLU 16	0	-9	592	0	0	0
174	SLU 17	0	-8	601	0	0	0
174	SLU 18	0	-9	612	0	0	0
174	SLU 19	0	-8	621	0	0	0
174	SLU 20	0	-9	617	0	0	0
174	SLU 21	0	-8	626	0	0	0
174	SLU 22	0	-9	582	0	0	0
174	SLU 23	0	-7	597	0	0	0
174	SLU 24	0	-9	590	0	0	0
174	SLU 25	0	-8	599	0	0	0
174	SLU 26	0	-7	602	0	0	0
174	SLU 27	0	-9	595	0	0	0
174	SLU 28	0	-8	604	0	0	0
174	SLU 29	0	-9	592	0	0	0
174	SLU 30	0	-8	601	0	0	0
174	SLU 31	0	-8	665	0	0	0
174	SLU 32	0	-10	658	0	0	0
174	SLU 33	0	-9	667	0	0	0
174	SLU 34	0	-8	670	0	0	0
174	SLU 35	0	-10	663	0	0	0
174	SLU 36	0	-9	672	0	0	0
174	SLU 37	0	-10	660	0	0	0
174	SLU 38	0	-9	669	0	0	0
174	SLU 39	0	-10	680	0	0	0
174	SLU 40	0	-9	689	0	0	0
174	SLU 41	0	-10	684	0	0	0
174	SLU 42	0	-9	693	0	0	0
174	SLU 43	0	-10	646	0	0	0
174	SLU 44	0	-8	661	0	0	0
174	SLU 45	0	-10	654	0	0	0
174	SLU 46	0	-9	662	0	0	0
174	SLU 47	0	-8	665	0	0	0
174	SLU 48	0	-10	658	0	0	0
174	SLU 49	0	-9	667	0	0	0
174	SLU 50	0	-10	655	0	0	0
174	SLU 51	0	-9	664	0	0	0
174	SLU 52	0	-9	729	0	0	0
174	SLU 53	0	-11	722	0	0	0
174	SLU 54	0	-10	731	0	0	0
174	SLU 55	0	-9	733	0	0	0
174	SLU 56	0	-11	726	0	0	0
174	SLU 57	0	-10	735	0	0	0
174	SLU 58	0	-11	723	0	0	0
174	SLU 59	0	-10	732	0	0	0
174	SLU 60	0	-11	743	0	0	0
174	SLU 61	0	-10	752	0	0	0
174	SLU 62	0	-11	748	0	0	0
174	SLU 63	0	-10	757	0	0	0
174	SLU 64	0	-11	714	0	0	0
174	SLU 65	0	-9	728	0	0	0
174	SLU 66	0	-11	721	0	0	0
174	SLU 67	0	-10	730	0	0	0
174	SLU 68	0	-9	733	0	0	0
174	SLU 69	-1	-11	726	0	0	0
174	SLU 70	-1	-10	735	0	0	0
174	SLU 71	-1	-11	723	0	0	0
174	SLU 72	-1	-10	732	0	0	0
174	SLU 73	0	-10	796	0	0	0
174	SLU 74	0	-12	789	0	0	0
174	SLU 75	0	-11	798	0	0	0
174	SLU 76	0	-10	801	0	0	0
174	SLU 77	0	-12	794	0	0	0
174	SLU 78	0	-11	803	0	0	0
174	SLU 79	0	-12	791	0	0	0
174	SLU 80	0	-11	800	0	0	0
174	SLU 81	0	-12	811	0	0	0
174	SLU 82	0	-11	820	0	0	0
174	SLU 83	0	-12	816	0	0	0
174	SLU 84	0	-11	824	0	0	0
174	SLE RA 1	0	-8	534	0	0	0
174	SLE RA 2	0	-7	544	0	0	0
174	SLE RA 3	0	-8	539	0	0	0
174	SLE RA 4	0	-8	545	0	0	0
174	SLE RA 5	0	-7	547	0	0	0
174	SLE RA 6	0	-8	542	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
174	SLE RA 7	0	-8	548	0	0	0
174	SLE RA 8	0	-8	540	0	0	0
174	SLE RA 9	0	-8	546	0	0	0
174	SLE RA 10	0	-8	589	0	0	0
174	SLE RA 11	0	-9	585	0	0	0
174	SLE RA 12	0	-8	590	0	0	0
174	SLE RA 13	0	-8	592	0	0	0
174	SLE RA 14	0	-9	588	0	0	0
174	SLE RA 15	0	-8	594	0	0	0
174	SLE RA 16	0	-9	586	0	0	0
174	SLE RA 17	0	-8	592	0	0	0
174	SLE RA 18	0	-9	599	0	0	0
174	SLE RA 19	0	-8	605	0	0	0
174	SLE RA 20	0	-9	602	0	0	0
174	SLE RA 21	0	-8	608	0	0	0
174	SLE FR 1	0	-8	534	0	0	0
174	SLE FR 2	0	-8	536	0	0	0
174	SLE FR 3	0	-8	535	0	0	0
174	SLE FR 4	0	-8	555	0	0	0
174	SLE FR 5	0	-8	555	0	0	0
174	SLE FR 6	0	-9	566	0	0	0
174	SLE QP 1	0	-8	534	0	0	0
174	SLE QP 2	0	-8	553	0	0	0
174	SLD 1	41	0	677	0	0	0
174	SLD 2	50	-2	673	0	0	0
174	SLD 3	43	-22	492	0	0	0
174	SLD 4	52	-24	488	0	0	0
174	SLD 5	8	28	872	0	0	0
174	SLD 6	13	26	869	0	0	0
174	SLD 7	14	-45	255	0	0	0
174	SLD 8	20	-47	252	0	0	0
174	SLD 9	-20	30	855	0	0	0
174	SLD 10	-14	29	852	0	0	0
174	SLD 11	-14	-43	238	0	0	0
174	SLD 12	-8	-45	235	0	0	0
174	SLD 13	-52	8	619	0	0	0
174	SLD 14	-43	5	615	0	0	0
174	SLD 15	-50	-15	434	0	0	0
174	SLD 16	-41	-17	430	0	0	0
174	SLV 1	64	6	751	0	0	0
174	SLV 2	78	2	745	0	0	0
174	SLV 3	67	-30	452	0	0	0
174	SLV 4	81	-34	445	0	0	0
174	SLV 5	12	51	1068	0	0	0
174	SLV 6	21	48	1063	0	0	0
174	SLV 7	22	-68	70	0	0	0
174	SLV 8	31	-71	66	0	0	0
174	SLV 9	-32	54	1041	0	0	0
174	SLV 10	-22	51	1037	0	0	0
174	SLV 11	-22	-65	44	0	0	0
174	SLV 12	-12	-68	39	0	0	0
174	SLV 13	-81	17	662	0	0	0
174	SLV 14	-67	13	655	0	0	0
174	SLV 15	-78	-19	362	0	0	0
174	SLV 16	-64	-23	356	0	0	0
174	SLV FO 1	70	8	771	0	0	0
174	SLV FO 2	86	3	764	0	0	0
174	SLV FO 3	74	-32	442	0	0	0
174	SLV FO 4	89	-37	435	0	0	0
174	SLV FO 5	13	57	1119	0	0	0
174	SLV FO 6	23	54	1114	0	0	0
174	SLV FO 7	24	-74	22	0	0	0
174	SLV FO 8	35	-77	17	0	0	0
174	SLV FO 9	-35	60	1090	0	0	0
174	SLV FO 10	-25	57	1085	0	0	0
174	SLV FO 11	-24	-70	-7	0	0	0
174	SLV FO 12	-13	-74	-12	0	0	0
174	SLV FO 13	-89	20	672	0	0	0
174	SLV FO 14	-74	15	665	0	0	0
174	SLV FO 15	-86	-20	343	0	0	0
174	SLV FO 16	-71	-24	336	0	0	0
174	CRTFP Uy+	0	0	0	0	0	0
174	CRTFP Uy-	0	0	0	0	0	0
175	SLU 1	0	-7	517	0	0	0
175	SLU 2	0	-5	532	0	0	0
175	SLU 3	0	-7	525	0	0	0
175	SLU 4	0	-6	534	0	0	0
175	SLU 5	0	-5	537	0	0	0
175	SLU 6	0	-7	530	0	0	0
175	SLU 7	0	-6	539	0	0	0
175	SLU 8	0	-7	527	0	0	0
175	SLU 9	0	-6	536	0	0	0
175	SLU 10	0	-6	601	0	0	0
175	SLU 11	0	-8	594	0	0	0
175	SLU 12	0	-7	603	0	0	0
175	SLU 13	0	-6	606	0	0	0
175	SLU 14	0	-8	599	0	0	0
175	SLU 15	0	-7	607	0	0	0
175	SLU 16	0	-8	595	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLU 17	0	-7	604	0	0	0
175	SLU 18	0	-8	615	0	0	0
175	SLU 19	0	-7	624	0	0	0
175	SLU 20	0	-8	620	0	0	0
175	SLU 21	0	-7	629	0	0	0
175	SLU 22	0	-8	585	0	0	0
175	SLU 23	0	-6	600	0	0	0
175	SLU 24	0	-8	593	0	0	0
175	SLU 25	0	-7	602	0	0	0
175	SLU 26	0	-6	605	0	0	0
175	SLU 27	0	-8	598	0	0	0
175	SLU 28	0	-7	607	0	0	0
175	SLU 29	0	-8	595	0	0	0
175	SLU 30	0	-7	604	0	0	0
175	SLU 31	0	-7	669	0	0	0
175	SLU 32	0	-9	662	0	0	0
175	SLU 33	0	-8	671	0	0	0
175	SLU 34	0	-7	673	0	0	0
175	SLU 35	0	-9	666	0	0	0
175	SLU 36	0	-8	675	0	0	0
175	SLU 37	0	-9	663	0	0	0
175	SLU 38	0	-8	672	0	0	0
175	SLU 39	0	-9	683	0	0	0
175	SLU 40	0	-8	692	0	0	0
175	SLU 41	0	-9	688	0	0	0
175	SLU 42	0	-8	697	0	0	0
175	SLU 43	0	-9	649	0	0	0
175	SLU 44	0	-7	664	0	0	0
175	SLU 45	0	-9	657	0	0	0
175	SLU 46	0	-8	666	0	0	0
175	SLU 47	0	-7	669	0	0	0
175	SLU 48	0	-9	662	0	0	0
175	SLU 49	0	-8	671	0	0	0
175	SLU 50	0	-9	659	0	0	0
175	SLU 51	0	-8	667	0	0	0
175	SLU 52	0	-8	733	0	0	0
175	SLU 53	0	-10	726	0	0	0
175	SLU 54	0	-9	735	0	0	0
175	SLU 55	0	-8	737	0	0	0
175	SLU 56	0	-10	730	0	0	0
175	SLU 57	0	-9	739	0	0	0
175	SLU 58	0	-10	727	0	0	0
175	SLU 59	0	-9	736	0	0	0
175	SLU 60	0	-10	747	0	0	0
175	SLU 61	0	-9	756	0	0	0
175	SLU 62	0	-10	752	0	0	0
175	SLU 63	0	-9	761	0	0	0
175	SLU 64	0	-10	717	0	0	0
175	SLU 65	0	-8	732	0	0	0
175	SLU 66	0	-10	725	0	0	0
175	SLU 67	0	-9	734	0	0	0
175	SLU 68	0	-8	737	0	0	0
175	SLU 69	0	-10	730	0	0	0
175	SLU 70	0	-9	738	0	0	0
175	SLU 71	0	-10	727	0	0	0
175	SLU 72	0	-9	735	0	0	0
175	SLU 73	0	-9	801	0	0	0
175	SLU 74	0	-11	794	0	0	0
175	SLU 75	0	-10	802	0	0	0
175	SLU 76	0	-9	805	0	0	0
175	SLU 77	0	-11	798	0	0	0
175	SLU 78	0	-10	807	0	0	0
175	SLU 79	0	-11	795	0	0	0
175	SLU 80	0	-10	804	0	0	0
175	SLU 81	0	-11	815	0	0	0
175	SLU 82	0	-10	824	0	0	0
175	SLU 83	0	-11	820	0	0	0
175	SLU 84	0	-10	829	0	0	0
175	SLE RA 1	0	-7	537	0	0	0
175	SLE RA 2	0	-6	547	0	0	0
175	SLE RA 3	0	-8	542	0	0	0
175	SLE RA 4	0	-7	548	0	0	0
175	SLE RA 5	0	-6	550	0	0	0
175	SLE RA 6	0	-8	545	0	0	0
175	SLE RA 7	0	-7	551	0	0	0
175	SLE RA 8	0	-8	543	0	0	0
175	SLE RA 9	0	-7	549	0	0	0
175	SLE RA 10	0	-7	592	0	0	0
175	SLE RA 11	0	-8	588	0	0	0
175	SLE RA 12	0	-7	594	0	0	0
175	SLE RA 13	0	-7	596	0	0	0
175	SLE RA 14	0	-8	591	0	0	0
175	SLE RA 15	0	-7	597	0	0	0
175	SLE RA 16	0	-8	589	0	0	0
175	SLE RA 17	0	-7	595	0	0	0
175	SLE RA 18	0	-8	602	0	0	0
175	SLE RA 19	0	-7	608	0	0	0
175	SLE RA 20	0	-8	605	0	0	0
175	SLE RA 21	0	-7	611	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
175	SLE FR 1	0	-7	537	0	0	0
175	SLE FR 2	0	-7	539	0	0	0
175	SLE FR 3	0	-7	538	0	0	0
175	SLE FR 4	0	-7	558	0	0	0
175	SLE FR 5	0	-8	558	0	0	0
175	SLE FR 6	0	-8	569	0	0	0
175	SLE QP 1	0	-7	537	0	0	0
175	SLE QP 2	0	-8	556	0	0	0
175	SLD 1	41	2	675	0	0	0
175	SLD 2	50	-1	671	0	0	0
175	SLD 3	43	-21	489	0	0	0
175	SLD 4	52	-23	485	0	0	0
175	SLD 5	8	30	874	0	0	0
175	SLD 6	14	28	872	0	0	0
175	SLD 7	14	-46	255	0	0	0
175	SLD 8	20	-47	253	0	0	0
175	SLD 9	-20	32	860	0	0	0
175	SLD 10	-14	30	857	0	0	0
175	SLD 11	-14	-44	241	0	0	0
175	SLD 12	-8	-45	238	0	0	0
175	SLD 13	-52	8	627	0	0	0
175	SLD 14	-43	5	624	0	0	0
175	SLD 15	-50	-15	442	0	0	0
175	SLD 16	-41	-17	438	0	0	0
175	SLV 1	64	8	746	0	0	0
175	SLV 2	78	4	741	0	0	0
175	SLV 3	67	-29	446	0	0	0
175	SLV 4	81	-33	440	0	0	0
175	SLV 5	12	53	1070	0	0	0
175	SLV 6	22	51	1066	0	0	0
175	SLV 7	22	-69	69	0	0	0
175	SLV 8	31	-71	65	0	0	0
175	SLV 9	-32	56	1047	0	0	0
175	SLV 10	-22	53	1043	0	0	0
175	SLV 11	-22	-66	47	0	0	0
175	SLV 12	-12	-69	43	0	0	0
175	SLV 13	-82	17	672	0	0	0
175	SLV 14	-68	13	666	0	0	0
175	SLV 15	-79	-19	372	0	0	0
175	SLV 16	-65	-23	366	0	0	0
175	SLV FO 1	71	9	765	0	0	0
175	SLV FO 2	86	5	759	0	0	0
175	SLV FO 3	74	-31	435	0	0	0
175	SLV FO 4	90	-35	429	0	0	0
175	SLV FO 5	13	59	1121	0	0	0
175	SLV FO 6	24	56	1117	0	0	0
175	SLV FO 7	24	-75	20	0	0	0
175	SLV FO 8	35	-78	16	0	0	0
175	SLV FO 9	-35	62	1097	0	0	0
175	SLV FO 10	-24	60	1092	0	0	0
175	SLV FO 11	-24	-72	-4	0	0	0
175	SLV FO 12	-14	-75	-8	0	0	0
175	SLV FO 13	-90	20	684	0	0	0
175	SLV FO 14	-74	15	677	0	0	0
175	SLV FO 15	-87	-21	354	0	0	0
175	SLV FO 16	-71	-25	347	0	0	0
175	CRTFP Uy+	0	0	0	0	0	0
175	CRTFP Uy-	0	0	0	0	0	0
176	SLU 1	0	-6	521	0	0	0
176	SLU 2	0	-4	536	0	0	0
176	SLU 3	0	-7	529	0	0	0
176	SLU 4	0	-5	538	0	0	0
176	SLU 5	0	-5	540	0	0	0
176	SLU 6	0	-7	533	0	0	0
176	SLU 7	0	-5	542	0	0	0
176	SLU 8	0	-7	530	0	0	0
176	SLU 9	0	-5	539	0	0	0
176	SLU 10	0	-5	605	0	0	0
176	SLU 11	0	-7	598	0	0	0
176	SLU 12	0	-6	607	0	0	0
176	SLU 13	0	-5	610	0	0	0
176	SLU 14	0	-7	603	0	0	0
176	SLU 15	0	-6	612	0	0	0
176	SLU 16	0	-7	600	0	0	0
176	SLU 17	0	-6	609	0	0	0
176	SLU 18	0	-7	620	0	0	0
176	SLU 19	0	-6	629	0	0	0
176	SLU 20	0	-8	625	0	0	0
176	SLU 21	0	-6	634	0	0	0
176	SLU 22	0	-7	589	0	0	0
176	SLU 23	0	-5	604	0	0	0
176	SLU 24	0	-7	597	0	0	0
176	SLU 25	0	-6	606	0	0	0
176	SLU 26	0	-5	609	0	0	0
176	SLU 27	0	-7	602	0	0	0
176	SLU 28	0	-6	611	0	0	0
176	SLU 29	0	-7	599	0	0	0
176	SLU 30	0	-6	608	0	0	0
176	SLU 31	0	-6	674	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
176	SLU 32	0	-8	667	0	0	0
176	SLU 33	0	-7	675	0	0	0
176	SLU 34	0	-6	678	0	0	0
176	SLU 35	0	-8	671	0	0	0
176	SLU 36	0	-7	680	0	0	0
176	SLU 37	0	-8	668	0	0	0
176	SLU 38	0	-7	677	0	0	0
176	SLU 39	0	-8	688	0	0	0
176	SLU 40	0	-7	697	0	0	0
176	SLU 41	0	-8	693	0	0	0
176	SLU 42	0	-7	702	0	0	0
176	SLU 43	0	-8	654	0	0	0
176	SLU 44	0	-6	668	0	0	0
176	SLU 45	0	-8	661	0	0	0
176	SLU 46	0	-7	670	0	0	0
176	SLU 47	0	-6	673	0	0	0
176	SLU 48	0	-8	666	0	0	0
176	SLU 49	0	-7	675	0	0	0
176	SLU 50	0	-8	663	0	0	0
176	SLU 51	0	-7	672	0	0	0
176	SLU 52	0	-7	738	0	0	0
176	SLU 53	0	-9	731	0	0	0
176	SLU 54	0	-8	740	0	0	0
176	SLU 55	0	-7	743	0	0	0
176	SLU 56	0	-9	736	0	0	0
176	SLU 57	0	-8	745	0	0	0
176	SLU 58	0	-9	733	0	0	0
176	SLU 59	0	-8	742	0	0	0
176	SLU 60	0	-9	753	0	0	0
176	SLU 61	0	-8	762	0	0	0
176	SLU 62	0	-9	758	0	0	0
176	SLU 63	0	-8	767	0	0	0
176	SLU 64	0	-9	722	0	0	0
176	SLU 65	0	-7	737	0	0	0
176	SLU 66	0	-9	730	0	0	0
176	SLU 67	0	-8	739	0	0	0
176	SLU 68	0	-7	742	0	0	0
176	SLU 69	0	-9	735	0	0	0
176	SLU 70	0	-8	744	0	0	0
176	SLU 71	0	-9	732	0	0	0
176	SLU 72	0	-8	740	0	0	0
176	SLU 73	0	-8	806	0	0	0
176	SLU 74	0	-10	799	0	0	0
176	SLU 75	0	-8	808	0	0	0
176	SLU 76	0	-8	811	0	0	0
176	SLU 77	0	-10	804	0	0	0
176	SLU 78	0	-9	813	0	0	0
176	SLU 79	0	-10	801	0	0	0
176	SLU 80	0	-9	810	0	0	0
176	SLU 81	0	-10	821	0	0	0
176	SLU 82	0	-9	830	0	0	0
176	SLU 83	0	-10	826	0	0	0
176	SLU 84	0	-9	835	0	0	0
176	SLE RA 1	0	-7	540	0	0	0
176	SLE RA 2	0	-5	550	0	0	0
176	SLE RA 3	0	-7	546	0	0	0
176	SLE RA 4	0	-6	552	0	0	0
176	SLE RA 5	0	-5	553	0	0	0
176	SLE RA 6	0	-7	549	0	0	0
176	SLE RA 7	0	-6	555	0	0	0
176	SLE RA 8	0	-7	547	0	0	0
176	SLE RA 9	0	-6	553	0	0	0
176	SLE RA 10	0	-6	597	0	0	0
176	SLE RA 11	0	-7	592	0	0	0
176	SLE RA 12	0	-6	598	0	0	0
176	SLE RA 13	0	-6	600	0	0	0
176	SLE RA 14	0	-7	595	0	0	0
176	SLE RA 15	0	-6	601	0	0	0
176	SLE RA 16	0	-7	593	0	0	0
176	SLE RA 17	0	-6	599	0	0	0
176	SLE RA 18	0	-7	607	0	0	0
176	SLE RA 19	0	-7	612	0	0	0
176	SLE RA 20	0	-7	610	0	0	0
176	SLE RA 21	0	-7	616	0	0	0
176	SLE FR 1	0	-7	540	0	0	0
176	SLE FR 2	0	-6	542	0	0	0
176	SLE FR 3	0	-7	542	0	0	0
176	SLE FR 4	0	-7	562	0	0	0
176	SLE FR 5	0	-7	561	0	0	0
176	SLE FR 6	0	-7	573	0	0	0
176	SLE QP 1	0	-7	540	0	0	0
176	SLE QP 2	0	-7	560	0	0	0
176	SLD 1	41	3	674	0	0	0
176	SLD 2	50	1	671	0	0	0
176	SLD 3	43	-20	488	0	0	0
176	SLD 4	52	-22	484	0	0	0
176	SLD 5	8	32	878	0	0	0
176	SLD 6	14	30	876	0	0	0
176	SLD 7	14	-46	256	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
176	SLD 8	20	-47	254	0	0	0
176	SLD 9	-20	33	867	0	0	0
176	SLD 10	-14	32	864	0	0	0
176	SLD 11	-14	-44	245	0	0	0
176	SLD 12	-8	-46	242	0	0	0
176	SLD 13	-52	8	636	0	0	0
176	SLD 14	-43	6	633	0	0	0
176	SLD 15	-51	-15	450	0	0	0
176	SLD 16	-42	-17	446	0	0	0
176	SLV 1	65	10	744	0	0	0
176	SLV 2	79	7	738	0	0	0
176	SLV 3	68	-28	442	0	0	0
176	SLV 4	82	-31	436	0	0	0
176	SLV 5	12	56	1074	0	0	0
176	SLV 6	22	53	1070	0	0	0
176	SLV 7	22	-69	68	0	0	0
176	SLV 8	31	-72	65	0	0	0
176	SLV 9	-32	58	1056	0	0	0
176	SLV 10	-22	56	1052	0	0	0
176	SLV 11	-22	-67	50	0	0	0
176	SLV 12	-13	-69	47	0	0	0
176	SLV 13	-82	17	684	0	0	0
176	SLV 14	-68	14	678	0	0	0
176	SLV 15	-79	-20	382	0	0	0
176	SLV 16	-65	-23	377	0	0	0
176	SLV FO 1	71	11	762	0	0	0
176	SLV FO 2	87	8	756	0	0	0
176	SLV FO 3	74	-30	430	0	0	0
176	SLV FO 4	90	-33	424	0	0	0
176	SLV FO 5	14	62	1125	0	0	0
176	SLV FO 6	24	59	1121	0	0	0
176	SLV FO 7	24	-76	19	0	0	0
176	SLV FO 8	35	-78	15	0	0	0
176	SLV FO 9	-35	64	1105	0	0	0
176	SLV FO 10	-24	62	1101	0	0	0
176	SLV FO 11	-24	-73	-1	0	0	0
176	SLV FO 12	-14	-76	-5	0	0	0
176	SLV FO 13	-90	20	696	0	0	0
176	SLV FO 14	-75	16	690	0	0	0
176	SLV FO 15	-87	-22	365	0	0	0
176	SLV FO 16	-71	-25	359	0	0	0
176	CRTFP Uy+	0	0	0	0	0	0
176	CRTFP Uy-	0	0	0	0	0	0
177	SLU 1	0	-6	526	0	0	0
177	SLU 2	0	-4	541	0	0	0
177	SLU 3	0	-6	534	0	0	0
177	SLU 4	0	-5	543	0	0	0
177	SLU 5	0	-4	545	0	0	0
177	SLU 6	0	-6	538	0	0	0
177	SLU 7	0	-5	547	0	0	0
177	SLU 8	0	-6	535	0	0	0
177	SLU 9	0	-5	544	0	0	0
177	SLU 10	0	-4	611	0	0	0
177	SLU 11	0	-6	604	0	0	0
177	SLU 12	0	-5	613	0	0	0
177	SLU 13	0	-4	616	0	0	0
177	SLU 14	0	-6	609	0	0	0
177	SLU 15	0	-5	618	0	0	0
177	SLU 16	0	-6	606	0	0	0
177	SLU 17	0	-5	615	0	0	0
177	SLU 18	0	-7	626	0	0	0
177	SLU 19	0	-5	635	0	0	0
177	SLU 20	0	-7	631	0	0	0
177	SLU 21	0	-5	640	0	0	0
177	SLU 22	0	-6	595	0	0	0
177	SLU 23	0	-4	610	0	0	0
177	SLU 24	0	-6	603	0	0	0
177	SLU 25	0	-5	612	0	0	0
177	SLU 26	0	-4	614	0	0	0
177	SLU 27	0	-6	607	0	0	0
177	SLU 28	0	-5	616	0	0	0
177	SLU 29	0	-6	604	0	0	0
177	SLU 30	0	-5	613	0	0	0
177	SLU 31	0	-5	680	0	0	0
177	SLU 32	0	-7	673	0	0	0
177	SLU 33	0	-6	682	0	0	0
177	SLU 34	0	-5	685	0	0	0
177	SLU 35	0	-7	678	0	0	0
177	SLU 36	0	-6	687	0	0	0
177	SLU 37	0	-7	675	0	0	0
177	SLU 38	0	-6	684	0	0	0
177	SLU 39	0	-7	695	0	0	0
177	SLU 40	0	-6	704	0	0	0
177	SLU 41	0	-7	700	0	0	0
177	SLU 42	0	-6	709	0	0	0
177	SLU 43	0	-7	660	0	0	0
177	SLU 44	0	-5	675	0	0	0
177	SLU 45	0	-7	668	0	0	0
177	SLU 46	0	-6	677	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLU 47	0	-5	679	0	0	0
177	SLU 48	0	-7	672	0	0	0
177	SLU 49	0	-6	681	0	0	0
177	SLU 50	0	-7	669	0	0	0
177	SLU 51	0	-6	678	0	0	0
177	SLU 52	0	-6	745	0	0	0
177	SLU 53	0	-8	738	0	0	0
177	SLU 54	0	-7	747	0	0	0
177	SLU 55	0	-6	750	0	0	0
177	SLU 56	0	-8	743	0	0	0
177	SLU 57	0	-7	752	0	0	0
177	SLU 58	0	-8	740	0	0	0
177	SLU 59	0	-7	749	0	0	0
177	SLU 60	0	-8	760	0	0	0
177	SLU 61	0	-7	769	0	0	0
177	SLU 62	0	-8	765	0	0	0
177	SLU 63	0	-7	774	0	0	0
177	SLU 64	0	-8	729	0	0	0
177	SLU 65	0	-6	744	0	0	0
177	SLU 66	0	-8	737	0	0	0
177	SLU 67	0	-7	746	0	0	0
177	SLU 68	0	-6	748	0	0	0
177	SLU 69	0	-8	741	0	0	0
177	SLU 70	0	-7	750	0	0	0
177	SLU 71	0	-8	738	0	0	0
177	SLU 72	0	-7	747	0	0	0
177	SLU 73	0	-6	814	0	0	0
177	SLU 74	0	-8	807	0	0	0
177	SLU 75	0	-7	816	0	0	0
177	SLU 76	0	-6	819	0	0	0
177	SLU 77	0	-9	812	0	0	0
177	SLU 78	0	-7	821	0	0	0
177	SLU 79	0	-9	809	0	0	0
177	SLU 80	0	-7	818	0	0	0
177	SLU 81	0	-9	829	0	0	0
177	SLU 82	0	-7	838	0	0	0
177	SLU 83	0	-9	834	0	0	0
177	SLU 84	0	-8	843	0	0	0
177	SLE RA 1	0	-6	545	0	0	0
177	SLE RA 2	0	-4	555	0	0	0
177	SLE RA 3	0	-6	551	0	0	0
177	SLE RA 4	0	-5	557	0	0	0
177	SLE RA 5	0	-5	559	0	0	0
177	SLE RA 6	0	-6	554	0	0	0
177	SLE RA 7	0	-5	560	0	0	0
177	SLE RA 8	0	-6	552	0	0	0
177	SLE RA 9	0	-5	558	0	0	0
177	SLE RA 10	0	-5	602	0	0	0
177	SLE RA 11	0	-6	598	0	0	0
177	SLE RA 12	0	-6	604	0	0	0
177	SLE RA 13	0	-5	606	0	0	0
177	SLE RA 14	0	-6	601	0	0	0
177	SLE RA 15	0	-6	607	0	0	0
177	SLE RA 16	0	-6	599	0	0	0
177	SLE RA 17	0	-6	605	0	0	0
177	SLE RA 18	0	-6	612	0	0	0
177	SLE RA 19	0	-6	618	0	0	0
177	SLE RA 20	0	-6	616	0	0	0
177	SLE RA 21	0	-6	622	0	0	0
177	SLE FR 1	0	-6	545	0	0	0
177	SLE FR 2	0	-6	547	0	0	0
177	SLE FR 3	0	-6	547	0	0	0
177	SLE FR 4	0	-6	567	0	0	0
177	SLE FR 5	0	-6	567	0	0	0
177	SLE FR 6	0	-6	579	0	0	0
177	SLE QP 1	0	-6	545	0	0	0
177	SLE QP 2	0	-6	565	0	0	0
177	SLD 1	42	5	676	0	0	0
177	SLD 2	51	3	672	0	0	0
177	SLD 3	43	-19	488	0	0	0
177	SLD 4	53	-21	484	0	0	0
177	SLD 5	8	34	884	0	0	0
177	SLD 6	14	33	882	0	0	0
177	SLD 7	14	-46	258	0	0	0
177	SLD 8	20	-47	255	0	0	0
177	SLD 9	-20	35	875	0	0	0
177	SLD 10	-14	34	873	0	0	0
177	SLD 11	-14	-45	249	0	0	0
177	SLD 12	-8	-46	247	0	0	0
177	SLD 13	-53	9	646	0	0	0
177	SLD 14	-43	7	643	0	0	0
177	SLD 15	-51	-15	458	0	0	0
177	SLD 16	-42	-17	455	0	0	0
177	SLV 1	65	12	743	0	0	0
177	SLV 2	80	9	738	0	0	0
177	SLV 3	68	-27	439	0	0	0
177	SLV 4	82	-29	434	0	0	0
177	SLV 5	13	58	1080	0	0	0
177	SLV 6	22	56	1077	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
177	SLV 7	22	-70	68	0	0	0
177	SLV 8	31	-72	64	0	0	0
177	SLV 9	-31	60	1067	0	0	0
177	SLV 10	-22	58	1063	0	0	0
177	SLV 11	-22	-68	54	0	0	0
177	SLV 12	-13	-70	50	0	0	0
177	SLV 13	-82	17	697	0	0	0
177	SLV 14	-68	15	692	0	0	0
177	SLV 15	-80	-21	393	0	0	0
177	SLV 16	-65	-24	388	0	0	0
177	SLV FO 1	72	13	760	0	0	0
177	SLV FO 2	87	11	755	0	0	0
177	SLV FO 3	75	-29	426	0	0	0
177	SLV FO 4	90	-32	421	0	0	0
177	SLV FO 5	14	64	1132	0	0	0
177	SLV FO 6	25	63	1128	0	0	0
177	SLV FO 7	24	-76	18	0	0	0
177	SLV FO 8	35	-78	14	0	0	0
177	SLV FO 9	-35	66	1117	0	0	0
177	SLV FO 10	-24	64	1113	0	0	0
177	SLV FO 11	-25	-75	3	0	0	0
177	SLV FO 12	-14	-77	-1	0	0	0
177	SLV FO 13	-91	20	710	0	0	0
177	SLV FO 14	-75	17	705	0	0	0
177	SLV FO 15	-88	-23	376	0	0	0
177	SLV FO 16	-72	-25	370	0	0	0
177	CRTFP Uy+	0	0	0	0	0	0
177	CRTFP Uy-	0	0	0	0	0	0
178	SLU 1	0	-5	531	0	0	0
178	SLU 2	0	-3	546	0	0	0
178	SLU 3	0	-5	539	0	0	0
178	SLU 4	0	-4	548	0	0	0
178	SLU 5	0	-3	551	0	0	0
178	SLU 6	0	-5	544	0	0	0
178	SLU 7	0	-4	553	0	0	0
178	SLU 8	0	-5	541	0	0	0
178	SLU 9	0	-4	550	0	0	0
178	SLU 10	0	-3	618	0	0	0
178	SLU 11	0	-5	611	0	0	0
178	SLU 12	0	-4	620	0	0	0
178	SLU 13	0	-3	623	0	0	0
178	SLU 14	0	-5	616	0	0	0
178	SLU 15	0	-4	625	0	0	0
178	SLU 16	0	-5	613	0	0	0
178	SLU 17	0	-4	622	0	0	0
178	SLU 18	0	-6	634	0	0	0
178	SLU 19	0	-4	643	0	0	0
178	SLU 20	0	-6	638	0	0	0
178	SLU 21	0	-4	648	0	0	0
178	SLU 22	0	-5	601	0	0	0
178	SLU 23	0	-3	616	0	0	0
178	SLU 24	0	-5	609	0	0	0
178	SLU 25	0	-4	618	0	0	0
178	SLU 26	0	-3	621	0	0	0
178	SLU 27	0	-5	614	0	0	0
178	SLU 28	0	-4	623	0	0	0
178	SLU 29	0	-5	611	0	0	0
178	SLU 30	0	-4	620	0	0	0
178	SLU 31	0	-4	688	0	0	0
178	SLU 32	0	-6	681	0	0	0
178	SLU 33	0	-5	690	0	0	0
178	SLU 34	0	-4	693	0	0	0
178	SLU 35	0	-6	686	0	0	0
178	SLU 36	0	-5	695	0	0	0
178	SLU 37	0	-6	683	0	0	0
178	SLU 38	0	-5	692	0	0	0
178	SLU 39	0	-6	703	0	0	0
178	SLU 40	0	-5	713	0	0	0
178	SLU 41	0	-6	708	0	0	0
178	SLU 42	0	-5	717	0	0	0
178	SLU 43	0	-6	667	0	0	0
178	SLU 44	0	-4	682	0	0	0
178	SLU 45	0	-6	675	0	0	0
178	SLU 46	0	-5	684	0	0	0
178	SLU 47	0	-4	687	0	0	0
178	SLU 48	0	-6	680	0	0	0
178	SLU 49	0	-5	689	0	0	0
178	SLU 50	0	-6	676	0	0	0
178	SLU 51	0	-5	686	0	0	0
178	SLU 52	0	-5	753	0	0	0
178	SLU 53	0	-7	746	0	0	0
178	SLU 54	0	-5	755	0	0	0
178	SLU 55	0	-5	758	0	0	0
178	SLU 56	0	-7	751	0	0	0
178	SLU 57	0	-6	760	0	0	0
178	SLU 58	0	-7	748	0	0	0
178	SLU 59	0	-6	757	0	0	0
178	SLU 60	0	-7	769	0	0	0
178	SLU 61	0	-6	778	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLU 62	0	-7	774	0	0	0
178	SLU 63	0	-6	783	0	0	0
178	SLU 64	0	-7	737	0	0	0
178	SLU 65	0	-5	752	0	0	0
178	SLU 66	0	-7	745	0	0	0
178	SLU 67	0	-5	754	0	0	0
178	SLU 68	0	-5	757	0	0	0
178	SLU 69	0	-7	750	0	0	0
178	SLU 70	0	-5	759	0	0	0
178	SLU 71	0	-7	746	0	0	0
178	SLU 72	0	-5	755	0	0	0
178	SLU 73	0	-5	823	0	0	0
178	SLU 74	0	-7	816	0	0	0
178	SLU 75	0	-6	825	0	0	0
178	SLU 76	0	-5	828	0	0	0
178	SLU 77	0	-7	821	0	0	0
178	SLU 78	0	-6	830	0	0	0
178	SLU 79	0	-7	818	0	0	0
178	SLU 80	0	-6	827	0	0	0
178	SLU 81	0	-7	839	0	0	0
178	SLU 82	0	-6	848	0	0	0
178	SLU 83	0	-7	844	0	0	0
178	SLU 84	0	-6	853	0	0	0
178	SLE RA 1	0	-5	551	0	0	0
178	SLE RA 2	0	-4	561	0	0	0
178	SLE RA 3	0	-5	557	0	0	0
178	SLE RA 4	0	-4	563	0	0	0
178	SLE RA 5	0	-4	565	0	0	0
178	SLE RA 6	0	-5	560	0	0	0
178	SLE RA 7	0	-4	566	0	0	0
178	SLE RA 8	0	-5	558	0	0	0
178	SLE RA 9	0	-4	564	0	0	0
178	SLE RA 10	0	-4	609	0	0	0
178	SLE RA 11	0	-5	604	0	0	0
178	SLE RA 12	0	-5	610	0	0	0
178	SLE RA 13	0	-4	612	0	0	0
178	SLE RA 14	0	-5	608	0	0	0
178	SLE RA 15	0	-5	614	0	0	0
178	SLE RA 16	0	-5	606	0	0	0
178	SLE RA 17	0	-5	612	0	0	0
178	SLE RA 18	0	-5	619	0	0	0
178	SLE RA 19	0	-5	625	0	0	0
178	SLE RA 20	0	-5	623	0	0	0
178	SLE RA 21	0	-5	629	0	0	0
178	SLE FR 1	0	-5	551	0	0	0
178	SLE FR 2	0	-5	553	0	0	0
178	SLE FR 3	0	-5	553	0	0	0
178	SLE FR 4	0	-5	574	0	0	0
178	SLE FR 5	0	-5	573	0	0	0
178	SLE FR 6	0	-5	585	0	0	0
178	SLE QP 1	0	-5	551	0	0	0
178	SLE QP 2	0	-5	572	0	0	0
178	SLD 1	42	7	679	0	0	0
178	SLD 2	51	5	676	0	0	0
178	SLD 3	44	-18	489	0	0	0
178	SLD 4	53	-19	486	0	0	0
178	SLD 5	9	36	892	0	0	0
178	SLD 6	15	35	890	0	0	0
178	SLD 7	14	-46	260	0	0	0
178	SLD 8	20	-47	258	0	0	0
178	SLD 9	-20	36	886	0	0	0
178	SLD 10	-14	36	884	0	0	0
178	SLD 11	-15	-45	253	0	0	0
178	SLD 12	-9	-46	251	0	0	0
178	SLD 13	-53	9	657	0	0	0
178	SLD 14	-44	8	654	0	0	0
178	SLD 15	-51	-15	468	0	0	0
178	SLD 16	-42	-17	465	0	0	0
178	SLV 1	66	14	744	0	0	0
178	SLV 2	80	12	739	0	0	0
178	SLV 3	68	-26	437	0	0	0
178	SLV 4	83	-28	433	0	0	0
178	SLV 5	13	61	1089	0	0	0
178	SLV 6	23	59	1086	0	0	0
178	SLV 7	22	-71	67	0	0	0
178	SLV 8	31	-72	64	0	0	0
178	SLV 9	-31	62	1079	0	0	0
178	SLV 10	-22	61	1076	0	0	0
178	SLV 11	-23	-70	57	0	0	0
178	SLV 12	-13	-71	54	0	0	0
178	SLV 13	-83	18	711	0	0	0
178	SLV 14	-69	16	706	0	0	0
178	SLV 15	-80	-22	404	0	0	0
178	SLV 16	-66	-24	399	0	0	0
178	SLV FO 1	73	16	761	0	0	0
178	SLV FO 2	88	13	756	0	0	0
178	SLV FO 3	75	-28	424	0	0	0
178	SLV FO 4	91	-30	419	0	0	0
178	SLV FO 5	14	67	1141	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
178	SLV FO 6	25	66	1138	0	0	0
178	SLV FO 7	24	-77	17	0	0	0
178	SLV FO 8	35	-79	13	0	0	0
178	SLV FO 9	-35	69	1130	0	0	0
178	SLV FO 10	-24	67	1127	0	0	0
178	SLV FO 11	-25	-76	6	0	0	0
178	SLV FO 12	-15	-78	2	0	0	0
178	SLV FO 13	-91	20	725	0	0	0
178	SLV FO 14	-75	18	720	0	0	0
178	SLV FO 15	-88	-24	387	0	0	0
178	SLV FO 16	-73	-26	382	0	0	0
178	CRTFP Uy+	0	0	0	0	0	0
178	CRTFP Uy-	0	0	0	0	0	0
179	SLU 1	4	-27	3067	935.4	-325.72	-4.42
179	SLU 2	4	-14	3149	958.18	-334.43	-3.13
179	SLU 3	4	-27	3115	950.46	-330.82	-4.42
179	SLU 4	4	-20	3164	964.13	-336.04	-3.65
179	SLU 5	4	-14	3179	967.45	-337.55	-3.09
179	SLU 6	4	-27	3144	959.72	-333.94	-4.38
179	SLU 7	4	-20	3194	973.39	-339.16	-3.61
179	SLU 8	4	-27	3125	953.92	-331.96	-4.35
179	SLU 9	4	-20	3175	967.59	-337.18	-3.57
179	SLU 10	5	-17	3566	1086.22	-378.71	-3.54
179	SLU 11	4	-30	3532	1078.5	-375.11	-4.83
179	SLU 12	4	-23	3581	1092.17	-380.33	-4.06
179	SLU 13	4	-18	3595	1095.48	-381.83	-3.51
179	SLU 14	4	-31	3561	1087.76	-378.22	-4.8
179	SLU 15	4	-23	3610	1101.43	-383.45	-4.02
179	SLU 16	4	-30	3542	1081.96	-376.25	-4.76
179	SLU 17	4	-23	3592	1095.63	-381.47	-3.99
179	SLU 18	5	-31	3662	1118.31	-388.99	-5.01
179	SLU 19	5	-24	3712	1131.98	-394.21	-4.24
179	SLU 20	4	-31	3692	1127.57	-392.11	-4.98
179	SLU 21	4	-24	3741	1141.24	-397.33	-4.2
179	SLU 22	5	-29	3473	1060.65	-368.91	-4.87
179	SLU 23	5	-17	3556	1083.43	-377.62	-3.58
179	SLU 24	4	-30	3521	1075.71	-374.01	-4.87
179	SLU 25	4	-22	3571	1089.38	-379.23	-4.09
179	SLU 26	4	-17	3585	1092.7	-380.74	-3.54
179	SLU 27	4	-30	3551	1084.97	-377.13	-4.83
179	SLU 28	4	-23	3600	1098.64	-382.35	-4.06
179	SLU 29	4	-30	3532	1079.17	-375.15	-4.8
179	SLU 30	4	-22	3581	1092.84	-380.38	-4.02
179	SLU 31	5	-20	3973	1211.47	-421.91	-3.99
179	SLU 32	5	-33	3938	1203.75	-418.3	-5.28
179	SLU 33	5	-25	3987	1217.42	-423.52	-4.51
179	SLU 34	5	-20	4002	1220.73	-425.03	-3.96
179	SLU 35	4	-33	3967	1213.01	-421.42	-5.25
179	SLU 36	4	-26	4017	1226.68	-426.64	-4.47
179	SLU 37	4	-33	3949	1207.21	-419.44	-5.21
179	SLU 38	4	-26	3998	1220.88	-424.66	-4.44
179	SLU 39	5	-34	4069	1243.56	-432.18	-5.46
179	SLU 40	5	-26	4118	1257.23	-437.4	-4.68
179	SLU 41	5	-34	4098	1252.82	-435.3	-5.42
179	SLU 42	5	-27	4148	1266.49	-440.52	-4.65
179	SLU 43	5	-34	3848	1173.08	-408.63	-5.59
179	SLU 44	5	-21	3930	1195.86	-417.34	-4.3
179	SLU 45	5	-34	3895	1188.14	-413.73	-5.59
179	SLU 46	5	-27	3945	1201.81	-418.95	-4.82
179	SLU 47	5	-22	3959	1205.12	-420.46	-4.27
179	SLU 48	5	-34	3925	1197.4	-416.85	-5.56
179	SLU 49	5	-27	3974	1211.07	-422.07	-4.78
179	SLU 50	5	-34	3906	1191.6	-414.87	-5.52
179	SLU 51	5	-27	3956	1205.27	-420.09	-4.75
179	SLU 52	6	-24	4347	1323.9	-461.62	-4.72
179	SLU 53	5	-37	4312	1316.17	-458.01	-6.01
179	SLU 54	5	-30	4362	1329.85	-463.24	-5.23
179	SLU 55	5	-25	4376	1333.16	-464.74	-4.68
179	SLU 56	5	-38	4342	1325.44	-461.13	-5.97
179	SLU 57	5	-30	4391	1339.11	-466.36	-5.2
179	SLU 58	5	-38	4323	1319.64	-459.15	-5.93
179	SLU 59	5	-30	4372	1333.31	-464.38	-5.16
179	SLU 60	6	-38	4443	1355.99	-471.9	-6.18
179	SLU 61	6	-31	4492	1369.66	-477.12	-5.41
179	SLU 62	5	-39	4472	1365.25	-475.02	-6.15
179	SLU 63	5	-31	4522	1378.92	-480.24	-5.37
179	SLU 64	6	-36	4254	1298.33	-451.82	-6.04
179	SLU 65	6	-24	4337	1321.11	-460.53	-4.75
179	SLU 66	6	-37	4302	1313.39	-456.92	-6.04
179	SLU 67	6	-29	4351	1327.06	-462.14	-5.27
179	SLU 68	6	-24	4366	1330.37	-463.65	-4.71
179	SLU 69	5	-37	4331	1322.65	-460.04	-6
179	SLU 70	5	-30	4381	1336.32	-465.26	-5.23
179	SLU 71	5	-37	4313	1316.85	-458.06	-5.97
179	SLU 72	5	-30	4362	1330.52	-463.28	-5.19
179	SLU 73	6	-27	4753	1449.15	-504.81	-5.16
179	SLU 74	6	-40	4719	1441.43	-501.21	-6.45
179	SLU 75	6	-33	4768	1455.1	-506.43	-5.68
179	SLU 76	6	-27	4783	1458.41	-507.93	-5.13



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
179	SLU 77	6	-40	4748	1450.69	-504.32	-6.42
179	SLU 78	6	-33	4797	1464.36	-509.55	-5.64
179	SLU 79	5	-40	4729	1444.89	-502.35	-6.38
179	SLU 80	6	-33	4779	1458.56	-507.57	-5.61
179	SLU 81	6	-41	4849	1481.24	-515.09	-6.63
179	SLU 82	6	-33	4899	1494.91	-520.31	-5.86
179	SLU 83	6	-41	4879	1490.5	-518.21	-6.6
179	SLU 84	6	-34	4928	1504.17	-523.43	-5.82
179	SLE RA 1	4	-27	3183	971.19	-338.06	-4.55
179	SLE RA 2	4	-19	3238	986.37	-343.87	-3.69
179	SLE RA 3	4	-28	3215	981.23	-341.46	-4.55
179	SLE RA 4	4	-23	3248	990.34	-344.94	-4.03
179	SLE RA 5	4	-19	3258	992.55	-345.95	-3.66
179	SLE RA 6	4	-28	3234	987.4	-343.54	-4.52
179	SLE RA 7	4	-23	3267	996.51	-347.02	-4.01
179	SLE RA 8	4	-28	3222	983.54	-342.22	-4.5
179	SLE RA 9	4	-23	3255	992.65	-345.7	-3.98
179	SLE RA 10	5	-21	3516	1071.73	-373.39	-3.96
179	SLE RA 11	4	-30	3493	1066.58	-370.99	-4.82
179	SLE RA 12	4	-25	3526	1075.7	-374.47	-4.31
179	SLE RA 13	4	-21	3535	1077.91	-375.47	-3.94
179	SLE RA 14	4	-30	3512	1072.76	-373.06	-4.8
179	SLE RA 15	4	-25	3545	1081.87	-376.55	-4.28
179	SLE RA 16	4	-30	3500	1068.89	-371.75	-4.78
179	SLE RA 17	4	-25	3533	1078.01	-375.23	-4.26
179	SLE RA 18	5	-30	3580	1093.13	-380.24	-4.94
179	SLE RA 19	5	-25	3613	1102.24	-383.72	-4.43
179	SLE RA 20	4	-31	3599	1099.3	-382.32	-4.92
179	SLE RA 21	4	-26	3632	1108.41	-385.8	-4.4
179	SLE FR 1	4	-27	3183	971.19	-338.06	-4.55
179	SLE FR 2	4	-26	3194	974.22	-339.22	-4.38
179	SLE FR 3	4	-27	3191	973.66	-338.9	-4.54
179	SLE FR 4	4	-27	3313	1010.81	-351.88	-4.49
179	SLE FR 5	4	-28	3310	1010.24	-351.55	-4.66
179	SLE FR 6	4	-29	3381	1032.16	-359.15	-4.74
179	SLE QP 1	4	-27	3183	971.19	-338.06	-4.55
179	SLE QP 2	4	-28	3302	1007.77	-350.72	-4.67
179	SLD 1	269	44	3861	1163.37	-409.61	-79.47
179	SLD 2	323	39	3849	1160.52	-408.4	-97.33
179	SLD 3	261	-106	2833	879.02	-300.99	-96.74
179	SLD 4	315	-111	2821	876.17	-299.77	-114.6
179	SLD 5	86	221	5033	1486.22	-533.35	2.31
179	SLD 6	121	217	5025	1484.34	-532.55	-9.49
179	SLD 7	60	-277	1603	538.4	-171.27	-55.27
179	SLD 8	96	-281	1595	536.52	-170.47	-67.06
179	SLD 9	-87	224	5009	1479.02	-530.96	57.73
179	SLD 10	-51	221	5001	1477.13	-530.16	45.93
179	SLD 11	-113	-274	1580	531.2	-168.89	0.16
179	SLD 12	-77	-278	1572	529.32	-168.09	-11.64
179	SLD 13	-307	54	3784	1139.36	-401.66	105.27
179	SLD 14	-253	49	3772	1136.51	-400.45	87.41
179	SLD 15	-314	-95	2755	855.02	-293.04	88
179	SLD 16	-260	-100	2743	852.17	-291.83	70.13
179	SLV 1	419	88	4204	1258.62	-445.68	-121.34
179	SLV 2	503	80	4185	1254.16	-443.78	-149.32
179	SLV 3	406	-153	2541	798.97	-270.09	-149.15
179	SLV 4	491	-162	2522	794.51	-268.2	-177.13
179	SLV 5	132	374	6099	1780.99	-645.86	7.73
179	SLV 6	189	369	6086	1777.99	-644.59	-11.11
179	SLV 7	90	-430	555	248.83	-60.58	-84.97
179	SLV 8	147	-436	542	245.82	-59.3	-103.81
179	SLV 9	-138	379	6062	1769.71	-642.13	94.47
179	SLV 10	-81	374	6049	1766.71	-640.85	75.63
179	SLV 11	-180	-425	518	237.55	-56.85	1.78
179	SLV 12	-123	-431	506	234.54	-55.57	-17.06
179	SLV 13	-482	105	4082	1221.03	-433.24	167.8
179	SLV 14	-397	97	4063	1216.56	-431.34	139.82
179	SLV 15	-495	-136	2419	761.38	-257.65	139.99
179	SLV 16	-410	-145	2400	756.91	-255.76	112.01
179	SLV FO 1	460	100	4294	1283.71	-455.17	-133.01
179	SLV FO 2	553	91	4273	1278.79	-453.09	-163.79
179	SLV FO 3	446	-166	2465	778.09	-262.03	-163.6
179	SLV FO 4	539	-175	2444	773.18	-259.94	-194.38
179	SLV FO 5	145	415	6378	1858.31	-675.38	8.97
179	SLV FO 6	207	408	6364	1855.01	-673.97	-11.75
179	SLV FO 7	99	-471	280	172.93	-31.57	-93
179	SLV FO 8	161	-477	266	169.63	-30.16	-113.72
179	SLV FO 9	-153	420	6338	1845.91	-671.27	104.39
179	SLV FO 10	-90	414	6324	1842.6	-669.87	83.66
179	SLV FO 11	-199	-465	240	160.53	-27.46	2.42
179	SLV FO 12	-136	-471	226	157.22	-26.06	-18.3
179	SLV FO 13	-531	118	4160	1242.36	-441.49	185.05
179	SLV FO 14	-438	109	4139	1237.44	-439.4	154.27
179	SLV FO 15	-545	-147	2331	736.74	-248.35	154.46
179	SLV FO 16	-451	-156	2310	731.83	-246.26	123.68
179	CRTFP Ux+	0	0	0	0	0	0
179	CRTFP Ux-	0	0	0	0	0	0
179	CRTFP Uy+	0	0	0	0	0	0
179	CRTFP Uy-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
187	SLU 1	19	-99	5345	1146.68	1154.94	16.85
187	SLU 2	20	-76	5496	1176.26	1187.68	11.78
187	SLU 3	19	-101	5428	1164.87	1172.69	17.29
187	SLU 4	19	-87	5518	1182.62	1192.33	14.24
187	SLU 5	19	-77	5546	1187.41	1198.49	12.09
187	SLU 6	19	-102	5478	1176.02	1183.5	17.6
187	SLU 7	19	-88	5568	1193.77	1203.14	14.55
187	SLU 8	19	-101	5446	1168.98	1176.56	17.48
187	SLU 9	19	-87	5536	1186.73	1196.21	14.43
187	SLU 10	21	-86	6207	1330.06	1341.9	13.83
187	SLU 11	20	-111	6139	1318.66	1326.91	19.34
187	SLU 12	20	-97	6229	1336.41	1346.55	16.29
187	SLU 13	20	-87	6257	1341.21	1352.72	14.14
187	SLU 14	20	-112	6189	1329.81	1337.72	19.65
187	SLU 15	20	-98	6279	1347.56	1357.37	16.6
187	SLU 16	19	-111	6157	1322.77	1330.79	19.53
187	SLU 17	20	-97	6247	1340.52	1350.43	16.48
187	SLU 18	20	-113	6362	1366.39	1375.26	19.78
187	SLU 19	21	-100	6452	1384.14	1394.9	16.74
187	SLU 20	20	-114	6412	1377.54	1386.07	20.09
187	SLU 21	20	-101	6502	1395.29	1405.72	17.05
187	SLU 22	22	-111	6045	1298.38	1306.1	18.94
187	SLU 23	22	-88	6195	1327.97	1338.84	13.86
187	SLU 24	22	-113	6128	1316.57	1323.84	19.37
187	SLU 25	22	-99	6218	1334.32	1343.49	16.33
187	SLU 26	22	-89	6246	1339.12	1349.65	14.18
187	SLU 27	21	-114	6178	1327.72	1334.66	19.68
187	SLU 28	22	-100	6268	1345.47	1354.3	16.64
187	SLU 29	21	-113	6146	1320.68	1327.72	19.56
187	SLU 30	21	-99	6236	1338.43	1347.37	16.52
187	SLU 31	23	-98	6907	1481.76	1493.06	15.91
187	SLU 32	22	-123	6839	1470.37	1478.07	21.42
187	SLU 33	23	-109	6929	1488.12	1497.71	18.38
187	SLU 34	23	-99	6957	1492.91	1503.87	16.23
187	SLU 35	22	-124	6889	1481.52	1488.88	21.73
187	SLU 36	22	-110	6979	1499.27	1508.52	18.69
187	SLU 37	22	-124	6857	1474.48	1481.95	21.61
187	SLU 38	22	-110	6947	1492.23	1501.59	18.57
187	SLU 39	23	-126	7062	1518.09	1526.42	21.87
187	SLU 40	23	-112	7152	1535.84	1546.06	18.82
187	SLU 41	23	-127	7112	1529.24	1537.23	22.18
187	SLU 42	23	-113	7202	1546.99	1556.87	19.13
187	SLU 43	24	-124	6709	1438.67	1449.59	21.2
187	SLU 44	25	-101	6859	1468.25	1482.33	16.12
187	SLU 45	24	-126	6791	1456.86	1467.34	21.63
187	SLU 46	24	-112	6881	1474.61	1486.99	18.58
187	SLU 47	24	-102	6909	1479.4	1493.15	16.43
187	SLU 48	24	-127	6841	1468.01	1478.15	21.94
187	SLU 49	24	-113	6932	1485.76	1497.8	18.9
187	SLU 50	24	-126	6809	1460.97	1471.22	21.82
187	SLU 51	24	-113	6899	1478.72	1490.86	18.78
187	SLU 52	25	-111	7571	1622.05	1636.56	18.17
187	SLU 53	25	-136	7503	1610.65	1621.57	23.68
187	SLU 54	25	-122	7593	1628.4	1641.21	20.63
187	SLU 55	25	-112	7621	1633.2	1647.37	18.48
187	SLU 56	25	-137	7553	1621.8	1632.38	23.99
187	SLU 57	25	-124	7643	1639.55	1652.02	20.95
187	SLU 58	24	-137	7521	1614.76	1625.44	23.87
187	SLU 59	25	-123	7611	1632.51	1645.09	20.83
187	SLU 60	25	-139	7725	1658.38	1669.91	24.12
187	SLU 61	26	-125	7815	1676.13	1689.56	21.08
187	SLU 62	25	-140	7775	1669.53	1680.73	24.44
187	SLU 63	25	-126	7866	1687.28	1700.37	21.39
187	SLU 64	27	-136	7409	1590.37	1600.75	23.28
187	SLU 65	27	-113	7559	1619.96	1633.49	18.2
187	SLU 66	27	-138	7491	1608.56	1618.5	23.71
187	SLU 67	27	-124	7581	1626.31	1638.14	20.67
187	SLU 68	27	-115	7609	1631.11	1644.31	18.52
187	SLU 69	26	-139	7541	1619.71	1629.31	24.03
187	SLU 70	27	-126	7631	1637.46	1648.96	20.98
187	SLU 71	26	-139	7509	1612.67	1622.38	23.9
187	SLU 72	26	-125	7599	1630.42	1642.02	20.86
187	SLU 73	28	-124	8270	1773.75	1787.72	20.25
187	SLU 74	27	-149	8203	1762.36	1772.72	25.76
187	SLU 75	28	-135	8293	1780.11	1792.37	22.72
187	SLU 76	28	-125	8321	1784.9	1798.53	20.57
187	SLU 77	27	-150	8253	1773.51	1783.54	26.08
187	SLU 78	27	-136	8343	1791.26	1803.18	23.03
187	SLU 79	27	-149	8221	1766.47	1776.6	25.95
187	SLU 80	27	-135	8311	1784.22	1796.25	22.91
187	SLU 81	28	-151	8425	1810.08	1821.07	26.21
187	SLU 82	28	-137	8515	1827.83	1840.72	23.16
187	SLU 83	27	-152	8475	1821.23	1831.89	26.52
187	SLU 84	28	-138	8565	1838.98	1851.53	23.48
187	SLE RA 1	20	-102	5545	1190.02	1198.13	17.45
187	SLE RA 2	20	-87	5645	1209.75	1219.95	14.07
187	SLE RA 3	20	-103	5600	1202.15	1209.96	17.74
187	SLE RA 4	20	-94	5660	1213.98	1223.05	15.71
187	SLE RA 5	20	-88	5679	1217.18	1227.16	14.27



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
187	SLE RA 6	20	-104	5634	1209.58	1217.17	17.95
187	SLE RA 7	20	-95	5694	1221.41	1230.26	15.92
187	SLE RA 8	20	-104	5612	1204.89	1212.54	17.87
187	SLE RA 9	20	-95	5672	1216.72	1225.64	15.84
187	SLE RA 10	21	-94	6120	1312.28	1322.77	15.43
187	SLE RA 11	20	-110	6074	1304.68	1312.77	19.1
187	SLE RA 12	21	-101	6135	1316.51	1325.87	17.07
187	SLE RA 13	21	-94	6153	1319.71	1329.98	15.64
187	SLE RA 14	20	-111	6108	1312.11	1319.98	19.31
187	SLE RA 15	20	-102	6168	1323.95	1333.08	17.28
187	SLE RA 16	20	-111	6086	1307.42	1315.36	19.23
187	SLE RA 17	20	-101	6147	1319.25	1328.46	17.2
187	SLE RA 18	21	-112	6223	1336.49	1345.01	19.4
187	SLE RA 19	21	-103	6283	1348.33	1358.1	17.37
187	SLE RA 20	21	-113	6256	1343.93	1352.22	19.61
187	SLE RA 21	21	-104	6316	1355.76	1365.31	17.58
187	SLE FR 1	20	-102	5545	1190.02	1198.13	17.45
187	SLE FR 2	20	-99	5565	1193.97	1202.49	16.77
187	SLE FR 3	20	-103	5559	1193	1201.01	17.53
187	SLE FR 4	20	-102	5769	1237.91	1246.56	17.36
187	SLE FR 5	20	-105	5762	1236.94	1245.07	18.12
187	SLE FR 6	20	-107	5884	1263.26	1271.57	18.43
187	SLE QP 1	20	-102	5545	1190.02	1198.13	17.45
187	SLE QP 2	20	-105	5749	1233.96	1242.19	18.04
187	SLD 1	496	47	6594	1400.85	1432.06	-118.39
187	SLD 2	594	53	6619	1405.89	1436.48	-141.37
187	SLD 3	484	-221	4720	1032.03	1023.96	-60.87
187	SLD 4	582	-214	4745	1037.06	1028.38	-83.85
187	SLD 5	163	345	8840	1842.51	1917.31	-106
187	SLD 6	228	349	8856	1845.83	1920.23	-121.17
187	SLD 7	123	-547	2593	613.09	556.97	85.75
187	SLD 8	188	-542	2610	616.42	559.89	70.57
187	SLD 9	-148	332	8887	1851.51	1924.49	-34.5
187	SLD 10	-83	336	8904	1854.84	1927.41	-49.68
187	SLD 11	-188	-560	2641	622.09	564.15	157.24
187	SLD 12	-123	-555	2657	625.42	567.07	142.07
187	SLD 13	-541	4	6752	1430.86	1456	119.92
187	SLD 14	-443	11	6778	1435.9	1460.42	96.94
187	SLD 15	-553	-264	4878	1062.04	1047.9	177.44
187	SLD 16	-455	-257	4904	1067.08	1052.32	154.46
187	SLV 1	765	139	7120	1504.7	1549.88	-196.96
187	SLV 2	919	150	7159	1512.59	1556.8	-232.96
187	SLV 3	745	-293	4090	908.44	890.15	-103.84
187	SLV 4	899	-282	4130	916.33	897.08	-139.85
187	SLV 5	245	622	10747	2218.03	2333.79	-180.96
187	SLV 6	349	629	10774	2223.34	2338.46	-205.21
187	SLV 7	179	-819	649	230.51	134.7	129.41
187	SLV 8	282	-812	676	235.83	139.36	105.17
187	SLV 9	-242	601	10821	2232.1	2345.02	-69.1
187	SLV 10	-138	609	10848	2237.41	2349.68	-93.34
187	SLV 11	-308	-839	723	244.58	145.93	241.28
187	SLV 12	-205	-832	750	249.9	150.59	217.03
187	SLV 13	-858	72	7367	1551.59	1587.31	175.92
187	SLV 14	-704	83	7407	1559.49	1594.23	139.92
187	SLV 15	-878	-361	4338	955.34	927.58	269.03
187	SLV 16	-724	-350	4378	963.23	934.51	233.03
187	SLV FO 1	839	164	7257	1531.77	1580.64	-218.46
187	SLV FO 2	1009	176	7300	1540.45	1588.26	-258.06
187	SLV FO 3	817	-312	3924	875.89	854.94	-116.03
187	SLV FO 4	987	-300	3968	884.57	862.56	-155.64
187	SLV FO 5	268	694	11247	2316.44	2442.95	-200.86
187	SLV FO 6	382	702	11276	2322.28	2448.08	-227.53
187	SLV FO 7	194	-890	139	130.17	23.95	140.55
187	SLV FO 8	308	-882	168	136.01	29.08	113.88
187	SLV FO 9	-268	672	11329	2331.91	2455.3	-77.81
187	SLV FO 10	-154	680	11358	2337.76	2460.43	-104.48
187	SLV FO 11	-341	-913	221	145.65	36.3	263.6
187	SLV FO 12	-227	-905	250	151.49	41.43	236.93
187	SLV FO 13	-946	89	7529	1583.36	1621.82	191.71
187	SLV FO 14	-777	101	7573	1592.04	1629.44	152.1
187	SLV FO 15	-968	-386	4197	927.48	896.12	294.13
187	SLV FO 16	-799	-374	4240	936.16	903.74	254.53
187	CRTFP Ux+	0	0	0	0	0	0
187	CRTFP Ux-	0	0	0	0	0	0
187	CRTFP Uy+	0	0	0	-0.01	-0.01	0
187	CRTFP Uy-	0	0	0	0.01	0.01	0
188	SLU 1	2	-10	558	0	0	0
188	SLU 2	2	-8	574	0	0	0
188	SLU 3	2	-10	566	0	0	0
188	SLU 4	2	-9	576	0	0	0
188	SLU 5	2	-8	579	0	0	0
188	SLU 6	2	-10	571	0	0	0
188	SLU 7	2	-9	581	0	0	0
188	SLU 8	2	-10	568	0	0	0
188	SLU 9	2	-9	578	0	0	0
188	SLU 10	2	-9	648	0	0	0
188	SLU 11	2	-11	640	0	0	0
188	SLU 12	2	-10	650	0	0	0
188	SLU 13	2	-9	653	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLU 14	2	-12	645	0	0	0
188	SLU 15	2	-10	655	0	0	0
188	SLU 16	2	-11	642	0	0	0
188	SLU 17	2	-10	651	0	0	0
188	SLU 18	2	-12	663	0	0	0
188	SLU 19	2	-10	673	0	0	0
188	SLU 20	2	-12	668	0	0	0
188	SLU 21	2	-10	678	0	0	0
188	SLU 22	3	-11	630	0	0	0
188	SLU 23	3	-9	647	0	0	0
188	SLU 24	3	-12	639	0	0	0
188	SLU 25	3	-10	649	0	0	0
188	SLU 26	3	-9	652	0	0	0
188	SLU 27	3	-12	644	0	0	0
188	SLU 28	3	-10	654	0	0	0
188	SLU 29	3	-12	641	0	0	0
188	SLU 30	3	-10	650	0	0	0
188	SLU 31	3	-10	720	0	0	0
188	SLU 32	3	-13	712	0	0	0
188	SLU 33	3	-11	722	0	0	0
188	SLU 34	3	-10	725	0	0	0
188	SLU 35	3	-13	717	0	0	0
188	SLU 36	3	-11	727	0	0	0
188	SLU 37	3	-13	714	0	0	0
188	SLU 38	3	-11	724	0	0	0
188	SLU 39	3	-13	735	0	0	0
188	SLU 40	3	-12	745	0	0	0
188	SLU 41	3	-13	740	0	0	0
188	SLU 42	3	-12	750	0	0	0
188	SLU 43	3	-13	700	0	0	0
188	SLU 44	3	-10	717	0	0	0
188	SLU 45	3	-13	709	0	0	0
188	SLU 46	3	-12	719	0	0	0
188	SLU 47	3	-11	722	0	0	0
188	SLU 48	3	-13	714	0	0	0
188	SLU 49	3	-12	724	0	0	0
188	SLU 50	3	-13	711	0	0	0
188	SLU 51	3	-12	720	0	0	0
188	SLU 52	3	-12	790	0	0	0
188	SLU 53	3	-14	782	0	0	0
188	SLU 54	3	-13	792	0	0	0
188	SLU 55	3	-12	795	0	0	0
188	SLU 56	3	-14	787	0	0	0
188	SLU 57	3	-13	797	0	0	0
188	SLU 58	3	-14	784	0	0	0
188	SLU 59	3	-13	794	0	0	0
188	SLU 60	3	-14	805	0	0	0
188	SLU 61	3	-13	815	0	0	0
188	SLU 62	3	-14	810	0	0	0
188	SLU 63	3	-13	820	0	0	0
188	SLU 64	3	-14	773	0	0	0
188	SLU 65	3	-12	789	0	0	0
188	SLU 66	3	-14	781	0	0	0
188	SLU 67	3	-13	791	0	0	0
188	SLU 68	3	-12	794	0	0	0
188	SLU 69	3	-14	786	0	0	0
188	SLU 70	3	-13	796	0	0	0
188	SLU 71	3	-14	783	0	0	0
188	SLU 72	3	-13	793	0	0	0
188	SLU 73	3	-13	863	0	0	0
188	SLU 74	3	-15	855	0	0	0
188	SLU 75	3	-14	865	0	0	0
188	SLU 76	3	-13	868	0	0	0
188	SLU 77	3	-15	860	0	0	0
188	SLU 78	3	-14	870	0	0	0
188	SLU 79	3	-15	857	0	0	0
188	SLU 80	3	-14	866	0	0	0
188	SLU 81	3	-16	878	0	0	0
188	SLU 82	3	-14	888	0	0	0
188	SLU 83	3	-16	883	0	0	0
188	SLU 84	3	-14	893	0	0	0
188	SLE RA 1	2	-11	579	0	0	0
188	SLE RA 2	2	-9	589	0	0	0
188	SLE RA 3	2	-11	584	0	0	0
188	SLE RA 4	2	-10	591	0	0	0
188	SLE RA 5	2	-9	593	0	0	0
188	SLE RA 6	2	-11	588	0	0	0
188	SLE RA 7	2	-10	594	0	0	0
188	SLE RA 8	2	-11	585	0	0	0
188	SLE RA 9	2	-10	592	0	0	0
188	SLE RA 10	2	-10	638	0	0	0
188	SLE RA 11	2	-11	633	0	0	0
188	SLE RA 12	2	-10	640	0	0	0
188	SLE RA 13	2	-10	642	0	0	0
188	SLE RA 14	2	-11	637	0	0	0
188	SLE RA 15	2	-10	643	0	0	0
188	SLE RA 16	2	-11	634	0	0	0
188	SLE RA 17	2	-10	641	0	0	0
188	SLE RA 18	2	-12	649	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
188	SLE RA 19	2	-11	655	0	0	0
188	SLE RA 20	2	-12	652	0	0	0
188	SLE RA 21	2	-11	659	0	0	0
188	SLE FR 1	2	-11	579	0	0	0
188	SLE FR 2	2	-10	581	0	0	0
188	SLE FR 3	2	-11	580	0	0	0
188	SLE FR 4	2	-11	602	0	0	0
188	SLE FR 5	2	-11	601	0	0	0
188	SLE FR 6	2	-11	614	0	0	0
188	SLE QP 1	2	-11	579	0	0	0
188	SLE QP 2	2	-11	600	0	0	0
188	SLD 1	51	5	686	0	0	0
188	SLD 2	61	7	690	0	0	0
188	SLD 3	50	-21	482	0	0	0
188	SLD 4	60	-20	485	0	0	0
188	SLD 5	17	34	935	0	0	0
188	SLD 6	24	35	938	0	0	0
188	SLD 7	13	-54	253	0	0	0
188	SLD 8	20	-53	256	0	0	0
188	SLD 9	-15	32	944	0	0	0
188	SLD 10	-8	33	946	0	0	0
188	SLD 11	-19	-57	262	0	0	0
188	SLD 12	-12	-56	264	0	0	0
188	SLD 13	-55	-2	714	0	0	0
188	SLD 14	-45	0	718	0	0	0
188	SLD 15	-57	-28	509	0	0	0
188	SLD 16	-46	-27	513	0	0	0
188	SLV 1	79	15	740	0	0	0
188	SLV 2	95	17	746	0	0	0
188	SLV 3	77	-28	410	0	0	0
188	SLV 4	93	-26	415	0	0	0
188	SLV 5	26	61	1142	0	0	0
188	SLV 6	36	63	1146	0	0	0
188	SLV 7	18	-81	40	0	0	0
188	SLV 8	29	-80	44	0	0	0
188	SLV 9	-24	58	1155	0	0	0
188	SLV 10	-14	60	1159	0	0	0
188	SLV 11	-32	-85	53	0	0	0
188	SLV 12	-21	-83	57	0	0	0
188	SLV 13	-88	4	784	0	0	0
188	SLV 14	-72	6	790	0	0	0
188	SLV 15	-90	-39	453	0	0	0
188	SLV 16	-74	-37	459	0	0	0
188	SLV FO 1	86	17	754	0	0	0
188	SLV FO 2	104	20	761	0	0	0
188	SLV FO 3	84	-30	391	0	0	0
188	SLV FO 4	102	-27	397	0	0	0
188	SLV FO 5	28	69	1197	0	0	0
188	SLV FO 6	40	70	1201	0	0	0
188	SLV FO 7	20	-88	-16	0	0	0
188	SLV FO 8	32	-87	-12	0	0	0
188	SLV FO 9	-27	65	1211	0	0	0
188	SLV FO 10	-15	67	1215	0	0	0
188	SLV FO 11	-35	-92	-2	0	0	0
188	SLV FO 12	-23	-90	3	0	0	0
188	SLV FO 13	-97	6	802	0	0	0
188	SLV FO 14	-79	8	809	0	0	0
188	SLV FO 15	-99	-42	439	0	0	0
188	SLV FO 16	-82	-39	445	0	0	0
188	CRTFP Uy+	0	0	0	0	0	0
188	CRTFP Uy-	0	0	0	0	0	0
189	SLU 1	2	-8	461	0	0	0
189	SLU 2	2	-6	474	0	0	0
189	SLU 3	2	-8	467	0	0	0
189	SLU 4	2	-7	476	0	0	0
189	SLU 5	2	-7	478	0	0	0
189	SLU 6	2	-9	472	0	0	0
189	SLU 7	2	-7	480	0	0	0
189	SLU 8	2	-9	469	0	0	0
189	SLU 9	2	-7	477	0	0	0
189	SLU 10	2	-7	534	0	0	0
189	SLU 11	2	-9	528	0	0	0
189	SLU 12	2	-8	536	0	0	0
189	SLU 13	2	-7	539	0	0	0
189	SLU 14	2	-9	532	0	0	0
189	SLU 15	2	-8	540	0	0	0
189	SLU 16	2	-9	529	0	0	0
189	SLU 17	2	-8	537	0	0	0
189	SLU 18	2	-10	547	0	0	0
189	SLU 19	2	-8	555	0	0	0
189	SLU 20	2	-10	551	0	0	0
189	SLU 21	2	-8	559	0	0	0
189	SLU 22	2	-9	520	0	0	0
189	SLU 23	2	-7	534	0	0	0
189	SLU 24	2	-9	527	0	0	0
189	SLU 25	2	-8	535	0	0	0
189	SLU 26	2	-8	538	0	0	0
189	SLU 27	2	-10	531	0	0	0
189	SLU 28	2	-8	540	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLU 29	2	-10	529	0	0	0
189	SLU 30	2	-8	537	0	0	0
189	SLU 31	2	-8	594	0	0	0
189	SLU 32	2	-10	588	0	0	0
189	SLU 33	2	-9	596	0	0	0
189	SLU 34	2	-8	598	0	0	0
189	SLU 35	2	-10	592	0	0	0
189	SLU 36	2	-9	600	0	0	0
189	SLU 37	2	-10	589	0	0	0
189	SLU 38	2	-9	597	0	0	0
189	SLU 39	2	-11	607	0	0	0
189	SLU 40	2	-9	615	0	0	0
189	SLU 41	2	-11	611	0	0	0
189	SLU 42	2	-9	619	0	0	0
189	SLU 43	3	-10	578	0	0	0
189	SLU 44	3	-9	592	0	0	0
189	SLU 45	3	-11	585	0	0	0
189	SLU 46	3	-9	593	0	0	0
189	SLU 47	3	-9	596	0	0	0
189	SLU 48	2	-11	589	0	0	0
189	SLU 49	3	-10	597	0	0	0
189	SLU 50	2	-11	587	0	0	0
189	SLU 51	2	-10	595	0	0	0
189	SLU 52	3	-9	652	0	0	0
189	SLU 53	3	-11	646	0	0	0
189	SLU 54	3	-10	654	0	0	0
189	SLU 55	3	-10	656	0	0	0
189	SLU 56	3	-12	650	0	0	0
189	SLU 57	3	-10	658	0	0	0
189	SLU 58	3	-11	647	0	0	0
189	SLU 59	3	-10	655	0	0	0
189	SLU 60	3	-12	665	0	0	0
189	SLU 61	3	-11	673	0	0	0
189	SLU 62	3	-12	669	0	0	0
189	SLU 63	3	-11	677	0	0	0
189	SLU 64	3	-11	638	0	0	0
189	SLU 65	3	-10	651	0	0	0
189	SLU 66	3	-12	645	0	0	0
189	SLU 67	3	-11	653	0	0	0
189	SLU 68	3	-10	656	0	0	0
189	SLU 69	3	-12	649	0	0	0
189	SLU 70	3	-11	657	0	0	0
189	SLU 71	3	-12	646	0	0	0
189	SLU 72	3	-11	654	0	0	0
189	SLU 73	3	-10	712	0	0	0
189	SLU 74	3	-12	705	0	0	0
189	SLU 75	3	-11	713	0	0	0
189	SLU 76	3	-11	716	0	0	0
189	SLU 77	3	-13	710	0	0	0
189	SLU 78	3	-11	718	0	0	0
189	SLU 79	3	-12	707	0	0	0
189	SLU 80	3	-11	715	0	0	0
189	SLU 81	3	-13	724	0	0	0
189	SLU 82	3	-12	732	0	0	0
189	SLU 83	3	-13	729	0	0	0
189	SLU 84	3	-12	737	0	0	0
189	SLE RA 1	2	-9	478	0	0	0
189	SLE RA 2	2	-7	487	0	0	0
189	SLE RA 3	2	-9	482	0	0	0
189	SLE RA 4	2	-8	488	0	0	0
189	SLE RA 5	2	-7	489	0	0	0
189	SLE RA 6	2	-9	485	0	0	0
189	SLE RA 7	2	-8	490	0	0	0
189	SLE RA 8	2	-9	483	0	0	0
189	SLE RA 9	2	-8	489	0	0	0
189	SLE RA 10	2	-8	527	0	0	0
189	SLE RA 11	2	-9	523	0	0	0
189	SLE RA 12	2	-9	528	0	0	0
189	SLE RA 13	2	-8	530	0	0	0
189	SLE RA 14	2	-9	525	0	0	0
189	SLE RA 15	2	-9	531	0	0	0
189	SLE RA 16	2	-9	523	0	0	0
189	SLE RA 17	2	-9	529	0	0	0
189	SLE RA 18	2	-9	535	0	0	0
189	SLE RA 19	2	-9	541	0	0	0
189	SLE RA 20	2	-9	538	0	0	0
189	SLE RA 21	2	-9	543	0	0	0
189	SLE FR 1	2	-9	478	0	0	0
189	SLE FR 2	2	-8	479	0	0	0
189	SLE FR 3	2	-9	479	0	0	0
189	SLE FR 4	2	-9	497	0	0	0
189	SLE FR 5	2	-9	496	0	0	0
189	SLE FR 6	2	-9	506	0	0	0
189	SLE QP 1	2	-9	478	0	0	0
189	SLE QP 2	2	-9	495	0	0	0
189	SLD 1	42	5	563	0	0	0
189	SLD 2	51	6	566	0	0	0
189	SLD 3	41	-17	394	0	0	0
189	SLD 4	50	-15	397	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
189	SLD 5	14	27	771	0	0	0
189	SLD 6	20	28	773	0	0	0
189	SLD 7	11	-44	208	0	0	0
189	SLD 8	16	-43	210	0	0	0
189	SLD 9	-12	25	780	0	0	0
189	SLD 10	-6	26	782	0	0	0
189	SLD 11	-16	-46	217	0	0	0
189	SLD 12	-10	-45	219	0	0	0
189	SLD 13	-45	-2	593	0	0	0
189	SLD 14	-37	-1	596	0	0	0
189	SLD 15	-46	-24	424	0	0	0
189	SLD 16	-38	-22	427	0	0	0
189	SLV 1	65	13	606	0	0	0
189	SLV 2	78	15	611	0	0	0
189	SLV 3	63	-22	332	0	0	0
189	SLV 4	76	-20	338	0	0	0
189	SLV 5	21	50	941	0	0	0
189	SLV 6	30	51	945	0	0	0
189	SLV 7	15	-66	31	0	0	0
189	SLV 8	24	-64	35	0	0	0
189	SLV 9	-20	46	955	0	0	0
189	SLV 10	-11	48	959	0	0	0
189	SLV 11	-26	-69	45	0	0	0
189	SLV 12	-17	-67	49	0	0	0
189	SLV 13	-72	2	652	0	0	0
189	SLV 14	-59	4	657	0	0	0
189	SLV 15	-74	-33	379	0	0	0
189	SLV 16	-61	-30	384	0	0	0
189	SLV FO 1	71	15	617	0	0	0
189	SLV FO 2	86	17	622	0	0	0
189	SLV FO 3	69	-23	316	0	0	0
189	SLV FO 4	84	-21	322	0	0	0
189	SLV FO 5	23	55	986	0	0	0
189	SLV FO 6	33	57	990	0	0	0
189	SLV FO 7	17	-71	-15	0	0	0
189	SLV FO 8	26	-70	-11	0	0	0
189	SLV FO 9	-22	52	1001	0	0	0
189	SLV FO 10	-12	54	1005	0	0	0
189	SLV FO 11	-29	-75	0	0	0	0
189	SLV FO 12	-19	-73	4	0	0	0
189	SLV FO 13	-80	3	668	0	0	0
189	SLV FO 14	-65	6	673	0	0	0
189	SLV FO 15	-82	-35	367	0	0	0
189	SLV FO 16	-67	-32	373	0	0	0
189	CRTFP Uy+	0	0	0	0	0	0
189	CRTFP Uy-	0	0	0	0	0	0
190	SLU 1	2	-7	407	0	0	0
190	SLU 2	2	-6	419	0	0	0
190	SLU 3	2	-7	413	0	0	0
190	SLU 4	2	-6	420	0	0	0
190	SLU 5	2	-6	423	0	0	0
190	SLU 6	2	-8	417	0	0	0
190	SLU 7	2	-7	424	0	0	0
190	SLU 8	2	-7	414	0	0	0
190	SLU 9	2	-6	422	0	0	0
190	SLU 10	2	-6	472	0	0	0
190	SLU 11	2	-8	466	0	0	0
190	SLU 12	2	-7	474	0	0	0
190	SLU 13	2	-6	476	0	0	0
190	SLU 14	2	-8	470	0	0	0
190	SLU 15	2	-7	477	0	0	0
190	SLU 16	2	-8	468	0	0	0
190	SLU 17	2	-7	475	0	0	0
190	SLU 18	2	-8	483	0	0	0
190	SLU 19	2	-7	490	0	0	0
190	SLU 20	2	-8	487	0	0	0
190	SLU 21	2	-7	494	0	0	0
190	SLU 22	2	-8	460	0	0	0
190	SLU 23	2	-7	472	0	0	0
190	SLU 24	2	-8	466	0	0	0
190	SLU 25	2	-7	473	0	0	0
190	SLU 26	2	-7	476	0	0	0
190	SLU 27	2	-8	470	0	0	0
190	SLU 28	2	-7	477	0	0	0
190	SLU 29	2	-8	467	0	0	0
190	SLU 30	2	-7	474	0	0	0
190	SLU 31	2	-7	525	0	0	0
190	SLU 32	2	-9	519	0	0	0
190	SLU 33	2	-8	526	0	0	0
190	SLU 34	2	-7	529	0	0	0
190	SLU 35	2	-9	523	0	0	0
190	SLU 36	2	-8	530	0	0	0
190	SLU 37	2	-9	521	0	0	0
190	SLU 38	2	-8	528	0	0	0
190	SLU 39	2	-9	536	0	0	0
190	SLU 40	2	-8	543	0	0	0
190	SLU 41	2	-9	540	0	0	0
190	SLU 42	2	-8	547	0	0	0
190	SLU 43	2	-9	511	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLU 44	2	-8	523	0	0	0
190	SLU 45	2	-9	517	0	0	0
190	SLU 46	2	-8	524	0	0	0
190	SLU 47	2	-8	527	0	0	0
190	SLU 48	2	-9	521	0	0	0
190	SLU 49	2	-8	528	0	0	0
190	SLU 50	2	-9	518	0	0	0
190	SLU 51	2	-8	526	0	0	0
190	SLU 52	2	-8	576	0	0	0
190	SLU 53	2	-10	570	0	0	0
190	SLU 54	2	-9	578	0	0	0
190	SLU 55	2	-8	580	0	0	0
190	SLU 56	2	-10	574	0	0	0
190	SLU 57	2	-9	581	0	0	0
190	SLU 58	2	-10	572	0	0	0
190	SLU 59	2	-9	579	0	0	0
190	SLU 60	2	-10	587	0	0	0
190	SLU 61	2	-9	594	0	0	0
190	SLU 62	2	-10	591	0	0	0
190	SLU 63	2	-9	598	0	0	0
190	SLU 64	3	-10	564	0	0	0
190	SLU 65	3	-8	576	0	0	0
190	SLU 66	3	-10	570	0	0	0
190	SLU 67	3	-9	577	0	0	0
190	SLU 68	3	-8	580	0	0	0
190	SLU 69	3	-10	574	0	0	0
190	SLU 70	3	-9	581	0	0	0
190	SLU 71	3	-10	571	0	0	0
190	SLU 72	3	-9	578	0	0	0
190	SLU 73	3	-9	629	0	0	0
190	SLU 74	3	-11	623	0	0	0
190	SLU 75	3	-10	630	0	0	0
190	SLU 76	3	-9	633	0	0	0
190	SLU 77	3	-11	627	0	0	0
190	SLU 78	3	-10	634	0	0	0
190	SLU 79	3	-11	625	0	0	0
190	SLU 80	3	-10	632	0	0	0
190	SLU 81	3	-11	640	0	0	0
190	SLU 82	3	-10	647	0	0	0
190	SLU 83	3	-11	644	0	0	0
190	SLU 84	3	-10	651	0	0	0
190	SLE RA 1	2	-8	422	0	0	0
190	SLE RA 2	2	-6	430	0	0	0
190	SLE RA 3	2	-8	426	0	0	0
190	SLE RA 4	2	-7	431	0	0	0
190	SLE RA 5	2	-7	433	0	0	0
190	SLE RA 6	2	-8	429	0	0	0
190	SLE RA 7	2	-7	433	0	0	0
190	SLE RA 8	2	-8	427	0	0	0
190	SLE RA 9	2	-7	432	0	0	0
190	SLE RA 10	2	-7	466	0	0	0
190	SLE RA 11	2	-8	462	0	0	0
190	SLE RA 12	2	-7	467	0	0	0
190	SLE RA 13	2	-7	468	0	0	0
190	SLE RA 14	2	-8	464	0	0	0
190	SLE RA 15	2	-8	469	0	0	0
190	SLE RA 16	2	-8	463	0	0	0
190	SLE RA 17	2	-7	467	0	0	0
190	SLE RA 18	2	-8	473	0	0	0
190	SLE RA 19	2	-8	478	0	0	0
190	SLE RA 20	2	-8	475	0	0	0
190	SLE RA 21	2	-8	480	0	0	0
190	SLE FR 1	2	-8	422	0	0	0
190	SLE FR 2	2	-7	424	0	0	0
190	SLE FR 3	2	-8	423	0	0	0
190	SLE FR 4	2	-8	439	0	0	0
190	SLE FR 5	2	-8	438	0	0	0
190	SLE FR 6	2	-8	448	0	0	0
190	SLE QP 1	2	-8	422	0	0	0
190	SLE QP 2	2	-8	437	0	0	0
190	SLD 1	37	4	494	0	0	0
190	SLD 2	45	6	497	0	0	0
190	SLD 3	36	-14	345	0	0	0
190	SLD 4	44	-13	348	0	0	0
190	SLD 5	13	24	680	0	0	0
190	SLD 6	18	25	682	0	0	0
190	SLD 7	10	-38	183	0	0	0
190	SLD 8	14	-37	185	0	0	0
190	SLD 9	-11	21	690	0	0	0
190	SLD 10	-6	23	692	0	0	0
190	SLD 11	-14	-40	192	0	0	0
190	SLD 12	-9	-39	195	0	0	0
190	SLD 13	-40	-3	527	0	0	0
190	SLD 14	-32	-1	530	0	0	0
190	SLD 15	-41	-21	378	0	0	0
190	SLD 16	-33	-20	381	0	0	0
190	SLV 1	57	11	530	0	0	0
190	SLV 2	69	14	535	0	0	0
190	SLV 3	56	-19	288	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
190	SLV 4	67	-16	293	0	0	0
190	SLV 5	19	43	830	0	0	0
190	SLV 6	27	45	834	0	0	0
190	SLV 7	14	-57	26	0	0	0
190	SLV 8	21	-55	29	0	0	0
190	SLV 9	-18	40	846	0	0	0
190	SLV 10	-10	41	849	0	0	0
190	SLV 11	-23	-60	41	0	0	0
190	SLV 12	-15	-58	45	0	0	0
190	SLV 13	-63	0	581	0	0	0
190	SLV 14	-52	3	586	0	0	0
190	SLV 15	-65	-30	340	0	0	0
190	SLV 16	-53	-27	345	0	0	0
190	SLV FO 1	63	13	539	0	0	0
190	SLV FO 2	76	16	544	0	0	0
190	SLV FO 3	61	-20	273	0	0	0
190	SLV FO 4	74	-17	279	0	0	0
190	SLV FO 5	20	48	870	0	0	0
190	SLV FO 6	29	50	873	0	0	0
190	SLV FO 7	15	-62	-16	0	0	0
190	SLV FO 8	23	-60	-12	0	0	0
190	SLV FO 9	-20	44	887	0	0	0
190	SLV FO 10	-11	46	890	0	0	0
190	SLV FO 11	-25	-65	2	0	0	0
190	SLV FO 12	-16	-63	5	0	0	0
190	SLV FO 13	-70	1	596	0	0	0
190	SLV FO 14	-57	4	601	0	0	0
190	SLV FO 15	-72	-32	330	0	0	0
190	SLV FO 16	-59	-29	336	0	0	0
190	CRTFP Uy+	0	0	0	0	0	0
190	CRTFP Uy-	0	0	0	0	0	0
191	SLU 1	2	-7	382	0	0	0
191	SLU 2	2	-5	393	0	0	0
191	SLU 3	2	-7	387	0	0	0
191	SLU 4	2	-6	394	0	0	0
191	SLU 5	2	-5	396	0	0	0
191	SLU 6	2	-7	391	0	0	0
191	SLU 7	2	-6	397	0	0	0
191	SLU 8	2	-7	388	0	0	0
191	SLU 9	2	-6	395	0	0	0
191	SLU 10	2	-6	442	0	0	0
191	SLU 11	2	-8	437	0	0	0
191	SLU 12	2	-7	444	0	0	0
191	SLU 13	2	-6	446	0	0	0
191	SLU 14	2	-8	440	0	0	0
191	SLU 15	2	-7	447	0	0	0
191	SLU 16	2	-8	438	0	0	0
191	SLU 17	2	-7	445	0	0	0
191	SLU 18	2	-8	453	0	0	0
191	SLU 19	2	-7	459	0	0	0
191	SLU 20	2	-8	456	0	0	0
191	SLU 21	2	-7	463	0	0	0
191	SLU 22	2	-8	431	0	0	0
191	SLU 23	2	-6	442	0	0	0
191	SLU 24	2	-8	437	0	0	0
191	SLU 25	2	-7	443	0	0	0
191	SLU 26	2	-6	446	0	0	0
191	SLU 27	2	-8	440	0	0	0
191	SLU 28	2	-7	447	0	0	0
191	SLU 29	2	-8	438	0	0	0
191	SLU 30	2	-7	445	0	0	0
191	SLU 31	2	-7	492	0	0	0
191	SLU 32	2	-8	487	0	0	0
191	SLU 33	2	-7	493	0	0	0
191	SLU 34	2	-7	495	0	0	0
191	SLU 35	2	-8	490	0	0	0
191	SLU 36	2	-8	497	0	0	0
191	SLU 37	2	-8	488	0	0	0
191	SLU 38	2	-7	494	0	0	0
191	SLU 39	2	-9	502	0	0	0
191	SLU 40	2	-8	509	0	0	0
191	SLU 41	2	-9	506	0	0	0
191	SLU 42	2	-8	512	0	0	0
191	SLU 43	2	-9	479	0	0	0
191	SLU 44	2	-7	490	0	0	0
191	SLU 45	2	-9	485	0	0	0
191	SLU 46	2	-8	491	0	0	0
191	SLU 47	2	-7	494	0	0	0
191	SLU 48	2	-9	488	0	0	0
191	SLU 49	2	-8	495	0	0	0
191	SLU 50	2	-9	486	0	0	0
191	SLU 51	2	-8	493	0	0	0
191	SLU 52	2	-8	540	0	0	0
191	SLU 53	2	-9	534	0	0	0
191	SLU 54	2	-8	541	0	0	0
191	SLU 55	2	-8	543	0	0	0
191	SLU 56	2	-9	538	0	0	0
191	SLU 57	2	-8	545	0	0	0
191	SLU 58	2	-9	536	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLU 59	2	-8	542	0	0	0
191	SLU 60	2	-9	550	0	0	0
191	SLU 61	2	-9	557	0	0	0
191	SLU 62	2	-10	554	0	0	0
191	SLU 63	2	-9	560	0	0	0
191	SLU 64	2	-9	529	0	0	0
191	SLU 65	3	-8	540	0	0	0
191	SLU 66	2	-9	534	0	0	0
191	SLU 67	3	-9	541	0	0	0
191	SLU 68	3	-8	543	0	0	0
191	SLU 69	2	-10	538	0	0	0
191	SLU 70	2	-9	544	0	0	0
191	SLU 71	2	-9	535	0	0	0
191	SLU 72	2	-9	542	0	0	0
191	SLU 73	3	-8	589	0	0	0
191	SLU 74	3	-10	584	0	0	0
191	SLU 75	3	-9	591	0	0	0
191	SLU 76	3	-9	593	0	0	0
191	SLU 77	3	-10	587	0	0	0
191	SLU 78	3	-9	594	0	0	0
191	SLU 79	3	-10	585	0	0	0
191	SLU 80	3	-9	592	0	0	0
191	SLU 81	3	-10	600	0	0	0
191	SLU 82	3	-9	606	0	0	0
191	SLU 83	3	-10	603	0	0	0
191	SLU 84	3	-9	610	0	0	0
191	SLE RA 1	2	-7	396	0	0	0
191	SLE RA 2	2	-6	403	0	0	0
191	SLE RA 3	2	-7	400	0	0	0
191	SLE RA 4	2	-6	404	0	0	0
191	SLE RA 5	2	-6	405	0	0	0
191	SLE RA 6	2	-7	402	0	0	0
191	SLE RA 7	2	-7	406	0	0	0
191	SLE RA 8	2	-7	400	0	0	0
191	SLE RA 9	2	-7	405	0	0	0
191	SLE RA 10	2	-6	436	0	0	0
191	SLE RA 11	2	-8	433	0	0	0
191	SLE RA 12	2	-7	437	0	0	0
191	SLE RA 13	2	-6	439	0	0	0
191	SLE RA 14	2	-8	435	0	0	0
191	SLE RA 15	2	-7	439	0	0	0
191	SLE RA 16	2	-8	433	0	0	0
191	SLE RA 17	2	-7	438	0	0	0
191	SLE RA 18	2	-8	443	0	0	0
191	SLE RA 19	2	-7	448	0	0	0
191	SLE RA 20	2	-8	445	0	0	0
191	SLE RA 21	2	-7	450	0	0	0
191	SLE FR 1	2	-7	396	0	0	0
191	SLE FR 2	2	-7	397	0	0	0
191	SLE FR 3	2	-7	397	0	0	0
191	SLE FR 4	2	-7	411	0	0	0
191	SLE FR 5	2	-7	411	0	0	0
191	SLE FR 6	2	-7	419	0	0	0
191	SLE QP 1	2	-7	396	0	0	0
191	SLE QP 2	2	-7	410	0	0	0
191	SLD 1	35	4	459	0	0	0
191	SLD 2	42	6	463	0	0	0
191	SLD 3	34	-13	319	0	0	0
191	SLD 4	41	-11	323	0	0	0
191	SLD 5	12	22	636	0	0	0
191	SLD 6	16	23	639	0	0	0
191	SLD 7	9	-35	170	0	0	0
191	SLD 8	14	-34	172	0	0	0
191	SLD 9	-10	19	648	0	0	0
191	SLD 10	-5	21	650	0	0	0
191	SLD 11	-13	-37	181	0	0	0
191	SLD 12	-8	-36	183	0	0	0
191	SLD 13	-37	-3	497	0	0	0
191	SLD 14	-30	-1	501	0	0	0
191	SLD 15	-38	-20	357	0	0	0
191	SLD 16	-31	-18	361	0	0	0
191	SLV 1	53	11	491	0	0	0
191	SLV 2	64	14	496	0	0	0
191	SLV 3	52	-17	265	0	0	0
191	SLV 4	63	-14	270	0	0	0
191	SLV 5	17	39	776	0	0	0
191	SLV 6	25	41	780	0	0	0
191	SLV 7	13	-52	22	0	0	0
191	SLV 8	20	-50	26	0	0	0
191	SLV 9	-16	36	794	0	0	0
191	SLV 10	-9	38	798	0	0	0
191	SLV 11	-21	-56	40	0	0	0
191	SLV 12	-14	-54	43	0	0	0
191	SLV 13	-59	-1	550	0	0	0
191	SLV 14	-48	2	555	0	0	0
191	SLV 15	-61	-28	324	0	0	0
191	SLV 16	-50	-25	329	0	0	0
191	SLV FO 1	59	13	499	0	0	0
191	SLV FO 2	71	16	505	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
191	SLV FO 3	57	-18	250	0	0	0
191	SLV FO 4	69	-14	256	0	0	0
191	SLV FO 5	19	44	813	0	0	0
191	SLV FO 6	27	46	817	0	0	0
191	SLV FO 7	14	-57	-17	0	0	0
191	SLV FO 8	22	-54	-13	0	0	0
191	SLV FO 9	-18	40	833	0	0	0
191	SLV FO 10	-10	42	836	0	0	0
191	SLV FO 11	-23	-60	3	0	0	0
191	SLV FO 12	-15	-58	7	0	0	0
191	SLV FO 13	-65	0	564	0	0	0
191	SLV FO 14	-53	3	570	0	0	0
191	SLV FO 15	-67	-30	315	0	0	0
191	SLV FO 16	-55	-27	321	0	0	0
191	CRTFP Uy+	0	0	0	0	0	0
191	CRTFP Uy-	0	0	0	0	0	0
192	SLU 1	2	-7	374	0	0	0
192	SLU 2	2	-5	385	0	0	0
192	SLU 3	2	-7	380	0	0	0
192	SLU 4	2	-6	386	0	0	0
192	SLU 5	2	-5	388	0	0	0
192	SLU 6	2	-7	383	0	0	0
192	SLU 7	2	-6	390	0	0	0
192	SLU 8	2	-7	381	0	0	0
192	SLU 9	2	-6	387	0	0	0
192	SLU 10	2	-6	434	0	0	0
192	SLU 11	2	-7	428	0	0	0
192	SLU 12	2	-6	435	0	0	0
192	SLU 13	2	-6	437	0	0	0
192	SLU 14	2	-7	432	0	0	0
192	SLU 15	2	-7	438	0	0	0
192	SLU 16	2	-7	430	0	0	0
192	SLU 17	2	-6	436	0	0	0
192	SLU 18	2	-7	444	0	0	0
192	SLU 19	2	-7	450	0	0	0
192	SLU 20	2	-8	447	0	0	0
192	SLU 21	2	-7	454	0	0	0
192	SLU 22	2	-7	423	0	0	0
192	SLU 23	2	-6	434	0	0	0
192	SLU 24	2	-7	428	0	0	0
192	SLU 25	2	-7	435	0	0	0
192	SLU 26	2	-6	437	0	0	0
192	SLU 27	2	-8	432	0	0	0
192	SLU 28	2	-7	438	0	0	0
192	SLU 29	2	-7	429	0	0	0
192	SLU 30	2	-7	436	0	0	0
192	SLU 31	2	-7	482	0	0	0
192	SLU 32	2	-8	477	0	0	0
192	SLU 33	2	-7	484	0	0	0
192	SLU 34	2	-7	486	0	0	0
192	SLU 35	2	-8	480	0	0	0
192	SLU 36	2	-7	487	0	0	0
192	SLU 37	2	-8	478	0	0	0
192	SLU 38	2	-7	485	0	0	0
192	SLU 39	2	-8	492	0	0	0
192	SLU 40	2	-7	499	0	0	0
192	SLU 41	2	-8	496	0	0	0
192	SLU 42	2	-7	502	0	0	0
192	SLU 43	2	-8	470	0	0	0
192	SLU 44	2	-7	481	0	0	0
192	SLU 45	2	-8	475	0	0	0
192	SLU 46	2	-8	482	0	0	0
192	SLU 47	2	-7	484	0	0	0
192	SLU 48	2	-8	479	0	0	0
192	SLU 49	2	-8	485	0	0	0
192	SLU 50	2	-8	476	0	0	0
192	SLU 51	2	-8	483	0	0	0
192	SLU 52	2	-7	529	0	0	0
192	SLU 53	2	-9	524	0	0	0
192	SLU 54	2	-8	530	0	0	0
192	SLU 55	2	-8	533	0	0	0
192	SLU 56	2	-9	527	0	0	0
192	SLU 57	2	-8	534	0	0	0
192	SLU 58	2	-9	525	0	0	0
192	SLU 59	2	-8	532	0	0	0
192	SLU 60	2	-9	539	0	0	0
192	SLU 61	2	-8	546	0	0	0
192	SLU 62	2	-9	543	0	0	0
192	SLU 63	2	-8	549	0	0	0
192	SLU 64	3	-9	518	0	0	0
192	SLU 65	3	-8	529	0	0	0
192	SLU 66	3	-9	524	0	0	0
192	SLU 67	3	-8	530	0	0	0
192	SLU 68	3	-8	533	0	0	0
192	SLU 69	2	-9	527	0	0	0
192	SLU 70	3	-8	534	0	0	0
192	SLU 71	2	-9	525	0	0	0
192	SLU 72	2	-8	532	0	0	0
192	SLU 73	3	-8	578	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
192	SLU 74	3	-10	573	0	0	0
192	SLU 75	3	-9	579	0	0	0
192	SLU 76	3	-8	581	0	0	0
192	SLU 77	3	-10	576	0	0	0
192	SLU 78	3	-9	582	0	0	0
192	SLU 79	3	-10	574	0	0	0
192	SLU 80	3	-9	580	0	0	0
192	SLU 81	3	-10	588	0	0	0
192	SLU 82	3	-9	594	0	0	0
192	SLU 83	3	-10	591	0	0	0
192	SLU 84	3	-9	598	0	0	0
192	SLE RA 1	2	-7	388	0	0	0
192	SLE RA 2	2	-6	395	0	0	0
192	SLE RA 3	2	-7	392	0	0	0
192	SLE RA 4	2	-6	396	0	0	0
192	SLE RA 5	2	-6	398	0	0	0
192	SLE RA 6	2	-7	394	0	0	0
192	SLE RA 7	2	-6	398	0	0	0
192	SLE RA 8	2	-7	393	0	0	0
192	SLE RA 9	2	-6	397	0	0	0
192	SLE RA 10	2	-6	428	0	0	0
192	SLE RA 11	2	-7	424	0	0	0
192	SLE RA 12	2	-7	429	0	0	0
192	SLE RA 13	2	-6	430	0	0	0
192	SLE RA 14	2	-7	426	0	0	0
192	SLE RA 15	2	-7	431	0	0	0
192	SLE RA 16	2	-7	425	0	0	0
192	SLE RA 17	2	-7	429	0	0	0
192	SLE RA 18	2	-7	434	0	0	0
192	SLE RA 19	2	-7	439	0	0	0
192	SLE RA 20	2	-7	437	0	0	0
192	SLE RA 21	2	-7	441	0	0	0
192	SLE FR 1	2	-7	388	0	0	0
192	SLE FR 2	2	-7	389	0	0	0
192	SLE FR 3	2	-7	389	0	0	0
192	SLE FR 4	2	-7	403	0	0	0
192	SLE FR 5	2	-7	403	0	0	0
192	SLE FR 6	2	-7	411	0	0	0
192	SLE QP 1	2	-7	388	0	0	0
192	SLE QP 2	2	-7	402	0	0	0
192	SLD 1	34	4	447	0	0	0
192	SLD 2	41	6	450	0	0	0
192	SLD 3	33	-12	309	0	0	0
192	SLD 4	40	-10	313	0	0	0
192	SLD 5	12	21	623	0	0	0
192	SLD 6	16	22	625	0	0	0
192	SLD 7	9	-34	165	0	0	0
192	SLD 8	13	-32	168	0	0	0
192	SLD 9	-10	18	636	0	0	0
192	SLD 10	-5	20	639	0	0	0
192	SLD 11	-12	-36	179	0	0	0
192	SLD 12	-8	-35	181	0	0	0
192	SLD 13	-36	-4	491	0	0	0
192	SLD 14	-29	-2	494	0	0	0
192	SLD 15	-37	-20	354	0	0	0
192	SLD 16	-30	-18	357	0	0	0
192	SLV 1	52	11	476	0	0	0
192	SLV 2	63	14	481	0	0	0
192	SLV 3	51	-16	254	0	0	0
192	SLV 4	62	-12	259	0	0	0
192	SLV 5	17	38	760	0	0	0
192	SLV 6	24	40	763	0	0	0
192	SLV 7	13	-50	20	0	0	0
192	SLV 8	20	-48	23	0	0	0
192	SLV 9	-16	34	780	0	0	0
192	SLV 10	-9	36	784	0	0	0
192	SLV 11	-20	-54	41	0	0	0
192	SLV 12	-13	-51	44	0	0	0
192	SLV 13	-58	-2	545	0	0	0
192	SLV 14	-47	2	550	0	0	0
192	SLV 15	-59	-28	323	0	0	0
192	SLV 16	-48	-25	328	0	0	0
192	SLV FO 1	57	12	483	0	0	0
192	SLV FO 2	69	16	489	0	0	0
192	SLV FO 3	56	-16	239	0	0	0
192	SLV FO 4	67	-13	245	0	0	0
192	SLV FO 5	19	42	795	0	0	0
192	SLV FO 6	26	44	799	0	0	0
192	SLV FO 7	14	-54	-18	0	0	0
192	SLV FO 8	21	-52	-15	0	0	0
192	SLV FO 9	-18	38	818	0	0	0
192	SLV FO 10	-10	40	822	0	0	0
192	SLV FO 11	-23	-58	4	0	0	0
192	SLV FO 12	-15	-56	8	0	0	0
192	SLV FO 13	-64	-1	559	0	0	0
192	SLV FO 14	-52	2	565	0	0	0
192	SLV FO 15	-65	-30	315	0	0	0
192	SLV FO 16	-53	-26	321	0	0	0
192	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
192	CRTFP Uy-	0	0	0	0	0	0
193	SLU 1	2	-7	394	0	0	0
193	SLU 2	2	-5	406	0	0	0
193	SLU 3	2	-7	400	0	0	0
193	SLU 4	2	-6	407	0	0	0
193	SLU 5	2	-5	409	0	0	0
193	SLU 6	2	-7	403	0	0	0
193	SLU 7	2	-6	410	0	0	0
193	SLU 8	2	-7	401	0	0	0
193	SLU 9	2	-6	408	0	0	0
193	SLU 10	2	-6	457	0	0	0
193	SLU 11	2	-8	451	0	0	0
193	SLU 12	2	-7	458	0	0	0
193	SLU 13	2	-6	460	0	0	0
193	SLU 14	2	-8	455	0	0	0
193	SLU 15	2	-7	461	0	0	0
193	SLU 16	2	-8	452	0	0	0
193	SLU 17	2	-7	459	0	0	0
193	SLU 18	2	-8	467	0	0	0
193	SLU 19	2	-7	474	0	0	0
193	SLU 20	2	-8	471	0	0	0
193	SLU 21	2	-7	478	0	0	0
193	SLU 22	2	-8	445	0	0	0
193	SLU 23	2	-6	457	0	0	0
193	SLU 24	2	-8	451	0	0	0
193	SLU 25	2	-7	458	0	0	0
193	SLU 26	2	-6	460	0	0	0
193	SLU 27	2	-8	455	0	0	0
193	SLU 28	2	-7	462	0	0	0
193	SLU 29	2	-8	452	0	0	0
193	SLU 30	2	-7	459	0	0	0
193	SLU 31	2	-7	508	0	0	0
193	SLU 32	2	-8	502	0	0	0
193	SLU 33	2	-8	509	0	0	0
193	SLU 34	2	-7	512	0	0	0
193	SLU 35	2	-8	506	0	0	0
193	SLU 36	2	-8	513	0	0	0
193	SLU 37	2	-8	504	0	0	0
193	SLU 38	2	-8	510	0	0	0
193	SLU 39	2	-9	518	0	0	0
193	SLU 40	2	-8	525	0	0	0
193	SLU 41	2	-9	522	0	0	0
193	SLU 42	2	-8	529	0	0	0
193	SLU 43	2	-9	495	0	0	0
193	SLU 44	2	-7	506	0	0	0
193	SLU 45	2	-9	501	0	0	0
193	SLU 46	2	-8	507	0	0	0
193	SLU 47	2	-7	510	0	0	0
193	SLU 48	2	-9	504	0	0	0
193	SLU 49	2	-8	511	0	0	0
193	SLU 50	2	-9	502	0	0	0
193	SLU 51	2	-8	509	0	0	0
193	SLU 52	2	-8	557	0	0	0
193	SLU 53	2	-9	552	0	0	0
193	SLU 54	2	-9	559	0	0	0
193	SLU 55	2	-8	561	0	0	0
193	SLU 56	2	-9	555	0	0	0
193	SLU 57	2	-9	562	0	0	0
193	SLU 58	2	-9	553	0	0	0
193	SLU 59	2	-9	560	0	0	0
193	SLU 60	2	-10	568	0	0	0
193	SLU 61	3	-9	575	0	0	0
193	SLU 62	2	-10	571	0	0	0
193	SLU 63	2	-9	578	0	0	0
193	SLU 64	3	-9	546	0	0	0
193	SLU 65	3	-8	557	0	0	0
193	SLU 66	3	-10	552	0	0	0
193	SLU 67	3	-9	559	0	0	0
193	SLU 68	3	-8	561	0	0	0
193	SLU 69	3	-10	555	0	0	0
193	SLU 70	3	-9	562	0	0	0
193	SLU 71	3	-10	553	0	0	0
193	SLU 72	3	-9	560	0	0	0
193	SLU 73	3	-9	609	0	0	0
193	SLU 74	3	-10	603	0	0	0
193	SLU 75	3	-9	610	0	0	0
193	SLU 76	3	-9	612	0	0	0
193	SLU 77	3	-10	607	0	0	0
193	SLU 78	3	-9	613	0	0	0
193	SLU 79	3	-10	604	0	0	0
193	SLU 80	3	-9	611	0	0	0
193	SLU 81	3	-10	619	0	0	0
193	SLU 82	3	-9	626	0	0	0
193	SLU 83	3	-10	623	0	0	0
193	SLU 84	3	-10	629	0	0	0
193	SLE RA 1	2	-7	409	0	0	0
193	SLE RA 2	2	-6	416	0	0	0
193	SLE RA 3	2	-7	413	0	0	0
193	SLE RA 4	2	-7	417	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
193	SLE RA 5	2	-6	419	0	0	0
193	SLE RA 6	2	-7	415	0	0	0
193	SLE RA 7	2	-7	420	0	0	0
193	SLE RA 8	2	-7	413	0	0	0
193	SLE RA 9	2	-7	418	0	0	0
193	SLE RA 10	2	-7	450	0	0	0
193	SLE RA 11	2	-8	447	0	0	0
193	SLE RA 12	2	-7	451	0	0	0
193	SLE RA 13	2	-7	453	0	0	0
193	SLE RA 14	2	-8	449	0	0	0
193	SLE RA 15	2	-7	454	0	0	0
193	SLE RA 16	2	-8	448	0	0	0
193	SLE RA 17	2	-7	452	0	0	0
193	SLE RA 18	2	-8	457	0	0	0
193	SLE RA 19	2	-7	462	0	0	0
193	SLE RA 20	2	-8	460	0	0	0
193	SLE RA 21	2	-7	464	0	0	0
193	SLE FR 1	2	-7	409	0	0	0
193	SLE FR 2	2	-7	410	0	0	0
193	SLE FR 3	2	-7	410	0	0	0
193	SLE FR 4	2	-7	425	0	0	0
193	SLE FR 5	2	-7	424	0	0	0
193	SLE FR 6	2	-7	433	0	0	0
193	SLE QP 1	2	-7	409	0	0	0
193	SLE QP 2	2	-7	423	0	0	0
193	SLD 1	36	4	467	0	0	0
193	SLD 2	43	7	470	0	0	0
193	SLD 3	35	-12	322	0	0	0
193	SLD 4	42	-10	326	0	0	0
193	SLD 5	12	21	655	0	0	0
193	SLD 6	17	23	658	0	0	0
193	SLD 7	9	-35	173	0	0	0
193	SLD 8	14	-33	175	0	0	0
193	SLD 9	-10	18	671	0	0	0
193	SLD 10	-5	20	674	0	0	0
193	SLD 11	-13	-37	189	0	0	0
193	SLD 12	-8	-36	191	0	0	0
193	SLD 13	-38	-5	521	0	0	0
193	SLD 14	-31	-2	525	0	0	0
193	SLD 15	-39	-21	376	0	0	0
193	SLD 16	-32	-19	380	0	0	0
193	SLV 1	55	11	495	0	0	0
193	SLV 2	66	15	501	0	0	0
193	SLV 3	53	-16	261	0	0	0
193	SLV 4	64	-12	267	0	0	0
193	SLV 5	18	38	799	0	0	0
193	SLV 6	25	41	803	0	0	0
193	SLV 7	13	-51	19	0	0	0
193	SLV 8	21	-49	23	0	0	0
193	SLV 9	-17	34	824	0	0	0
193	SLV 10	-9	37	828	0	0	0
193	SLV 11	-21	-56	44	0	0	0
193	SLV 12	-14	-53	48	0	0	0
193	SLV 13	-60	-3	580	0	0	0
193	SLV 14	-49	1	586	0	0	0
193	SLV 15	-62	-30	346	0	0	0
193	SLV 16	-51	-26	352	0	0	0
193	SLV FO 1	60	13	502	0	0	0
193	SLV FO 2	72	17	509	0	0	0
193	SLV FO 3	58	-17	245	0	0	0
193	SLV FO 4	71	-12	251	0	0	0
193	SLV FO 5	19	43	836	0	0	0
193	SLV FO 6	28	46	841	0	0	0
193	SLV FO 7	14	-56	-22	0	0	0
193	SLV FO 8	23	-53	-17	0	0	0
193	SLV FO 9	-19	38	864	0	0	0
193	SLV FO 10	-10	41	868	0	0	0
193	SLV FO 11	-24	-60	6	0	0	0
193	SLV FO 12	-15	-58	10	0	0	0
193	SLV FO 13	-67	-2	595	0	0	0
193	SLV FO 14	-54	2	602	0	0	0
193	SLV FO 15	-68	-32	338	0	0	0
193	SLV FO 16	-56	-28	344	0	0	0
193	CRTFP Uy+	0	0	0	0	0	0
193	CRTFP Uy-	0	0	0	0	0	0
194	SLU 1	2	-9	517	0	0	0
194	SLU 2	3	-7	532	0	0	0
194	SLU 3	2	-9	524	0	0	0
194	SLU 4	2	-8	533	0	0	0
194	SLU 5	2	-7	536	0	0	0
194	SLU 6	2	-9	529	0	0	0
194	SLU 7	2	-8	538	0	0	0
194	SLU 8	2	-9	526	0	0	0
194	SLU 9	2	-8	535	0	0	0
194	SLU 10	3	-8	599	0	0	0
194	SLU 11	3	-10	591	0	0	0
194	SLU 12	3	-9	600	0	0	0
194	SLU 13	3	-8	603	0	0	0
194	SLU 14	3	-10	596	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLU 15	3	-9	605	0	0	0
194	SLU 16	3	-10	593	0	0	0
194	SLU 17	3	-9	602	0	0	0
194	SLU 18	3	-10	612	0	0	0
194	SLU 19	3	-9	621	0	0	0
194	SLU 20	3	-10	617	0	0	0
194	SLU 21	3	-9	626	0	0	0
194	SLU 22	3	-10	584	0	0	0
194	SLU 23	3	-8	599	0	0	0
194	SLU 24	3	-10	592	0	0	0
194	SLU 25	3	-9	601	0	0	0
194	SLU 26	3	-8	604	0	0	0
194	SLU 27	3	-10	596	0	0	0
194	SLU 28	3	-9	605	0	0	0
194	SLU 29	3	-10	593	0	0	0
194	SLU 30	3	-9	602	0	0	0
194	SLU 31	3	-9	666	0	0	0
194	SLU 32	3	-11	659	0	0	0
194	SLU 33	3	-10	668	0	0	0
194	SLU 34	3	-9	671	0	0	0
194	SLU 35	3	-11	663	0	0	0
194	SLU 36	3	-10	672	0	0	0
194	SLU 37	3	-11	660	0	0	0
194	SLU 38	3	-10	669	0	0	0
194	SLU 39	3	-11	680	0	0	0
194	SLU 40	3	-10	689	0	0	0
194	SLU 41	3	-11	684	0	0	0
194	SLU 42	3	-10	693	0	0	0
194	SLU 43	3	-11	648	0	0	0
194	SLU 44	3	-9	664	0	0	0
194	SLU 45	3	-11	656	0	0	0
194	SLU 46	3	-10	665	0	0	0
194	SLU 47	3	-9	668	0	0	0
194	SLU 48	3	-12	661	0	0	0
194	SLU 49	3	-10	670	0	0	0
194	SLU 50	3	-11	658	0	0	0
194	SLU 51	3	-10	667	0	0	0
194	SLU 52	3	-10	730	0	0	0
194	SLU 53	3	-12	723	0	0	0
194	SLU 54	3	-11	732	0	0	0
194	SLU 55	3	-10	735	0	0	0
194	SLU 56	3	-12	728	0	0	0
194	SLU 57	3	-11	737	0	0	0
194	SLU 58	3	-12	725	0	0	0
194	SLU 59	3	-11	734	0	0	0
194	SLU 60	3	-12	744	0	0	0
194	SLU 61	3	-11	753	0	0	0
194	SLU 62	3	-13	749	0	0	0
194	SLU 63	3	-11	758	0	0	0
194	SLU 64	3	-12	716	0	0	0
194	SLU 65	3	-10	731	0	0	0
194	SLU 66	3	-12	723	0	0	0
194	SLU 67	3	-11	733	0	0	0
194	SLU 68	3	-10	736	0	0	0
194	SLU 69	3	-13	728	0	0	0
194	SLU 70	3	-11	737	0	0	0
194	SLU 71	3	-12	725	0	0	0
194	SLU 72	3	-11	734	0	0	0
194	SLU 73	4	-11	798	0	0	0
194	SLU 74	4	-13	790	0	0	0
194	SLU 75	4	-12	799	0	0	0
194	SLU 76	4	-11	802	0	0	0
194	SLU 77	4	-13	795	0	0	0
194	SLU 78	4	-12	804	0	0	0
194	SLU 79	3	-13	792	0	0	0
194	SLU 80	4	-12	801	0	0	0
194	SLU 81	4	-13	811	0	0	0
194	SLU 82	4	-12	820	0	0	0
194	SLU 83	4	-14	816	0	0	0
194	SLU 84	4	-12	825	0	0	0
194	SLE RA 1	3	-9	536	0	0	0
194	SLE RA 2	3	-8	546	0	0	0
194	SLE RA 3	3	-9	541	0	0	0
194	SLE RA 4	3	-9	547	0	0	0
194	SLE RA 5	3	-8	549	0	0	0
194	SLE RA 6	3	-9	544	0	0	0
194	SLE RA 7	3	-9	550	0	0	0
194	SLE RA 8	3	-9	542	0	0	0
194	SLE RA 9	3	-9	548	0	0	0
194	SLE RA 10	3	-8	590	0	0	0
194	SLE RA 11	3	-10	586	0	0	0
194	SLE RA 12	3	-9	592	0	0	0
194	SLE RA 13	3	-9	594	0	0	0
194	SLE RA 14	3	-10	589	0	0	0
194	SLE RA 15	3	-9	595	0	0	0
194	SLE RA 16	3	-10	587	0	0	0
194	SLE RA 17	3	-9	593	0	0	0
194	SLE RA 18	3	-10	600	0	0	0
194	SLE RA 19	3	-9	606	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
194	SLE RA 20	3	-10	603	0	0	0
194	SLE RA 21	3	-9	609	0	0	0
194	SLE FR 1	3	-9	536	0	0	0
194	SLE FR 2	3	-9	538	0	0	0
194	SLE FR 3	3	-9	537	0	0	0
194	SLE FR 4	3	-9	557	0	0	0
194	SLE FR 5	3	-9	556	0	0	0
194	SLE FR 6	3	-10	568	0	0	0
194	SLE QP 1	3	-9	536	0	0	0
194	SLE QP 2	3	-9	555	0	0	0
194	SLD 1	46	6	607	0	0	0
194	SLD 2	56	9	612	0	0	0
194	SLD 3	45	-16	417	0	0	0
194	SLD 4	55	-12	422	0	0	0
194	SLD 5	16	27	858	0	0	0
194	SLD 6	22	29	861	0	0	0
194	SLD 7	12	-44	224	0	0	0
194	SLD 8	18	-42	228	0	0	0
194	SLD 9	-13	23	882	0	0	0
194	SLD 10	-7	25	886	0	0	0
194	SLD 11	-17	-48	249	0	0	0
194	SLD 12	-11	-46	252	0	0	0
194	SLD 13	-49	-7	688	0	0	0
194	SLD 14	-40	-3	693	0	0	0
194	SLD 15	-51	-28	498	0	0	0
194	SLD 16	-41	-25	503	0	0	0
194	SLV 1	71	15	641	0	0	0
194	SLV 2	86	20	650	0	0	0
194	SLV 3	69	-20	334	0	0	0
194	SLV 4	84	-14	342	0	0	0
194	SLV 5	23	49	1045	0	0	0
194	SLV 6	33	53	1051	0	0	0
194	SLV 7	17	-66	21	0	0	0
194	SLV 8	27	-62	27	0	0	0
194	SLV 9	-22	43	1083	0	0	0
194	SLV 10	-12	47	1089	0	0	0
194	SLV 11	-28	-72	59	0	0	0
194	SLV 12	-18	-68	65	0	0	0
194	SLV 13	-79	-5	768	0	0	0
194	SLV 14	-64	1	776	0	0	0
194	SLV 15	-81	-39	460	0	0	0
194	SLV 16	-66	-34	469	0	0	0
194	SLV FO 1	78	17	650	0	0	0
194	SLV FO 2	94	23	659	0	0	0
194	SLV FO 3	76	-21	312	0	0	0
194	SLV FO 4	92	-14	321	0	0	0
194	SLV FO 5	25	55	1094	0	0	0
194	SLV FO 6	36	59	1100	0	0	0
194	SLV FO 7	18	-71	-32	0	0	0
194	SLV FO 8	29	-67	-26	0	0	0
194	SLV FO 9	-24	48	1136	0	0	0
194	SLV FO 10	-13	53	1142	0	0	0
194	SLV FO 11	-31	-78	9	0	0	0
194	SLV FO 12	-20	-74	16	0	0	0
194	SLV FO 13	-87	-4	789	0	0	0
194	SLV FO 14	-71	2	798	0	0	0
194	SLV FO 15	-89	-42	451	0	0	0
194	SLV FO 16	-73	-36	460	0	0	0
194	CRTFP Uy+	0	0	0	0	0	0
194	CRTFP Uy-	0	0	0	0	0	0
195	SLU 1	3	-11	644	0	0	0
195	SLU 2	3	-9	663	0	0	0
195	SLU 3	3	-11	654	0	0	0
195	SLU 4	3	-10	665	0	0	0
195	SLU 5	3	-9	669	0	0	0
195	SLU 6	3	-12	660	0	0	0
195	SLU 7	3	-10	671	0	0	0
195	SLU 8	3	-11	656	0	0	0
195	SLU 9	3	-10	667	0	0	0
195	SLU 10	3	-10	747	0	0	0
195	SLU 11	3	-12	738	0	0	0
195	SLU 12	3	-11	749	0	0	0
195	SLU 13	3	-10	753	0	0	0
195	SLU 14	3	-13	743	0	0	0
195	SLU 15	3	-11	755	0	0	0
195	SLU 16	3	-12	740	0	0	0
195	SLU 17	3	-11	751	0	0	0
195	SLU 18	3	-13	764	0	0	0
195	SLU 19	3	-11	775	0	0	0
195	SLU 20	3	-13	769	0	0	0
195	SLU 21	3	-11	781	0	0	0
195	SLU 22	3	-12	729	0	0	0
195	SLU 23	3	-10	748	0	0	0
195	SLU 24	3	-13	738	0	0	0
195	SLU 25	3	-11	750	0	0	0
195	SLU 26	3	-10	753	0	0	0
195	SLU 27	3	-13	744	0	0	0
195	SLU 28	3	-11	756	0	0	0
195	SLU 29	3	-13	740	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	SLU 30	3	-11	752	0	0	0
195	SLU 31	4	-11	831	0	0	0
195	SLU 32	4	-14	822	0	0	0
195	SLU 33	4	-12	833	0	0	0
195	SLU 34	4	-11	837	0	0	0
195	SLU 35	3	-14	828	0	0	0
195	SLU 36	4	-12	839	0	0	0
195	SLU 37	3	-14	824	0	0	0
195	SLU 38	4	-12	835	0	0	0
195	SLU 39	4	-14	848	0	0	0
195	SLU 40	4	-12	859	0	0	0
195	SLU 41	4	-14	854	0	0	0
195	SLU 42	4	-13	865	0	0	0
195	SLU 43	4	-14	809	0	0	0
195	SLU 44	4	-12	828	0	0	0
195	SLU 45	4	-14	819	0	0	0
195	SLU 46	4	-13	830	0	0	0
195	SLU 47	4	-12	834	0	0	0
195	SLU 48	4	-14	824	0	0	0
195	SLU 49	4	-13	836	0	0	0
195	SLU 50	4	-14	821	0	0	0
195	SLU 51	4	-13	832	0	0	0
195	SLU 52	4	-13	911	0	0	0
195	SLU 53	4	-15	902	0	0	0
195	SLU 54	4	-14	913	0	0	0
195	SLU 55	4	-13	917	0	0	0
195	SLU 56	4	-15	908	0	0	0
195	SLU 57	4	-14	919	0	0	0
195	SLU 58	4	-15	904	0	0	0
195	SLU 59	4	-14	915	0	0	0
195	SLU 60	4	-16	928	0	0	0
195	SLU 61	4	-14	939	0	0	0
195	SLU 62	4	-16	934	0	0	0
195	SLU 63	4	-14	945	0	0	0
195	SLU 64	4	-15	893	0	0	0
195	SLU 65	4	-13	912	0	0	0
195	SLU 66	4	-16	903	0	0	0
195	SLU 67	4	-14	914	0	0	0
195	SLU 68	4	-13	918	0	0	0
195	SLU 69	4	-16	909	0	0	0
195	SLU 70	4	-14	920	0	0	0
195	SLU 71	4	-16	905	0	0	0
195	SLU 72	4	-14	916	0	0	0
195	SLU 73	4	-14	995	0	0	0
195	SLU 74	4	-17	986	0	0	0
195	SLU 75	4	-15	998	0	0	0
195	SLU 76	4	-14	1001	0	0	0
195	SLU 77	4	-17	992	0	0	0
195	SLU 78	4	-15	1003	0	0	0
195	SLU 79	4	-17	988	0	0	0
195	SLU 80	4	-15	1000	0	0	0
195	SLU 81	4	-17	1012	0	0	0
195	SLU 82	4	-15	1024	0	0	0
195	SLU 83	4	-17	1018	0	0	0
195	SLU 84	4	-16	1030	0	0	0
195	SLE RA 1	3	-12	669	0	0	0
195	SLE RA 2	3	-10	681	0	0	0
195	SLE RA 3	3	-12	675	0	0	0
195	SLE RA 4	3	-11	682	0	0	0
195	SLE RA 5	3	-10	685	0	0	0
195	SLE RA 6	3	-12	679	0	0	0
195	SLE RA 7	3	-11	686	0	0	0
195	SLE RA 8	3	-12	676	0	0	0
195	SLE RA 9	3	-11	684	0	0	0
195	SLE RA 10	3	-11	737	0	0	0
195	SLE RA 11	3	-12	731	0	0	0
195	SLE RA 12	3	-11	738	0	0	0
195	SLE RA 13	3	-11	741	0	0	0
195	SLE RA 14	3	-12	734	0	0	0
195	SLE RA 15	3	-11	742	0	0	0
195	SLE RA 16	3	-12	732	0	0	0
195	SLE RA 17	3	-11	739	0	0	0
195	SLE RA 18	3	-12	748	0	0	0
195	SLE RA 19	3	-12	756	0	0	0
195	SLE RA 20	3	-13	752	0	0	0
195	SLE RA 21	3	-12	759	0	0	0
195	SLE FR 1	3	-12	669	0	0	0
195	SLE FR 2	3	-11	671	0	0	0
195	SLE FR 3	3	-12	670	0	0	0
195	SLE FR 4	3	-11	695	0	0	0
195	SLE FR 5	3	-12	694	0	0	0
195	SLE FR 6	3	-12	708	0	0	0
195	SLE QP 1	3	-12	669	0	0	0
195	SLE QP 2	3	-12	692	0	0	0
195	SLD 1	57	7	751	0	0	0
195	SLD 2	69	12	758	0	0	0
195	SLD 3	56	-19	514	0	0	0
195	SLD 4	68	-14	521	0	0	0
195	SLD 5	19	32	1069	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
195	SLD 6	27	35	1074	0	0	0
195	SLD 7	15	-54	277	0	0	0
195	SLD 8	22	-51	282	0	0	0
195	SLD 9	-16	27	1103	0	0	0
195	SLD 10	-9	30	1108	0	0	0
195	SLD 11	-21	-59	311	0	0	0
195	SLD 12	-13	-56	316	0	0	0
195	SLD 13	-61	-10	864	0	0	0
195	SLD 14	-50	-5	871	0	0	0
195	SLD 15	-63	-36	627	0	0	0
195	SLD 16	-51	-31	634	0	0	0
195	SLV 1	88	18	791	0	0	0
195	SLV 2	106	26	802	0	0	0
195	SLV 3	86	-23	407	0	0	0
195	SLV 4	104	-15	418	0	0	0
195	SLV 5	29	59	1302	0	0	0
195	SLV 6	41	64	1310	0	0	0
195	SLV 7	21	-80	22	0	0	0
195	SLV 8	33	-75	29	0	0	0
195	SLV 9	-27	51	1355	0	0	0
195	SLV 10	-15	56	1363	0	0	0
195	SLV 11	-35	-88	75	0	0	0
195	SLV 12	-23	-83	82	0	0	0
195	SLV 13	-98	-8	967	0	0	0
195	SLV 14	-80	0	978	0	0	0
195	SLV 15	-100	-50	583	0	0	0
195	SLV 16	-82	-42	594	0	0	0
195	SLV FO 1	97	21	801	0	0	0
195	SLV FO 2	117	30	813	0	0	0
195	SLV FO 3	94	-24	378	0	0	0
195	SLV FO 4	114	-16	390	0	0	0
195	SLV FO 5	31	66	1364	0	0	0
195	SLV FO 6	45	72	1372	0	0	0
195	SLV FO 7	23	-87	-45	0	0	0
195	SLV FO 8	36	-81	-37	0	0	0
195	SLV FO 9	-30	57	1422	0	0	0
195	SLV FO 10	-17	63	1430	0	0	0
195	SLV FO 11	-39	-96	13	0	0	0
195	SLV FO 12	-25	-90	21	0	0	0
195	SLV FO 13	-108	-8	995	0	0	0
195	SLV FO 14	-88	1	1007	0	0	0
195	SLV FO 15	-110	-54	572	0	0	0
195	SLV FO 16	-90	-45	584	0	0	0
195	CRTFP Uy+	0	0	0	0	0	0
195	CRTFP Uy-	0	0	0	0	0	0
196	SLU 1	1	-6	328	0	0	0
196	SLU 2	2	-5	338	0	0	0
196	SLU 3	1	-6	333	0	0	0
196	SLU 4	2	-5	339	0	0	0
196	SLU 5	2	-5	341	0	0	0
196	SLU 6	1	-6	336	0	0	0
196	SLU 7	2	-5	342	0	0	0
196	SLU 8	1	-6	334	0	0	0
196	SLU 9	1	-5	340	0	0	0
196	SLU 10	2	-5	381	0	0	0
196	SLU 11	2	-6	376	0	0	0
196	SLU 12	2	-6	382	0	0	0
196	SLU 13	2	-5	383	0	0	0
196	SLU 14	2	-6	379	0	0	0
196	SLU 15	2	-6	385	0	0	0
196	SLU 16	2	-6	377	0	0	0
196	SLU 17	2	-6	383	0	0	0
196	SLU 18	2	-7	389	0	0	0
196	SLU 19	2	-6	395	0	0	0
196	SLU 20	2	-7	392	0	0	0
196	SLU 21	2	-6	398	0	0	0
196	SLU 22	2	-6	372	0	0	0
196	SLU 23	2	-5	381	0	0	0
196	SLU 24	2	-7	376	0	0	0
196	SLU 25	2	-6	382	0	0	0
196	SLU 26	2	-5	384	0	0	0
196	SLU 27	2	-7	379	0	0	0
196	SLU 28	2	-6	385	0	0	0
196	SLU 29	2	-7	377	0	0	0
196	SLU 30	2	-6	383	0	0	0
196	SLU 31	2	-6	424	0	0	0
196	SLU 32	2	-7	419	0	0	0
196	SLU 33	2	-6	425	0	0	0
196	SLU 34	2	-6	427	0	0	0
196	SLU 35	2	-7	422	0	0	0
196	SLU 36	2	-6	428	0	0	0
196	SLU 37	2	-7	420	0	0	0
196	SLU 38	2	-6	426	0	0	0
196	SLU 39	2	-7	432	0	0	0
196	SLU 40	2	-6	438	0	0	0
196	SLU 41	2	-7	435	0	0	0
196	SLU 42	2	-7	441	0	0	0
196	SLU 43	2	-7	412	0	0	0
196	SLU 44	2	-6	422	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLU 45	2	-7	417	0	0	0
196	SLU 46	2	-7	423	0	0	0
196	SLU 47	2	-6	425	0	0	0
196	SLU 48	2	-7	420	0	0	0
196	SLU 49	2	-7	426	0	0	0
196	SLU 50	2	-7	418	0	0	0
196	SLU 51	2	-7	424	0	0	0
196	SLU 52	2	-7	464	0	0	0
196	SLU 53	2	-8	460	0	0	0
196	SLU 54	2	-7	465	0	0	0
196	SLU 55	2	-7	467	0	0	0
196	SLU 56	2	-8	463	0	0	0
196	SLU 57	2	-7	468	0	0	0
196	SLU 58	2	-8	461	0	0	0
196	SLU 59	2	-7	466	0	0	0
196	SLU 60	2	-8	473	0	0	0
196	SLU 61	2	-7	479	0	0	0
196	SLU 62	2	-8	476	0	0	0
196	SLU 63	2	-7	482	0	0	0
196	SLU 64	2	-8	455	0	0	0
196	SLU 65	2	-7	465	0	0	0
196	SLU 66	2	-8	460	0	0	0
196	SLU 67	2	-7	466	0	0	0
196	SLU 68	2	-7	468	0	0	0
196	SLU 69	2	-8	463	0	0	0
196	SLU 70	2	-7	469	0	0	0
196	SLU 71	2	-8	461	0	0	0
196	SLU 72	2	-7	467	0	0	0
196	SLU 73	2	-7	507	0	0	0
196	SLU 74	2	-9	503	0	0	0
196	SLU 75	2	-8	508	0	0	0
196	SLU 76	2	-7	510	0	0	0
196	SLU 77	2	-9	506	0	0	0
196	SLU 78	2	-8	511	0	0	0
196	SLU 79	2	-9	504	0	0	0
196	SLU 80	2	-8	509	0	0	0
196	SLU 81	2	-9	516	0	0	0
196	SLU 82	2	-8	522	0	0	0
196	SLU 83	2	-9	519	0	0	0
196	SLU 84	2	-8	525	0	0	0
196	SLE RA 1	2	-6	341	0	0	0
196	SLE RA 2	2	-5	347	0	0	0
196	SLE RA 3	2	-6	344	0	0	0
196	SLE RA 4	2	-6	348	0	0	0
196	SLE RA 5	2	-5	349	0	0	0
196	SLE RA 6	2	-6	346	0	0	0
196	SLE RA 7	2	-6	350	0	0	0
196	SLE RA 8	2	-6	345	0	0	0
196	SLE RA 9	2	-6	349	0	0	0
196	SLE RA 10	2	-6	375	0	0	0
196	SLE RA 11	2	-6	372	0	0	0
196	SLE RA 12	2	-6	376	0	0	0
196	SLE RA 13	2	-6	377	0	0	0
196	SLE RA 14	2	-6	374	0	0	0
196	SLE RA 15	2	-6	378	0	0	0
196	SLE RA 16	2	-6	373	0	0	0
196	SLE RA 17	2	-6	377	0	0	0
196	SLE RA 18	2	-6	381	0	0	0
196	SLE RA 19	2	-6	385	0	0	0
196	SLE RA 20	2	-7	383	0	0	0
196	SLE RA 21	2	-6	387	0	0	0
196	SLE FR 1	2	-6	341	0	0	0
196	SLE FR 2	2	-6	342	0	0	0
196	SLE FR 3	2	-6	342	0	0	0
196	SLE FR 4	2	-6	354	0	0	0
196	SLE FR 5	2	-6	354	0	0	0
196	SLE FR 6	2	-6	361	0	0	0
196	SLE QP 1	2	-6	341	0	0	0
196	SLE QP 2	2	-6	353	0	0	0
196	SLD 1	29	4	380	0	0	0
196	SLD 2	35	6	384	0	0	0
196	SLD 3	28	-9	259	0	0	0
196	SLD 4	34	-6	262	0	0	0
196	SLD 5	10	16	544	0	0	0
196	SLD 6	14	17	547	0	0	0
196	SLD 7	7	-27	140	0	0	0
196	SLD 8	11	-25	142	0	0	0
196	SLD 9	-8	13	563	0	0	0
196	SLD 10	-4	15	566	0	0	0
196	SLD 11	-11	-30	159	0	0	0
196	SLD 12	-7	-28	161	0	0	0
196	SLD 13	-31	-6	443	0	0	0
196	SLD 14	-25	-3	447	0	0	0
196	SLD 15	-32	-19	322	0	0	0
196	SLD 16	-26	-16	326	0	0	0
196	SLV 1	44	9	399	0	0	0
196	SLV 2	54	14	404	0	0	0
196	SLV 3	43	-11	202	0	0	0
196	SLV 4	52	-7	208	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
196	SLV 5	15	29	663	0	0	0
196	SLV 6	21	32	667	0	0	0
196	SLV 7	11	-40	9	0	0	0
196	SLV 8	17	-37	13	0	0	0
196	SLV 9	-14	24	693	0	0	0
196	SLV 10	-7	27	697	0	0	0
196	SLV 11	-18	-44	39	0	0	0
196	SLV 12	-11	-41	43	0	0	0
196	SLV 13	-49	-5	498	0	0	0
196	SLV 14	-40	-1	503	0	0	0
196	SLV 15	-50	-26	301	0	0	0
196	SLV 16	-41	-22	307	0	0	0
196	SLV FO 1	49	11	403	0	0	0
196	SLV FO 2	59	16	410	0	0	0
196	SLV FO 3	47	-12	187	0	0	0
196	SLV FO 4	58	-7	194	0	0	0
196	SLV FO 5	16	32	694	0	0	0
196	SLV FO 6	23	36	698	0	0	0
196	SLV FO 7	12	-43	-25	0	0	0
196	SLV FO 8	18	-40	-21	0	0	0
196	SLV FO 9	-15	28	727	0	0	0
196	SLV FO 10	-8	31	731	0	0	0
196	SLV FO 11	-19	-48	7	0	0	0
196	SLV FO 12	-13	-45	12	0	0	0
196	SLV FO 13	-54	-5	512	0	0	0
196	SLV FO 14	-44	-1	518	0	0	0
196	SLV FO 15	-56	-28	296	0	0	0
196	SLV FO 16	-46	-23	303	0	0	0
196	CRTFP Uy+	0	0	0	0	0	0
196	CRTFP Uy-	0	0	0	0	0	0
197	SLU 1	3	-13	710	0	0	0
197	SLU 2	4	-10	730	0	0	0
197	SLU 3	3	-13	721	0	0	0
197	SLU 4	4	-11	732	0	0	0
197	SLU 5	4	-10	736	0	0	0
197	SLU 6	3	-13	727	0	0	0
197	SLU 7	4	-11	739	0	0	0
197	SLU 8	3	-13	723	0	0	0
197	SLU 9	3	-11	735	0	0	0
197	SLU 10	4	-11	822	0	0	0
197	SLU 11	4	-14	813	0	0	0
197	SLU 12	4	-13	825	0	0	0
197	SLU 13	4	-11	829	0	0	0
197	SLU 14	4	-14	820	0	0	0
197	SLU 15	4	-13	831	0	0	0
197	SLU 16	4	-14	815	0	0	0
197	SLU 17	4	-13	827	0	0	0
197	SLU 18	4	-15	842	0	0	0
197	SLU 19	4	-13	854	0	0	0
197	SLU 20	4	-15	848	0	0	0
197	SLU 21	4	-13	860	0	0	0
197	SLU 22	4	-14	803	0	0	0
197	SLU 23	4	-11	822	0	0	0
197	SLU 24	4	-15	813	0	0	0
197	SLU 25	4	-13	825	0	0	0
197	SLU 26	4	-12	829	0	0	0
197	SLU 27	4	-15	820	0	0	0
197	SLU 28	4	-13	832	0	0	0
197	SLU 29	4	-15	816	0	0	0
197	SLU 30	4	-13	828	0	0	0
197	SLU 31	4	-13	915	0	0	0
197	SLU 32	4	-16	906	0	0	0
197	SLU 33	4	-14	918	0	0	0
197	SLU 34	4	-13	921	0	0	0
197	SLU 35	4	-16	912	0	0	0
197	SLU 36	4	-14	924	0	0	0
197	SLU 37	4	-16	908	0	0	0
197	SLU 38	4	-14	920	0	0	0
197	SLU 39	4	-16	935	0	0	0
197	SLU 40	4	-14	947	0	0	0
197	SLU 41	4	-16	941	0	0	0
197	SLU 42	4	-15	953	0	0	0
197	SLU 43	4	-16	891	0	0	0
197	SLU 44	4	-13	911	0	0	0
197	SLU 45	4	-16	902	0	0	0
197	SLU 46	4	-15	914	0	0	0
197	SLU 47	4	-13	917	0	0	0
197	SLU 48	4	-17	908	0	0	0
197	SLU 49	4	-15	920	0	0	0
197	SLU 50	4	-16	904	0	0	0
197	SLU 51	4	-15	916	0	0	0
197	SLU 52	5	-15	1003	0	0	0
197	SLU 53	4	-18	994	0	0	0
197	SLU 54	5	-16	1006	0	0	0
197	SLU 55	5	-15	1010	0	0	0
197	SLU 56	4	-18	1001	0	0	0
197	SLU 57	4	-16	1013	0	0	0
197	SLU 58	4	-18	996	0	0	0
197	SLU 59	4	-16	1008	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLU 60	5	-18	1023	0	0	0
197	SLU 61	5	-16	1035	0	0	0
197	SLU 62	4	-18	1030	0	0	0
197	SLU 63	5	-16	1041	0	0	0
197	SLU 64	5	-18	984	0	0	0
197	SLU 65	5	-15	1004	0	0	0
197	SLU 66	5	-18	995	0	0	0
197	SLU 67	5	-16	1006	0	0	0
197	SLU 68	5	-15	1010	0	0	0
197	SLU 69	5	-18	1001	0	0	0
197	SLU 70	5	-16	1013	0	0	0
197	SLU 71	5	-18	997	0	0	0
197	SLU 72	5	-16	1009	0	0	0
197	SLU 73	5	-16	1096	0	0	0
197	SLU 74	5	-19	1087	0	0	0
197	SLU 75	5	-17	1099	0	0	0
197	SLU 76	5	-16	1103	0	0	0
197	SLU 77	5	-19	1093	0	0	0
197	SLU 78	5	-18	1105	0	0	0
197	SLU 79	5	-19	1089	0	0	0
197	SLU 80	5	-17	1101	0	0	0
197	SLU 81	5	-19	1116	0	0	0
197	SLU 82	5	-18	1128	0	0	0
197	SLU 83	5	-20	1122	0	0	0
197	SLU 84	5	-18	1134	0	0	0
197	SLE RA 1	4	-13	736	0	0	0
197	SLE RA 2	4	-11	750	0	0	0
197	SLE RA 3	4	-13	744	0	0	0
197	SLE RA 4	4	-12	751	0	0	0
197	SLE RA 5	4	-11	754	0	0	0
197	SLE RA 6	4	-13	748	0	0	0
197	SLE RA 7	4	-12	756	0	0	0
197	SLE RA 8	4	-13	745	0	0	0
197	SLE RA 9	4	-12	753	0	0	0
197	SLE RA 10	4	-12	811	0	0	0
197	SLE RA 11	4	-14	805	0	0	0
197	SLE RA 12	4	-13	813	0	0	0
197	SLE RA 13	4	-12	816	0	0	0
197	SLE RA 14	4	-14	809	0	0	0
197	SLE RA 15	4	-13	817	0	0	0
197	SLE RA 16	4	-14	807	0	0	0
197	SLE RA 17	4	-13	815	0	0	0
197	SLE RA 18	4	-14	824	0	0	0
197	SLE RA 19	4	-13	832	0	0	0
197	SLE RA 20	4	-14	829	0	0	0
197	SLE RA 21	4	-13	837	0	0	0
197	SLE FR 1	4	-13	736	0	0	0
197	SLE FR 2	4	-13	739	0	0	0
197	SLE FR 3	4	-13	738	0	0	0
197	SLE FR 4	4	-13	765	0	0	0
197	SLE FR 5	4	-14	765	0	0	0
197	SLE FR 6	4	-14	780	0	0	0
197	SLE QP 1	4	-13	736	0	0	0
197	SLE QP 2	4	-14	763	0	0	0
197	SLD 1	66	8	844	0	0	0
197	SLD 2	79	12	850	0	0	0
197	SLD 3	64	-24	595	0	0	0
197	SLD 4	77	-20	601	0	0	0
197	SLD 5	22	40	1165	0	0	0
197	SLD 6	31	43	1169	0	0	0
197	SLD 7	17	-65	333	0	0	0
197	SLD 8	26	-63	337	0	0	0
197	SLD 9	-18	35	1189	0	0	0
197	SLD 10	-10	38	1193	0	0	0
197	SLD 11	-24	-70	357	0	0	0
197	SLD 12	-15	-67	361	0	0	0
197	SLD 13	-70	-8	925	0	0	0
197	SLD 14	-57	-3	931	0	0	0
197	SLD 15	-71	-39	675	0	0	0
197	SLD 16	-59	-35	681	0	0	0
197	SLV 1	101	21	897	0	0	0
197	SLV 2	121	27	907	0	0	0
197	SLV 3	98	-30	493	0	0	0
197	SLV 4	119	-24	503	0	0	0
197	SLV 5	33	73	1413	0	0	0
197	SLV 6	47	77	1420	0	0	0
197	SLV 7	24	-97	68	0	0	0
197	SLV 8	38	-93	75	0	0	0
197	SLV 9	-31	66	1451	0	0	0
197	SLV 10	-17	70	1457	0	0	0
197	SLV 11	-40	-104	106	0	0	0
197	SLV 12	-26	-100	112	0	0	0
197	SLV 13	-111	-3	1022	0	0	0
197	SLV 14	-91	3	1032	0	0	0
197	SLV 15	-114	-54	619	0	0	0
197	SLV 16	-94	-48	629	0	0	0
197	SLV FO 1	111	24	910	0	0	0
197	SLV FO 2	133	31	921	0	0	0
197	SLV FO 3	108	-32	466	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
197	SLV FO 4	130	-25	477	0	0	0
197	SLV FO 5	36	82	1478	0	0	0
197	SLV FO 6	51	86	1485	0	0	0
197	SLV FO 7	26	-106	-1	0	0	0
197	SLV FO 8	41	-101	6	0	0	0
197	SLV FO 9	-34	74	1520	0	0	0
197	SLV FO 10	-19	78	1527	0	0	0
197	SLV FO 11	-44	-114	40	0	0	0
197	SLV FO 12	-29	-109	47	0	0	0
197	SLV FO 13	-123	-2	1048	0	0	0
197	SLV FO 14	-101	5	1059	0	0	0
197	SLV FO 15	-126	-58	604	0	0	0
197	SLV FO 16	-104	-51	615	0	0	0
197	CRTFP Uy+	0	0	0	0	0	0
197	CRTFP Uy-	0	0	0	0	0	0
198	SLU 1	4	-14	743	0	0	0
198	SLU 2	4	-11	764	0	0	0
198	SLU 3	4	-14	755	0	0	0
198	SLU 4	4	-12	767	0	0	0
198	SLU 5	4	-11	771	0	0	0
198	SLU 6	4	-14	762	0	0	0
198	SLU 7	4	-12	774	0	0	0
198	SLU 8	3	-14	757	0	0	0
198	SLU 9	4	-12	770	0	0	0
198	SLU 10	4	-12	861	0	0	0
198	SLU 11	4	-15	852	0	0	0
198	SLU 12	4	-13	864	0	0	0
198	SLU 13	4	-12	868	0	0	0
198	SLU 14	4	-15	859	0	0	0
198	SLU 15	4	-13	871	0	0	0
198	SLU 16	4	-15	854	0	0	0
198	SLU 17	4	-13	867	0	0	0
198	SLU 18	4	-15	882	0	0	0
198	SLU 19	4	-14	895	0	0	0
198	SLU 20	4	-16	889	0	0	0
198	SLU 21	4	-14	901	0	0	0
198	SLU 22	4	-15	840	0	0	0
198	SLU 23	4	-12	861	0	0	0
198	SLU 24	4	-15	852	0	0	0
198	SLU 25	4	-14	864	0	0	0
198	SLU 26	4	-12	868	0	0	0
198	SLU 27	4	-16	859	0	0	0
198	SLU 28	4	-14	871	0	0	0
198	SLU 29	4	-15	854	0	0	0
198	SLU 30	4	-14	867	0	0	0
198	SLU 31	4	-13	958	0	0	0
198	SLU 32	4	-17	949	0	0	0
198	SLU 33	4	-15	961	0	0	0
198	SLU 34	4	-14	965	0	0	0
198	SLU 35	4	-17	956	0	0	0
198	SLU 36	4	-15	968	0	0	0
198	SLU 37	4	-17	951	0	0	0
198	SLU 38	4	-15	964	0	0	0
198	SLU 39	4	-17	979	0	0	0
198	SLU 40	4	-15	992	0	0	0
198	SLU 41	4	-17	986	0	0	0
198	SLU 42	4	-15	999	0	0	0
198	SLU 43	4	-17	933	0	0	0
198	SLU 44	5	-14	954	0	0	0
198	SLU 45	4	-17	944	0	0	0
198	SLU 46	5	-16	957	0	0	0
198	SLU 47	5	-14	961	0	0	0
198	SLU 48	4	-17	951	0	0	0
198	SLU 49	4	-16	964	0	0	0
198	SLU 50	4	-17	947	0	0	0
198	SLU 51	4	-16	959	0	0	0
198	SLU 52	5	-15	1051	0	0	0
198	SLU 53	5	-19	1041	0	0	0
198	SLU 54	5	-17	1054	0	0	0
198	SLU 55	5	-16	1058	0	0	0
198	SLU 56	5	-19	1048	0	0	0
198	SLU 57	5	-17	1061	0	0	0
198	SLU 58	5	-19	1044	0	0	0
198	SLU 59	5	-17	1056	0	0	0
198	SLU 60	5	-19	1072	0	0	0
198	SLU 61	5	-17	1084	0	0	0
198	SLU 62	5	-19	1079	0	0	0
198	SLU 63	5	-17	1091	0	0	0
198	SLU 64	5	-19	1030	0	0	0
198	SLU 65	5	-16	1051	0	0	0
198	SLU 66	5	-19	1041	0	0	0
198	SLU 67	5	-17	1054	0	0	0
198	SLU 68	5	-16	1058	0	0	0
198	SLU 69	5	-19	1048	0	0	0
198	SLU 70	5	-17	1061	0	0	0
198	SLU 71	5	-19	1044	0	0	0
198	SLU 72	5	-17	1056	0	0	0
198	SLU 73	5	-17	1148	0	0	0
198	SLU 74	5	-20	1139	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
198	SLU 75	5	-18	1151	0	0	0
198	SLU 76	5	-17	1155	0	0	0
198	SLU 77	5	-20	1145	0	0	0
198	SLU 78	5	-19	1158	0	0	0
198	SLU 79	5	-20	1141	0	0	0
198	SLU 80	5	-18	1153	0	0	0
198	SLU 81	5	-21	1169	0	0	0
198	SLU 82	5	-19	1181	0	0	0
198	SLU 83	5	-21	1176	0	0	0
198	SLU 84	5	-19	1188	0	0	0
198	SLE RA 1	4	-14	771	0	0	0
198	SLE RA 2	4	-12	785	0	0	0
198	SLE RA 3	4	-14	779	0	0	0
198	SLE RA 4	4	-13	787	0	0	0
198	SLE RA 5	4	-12	790	0	0	0
198	SLE RA 6	4	-14	783	0	0	0
198	SLE RA 7	4	-13	792	0	0	0
198	SLE RA 8	4	-14	780	0	0	0
198	SLE RA 9	4	-13	789	0	0	0
198	SLE RA 10	4	-13	850	0	0	0
198	SLE RA 11	4	-15	843	0	0	0
198	SLE RA 12	4	-14	852	0	0	0
198	SLE RA 13	4	-13	854	0	0	0
198	SLE RA 14	4	-15	848	0	0	0
198	SLE RA 15	4	-14	856	0	0	0
198	SLE RA 16	4	-15	845	0	0	0
198	SLE RA 17	4	-14	853	0	0	0
198	SLE RA 18	4	-15	864	0	0	0
198	SLE RA 19	4	-14	872	0	0	0
198	SLE RA 20	4	-15	868	0	0	0
198	SLE RA 21	4	-14	876	0	0	0
198	SLE FR 1	4	-14	771	0	0	0
198	SLE FR 2	4	-14	774	0	0	0
198	SLE FR 3	4	-14	773	0	0	0
198	SLE FR 4	4	-14	802	0	0	0
198	SLE FR 5	4	-14	801	0	0	0
198	SLE FR 6	4	-15	817	0	0	0
198	SLE QP 1	4	-14	771	0	0	0
198	SLE QP 2	4	-14	799	0	0	0
198	SLD 1	69	8	891	0	0	0
198	SLD 2	83	12	897	0	0	0
198	SLD 3	68	-26	630	0	0	0
198	SLD 4	81	-22	636	0	0	0
198	SLD 5	23	43	1221	0	0	0
198	SLD 6	32	46	1225	0	0	0
198	SLD 7	18	-70	351	0	0	0
198	SLD 8	27	-67	355	0	0	0
198	SLD 9	-19	39	1243	0	0	0
198	SLD 10	-10	41	1247	0	0	0
198	SLD 11	-25	-74	372	0	0	0
198	SLD 12	-16	-72	376	0	0	0
198	SLD 13	-74	-7	962	0	0	0
198	SLD 14	-60	-3	968	0	0	0
198	SLD 15	-75	-41	701	0	0	0
198	SLD 16	-62	-37	707	0	0	0
198	SLV 1	106	22	950	0	0	0
198	SLV 2	128	28	959	0	0	0
198	SLV 3	104	-33	528	0	0	0
198	SLV 4	125	-27	537	0	0	0
198	SLV 5	35	78	1483	0	0	0
198	SLV 6	49	82	1489	0	0	0
198	SLV 7	25	-104	75	0	0	0
198	SLV 8	40	-100	82	0	0	0
198	SLV 9	-32	71	1516	0	0	0
198	SLV 10	-18	75	1522	0	0	0
198	SLV 11	-42	-111	109	0	0	0
198	SLV 12	-27	-107	115	0	0	0
198	SLV 13	-117	-2	1061	0	0	0
198	SLV 14	-96	4	1070	0	0	0
198	SLV 15	-120	-56	638	0	0	0
198	SLV 16	-99	-50	648	0	0	0
198	SLV FO 1	117	25	965	0	0	0
198	SLV FO 2	140	32	975	0	0	0
198	SLV FO 3	113	-35	500	0	0	0
198	SLV FO 4	137	-29	511	0	0	0
198	SLV FO 5	38	88	1551	0	0	0
198	SLV FO 6	54	92	1558	0	0	0
198	SLV FO 7	28	-113	3	0	0	0
198	SLV FO 8	43	-109	10	0	0	0
198	SLV FO 9	-36	80	1587	0	0	0
198	SLV FO 10	-20	84	1595	0	0	0
198	SLV FO 11	-46	-121	40	0	0	0
198	SLV FO 12	-30	-116	47	0	0	0
198	SLV FO 13	-129	0	1087	0	0	0
198	SLV FO 14	-106	6	1097	0	0	0
198	SLV FO 15	-133	-61	622	0	0	0
198	SLV FO 16	-109	-54	633	0	0	0
198	CRTFP Uy+	0	0	0	0	0	0
198	CRTFP Uy-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
199	SLU 1	4	-13	705	0	0	0
199	SLU 2	4	-10	725	0	0	0
199	SLU 3	4	-13	716	0	0	0
199	SLU 4	4	-11	728	0	0	0
199	SLU 5	4	-10	732	0	0	0
199	SLU 6	3	-13	723	0	0	0
199	SLU 7	4	-11	734	0	0	0
199	SLU 8	3	-13	718	0	0	0
199	SLU 9	4	-11	730	0	0	0
199	SLU 10	4	-11	817	0	0	0
199	SLU 11	4	-14	808	0	0	0
199	SLU 12	4	-12	819	0	0	0
199	SLU 13	4	-11	823	0	0	0
199	SLU 14	4	-14	814	0	0	0
199	SLU 15	4	-12	826	0	0	0
199	SLU 16	4	-14	810	0	0	0
199	SLU 17	4	-12	822	0	0	0
199	SLU 18	4	-14	836	0	0	0
199	SLU 19	4	-13	848	0	0	0
199	SLU 20	4	-14	843	0	0	0
199	SLU 21	4	-13	855	0	0	0
199	SLU 22	4	-14	798	0	0	0
199	SLU 23	4	-11	817	0	0	0
199	SLU 24	4	-14	808	0	0	0
199	SLU 25	4	-13	820	0	0	0
199	SLU 26	4	-11	824	0	0	0
199	SLU 27	4	-14	815	0	0	0
199	SLU 28	4	-13	827	0	0	0
199	SLU 29	4	-14	811	0	0	0
199	SLU 30	4	-13	823	0	0	0
199	SLU 31	4	-12	909	0	0	0
199	SLU 32	4	-15	900	0	0	0
199	SLU 33	4	-14	912	0	0	0
199	SLU 34	4	-13	916	0	0	0
199	SLU 35	4	-16	907	0	0	0
199	SLU 36	4	-14	918	0	0	0
199	SLU 37	4	-16	902	0	0	0
199	SLU 38	4	-14	914	0	0	0
199	SLU 39	4	-16	929	0	0	0
199	SLU 40	4	-14	940	0	0	0
199	SLU 41	4	-16	935	0	0	0
199	SLU 42	4	-14	947	0	0	0
199	SLU 43	4	-16	885	0	0	0
199	SLU 44	4	-13	905	0	0	0
199	SLU 45	4	-16	896	0	0	0
199	SLU 46	4	-14	908	0	0	0
199	SLU 47	4	-13	911	0	0	0
199	SLU 48	4	-16	902	0	0	0
199	SLU 49	4	-15	914	0	0	0
199	SLU 50	4	-16	898	0	0	0
199	SLU 51	4	-14	910	0	0	0
199	SLU 52	5	-14	997	0	0	0
199	SLU 53	5	-17	988	0	0	0
199	SLU 54	5	-16	999	0	0	0
199	SLU 55	5	-14	1003	0	0	0
199	SLU 56	4	-17	994	0	0	0
199	SLU 57	5	-16	1006	0	0	0
199	SLU 58	4	-17	990	0	0	0
199	SLU 59	5	-16	1002	0	0	0
199	SLU 60	5	-18	1016	0	0	0
199	SLU 61	5	-16	1028	0	0	0
199	SLU 62	5	-18	1023	0	0	0
199	SLU 63	5	-16	1035	0	0	0
199	SLU 64	5	-17	978	0	0	0
199	SLU 65	5	-15	997	0	0	0
199	SLU 66	5	-18	988	0	0	0
199	SLU 67	5	-16	1000	0	0	0
199	SLU 68	5	-15	1004	0	0	0
199	SLU 69	5	-18	995	0	0	0
199	SLU 70	5	-16	1007	0	0	0
199	SLU 71	5	-18	991	0	0	0
199	SLU 72	5	-16	1002	0	0	0
199	SLU 73	5	-16	1089	0	0	0
199	SLU 74	5	-19	1080	0	0	0
199	SLU 75	5	-17	1092	0	0	0
199	SLU 76	5	-16	1096	0	0	0
199	SLU 77	5	-19	1087	0	0	0
199	SLU 78	5	-17	1098	0	0	0
199	SLU 79	5	-19	1082	0	0	0
199	SLU 80	5	-17	1094	0	0	0
199	SLU 81	5	-19	1109	0	0	0
199	SLU 82	5	-17	1120	0	0	0
199	SLU 83	5	-19	1115	0	0	0
199	SLU 84	5	-17	1127	0	0	0
199	SLE RA 1	4	-13	732	0	0	0
199	SLE RA 2	4	-11	745	0	0	0
199	SLE RA 3	4	-13	739	0	0	0
199	SLE RA 4	4	-12	747	0	0	0
199	SLE RA 5	4	-11	749	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
199	SLE RA 6	4	-13	743	0	0	0
199	SLE RA 7	4	-12	751	0	0	0
199	SLE RA 8	4	-13	740	0	0	0
199	SLE RA 9	4	-12	748	0	0	0
199	SLE RA 10	4	-12	806	0	0	0
199	SLE RA 11	4	-14	800	0	0	0
199	SLE RA 12	4	-13	808	0	0	0
199	SLE RA 13	4	-12	810	0	0	0
199	SLE RA 14	4	-14	804	0	0	0
199	SLE RA 15	4	-13	812	0	0	0
199	SLE RA 16	4	-14	802	0	0	0
199	SLE RA 17	4	-13	809	0	0	0
199	SLE RA 18	4	-14	819	0	0	0
199	SLE RA 19	4	-13	827	0	0	0
199	SLE RA 20	4	-14	823	0	0	0
199	SLE RA 21	4	-13	831	0	0	0
199	SLE FR 1	4	-13	732	0	0	0
199	SLE FR 2	4	-13	734	0	0	0
199	SLE FR 3	4	-13	733	0	0	0
199	SLE FR 4	4	-13	761	0	0	0
199	SLE FR 5	4	-13	760	0	0	0
199	SLE FR 6	4	-14	775	0	0	0
199	SLE QP 1	4	-13	732	0	0	0
199	SLE QP 2	4	-13	758	0	0	0
199	SLD 1	65	8	833	0	0	0
199	SLD 2	78	12	839	0	0	0
199	SLD 3	64	-23	585	0	0	0
199	SLD 4	76	-18	591	0	0	0
199	SLD 5	22	39	1155	0	0	0
199	SLD 6	31	42	1159	0	0	0
199	SLD 7	17	-63	329	0	0	0
199	SLD 8	25	-60	333	0	0	0
199	SLD 9	-18	34	1183	0	0	0
199	SLD 10	-10	37	1187	0	0	0
199	SLD 11	-23	-68	356	0	0	0
199	SLD 12	-15	-65	361	0	0	0
199	SLD 13	-69	-8	925	0	0	0
199	SLD 14	-56	-4	931	0	0	0
199	SLD 15	-70	-39	677	0	0	0
199	SLD 16	-58	-35	683	0	0	0
199	SLV 1	100	21	881	0	0	0
199	SLV 2	120	28	892	0	0	0
199	SLV 3	97	-29	481	0	0	0
199	SLV 4	117	-22	491	0	0	0
199	SLV 5	33	71	1401	0	0	0
199	SLV 6	46	75	1408	0	0	0
199	SLV 7	24	-94	65	0	0	0
199	SLV 8	37	-90	72	0	0	0
199	SLV 9	-30	63	1444	0	0	0
199	SLV 10	-17	68	1451	0	0	0
199	SLV 11	-39	-102	108	0	0	0
199	SLV 12	-26	-97	115	0	0	0
199	SLV 13	-110	-5	1025	0	0	0
199	SLV 14	-90	2	1035	0	0	0
199	SLV 15	-113	-54	624	0	0	0
199	SLV 16	-93	-47	635	0	0	0
199	SLV FO 1	110	24	894	0	0	0
199	SLV FO 2	132	32	905	0	0	0
199	SLV FO 3	107	-30	453	0	0	0
199	SLV FO 4	129	-23	464	0	0	0
199	SLV FO 5	36	79	1465	0	0	0
199	SLV FO 6	51	84	1473	0	0	0
199	SLV FO 7	26	-103	-4	0	0	0
199	SLV FO 8	41	-97	3	0	0	0
199	SLV FO 9	-33	71	1512	0	0	0
199	SLV FO 10	-19	76	1520	0	0	0
199	SLV FO 11	-43	-111	43	0	0	0
199	SLV FO 12	-28	-106	51	0	0	0
199	SLV FO 13	-121	-4	1052	0	0	0
199	SLV FO 14	-99	4	1063	0	0	0
199	SLV FO 15	-124	-59	611	0	0	0
199	SLV FO 16	-102	-51	622	0	0	0
199	CRTFP Uy+	0	0	0	0	0	0
199	CRTFP Uy-	0	0	0	0	0	0
200	SLU 1	4	-14	776	0	0	0
200	SLU 2	4	-11	798	0	0	0
200	SLU 3	4	-15	788	0	0	0
200	SLU 4	4	-13	801	0	0	0
200	SLU 5	4	-11	805	0	0	0
200	SLU 6	4	-15	795	0	0	0
200	SLU 7	4	-13	808	0	0	0
200	SLU 8	4	-15	791	0	0	0
200	SLU 9	4	-13	804	0	0	0
200	SLU 10	4	-12	900	0	0	0
200	SLU 11	4	-16	890	0	0	0
200	SLU 12	4	-14	903	0	0	0
200	SLU 13	4	-13	907	0	0	0
200	SLU 14	4	-16	897	0	0	0
200	SLU 15	4	-14	910	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLU 16	4	-16	893	0	0	0
200	SLU 17	4	-14	906	0	0	0
200	SLU 18	4	-16	922	0	0	0
200	SLU 19	4	-14	935	0	0	0
200	SLU 20	4	-16	929	0	0	0
200	SLU 21	4	-15	942	0	0	0
200	SLU 22	4	-16	878	0	0	0
200	SLU 23	4	-13	899	0	0	0
200	SLU 24	4	-16	890	0	0	0
200	SLU 25	4	-14	903	0	0	0
200	SLU 26	4	-13	907	0	0	0
200	SLU 27	4	-16	897	0	0	0
200	SLU 28	4	-15	910	0	0	0
200	SLU 29	4	-16	892	0	0	0
200	SLU 30	4	-14	905	0	0	0
200	SLU 31	4	-14	1001	0	0	0
200	SLU 32	4	-18	991	0	0	0
200	SLU 33	4	-16	1004	0	0	0
200	SLU 34	4	-14	1008	0	0	0
200	SLU 35	4	-18	999	0	0	0
200	SLU 36	4	-16	1012	0	0	0
200	SLU 37	4	-18	994	0	0	0
200	SLU 38	4	-16	1007	0	0	0
200	SLU 39	4	-18	1023	0	0	0
200	SLU 40	4	-16	1036	0	0	0
200	SLU 41	4	-18	1030	0	0	0
200	SLU 42	4	-16	1043	0	0	0
200	SLU 43	5	-18	975	0	0	0
200	SLU 44	5	-15	996	0	0	0
200	SLU 45	4	-18	986	0	0	0
200	SLU 46	5	-16	999	0	0	0
200	SLU 47	5	-15	1003	0	0	0
200	SLU 48	4	-18	994	0	0	0
200	SLU 49	5	-16	1007	0	0	0
200	SLU 50	4	-18	989	0	0	0
200	SLU 51	4	-16	1002	0	0	0
200	SLU 52	5	-16	1098	0	0	0
200	SLU 53	5	-20	1088	0	0	0
200	SLU 54	5	-18	1101	0	0	0
200	SLU 55	5	-16	1105	0	0	0
200	SLU 56	5	-20	1095	0	0	0
200	SLU 57	5	-18	1108	0	0	0
200	SLU 58	5	-20	1091	0	0	0
200	SLU 59	5	-18	1104	0	0	0
200	SLU 60	5	-20	1120	0	0	0
200	SLU 61	5	-18	1133	0	0	0
200	SLU 62	5	-20	1127	0	0	0
200	SLU 63	5	-18	1140	0	0	0
200	SLU 64	5	-20	1076	0	0	0
200	SLU 65	5	-17	1098	0	0	0
200	SLU 66	5	-20	1088	0	0	0
200	SLU 67	5	-18	1101	0	0	0
200	SLU 68	5	-17	1105	0	0	0
200	SLU 69	5	-20	1095	0	0	0
200	SLU 70	5	-18	1108	0	0	0
200	SLU 71	5	-20	1090	0	0	0
200	SLU 72	5	-18	1103	0	0	0
200	SLU 73	5	-18	1199	0	0	0
200	SLU 74	5	-21	1190	0	0	0
200	SLU 75	5	-19	1203	0	0	0
200	SLU 76	5	-18	1207	0	0	0
200	SLU 77	5	-22	1197	0	0	0
200	SLU 78	5	-20	1210	0	0	0
200	SLU 79	5	-21	1192	0	0	0
200	SLU 80	5	-20	1205	0	0	0
200	SLU 81	5	-22	1221	0	0	0
200	SLU 82	5	-20	1234	0	0	0
200	SLU 83	5	-22	1229	0	0	0
200	SLU 84	5	-20	1242	0	0	0
200	SLE RA 1	4	-15	805	0	0	0
200	SLE RA 2	4	-13	820	0	0	0
200	SLE RA 3	4	-15	813	0	0	0
200	SLE RA 4	4	-14	822	0	0	0
200	SLE RA 5	4	-13	825	0	0	0
200	SLE RA 6	4	-15	818	0	0	0
200	SLE RA 7	4	-14	827	0	0	0
200	SLE RA 8	4	-15	815	0	0	0
200	SLE RA 9	4	-14	824	0	0	0
200	SLE RA 10	4	-14	888	0	0	0
200	SLE RA 11	4	-16	881	0	0	0
200	SLE RA 12	4	-15	890	0	0	0
200	SLE RA 13	4	-14	892	0	0	0
200	SLE RA 14	4	-16	886	0	0	0
200	SLE RA 15	4	-15	895	0	0	0
200	SLE RA 16	4	-16	883	0	0	0
200	SLE RA 17	4	-15	891	0	0	0
200	SLE RA 18	4	-16	902	0	0	0
200	SLE RA 19	4	-15	911	0	0	0
200	SLE RA 20	4	-16	907	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
200	SLE RA 21	4	-15	916	0	0	0
200	SLE FR 1	4	-15	805	0	0	0
200	SLE FR 2	4	-14	808	0	0	0
200	SLE FR 3	4	-15	807	0	0	0
200	SLE FR 4	4	-15	837	0	0	0
200	SLE FR 5	4	-15	836	0	0	0
200	SLE FR 6	4	-15	854	0	0	0
200	SLE QP 1	4	-15	805	0	0	0
200	SLE QP 2	4	-15	834	0	0	0
200	SLD 1	72	8	937	0	0	0
200	SLD 2	87	12	943	0	0	0
200	SLD 3	71	-28	665	0	0	0
200	SLD 4	85	-25	671	0	0	0
200	SLD 5	24	46	1276	0	0	0
200	SLD 6	34	48	1280	0	0	0
200	SLD 7	19	-75	370	0	0	0
200	SLD 8	28	-72	374	0	0	0
200	SLD 9	-21	42	1295	0	0	0
200	SLD 10	-11	44	1298	0	0	0
200	SLD 11	-26	-79	389	0	0	0
200	SLD 12	-17	-77	393	0	0	0
200	SLD 13	-77	-6	998	0	0	0
200	SLD 14	-63	-2	1004	0	0	0
200	SLD 15	-79	-42	726	0	0	0
200	SLD 16	-65	-39	732	0	0	0
200	SLV 1	111	22	1002	0	0	0
200	SLV 2	134	28	1011	0	0	0
200	SLV 3	108	-36	563	0	0	0
200	SLV 4	131	-31	572	0	0	0
200	SLV 5	36	84	1549	0	0	0
200	SLV 6	51	87	1556	0	0	0
200	SLV 7	27	-111	85	0	0	0
200	SLV 8	42	-108	91	0	0	0
200	SLV 9	-34	77	1578	0	0	0
200	SLV 10	-19	81	1584	0	0	0
200	SLV 11	-44	-118	113	0	0	0
200	SLV 12	-29	-114	119	0	0	0
200	SLV 13	-123	1	1097	0	0	0
200	SLV 14	-101	6	1106	0	0	0
200	SLV 15	-126	-58	657	0	0	0
200	SLV 16	-104	-53	667	0	0	0
200	SLV FO 1	122	26	1019	0	0	0
200	SLV FO 2	147	32	1029	0	0	0
200	SLV FO 3	119	-38	536	0	0	0
200	SLV FO 4	143	-32	546	0	0	0
200	SLV FO 5	40	94	1621	0	0	0
200	SLV FO 6	56	98	1628	0	0	0
200	SLV FO 7	29	-121	10	0	0	0
200	SLV FO 8	45	-117	17	0	0	0
200	SLV FO 9	-38	87	1652	0	0	0
200	SLV FO 10	-21	90	1659	0	0	0
200	SLV FO 11	-48	-128	41	0	0	0
200	SLV FO 12	-32	-124	48	0	0	0
200	SLV FO 13	-136	2	1123	0	0	0
200	SLV FO 14	-111	8	1133	0	0	0
200	SLV FO 15	-139	-62	640	0	0	0
200	SLV FO 16	-115	-56	650	0	0	0
200	CRTFP Uy+	0	0	0	0	0	0
200	CRTFP Uy-	0	0	0	0	0	0
201	SLU 1	4	-15	832	0	0	0
201	SLU 2	4	-12	855	0	0	0
201	SLU 3	4	-16	844	0	0	0
201	SLU 4	4	-14	858	0	0	0
201	SLU 5	4	-12	863	0	0	0
201	SLU 6	4	-16	852	0	0	0
201	SLU 7	4	-14	866	0	0	0
201	SLU 8	4	-16	847	0	0	0
201	SLU 9	4	-14	861	0	0	0
201	SLU 10	4	-14	964	0	0	0
201	SLU 11	4	-17	954	0	0	0
201	SLU 12	4	-15	968	0	0	0
201	SLU 13	4	-14	972	0	0	0
201	SLU 14	4	-17	962	0	0	0
201	SLU 15	4	-15	976	0	0	0
201	SLU 16	4	-17	957	0	0	0
201	SLU 17	4	-15	971	0	0	0
201	SLU 18	4	-18	988	0	0	0
201	SLU 19	4	-16	1002	0	0	0
201	SLU 20	4	-18	996	0	0	0
201	SLU 21	4	-16	1010	0	0	0
201	SLU 22	4	-17	941	0	0	0
201	SLU 23	4	-14	964	0	0	0
201	SLU 24	4	-18	953	0	0	0
201	SLU 25	4	-16	967	0	0	0
201	SLU 26	4	-14	971	0	0	0
201	SLU 27	4	-18	961	0	0	0
201	SLU 28	4	-16	975	0	0	0
201	SLU 29	4	-18	956	0	0	0
201	SLU 30	4	-16	970	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLU 31	4	-15	1073	0	0	0
201	SLU 32	4	-19	1063	0	0	0
201	SLU 33	4	-17	1077	0	0	0
201	SLU 34	4	-16	1081	0	0	0
201	SLU 35	4	-19	1071	0	0	0
201	SLU 36	4	-17	1084	0	0	0
201	SLU 37	4	-19	1066	0	0	0
201	SLU 38	4	-17	1079	0	0	0
201	SLU 39	4	-20	1097	0	0	0
201	SLU 40	4	-17	1111	0	0	0
201	SLU 41	4	-20	1105	0	0	0
201	SLU 42	4	-18	1119	0	0	0
201	SLU 43	5	-19	1044	0	0	0
201	SLU 44	5	-16	1067	0	0	0
201	SLU 45	5	-20	1057	0	0	0
201	SLU 46	5	-18	1071	0	0	0
201	SLU 47	5	-16	1075	0	0	0
201	SLU 48	5	-20	1064	0	0	0
201	SLU 49	5	-18	1078	0	0	0
201	SLU 50	5	-20	1059	0	0	0
201	SLU 51	5	-18	1073	0	0	0
201	SLU 52	5	-18	1177	0	0	0
201	SLU 53	5	-21	1166	0	0	0
201	SLU 54	5	-19	1180	0	0	0
201	SLU 55	5	-18	1184	0	0	0
201	SLU 56	5	-21	1174	0	0	0
201	SLU 57	5	-19	1188	0	0	0
201	SLU 58	5	-21	1169	0	0	0
201	SLU 59	5	-19	1183	0	0	0
201	SLU 60	5	-22	1200	0	0	0
201	SLU 61	5	-20	1214	0	0	0
201	SLU 62	5	-22	1208	0	0	0
201	SLU 63	5	-20	1222	0	0	0
201	SLU 64	5	-21	1153	0	0	0
201	SLU 65	5	-18	1176	0	0	0
201	SLU 66	5	-22	1165	0	0	0
201	SLU 67	5	-20	1179	0	0	0
201	SLU 68	5	-18	1184	0	0	0
201	SLU 69	5	-22	1173	0	0	0
201	SLU 70	5	-20	1187	0	0	0
201	SLU 71	5	-22	1168	0	0	0
201	SLU 72	5	-20	1182	0	0	0
201	SLU 73	5	-19	1285	0	0	0
201	SLU 74	5	-23	1275	0	0	0
201	SLU 75	5	-21	1289	0	0	0
201	SLU 76	5	-20	1293	0	0	0
201	SLU 77	5	-23	1283	0	0	0
201	SLU 78	5	-21	1297	0	0	0
201	SLU 79	5	-23	1278	0	0	0
201	SLU 80	5	-21	1292	0	0	0
201	SLU 81	5	-24	1309	0	0	0
201	SLU 82	5	-21	1323	0	0	0
201	SLU 83	5	-24	1317	0	0	0
201	SLU 84	5	-22	1331	0	0	0
201	SLE RA 1	4	-16	863	0	0	0
201	SLE RA 2	4	-14	878	0	0	0
201	SLE RA 3	4	-16	871	0	0	0
201	SLE RA 4	4	-15	881	0	0	0
201	SLE RA 5	4	-14	883	0	0	0
201	SLE RA 6	4	-16	876	0	0	0
201	SLE RA 7	4	-15	886	0	0	0
201	SLE RA 8	4	-16	873	0	0	0
201	SLE RA 9	4	-15	882	0	0	0
201	SLE RA 10	4	-15	951	0	0	0
201	SLE RA 11	4	-17	944	0	0	0
201	SLE RA 12	4	-16	954	0	0	0
201	SLE RA 13	4	-15	956	0	0	0
201	SLE RA 14	4	-17	949	0	0	0
201	SLE RA 15	4	-16	959	0	0	0
201	SLE RA 16	4	-17	946	0	0	0
201	SLE RA 17	4	-16	955	0	0	0
201	SLE RA 18	4	-17	967	0	0	0
201	SLE RA 19	4	-16	976	0	0	0
201	SLE RA 20	4	-18	972	0	0	0
201	SLE RA 21	4	-16	982	0	0	0
201	SLE FR 1	4	-16	863	0	0	0
201	SLE FR 2	4	-16	866	0	0	0
201	SLE FR 3	4	-16	865	0	0	0
201	SLE FR 4	4	-16	897	0	0	0
201	SLE FR 5	4	-16	896	0	0	0
201	SLE FR 6	4	-17	915	0	0	0
201	SLE QP 1	4	-16	863	0	0	0
201	SLE QP 2	4	-16	894	0	0	0
201	SLD 1	78	8	1010	0	0	0
201	SLD 2	93	11	1016	0	0	0
201	SLD 3	76	-31	721	0	0	0
201	SLD 4	91	-28	726	0	0	0
201	SLD 5	26	51	1367	0	0	0
201	SLD 6	36	53	1371	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
201	SLD 7	20	-82	402	0	0	0
201	SLD 8	30	-80	406	0	0	0
201	SLD 9	-22	47	1383	0	0	0
201	SLD 10	-12	49	1386	0	0	0
201	SLD 11	-28	-85	417	0	0	0
201	SLD 12	-18	-84	421	0	0	0
201	SLD 13	-83	-5	1062	0	0	0
201	SLD 14	-68	-2	1068	0	0	0
201	SLD 15	-85	-44	772	0	0	0
201	SLD 16	-70	-41	778	0	0	0
201	SLV 1	119	24	1084	0	0	0
201	SLV 2	143	28	1093	0	0	0
201	SLV 3	116	-41	615	0	0	0
201	SLV 4	140	-36	624	0	0	0
201	SLV 5	39	92	1659	0	0	0
201	SLV 6	55	95	1665	0	0	0
201	SLV 7	28	-122	99	0	0	0
201	SLV 8	45	-119	105	0	0	0
201	SLV 9	-37	86	1683	0	0	0
201	SLV 10	-21	89	1690	0	0	0
201	SLV 11	-47	-128	123	0	0	0
201	SLV 12	-31	-125	129	0	0	0
201	SLV 13	-133	3	1164	0	0	0
201	SLV 14	-109	8	1173	0	0	0
201	SLV 15	-136	-61	696	0	0	0
201	SLV 16	-112	-56	705	0	0	0
201	SLV FO 1	131	28	1102	0	0	0
201	SLV FO 2	157	33	1112	0	0	0
201	SLV FO 3	128	-43	587	0	0	0
201	SLV FO 4	154	-38	597	0	0	0
201	SLV FO 5	42	103	1736	0	0	0
201	SLV FO 6	60	106	1743	0	0	0
201	SLV FO 7	31	-132	19	0	0	0
201	SLV FO 8	49	-129	26	0	0	0
201	SLV FO 9	-41	96	1762	0	0	0
201	SLV FO 10	-23	100	1769	0	0	0
201	SLV FO 11	-52	-139	46	0	0	0
201	SLV FO 12	-35	-136	52	0	0	0
201	SLV FO 13	-146	5	1191	0	0	0
201	SLV FO 14	-120	10	1201	0	0	0
201	SLV FO 15	-150	-66	676	0	0	0
201	SLV FO 16	-123	-60	686	0	0	0
201	CRTFP Uy+	0	0	0	0	0	0
201	CRTFP Uy-	0	0	0	0	0	0
203	SLU 1	7	-44	4217	251.69	-77.29	-1.56
203	SLU 2	7	-27	4330	255	-79.37	-1.25
203	SLU 3	6	-45	4283	256.21	-78.5	-1.56
203	SLU 4	7	-34	4351	258.2	-79.75	-1.37
203	SLU 5	7	-27	4370	257.84	-80.11	-1.24
203	SLU 6	6	-45	4323	259.05	-79.24	-1.55
203	SLU 7	6	-35	4391	261.04	-80.48	-1.36
203	SLU 8	6	-45	4298	257.37	-78.77	-1.53
203	SLU 9	6	-35	4366	259.36	-80.02	-1.35
203	SLU 10	7	-31	4903	291.62	-89.86	-1.36
203	SLU 11	7	-49	4856	292.83	-88.99	-1.67
203	SLU 12	7	-39	4924	294.81	-90.24	-1.48
203	SLU 13	7	-32	4944	294.46	-90.6	-1.34
203	SLU 14	6	-50	4897	295.66	-89.73	-1.65
203	SLU 15	6	-39	4964	297.65	-90.98	-1.47
203	SLU 16	6	-50	4871	293.98	-89.26	-1.64
203	SLU 17	6	-39	4939	295.97	-90.51	-1.46
203	SLU 18	7	-51	5036	303.99	-92.28	-1.71
203	SLU 19	7	-40	5104	305.98	-93.53	-1.52
203	SLU 20	7	-51	5076	306.83	-93.02	-1.7
203	SLU 21	7	-41	5144	308.82	-94.27	-1.51
203	SLU 22	7	-49	4776	286.87	-87.5	-1.73
203	SLU 23	8	-32	4889	290.19	-89.58	-1.42
203	SLU 24	7	-50	4842	291.4	-88.71	-1.73
203	SLU 25	7	-39	4909	293.39	-89.96	-1.55
203	SLU 26	7	-32	4929	293.03	-90.32	-1.41
203	SLU 27	7	-50	4882	294.24	-89.45	-1.72
203	SLU 28	7	-40	4950	296.23	-90.69	-1.54
203	SLU 29	7	-50	4856	292.55	-88.98	-1.71
203	SLU 30	7	-39	4924	294.54	-90.23	-1.52
203	SLU 31	8	-36	5462	326.8	-100.07	-1.53
203	SLU 32	7	-54	5415	328.01	-99.2	-1.84
203	SLU 33	7	-44	5483	330	-100.45	-1.66
203	SLU 34	7	-37	5502	329.64	-100.81	-1.52
203	SLU 35	7	-55	5455	330.85	-99.94	-1.83
203	SLU 36	7	-44	5523	332.84	-101.19	-1.64
203	SLU 37	7	-54	5430	329.16	-99.47	-1.82
203	SLU 38	7	-44	5497	331.15	-100.72	-1.63
203	SLU 39	8	-55	5595	339.18	-102.49	-1.89
203	SLU 40	8	-45	5662	341.17	-103.74	-1.7
203	SLU 41	7	-56	5635	342.02	-103.23	-1.87
203	SLU 42	7	-45	5703	344	-104.48	-1.69
203	SLU 43	8	-56	5291	315.13	-96.98	-1.96
203	SLU 44	9	-38	5404	318.45	-99.06	-1.65
203	SLU 45	8	-56	5357	319.66	-98.18	-1.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLU 46	8	-46	5424	321.64	-99.43	-1.78
203	SLU 47	8	-39	5444	321.29	-99.8	-1.64
203	SLU 48	8	-57	5397	322.49	-98.92	-1.95
203	SLU 49	8	-47	5465	324.48	-100.17	-1.77
203	SLU 50	8	-57	5371	320.81	-98.45	-1.94
203	SLU 51	8	-46	5439	322.8	-99.7	-1.75
203	SLU 52	9	-43	5977	355.06	-109.55	-1.76
203	SLU 53	8	-61	5930	356.27	-108.68	-2.07
203	SLU 54	8	-51	5998	358.26	-109.92	-1.89
203	SLU 55	8	-43	6017	357.9	-110.29	-1.75
203	SLU 56	8	-61	5970	359.11	-109.41	-2.06
203	SLU 57	8	-51	6038	361.1	-110.66	-1.88
203	SLU 58	8	-61	5945	357.42	-108.95	-2.05
203	SLU 59	8	-51	6012	359.41	-110.19	-1.86
203	SLU 60	9	-62	6110	367.43	-111.97	-2.12
203	SLU 61	9	-52	6177	369.42	-113.21	-1.93
203	SLU 62	8	-63	6150	370.27	-112.7	-2.1
203	SLU 63	8	-52	6218	372.26	-113.95	-1.92
203	SLU 64	9	-60	5849	350.31	-107.19	-2.14
203	SLU 65	9	-43	5962	353.63	-109.27	-1.83
203	SLU 66	9	-61	5915	354.84	-108.4	-2.14
203	SLU 67	9	-51	5983	356.83	-109.64	-1.95
203	SLU 68	9	-44	6003	356.47	-110.01	-1.82
203	SLU 69	9	-62	5956	357.68	-109.13	-2.13
203	SLU 70	9	-51	6023	359.67	-110.38	-1.94
203	SLU 71	8	-61	5930	355.99	-108.67	-2.11
203	SLU 72	9	-51	5998	357.98	-109.91	-1.93
203	SLU 73	9	-48	6535	390.24	-119.76	-1.94
203	SLU 74	9	-66	6488	391.45	-118.89	-2.25
203	SLU 75	9	-55	6556	393.44	-120.14	-2.06
203	SLU 76	9	-48	6576	393.08	-120.5	-1.93
203	SLU 77	9	-66	6529	394.29	-119.63	-2.24
203	SLU 78	9	-56	6597	396.28	-120.87	-2.05
203	SLU 79	9	-66	6503	392.61	-119.16	-2.22
203	SLU 80	9	-56	6571	394.6	-120.4	-2.04
203	SLU 81	9	-67	6668	402.62	-122.18	-2.29
203	SLU 82	9	-56	6736	404.61	-123.43	-2.11
203	SLU 83	9	-67	6709	405.46	-122.92	-2.28
203	SLU 84	9	-57	6776	407.45	-124.16	-2.09
203	SLE RA 1	7	-45	4377	261.74	-80.21	-1.61
203	SLE RA 2	7	-34	4452	263.95	-81.6	-1.4
203	SLE RA 3	7	-46	4421	264.76	-81.01	-1.61
203	SLE RA 4	7	-39	4466	266.08	-81.85	-1.48
203	SLE RA 5	7	-34	4479	265.84	-82.09	-1.39
203	SLE RA 6	6	-46	4448	266.65	-81.51	-1.6
203	SLE RA 7	7	-39	4493	267.98	-82.34	-1.48
203	SLE RA 8	6	-46	4431	265.53	-81.19	-1.59
203	SLE RA 9	6	-39	4476	266.85	-82.03	-1.47
203	SLE RA 10	7	-37	4834	288.36	-88.59	-1.47
203	SLE RA 11	7	-49	4803	289.17	-88.01	-1.68
203	SLE RA 12	7	-42	4848	290.49	-88.84	-1.56
203	SLE RA 13	7	-37	4861	290.25	-89.08	-1.46
203	SLE RA 14	7	-49	4830	291.06	-88.5	-1.67
203	SLE RA 15	7	-42	4875	292.38	-89.33	-1.55
203	SLE RA 16	7	-49	4813	289.93	-88.19	-1.66
203	SLE RA 17	7	-42	4858	291.26	-89.02	-1.54
203	SLE RA 18	7	-50	4923	296.61	-90.2	-1.71
203	SLE RA 19	7	-43	4968	297.94	-91.03	-1.59
203	SLE RA 20	7	-50	4950	298.5	-90.69	-1.7
203	SLE RA 21	7	-43	4995	299.83	-91.53	-1.58
203	SLE FR 1	7	-45	4377	261.74	-80.21	-1.61
203	SLE FR 2	7	-43	4392	262.18	-80.49	-1.56
203	SLE FR 3	7	-46	4387	262.5	-80.41	-1.6
203	SLE FR 4	7	-44	4556	272.64	-83.48	-1.6
203	SLE FR 5	7	-47	4551	272.96	-83.4	-1.63
203	SLE FR 6	7	-48	4650	279.17	-85.21	-1.66
203	SLE QP 1	7	-45	4377	261.74	-80.21	-1.61
203	SLE QP 2	7	-47	4541	272.2	-83.21	-1.64
203	SLD 1	375	52	5293	297.95	-96.67	-26.79
203	SLD 2	450	46	5280	298.28	-96.59	-32.52
203	SLD 3	365	-153	3884	256.71	-70.75	-31.01
203	SLD 4	440	-160	3872	257.04	-70.67	-36.73
203	SLD 5	120	297	6905	342.41	-126.57	-1.76
203	SLD 6	169	292	6897	342.63	-126.52	-5.53
203	SLD 7	85	-390	2209	204.95	-40.17	-15.81
203	SLD 8	134	-394	2201	205.17	-40.12	-19.59
203	SLD 9	-121	301	6880	339.23	-126.29	16.32
203	SLD 10	-71	297	6872	339.45	-126.24	12.54
203	SLD 11	-156	-386	2184	201.78	-39.9	2.26
203	SLD 12	-106	-390	2176	201.99	-39.84	-1.52
203	SLD 13	-426	66	5209	287.36	-95.75	33.46
203	SLD 14	-351	60	5197	287.69	-95.67	27.74
203	SLD 15	-437	-140	3801	246.12	-69.83	29.24
203	SLD 16	-361	-146	3788	246.45	-69.75	23.52
203	SLV 1	584	113	5754	313.58	-104.94	-40.92
203	SLV 2	702	103	5735	314.1	-104.82	-49.88
203	SLV 3	567	-219	3477	246.9	-63.04	-47.7
203	SLV 4	684	-229	3458	247.41	-62.92	-56.67
203	SLV 5	184	508	8361	385.66	-153.3	-1.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLV 6	263	501	8349	386.01	-153.21	-7.49
203	SLV 7	127	-601	772	163.38	-13.64	-24.08
203	SLV 8	206	-608	759	163.72	-13.55	-30.11
203	SLV 9	-192	515	8322	380.68	-152.86	26.84
203	SLV 10	-113	508	8309	381.03	-152.78	20.8
203	SLV 11	-249	-595	732	158.4	-13.2	4.22
203	SLV 12	-170	-601	720	158.74	-13.12	-1.82
203	SLV 13	-671	136	5623	296.99	-103.5	53.39
203	SLV 14	-553	126	5604	297.5	-103.37	44.43
203	SLV 15	-688	-197	3346	230.3	-61.6	46.61
203	SLV 16	-570	-207	3327	230.82	-61.47	37.64
203	SLV FO 1	642	129	5875	317.72	-107.11	-44.85
203	SLV FO 2	771	118	5854	318.29	-106.98	-54.71
203	SLV FO 3	623	-237	3371	244.37	-61.03	-52.31
203	SLV FO 4	752	-248	3350	244.93	-60.89	-62.17
203	SLV FO 5	202	563	8743	397.01	-160.31	-1.44
203	SLV FO 6	289	556	8729	397.39	-160.21	-8.08
203	SLV FO 7	139	-657	395	152.49	-6.68	-26.32
203	SLV FO 8	226	-664	381	152.87	-6.59	-32.96
203	SLV FO 9	-212	571	8700	391.53	-159.83	29.68
203	SLV FO 10	-125	563	8686	391.91	-159.74	23.05
203	SLV FO 11	-275	-649	352	147.02	-6.2	4.8
203	SLV FO 12	-188	-657	338	147.4	-6.11	-1.83
203	SLV FO 13	-738	154	5731	299.47	-105.53	58.9
203	SLV FO 14	-609	143	5710	300.03	-105.39	49.04
203	SLV FO 15	-757	-212	3227	226.11	-59.44	51.43
203	SLV FO 16	-628	-223	3206	226.68	-59.3	41.57
203	CRTFP Ux+	0	0	0	0	0	0
203	CRTFP Ux-	0	0	0	0	0	0
203	CRTFP Uy+	0	0	0	0	0	0
203	CRTFP Uy-	0	0	0	0	0	0
204	SLU 1	8	-58	4614	270.84	1.61	-0.9
204	SLU 2	8	-39	4738	274.33	1.63	-0.91
204	SLU 3	8	-59	4686	275.66	1.64	-0.89
204	SLU 4	8	-48	4760	277.75	1.65	-0.9
204	SLU 5	8	-39	4782	277.35	1.65	-0.89
204	SLU 6	7	-60	4730	278.68	1.65	-0.86
204	SLU 7	8	-48	4804	280.77	1.67	-0.87
204	SLU 8	7	-59	4702	276.89	1.64	-0.85
204	SLU 9	7	-48	4776	278.98	1.66	-0.86
204	SLU 10	8	-44	5364	314.87	1.9	-0.95
204	SLU 11	8	-65	5312	316.2	1.9	-0.92
204	SLU 12	8	-53	5386	318.29	1.92	-0.93
204	SLU 13	8	-45	5408	317.9	1.92	-0.93
204	SLU 14	8	-65	5356	319.23	1.92	-0.9
204	SLU 15	8	-54	5430	321.32	1.94	-0.91
204	SLU 16	7	-65	5328	317.43	1.91	-0.89
204	SLU 17	8	-53	5402	319.53	1.93	-0.9
204	SLU 18	8	-66	5508	328.76	1.99	-0.95
204	SLU 19	8	-54	5583	330.85	2.01	-0.96
204	SLU 20	8	-67	5552	331.79	2.01	-0.92
204	SLU 21	8	-55	5627	333.88	2.02	-0.93
204	SLU 22	9	-65	5224	308.66	1.86	-1.01
204	SLU 23	9	-45	5348	312.15	1.88	-1.02
204	SLU 24	9	-66	5296	313.48	1.89	-1
204	SLU 25	9	-54	5370	315.57	1.9	-1
204	SLU 26	9	-46	5392	315.17	1.9	-1
204	SLU 27	8	-66	5340	316.5	1.9	-0.97
204	SLU 28	8	-55	5414	318.6	1.92	-0.98
204	SLU 29	8	-66	5312	314.71	1.89	-0.96
204	SLU 30	8	-54	5386	316.8	1.91	-0.97
204	SLU 31	9	-51	5974	352.69	2.15	-1.06
204	SLU 32	9	-71	5922	354.02	2.15	-1.03
204	SLU 33	9	-60	5996	356.11	2.17	-1.04
204	SLU 34	9	-52	6018	355.72	2.17	-1.03
204	SLU 35	8	-72	5966	357.05	2.17	-1.01
204	SLU 36	8	-60	6040	359.14	2.19	-1.02
204	SLU 37	8	-72	5938	355.26	2.16	-1
204	SLU 38	8	-60	6012	357.35	2.18	-1
204	SLU 39	9	-73	6118	366.58	2.24	-1.06
204	SLU 40	9	-61	6193	368.67	2.26	-1.06
204	SLU 41	9	-73	6162	369.61	2.26	-1.03
204	SLU 42	9	-62	6237	371.7	2.27	-1.04
204	SLU 43	10	-73	5789	339.13	2	-1.13
204	SLU 44	10	-54	5913	342.61	2.03	-1.15
204	SLU 45	10	-74	5861	343.94	2.03	-1.12
204	SLU 46	10	-63	5935	346.03	2.05	-1.13
204	SLU 47	10	-55	5957	345.64	2.05	-1.12
204	SLU 48	10	-75	5905	346.97	2.05	-1.1
204	SLU 49	10	-63	5979	349.06	2.07	-1.11
204	SLU 50	9	-74	5877	345.18	2.04	-1.09
204	SLU 51	10	-63	5951	347.27	2.06	-1.1
204	SLU 52	10	-59	6539	383.16	2.3	-1.18
204	SLU 53	10	-80	6487	384.49	2.3	-1.15
204	SLU 54	10	-68	6561	386.58	2.32	-1.16
204	SLU 55	10	-60	6583	386.18	2.32	-1.16
204	SLU 56	10	-80	6531	387.51	2.32	-1.13
204	SLU 57	10	-69	6605	389.6	2.33	-1.14
204	SLU 58	10	-80	6503	385.72	2.31	-1.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLU 59	10	-68	6577	387.81	2.32	-1.13
204	SLU 60	10	-81	6683	397.05	2.39	-1.18
204	SLU 61	10	-70	6758	399.14	2.4	-1.19
204	SLU 62	10	-82	6727	400.07	2.4	-1.16
204	SLU 63	10	-70	6802	402.16	2.42	-1.17
204	SLU 64	11	-80	6399	376.95	2.25	-1.24
204	SLU 65	11	-61	6523	380.43	2.28	-1.26
204	SLU 66	11	-81	6471	381.76	2.28	-1.23
204	SLU 67	11	-69	6545	383.86	2.3	-1.24
204	SLU 68	11	-61	6567	383.46	2.3	-1.23
204	SLU 69	10	-81	6515	384.79	2.3	-1.21
204	SLU 70	10	-70	6589	386.88	2.32	-1.21
204	SLU 71	10	-81	6487	383	2.29	-1.19
204	SLU 72	10	-70	6561	385.09	2.31	-1.2
204	SLU 73	11	-66	7149	420.98	2.55	-1.29
204	SLU 74	11	-86	7097	422.31	2.55	-1.26
204	SLU 75	11	-75	7171	424.4	2.57	-1.27
204	SLU 76	11	-67	7193	424	2.57	-1.27
204	SLU 77	10	-87	7141	425.33	2.57	-1.24
204	SLU 78	11	-75	7215	427.42	2.58	-1.25
204	SLU 79	10	-87	7113	423.54	2.56	-1.23
204	SLU 80	10	-75	7187	425.63	2.57	-1.24
204	SLU 81	11	-88	7293	434.87	2.64	-1.29
204	SLU 82	11	-76	7368	436.96	2.65	-1.3
204	SLU 83	11	-88	7337	437.89	2.65	-1.27
204	SLU 84	11	-77	7412	439.98	2.67	-1.27
204	SLE RA 1	8	-60	4788	281.65	1.68	-0.93
204	SLE RA 2	8	-47	4871	283.97	1.7	-0.94
204	SLE RA 3	8	-61	4836	284.86	1.7	-0.92
204	SLE RA 4	8	-53	4886	286.25	1.71	-0.93
204	SLE RA 5	8	-48	4900	285.99	1.71	-0.93
204	SLE RA 6	8	-61	4865	286.87	1.71	-0.91
204	SLE RA 7	8	-53	4915	288.27	1.72	-0.91
204	SLE RA 8	8	-61	4847	285.68	1.7	-0.9
204	SLE RA 9	8	-53	4896	287.07	1.71	-0.91
204	SLE RA 10	8	-51	5288	311	1.88	-0.96
204	SLE RA 11	8	-64	5253	311.89	1.88	-0.94
204	SLE RA 12	8	-57	5303	313.28	1.89	-0.95
204	SLE RA 13	8	-51	5317	313.02	1.89	-0.95
204	SLE RA 14	8	-65	5283	313.9	1.89	-0.93
204	SLE RA 15	8	-57	5332	315.3	1.9	-0.94
204	SLE RA 16	8	-64	5264	312.71	1.88	-0.92
204	SLE RA 17	8	-57	5314	314.1	1.89	-0.93
204	SLE RA 18	8	-65	5384	320.26	1.93	-0.96
204	SLE RA 19	8	-58	5434	321.65	1.94	-0.97
204	SLE RA 20	8	-66	5414	322.28	1.95	-0.95
204	SLE RA 21	8	-58	5463	323.67	1.96	-0.95
204	SLE FR 1	8	-60	4788	281.65	1.68	-0.93
204	SLE FR 2	8	-57	4805	282.11	1.68	-0.93
204	SLE FR 3	8	-60	4800	282.45	1.68	-0.92
204	SLE FR 4	8	-59	4983	293.7	1.76	-0.94
204	SLE FR 5	8	-62	4979	294.04	1.76	-0.93
204	SLE FR 6	8	-63	5086	300.95	1.81	-0.95
204	SLE QP 1	8	-60	4788	281.65	1.68	-0.93
204	SLE QP 2	8	-61	4967	293.23	1.76	-0.94
204	SLD 1	416	48	5776	319.94	2.59	-31.47
204	SLD 2	499	42	5769	320.41	2.38	-37.65
204	SLD 3	404	-179	4230	276.87	2.24	-30.64
204	SLD 4	487	-184	4223	277.34	2.03	-36.82
204	SLD 5	133	316	7556	366.49	2.57	-10.25
204	SLD 6	187	312	7551	366.8	2.44	-14.33
204	SLD 7	95	-439	2403	222.91	1.41	-7.48
204	SLD 8	150	-443	2398	223.22	1.27	-11.55
204	SLD 9	-133	320	7536	363.25	2.24	9.67
204	SLD 10	-78	316	7531	363.56	2.1	5.6
204	SLD 11	-171	-435	2383	219.66	1.07	12.45
204	SLD 12	-116	-439	2378	219.97	0.94	8.37
204	SLD 13	-471	61	5711	309.13	1.48	34.94
204	SLD 14	-388	56	5704	309.6	1.27	28.76
204	SLD 15	-482	-165	4165	266.05	1.13	35.77
204	SLD 16	-399	-171	4158	266.52	0.92	29.6
204	SLV 1	646	115	6273	336.16	3.07	-48.77
204	SLV 2	776	106	6262	336.9	2.74	-58.44
204	SLV 3	628	-251	3774	266.5	2.5	-47.4
204	SLV 4	758	-260	3763	267.24	2.18	-57.07
204	SLV 5	203	548	9151	411.62	3.07	-15.55
204	SLV 6	291	542	9143	412.12	2.85	-22.06
204	SLV 7	142	-672	821	179.43	1.18	-11
204	SLV 8	229	-678	813	179.92	0.97	-17.52
204	SLV 9	-213	555	9121	406.54	2.54	15.64
204	SLV 10	-125	549	9113	407.04	2.33	9.12
204	SLV 11	-275	-665	790	174.35	0.66	20.18
204	SLV 12	-187	-671	783	174.84	0.45	13.67
204	SLV 13	-741	137	6171	319.22	1.33	55.19
204	SLV 14	-611	128	6159	319.96	1.01	45.52
204	SLV 15	-760	-229	3672	249.56	0.77	56.56
204	SLV 16	-630	-238	3660	250.3	0.44	46.89
204	SLV FO 1	710	132	6404	340.46	3.2	-53.55
204	SLV FO 2	853	122	6391	341.27	2.84	-64.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
204	SLV FO 3	690	-270	3655	263.83	2.58	-52.05
204	SLV FO 4	833	-280	3642	264.64	2.22	-62.69
204	SLV FO 5	223	609	9570	423.46	3.2	-17.01
204	SLV FO 6	319	602	9561	424.01	2.96	-24.18
204	SLV FO 7	155	-733	407	168.05	1.13	-12.01
204	SLV FO 8	251	-739	398	168.59	0.89	-19.17
204	SLV FO 9	-235	616	9536	417.87	2.62	17.29
204	SLV FO 10	-139	610	9527	418.42	2.38	10.13
204	SLV FO 11	-303	-725	373	162.46	0.55	22.3
204	SLV FO 12	-206	-732	364	163	0.32	15.13
204	SLV FO 13	-816	157	6292	321.82	1.29	60.81
204	SLV FO 14	-673	147	6279	322.63	0.93	50.17
204	SLV FO 15	-837	-245	3543	245.2	0.67	62.31
204	SLV FO 16	-694	-255	3530	246.01	0.31	51.67
204	CRTFP Ux+	0	0	0	0	0	0
204	CRTFP Ux-	0	0	0	0	0	0
204	CRTFP Uy+	0	0	0	0	0	0
204	CRTFP Uy-	0	0	0	0	0	0
205	SLU 1	9	-67	4567	264.79	1.38	-0.95
205	SLU 2	9	-48	4690	268.14	1.39	-0.97
205	SLU 3	9	-68	4638	269.47	1.4	-0.94
205	SLU 4	9	-56	4712	271.48	1.41	-0.95
205	SLU 5	9	-48	4734	271.08	1.41	-0.94
205	SLU 6	9	-69	4682	272.41	1.41	-0.92
205	SLU 7	9	-57	4756	274.42	1.43	-0.93
205	SLU 8	9	-68	4654	270.68	1.41	-0.91
205	SLU 9	9	-57	4728	272.69	1.42	-0.92
205	SLU 10	10	-54	5308	308.49	1.65	-1
205	SLU 11	9	-74	5256	309.82	1.66	-0.98
205	SLU 12	9	-63	5330	311.83	1.67	-0.99
205	SLU 13	9	-55	5351	311.43	1.67	-0.98
205	SLU 14	9	-75	5299	312.76	1.67	-0.95
205	SLU 15	9	-64	5373	314.77	1.68	-0.96
205	SLU 16	9	-75	5272	311.02	1.66	-0.94
205	SLU 17	9	-63	5346	313.03	1.67	-0.95
205	SLU 18	9	-76	5449	322.43	1.74	-1
205	SLU 19	9	-64	5523	324.44	1.75	-1.01
205	SLU 20	9	-77	5493	325.37	1.76	-0.98
205	SLU 21	9	-65	5567	327.38	1.77	-0.99
205	SLU 22	10	-75	5169	301.73	1.59	-1.07
205	SLU 23	10	-56	5293	305.08	1.61	-1.08
205	SLU 24	10	-76	5241	306.41	1.61	-1.05
205	SLU 25	10	-64	5315	308.42	1.63	-1.06
205	SLU 26	10	-56	5336	308.02	1.62	-1.06
205	SLU 27	10	-77	5284	309.35	1.63	-1.03
205	SLU 28	10	-65	5358	311.36	1.64	-1.04
205	SLU 29	10	-76	5257	307.62	1.62	-1.02
205	SLU 30	10	-65	5331	309.62	1.63	-1.03
205	SLU 31	11	-62	5911	345.42	1.87	-1.12
205	SLU 32	10	-82	5859	346.76	1.87	-1.09
205	SLU 33	10	-71	5933	348.76	1.88	-1.1
205	SLU 34	10	-63	5954	348.37	1.88	-1.1
205	SLU 35	10	-83	5902	349.7	1.89	-1.07
205	SLU 36	10	-72	5976	351.71	1.9	-1.08
205	SLU 37	10	-83	5874	347.96	1.88	-1.06
205	SLU 38	10	-71	5948	349.97	1.89	-1.07
205	SLU 39	10	-84	6052	359.37	1.96	-1.12
205	SLU 40	10	-72	6126	361.38	1.97	-1.13
205	SLU 41	10	-85	6096	362.31	1.97	-1.1
205	SLU 42	10	-73	6170	364.32	1.98	-1.11
205	SLU 43	12	-84	5730	331.57	1.71	-1.2
205	SLU 44	12	-65	5853	334.92	1.73	-1.21
205	SLU 45	11	-85	5801	336.25	1.74	-1.18
205	SLU 46	12	-74	5875	338.26	1.75	-1.19
205	SLU 47	12	-66	5897	337.86	1.75	-1.19
205	SLU 48	11	-86	5845	339.19	1.75	-1.16
205	SLU 49	11	-74	5919	341.2	1.76	-1.17
205	SLU 50	11	-86	5817	337.45	1.74	-1.15
205	SLU 51	11	-74	5891	339.46	1.76	-1.16
205	SLU 52	12	-71	6471	375.26	1.99	-1.25
205	SLU 53	11	-92	6419	376.59	1.99	-1.22
205	SLU 54	12	-80	6493	378.6	2.01	-1.23
205	SLU 55	12	-72	6515	378.2	2	-1.23
205	SLU 56	11	-92	6463	379.53	2.01	-1.2
205	SLU 57	11	-81	6537	381.54	2.02	-1.21
205	SLU 58	11	-92	6435	377.79	2	-1.19
205	SLU 59	11	-80	6509	379.8	2.01	-1.2
205	SLU 60	12	-93	6613	389.2	2.08	-1.25
205	SLU 61	12	-82	6687	391.21	2.09	-1.26
205	SLU 62	11	-94	6656	392.14	2.1	-1.23
205	SLU 63	12	-82	6730	394.15	2.11	-1.24
205	SLU 64	13	-92	6333	368.51	1.93	-1.31
205	SLU 65	13	-73	6456	371.85	1.95	-1.33
205	SLU 66	12	-93	6404	373.19	1.95	-1.3
205	SLU 67	13	-82	6478	375.19	1.96	-1.31
205	SLU 68	13	-74	6500	374.8	1.96	-1.3
205	SLU 69	12	-94	6448	376.13	1.97	-1.28
205	SLU 70	12	-82	6522	378.14	1.98	-1.29
205	SLU 71	12	-94	6420	374.39	1.96	-1.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLU 72	12	-82	6494	376.4	1.97	-1.28
205	SLU 73	13	-79	7074	412.2	2.2	-1.37
205	SLU 74	12	-100	7022	413.53	2.21	-1.34
205	SLU 75	13	-88	7096	415.54	2.22	-1.35
205	SLU 76	13	-80	7118	415.14	2.22	-1.34
205	SLU 77	12	-100	7065	416.47	2.22	-1.32
205	SLU 78	12	-89	7139	418.48	2.24	-1.33
205	SLU 79	12	-100	7038	414.73	2.22	-1.3
205	SLU 80	12	-88	7112	416.74	2.23	-1.31
205	SLU 81	13	-101	7216	426.14	2.3	-1.37
205	SLU 82	13	-90	7289	428.15	2.31	-1.38
205	SLU 83	12	-102	7259	429.08	2.31	-1.34
205	SLU 84	13	-91	7333	431.09	2.32	-1.35
205	SLE RA 1	9	-69	4739	275.35	1.44	-0.98
205	SLE RA 2	10	-56	4821	277.58	1.45	-0.99
205	SLE RA 3	9	-70	4786	278.47	1.45	-0.98
205	SLE RA 4	9	-62	4836	279.81	1.46	-0.98
205	SLE RA 5	9	-57	4850	279.54	1.46	-0.98
205	SLE RA 6	9	-70	4815	280.43	1.46	-0.96
205	SLE RA 7	9	-63	4865	281.77	1.47	-0.97
205	SLE RA 8	9	-70	4797	279.27	1.46	-0.95
205	SLE RA 9	9	-62	4846	280.61	1.46	-0.96
205	SLE RA 10	10	-61	5233	304.48	1.62	-1.02
205	SLE RA 11	9	-74	5198	305.36	1.62	-1
205	SLE RA 12	9	-66	5248	306.7	1.63	-1.01
205	SLE RA 13	9	-61	5262	306.44	1.63	-1
205	SLE RA 14	9	-75	5227	307.32	1.63	-0.99
205	SLE RA 15	9	-67	5277	308.66	1.64	-0.99
205	SLE RA 16	9	-74	5209	306.17	1.63	-0.98
205	SLE RA 17	9	-67	5258	307.51	1.64	-0.99
205	SLE RA 18	10	-75	5327	313.77	1.68	-1.02
205	SLE RA 19	10	-68	5377	315.11	1.69	-1.03
205	SLE RA 20	9	-76	5356	315.73	1.69	-1
205	SLE RA 21	9	-68	5406	317.07	1.7	-1.01
205	SLE FR 1	9	-69	4739	275.35	1.44	-0.98
205	SLE FR 2	10	-67	4755	275.79	1.44	-0.99
205	SLE FR 3	9	-69	4751	276.13	1.44	-0.98
205	SLE FR 4	10	-68	4932	287.32	1.51	-1
205	SLE FR 5	9	-71	4927	287.66	1.51	-0.99
205	SLE FR 6	10	-72	5033	294.56	1.56	-1
205	SLE QP 1	9	-69	4739	275.35	1.44	-0.98
205	SLE QP 2	9	-71	4916	286.87	1.51	-0.99
205	SLD 1	417	38	5709	310.34	2.27	-31.46
205	SLD 2	500	34	5708	310.72	2.07	-37.62
205	SLD 3	406	-188	4172	269.16	2.03	-30.64
205	SLD 4	489	-192	4171	269.54	1.83	-36.8
205	SLD 5	133	306	7484	356.3	2.14	-10.27
205	SLD 6	188	303	7484	356.55	2	-14.34
205	SLD 7	97	-449	2362	219.03	1.34	-7.53
205	SLD 8	152	-451	2361	219.29	1.2	-11.6
205	SLD 9	-133	309	7470	354.46	1.82	9.61
205	SLD 10	-78	307	7469	354.72	1.68	5.54
205	SLD 11	-169	-445	2347	217.19	1.02	12.35
205	SLD 12	-114	-447	2347	217.45	0.88	8.28
205	SLD 13	-470	50	5660	304.21	1.19	34.81
205	SLD 14	-387	46	5659	304.59	0.99	28.65
205	SLD 15	-481	-176	4123	263.03	0.96	35.63
205	SLD 16	-398	-180	4122	263.41	0.75	29.47
205	SLV 1	647	105	6196	324.67	2.71	-48.71
205	SLV 2	777	99	6195	325.27	2.38	-58.36
205	SLV 3	629	-261	3712	258.08	2.33	-47.36
205	SLV 4	759	-266	3711	258.68	2	-57.01
205	SLV 5	204	537	9068	399.1	2.52	-15.55
205	SLV 6	291	533	9067	399.5	2.3	-22.05
205	SLV 7	144	-681	787	177.13	1.23	-11.06
205	SLV 8	231	-685	786	177.53	1.01	-17.55
205	SLV 9	-212	543	9045	396.22	2.01	15.57
205	SLV 10	-125	539	9044	396.62	1.79	9.07
205	SLV 11	-272	-675	764	174.25	0.72	20.06
205	SLV 12	-185	-679	763	174.65	0.5	13.56
205	SLV 13	-740	124	6120	315.07	1.02	55.02
205	SLV 14	-610	119	6119	315.67	0.7	45.37
205	SLV 15	-758	-241	3636	248.48	0.64	56.37
205	SLV 16	-628	-247	3635	249.08	0.31	46.72
205	SLV FO 1	711	123	6324	328.45	2.83	-53.48
205	SLV FO 2	854	116	6323	329.11	2.47	-64.09
205	SLV FO 3	691	-279	3592	255.2	2.41	-52
205	SLV FO 4	834	-286	3590	255.86	2.05	-62.61
205	SLV FO 5	223	598	9483	410.32	2.62	-17.01
205	SLV FO 6	320	594	9482	410.76	2.38	-24.15
205	SLV FO 7	157	-742	374	166.15	1.2	-12.06
205	SLV FO 8	253	-746	373	166.6	0.96	-19.21
205	SLV FO 9	-235	605	9458	407.15	2.06	17.22
205	SLV FO 10	-138	600	9457	407.59	1.82	10.08
205	SLV FO 11	-301	-736	349	162.98	0.64	22.17
205	SLV FO 12	-204	-740	348	163.43	0.4	15.02
205	SLV FO 13	-815	144	6241	317.89	0.97	60.62
205	SLV FO 14	-672	138	6239	318.55	0.61	50.01
205	SLV FO 15	-835	-258	3508	244.64	0.55	62.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
205	SLV FO 16	-692	-265	3507	245.3	0.19	51.49
205	CRTFP Ux+	0	0	0	0	0	0
205	CRTFP Ux-	0	0	0	0	0	0
205	CRTFP Uy+	0	0	0	0	0	0
205	CRTFP Uy-	0	0	0	0	0	0
206	SLU 1	11	-74	4529	262.14	1.03	-1.02
206	SLU 2	11	-55	4652	265.46	1.04	-1.04
206	SLU 3	11	-75	4600	266.77	1.05	-1.01
206	SLU 4	11	-64	4673	268.76	1.05	-1.02
206	SLU 5	11	-56	4695	268.37	1.05	-1.02
206	SLU 6	10	-76	4643	269.68	1.06	-0.99
206	SLU 7	11	-65	4716	271.67	1.06	-1
206	SLU 8	10	-76	4615	267.97	1.05	-0.98
206	SLU 9	10	-64	4689	269.96	1.06	-0.99
206	SLU 10	11	-62	5262	305.47	1.26	-1.08
206	SLU 11	11	-83	5210	306.79	1.27	-1.05
206	SLU 12	11	-71	5284	308.78	1.27	-1.07
206	SLU 13	11	-63	5305	308.39	1.27	-1.06
206	SLU 14	11	-84	5253	309.7	1.28	-1.03
206	SLU 15	11	-72	5327	311.69	1.28	-1.04
206	SLU 16	10	-83	5226	307.99	1.27	-1.02
206	SLU 17	11	-71	5299	309.98	1.28	-1.03
206	SLU 18	11	-85	5401	319.31	1.34	-1.08
206	SLU 19	11	-73	5475	321.3	1.35	-1.09
206	SLU 20	11	-85	5444	322.22	1.35	-1.06
206	SLU 21	11	-74	5518	324.21	1.36	-1.07
206	SLU 22	12	-83	5126	298.66	1.19	-1.15
206	SLU 23	12	-64	5249	301.98	1.2	-1.17
206	SLU 24	12	-85	5196	303.3	1.21	-1.14
206	SLU 25	12	-73	5270	305.29	1.22	-1.15
206	SLU 26	12	-65	5292	304.89	1.21	-1.15
206	SLU 27	12	-85	5239	306.21	1.22	-1.12
206	SLU 28	12	-74	5313	308.2	1.23	-1.13
206	SLU 29	12	-85	5212	304.49	1.22	-1.11
206	SLU 30	12	-73	5286	306.48	1.22	-1.12
206	SLU 31	13	-71	5859	342	1.42	-1.21
206	SLU 32	12	-92	5807	343.32	1.43	-1.18
206	SLU 33	12	-80	5880	345.31	1.44	-1.19
206	SLU 34	12	-72	5902	344.91	1.43	-1.19
206	SLU 35	12	-93	5850	346.23	1.44	-1.16
206	SLU 36	12	-81	5924	348.22	1.45	-1.17
206	SLU 37	12	-92	5822	344.51	1.43	-1.15
206	SLU 38	12	-81	5896	346.5	1.44	-1.16
206	SLU 39	12	-94	5998	355.83	1.51	-1.21
206	SLU 40	13	-82	6071	357.82	1.51	-1.22
206	SLU 41	12	-95	6041	358.75	1.52	-1.19
206	SLU 42	12	-83	6115	360.74	1.52	-1.2
206	SLU 43	14	-93	5683	328.26	1.28	-1.29
206	SLU 44	14	-74	5806	331.57	1.29	-1.3
206	SLU 45	14	-95	5754	332.89	1.3	-1.28
206	SLU 46	14	-83	5827	334.88	1.3	-1.29
206	SLU 47	14	-75	5849	334.49	1.3	-1.28
206	SLU 48	13	-95	5797	335.8	1.31	-1.25
206	SLU 49	13	-84	5871	337.79	1.32	-1.26
206	SLU 50	13	-95	5769	334.09	1.3	-1.24
206	SLU 51	13	-83	5843	336.07	1.31	-1.25
206	SLU 52	14	-81	6416	371.59	1.51	-1.35
206	SLU 53	14	-102	6364	372.91	1.52	-1.32
206	SLU 54	14	-90	6438	374.9	1.52	-1.33
206	SLU 55	14	-82	6460	374.51	1.52	-1.33
206	SLU 56	13	-103	6407	375.82	1.53	-1.3
206	SLU 57	14	-91	6481	377.81	1.53	-1.31
206	SLU 58	13	-102	6380	374.1	1.52	-1.28
206	SLU 59	13	-91	6453	376.09	1.53	-1.3
206	SLU 60	14	-104	6555	385.43	1.59	-1.35
206	SLU 61	14	-92	6629	387.42	1.6	-1.36
206	SLU 62	14	-105	6598	388.34	1.61	-1.32
206	SLU 63	14	-93	6672	390.33	1.61	-1.34
206	SLU 64	15	-102	6280	364.78	1.45	-1.41
206	SLU 65	15	-83	6403	368.1	1.45	-1.43
206	SLU 66	15	-104	6350	369.42	1.46	-1.4
206	SLU 67	15	-92	6424	371.41	1.47	-1.41
206	SLU 68	15	-84	6446	371.01	1.47	-1.41
206	SLU 69	14	-104	6394	372.33	1.47	-1.38
206	SLU 70	15	-93	6467	374.32	1.48	-1.39
206	SLU 71	14	-104	6366	370.61	1.47	-1.37
206	SLU 72	15	-92	6440	372.6	1.47	-1.38
206	SLU 73	16	-90	7013	408.12	1.67	-1.47
206	SLU 74	15	-111	6961	409.43	1.68	-1.44
206	SLU 75	15	-99	7035	411.42	1.69	-1.45
206	SLU 76	15	-91	7056	411.03	1.68	-1.45
206	SLU 77	15	-112	7004	412.35	1.69	-1.42
206	SLU 78	15	-100	7078	414.34	1.7	-1.43
206	SLU 79	15	-111	6977	410.63	1.69	-1.41
206	SLU 80	15	-100	7050	412.62	1.69	-1.42
206	SLU 81	15	-113	7152	421.95	1.76	-1.47
206	SLU 82	15	-101	7226	423.94	1.76	-1.48
206	SLU 83	15	-114	7195	424.87	1.77	-1.45
206	SLU 84	15	-102	7269	426.86	1.78	-1.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
206	SLE RA 1	11	-77	4700	272.57	1.08	-1.06
206	SLE RA 2	11	-64	4781	274.79	1.08	-1.07
206	SLE RA 3	11	-78	4747	275.66	1.09	-1.05
206	SLE RA 4	11	-70	4796	276.99	1.09	-1.06
206	SLE RA 5	11	-64	4810	276.73	1.09	-1.06
206	SLE RA 6	11	-78	4775	277.61	1.1	-1.04
206	SLE RA 7	11	-70	4824	278.93	1.1	-1.04
206	SLE RA 8	11	-78	4757	276.46	1.09	-1.03
206	SLE RA 9	11	-70	4806	277.79	1.09	-1.04
206	SLE RA 10	12	-69	5188	301.47	1.23	-1.1
206	SLE RA 11	11	-83	5153	302.34	1.23	-1.08
206	SLE RA 12	11	-75	5203	303.67	1.24	-1.09
206	SLE RA 13	11	-69	5217	303.41	1.24	-1.08
206	SLE RA 14	11	-83	5182	304.28	1.24	-1.07
206	SLE RA 15	11	-75	5231	305.61	1.24	-1.07
206	SLE RA 16	11	-83	5164	303.14	1.24	-1.06
206	SLE RA 17	11	-75	5213	304.47	1.24	-1.07
206	SLE RA 18	11	-84	5281	310.69	1.28	-1.1
206	SLE RA 19	12	-76	5330	312.01	1.29	-1.11
206	SLE RA 20	11	-84	5310	312.63	1.29	-1.08
206	SLE RA 21	11	-77	5359	313.96	1.3	-1.09
206	SLE FR 1	11	-77	4700	272.57	1.08	-1.06
206	SLE FR 2	11	-74	4716	273.02	1.08	-1.06
206	SLE FR 3	11	-77	4711	273.35	1.08	-1.05
206	SLE FR 4	11	-76	4890	284.45	1.14	-1.07
206	SLE FR 5	11	-79	4885	284.79	1.14	-1.06
206	SLE FR 6	11	-80	4990	291.63	1.18	-1.08
206	SLE QP 1	11	-77	4700	272.57	1.08	-1.06
206	SLE QP 2	11	-79	4874	284.01	1.14	-1.07
206	SLD 1	418	42	5611	303.61	1.85	-31.44
206	SLD 2	501	41	5616	303.84	1.64	-37.57
206	SLD 3	407	-185	4079	262.93	1.73	-30.64
206	SLD 4	490	-186	4085	263.15	1.52	-36.77
206	SLD 5	134	302	7416	351.55	1.56	-10.29
206	SLD 6	189	301	7420	351.7	1.43	-14.34
206	SLD 7	99	-454	2312	215.94	1.18	-7.62
206	SLD 8	154	-455	2316	216.09	1.04	-11.67
206	SLD 9	-131	298	7432	351.93	1.24	9.53
206	SLD 10	-76	297	7436	352.08	1.1	5.48
206	SLD 11	-167	-458	2328	216.32	0.85	12.2
206	SLD 12	-112	-459	2332	216.46	0.71	8.15
206	SLD 13	-467	29	5663	304.86	0.75	34.63
206	SLD 14	-384	27	5668	305.09	0.55	28.5
206	SLD 15	-478	-198	4132	264.18	0.64	35.43
206	SLD 16	-395	-200	4137	264.41	0.43	29.3
206	SLV 1	648	116	6066	315.73	2.25	-48.63
206	SLV 2	778	114	6075	316.08	1.93	-58.25
206	SLV 3	630	-250	3591	249.94	2.06	-47.31
206	SLV 4	760	-252	3600	250.29	1.74	-56.93
206	SLV 5	205	536	8984	393.23	1.82	-15.54
206	SLV 6	292	535	8990	393.47	1.6	-22.02
206	SLV 7	146	-686	733	173.95	1.19	-11.15
206	SLV 8	234	-687	739	174.19	0.97	-17.63
206	SLV 9	-211	530	9009	393.83	1.3	15.48
206	SLV 10	-123	528	9015	394.07	1.08	9.01
206	SLV 11	-269	-692	758	174.55	0.68	19.88
206	SLV 12	-182	-694	764	174.79	0.46	13.4
206	SLV 13	-737	95	6148	317.72	0.54	54.79
206	SLV 14	-607	93	6157	318.08	0.21	45.17
206	SLV 15	-755	-272	3673	251.94	0.35	56.11
206	SLV 16	-625	-274	3682	252.29	0.03	46.49
206	SLV FO 1	711	136	6186	318.9	2.36	-53.39
206	SLV FO 2	854	134	6195	319.29	2	-63.97
206	SLV FO 3	692	-267	3463	246.53	2.16	-51.94
206	SLV FO 4	835	-270	3472	246.92	1.8	-62.52
206	SLV FO 5	224	598	9395	404.15	1.88	-16.99
206	SLV FO 6	320	596	9402	404.42	1.64	-24.11
206	SLV FO 7	160	-747	319	162.94	1.2	-12.16
206	SLV FO 8	256	-748	326	163.2	0.96	-19.28
206	SLV FO 9	-233	590	9422	404.81	1.32	17.14
206	SLV FO 10	-137	589	9429	405.07	1.08	10.02
206	SLV FO 11	-297	-754	346	163.6	0.63	21.97
206	SLV FO 12	-201	-755	353	163.86	0.39	14.85
206	SLV FO 13	-812	112	6276	321.1	0.48	60.38
206	SLV FO 14	-669	110	6285	321.48	0.12	49.8
206	SLV FO 15	-832	-291	3553	248.73	0.27	61.82
206	SLV FO 16	-689	-294	3562	249.12	-0.09	51.25
206	CRTFP Ux+	0	0	0	0	0	0
206	CRTFP Ux-	0	0	0	0	0	0
206	CRTFP Uy+	0	0	0	0	0	0
206	CRTFP Uy-	0	0	0	0	0	0
207	SLU 1	13	-79	4503	263.03	0.63	-1.11
207	SLU 2	13	-60	4626	266.43	0.63	-1.13
207	SLU 3	13	-81	4573	267.7	0.64	-1.1
207	SLU 4	13	-69	4647	269.75	0.64	-1.11
207	SLU 5	13	-61	4669	269.37	0.64	-1.11
207	SLU 6	12	-82	4616	270.64	0.65	-1.08
207	SLU 7	13	-70	4690	272.69	0.65	-1.09
207	SLU 8	12	-81	4589	268.91	0.65	-1.07



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
207	SLU 9	13	-70	4662	270.95	0.65	-1.08
207	SLU 10	14	-68	5230	305.96	0.8	-1.18
207	SLU 11	13	-89	5177	307.23	0.81	-1.14
207	SLU 12	13	-77	5251	309.27	0.81	-1.16
207	SLU 13	13	-69	5273	308.9	0.81	-1.16
207	SLU 14	13	-90	5220	310.17	0.82	-1.12
207	SLU 15	13	-78	5294	312.21	0.82	-1.14
207	SLU 16	13	-89	5193	308.44	0.81	-1.11
207	SLU 17	13	-78	5267	310.48	0.81	-1.13
207	SLU 18	13	-91	5366	319.5	0.87	-1.17
207	SLU 19	14	-79	5440	321.54	0.87	-1.19
207	SLU 20	13	-92	5409	322.44	0.88	-1.15
207	SLU 21	13	-80	5483	324.48	0.88	-1.17
207	SLU 22	15	-89	5096	299.63	0.74	-1.25
207	SLU 23	15	-70	5218	303.03	0.74	-1.27
207	SLU 24	14	-91	5166	304.3	0.75	-1.24
207	SLU 25	15	-79	5239	306.34	0.75	-1.25
207	SLU 26	15	-71	5261	305.97	0.75	-1.25
207	SLU 27	14	-92	5208	307.24	0.76	-1.22
207	SLU 28	14	-80	5282	309.29	0.76	-1.23
207	SLU 29	14	-91	5181	305.51	0.75	-1.21
207	SLU 30	14	-79	5255	307.55	0.75	-1.22
207	SLU 31	15	-78	5823	342.56	0.91	-1.32
207	SLU 32	15	-99	5770	343.83	0.92	-1.28
207	SLU 33	15	-87	5844	345.87	0.92	-1.3
207	SLU 34	15	-79	5865	345.5	0.91	-1.3
207	SLU 35	14	-100	5813	346.77	0.92	-1.26
207	SLU 36	15	-88	5886	348.81	0.92	-1.28
207	SLU 37	14	-99	5786	345.03	0.92	-1.25
207	SLU 38	14	-88	5859	347.08	0.92	-1.27
207	SLU 39	15	-101	5959	356.09	0.98	-1.31
207	SLU 40	15	-89	6033	358.14	0.98	-1.33
207	SLU 41	15	-102	6002	359.03	0.98	-1.29
207	SLU 42	15	-90	6075	361.08	0.98	-1.31
207	SLU 43	16	-100	5651	329.39	0.78	-1.39
207	SLU 44	17	-80	5774	332.79	0.79	-1.42
207	SLU 45	16	-101	5721	334.06	0.8	-1.38
207	SLU 46	16	-90	5795	336.11	0.8	-1.4
207	SLU 47	16	-81	5816	335.73	0.79	-1.4
207	SLU 48	16	-102	5764	337	0.8	-1.36
207	SLU 49	16	-91	5837	339.05	0.8	-1.38
207	SLU 50	16	-102	5736	335.27	0.8	-1.35
207	SLU 51	16	-90	5810	337.31	0.8	-1.37
207	SLU 52	17	-89	6378	372.32	0.95	-1.46
207	SLU 53	16	-110	6325	373.59	0.96	-1.43
207	SLU 54	17	-98	6399	375.63	0.96	-1.44
207	SLU 55	17	-89	6421	375.26	0.96	-1.44
207	SLU 56	16	-110	6368	376.53	0.97	-1.41
207	SLU 57	16	-99	6442	378.58	0.97	-1.42
207	SLU 58	16	-110	6341	374.8	0.97	-1.4
207	SLU 59	16	-98	6414	376.84	0.97	-1.41
207	SLU 60	17	-112	6514	385.86	1.02	-1.46
207	SLU 61	17	-100	6588	387.9	1.02	-1.47
207	SLU 62	16	-112	6557	388.8	1.03	-1.44
207	SLU 63	17	-101	6631	390.84	1.03	-1.45
207	SLU 64	18	-110	6243	365.99	0.89	-1.53
207	SLU 65	18	-90	6366	369.39	0.89	-1.56
207	SLU 66	18	-111	6313	370.66	0.9	-1.52
207	SLU 67	18	-100	6387	372.7	0.9	-1.54
207	SLU 68	18	-91	6409	372.33	0.9	-1.54
207	SLU 69	17	-112	6356	373.6	0.91	-1.5
207	SLU 70	18	-100	6430	375.65	0.91	-1.52
207	SLU 71	17	-112	6329	371.87	0.91	-1.49
207	SLU 72	17	-100	6403	373.91	0.91	-1.5
207	SLU 73	19	-98	6970	408.92	1.06	-1.6
207	SLU 74	18	-119	6918	410.19	1.07	-1.57
207	SLU 75	18	-108	6991	412.23	1.07	-1.58
207	SLU 76	18	-99	7013	411.86	1.07	-1.58
207	SLU 77	18	-120	6961	413.13	1.08	-1.55
207	SLU 78	18	-109	7034	415.17	1.08	-1.56
207	SLU 79	18	-120	6933	411.39	1.07	-1.54
207	SLU 80	18	-108	7007	413.44	1.07	-1.55
207	SLU 81	18	-121	7107	422.45	1.13	-1.6
207	SLU 82	19	-110	7180	424.5	1.13	-1.61
207	SLU 83	18	-122	7149	425.39	1.14	-1.58
207	SLU 84	18	-111	7223	427.44	1.14	-1.59
207	SLE RA 1	13	-82	4672	273.48	0.66	-1.15
207	SLE RA 2	14	-69	4754	275.75	0.66	-1.16
207	SLE RA 3	13	-83	4719	276.6	0.67	-1.14
207	SLE RA 4	13	-75	4768	277.96	0.67	-1.15
207	SLE RA 5	13	-70	4783	277.71	0.67	-1.15
207	SLE RA 6	13	-84	4748	278.56	0.68	-1.13
207	SLE RA 7	13	-76	4797	279.92	0.68	-1.14
207	SLE RA 8	13	-83	4729	277.41	0.67	-1.12
207	SLE RA 9	13	-76	4779	278.77	0.67	-1.13
207	SLE RA 10	14	-75	5157	302.11	0.77	-1.19
207	SLE RA 11	13	-89	5122	302.95	0.78	-1.17
207	SLE RA 12	14	-81	5171	304.31	0.78	-1.18
207	SLE RA 13	14	-75	5186	304.07	0.78	-1.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
207	SLE RA 14	13	-89	5151	304.91	0.79	-1.16
207	SLE RA 15	13	-82	5200	306.28	0.79	-1.17
207	SLE RA 16	13	-89	5132	303.76	0.78	-1.15
207	SLE RA 17	13	-81	5181	305.12	0.78	-1.16
207	SLE RA 18	14	-90	5248	311.13	0.82	-1.19
207	SLE RA 19	14	-82	5297	312.49	0.82	-1.2
207	SLE RA 20	13	-91	5276	313.09	0.83	-1.18
207	SLE RA 21	14	-83	5326	314.45	0.83	-1.19
207	SLE FR 1	13	-82	4672	273.48	0.66	-1.15
207	SLE FR 2	13	-80	4689	273.94	0.66	-1.15
207	SLE FR 3	13	-83	4684	274.27	0.66	-1.14
207	SLE FR 4	14	-82	4861	285.23	0.71	-1.16
207	SLE FR 5	13	-85	4856	285.56	0.71	-1.16
207	SLE FR 6	14	-86	4960	292.31	0.74	-1.17
207	SLE QP 1	13	-82	4672	273.48	0.66	-1.15
207	SLE QP 2	13	-85	4845	284.78	0.71	-1.16
207	SLD 1	418	39	5566	303.3	1.38	-31.4
207	SLD 2	501	40	5578	303.49	1.18	-37.51
207	SLD 3	408	-189	4037	261.54	1.41	-30.63
207	SLD 4	491	-188	4049	261.73	1.21	-36.74
207	SLD 5	136	297	7379	353.64	0.9	-10.3
207	SLD 6	190	298	7387	353.77	0.77	-14.34
207	SLD 7	101	-461	2281	214.43	1	-7.73
207	SLD 8	156	-460	2288	214.56	0.86	-11.77
207	SLD 9	-129	291	7402	354.99	0.56	9.44
207	SLD 10	-74	292	7409	355.12	0.42	5.41
207	SLD 11	-163	-468	2303	215.79	0.65	12.01
207	SLD 12	-109	-467	2311	215.92	0.52	7.98
207	SLD 13	-464	18	5641	307.82	0.21	34.42
207	SLD 14	-381	20	5653	308.02	0.01	28.31
207	SLD 15	-474	-209	4112	266.06	0.24	35.19
207	SLD 16	-392	-208	4124	266.25	0.04	29.08
207	SLV 1	648	115	6013	314.85	1.75	-48.53
207	SLV 2	777	117	6032	315.16	1.44	-58.1
207	SLV 3	631	-253	3541	247.33	1.8	-47.26
207	SLV 4	760	-251	3560	247.63	1.49	-56.83
207	SLV 5	206	533	8942	396.16	1.01	-15.52
207	SLV 6	293	534	8955	396.36	0.8	-21.96
207	SLV 7	149	-693	700	171.07	1.17	-11.27
207	SLV 8	236	-692	713	171.28	0.96	-17.71
207	SLV 9	-209	523	8977	398.28	0.46	15.39
207	SLV 10	-122	524	8990	398.48	0.25	8.95
207	SLV 11	-266	-703	735	173.19	0.62	19.64
207	SLV 12	-179	-702	748	173.4	0.41	13.2
207	SLV 13	-733	82	6130	321.92	-0.07	54.51
207	SLV 14	-604	84	6149	322.23	-0.38	44.93
207	SLV 15	-750	-286	3658	254.4	-0.02	55.78
207	SLV 16	-621	-284	3677	254.7	-0.33	46.21
207	SLV FO 1	711	135	6130	317.86	1.86	-53.27
207	SLV FO 2	854	137	6151	318.2	1.51	-63.8
207	SLV FO 3	692	-270	3410	243.58	1.91	-51.87
207	SLV FO 4	835	-268	3431	243.92	1.56	-62.39
207	SLV FO 5	225	594	9352	407.3	1.04	-16.96
207	SLV FO 6	321	596	9366	407.52	0.81	-24.05
207	SLV FO 7	162	-754	286	159.7	1.21	-12.28
207	SLV FO 8	258	-753	299	159.92	0.98	-19.37
207	SLV FO 9	-231	584	9391	409.63	0.44	17.05
207	SLV FO 10	-135	585	9404	409.85	0.21	9.96
207	SLV FO 11	-294	-765	324	162.03	0.61	21.72
207	SLV FO 12	-198	-764	338	162.26	0.38	14.63
207	SLV FO 13	-808	98	6259	325.64	-0.14	60.07
207	SLV FO 14	-666	101	6280	325.97	-0.49	49.54
207	SLV FO 15	-827	-306	3539	251.36	-0.09	61.48
207	SLV FO 16	-684	-304	3560	251.69	-0.44	50.95
207	CRTFP Ux+	0	0	0	0	0	0
207	CRTFP Ux-	0	0	0	0	0	0
207	CRTFP Uy+	0	0	0	0	0	0
207	CRTFP Uy-	0	0	0	0	0	0
208	SLU 1	14	-75	4061	242.11	75.78	0.32
208	SLU 2	14	-57	4172	245.38	77.84	-0.04
208	SLU 3	13	-76	4124	246.46	76.96	0.35
208	SLU 4	14	-66	4191	248.42	78.2	0.14
208	SLU 5	14	-58	4211	248.12	78.56	0
208	SLU 6	13	-77	4163	249.19	77.68	0.39
208	SLU 7	13	-66	4229	251.16	78.92	0.17
208	SLU 8	13	-77	4138	247.58	77.22	0.39
208	SLU 9	13	-66	4205	249.54	78.46	0.17
208	SLU 10	14	-65	4715	280.6	88.03	0.07
208	SLU 11	14	-84	4667	281.67	87.15	0.46
208	SLU 12	14	-73	4734	283.64	88.38	0.24
208	SLU 13	14	-66	4753	283.33	88.75	0.1
208	SLU 14	14	-85	4706	284.41	87.87	0.49
208	SLU 15	14	-74	4772	286.37	89.11	0.28
208	SLU 16	13	-84	4681	282.79	87.41	0.49
208	SLU 17	14	-74	4748	284.75	88.65	0.28
208	SLU 18	14	-86	4836	292.41	90.33	0.47
208	SLU 19	14	-75	4903	294.38	91.57	0.26
208	SLU 20	14	-87	4875	295.15	91.05	0.5
208	SLU 21	14	-76	4942	297.11	92.29	0.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
208	SLU 22	15	-84	4595	275.77	85.75	0.36
208	SLU 23	16	-66	4706	279.04	87.81	0
208	SLU 24	15	-86	4658	280.12	86.93	0.39
208	SLU 25	15	-75	4725	282.08	88.17	0.18
208	SLU 26	15	-67	4744	281.77	88.54	0.04
208	SLU 27	15	-86	4697	282.85	87.65	0.43
208	SLU 28	15	-76	4763	284.81	88.89	0.21
208	SLU 29	15	-86	4672	281.23	87.19	0.43
208	SLU 30	15	-75	4739	283.2	88.43	0.21
208	SLU 31	16	-74	5249	314.25	98	0.11
208	SLU 32	16	-93	5201	315.33	97.12	0.5
208	SLU 33	16	-83	5267	317.29	98.36	0.28
208	SLU 34	16	-75	5287	316.98	98.72	0.14
208	SLU 35	15	-94	5239	318.06	97.84	0.53
208	SLU 36	16	-84	5306	320.02	99.08	0.32
208	SLU 37	15	-94	5215	316.44	97.38	0.53
208	SLU 38	15	-83	5281	318.41	98.62	0.32
208	SLU 39	16	-95	5370	326.07	100.31	0.51
208	SLU 40	16	-85	5437	328.03	101.54	0.29
208	SLU 41	16	-96	5409	328.8	101.03	0.54
208	SLU 42	16	-85	5475	330.76	102.27	0.33
208	SLU 43	17	-94	5096	303.21	95.09	0.4
208	SLU 44	17	-76	5207	306.48	97.15	0.05
208	SLU 45	17	-95	5159	307.56	96.27	0.44
208	SLU 46	17	-85	5226	309.52	97.51	0.22
208	SLU 47	17	-77	5246	309.21	97.87	0.08
208	SLU 48	17	-96	5198	310.29	96.99	0.47
208	SLU 49	17	-86	5265	312.25	98.23	0.26
208	SLU 50	16	-96	5173	308.67	96.53	0.47
208	SLU 51	17	-85	5240	310.64	97.77	0.26
208	SLU 52	18	-84	5750	341.69	107.34	0.15
208	SLU 53	17	-103	5702	342.77	106.46	0.54
208	SLU 54	18	-93	5769	344.73	107.7	0.33
208	SLU 55	18	-85	5789	344.42	108.06	0.18
208	SLU 56	17	-104	5741	345.5	107.18	0.58
208	SLU 57	17	-93	5808	347.46	108.42	0.36
208	SLU 58	17	-104	5716	343.88	106.72	0.58
208	SLU 59	17	-93	5783	345.85	107.96	0.36
208	SLU 60	18	-105	5872	353.51	109.64	0.55
208	SLU 61	18	-95	5938	355.47	110.88	0.34
208	SLU 62	17	-106	5910	356.24	110.37	0.59
208	SLU 63	18	-95	5977	358.21	111.6	0.37
208	SLU 64	19	-103	5630	336.86	105.06	0.44
208	SLU 65	19	-86	5741	340.13	107.13	0.08
208	SLU 66	19	-105	5693	341.21	106.24	0.48
208	SLU 67	19	-94	5760	343.17	107.48	0.26
208	SLU 68	19	-87	5780	342.87	107.85	0.12
208	SLU 69	18	-106	5732	343.94	106.97	0.51
208	SLU 70	19	-95	5798	345.91	108.2	0.3
208	SLU 71	18	-105	5707	342.33	106.51	0.51
208	SLU 72	18	-94	5774	344.29	107.74	0.3
208	SLU 73	20	-93	6284	375.34	117.32	0.19
208	SLU 74	19	-113	6236	376.42	116.43	0.58
208	SLU 75	19	-102	6303	378.38	117.67	0.37
208	SLU 76	19	-94	6323	378.08	118.04	0.22
208	SLU 77	19	-113	6275	379.16	117.15	0.61
208	SLU 78	19	-103	6341	381.12	118.39	0.4
208	SLU 79	19	-113	6250	377.54	116.7	0.61
208	SLU 80	19	-102	6317	379.5	117.93	0.4
208	SLU 81	19	-114	6406	387.16	119.62	0.59
208	SLU 82	20	-104	6472	389.13	120.86	0.38
208	SLU 83	19	-115	6444	389.9	120.34	0.62
208	SLU 84	19	-105	6511	391.86	121.58	0.41
208	SLE RA 1	14	-77	4214	251.73	78.63	0.33
208	SLE RA 2	14	-66	4288	253.91	80	0.09
208	SLE RA 3	14	-78	4256	254.63	79.41	0.35
208	SLE RA 4	14	-71	4300	255.94	80.24	0.21
208	SLE RA 5	14	-66	4313	255.73	80.48	0.12
208	SLE RA 6	14	-79	4281	256.45	79.89	0.38
208	SLE RA 7	14	-72	4326	257.76	80.72	0.23
208	SLE RA 8	14	-79	4265	255.37	79.59	0.38
208	SLE RA 9	14	-72	4309	256.68	80.41	0.23
208	SLE RA 10	15	-71	4649	277.38	86.79	0.16
208	SLE RA 11	14	-84	4618	278.1	86.21	0.42
208	SLE RA 12	14	-77	4662	279.41	87.03	0.28
208	SLE RA 13	14	-71	4675	279.2	87.28	0.19
208	SLE RA 14	14	-84	4643	279.92	86.69	0.45
208	SLE RA 15	14	-77	4688	281.23	87.51	0.3
208	SLE RA 16	14	-84	4627	278.85	86.38	0.45
208	SLE RA 17	14	-77	4671	280.15	87.21	0.3
208	SLE RA 18	14	-85	4730	285.26	88.33	0.43
208	SLE RA 19	15	-78	4775	286.57	89.16	0.29
208	SLE RA 20	14	-85	4756	287.08	88.81	0.45
208	SLE RA 21	14	-78	4801	288.39	89.64	0.31
208	SLE FR 1	14	-77	4214	251.73	78.63	0.33
208	SLE FR 2	14	-75	4228	252.16	78.9	0.28
208	SLE FR 3	14	-78	4224	252.46	78.82	0.34
208	SLE FR 4	14	-77	4383	262.22	81.81	0.31
208	SLE FR 5	14	-80	4379	262.52	81.73	0.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
208	SLE FR 6	14	-81	4472	268.49	83.48	0.38
208	SLE QP 1	14	-77	4214	251.73	78.63	0.33
208	SLE QP 2	14	-80	4369	261.79	81.54	0.36
208	SLD 1	379	35	5005	279.49	93.81	-28.67
208	SLD 2	454	39	5021	279.8	93.98	-34.26
208	SLD 3	370	-171	3620	239.24	68.11	-24.84
208	SLD 4	445	-167	3636	239.55	68.27	-30.43
208	SLD 5	124	266	6657	328.09	124.18	-13.15
208	SLD 6	173	269	6667	328.3	124.29	-16.83
208	SLD 7	94	-420	2041	193.91	38.49	-0.39
208	SLD 8	143	-417	2051	194.12	38.6	-4.08
208	SLD 9	-114	258	6686	329.45	124.48	4.8
208	SLD 10	-65	260	6696	329.66	124.58	1.11
208	SLD 11	-145	-428	2070	195.27	38.79	17.56
208	SLD 12	-96	-426	2080	195.48	38.9	13.87
208	SLD 13	-416	7	5101	284.03	94.81	31.15
208	SLD 14	-342	11	5117	284.34	94.97	25.57
208	SLD 15	-425	-198	3716	243.77	69.1	34.98
208	SLD 16	-351	-194	3732	244.09	69.26	29.39
208	SLV 1	586	105	5400	290.54	101.41	-45.19
208	SLV 2	703	111	5425	291.03	101.67	-53.94
208	SLV 3	571	-227	3162	225.45	59.85	-38.97
208	SLV 4	687	-221	3187	225.94	60.11	-47.72
208	SLV 5	187	479	8069	369.04	150.48	-21.11
208	SLV 6	266	483	8086	369.37	150.65	-27
208	SLV 7	136	-630	607	152.07	11.96	-0.36
208	SLV 8	215	-625	623	152.41	12.13	-6.26
208	SLV 9	-187	466	8114	371.17	150.95	6.98
208	SLV 10	-108	470	8131	371.5	151.12	1.09
208	SLV 11	-237	-643	652	154.2	12.42	27.73
208	SLV 12	-159	-639	668	154.54	12.59	21.83
208	SLV 13	-659	62	5550	297.64	102.97	48.44
208	SLV 14	-542	68	5576	298.13	103.22	39.69
208	SLV 15	-674	-271	3312	232.55	61.41	54.66
208	SLV 16	-557	-265	3337	233.04	61.66	45.91
208	SLV FO 1	643	124	5503	293.41	103.4	-49.75
208	SLV FO 2	771	131	5531	293.95	103.68	-59.37
208	SLV FO 3	626	-242	3041	221.81	57.69	-42.9
208	SLV FO 4	755	-235	3069	222.35	57.97	-52.53
208	SLV FO 5	204	535	8439	379.76	157.37	-23.26
208	SLV FO 6	291	540	8457	380.13	157.56	-29.74
208	SLV FO 7	148	-685	230	141.1	5	-0.44
208	SLV FO 8	235	-680	249	141.47	5.19	-6.92
208	SLV FO 9	-207	521	8488	382.11	157.89	7.64
208	SLV FO 10	-120	525	8507	382.47	158.08	1.16
208	SLV FO 11	-262	-699	280	143.45	5.51	30.46
208	SLV FO 12	-176	-694	298	143.81	5.7	23.98
208	SLV FO 13	-726	76	5669	301.22	105.11	53.25
208	SLV FO 14	-598	83	5696	301.76	105.39	43.62
208	SLV FO 15	-743	-290	3206	229.62	59.4	60.09
208	SLV FO 16	-615	-283	3234	230.17	59.68	50.47
208	CRTFP Ux+	0	0	0	0	0	0
208	CRTFP Ux-	0	0	0	0	0	0
208	CRTFP Uy+	0	0	0	0	0	0
208	CRTFP Uy-	0	0	0	0	0	0
210	SLU 1	-1	-11	496	0	0	0
210	SLU 2	-1	-9	509	0	0	0
210	SLU 3	-1	-11	503	0	0	0
210	SLU 4	-1	-10	511	0	0	0
210	SLU 5	-1	-9	514	0	0	0
210	SLU 6	-1	-11	508	0	0	0
210	SLU 7	-1	-10	516	0	0	0
210	SLU 8	-1	-11	505	0	0	0
210	SLU 9	-1	-10	513	0	0	0
210	SLU 10	-1	-10	574	0	0	0
210	SLU 11	-1	-12	568	0	0	0
210	SLU 12	-1	-11	576	0	0	0
210	SLU 13	-1	-10	579	0	0	0
210	SLU 14	-1	-12	573	0	0	0
210	SLU 15	-1	-11	581	0	0	0
210	SLU 16	-1	-12	570	0	0	0
210	SLU 17	-1	-11	578	0	0	0
210	SLU 18	-1	-12	589	0	0	0
210	SLU 19	-1	-11	597	0	0	0
210	SLU 20	-1	-13	593	0	0	0
210	SLU 21	-1	-12	601	0	0	0
210	SLU 22	-1	-12	562	0	0	0
210	SLU 23	-1	-10	575	0	0	0
210	SLU 24	-1	-12	570	0	0	0
210	SLU 25	-1	-11	578	0	0	0
210	SLU 26	-1	-10	580	0	0	0
210	SLU 27	-1	-12	574	0	0	0
210	SLU 28	-1	-11	582	0	0	0
210	SLU 29	-1	-12	571	0	0	0
210	SLU 30	-1	-11	579	0	0	0
210	SLU 31	-1	-12	641	0	0	0
210	SLU 32	-1	-13	635	0	0	0
210	SLU 33	-1	-12	643	0	0	0
210	SLU 34	-1	-12	645	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
210	SLU 35	-1	-14	639	0	0	0
210	SLU 36	-1	-13	648	0	0	0
210	SLU 37	-1	-13	637	0	0	0
210	SLU 38	-1	-12	645	0	0	0
210	SLU 39	-1	-14	655	0	0	0
210	SLU 40	-1	-13	663	0	0	0
210	SLU 41	-1	-14	660	0	0	0
210	SLU 42	-1	-13	668	0	0	0
210	SLU 43	-1	-14	622	0	0	0
210	SLU 44	-1	-12	635	0	0	0
210	SLU 45	-1	-14	629	0	0	0
210	SLU 46	-1	-13	637	0	0	0
210	SLU 47	-1	-12	640	0	0	0
210	SLU 48	-1	-14	634	0	0	0
210	SLU 49	-1	-13	642	0	0	0
210	SLU 50	-1	-14	631	0	0	0
210	SLU 51	-1	-13	639	0	0	0
210	SLU 52	-1	-13	700	0	0	0
210	SLU 53	-1	-15	694	0	0	0
210	SLU 54	-1	-14	702	0	0	0
210	SLU 55	-1	-13	705	0	0	0
210	SLU 56	-1	-15	699	0	0	0
210	SLU 57	-1	-14	707	0	0	0
210	SLU 58	-1	-15	696	0	0	0
210	SLU 59	-1	-14	704	0	0	0
210	SLU 60	-1	-15	715	0	0	0
210	SLU 61	-1	-14	723	0	0	0
210	SLU 62	-1	-15	719	0	0	0
210	SLU 63	-1	-14	727	0	0	0
210	SLU 64	-2	-15	688	0	0	0
210	SLU 65	-2	-13	701	0	0	0
210	SLU 66	-2	-15	696	0	0	0
210	SLU 67	-2	-14	704	0	0	0
210	SLU 68	-2	-13	706	0	0	0
210	SLU 69	-2	-15	700	0	0	0
210	SLU 70	-2	-14	708	0	0	0
210	SLU 71	-2	-15	697	0	0	0
210	SLU 72	-2	-14	705	0	0	0
210	SLU 73	-1	-14	767	0	0	0
210	SLU 74	-1	-16	761	0	0	0
210	SLU 75	-1	-15	769	0	0	0
210	SLU 76	-1	-14	771	0	0	0
210	SLU 77	-1	-16	765	0	0	0
210	SLU 78	-2	-15	773	0	0	0
210	SLU 79	-1	-16	762	0	0	0
210	SLU 80	-2	-15	770	0	0	0
210	SLU 81	-1	-17	781	0	0	0
210	SLU 82	-1	-16	789	0	0	0
210	SLU 83	-1	-17	786	0	0	0
210	SLU 84	-1	-16	794	0	0	0
210	SLE RA 1	-1	-11	515	0	0	0
210	SLE RA 2	-1	-10	524	0	0	0
210	SLE RA 3	-1	-11	520	0	0	0
210	SLE RA 4	-1	-11	525	0	0	0
210	SLE RA 5	-1	-10	527	0	0	0
210	SLE RA 6	-1	-11	523	0	0	0
210	SLE RA 7	-1	-11	528	0	0	0
210	SLE RA 8	-1	-11	521	0	0	0
210	SLE RA 9	-1	-11	526	0	0	0
210	SLE RA 10	-1	-11	567	0	0	0
210	SLE RA 11	-1	-12	563	0	0	0
210	SLE RA 12	-1	-11	568	0	0	0
210	SLE RA 13	-1	-11	570	0	0	0
210	SLE RA 14	-1	-12	566	0	0	0
210	SLE RA 15	-1	-11	572	0	0	0
210	SLE RA 16	-1	-12	564	0	0	0
210	SLE RA 17	-1	-11	570	0	0	0
210	SLE RA 18	-1	-12	577	0	0	0
210	SLE RA 19	-1	-12	582	0	0	0
210	SLE RA 20	-1	-12	580	0	0	0
210	SLE RA 21	-1	-12	585	0	0	0
210	SLE FR 1	-1	-11	515	0	0	0
210	SLE FR 2	-1	-11	516	0	0	0
210	SLE FR 3	-1	-11	516	0	0	0
210	SLE FR 4	-1	-11	535	0	0	0
210	SLE FR 5	-1	-12	534	0	0	0
210	SLE FR 6	-1	-12	546	0	0	0
210	SLE QP 1	-1	-11	515	0	0	0
210	SLE QP 2	-1	-12	533	0	0	0
210	SLD 1	38	-5	665	0	0	0
210	SLD 2	46	-10	660	0	0	0
210	SLD 3	40	-25	495	0	0	0
210	SLD 4	48	-29	490	0	0	0
210	SLD 5	6	21	832	0	0	0
210	SLD 6	11	18	828	0	0	0
210	SLD 7	13	-45	265	0	0	0
210	SLD 8	19	-48	261	0	0	0
210	SLD 9	-21	24	805	0	0	0
210	SLD 10	-15	22	802	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
210	SLD 11	-13	-41	238	0	0	0
210	SLD 12	-8	-44	235	0	0	0
210	SLD 13	-50	6	576	0	0	0
210	SLD 14	-42	2	571	0	0	0
210	SLD 15	-48	-13	406	0	0	0
210	SLD 16	-40	-18	401	0	0	0
210	SLV 1	59	-2	744	0	0	0
210	SLV 2	72	-8	736	0	0	0
210	SLV 3	63	-33	469	0	0	0
210	SLV 4	76	-40	461	0	0	0
210	SLV 5	9	41	1015	0	0	0
210	SLV 6	18	36	1009	0	0	0
210	SLV 7	21	-65	99	0	0	0
210	SLV 8	30	-70	93	0	0	0
210	SLV 9	-32	46	973	0	0	0
210	SLV 10	-23	42	968	0	0	0
210	SLV 11	-20	-60	57	0	0	0
210	SLV 12	-11	-64	52	0	0	0
210	SLV 13	-78	17	605	0	0	0
210	SLV 14	-65	10	598	0	0	0
210	SLV 15	-75	-15	331	0	0	0
210	SLV 16	-62	-21	323	0	0	0
210	SLV FO 1	65	-1	765	0	0	0
210	SLV FO 2	80	-8	756	0	0	0
210	SLV FO 3	69	-36	463	0	0	0
210	SLV FO 4	84	-43	454	0	0	0
210	SLV FO 5	10	46	1063	0	0	0
210	SLV FO 6	20	41	1057	0	0	0
210	SLV FO 7	23	-70	55	0	0	0
210	SLV FO 8	33	-75	49	0	0	0
210	SLV FO 9	-35	52	1017	0	0	0
210	SLV FO 10	-26	47	1011	0	0	0
210	SLV FO 11	-22	-64	9	0	0	0
210	SLV FO 12	-12	-69	4	0	0	0
210	SLV FO 13	-86	20	613	0	0	0
210	SLV FO 14	-72	12	604	0	0	0
210	SLV FO 15	-82	-15	310	0	0	0
210	SLV FO 16	-68	-22	302	0	0	0
210	CRTFP Uy+	0	0	0	0	0	0
210	CRTFP Uy-	0	0	0	0	0	0
211	SLU 1	-2	-20	980	0	0	0
211	SLU 2	-2	-16	1006	0	0	0
211	SLU 3	-2	-20	995	0	0	0
211	SLU 4	-2	-18	1010	0	0	0
211	SLU 5	-2	-17	1015	0	0	0
211	SLU 6	-2	-21	1004	0	0	0
211	SLU 7	-2	-18	1020	0	0	0
211	SLU 8	-2	-20	998	0	0	0
211	SLU 9	-2	-18	1014	0	0	0
211	SLU 10	-2	-19	1135	0	0	0
211	SLU 11	-2	-22	1123	0	0	0
211	SLU 12	-2	-20	1139	0	0	0
211	SLU 13	-2	-19	1144	0	0	0
211	SLU 14	-2	-23	1133	0	0	0
211	SLU 15	-2	-21	1148	0	0	0
211	SLU 16	-2	-23	1127	0	0	0
211	SLU 17	-2	-20	1143	0	0	0
211	SLU 18	-2	-23	1164	0	0	0
211	SLU 19	-2	-21	1180	0	0	0
211	SLU 20	-2	-23	1173	0	0	0
211	SLU 21	-2	-21	1189	0	0	0
211	SLU 22	-3	-22	1110	0	0	0
211	SLU 23	-3	-19	1137	0	0	0
211	SLU 24	-3	-23	1125	0	0	0
211	SLU 25	-3	-21	1141	0	0	0
211	SLU 26	-3	-19	1146	0	0	0
211	SLU 27	-3	-23	1134	0	0	0
211	SLU 28	-3	-21	1150	0	0	0
211	SLU 29	-3	-23	1129	0	0	0
211	SLU 30	-3	-21	1144	0	0	0
211	SLU 31	-2	-21	1266	0	0	0
211	SLU 32	-2	-25	1254	0	0	0
211	SLU 33	-2	-23	1270	0	0	0
211	SLU 34	-2	-21	1275	0	0	0
211	SLU 35	-2	-25	1263	0	0	0
211	SLU 36	-3	-23	1279	0	0	0
211	SLU 37	-2	-25	1258	0	0	0
211	SLU 38	-3	-23	1273	0	0	0
211	SLU 39	-2	-25	1294	0	0	0
211	SLU 40	-2	-23	1310	0	0	0
211	SLU 41	-2	-26	1304	0	0	0
211	SLU 42	-2	-23	1319	0	0	0
211	SLU 43	-3	-25	1229	0	0	0
211	SLU 44	-3	-22	1255	0	0	0
211	SLU 45	-3	-25	1244	0	0	0
211	SLU 46	-3	-23	1259	0	0	0
211	SLU 47	-3	-22	1264	0	0	0
211	SLU 48	-3	-26	1253	0	0	0
211	SLU 49	-3	-24	1269	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
211	SLU 50	-3	-26	1247	0	0	0
211	SLU 51	-3	-23	1263	0	0	0
211	SLU 52	-2	-24	1384	0	0	0
211	SLU 53	-2	-28	1372	0	0	0
211	SLU 54	-3	-25	1388	0	0	0
211	SLU 55	-3	-24	1393	0	0	0
211	SLU 56	-3	-28	1382	0	0	0
211	SLU 57	-3	-26	1397	0	0	0
211	SLU 58	-3	-28	1376	0	0	0
211	SLU 59	-3	-26	1392	0	0	0
211	SLU 60	-2	-28	1413	0	0	0
211	SLU 61	-2	-26	1429	0	0	0
211	SLU 62	-2	-28	1422	0	0	0
211	SLU 63	-2	-26	1438	0	0	0
211	SLU 64	-3	-27	1359	0	0	0
211	SLU 65	-3	-24	1386	0	0	0
211	SLU 66	-3	-28	1374	0	0	0
211	SLU 67	-3	-26	1390	0	0	0
211	SLU 68	-3	-24	1395	0	0	0
211	SLU 69	-3	-28	1383	0	0	0
211	SLU 70	-3	-26	1399	0	0	0
211	SLU 71	-3	-28	1378	0	0	0
211	SLU 72	-3	-26	1393	0	0	0
211	SLU 73	-3	-26	1515	0	0	0
211	SLU 74	-3	-30	1503	0	0	0
211	SLU 75	-3	-28	1519	0	0	0
211	SLU 76	-3	-26	1524	0	0	0
211	SLU 77	-3	-30	1512	0	0	0
211	SLU 78	-3	-28	1528	0	0	0
211	SLU 79	-3	-30	1507	0	0	0
211	SLU 80	-3	-28	1522	0	0	0
211	SLU 81	-3	-30	1544	0	0	0
211	SLU 82	-3	-28	1559	0	0	0
211	SLU 83	-3	-31	1553	0	0	0
211	SLU 84	-3	-29	1568	0	0	0
211	SLE RA 1	-2	-21	1017	0	0	0
211	SLE RA 2	-2	-18	1035	0	0	0
211	SLE RA 3	-2	-21	1027	0	0	0
211	SLE RA 4	-2	-19	1037	0	0	0
211	SLE RA 5	-2	-18	1041	0	0	0
211	SLE RA 6	-2	-21	1033	0	0	0
211	SLE RA 7	-2	-20	1044	0	0	0
211	SLE RA 8	-2	-21	1029	0	0	0
211	SLE RA 9	-2	-19	1040	0	0	0
211	SLE RA 10	-2	-20	1120	0	0	0
211	SLE RA 11	-2	-22	1113	0	0	0
211	SLE RA 12	-2	-21	1123	0	0	0
211	SLE RA 13	-2	-20	1127	0	0	0
211	SLE RA 14	-2	-22	1119	0	0	0
211	SLE RA 15	-2	-21	1129	0	0	0
211	SLE RA 16	-2	-22	1115	0	0	0
211	SLE RA 17	-2	-21	1126	0	0	0
211	SLE RA 18	-2	-23	1140	0	0	0
211	SLE RA 19	-2	-21	1150	0	0	0
211	SLE RA 20	-2	-23	1146	0	0	0
211	SLE RA 21	-2	-21	1156	0	0	0
211	SLE FR 1	-2	-21	1017	0	0	0
211	SLE FR 2	-2	-20	1020	0	0	0
211	SLE FR 3	-2	-21	1019	0	0	0
211	SLE FR 4	-2	-21	1057	0	0	0
211	SLE FR 5	-2	-21	1056	0	0	0
211	SLE FR 6	-2	-22	1078	0	0	0
211	SLE QP 1	-2	-21	1017	0	0	0
211	SLE QP 2	-2	-21	1054	0	0	0
211	SLD 1	75	-8	1306	0	0	0
211	SLD 2	92	-15	1296	0	0	0
211	SLD 3	80	-48	970	0	0	0
211	SLD 4	97	-55	961	0	0	0
211	SLD 5	11	45	1640	0	0	0
211	SLD 6	22	40	1634	0	0	0
211	SLD 7	26	-89	521	0	0	0
211	SLD 8	37	-94	515	0	0	0
211	SLD 9	-42	51	1592	0	0	0
211	SLD 10	-31	46	1586	0	0	0
211	SLD 11	-27	-83	474	0	0	0
211	SLD 12	-16	-88	468	0	0	0
211	SLD 13	-101	13	1147	0	0	0
211	SLD 14	-84	5	1138	0	0	0
211	SLD 15	-96	-27	811	0	0	0
211	SLD 16	-80	-35	802	0	0	0
211	SLV 1	119	1	1456	0	0	0
211	SLV 2	145	-11	1441	0	0	0
211	SLV 3	126	-64	914	0	0	0
211	SLV 4	152	-76	899	0	0	0
211	SLV 5	18	86	2000	0	0	0
211	SLV 6	36	78	1990	0	0	0
211	SLV 7	43	-130	192	0	0	0
211	SLV 8	60	-138	182	0	0	0
211	SLV 9	-65	96	1926	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
211	SLV 10	-47	88	1916	0	0	0
211	SLV 11	-40	-121	118	0	0	0
211	SLV 12	-23	-129	108	0	0	0
211	SLV 13	-157	33	1209	0	0	0
211	SLV 14	-131	21	1194	0	0	0
211	SLV 15	-150	-32	666	0	0	0
211	SLV 16	-124	-44	651	0	0	0
211	SLV FO 1	131	3	1496	0	0	0
211	SLV FO 2	160	-10	1480	0	0	0
211	SLV FO 3	139	-68	900	0	0	0
211	SLV FO 4	168	-81	884	0	0	0
211	SLV FO 5	20	97	2094	0	0	0
211	SLV FO 6	40	88	2084	0	0	0
211	SLV FO 7	47	-141	106	0	0	0
211	SLV FO 8	66	-150	95	0	0	0
211	SLV FO 9	-71	108	2013	0	0	0
211	SLV FO 10	-51	99	2002	0	0	0
211	SLV FO 11	-44	-131	24	0	0	0
211	SLV FO 12	-25	-139	13	0	0	0
211	SLV FO 13	-172	39	1224	0	0	0
211	SLV FO 14	-144	26	1208	0	0	0
211	SLV FO 15	-164	-33	627	0	0	0
211	SLV FO 16	-136	-46	611	0	0	0
211	CRTFP Uy+	0	0	0	0	0	0
211	CRTFP Uy-	0	0	0	0	0	0
212	SLU 1	-2	-19	979	0	0	0
212	SLU 2	-2	-15	1006	0	0	0
212	SLU 3	-2	-19	994	0	0	0
212	SLU 4	-2	-17	1010	0	0	0
212	SLU 5	-2	-15	1015	0	0	0
212	SLU 6	-2	-19	1004	0	0	0
212	SLU 7	-2	-17	1019	0	0	0
212	SLU 8	-2	-19	998	0	0	0
212	SLU 9	-2	-17	1014	0	0	0
212	SLU 10	-2	-17	1135	0	0	0
212	SLU 11	-2	-21	1123	0	0	0
212	SLU 12	-2	-19	1139	0	0	0
212	SLU 13	-2	-17	1144	0	0	0
212	SLU 14	-2	-21	1133	0	0	0
212	SLU 15	-2	-19	1148	0	0	0
212	SLU 16	-2	-21	1127	0	0	0
212	SLU 17	-2	-19	1143	0	0	0
212	SLU 18	-2	-21	1164	0	0	0
212	SLU 19	-2	-19	1180	0	0	0
212	SLU 20	-2	-22	1173	0	0	0
212	SLU 21	-2	-19	1189	0	0	0
212	SLU 22	-3	-21	1110	0	0	0
212	SLU 23	-3	-17	1136	0	0	0
212	SLU 24	-3	-21	1125	0	0	0
212	SLU 25	-3	-19	1141	0	0	0
212	SLU 26	-3	-17	1145	0	0	0
212	SLU 27	-3	-21	1134	0	0	0
212	SLU 28	-3	-19	1150	0	0	0
212	SLU 29	-3	-21	1128	0	0	0
212	SLU 30	-3	-19	1144	0	0	0
212	SLU 31	-2	-19	1265	0	0	0
212	SLU 32	-2	-23	1254	0	0	0
212	SLU 33	-2	-21	1270	0	0	0
212	SLU 34	-2	-19	1274	0	0	0
212	SLU 35	-2	-23	1263	0	0	0
212	SLU 36	-2	-21	1279	0	0	0
212	SLU 37	-2	-23	1257	0	0	0
212	SLU 38	-2	-21	1273	0	0	0
212	SLU 39	-2	-24	1294	0	0	0
212	SLU 40	-2	-21	1310	0	0	0
212	SLU 41	-2	-24	1303	0	0	0
212	SLU 42	-2	-22	1319	0	0	0
212	SLU 43	-3	-23	1229	0	0	0
212	SLU 44	-3	-20	1255	0	0	0
212	SLU 45	-3	-24	1244	0	0	0
212	SLU 46	-3	-22	1259	0	0	0
212	SLU 47	-3	-20	1264	0	0	0
212	SLU 48	-3	-24	1253	0	0	0
212	SLU 49	-3	-22	1269	0	0	0
212	SLU 50	-3	-24	1247	0	0	0
212	SLU 51	-3	-22	1263	0	0	0
212	SLU 52	-2	-22	1384	0	0	0
212	SLU 53	-2	-26	1373	0	0	0
212	SLU 54	-2	-24	1388	0	0	0
212	SLU 55	-3	-22	1393	0	0	0
212	SLU 56	-3	-26	1382	0	0	0
212	SLU 57	-3	-24	1398	0	0	0
212	SLU 58	-3	-26	1376	0	0	0
212	SLU 59	-3	-24	1392	0	0	0
212	SLU 60	-2	-26	1413	0	0	0
212	SLU 61	-2	-24	1429	0	0	0
212	SLU 62	-2	-26	1422	0	0	0
212	SLU 63	-2	-24	1438	0	0	0
212	SLU 64	-3	-26	1359	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLU 65	-3	-22	1385	0	0	0
212	SLU 66	-3	-26	1374	0	0	0
212	SLU 67	-3	-24	1390	0	0	0
212	SLU 68	-3	-22	1395	0	0	0
212	SLU 69	-3	-26	1383	0	0	0
212	SLU 70	-3	-24	1399	0	0	0
212	SLU 71	-3	-26	1377	0	0	0
212	SLU 72	-3	-24	1393	0	0	0
212	SLU 73	-3	-24	1514	0	0	0
212	SLU 74	-3	-28	1503	0	0	0
212	SLU 75	-3	-26	1519	0	0	0
212	SLU 76	-3	-24	1523	0	0	0
212	SLU 77	-3	-28	1512	0	0	0
212	SLU 78	-3	-26	1528	0	0	0
212	SLU 79	-3	-28	1506	0	0	0
212	SLU 80	-3	-26	1522	0	0	0
212	SLU 81	-3	-28	1543	0	0	0
212	SLU 82	-3	-26	1559	0	0	0
212	SLU 83	-3	-29	1552	0	0	0
212	SLU 84	-3	-26	1568	0	0	0
212	SLE RA 1	-2	-19	1017	0	0	0
212	SLE RA 2	-2	-17	1034	0	0	0
212	SLE RA 3	-2	-19	1027	0	0	0
212	SLE RA 4	-2	-18	1037	0	0	0
212	SLE RA 5	-2	-17	1040	0	0	0
212	SLE RA 6	-2	-20	1033	0	0	0
212	SLE RA 7	-2	-18	1043	0	0	0
212	SLE RA 8	-2	-19	1029	0	0	0
212	SLE RA 9	-2	-18	1039	0	0	0
212	SLE RA 10	-2	-18	1120	0	0	0
212	SLE RA 11	-2	-21	1113	0	0	0
212	SLE RA 12	-2	-19	1123	0	0	0
212	SLE RA 13	-2	-18	1126	0	0	0
212	SLE RA 14	-2	-21	1119	0	0	0
212	SLE RA 15	-2	-19	1129	0	0	0
212	SLE RA 16	-2	-21	1115	0	0	0
212	SLE RA 17	-2	-19	1125	0	0	0
212	SLE RA 18	-2	-21	1140	0	0	0
212	SLE RA 19	-2	-20	1150	0	0	0
212	SLE RA 20	-2	-21	1146	0	0	0
212	SLE RA 21	-2	-20	1156	0	0	0
212	SLE FR 1	-2	-19	1017	0	0	0
212	SLE FR 2	-2	-19	1020	0	0	0
212	SLE FR 3	-2	-19	1019	0	0	0
212	SLE FR 4	-2	-19	1057	0	0	0
212	SLE FR 5	-2	-20	1056	0	0	0
212	SLE FR 6	-2	-20	1078	0	0	0
212	SLE QP 1	-2	-19	1017	0	0	0
212	SLE QP 2	-2	-20	1054	0	0	0
212	SLD 1	76	-5	1296	0	0	0
212	SLD 2	93	-12	1287	0	0	0
212	SLD 3	81	-46	961	0	0	0
212	SLD 4	98	-53	952	0	0	0
212	SLD 5	11	49	1636	0	0	0
212	SLD 6	23	44	1630	0	0	0
212	SLD 7	27	-89	519	0	0	0
212	SLD 8	38	-94	513	0	0	0
212	SLD 9	-42	55	1594	0	0	0
212	SLD 10	-31	50	1588	0	0	0
212	SLD 11	-27	-84	477	0	0	0
212	SLD 12	-16	-89	471	0	0	0
212	SLD 13	-102	14	1155	0	0	0
212	SLD 14	-85	7	1146	0	0	0
212	SLD 15	-98	-28	820	0	0	0
212	SLD 16	-81	-35	811	0	0	0
212	SLV 1	121	5	1442	0	0	0
212	SLV 2	147	-6	1428	0	0	0
212	SLV 3	128	-62	900	0	0	0
212	SLV 4	155	-73	886	0	0	0
212	SLV 5	19	91	1994	0	0	0
212	SLV 6	37	84	1985	0	0	0
212	SLV 7	43	-132	189	0	0	0
212	SLV 8	61	-140	179	0	0	0
212	SLV 9	-65	100	1928	0	0	0
212	SLV 10	-47	93	1919	0	0	0
212	SLV 11	-41	-124	122	0	0	0
212	SLV 12	-23	-131	113	0	0	0
212	SLV 13	-159	34	1221	0	0	0
212	SLV 14	-133	23	1207	0	0	0
212	SLV 15	-152	-33	679	0	0	0
212	SLV 16	-125	-44	666	0	0	0
212	SLV FO 1	133	7	1480	0	0	0
212	SLV FO 2	162	-5	1465	0	0	0
212	SLV FO 3	141	-66	885	0	0	0
212	SLV FO 4	170	-79	869	0	0	0
212	SLV FO 5	21	103	2088	0	0	0
212	SLV FO 6	40	94	2078	0	0	0
212	SLV FO 7	48	-143	102	0	0	0
212	SLV FO 8	67	-152	92	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
212	SLV FO 9	-72	112	2015	0	0	0
212	SLV FO 10	-52	104	2005	0	0	0
212	SLV FO 11	-45	-134	29	0	0	0
212	SLV FO 12	-25	-142	19	0	0	0
212	SLV FO 13	-175	39	1238	0	0	0
212	SLV FO 14	-146	27	1223	0	0	0
212	SLV FO 15	-167	-35	642	0	0	0
212	SLV FO 16	-138	-47	627	0	0	0
212	CRTFP Uy+	0	0	0	0	0	0
212	CRTFP Uy-	0	0	0	0	0	0
213	SLU 1	-2	-17	983	0	0	0
213	SLU 2	-2	-14	1010	0	0	0
213	SLU 3	-2	-18	998	0	0	0
213	SLU 4	-2	-15	1014	0	0	0
213	SLU 5	-2	-14	1019	0	0	0
213	SLU 6	-2	-18	1008	0	0	0
213	SLU 7	-2	-16	1023	0	0	0
213	SLU 8	-2	-18	1002	0	0	0
213	SLU 9	-2	-16	1018	0	0	0
213	SLU 10	-2	-15	1140	0	0	0
213	SLU 11	-2	-20	1128	0	0	0
213	SLU 12	-2	-17	1144	0	0	0
213	SLU 13	-2	-16	1149	0	0	0
213	SLU 14	-2	-20	1137	0	0	0
213	SLU 15	-2	-18	1153	0	0	0
213	SLU 16	-2	-20	1131	0	0	0
213	SLU 17	-2	-17	1147	0	0	0
213	SLU 18	-2	-20	1169	0	0	0
213	SLU 19	-2	-18	1185	0	0	0
213	SLU 20	-2	-20	1178	0	0	0
213	SLU 21	-2	-18	1194	0	0	0
213	SLU 22	-3	-19	1114	0	0	0
213	SLU 23	-3	-16	1140	0	0	0
213	SLU 24	-3	-20	1129	0	0	0
213	SLU 25	-3	-17	1145	0	0	0
213	SLU 26	-3	-16	1149	0	0	0
213	SLU 27	-3	-20	1138	0	0	0
213	SLU 28	-3	-18	1154	0	0	0
213	SLU 29	-3	-20	1132	0	0	0
213	SLU 30	-3	-18	1148	0	0	0
213	SLU 31	-2	-18	1270	0	0	0
213	SLU 32	-2	-22	1258	0	0	0
213	SLU 33	-2	-19	1274	0	0	0
213	SLU 34	-2	-18	1279	0	0	0
213	SLU 35	-2	-22	1268	0	0	0
213	SLU 36	-2	-20	1284	0	0	0
213	SLU 37	-2	-22	1262	0	0	0
213	SLU 38	-2	-19	1278	0	0	0
213	SLU 39	-2	-22	1299	0	0	0
213	SLU 40	-2	-20	1315	0	0	0
213	SLU 41	-2	-22	1308	0	0	0
213	SLU 42	-2	-20	1324	0	0	0
213	SLU 43	-3	-22	1234	0	0	0
213	SLU 44	-3	-18	1260	0	0	0
213	SLU 45	-3	-22	1249	0	0	0
213	SLU 46	-3	-20	1265	0	0	0
213	SLU 47	-3	-18	1269	0	0	0
213	SLU 48	-3	-22	1258	0	0	0
213	SLU 49	-3	-20	1274	0	0	0
213	SLU 50	-3	-22	1252	0	0	0
213	SLU 51	-3	-20	1268	0	0	0
213	SLU 52	-2	-20	1390	0	0	0
213	SLU 53	-2	-24	1378	0	0	0
213	SLU 54	-2	-22	1394	0	0	0
213	SLU 55	-2	-20	1399	0	0	0
213	SLU 56	-2	-24	1388	0	0	0
213	SLU 57	-3	-22	1404	0	0	0
213	SLU 58	-2	-24	1382	0	0	0
213	SLU 59	-2	-22	1398	0	0	0
213	SLU 60	-2	-25	1419	0	0	0
213	SLU 61	-2	-22	1435	0	0	0
213	SLU 62	-2	-25	1428	0	0	0
213	SLU 63	-2	-23	1444	0	0	0
213	SLU 64	-3	-24	1364	0	0	0
213	SLU 65	-3	-20	1391	0	0	0
213	SLU 66	-3	-24	1379	0	0	0
213	SLU 67	-3	-22	1395	0	0	0
213	SLU 68	-3	-20	1400	0	0	0
213	SLU 69	-3	-24	1388	0	0	0
213	SLU 70	-3	-22	1404	0	0	0
213	SLU 71	-3	-24	1382	0	0	0
213	SLU 72	-3	-22	1398	0	0	0
213	SLU 73	-3	-22	1520	0	0	0
213	SLU 74	-3	-26	1509	0	0	0
213	SLU 75	-3	-24	1525	0	0	0
213	SLU 76	-3	-22	1530	0	0	0
213	SLU 77	-3	-26	1518	0	0	0
213	SLU 78	-3	-24	1534	0	0	0
213	SLU 79	-3	-26	1512	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
213	SLU 80	-3	-24	1528	0	0	0
213	SLU 81	-2	-27	1549	0	0	0
213	SLU 82	-3	-24	1565	0	0	0
213	SLU 83	-3	-27	1559	0	0	0
213	SLU 84	-3	-25	1575	0	0	0
213	SLE RA 1	-2	-18	1021	0	0	0
213	SLE RA 2	-2	-15	1038	0	0	0
213	SLE RA 3	-2	-18	1031	0	0	0
213	SLE RA 4	-2	-17	1041	0	0	0
213	SLE RA 5	-2	-16	1044	0	0	0
213	SLE RA 6	-2	-18	1037	0	0	0
213	SLE RA 7	-2	-17	1047	0	0	0
213	SLE RA 8	-2	-18	1033	0	0	0
213	SLE RA 9	-2	-17	1043	0	0	0
213	SLE RA 10	-2	-17	1125	0	0	0
213	SLE RA 11	-2	-19	1117	0	0	0
213	SLE RA 12	-2	-18	1128	0	0	0
213	SLE RA 13	-2	-17	1131	0	0	0
213	SLE RA 14	-2	-20	1123	0	0	0
213	SLE RA 15	-2	-18	1134	0	0	0
213	SLE RA 16	-2	-19	1119	0	0	0
213	SLE RA 17	-2	-18	1130	0	0	0
213	SLE RA 18	-2	-20	1144	0	0	0
213	SLE RA 19	-2	-18	1155	0	0	0
213	SLE RA 20	-2	-20	1150	0	0	0
213	SLE RA 21	-2	-18	1161	0	0	0
213	SLE FR 1	-2	-18	1021	0	0	0
213	SLE FR 2	-2	-17	1024	0	0	0
213	SLE FR 3	-2	-18	1023	0	0	0
213	SLE FR 4	-2	-18	1061	0	0	0
213	SLE FR 5	-2	-19	1060	0	0	0
213	SLE FR 6	-2	-19	1082	0	0	0
213	SLE QP 1	-2	-18	1021	0	0	0
213	SLE QP 2	-2	-18	1058	0	0	0
213	SLD 1	78	-2	1292	0	0	0
213	SLD 2	95	-8	1284	0	0	0
213	SLD 3	82	-45	956	0	0	0
213	SLD 4	99	-51	948	0	0	0
213	SLD 5	12	53	1639	0	0	0
213	SLD 6	23	49	1634	0	0	0
213	SLD 7	27	-90	519	0	0	0
213	SLD 8	38	-95	514	0	0	0
213	SLD 9	-43	58	1602	0	0	0
213	SLD 10	-31	53	1596	0	0	0
213	SLD 11	-27	-85	482	0	0	0
213	SLD 12	-16	-90	476	0	0	0
213	SLD 13	-104	14	1168	0	0	0
213	SLD 14	-87	8	1160	0	0	0
213	SLD 15	-99	-29	832	0	0	0
213	SLD 16	-82	-35	824	0	0	0
213	SLV 1	123	8	1432	0	0	0
213	SLV 2	150	-2	1419	0	0	0
213	SLV 3	130	-61	889	0	0	0
213	SLV 4	157	-71	876	0	0	0
213	SLV 5	19	97	1996	0	0	0
213	SLV 6	37	90	1988	0	0	0
213	SLV 7	44	-135	186	0	0	0
213	SLV 8	62	-141	177	0	0	0
213	SLV 9	-66	104	1938	0	0	0
213	SLV 10	-48	98	1930	0	0	0
213	SLV 11	-42	-127	128	0	0	0
213	SLV 12	-24	-134	119	0	0	0
213	SLV 13	-161	34	1239	0	0	0
213	SLV 14	-134	24	1226	0	0	0
213	SLV 15	-154	-35	696	0	0	0
213	SLV 16	-127	-45	683	0	0	0
213	SLV FO 1	135	11	1470	0	0	0
213	SLV FO 2	165	0	1456	0	0	0
213	SLV FO 3	143	-65	872	0	0	0
213	SLV FO 4	173	-76	858	0	0	0
213	SLV FO 5	22	108	2090	0	0	0
213	SLV FO 6	41	101	2081	0	0	0
213	SLV FO 7	48	-146	99	0	0	0
213	SLV FO 8	68	-154	89	0	0	0
213	SLV FO 9	-72	117	2026	0	0	0
213	SLV FO 10	-52	109	2017	0	0	0
213	SLV FO 11	-46	-138	35	0	0	0
213	SLV FO 12	-26	-145	25	0	0	0
213	SLV FO 13	-177	39	1257	0	0	0
213	SLV FO 14	-148	28	1243	0	0	0
213	SLV FO 15	-169	-37	660	0	0	0
213	SLV FO 16	-140	-48	646	0	0	0
213	CRTFP Uy+	0	0	0	0	0	0
213	CRTFP Uy-	0	0	0	0	0	0
214	SLU 1	-2	-16	988	0	0	0
214	SLU 2	-2	-12	1015	0	0	0
214	SLU 3	-2	-16	1003	0	0	0
214	SLU 4	-2	-14	1019	0	0	0
214	SLU 5	-2	-12	1024	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
214	SLU 6	-2	-17	1012	0	0	0
214	SLU 7	-2	-14	1029	0	0	0
214	SLU 8	-2	-16	1007	0	0	0
214	SLU 9	-2	-14	1023	0	0	0
214	SLU 10	-2	-14	1146	0	0	0
214	SLU 11	-2	-18	1134	0	0	0
214	SLU 12	-2	-16	1150	0	0	0
214	SLU 13	-2	-14	1155	0	0	0
214	SLU 14	-2	-18	1143	0	0	0
214	SLU 15	-2	-16	1159	0	0	0
214	SLU 16	-2	-18	1137	0	0	0
214	SLU 17	-2	-16	1153	0	0	0
214	SLU 18	-1	-19	1175	0	0	0
214	SLU 19	-1	-16	1191	0	0	0
214	SLU 20	-2	-19	1184	0	0	0
214	SLU 21	-2	-16	1200	0	0	0
214	SLU 22	-2	-18	1119	0	0	0
214	SLU 23	-2	-14	1146	0	0	0
214	SLU 24	-2	-18	1134	0	0	0
214	SLU 25	-3	-16	1150	0	0	0
214	SLU 26	-3	-14	1155	0	0	0
214	SLU 27	-3	-18	1143	0	0	0
214	SLU 28	-3	-16	1159	0	0	0
214	SLU 29	-3	-18	1137	0	0	0
214	SLU 30	-3	-16	1153	0	0	0
214	SLU 31	-2	-16	1276	0	0	0
214	SLU 32	-2	-20	1265	0	0	0
214	SLU 33	-2	-18	1281	0	0	0
214	SLU 34	-2	-16	1286	0	0	0
214	SLU 35	-2	-20	1274	0	0	0
214	SLU 36	-2	-18	1290	0	0	0
214	SLU 37	-2	-20	1268	0	0	0
214	SLU 38	-2	-18	1284	0	0	0
214	SLU 39	-2	-20	1306	0	0	0
214	SLU 40	-2	-18	1322	0	0	0
214	SLU 41	-2	-21	1315	0	0	0
214	SLU 42	-2	-18	1331	0	0	0
214	SLU 43	-2	-20	1240	0	0	0
214	SLU 44	-3	-16	1267	0	0	0
214	SLU 45	-3	-21	1255	0	0	0
214	SLU 46	-3	-18	1271	0	0	0
214	SLU 47	-3	-17	1276	0	0	0
214	SLU 48	-3	-21	1264	0	0	0
214	SLU 49	-3	-18	1280	0	0	0
214	SLU 50	-3	-21	1258	0	0	0
214	SLU 51	-3	-18	1274	0	0	0
214	SLU 52	-2	-18	1397	0	0	0
214	SLU 53	-2	-22	1386	0	0	0
214	SLU 54	-2	-20	1402	0	0	0
214	SLU 55	-2	-18	1406	0	0	0
214	SLU 56	-2	-22	1395	0	0	0
214	SLU 57	-2	-20	1411	0	0	0
214	SLU 58	-2	-22	1389	0	0	0
214	SLU 59	-2	-20	1405	0	0	0
214	SLU 60	-2	-23	1427	0	0	0
214	SLU 61	-2	-20	1443	0	0	0
214	SLU 62	-2	-23	1436	0	0	0
214	SLU 63	-2	-21	1452	0	0	0
214	SLU 64	-3	-22	1371	0	0	0
214	SLU 65	-3	-18	1397	0	0	0
214	SLU 66	-3	-22	1386	0	0	0
214	SLU 67	-3	-20	1402	0	0	0
214	SLU 68	-3	-18	1406	0	0	0
214	SLU 69	-3	-23	1395	0	0	0
214	SLU 70	-3	-20	1411	0	0	0
214	SLU 71	-3	-22	1389	0	0	0
214	SLU 72	-3	-20	1405	0	0	0
214	SLU 73	-3	-20	1528	0	0	0
214	SLU 74	-3	-24	1516	0	0	0
214	SLU 75	-3	-22	1532	0	0	0
214	SLU 76	-3	-20	1537	0	0	0
214	SLU 77	-3	-24	1526	0	0	0
214	SLU 78	-3	-22	1542	0	0	0
214	SLU 79	-3	-24	1520	0	0	0
214	SLU 80	-3	-22	1536	0	0	0
214	SLU 81	-2	-25	1557	0	0	0
214	SLU 82	-2	-22	1573	0	0	0
214	SLU 83	-2	-25	1566	0	0	0
214	SLU 84	-2	-22	1583	0	0	0
214	SLE RA 1	-2	-17	1026	0	0	0
214	SLE RA 2	-2	-14	1043	0	0	0
214	SLE RA 3	-2	-17	1036	0	0	0
214	SLE RA 4	-2	-15	1046	0	0	0
214	SLE RA 5	-2	-14	1049	0	0	0
214	SLE RA 6	-2	-17	1042	0	0	0
214	SLE RA 7	-2	-15	1052	0	0	0
214	SLE RA 8	-2	-17	1038	0	0	0
214	SLE RA 9	-2	-15	1049	0	0	0
214	SLE RA 10	-2	-15	1130	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
214	SLE RA 11	-2	-18	1123	0	0	0
214	SLE RA 12	-2	-16	1133	0	0	0
214	SLE RA 13	-2	-15	1137	0	0	0
214	SLE RA 14	-2	-18	1129	0	0	0
214	SLE RA 15	-2	-17	1140	0	0	0
214	SLE RA 16	-2	-18	1125	0	0	0
214	SLE RA 17	-2	-16	1136	0	0	0
214	SLE RA 18	-2	-18	1150	0	0	0
214	SLE RA 19	-2	-17	1161	0	0	0
214	SLE RA 20	-2	-18	1156	0	0	0
214	SLE RA 21	-2	-17	1167	0	0	0
214	SLE FR 1	-2	-17	1026	0	0	0
214	SLE FR 2	-2	-16	1029	0	0	0
214	SLE FR 3	-2	-17	1028	0	0	0
214	SLE FR 4	-2	-17	1066	0	0	0
214	SLE FR 5	-2	-17	1065	0	0	0
214	SLE FR 6	-2	-17	1088	0	0	0
214	SLE QP 1	-2	-17	1026	0	0	0
214	SLE QP 2	-2	-17	1063	0	0	0
214	SLD 1	79	1	1288	0	0	0
214	SLD 2	96	-5	1281	0	0	0
214	SLD 3	83	-44	951	0	0	0
214	SLD 4	101	-49	943	0	0	0
214	SLD 5	12	56	1643	0	0	0
214	SLD 6	24	53	1638	0	0	0
214	SLD 7	27	-91	519	0	0	0
214	SLD 8	39	-95	514	0	0	0
214	SLD 9	-43	61	1612	0	0	0
214	SLD 10	-31	57	1606	0	0	0
214	SLD 11	-28	-87	488	0	0	0
214	SLD 12	-16	-91	483	0	0	0
214	SLD 13	-105	15	1182	0	0	0
214	SLD 14	-87	9	1175	0	0	0
214	SLD 15	-100	-29	845	0	0	0
214	SLD 16	-83	-35	838	0	0	0
214	SLV 1	125	12	1424	0	0	0
214	SLV 2	152	3	1412	0	0	0
214	SLV 3	132	-60	879	0	0	0
214	SLV 4	159	-69	867	0	0	0
214	SLV 5	20	102	2000	0	0	0
214	SLV 6	38	96	1992	0	0	0
214	SLV 7	44	-137	183	0	0	0
214	SLV 8	62	-143	175	0	0	0
214	SLV 9	-66	108	1951	0	0	0
214	SLV 10	-48	102	1942	0	0	0
214	SLV 11	-42	-130	134	0	0	0
214	SLV 12	-24	-136	126	0	0	0
214	SLV 13	-163	34	1259	0	0	0
214	SLV 14	-136	25	1247	0	0	0
214	SLV 15	-156	-37	714	0	0	0
214	SLV 16	-129	-46	702	0	0	0
214	SLV FO 1	137	15	1460	0	0	0
214	SLV FO 2	167	5	1447	0	0	0
214	SLV FO 3	145	-64	861	0	0	0
214	SLV FO 4	175	-74	847	0	0	0
214	SLV FO 5	22	113	2094	0	0	0
214	SLV FO 6	42	107	2085	0	0	0
214	SLV FO 7	48	-148	95	0	0	0
214	SLV FO 8	69	-155	87	0	0	0
214	SLV FO 9	-73	121	2039	0	0	0
214	SLV FO 10	-52	114	2030	0	0	0
214	SLV FO 11	-46	-141	41	0	0	0
214	SLV FO 12	-26	-148	32	0	0	0
214	SLV FO 13	-179	39	1278	0	0	0
214	SLV FO 14	-149	30	1265	0	0	0
214	SLV FO 15	-171	-39	679	0	0	0
214	SLV FO 16	-141	-49	666	0	0	0
214	CRTFP Uy+	0	0	0	0	0	0
214	CRTFP Uy-	0	0	0	0	0	0
215	SLU 1	-2	-15	995	0	0	0
215	SLU 2	-2	-11	1021	0	0	0
215	SLU 3	-2	-15	1010	0	0	0
215	SLU 4	-2	-13	1026	0	0	0
215	SLU 5	-2	-11	1031	0	0	0
215	SLU 6	-2	-15	1019	0	0	0
215	SLU 7	-2	-13	1035	0	0	0
215	SLU 8	-2	-15	1013	0	0	0
215	SLU 9	-2	-13	1029	0	0	0
215	SLU 10	-2	-12	1154	0	0	0
215	SLU 11	-2	-16	1142	0	0	0
215	SLU 12	-2	-14	1158	0	0	0
215	SLU 13	-2	-13	1163	0	0	0
215	SLU 14	-2	-17	1151	0	0	0
215	SLU 15	-2	-14	1167	0	0	0
215	SLU 16	-2	-17	1145	0	0	0
215	SLU 17	-2	-14	1161	0	0	0
215	SLU 18	-1	-17	1183	0	0	0
215	SLU 19	-1	-15	1199	0	0	0
215	SLU 20	-1	-17	1192	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
215	SLU 21	-1	-15	1209	0	0	0
215	SLU 22	-2	-16	1126	0	0	0
215	SLU 23	-2	-12	1153	0	0	0
215	SLU 24	-2	-17	1141	0	0	0
215	SLU 25	-2	-14	1157	0	0	0
215	SLU 26	-2	-13	1162	0	0	0
215	SLU 27	-2	-17	1150	0	0	0
215	SLU 28	-2	-14	1167	0	0	0
215	SLU 29	-2	-17	1145	0	0	0
215	SLU 30	-2	-14	1161	0	0	0
215	SLU 31	-2	-14	1285	0	0	0
215	SLU 32	-2	-18	1273	0	0	0
215	SLU 33	-2	-16	1289	0	0	0
215	SLU 34	-2	-14	1294	0	0	0
215	SLU 35	-2	-18	1283	0	0	0
215	SLU 36	-2	-16	1299	0	0	0
215	SLU 37	-2	-18	1277	0	0	0
215	SLU 38	-2	-16	1293	0	0	0
215	SLU 39	-2	-19	1315	0	0	0
215	SLU 40	-2	-16	1331	0	0	0
215	SLU 41	-2	-19	1324	0	0	0
215	SLU 42	-2	-16	1340	0	0	0
215	SLU 43	-2	-18	1248	0	0	0
215	SLU 44	-2	-15	1275	0	0	0
215	SLU 45	-2	-19	1263	0	0	0
215	SLU 46	-2	-16	1279	0	0	0
215	SLU 47	-2	-15	1284	0	0	0
215	SLU 48	-2	-19	1272	0	0	0
215	SLU 49	-3	-17	1289	0	0	0
215	SLU 50	-2	-19	1266	0	0	0
215	SLU 51	-3	-16	1283	0	0	0
215	SLU 52	-2	-16	1407	0	0	0
215	SLU 53	-2	-20	1395	0	0	0
215	SLU 54	-2	-18	1411	0	0	0
215	SLU 55	-2	-16	1416	0	0	0
215	SLU 56	-2	-20	1404	0	0	0
215	SLU 57	-2	-18	1421	0	0	0
215	SLU 58	-2	-20	1399	0	0	0
215	SLU 59	-2	-18	1415	0	0	0
215	SLU 60	-2	-21	1437	0	0	0
215	SLU 61	-2	-18	1453	0	0	0
215	SLU 62	-2	-21	1446	0	0	0
215	SLU 63	-2	-19	1462	0	0	0
215	SLU 64	-3	-20	1379	0	0	0
215	SLU 65	-3	-16	1406	0	0	0
215	SLU 66	-3	-20	1394	0	0	0
215	SLU 67	-3	-18	1411	0	0	0
215	SLU 68	-3	-16	1415	0	0	0
215	SLU 69	-3	-21	1404	0	0	0
215	SLU 70	-3	-18	1420	0	0	0
215	SLU 71	-3	-20	1398	0	0	0
215	SLU 72	-3	-18	1414	0	0	0
215	SLU 73	-2	-18	1538	0	0	0
215	SLU 74	-2	-22	1527	0	0	0
215	SLU 75	-2	-20	1543	0	0	0
215	SLU 76	-2	-18	1548	0	0	0
215	SLU 77	-2	-22	1536	0	0	0
215	SLU 78	-2	-20	1552	0	0	0
215	SLU 79	-2	-22	1530	0	0	0
215	SLU 80	-2	-20	1546	0	0	0
215	SLU 81	-2	-22	1568	0	0	0
215	SLU 82	-2	-20	1584	0	0	0
215	SLU 83	-2	-23	1577	0	0	0
215	SLU 84	-2	-20	1593	0	0	0
215	SLE RA 1	-2	-15	1032	0	0	0
215	SLE RA 2	-2	-13	1050	0	0	0
215	SLE RA 3	-2	-15	1042	0	0	0
215	SLE RA 4	-2	-14	1053	0	0	0
215	SLE RA 5	-2	-13	1056	0	0	0
215	SLE RA 6	-2	-15	1048	0	0	0
215	SLE RA 7	-2	-14	1059	0	0	0
215	SLE RA 8	-2	-15	1044	0	0	0
215	SLE RA 9	-2	-14	1055	0	0	0
215	SLE RA 10	-2	-14	1138	0	0	0
215	SLE RA 11	-2	-16	1130	0	0	0
215	SLE RA 12	-2	-15	1141	0	0	0
215	SLE RA 13	-2	-14	1144	0	0	0
215	SLE RA 14	-2	-16	1136	0	0	0
215	SLE RA 15	-2	-15	1147	0	0	0
215	SLE RA 16	-2	-16	1133	0	0	0
215	SLE RA 17	-2	-15	1143	0	0	0
215	SLE RA 18	-2	-17	1158	0	0	0
215	SLE RA 19	-2	-15	1169	0	0	0
215	SLE RA 20	-2	-17	1164	0	0	0
215	SLE RA 21	-2	-15	1175	0	0	0
215	SLE FR 1	-2	-15	1032	0	0	0
215	SLE FR 2	-2	-15	1036	0	0	0
215	SLE FR 3	-2	-15	1035	0	0	0
215	SLE FR 4	-2	-15	1073	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
215	SLE FR 5	-2	-16	1072	0	0	0
215	SLE FR 6	-2	-16	1095	0	0	0
215	SLE QP 1	-2	-15	1032	0	0	0
215	SLE QP 2	-2	-16	1070	0	0	0
215	SLD 1	80	4	1287	0	0	0
215	SLD 2	97	-1	1280	0	0	0
215	SLD 3	84	-42	948	0	0	0
215	SLD 4	102	-47	941	0	0	0
215	SLD 5	13	60	1650	0	0	0
215	SLD 6	24	57	1645	0	0	0
215	SLD 7	27	-91	521	0	0	0
215	SLD 8	39	-95	516	0	0	0
215	SLD 9	-43	64	1624	0	0	0
215	SLD 10	-31	60	1619	0	0	0
215	SLD 11	-28	-88	494	0	0	0
215	SLD 12	-17	-91	490	0	0	0
215	SLD 13	-105	16	1199	0	0	0
215	SLD 14	-88	11	1192	0	0	0
215	SLD 15	-101	-30	860	0	0	0
215	SLD 16	-83	-35	853	0	0	0
215	SLV 1	126	16	1418	0	0	0
215	SLV 2	153	8	1406	0	0	0
215	SLV 3	133	-58	870	0	0	0
215	SLV 4	160	-66	859	0	0	0
215	SLV 5	21	107	2007	0	0	0
215	SLV 6	39	101	1999	0	0	0
215	SLV 7	44	-138	181	0	0	0
215	SLV 8	62	-143	174	0	0	0
215	SLV 9	-66	112	1966	0	0	0
215	SLV 10	-48	107	1958	0	0	0
215	SLV 11	-43	-132	140	0	0	0
215	SLV 12	-24	-138	133	0	0	0
215	SLV 13	-164	35	1281	0	0	0
215	SLV 14	-137	27	1270	0	0	0
215	SLV 15	-157	-39	733	0	0	0
215	SLV 16	-130	-47	722	0	0	0
215	SLV FO 1	139	19	1452	0	0	0
215	SLV FO 2	169	10	1440	0	0	0
215	SLV FO 3	146	-62	850	0	0	0
215	SLV FO 4	176	-71	838	0	0	0
215	SLV FO 5	23	119	2100	0	0	0
215	SLV FO 6	43	113	2092	0	0	0
215	SLV FO 7	49	-150	93	0	0	0
215	SLV FO 8	69	-156	84	0	0	0
215	SLV FO 9	-73	125	2055	0	0	0
215	SLV FO 10	-52	119	2047	0	0	0
215	SLV FO 11	-47	-144	47	0	0	0
215	SLV FO 12	-27	-150	39	0	0	0
215	SLV FO 13	-180	40	1302	0	0	0
215	SLV FO 14	-150	31	1290	0	0	0
215	SLV FO 15	-172	-41	700	0	0	0
215	SLV FO 16	-142	-50	687	0	0	0
215	CRTFP Uy+	0	0	0	0	0	0
215	CRTFP Uy-	0	0	0	0	0	0
216	SLU 1	-2	-13	1005	0	0	0
216	SLU 2	-2	-9	1032	0	0	0
216	SLU 3	-2	-13	1020	0	0	0
216	SLU 4	-2	-11	1037	0	0	0
216	SLU 5	-2	-9	1042	0	0	0
216	SLU 6	-2	-14	1030	0	0	0
216	SLU 7	-2	-11	1046	0	0	0
216	SLU 8	-2	-13	1024	0	0	0
216	SLU 9	-2	-11	1040	0	0	0
216	SLU 10	-1	-11	1166	0	0	0
216	SLU 11	-1	-15	1154	0	0	0
216	SLU 12	-2	-12	1171	0	0	0
216	SLU 13	-2	-11	1176	0	0	0
216	SLU 14	-2	-15	1164	0	0	0
216	SLU 15	-2	-13	1180	0	0	0
216	SLU 16	-2	-15	1158	0	0	0
216	SLU 17	-2	-12	1174	0	0	0
216	SLU 18	-1	-15	1196	0	0	0
216	SLU 19	-1	-13	1213	0	0	0
216	SLU 20	-1	-15	1206	0	0	0
216	SLU 21	-1	-13	1222	0	0	0
216	SLU 22	-2	-15	1138	0	0	0
216	SLU 23	-2	-11	1165	0	0	0
216	SLU 24	-2	-15	1153	0	0	0
216	SLU 25	-2	-12	1169	0	0	0
216	SLU 26	-2	-11	1174	0	0	0
216	SLU 27	-2	-15	1163	0	0	0
216	SLU 28	-2	-13	1179	0	0	0
216	SLU 29	-2	-15	1157	0	0	0
216	SLU 30	-2	-12	1173	0	0	0
216	SLU 31	-2	-12	1299	0	0	0
216	SLU 32	-2	-16	1287	0	0	0
216	SLU 33	-2	-14	1304	0	0	0
216	SLU 34	-2	-12	1308	0	0	0
216	SLU 35	-2	-16	1297	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
216	SLU 36	-2	-14	1313	0	0	0
216	SLU 37	-2	-16	1291	0	0	0
216	SLU 38	-2	-14	1307	0	0	0
216	SLU 39	-2	-17	1329	0	0	0
216	SLU 40	-2	-14	1346	0	0	0
216	SLU 41	-2	-17	1339	0	0	0
216	SLU 42	-2	-14	1355	0	0	0
216	SLU 43	-2	-17	1261	0	0	0
216	SLU 44	-2	-13	1288	0	0	0
216	SLU 45	-2	-17	1276	0	0	0
216	SLU 46	-2	-14	1293	0	0	0
216	SLU 47	-2	-13	1298	0	0	0
216	SLU 48	-2	-17	1286	0	0	0
216	SLU 49	-2	-15	1302	0	0	0
216	SLU 50	-2	-17	1280	0	0	0
216	SLU 51	-2	-14	1296	0	0	0
216	SLU 52	-2	-14	1422	0	0	0
216	SLU 53	-2	-18	1410	0	0	0
216	SLU 54	-2	-16	1427	0	0	0
216	SLU 55	-2	-14	1432	0	0	0
216	SLU 56	-2	-18	1420	0	0	0
216	SLU 57	-2	-16	1436	0	0	0
216	SLU 58	-2	-18	1414	0	0	0
216	SLU 59	-2	-16	1430	0	0	0
216	SLU 60	-2	-19	1452	0	0	0
216	SLU 61	-2	-16	1469	0	0	0
216	SLU 62	-2	-19	1462	0	0	0
216	SLU 63	-2	-16	1478	0	0	0
216	SLU 64	-2	-18	1394	0	0	0
216	SLU 65	-3	-14	1421	0	0	0
216	SLU 66	-3	-18	1409	0	0	0
216	SLU 67	-3	-16	1425	0	0	0
216	SLU 68	-3	-14	1430	0	0	0
216	SLU 69	-3	-18	1419	0	0	0
216	SLU 70	-3	-16	1435	0	0	0
216	SLU 71	-3	-18	1413	0	0	0
216	SLU 72	-3	-16	1429	0	0	0
216	SLU 73	-2	-15	1555	0	0	0
216	SLU 74	-2	-20	1543	0	0	0
216	SLU 75	-2	-17	1559	0	0	0
216	SLU 76	-2	-16	1564	0	0	0
216	SLU 77	-2	-20	1553	0	0	0
216	SLU 78	-2	-17	1569	0	0	0
216	SLU 79	-2	-20	1547	0	0	0
216	SLU 80	-2	-17	1563	0	0	0
216	SLU 81	-2	-20	1585	0	0	0
216	SLU 82	-2	-18	1602	0	0	0
216	SLU 83	-2	-20	1595	0	0	0
216	SLU 84	-2	-18	1611	0	0	0
216	SLE RA 1	-2	-14	1043	0	0	0
216	SLE RA 2	-2	-11	1061	0	0	0
216	SLE RA 3	-2	-14	1053	0	0	0
216	SLE RA 4	-2	-12	1064	0	0	0
216	SLE RA 5	-2	-11	1067	0	0	0
216	SLE RA 6	-2	-14	1059	0	0	0
216	SLE RA 7	-2	-12	1070	0	0	0
216	SLE RA 8	-2	-14	1055	0	0	0
216	SLE RA 9	-2	-12	1066	0	0	0
216	SLE RA 10	-2	-12	1150	0	0	0
216	SLE RA 11	-2	-15	1143	0	0	0
216	SLE RA 12	-2	-13	1153	0	0	0
216	SLE RA 13	-2	-12	1157	0	0	0
216	SLE RA 14	-2	-15	1149	0	0	0
216	SLE RA 15	-2	-13	1160	0	0	0
216	SLE RA 16	-2	-15	1145	0	0	0
216	SLE RA 17	-2	-13	1156	0	0	0
216	SLE RA 18	-1	-15	1171	0	0	0
216	SLE RA 19	-1	-13	1181	0	0	0
216	SLE RA 20	-2	-15	1177	0	0	0
216	SLE RA 21	-2	-13	1188	0	0	0
216	SLE FR 1	-2	-14	1043	0	0	0
216	SLE FR 2	-2	-13	1046	0	0	0
216	SLE FR 3	-2	-14	1045	0	0	0
216	SLE FR 4	-2	-13	1085	0	0	0
216	SLE FR 5	-2	-14	1084	0	0	0
216	SLE FR 6	-2	-14	1107	0	0	0
216	SLE QP 1	-2	-14	1043	0	0	0
216	SLE QP 2	-2	-14	1081	0	0	0
216	SLD 1	81	7	1290	0	0	0
216	SLD 2	98	2	1284	0	0	0
216	SLD 3	85	-40	949	0	0	0
216	SLD 4	102	-44	942	0	0	0
216	SLD 5	13	64	1663	0	0	0
216	SLD 6	25	61	1659	0	0	0
216	SLD 7	28	-92	525	0	0	0
216	SLD 8	39	-95	520	0	0	0
216	SLD 9	-43	67	1642	0	0	0
216	SLD 10	-31	64	1638	0	0	0
216	SLD 11	-28	-89	504	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
216	SLD 12	-17	-92	499	0	0	0
216	SLD 13	-106	16	1220	0	0	0
216	SLD 14	-88	12	1214	0	0	0
216	SLD 15	-102	-30	879	0	0	0
216	SLD 16	-84	-34	872	0	0	0
216	SLV 1	127	19	1417	0	0	0
216	SLV 2	154	13	1407	0	0	0
216	SLV 3	134	-56	865	0	0	0
216	SLV 4	161	-63	855	0	0	0
216	SLV 5	21	112	2021	0	0	0
216	SLV 6	40	107	2014	0	0	0
216	SLV 7	44	-140	181	0	0	0
216	SLV 8	63	-144	174	0	0	0
216	SLV 9	-66	116	1988	0	0	0
216	SLV 10	-48	112	1981	0	0	0
216	SLV 11	-43	-135	148	0	0	0
216	SLV 12	-25	-139	141	0	0	0
216	SLV 13	-165	35	1308	0	0	0
216	SLV 14	-137	28	1297	0	0	0
216	SLV 15	-158	-41	756	0	0	0
216	SLV 16	-130	-47	745	0	0	0
216	SLV FO 1	140	23	1451	0	0	0
216	SLV FO 2	170	15	1439	0	0	0
216	SLV FO 3	147	-60	843	0	0	0
216	SLV FO 4	178	-68	832	0	0	0
216	SLV FO 5	24	124	2115	0	0	0
216	SLV FO 6	44	119	2107	0	0	0
216	SLV FO 7	49	-152	91	0	0	0
216	SLV FO 8	69	-157	83	0	0	0
216	SLV FO 9	-73	129	2079	0	0	0
216	SLV FO 10	-52	124	2071	0	0	0
216	SLV FO 11	-48	-147	55	0	0	0
216	SLV FO 12	-27	-152	47	0	0	0
216	SLV FO 13	-181	40	1330	0	0	0
216	SLV FO 14	-151	32	1319	0	0	0
216	SLV FO 15	-174	-43	723	0	0	0
216	SLV FO 16	-143	-51	712	0	0	0
216	CRTFP Uy+	0	0	0	0	0	0
216	CRTFP Uy-	0	0	0	0	0	0
217	SLU 1	-2	-11	1021	0	0	0
217	SLU 2	-2	-7	1048	0	0	0
217	SLU 3	-2	-12	1036	0	0	0
217	SLU 4	-2	-9	1053	0	0	0
217	SLU 5	-2	-8	1058	0	0	0
217	SLU 6	-2	-12	1046	0	0	0
217	SLU 7	-2	-9	1063	0	0	0
217	SLU 8	-2	-12	1040	0	0	0
217	SLU 9	-2	-9	1056	0	0	0
217	SLU 10	-1	-9	1185	0	0	0
217	SLU 11	-1	-13	1173	0	0	0
217	SLU 12	-1	-10	1190	0	0	0
217	SLU 13	-1	-9	1195	0	0	0
217	SLU 14	-2	-13	1183	0	0	0
217	SLU 15	-2	-11	1199	0	0	0
217	SLU 16	-2	-13	1177	0	0	0
217	SLU 17	-2	-11	1193	0	0	0
217	SLU 18	-1	-13	1216	0	0	0
217	SLU 19	-1	-11	1233	0	0	0
217	SLU 20	-1	-13	1226	0	0	0
217	SLU 21	-1	-11	1242	0	0	0
217	SLU 22	-2	-13	1156	0	0	0
217	SLU 23	-2	-9	1183	0	0	0
217	SLU 24	-2	-13	1171	0	0	0
217	SLU 25	-2	-10	1188	0	0	0
217	SLU 26	-2	-9	1193	0	0	0
217	SLU 27	-2	-13	1181	0	0	0
217	SLU 28	-2	-11	1197	0	0	0
217	SLU 29	-2	-13	1175	0	0	0
217	SLU 30	-2	-11	1191	0	0	0
217	SLU 31	-2	-10	1320	0	0	0
217	SLU 32	-2	-14	1308	0	0	0
217	SLU 33	-2	-12	1325	0	0	0
217	SLU 34	-2	-10	1330	0	0	0
217	SLU 35	-2	-14	1318	0	0	0
217	SLU 36	-2	-12	1334	0	0	0
217	SLU 37	-2	-14	1312	0	0	0
217	SLU 38	-2	-12	1328	0	0	0
217	SLU 39	-1	-14	1351	0	0	0
217	SLU 40	-1	-12	1368	0	0	0
217	SLU 41	-2	-15	1361	0	0	0
217	SLU 42	-2	-12	1377	0	0	0
217	SLU 43	-2	-14	1280	0	0	0
217	SLU 44	-2	-10	1308	0	0	0
217	SLU 45	-2	-15	1296	0	0	0
217	SLU 46	-2	-12	1313	0	0	0
217	SLU 47	-2	-11	1318	0	0	0
217	SLU 48	-2	-15	1306	0	0	0
217	SLU 49	-2	-12	1322	0	0	0
217	SLU 50	-2	-15	1300	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
217	SLU 51	-2	-12	1316	0	0	0
217	SLU 52	-2	-12	1445	0	0	0
217	SLU 53	-2	-16	1433	0	0	0
217	SLU 54	-2	-14	1450	0	0	0
217	SLU 55	-2	-12	1455	0	0	0
217	SLU 56	-2	-16	1443	0	0	0
217	SLU 57	-2	-14	1459	0	0	0
217	SLU 58	-2	-16	1437	0	0	0
217	SLU 59	-2	-14	1453	0	0	0
217	SLU 60	-2	-16	1476	0	0	0
217	SLU 61	-2	-14	1493	0	0	0
217	SLU 62	-2	-16	1486	0	0	0
217	SLU 63	-2	-14	1502	0	0	0
217	SLU 64	-2	-16	1415	0	0	0
217	SLU 65	-2	-12	1443	0	0	0
217	SLU 66	-2	-16	1431	0	0	0
217	SLU 67	-2	-13	1448	0	0	0
217	SLU 68	-2	-12	1453	0	0	0
217	SLU 69	-3	-16	1441	0	0	0
217	SLU 70	-3	-14	1457	0	0	0
217	SLU 71	-3	-16	1435	0	0	0
217	SLU 72	-3	-14	1451	0	0	0
217	SLU 73	-2	-13	1580	0	0	0
217	SLU 74	-2	-17	1568	0	0	0
217	SLU 75	-2	-15	1585	0	0	0
217	SLU 76	-2	-13	1590	0	0	0
217	SLU 77	-2	-17	1578	0	0	0
217	SLU 78	-2	-15	1594	0	0	0
217	SLU 79	-2	-17	1572	0	0	0
217	SLU 80	-2	-15	1588	0	0	0
217	SLU 81	-2	-18	1611	0	0	0
217	SLU 82	-2	-15	1628	0	0	0
217	SLU 83	-2	-18	1621	0	0	0
217	SLU 84	-2	-15	1637	0	0	0
217	SLE RA 1	-2	-12	1059	0	0	0
217	SLE RA 2	-2	-9	1078	0	0	0
217	SLE RA 3	-2	-12	1070	0	0	0
217	SLE RA 4	-2	-10	1081	0	0	0
217	SLE RA 5	-2	-9	1084	0	0	0
217	SLE RA 6	-2	-12	1076	0	0	0
217	SLE RA 7	-2	-10	1087	0	0	0
217	SLE RA 8	-2	-12	1072	0	0	0
217	SLE RA 9	-2	-10	1083	0	0	0
217	SLE RA 10	-2	-10	1169	0	0	0
217	SLE RA 11	-2	-13	1161	0	0	0
217	SLE RA 12	-2	-11	1172	0	0	0
217	SLE RA 13	-2	-10	1175	0	0	0
217	SLE RA 14	-2	-13	1167	0	0	0
217	SLE RA 15	-2	-11	1178	0	0	0
217	SLE RA 16	-2	-13	1163	0	0	0
217	SLE RA 17	-2	-11	1174	0	0	0
217	SLE RA 18	-1	-13	1190	0	0	0
217	SLE RA 19	-1	-11	1201	0	0	0
217	SLE RA 20	-1	-13	1196	0	0	0
217	SLE RA 21	-1	-11	1207	0	0	0
217	SLE FR 1	-2	-12	1059	0	0	0
217	SLE FR 2	-2	-11	1063	0	0	0
217	SLE FR 3	-2	-12	1062	0	0	0
217	SLE FR 4	-2	-12	1102	0	0	0
217	SLE FR 5	-2	-12	1101	0	0	0
217	SLE FR 6	-2	-12	1124	0	0	0
217	SLE QP 1	-2	-12	1059	0	0	0
217	SLE QP 2	-2	-12	1098	0	0	0
217	SLD 1	81	10	1301	0	0	0
217	SLD 2	99	6	1295	0	0	0
217	SLD 3	86	-38	955	0	0	0
217	SLD 4	103	-42	949	0	0	0
217	SLD 5	14	68	1685	0	0	0
217	SLD 6	25	66	1681	0	0	0
217	SLD 7	28	-92	532	0	0	0
217	SLD 8	39	-94	528	0	0	0
217	SLD 9	-43	70	1669	0	0	0
217	SLD 10	-31	68	1665	0	0	0
217	SLD 11	-29	-90	516	0	0	0
217	SLD 12	-17	-92	512	0	0	0
217	SLD 13	-106	17	1248	0	0	0
217	SLD 14	-89	14	1242	0	0	0
217	SLD 15	-102	-31	902	0	0	0
217	SLD 16	-85	-34	896	0	0	0
217	SLV 1	128	23	1424	0	0	0
217	SLV 2	156	18	1415	0	0	0
217	SLV 3	135	-54	865	0	0	0
217	SLV 4	163	-59	856	0	0	0
217	SLV 5	22	117	2046	0	0	0
217	SLV 6	41	113	2039	0	0	0
217	SLV 7	44	-141	182	0	0	0
217	SLV 8	63	-145	176	0	0	0
217	SLV 9	-66	121	2021	0	0	0
217	SLV 10	-47	117	2014	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
217	SLV 11	-44	-138	157	0	0	0
217	SLV 12	-25	-141	151	0	0	0
217	SLV 13	-166	35	1341	0	0	0
217	SLV 14	-138	30	1331	0	0	0
217	SLV 15	-159	-42	782	0	0	0
217	SLV 16	-132	-48	772	0	0	0
217	SLV FO 1	141	27	1457	0	0	0
217	SLV FO 2	172	21	1446	0	0	0
217	SLV FO 3	149	-58	842	0	0	0
217	SLV FO 4	179	-64	831	0	0	0
217	SLV FO 5	25	130	2140	0	0	0
217	SLV FO 6	45	126	2133	0	0	0
217	SLV FO 7	49	-154	91	0	0	0
217	SLV FO 8	69	-158	84	0	0	0
217	SLV FO 9	-73	134	2113	0	0	0
217	SLV FO 10	-52	130	2106	0	0	0
217	SLV FO 11	-48	-150	63	0	0	0
217	SLV FO 12	-28	-154	56	0	0	0
217	SLV FO 13	-182	40	1365	0	0	0
217	SLV FO 14	-152	34	1355	0	0	0
217	SLV FO 15	-175	-45	750	0	0	0
217	SLV FO 16	-145	-51	740	0	0	0
217	CRTFP Uy+	0	0	0	0	0	0
217	CRTFP Uy-	0	0	0	0	0	0
218	SLU 1	-2	-10	1039	0	0	0
218	SLU 2	-2	-6	1067	0	0	0
218	SLU 3	-2	-10	1055	0	0	0
218	SLU 4	-2	-8	1072	0	0	0
218	SLU 5	-2	-6	1077	0	0	0
218	SLU 6	-2	-10	1065	0	0	0
218	SLU 7	-2	-8	1082	0	0	0
218	SLU 8	-2	-10	1059	0	0	0
218	SLU 9	-2	-8	1076	0	0	0
218	SLU 10	-1	-7	1207	0	0	0
218	SLU 11	-1	-11	1195	0	0	0
218	SLU 12	-1	-9	1212	0	0	0
218	SLU 13	-1	-7	1217	0	0	0
218	SLU 14	-2	-11	1205	0	0	0
218	SLU 15	-2	-9	1222	0	0	0
218	SLU 16	-2	-11	1199	0	0	0
218	SLU 17	-2	-9	1216	0	0	0
218	SLU 18	-1	-11	1239	0	0	0
218	SLU 19	-1	-9	1256	0	0	0
218	SLU 20	-1	-12	1249	0	0	0
218	SLU 21	-1	-9	1266	0	0	0
218	SLU 22	-2	-11	1177	0	0	0
218	SLU 23	-2	-7	1205	0	0	0
218	SLU 24	-2	-11	1193	0	0	0
218	SLU 25	-2	-9	1210	0	0	0
218	SLU 26	-2	-7	1215	0	0	0
218	SLU 27	-2	-11	1203	0	0	0
218	SLU 28	-2	-9	1220	0	0	0
218	SLU 29	-2	-11	1196	0	0	0
218	SLU 30	-2	-9	1213	0	0	0
218	SLU 31	-2	-8	1345	0	0	0
218	SLU 32	-2	-12	1333	0	0	0
218	SLU 33	-2	-10	1350	0	0	0
218	SLU 34	-2	-8	1355	0	0	0
218	SLU 35	-2	-12	1343	0	0	0
218	SLU 36	-2	-10	1360	0	0	0
218	SLU 37	-2	-12	1337	0	0	0
218	SLU 38	-2	-10	1354	0	0	0
218	SLU 39	-2	-12	1377	0	0	0
218	SLU 40	-2	-10	1394	0	0	0
218	SLU 41	-2	-13	1387	0	0	0
218	SLU 42	-2	-10	1404	0	0	0
218	SLU 43	-2	-12	1304	0	0	0
218	SLU 44	-2	-8	1332	0	0	0
218	SLU 45	-2	-13	1320	0	0	0
218	SLU 46	-2	-10	1337	0	0	0
218	SLU 47	-2	-8	1342	0	0	0
218	SLU 48	-2	-13	1330	0	0	0
218	SLU 49	-2	-10	1346	0	0	0
218	SLU 50	-2	-13	1323	0	0	0
218	SLU 51	-2	-10	1340	0	0	0
218	SLU 52	-2	-9	1472	0	0	0
218	SLU 53	-2	-14	1460	0	0	0
218	SLU 54	-2	-11	1477	0	0	0
218	SLU 55	-2	-10	1482	0	0	0
218	SLU 56	-2	-14	1470	0	0	0
218	SLU 57	-2	-11	1487	0	0	0
218	SLU 58	-2	-14	1464	0	0	0
218	SLU 59	-2	-11	1480	0	0	0
218	SLU 60	-2	-14	1504	0	0	0
218	SLU 61	-2	-12	1521	0	0	0
218	SLU 62	-2	-14	1514	0	0	0
218	SLU 63	-2	-12	1531	0	0	0
218	SLU 64	-2	-14	1441	0	0	0
218	SLU 65	-2	-9	1469	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
218	SLU 66	-2	-14	1457	0	0	0
218	SLU 67	-3	-11	1474	0	0	0
218	SLU 68	-3	-9	1479	0	0	0
218	SLU 69	-3	-14	1467	0	0	0
218	SLU 70	-3	-11	1484	0	0	0
218	SLU 71	-3	-14	1461	0	0	0
218	SLU 72	-3	-11	1478	0	0	0
218	SLU 73	-2	-10	1610	0	0	0
218	SLU 74	-2	-15	1598	0	0	0
218	SLU 75	-2	-12	1615	0	0	0
218	SLU 76	-2	-11	1619	0	0	0
218	SLU 77	-2	-15	1608	0	0	0
218	SLU 78	-2	-12	1624	0	0	0
218	SLU 79	-2	-15	1601	0	0	0
218	SLU 80	-2	-12	1618	0	0	0
218	SLU 81	-2	-15	1642	0	0	0
218	SLU 82	-2	-13	1658	0	0	0
218	SLU 83	-2	-15	1652	0	0	0
218	SLU 84	-2	-13	1668	0	0	0
218	SLE RA 1	-2	-10	1078	0	0	0
218	SLE RA 2	-2	-7	1097	0	0	0
218	SLE RA 3	-2	-10	1089	0	0	0
218	SLE RA 4	-2	-9	1100	0	0	0
218	SLE RA 5	-2	-7	1104	0	0	0
218	SLE RA 6	-2	-10	1096	0	0	0
218	SLE RA 7	-2	-9	1107	0	0	0
218	SLE RA 8	-2	-10	1092	0	0	0
218	SLE RA 9	-2	-9	1103	0	0	0
218	SLE RA 10	-2	-8	1191	0	0	0
218	SLE RA 11	-2	-11	1183	0	0	0
218	SLE RA 12	-2	-9	1194	0	0	0
218	SLE RA 13	-2	-8	1197	0	0	0
218	SLE RA 14	-2	-11	1189	0	0	0
218	SLE RA 15	-2	-9	1200	0	0	0
218	SLE RA 16	-2	-11	1185	0	0	0
218	SLE RA 17	-2	-9	1196	0	0	0
218	SLE RA 18	-1	-11	1212	0	0	0
218	SLE RA 19	-1	-10	1223	0	0	0
218	SLE RA 20	-2	-11	1219	0	0	0
218	SLE RA 21	-2	-10	1230	0	0	0
218	SLE FR 1	-2	-10	1078	0	0	0
218	SLE FR 2	-2	-10	1082	0	0	0
218	SLE FR 3	-2	-10	1081	0	0	0
218	SLE FR 4	-2	-10	1122	0	0	0
218	SLE FR 5	-2	-11	1121	0	0	0
218	SLE FR 6	-2	-11	1145	0	0	0
218	SLE QP 1	-2	-10	1078	0	0	0
218	SLE QP 2	-2	-10	1118	0	0	0
218	SLD 1	82	13	1316	0	0	0
218	SLD 2	100	10	1310	0	0	0
218	SLD 3	86	-36	965	0	0	0
218	SLD 4	104	-39	959	0	0	0
218	SLD 5	14	72	1711	0	0	0
218	SLD 6	26	70	1708	0	0	0
218	SLD 7	28	-93	541	0	0	0
218	SLD 8	39	-94	537	0	0	0
218	SLD 9	-43	73	1700	0	0	0
218	SLD 10	-31	72	1696	0	0	0
218	SLD 11	-29	-91	529	0	0	0
218	SLD 12	-17	-93	526	0	0	0
218	SLD 13	-107	18	1278	0	0	0
218	SLD 14	-89	15	1272	0	0	0
218	SLD 15	-103	-31	927	0	0	0
218	SLD 16	-85	-34	921	0	0	0
218	SLV 1	129	27	1436	0	0	0
218	SLV 2	157	23	1428	0	0	0
218	SLV 3	136	-52	869	0	0	0
218	SLV 4	164	-57	860	0	0	0
218	SLV 5	23	123	2076	0	0	0
218	SLV 6	41	120	2070	0	0	0
218	SLV 7	44	-143	184	0	0	0
218	SLV 8	63	-146	179	0	0	0
218	SLV 9	-66	125	2058	0	0	0
218	SLV 10	-48	122	2052	0	0	0
218	SLV 11	-45	-141	167	0	0	0
218	SLV 12	-26	-144	161	0	0	0
218	SLV 13	-167	36	1377	0	0	0
218	SLV 14	-139	31	1368	0	0	0
218	SLV 15	-161	-44	809	0	0	0
218	SLV 16	-133	-48	801	0	0	0
218	SLV FO 1	142	31	1468	0	0	0
218	SLV FO 2	173	27	1459	0	0	0
218	SLV FO 3	150	-57	844	0	0	0
218	SLV FO 4	180	-61	834	0	0	0
218	SLV FO 5	25	136	2172	0	0	0
218	SLV FO 6	46	133	2166	0	0	0
218	SLV FO 7	49	-157	91	0	0	0
218	SLV FO 8	69	-160	85	0	0	0
218	SLV FO 9	-73	139	2152	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
218	SLV FO 10	-52	136	2146	0	0	0
218	SLV FO 11	-49	-154	71	0	0	0
218	SLV FO 12	-28	-157	65	0	0	0
218	SLV FO 13	-184	40	1403	0	0	0
218	SLV FO 14	-153	36	1393	0	0	0
218	SLV FO 15	-176	-48	778	0	0	0
218	SLV FO 16	-146	-52	769	0	0	0
218	CRTFP Uy+	0	0	0	0	0	0
218	CRTFP Uy-	0	0	0	0	0	0
219	SLU 1	-1	-4	528	0	0	0
219	SLU 2	-1	-2	542	0	0	0
219	SLU 3	-1	-4	536	0	0	0
219	SLU 4	-1	-3	545	0	0	0
219	SLU 5	-1	-2	547	0	0	0
219	SLU 6	-1	-4	541	0	0	0
219	SLU 7	-1	-3	550	0	0	0
219	SLU 8	-1	-4	538	0	0	0
219	SLU 9	-1	-3	547	0	0	0
219	SLU 10	-1	-3	614	0	0	0
219	SLU 11	-1	-5	608	0	0	0
219	SLU 12	-1	-3	616	0	0	0
219	SLU 13	-1	-3	619	0	0	0
219	SLU 14	-1	-5	613	0	0	0
219	SLU 15	-1	-4	621	0	0	0
219	SLU 16	-1	-5	610	0	0	0
219	SLU 17	-1	-3	618	0	0	0
219	SLU 18	-1	-5	630	0	0	0
219	SLU 19	-1	-4	639	0	0	0
219	SLU 20	-1	-5	635	0	0	0
219	SLU 21	-1	-4	644	0	0	0
219	SLU 22	-1	-5	598	0	0	0
219	SLU 23	-1	-2	612	0	0	0
219	SLU 24	-1	-5	606	0	0	0
219	SLU 25	-1	-3	615	0	0	0
219	SLU 26	-1	-2	617	0	0	0
219	SLU 27	-1	-5	611	0	0	0
219	SLU 28	-1	-3	620	0	0	0
219	SLU 29	-1	-5	608	0	0	0
219	SLU 30	-1	-3	617	0	0	0
219	SLU 31	-1	-3	684	0	0	0
219	SLU 32	-1	-5	678	0	0	0
219	SLU 33	-1	-4	686	0	0	0
219	SLU 34	-1	-3	689	0	0	0
219	SLU 35	-1	-5	683	0	0	0
219	SLU 36	-1	-4	691	0	0	0
219	SLU 37	-1	-5	680	0	0	0
219	SLU 38	-1	-4	688	0	0	0
219	SLU 39	-1	-5	700	0	0	0
219	SLU 40	-1	-4	709	0	0	0
219	SLU 41	-1	-5	705	0	0	0
219	SLU 42	-1	-4	714	0	0	0
219	SLU 43	-1	-5	662	0	0	0
219	SLU 44	-1	-3	676	0	0	0
219	SLU 45	-1	-5	670	0	0	0
219	SLU 46	-1	-4	679	0	0	0
219	SLU 47	-1	-3	681	0	0	0
219	SLU 48	-1	-5	675	0	0	0
219	SLU 49	-1	-4	684	0	0	0
219	SLU 50	-1	-5	672	0	0	0
219	SLU 51	-1	-4	681	0	0	0
219	SLU 52	-1	-4	748	0	0	0
219	SLU 53	-1	-6	742	0	0	0
219	SLU 54	-1	-5	751	0	0	0
219	SLU 55	-1	-4	753	0	0	0
219	SLU 56	-1	-6	747	0	0	0
219	SLU 57	-1	-5	756	0	0	0
219	SLU 58	-1	-6	744	0	0	0
219	SLU 59	-1	-5	753	0	0	0
219	SLU 60	-1	-6	765	0	0	0
219	SLU 61	-1	-5	773	0	0	0
219	SLU 62	-1	-6	770	0	0	0
219	SLU 63	-1	-5	778	0	0	0
219	SLU 64	-1	-6	732	0	0	0
219	SLU 65	-1	-4	746	0	0	0
219	SLU 66	-1	-6	740	0	0	0
219	SLU 67	-1	-4	749	0	0	0
219	SLU 68	-1	-4	752	0	0	0
219	SLU 69	-1	-6	746	0	0	0
219	SLU 70	-1	-4	754	0	0	0
219	SLU 71	-1	-6	742	0	0	0
219	SLU 72	-1	-4	751	0	0	0
219	SLU 73	-1	-4	818	0	0	0
219	SLU 74	-1	-6	812	0	0	0
219	SLU 75	-1	-5	821	0	0	0
219	SLU 76	-1	-4	823	0	0	0
219	SLU 77	-1	-6	817	0	0	0
219	SLU 78	-1	-5	826	0	0	0
219	SLU 79	-1	-6	814	0	0	0
219	SLU 80	-1	-5	823	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
219	SLU 81	-1	-6	835	0	0	0
219	SLU 82	-1	-5	843	0	0	0
219	SLU 83	-1	-6	840	0	0	0
219	SLU 84	-1	-5	848	0	0	0
219	SLE RA 1	-1	-4	548	0	0	0
219	SLE RA 2	-1	-3	557	0	0	0
219	SLE RA 3	-1	-4	553	0	0	0
219	SLE RA 4	-1	-3	559	0	0	0
219	SLE RA 5	-1	-3	561	0	0	0
219	SLE RA 6	-1	-4	557	0	0	0
219	SLE RA 7	-1	-3	562	0	0	0
219	SLE RA 8	-1	-4	555	0	0	0
219	SLE RA 9	-1	-3	560	0	0	0
219	SLE RA 10	-1	-3	605	0	0	0
219	SLE RA 11	-1	-5	601	0	0	0
219	SLE RA 12	-1	-4	607	0	0	0
219	SLE RA 13	-1	-3	609	0	0	0
219	SLE RA 14	-1	-5	605	0	0	0
219	SLE RA 15	-1	-4	610	0	0	0
219	SLE RA 16	-1	-5	602	0	0	0
219	SLE RA 17	-1	-4	608	0	0	0
219	SLE RA 18	-1	-5	616	0	0	0
219	SLE RA 19	-1	-4	622	0	0	0
219	SLE RA 20	-1	-5	619	0	0	0
219	SLE RA 21	-1	-4	625	0	0	0
219	SLE FR 1	-1	-4	548	0	0	0
219	SLE FR 2	-1	-4	550	0	0	0
219	SLE FR 3	-1	-4	549	0	0	0
219	SLE FR 4	-1	-4	570	0	0	0
219	SLE FR 5	-1	-4	570	0	0	0
219	SLE FR 6	-1	-5	582	0	0	0
219	SLE QP 1	-1	-4	548	0	0	0
219	SLE QP 2	-1	-4	568	0	0	0
219	SLD 1	41	8	665	0	0	0
219	SLD 2	50	7	662	0	0	0
219	SLD 3	43	-18	487	0	0	0
219	SLD 4	52	-19	485	0	0	0
219	SLD 5	7	38	867	0	0	0
219	SLD 6	13	38	866	0	0	0
219	SLD 7	14	-47	275	0	0	0
219	SLD 8	20	-48	273	0	0	0
219	SLD 9	-21	39	864	0	0	0
219	SLD 10	-15	38	862	0	0	0
219	SLD 11	-15	-46	271	0	0	0
219	SLD 12	-9	-47	269	0	0	0
219	SLD 13	-54	10	652	0	0	0
219	SLD 14	-45	9	650	0	0	0
219	SLD 15	-52	-16	474	0	0	0
219	SLD 16	-43	-17	472	0	0	0
219	SLV 1	65	15	724	0	0	0
219	SLV 2	79	14	720	0	0	0
219	SLV 3	68	-26	436	0	0	0
219	SLV 4	82	-27	433	0	0	0
219	SLV 5	12	64	1052	0	0	0
219	SLV 6	21	63	1049	0	0	0
219	SLV 7	22	-73	93	0	0	0
219	SLV 8	32	-74	91	0	0	0
219	SLV 9	-33	65	1046	0	0	0
219	SLV 10	-24	64	1043	0	0	0
219	SLV 11	-22	-72	87	0	0	0
219	SLV 12	-13	-73	85	0	0	0
219	SLV 13	-84	18	704	0	0	0
219	SLV 14	-70	17	700	0	0	0
219	SLV 15	-81	-23	417	0	0	0
219	SLV 16	-67	-24	413	0	0	0
219	SLV FO 1	72	17	739	0	0	0
219	SLV FO 2	87	16	735	0	0	0
219	SLV FO 3	75	-28	423	0	0	0
219	SLV FO 4	91	-29	419	0	0	0
219	SLV FO 5	13	71	1100	0	0	0
219	SLV FO 6	23	70	1097	0	0	0
219	SLV FO 7	25	-80	46	0	0	0
219	SLV FO 8	35	-81	43	0	0	0
219	SLV FO 9	-36	72	1094	0	0	0
219	SLV FO 10	-26	71	1091	0	0	0
219	SLV FO 11	-25	-79	39	0	0	0
219	SLV FO 12	-14	-80	37	0	0	0
219	SLV FO 13	-92	21	718	0	0	0
219	SLV FO 14	-77	19	714	0	0	0
219	SLV FO 15	-89	-25	401	0	0	0
219	SLV FO 16	-73	-26	397	0	0	0
219	CRTFP Uy+	0	0	0	0	0	0
219	CRTFP Uy-	0	0	0	0	0	0
221	SLU 1	13	-62	3337	76.72	977.79	17.83
221	SLU 2	13	-48	3429	78.75	1004.66	13.55
221	SLU 3	13	-63	3389	77.92	993.02	18.17
221	SLU 4	13	-55	3444	79.14	1009.14	15.61
221	SLU 5	13	-48	3461	79.49	1013.96	13.76
221	SLU 6	12	-64	3420	78.66	1002.31	18.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLU 7	13	-55	3476	79.88	1018.43	15.82
221	SLU 8	12	-64	3400	78.19	996.39	18.25
221	SLU 9	12	-55	3455	79.42	1012.51	15.68
221	SLU 10	13	-54	3874	89.03	1135.85	15.44
221	SLU 11	13	-70	3834	88.2	1124.2	20.06
221	SLU 12	13	-61	3889	89.43	1140.32	17.49
221	SLU 13	13	-55	3906	89.77	1145.15	15.65
221	SLU 14	13	-70	3866	88.94	1133.5	20.27
221	SLU 15	13	-62	3921	90.16	1149.62	17.71
221	SLU 16	13	-70	3846	88.48	1127.57	20.14
221	SLU 17	13	-61	3901	89.7	1143.69	17.57
221	SLU 18	13	-71	3973	91.4	1165.2	20.53
221	SLU 19	13	-63	4028	92.62	1181.32	17.96
221	SLU 20	13	-72	4005	92.14	1174.5	20.74
221	SLU 21	13	-63	4060	93.36	1190.62	18.17
221	SLU 22	14	-70	3775	86.84	1106.34	20.05
221	SLU 23	15	-55	3867	88.87	1133.21	15.78
221	SLU 24	14	-71	3827	88.05	1121.56	20.4
221	SLU 25	14	-62	3882	89.27	1137.68	17.83
221	SLU 26	14	-56	3899	89.61	1142.5	15.99
221	SLU 27	14	-72	3859	88.79	1130.86	20.61
221	SLU 28	14	-63	3914	90.01	1146.98	18.04
221	SLU 29	14	-71	3838	88.32	1124.93	20.48
221	SLU 30	14	-63	3894	89.54	1141.05	17.91
221	SLU 31	15	-62	4312	99.15	1264.39	17.66
221	SLU 32	15	-78	4272	98.33	1252.75	22.29
221	SLU 33	15	-69	4327	99.55	1268.87	19.72
221	SLU 34	15	-62	4344	99.89	1273.69	17.88
221	SLU 35	14	-78	4304	99.07	1262.05	22.5
221	SLU 36	15	-69	4359	100.29	1278.17	19.93
221	SLU 37	14	-78	4284	98.6	1256.12	22.36
221	SLU 38	15	-69	4339	99.82	1272.24	19.8
221	SLU 39	15	-79	4411	101.53	1293.75	22.75
221	SLU 40	15	-70	4467	102.75	1309.87	20.19
221	SLU 41	15	-80	4443	102.26	1303.05	22.96
221	SLU 42	15	-71	4498	103.48	1319.17	20.4
221	SLU 43	16	-78	4188	96.26	1227.06	22.41
221	SLU 44	16	-64	4280	98.3	1253.93	18.13
221	SLU 45	16	-79	4240	97.47	1242.28	22.76
221	SLU 46	16	-71	4295	98.69	1258.4	20.19
221	SLU 47	16	-64	4311	99.03	1263.22	18.34
221	SLU 48	16	-80	4271	98.21	1251.58	22.97
221	SLU 49	16	-71	4326	99.43	1267.7	20.4
221	SLU 50	15	-79	4251	97.74	1245.65	22.83
221	SLU 51	16	-71	4306	98.96	1261.77	20.27
221	SLU 52	17	-70	4725	108.58	1385.11	20.02
221	SLU 53	16	-86	4685	107.75	1373.47	24.65
221	SLU 54	16	-77	4740	108.97	1389.59	22.08
221	SLU 55	16	-71	4757	109.31	1394.41	20.23
221	SLU 56	16	-86	4717	108.49	1382.77	24.86
221	SLU 57	16	-78	4772	109.71	1398.89	22.29
221	SLU 58	16	-86	4697	108.02	1376.84	24.72
221	SLU 59	16	-77	4752	109.24	1392.96	22.16
221	SLU 60	17	-87	4824	110.95	1414.47	25.11
221	SLU 61	17	-79	4879	112.17	1430.59	22.54
221	SLU 62	16	-88	4856	111.69	1423.76	25.32
221	SLU 63	17	-79	4911	112.91	1439.89	22.75
221	SLU 64	18	-86	4626	106.38	1355.6	24.64
221	SLU 65	18	-71	4718	108.42	1382.47	20.36
221	SLU 66	17	-87	4678	107.59	1370.83	24.98
221	SLU 67	18	-78	4733	108.81	1386.95	22.42
221	SLU 68	18	-72	4750	109.16	1391.77	20.57
221	SLU 69	17	-88	4709	108.33	1380.12	25.2
221	SLU 70	17	-79	4765	109.55	1396.25	22.63
221	SLU 71	17	-87	4689	107.86	1374.2	25.06
221	SLU 72	17	-79	4744	109.08	1390.32	22.49
221	SLU 73	18	-78	5163	118.7	1513.66	22.25
221	SLU 74	18	-93	5123	117.87	1502.01	26.87
221	SLU 75	18	-85	5178	119.09	1518.14	24.31
221	SLU 76	18	-78	5195	119.44	1522.96	22.46
221	SLU 77	18	-94	5155	118.61	1511.31	27.08
221	SLU 78	18	-85	5210	119.83	1527.43	24.52
221	SLU 79	18	-94	5135	118.14	1505.38	26.95
221	SLU 80	18	-85	5190	119.36	1521.51	24.38
221	SLU 81	18	-95	5262	121.07	1543.01	27.34
221	SLU 82	18	-86	5317	122.29	1559.13	24.77
221	SLU 83	18	-96	5294	121.81	1552.31	27.55
221	SLU 84	18	-87	5349	123.03	1568.43	24.98
221	SLE RA 1	13	-64	3462	79.61	1014.52	18.46
221	SLE RA 2	13	-55	3523	80.97	1032.43	15.61
221	SLE RA 3	13	-65	3497	80.41	1024.67	18.69
221	SLE RA 4	13	-59	3534	81.23	1035.42	16.98
221	SLE RA 5	13	-55	3545	81.46	1038.63	15.75
221	SLE RA 6	13	-66	3518	80.91	1030.87	18.83
221	SLE RA 7	13	-60	3555	81.72	1041.61	17.12
221	SLE RA 8	13	-65	3504	80.59	1026.92	18.75
221	SLE RA 9	13	-59	3541	81.41	1037.66	17.03
221	SLE RA 10	14	-59	3820	87.82	1119.89	16.87
221	SLE RA 11	13	-69	3794	87.27	1112.13	19.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
221	SLE RA 12	13	-64	3830	88.08	1122.87	18.24
221	SLE RA 13	14	-59	3841	88.31	1126.09	17.01
221	SLE RA 14	13	-70	3815	87.76	1118.33	20.09
221	SLE RA 15	13	-64	3851	88.57	1129.07	18.38
221	SLE RA 16	13	-70	3801	87.45	1114.37	20
221	SLE RA 17	13	-64	3838	88.26	1125.12	18.29
221	SLE RA 18	14	-70	3886	89.4	1139.46	20.26
221	SLE RA 19	14	-65	3923	90.21	1150.21	18.55
221	SLE RA 20	13	-71	3907	89.89	1145.66	20.4
221	SLE RA 21	14	-65	3944	90.71	1156.41	18.69
221	SLE FR 1	13	-64	3462	79.61	1014.52	18.46
221	SLE FR 2	13	-62	3474	79.88	1018.1	17.89
221	SLE FR 3	13	-65	3471	79.81	1017	18.52
221	SLE FR 4	13	-64	3602	82.82	1055.58	18.43
221	SLE FR 5	13	-66	3598	82.74	1054.48	19.06
221	SLE FR 6	13	-67	3674	84.5	1076.99	19.36
221	SLE QP 1	13	-64	3462	79.61	1014.52	18.46
221	SLE QP 2	13	-66	3589	82.55	1052	19
221	SLD 1	311	29	4112	94.24	1210.49	-15.41
221	SLD 2	372	33	4127	94.56	1213.7	-17.8
221	SLD 3	304	-140	2966	68.89	875.87	34.29
221	SLD 4	365	-136	2981	69.21	879.08	31.91
221	SLD 5	103	218	5481	124.45	1606.48	-66.27
221	SLD 6	143	221	5491	124.66	1608.6	-67.85
221	SLD 7	78	-345	1662	39.94	491.07	99.4
221	SLD 8	118	-343	1672	40.15	493.19	97.83
221	SLD 9	-92	211	5507	124.94	1610.81	-59.82
221	SLD 10	-52	213	5517	125.15	1612.93	-61.39
221	SLD 11	-117	-353	1688	40.44	495.41	105.85
221	SLD 12	-76	-351	1698	40.64	497.52	104.28
221	SLD 13	-338	4	4198	95.89	1224.93	6.1
221	SLD 14	-277	8	4213	96.2	1228.14	3.72
221	SLD 15	-346	-165	3052	70.54	890.31	55.8
221	SLD 16	-285	-161	3067	70.85	893.52	53.42
221	SLV 1	480	87	4437	101.51	1308.64	-36.11
221	SLV 2	576	93	4460	102	1313.67	-39.85
221	SLV 3	468	-186	2584	60.52	767.69	44.23
221	SLV 4	563	-180	2608	61.02	772.72	40.49
221	SLV 5	154	393	6648	150.3	1948.49	-118.68
221	SLV 6	219	397	6664	150.63	1951.87	-121.2
221	SLV 7	113	-518	475	13.69	145.34	149.12
221	SLV 8	177	-514	490	14.02	148.72	146.6
221	SLV 9	-151	381	6689	151.07	1955.28	-108.59
221	SLV 10	-86	385	6704	151.4	1958.67	-111.11
221	SLV 11	-192	-530	515	14.46	152.13	159.2
221	SLV 12	-128	-526	531	14.79	155.52	156.69
221	SLV 13	-537	48	4571	104.08	1331.28	-2.49
221	SLV 14	-441	54	4595	104.57	1336.31	-6.22
221	SLV 15	-549	-226	2719	63.09	790.34	77.85
221	SLV 16	-454	-220	2742	63.59	795.36	74.12
221	SLV FO 1	527	103	4521	103.4	1334.3	-41.62
221	SLV FO 2	632	109	4547	103.94	1339.83	-45.73
221	SLV FO 3	513	-198	2484	58.32	739.26	46.75
221	SLV FO 4	618	-191	2509	58.86	744.79	42.64
221	SLV FO 5	168	439	6954	157.08	2038.14	-132.45
221	SLV FO 6	239	444	6971	157.44	2041.86	-135.22
221	SLV FO 7	123	-563	163	6.8	54.67	162.13
221	SLV FO 8	194	-558	180	7.17	58.39	159.36
221	SLV FO 9	-167	426	6999	157.92	2045.61	-121.35
221	SLV FO 10	-96	431	7016	158.29	2049.33	-124.12
221	SLV FO 11	-213	-576	208	7.65	62.14	173.22
221	SLV FO 12	-142	-572	225	8.02	65.87	170.46
221	SLV FO 13	-592	59	4670	106.23	1359.21	-4.63
221	SLV FO 14	-487	66	4695	106.77	1364.74	-8.74
221	SLV FO 15	-605	-242	2632	61.15	764.17	83.74
221	SLV FO 16	-500	-235	2658	61.69	769.7	79.63
221	CRTFP Ux+	0	0	0	0	0	0
221	CRTFP Ux-	0	0	0	0	0	0
221	CRTFP Uy+	0	0	0	0	-0.01	0
221	CRTFP Uy-	0	0	0	0	0.01	0
222	SLU 1	5	-19	1060	0	0	0
222	SLU 2	6	-15	1089	0	0	0
222	SLU 3	5	-19	1076	0	0	0
222	SLU 4	5	-17	1093	0	0	0
222	SLU 5	5	-15	1098	0	0	0
222	SLU 6	5	-19	1086	0	0	0
222	SLU 7	5	-17	1103	0	0	0
222	SLU 8	5	-19	1079	0	0	0
222	SLU 9	5	-17	1097	0	0	0
222	SLU 10	6	-16	1226	0	0	0
222	SLU 11	6	-21	1213	0	0	0
222	SLU 12	6	-18	1231	0	0	0
222	SLU 13	6	-17	1236	0	0	0
222	SLU 14	6	-21	1223	0	0	0
222	SLU 15	6	-19	1240	0	0	0
222	SLU 16	5	-21	1217	0	0	0
222	SLU 17	6	-19	1234	0	0	0
222	SLU 18	6	-21	1256	0	0	0
222	SLU 19	6	-19	1273	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
222	SLU 20	6	-22	1266	0	0	0
222	SLU 21	6	-19	1283	0	0	0
222	SLU 22	6	-21	1199	0	0	0
222	SLU 23	6	-17	1228	0	0	0
222	SLU 24	6	-21	1215	0	0	0
222	SLU 25	6	-19	1233	0	0	0
222	SLU 26	6	-17	1238	0	0	0
222	SLU 27	6	-22	1225	0	0	0
222	SLU 28	6	-19	1242	0	0	0
222	SLU 29	6	-21	1219	0	0	0
222	SLU 30	6	-19	1236	0	0	0
222	SLU 31	6	-19	1366	0	0	0
222	SLU 32	6	-23	1353	0	0	0
222	SLU 33	6	-21	1370	0	0	0
222	SLU 34	6	-19	1375	0	0	0
222	SLU 35	6	-23	1362	0	0	0
222	SLU 36	6	-21	1380	0	0	0
222	SLU 37	6	-23	1356	0	0	0
222	SLU 38	6	-21	1374	0	0	0
222	SLU 39	6	-24	1395	0	0	0
222	SLU 40	6	-21	1413	0	0	0
222	SLU 41	6	-24	1405	0	0	0
222	SLU 42	6	-21	1423	0	0	0
222	SLU 43	7	-24	1330	0	0	0
222	SLU 44	7	-20	1359	0	0	0
222	SLU 45	7	-24	1346	0	0	0
222	SLU 46	7	-22	1363	0	0	0
222	SLU 47	7	-20	1368	0	0	0
222	SLU 48	7	-24	1356	0	0	0
222	SLU 49	7	-22	1373	0	0	0
222	SLU 50	7	-24	1349	0	0	0
222	SLU 51	7	-22	1367	0	0	0
222	SLU 52	7	-21	1496	0	0	0
222	SLU 53	7	-26	1483	0	0	0
222	SLU 54	7	-23	1501	0	0	0
222	SLU 55	7	-22	1506	0	0	0
222	SLU 56	7	-26	1493	0	0	0
222	SLU 57	7	-24	1511	0	0	0
222	SLU 58	7	-26	1487	0	0	0
222	SLU 59	7	-23	1504	0	0	0
222	SLU 60	7	-26	1526	0	0	0
222	SLU 61	7	-24	1543	0	0	0
222	SLU 62	7	-26	1536	0	0	0
222	SLU 63	7	-24	1553	0	0	0
222	SLU 64	7	-26	1469	0	0	0
222	SLU 65	8	-22	1498	0	0	0
222	SLU 66	7	-26	1485	0	0	0
222	SLU 67	8	-24	1503	0	0	0
222	SLU 68	8	-22	1508	0	0	0
222	SLU 69	7	-26	1495	0	0	0
222	SLU 70	8	-24	1512	0	0	0
222	SLU 71	7	-26	1489	0	0	0
222	SLU 72	7	-24	1506	0	0	0
222	SLU 73	8	-24	1636	0	0	0
222	SLU 74	8	-28	1623	0	0	0
222	SLU 75	8	-26	1640	0	0	0
222	SLU 76	8	-24	1645	0	0	0
222	SLU 77	8	-28	1633	0	0	0
222	SLU 78	8	-26	1650	0	0	0
222	SLU 79	8	-28	1626	0	0	0
222	SLU 80	8	-26	1644	0	0	0
222	SLU 81	8	-28	1665	0	0	0
222	SLU 82	8	-26	1683	0	0	0
222	SLU 83	8	-29	1675	0	0	0
222	SLU 84	8	-26	1693	0	0	0
222	SLE RA 1	6	-19	1099	0	0	0
222	SLE RA 2	6	-17	1119	0	0	0
222	SLE RA 3	6	-20	1110	0	0	0
222	SLE RA 4	6	-18	1122	0	0	0
222	SLE RA 5	6	-17	1125	0	0	0
222	SLE RA 6	6	-20	1117	0	0	0
222	SLE RA 7	6	-18	1128	0	0	0
222	SLE RA 8	6	-20	1112	0	0	0
222	SLE RA 9	6	-18	1124	0	0	0
222	SLE RA 10	6	-18	1210	0	0	0
222	SLE RA 11	6	-21	1202	0	0	0
222	SLE RA 12	6	-19	1213	0	0	0
222	SLE RA 13	6	-18	1217	0	0	0
222	SLE RA 14	6	-21	1208	0	0	0
222	SLE RA 15	6	-19	1220	0	0	0
222	SLE RA 16	6	-21	1204	0	0	0
222	SLE RA 17	6	-19	1216	0	0	0
222	SLE RA 18	6	-21	1230	0	0	0
222	SLE RA 19	6	-19	1242	0	0	0
222	SLE RA 20	6	-21	1237	0	0	0
222	SLE RA 21	6	-20	1249	0	0	0
222	SLE FR 1	6	-19	1099	0	0	0
222	SLE FR 2	6	-19	1103	0	0	0
222	SLE FR 3	6	-20	1102	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
222	SLE FR 4	6	-19	1143	0	0	0
222	SLE FR 5	6	-20	1141	0	0	0
222	SLE FR 6	6	-20	1165	0	0	0
222	SLE QP 1	6	-19	1099	0	0	0
222	SLE QP 2	6	-20	1139	0	0	0
222	SLD 1	98	12	1240	0	0	0
222	SLD 2	117	20	1251	0	0	0
222	SLD 3	95	-33	873	0	0	0
222	SLD 4	114	-26	884	0	0	0
222	SLD 5	34	57	1724	0	0	0
222	SLD 6	46	62	1731	0	0	0
222	SLD 7	25	-94	501	0	0	0
222	SLD 8	38	-89	508	0	0	0
222	SLD 9	-27	49	1770	0	0	0
222	SLD 10	-14	54	1776	0	0	0
222	SLD 11	-35	-102	547	0	0	0
222	SLD 12	-22	-97	554	0	0	0
222	SLD 13	-103	-14	1393	0	0	0
222	SLD 14	-84	-7	1404	0	0	0
222	SLD 15	-105	-59	1027	0	0	0
222	SLD 16	-86	-52	1037	0	0	0
222	SLV 1	150	31	1308	0	0	0
222	SLV 2	180	43	1324	0	0	0
222	SLV 3	146	-42	715	0	0	0
222	SLV 4	175	-30	731	0	0	0
222	SLV 5	50	104	2086	0	0	0
222	SLV 6	70	112	2097	0	0	0
222	SLV 7	36	-140	109	0	0	0
222	SLV 8	56	-132	120	0	0	0
222	SLV 9	-44	92	2157	0	0	0
222	SLV 10	-24	100	2168	0	0	0
222	SLV 11	-58	-152	181	0	0	0
222	SLV 12	-38	-144	192	0	0	0
222	SLV 13	-164	-10	1546	0	0	0
222	SLV 14	-134	2	1563	0	0	0
222	SLV 15	-168	-83	953	0	0	0
222	SLV 16	-139	-71	970	0	0	0
222	SLV FO 1	164	36	1324	0	0	0
222	SLV FO 2	197	49	1343	0	0	0
222	SLV FO 3	160	-44	672	0	0	0
222	SLV FO 4	192	-31	690	0	0	0
222	SLV FO 5	54	116	2180	0	0	0
222	SLV FO 6	76	125	2193	0	0	0
222	SLV FO 7	39	-152	6	0	0	0
222	SLV FO 8	61	-143	18	0	0	0
222	SLV FO 9	-49	103	2259	0	0	0
222	SLV FO 10	-27	112	2271	0	0	0
222	SLV FO 11	-65	-165	85	0	0	0
222	SLV FO 12	-43	-156	97	0	0	0
222	SLV FO 13	-181	-9	1587	0	0	0
222	SLV FO 14	-148	4	1605	0	0	0
222	SLV FO 15	-186	-89	935	0	0	0
222	SLV FO 16	-153	-76	953	0	0	0
222	CRTFP Uy+	0	0	0	0	0	0
222	CRTFP Uy-	0	0	0	0	0	0
223	SLU 1	4	-18	964	0	0	0
223	SLU 2	4	-14	990	0	0	0
223	SLU 3	4	-19	979	0	0	0
223	SLU 4	4	-16	995	0	0	0
223	SLU 5	4	-14	999	0	0	0
223	SLU 6	4	-19	988	0	0	0
223	SLU 7	4	-16	1004	0	0	0
223	SLU 8	4	-19	982	0	0	0
223	SLU 9	4	-16	998	0	0	0
223	SLU 10	4	-16	1118	0	0	0
223	SLU 11	4	-20	1107	0	0	0
223	SLU 12	4	-18	1122	0	0	0
223	SLU 13	4	-16	1127	0	0	0
223	SLU 14	4	-21	1116	0	0	0
223	SLU 15	4	-18	1131	0	0	0
223	SLU 16	4	-20	1110	0	0	0
223	SLU 17	4	-18	1126	0	0	0
223	SLU 18	4	-21	1146	0	0	0
223	SLU 19	4	-18	1162	0	0	0
223	SLU 20	4	-21	1155	0	0	0
223	SLU 21	4	-19	1171	0	0	0
223	SLU 22	5	-20	1090	0	0	0
223	SLU 23	5	-16	1117	0	0	0
223	SLU 24	5	-21	1105	0	0	0
223	SLU 25	5	-18	1121	0	0	0
223	SLU 26	5	-16	1126	0	0	0
223	SLU 27	4	-21	1114	0	0	0
223	SLU 28	5	-18	1130	0	0	0
223	SLU 29	4	-21	1109	0	0	0
223	SLU 30	5	-18	1124	0	0	0
223	SLU 31	5	-18	1244	0	0	0
223	SLU 32	5	-23	1233	0	0	0
223	SLU 33	5	-20	1249	0	0	0
223	SLU 34	5	-18	1254	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
223	SLU 35	5	-23	1242	0	0	0
223	SLU 36	5	-20	1258	0	0	0
223	SLU 37	5	-23	1236	0	0	0
223	SLU 38	5	-20	1252	0	0	0
223	SLU 39	5	-23	1273	0	0	0
223	SLU 40	5	-21	1289	0	0	0
223	SLU 41	5	-23	1282	0	0	0
223	SLU 42	5	-21	1298	0	0	0
223	SLU 43	5	-23	1210	0	0	0
223	SLU 44	5	-19	1236	0	0	0
223	SLU 45	5	-23	1225	0	0	0
223	SLU 46	5	-21	1241	0	0	0
223	SLU 47	5	-19	1245	0	0	0
223	SLU 48	5	-23	1234	0	0	0
223	SLU 49	5	-21	1250	0	0	0
223	SLU 50	5	-23	1228	0	0	0
223	SLU 51	5	-21	1244	0	0	0
223	SLU 52	5	-21	1364	0	0	0
223	SLU 53	5	-25	1352	0	0	0
223	SLU 54	5	-23	1368	0	0	0
223	SLU 55	5	-21	1373	0	0	0
223	SLU 56	5	-25	1361	0	0	0
223	SLU 57	5	-23	1377	0	0	0
223	SLU 58	5	-25	1356	0	0	0
223	SLU 59	5	-23	1372	0	0	0
223	SLU 60	5	-25	1392	0	0	0
223	SLU 61	5	-23	1408	0	0	0
223	SLU 62	5	-26	1401	0	0	0
223	SLU 63	5	-23	1417	0	0	0
223	SLU 64	6	-25	1336	0	0	0
223	SLU 65	6	-21	1363	0	0	0
223	SLU 66	6	-25	1351	0	0	0
223	SLU 67	6	-23	1367	0	0	0
223	SLU 68	6	-21	1372	0	0	0
223	SLU 69	6	-26	1360	0	0	0
223	SLU 70	6	-23	1376	0	0	0
223	SLU 71	5	-26	1354	0	0	0
223	SLU 72	6	-23	1370	0	0	0
223	SLU 73	6	-23	1490	0	0	0
223	SLU 74	6	-27	1479	0	0	0
223	SLU 75	6	-25	1495	0	0	0
223	SLU 76	6	-23	1499	0	0	0
223	SLU 77	6	-27	1488	0	0	0
223	SLU 78	6	-25	1504	0	0	0
223	SLU 79	6	-27	1482	0	0	0
223	SLU 80	6	-25	1498	0	0	0
223	SLU 81	6	-28	1519	0	0	0
223	SLU 82	6	-25	1534	0	0	0
223	SLU 83	6	-28	1528	0	0	0
223	SLU 84	6	-25	1544	0	0	0
223	SLE RA 1	4	-19	1000	0	0	0
223	SLE RA 2	4	-16	1018	0	0	0
223	SLE RA 3	4	-19	1010	0	0	0
223	SLE RA 4	4	-17	1021	0	0	0
223	SLE RA 5	4	-16	1024	0	0	0
223	SLE RA 6	4	-19	1016	0	0	0
223	SLE RA 7	4	-18	1027	0	0	0
223	SLE RA 8	4	-19	1012	0	0	0
223	SLE RA 9	4	-17	1023	0	0	0
223	SLE RA 10	4	-17	1103	0	0	0
223	SLE RA 11	4	-20	1095	0	0	0
223	SLE RA 12	4	-19	1106	0	0	0
223	SLE RA 13	4	-17	1109	0	0	0
223	SLE RA 14	4	-20	1101	0	0	0
223	SLE RA 15	4	-19	1112	0	0	0
223	SLE RA 16	4	-20	1097	0	0	0
223	SLE RA 17	4	-19	1108	0	0	0
223	SLE RA 18	4	-21	1122	0	0	0
223	SLE RA 19	4	-19	1132	0	0	0
223	SLE RA 20	4	-21	1128	0	0	0
223	SLE RA 21	4	-19	1138	0	0	0
223	SLE FR 1	4	-19	1000	0	0	0
223	SLE FR 2	4	-18	1004	0	0	0
223	SLE FR 3	4	-19	1003	0	0	0
223	SLE FR 4	4	-19	1040	0	0	0
223	SLE FR 5	4	-19	1039	0	0	0
223	SLE FR 6	4	-20	1061	0	0	0
223	SLE QP 1	4	-19	1000	0	0	0
223	SLE QP 2	4	-19	1037	0	0	0
223	SLD 1	90	9	1176	0	0	0
223	SLD 2	108	12	1182	0	0	0
223	SLD 3	88	-38	846	0	0	0
223	SLD 4	106	-35	852	0	0	0
223	SLD 5	30	60	1578	0	0	0
223	SLD 6	42	62	1582	0	0	0
223	SLD 7	23	-97	477	0	0	0
223	SLD 8	35	-95	481	0	0	0
223	SLD 9	-26	57	1592	0	0	0
223	SLD 10	-14	58	1596	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
223	SLD 11	-33	-101	491	0	0	0
223	SLD 12	-22	-99	495	0	0	0
223	SLD 13	-97	-3	1221	0	0	0
223	SLD 14	-80	-1	1227	0	0	0
223	SLD 15	-99	-51	891	0	0	0
223	SLD 16	-82	-48	897	0	0	0
223	SLV 1	139	27	1264	0	0	0
223	SLV 2	167	31	1273	0	0	0
223	SLV 3	135	-50	730	0	0	0
223	SLV 4	163	-46	739	0	0	0
223	SLV 5	45	110	1913	0	0	0
223	SLV 6	64	112	1919	0	0	0
223	SLV 7	33	-145	133	0	0	0
223	SLV 8	52	-142	139	0	0	0
223	SLV 9	-43	104	1934	0	0	0
223	SLV 10	-24	106	1940	0	0	0
223	SLV 11	-55	-151	154	0	0	0
223	SLV 12	-37	-148	160	0	0	0
223	SLV 13	-155	7	1334	0	0	0
223	SLV 14	-127	11	1343	0	0	0
223	SLV 15	-158	-70	800	0	0	0
223	SLV 16	-131	-65	809	0	0	0
223	SLV FO 1	153	31	1287	0	0	0
223	SLV FO 2	183	36	1297	0	0	0
223	SLV FO 3	149	-53	700	0	0	0
223	SLV FO 4	179	-48	710	0	0	0
223	SLV FO 5	49	122	2001	0	0	0
223	SLV FO 6	70	126	2007	0	0	0
223	SLV FO 7	36	-158	43	0	0	0
223	SLV FO 8	56	-155	50	0	0	0
223	SLV FO 9	-48	116	2024	0	0	0
223	SLV FO 10	-27	119	2030	0	0	0
223	SLV FO 11	-61	-164	66	0	0	0
223	SLV FO 12	-41	-161	72	0	0	0
223	SLV FO 13	-170	9	1363	0	0	0
223	SLV FO 14	-140	14	1374	0	0	0
223	SLV FO 15	-174	-75	776	0	0	0
223	SLV FO 16	-144	-70	786	0	0	0
223	CRTFP Uy+	0	0	0	0	0	0
223	CRTFP Uy-	0	0	0	0	0	0
232	SLU 1	7	-25	1424	0	0	0
232	SLU 2	8	-20	1462	0	0	0
232	SLU 3	7	-26	1446	0	0	0
232	SLU 4	7	-23	1469	0	0	0
232	SLU 5	7	-20	1476	0	0	0
232	SLU 6	7	-26	1459	0	0	0
232	SLU 7	7	-23	1482	0	0	0
232	SLU 8	7	-26	1450	0	0	0
232	SLU 9	7	-23	1474	0	0	0
232	SLU 10	8	-22	1647	0	0	0
232	SLU 11	8	-28	1630	0	0	0
232	SLU 12	8	-25	1653	0	0	0
232	SLU 13	8	-23	1660	0	0	0
232	SLU 14	7	-28	1644	0	0	0
232	SLU 15	8	-25	1667	0	0	0
232	SLU 16	7	-28	1635	0	0	0
232	SLU 17	8	-25	1658	0	0	0
232	SLU 18	8	-29	1688	0	0	0
232	SLU 19	8	-25	1711	0	0	0
232	SLU 20	8	-29	1701	0	0	0
232	SLU 21	8	-26	1724	0	0	0
232	SLU 22	8	-28	1612	0	0	0
232	SLU 23	9	-23	1651	0	0	0
232	SLU 24	8	-29	1634	0	0	0
232	SLU 25	8	-25	1657	0	0	0
232	SLU 26	8	-23	1664	0	0	0
232	SLU 27	8	-29	1647	0	0	0
232	SLU 28	8	-26	1670	0	0	0
232	SLU 29	8	-29	1639	0	0	0
232	SLU 30	8	-26	1662	0	0	0
232	SLU 31	9	-25	1835	0	0	0
232	SLU 32	9	-31	1819	0	0	0
232	SLU 33	9	-28	1842	0	0	0
232	SLU 34	9	-25	1849	0	0	0
232	SLU 35	8	-31	1832	0	0	0
232	SLU 36	9	-28	1855	0	0	0
232	SLU 37	8	-31	1823	0	0	0
232	SLU 38	9	-28	1847	0	0	0
232	SLU 39	9	-32	1876	0	0	0
232	SLU 40	9	-28	1899	0	0	0
232	SLU 41	9	-32	1889	0	0	0
232	SLU 42	9	-29	1912	0	0	0
232	SLU 43	9	-32	1786	0	0	0
232	SLU 44	9	-27	1825	0	0	0
232	SLU 45	9	-33	1808	0	0	0
232	SLU 46	9	-29	1831	0	0	0
232	SLU 47	9	-27	1838	0	0	0
232	SLU 48	9	-33	1821	0	0	0
232	SLU 49	9	-30	1845	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLU 50	9	-33	1813	0	0	0
232	SLU 51	9	-29	1836	0	0	0
232	SLU 52	10	-29	2009	0	0	0
232	SLU 53	9	-35	1993	0	0	0
232	SLU 54	9	-32	2016	0	0	0
232	SLU 55	10	-29	2023	0	0	0
232	SLU 56	9	-35	2006	0	0	0
232	SLU 57	9	-32	2029	0	0	0
232	SLU 58	9	-35	1998	0	0	0
232	SLU 59	9	-32	2021	0	0	0
232	SLU 60	9	-35	2050	0	0	0
232	SLU 61	10	-32	2073	0	0	0
232	SLU 62	9	-36	2063	0	0	0
232	SLU 63	10	-32	2086	0	0	0
232	SLU 64	10	-35	1975	0	0	0
232	SLU 65	10	-29	2013	0	0	0
232	SLU 66	10	-35	1997	0	0	0
232	SLU 67	10	-32	2020	0	0	0
232	SLU 68	10	-30	2027	0	0	0
232	SLU 69	10	-36	2010	0	0	0
232	SLU 70	10	-32	2033	0	0	0
232	SLU 71	10	-35	2001	0	0	0
232	SLU 72	10	-32	2024	0	0	0
232	SLU 73	11	-32	2198	0	0	0
232	SLU 74	10	-38	2181	0	0	0
232	SLU 75	11	-34	2204	0	0	0
232	SLU 76	11	-32	2211	0	0	0
232	SLU 77	10	-38	2194	0	0	0
232	SLU 78	10	-35	2218	0	0	0
232	SLU 79	10	-38	2186	0	0	0
232	SLU 80	10	-35	2209	0	0	0
232	SLU 81	10	-38	2238	0	0	0
232	SLU 82	11	-35	2262	0	0	0
232	SLU 83	10	-38	2252	0	0	0
232	SLU 84	11	-35	2275	0	0	0
232	SLE RA 1	8	-26	1478	0	0	0
232	SLE RA 2	8	-23	1503	0	0	0
232	SLE RA 3	8	-27	1492	0	0	0
232	SLE RA 4	8	-24	1508	0	0	0
232	SLE RA 5	8	-23	1512	0	0	0
232	SLE RA 6	8	-27	1501	0	0	0
232	SLE RA 7	8	-25	1516	0	0	0
232	SLE RA 8	7	-27	1495	0	0	0
232	SLE RA 9	8	-24	1511	0	0	0
232	SLE RA 10	8	-24	1626	0	0	0
232	SLE RA 11	8	-28	1615	0	0	0
232	SLE RA 12	8	-26	1631	0	0	0
232	SLE RA 13	8	-24	1635	0	0	0
232	SLE RA 14	8	-28	1624	0	0	0
232	SLE RA 15	8	-26	1640	0	0	0
232	SLE RA 16	8	-28	1618	0	0	0
232	SLE RA 17	8	-26	1634	0	0	0
232	SLE RA 18	8	-28	1653	0	0	0
232	SLE RA 19	8	-26	1669	0	0	0
232	SLE RA 20	8	-29	1662	0	0	0
232	SLE RA 21	8	-26	1678	0	0	0
232	SLE FR 1	8	-26	1478	0	0	0
232	SLE FR 2	8	-25	1483	0	0	0
232	SLE FR 3	8	-26	1481	0	0	0
232	SLE FR 4	8	-26	1535	0	0	0
232	SLE FR 5	8	-27	1534	0	0	0
232	SLE FR 6	8	-27	1565	0	0	0
232	SLE QP 1	8	-26	1478	0	0	0
232	SLE QP 2	8	-27	1530	0	0	0
232	SLD 1	130	16	1651	0	0	0
232	SLD 2	155	27	1666	0	0	0
232	SLD 3	127	-43	1163	0	0	0
232	SLD 4	152	-32	1178	0	0	0
232	SLD 5	45	73	2304	0	0	0
232	SLD 6	62	81	2313	0	0	0
232	SLD 7	34	-123	678	0	0	0
232	SLD 8	50	-116	688	0	0	0
232	SLD 9	-35	62	2373	0	0	0
232	SLD 10	-18	69	2383	0	0	0
232	SLD 11	-46	-135	747	0	0	0
232	SLD 12	-30	-127	757	0	0	0
232	SLD 13	-137	-22	1882	0	0	0
232	SLD 14	-111	-11	1897	0	0	0
232	SLD 15	-140	-81	1395	0	0	0
232	SLD 16	-115	-70	1409	0	0	0
232	SLV 1	200	42	1733	0	0	0
232	SLV 2	239	59	1756	0	0	0
232	SLV 3	194	-53	944	0	0	0
232	SLV 4	233	-36	968	0	0	0
232	SLV 5	67	135	2782	0	0	0
232	SLV 6	93	147	2798	0	0	0
232	SLV 7	47	-183	154	0	0	0
232	SLV 8	74	-171	170	0	0	0
232	SLV 9	-59	117	2891	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
232	SLV 10	-32	129	2906	0	0	0
232	SLV 11	-78	-201	262	0	0	0
232	SLV 12	-51	-189	278	0	0	0
232	SLV 13	-218	-18	2093	0	0	0
232	SLV 14	-178	0	2116	0	0	0
232	SLV 15	-224	-113	1305	0	0	0
232	SLV 16	-184	-96	1328	0	0	0
232	SLV FO 1	219	49	1753	0	0	0
232	SLV FO 2	262	68	1779	0	0	0
232	SLV FO 3	212	-56	886	0	0	0
232	SLV FO 4	256	-37	911	0	0	0
232	SLV FO 5	73	151	2908	0	0	0
232	SLV FO 6	102	164	2925	0	0	0
232	SLV FO 7	51	-198	17	0	0	0
232	SLV FO 8	80	-185	34	0	0	0
232	SLV FO 9	-65	132	3027	0	0	0
232	SLV FO 10	-36	145	3044	0	0	0
232	SLV FO 11	-86	-218	136	0	0	0
232	SLV FO 12	-57	-205	153	0	0	0
232	SLV FO 13	-240	-17	2149	0	0	0
232	SLV FO 14	-197	2	2175	0	0	0
232	SLV FO 15	-247	-122	1282	0	0	0
232	SLV FO 16	-203	-103	1308	0	0	0
232	CRTFP Ux+	0	0	0	0	0	0
232	CRTFP Ux-	0	0	0	0	0	0
232	CRTFP Uy+	0	0	0	0	0	0
232	CRTFP Uy-	0	0	0	0	0	0
233	SLU 1	4	-13	704	0	0	0
233	SLU 2	4	-10	723	0	0	0
233	SLU 3	4	-13	715	0	0	0
233	SLU 4	4	-11	726	0	0	0
233	SLU 5	4	-10	730	0	0	0
233	SLU 6	4	-13	722	0	0	0
233	SLU 7	4	-11	733	0	0	0
233	SLU 8	3	-13	717	0	0	0
233	SLU 9	4	-11	729	0	0	0
233	SLU 10	4	-11	814	0	0	0
233	SLU 11	4	-14	806	0	0	0
233	SLU 12	4	-12	818	0	0	0
233	SLU 13	4	-11	821	0	0	0
233	SLU 14	4	-14	813	0	0	0
233	SLU 15	4	-13	824	0	0	0
233	SLU 16	4	-14	809	0	0	0
233	SLU 17	4	-13	820	0	0	0
233	SLU 18	4	-14	834	0	0	0
233	SLU 19	4	-13	846	0	0	0
233	SLU 20	4	-14	841	0	0	0
233	SLU 21	4	-13	852	0	0	0
233	SLU 22	4	-14	798	0	0	0
233	SLU 23	4	-11	817	0	0	0
233	SLU 24	4	-14	809	0	0	0
233	SLU 25	4	-13	820	0	0	0
233	SLU 26	4	-12	823	0	0	0
233	SLU 27	4	-14	815	0	0	0
233	SLU 28	4	-13	827	0	0	0
233	SLU 29	4	-14	811	0	0	0
233	SLU 30	4	-13	822	0	0	0
233	SLU 31	4	-13	908	0	0	0
233	SLU 32	4	-15	900	0	0	0
233	SLU 33	4	-14	911	0	0	0
233	SLU 34	4	-13	915	0	0	0
233	SLU 35	4	-16	906	0	0	0
233	SLU 36	4	-14	918	0	0	0
233	SLU 37	4	-15	902	0	0	0
233	SLU 38	4	-14	914	0	0	0
233	SLU 39	4	-16	928	0	0	0
233	SLU 40	4	-14	939	0	0	0
233	SLU 41	4	-16	935	0	0	0
233	SLU 42	4	-14	946	0	0	0
233	SLU 43	4	-16	883	0	0	0
233	SLU 44	5	-13	902	0	0	0
233	SLU 45	4	-16	894	0	0	0
233	SLU 46	5	-15	905	0	0	0
233	SLU 47	5	-14	909	0	0	0
233	SLU 48	4	-16	901	0	0	0
233	SLU 49	4	-15	912	0	0	0
233	SLU 50	4	-16	896	0	0	0
233	SLU 51	4	-15	908	0	0	0
233	SLU 52	5	-15	993	0	0	0
233	SLU 53	5	-17	985	0	0	0
233	SLU 54	5	-16	997	0	0	0
233	SLU 55	5	-15	1000	0	0	0
233	SLU 56	5	-17	992	0	0	0
233	SLU 57	5	-16	1003	0	0	0
233	SLU 58	5	-17	988	0	0	0
233	SLU 59	5	-16	999	0	0	0
233	SLU 60	5	-18	1014	0	0	0
233	SLU 61	5	-16	1025	0	0	0
233	SLU 62	5	-18	1020	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLU 63	5	-16	1032	0	0	0
233	SLU 64	5	-17	977	0	0	0
233	SLU 65	5	-15	996	0	0	0
233	SLU 66	5	-18	988	0	0	0
233	SLU 67	5	-16	999	0	0	0
233	SLU 68	5	-15	1002	0	0	0
233	SLU 69	5	-18	994	0	0	0
233	SLU 70	5	-16	1006	0	0	0
233	SLU 71	5	-18	990	0	0	0
233	SLU 72	5	-16	1001	0	0	0
233	SLU 73	5	-16	1087	0	0	0
233	SLU 74	5	-19	1079	0	0	0
233	SLU 75	5	-17	1090	0	0	0
233	SLU 76	5	-16	1094	0	0	0
233	SLU 77	5	-19	1085	0	0	0
233	SLU 78	5	-17	1097	0	0	0
233	SLU 79	5	-19	1081	0	0	0
233	SLU 80	5	-17	1093	0	0	0
233	SLU 81	5	-19	1107	0	0	0
233	SLU 82	5	-17	1119	0	0	0
233	SLU 83	5	-19	1114	0	0	0
233	SLU 84	5	-18	1125	0	0	0
233	SLE RA 1	4	-13	731	0	0	0
233	SLE RA 2	4	-11	744	0	0	0
233	SLE RA 3	4	-13	738	0	0	0
233	SLE RA 4	4	-12	746	0	0	0
233	SLE RA 5	4	-11	748	0	0	0
233	SLE RA 6	4	-13	742	0	0	0
233	SLE RA 7	4	-12	750	0	0	0
233	SLE RA 8	4	-13	740	0	0	0
233	SLE RA 9	4	-12	747	0	0	0
233	SLE RA 10	4	-12	804	0	0	0
233	SLE RA 11	4	-14	799	0	0	0
233	SLE RA 12	4	-13	806	0	0	0
233	SLE RA 13	4	-12	809	0	0	0
233	SLE RA 14	4	-14	803	0	0	0
233	SLE RA 15	4	-13	811	0	0	0
233	SLE RA 16	4	-14	800	0	0	0
233	SLE RA 17	4	-13	808	0	0	0
233	SLE RA 18	4	-14	818	0	0	0
233	SLE RA 19	4	-13	825	0	0	0
233	SLE RA 20	4	-14	822	0	0	0
233	SLE RA 21	4	-13	830	0	0	0
233	SLE FR 1	4	-13	731	0	0	0
233	SLE FR 2	4	-13	733	0	0	0
233	SLE FR 3	4	-13	733	0	0	0
233	SLE FR 4	4	-13	759	0	0	0
233	SLE FR 5	4	-13	759	0	0	0
233	SLE FR 6	4	-14	774	0	0	0
233	SLE QP 1	4	-13	731	0	0	0
233	SLE QP 2	4	-13	757	0	0	0
233	SLD 1	63	8	810	0	0	0
233	SLD 2	76	14	817	0	0	0
233	SLD 3	62	-20	568	0	0	0
233	SLD 4	74	-14	576	0	0	0
233	SLD 5	22	34	1137	0	0	0
233	SLD 6	30	38	1142	0	0	0
233	SLD 7	16	-59	333	0	0	0
233	SLD 8	24	-55	338	0	0	0
233	SLD 9	-17	28	1176	0	0	0
233	SLD 10	-9	32	1181	0	0	0
233	SLD 11	-23	-65	371	0	0	0
233	SLD 12	-15	-61	377	0	0	0
233	SLD 13	-66	-13	938	0	0	0
233	SLD 14	-54	-7	945	0	0	0
233	SLD 15	-68	-41	696	0	0	0
233	SLD 16	-56	-35	704	0	0	0
233	SLV 1	97	21	846	0	0	0
233	SLV 2	116	30	858	0	0	0
233	SLV 3	94	-25	456	0	0	0
233	SLV 4	113	-15	468	0	0	0
233	SLV 5	32	64	1373	0	0	0
233	SLV 6	45	70	1381	0	0	0
233	SLV 7	23	-87	73	0	0	0
233	SLV 8	36	-81	81	0	0	0
233	SLV 9	-28	54	1433	0	0	0
233	SLV 10	-16	61	1441	0	0	0
233	SLV 11	-38	-97	133	0	0	0
233	SLV 12	-25	-91	141	0	0	0
233	SLV 13	-106	-12	1046	0	0	0
233	SLV 14	-87	-2	1058	0	0	0
233	SLV 15	-109	-57	655	0	0	0
233	SLV 16	-90	-48	668	0	0	0
233	SLV FO 1	106	24	855	0	0	0
233	SLV FO 2	128	35	868	0	0	0
233	SLV FO 3	103	-26	426	0	0	0
233	SLV FO 4	124	-15	439	0	0	0
233	SLV FO 5	35	72	1434	0	0	0
233	SLV FO 6	50	79	1444	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
233	SLV FO 7	25	-95	4	0	0	0
233	SLV FO 8	39	-88	13	0	0	0
233	SLV FO 9	-32	61	1500	0	0	0
233	SLV FO 10	-18	68	1509	0	0	0
233	SLV FO 11	-42	-105	70	0	0	0
233	SLV FO 12	-28	-98	79	0	0	0
233	SLV FO 13	-117	-12	1074	0	0	0
233	SLV FO 14	-96	-1	1088	0	0	0
233	SLV FO 15	-120	-61	645	0	0	0
233	SLV FO 16	-99	-51	659	0	0	0
233	CRTFP Uy+	0	0	0	0	0	0
233	CRTFP Uy-	0	0	0	0	0	0
234	SLU 1	3	-9	517	0	0	0
234	SLU 2	3	-7	530	0	0	0
234	SLU 3	3	-10	524	0	0	0
234	SLU 4	3	-8	533	0	0	0
234	SLU 5	3	-7	535	0	0	0
234	SLU 6	3	-10	529	0	0	0
234	SLU 7	3	-8	538	0	0	0
234	SLU 8	3	-10	526	0	0	0
234	SLU 9	3	-8	535	0	0	0
234	SLU 10	3	-8	598	0	0	0
234	SLU 11	3	-11	592	0	0	0
234	SLU 12	3	-9	600	0	0	0
234	SLU 13	3	-8	602	0	0	0
234	SLU 14	3	-11	597	0	0	0
234	SLU 15	3	-9	605	0	0	0
234	SLU 16	3	-11	593	0	0	0
234	SLU 17	3	-9	602	0	0	0
234	SLU 18	3	-11	613	0	0	0
234	SLU 19	3	-9	621	0	0	0
234	SLU 20	3	-11	617	0	0	0
234	SLU 21	3	-10	626	0	0	0
234	SLU 22	3	-11	585	0	0	0
234	SLU 23	3	-8	598	0	0	0
234	SLU 24	3	-11	593	0	0	0
234	SLU 25	3	-9	601	0	0	0
234	SLU 26	3	-9	603	0	0	0
234	SLU 27	3	-11	597	0	0	0
234	SLU 28	3	-10	606	0	0	0
234	SLU 29	3	-11	594	0	0	0
234	SLU 30	3	-10	603	0	0	0
234	SLU 31	3	-9	666	0	0	0
234	SLU 32	3	-12	660	0	0	0
234	SLU 33	3	-10	668	0	0	0
234	SLU 34	3	-9	670	0	0	0
234	SLU 35	3	-12	665	0	0	0
234	SLU 36	3	-10	673	0	0	0
234	SLU 37	3	-12	662	0	0	0
234	SLU 38	3	-10	670	0	0	0
234	SLU 39	3	-12	681	0	0	0
234	SLU 40	3	-11	689	0	0	0
234	SLU 41	3	-12	685	0	0	0
234	SLU 42	3	-11	694	0	0	0
234	SLU 43	3	-12	648	0	0	0
234	SLU 44	3	-10	662	0	0	0
234	SLU 45	3	-12	656	0	0	0
234	SLU 46	3	-11	664	0	0	0
234	SLU 47	3	-10	667	0	0	0
234	SLU 48	3	-12	661	0	0	0
234	SLU 49	3	-11	669	0	0	0
234	SLU 50	3	-12	658	0	0	0
234	SLU 51	3	-11	666	0	0	0
234	SLU 52	4	-11	729	0	0	0
234	SLU 53	3	-13	723	0	0	0
234	SLU 54	3	-12	732	0	0	0
234	SLU 55	3	-11	734	0	0	0
234	SLU 56	3	-13	728	0	0	0
234	SLU 57	3	-12	736	0	0	0
234	SLU 58	3	-13	725	0	0	0
234	SLU 59	3	-12	733	0	0	0
234	SLU 60	3	-13	744	0	0	0
234	SLU 61	4	-12	752	0	0	0
234	SLU 62	3	-13	749	0	0	0
234	SLU 63	3	-12	757	0	0	0
234	SLU 64	4	-13	716	0	0	0
234	SLU 65	4	-11	730	0	0	0
234	SLU 66	4	-13	724	0	0	0
234	SLU 67	4	-12	732	0	0	0
234	SLU 68	4	-11	735	0	0	0
234	SLU 69	4	-13	729	0	0	0
234	SLU 70	4	-12	737	0	0	0
234	SLU 71	4	-13	726	0	0	0
234	SLU 72	4	-12	734	0	0	0
234	SLU 73	4	-12	797	0	0	0
234	SLU 74	4	-14	791	0	0	0
234	SLU 75	4	-13	800	0	0	0
234	SLU 76	4	-12	802	0	0	0
234	SLU 77	4	-14	796	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
234	SLU 78	4	-13	805	0	0	0
234	SLU 79	4	-14	793	0	0	0
234	SLU 80	4	-13	801	0	0	0
234	SLU 81	4	-14	812	0	0	0
234	SLU 82	4	-13	821	0	0	0
234	SLU 83	4	-14	817	0	0	0
234	SLU 84	4	-13	825	0	0	0
234	SLE RA 1	3	-10	536	0	0	0
234	SLE RA 2	3	-8	545	0	0	0
234	SLE RA 3	3	-10	541	0	0	0
234	SLE RA 4	3	-9	547	0	0	0
234	SLE RA 5	3	-8	548	0	0	0
234	SLE RA 6	3	-10	545	0	0	0
234	SLE RA 7	3	-9	550	0	0	0
234	SLE RA 8	3	-10	542	0	0	0
234	SLE RA 9	3	-9	548	0	0	0
234	SLE RA 10	3	-9	590	0	0	0
234	SLE RA 11	3	-10	586	0	0	0
234	SLE RA 12	3	-10	592	0	0	0
234	SLE RA 13	3	-9	593	0	0	0
234	SLE RA 14	3	-11	589	0	0	0
234	SLE RA 15	3	-10	595	0	0	0
234	SLE RA 16	3	-11	587	0	0	0
234	SLE RA 17	3	-10	593	0	0	0
234	SLE RA 18	3	-11	600	0	0	0
234	SLE RA 19	3	-10	606	0	0	0
234	SLE RA 20	3	-11	603	0	0	0
234	SLE RA 21	3	-10	609	0	0	0
234	SLE FR 1	3	-10	536	0	0	0
234	SLE FR 2	3	-9	538	0	0	0
234	SLE FR 3	3	-10	537	0	0	0
234	SLE FR 4	3	-10	557	0	0	0
234	SLE FR 5	3	-10	556	0	0	0
234	SLE FR 6	3	-10	568	0	0	0
234	SLE QP 1	3	-10	536	0	0	0
234	SLE QP 2	3	-10	555	0	0	0
234	SLD 1	49	6	608	0	0	0
234	SLD 2	58	9	613	0	0	0
234	SLD 3	47	-17	434	0	0	0
234	SLD 4	57	-14	439	0	0	0
234	SLD 5	17	29	834	0	0	0
234	SLD 6	23	31	837	0	0	0
234	SLD 7	13	-48	254	0	0	0
234	SLD 8	19	-45	258	0	0	0
234	SLD 9	-13	25	853	0	0	0
234	SLD 10	-7	28	856	0	0	0
234	SLD 11	-17	-51	273	0	0	0
234	SLD 12	-11	-49	276	0	0	0
234	SLD 13	-51	-6	671	0	0	0
234	SLD 14	-42	-3	676	0	0	0
234	SLD 15	-52	-29	498	0	0	0
234	SLD 16	-43	-26	502	0	0	0
234	SLV 1	75	15	643	0	0	0
234	SLV 2	89	21	650	0	0	0
234	SLV 3	72	-22	362	0	0	0
234	SLV 4	87	-17	369	0	0	0
234	SLV 5	25	53	1006	0	0	0
234	SLV 6	35	57	1011	0	0	0
234	SLV 7	18	-71	69	0	0	0
234	SLV 8	28	-67	74	0	0	0
234	SLV 9	-22	47	1036	0	0	0
234	SLV 10	-12	51	1041	0	0	0
234	SLV 11	-29	-77	99	0	0	0
234	SLV 12	-19	-73	104	0	0	0
234	SLV 13	-82	-4	741	0	0	0
234	SLV 14	-67	2	749	0	0	0
234	SLV 15	-84	-41	460	0	0	0
234	SLV 16	-69	-36	468	0	0	0
234	SLV FO 1	82	18	651	0	0	0
234	SLV FO 2	98	24	660	0	0	0
234	SLV FO 3	79	-23	342	0	0	0
234	SLV FO 4	96	-17	350	0	0	0
234	SLV FO 5	27	59	1051	0	0	0
234	SLV FO 6	38	63	1057	0	0	0
234	SLV FO 7	19	-77	21	0	0	0
234	SLV FO 8	30	-73	26	0	0	0
234	SLV FO 9	-24	53	1084	0	0	0
234	SLV FO 10	-14	57	1089	0	0	0
234	SLV FO 11	-32	-83	53	0	0	0
234	SLV FO 12	-22	-80	59	0	0	0
234	SLV FO 13	-90	-3	760	0	0	0
234	SLV FO 14	-74	3	768	0	0	0
234	SLV FO 15	-92	-44	451	0	0	0
234	SLV FO 16	-76	-38	459	0	0	0
234	CRTFP Uy+	0	0	0	0	0	0
234	CRTFP Uy-	0	0	0	0	0	0
235	SLU 1	3	-13	675	0	0	0
235	SLU 2	4	-10	693	0	0	0
235	SLU 3	3	-13	685	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLU 4	3	-11	696	0	0	0
235	SLU 5	4	-10	699	0	0	0
235	SLU 6	3	-13	692	0	0	0
235	SLU 7	3	-11	703	0	0	0
235	SLU 8	3	-13	688	0	0	0
235	SLU 9	3	-11	698	0	0	0
235	SLU 10	4	-11	781	0	0	0
235	SLU 11	4	-14	773	0	0	0
235	SLU 12	4	-12	784	0	0	0
235	SLU 13	4	-11	787	0	0	0
235	SLU 14	3	-14	780	0	0	0
235	SLU 15	4	-12	791	0	0	0
235	SLU 16	3	-14	776	0	0	0
235	SLU 17	4	-12	787	0	0	0
235	SLU 18	4	-14	801	0	0	0
235	SLU 19	4	-13	812	0	0	0
235	SLU 20	4	-14	807	0	0	0
235	SLU 21	4	-13	818	0	0	0
235	SLU 22	4	-14	764	0	0	0
235	SLU 23	4	-11	782	0	0	0
235	SLU 24	4	-14	774	0	0	0
235	SLU 25	4	-13	785	0	0	0
235	SLU 26	4	-11	788	0	0	0
235	SLU 27	4	-14	781	0	0	0
235	SLU 28	4	-13	791	0	0	0
235	SLU 29	4	-14	777	0	0	0
235	SLU 30	4	-13	787	0	0	0
235	SLU 31	4	-12	870	0	0	0
235	SLU 32	4	-15	862	0	0	0
235	SLU 33	4	-14	873	0	0	0
235	SLU 34	4	-13	876	0	0	0
235	SLU 35	4	-16	869	0	0	0
235	SLU 36	4	-14	879	0	0	0
235	SLU 37	4	-15	865	0	0	0
235	SLU 38	4	-14	875	0	0	0
235	SLU 39	4	-16	890	0	0	0
235	SLU 40	4	-14	900	0	0	0
235	SLU 41	4	-16	896	0	0	0
235	SLU 42	4	-14	907	0	0	0
235	SLU 43	4	-16	847	0	0	0
235	SLU 44	4	-13	865	0	0	0
235	SLU 45	4	-16	857	0	0	0
235	SLU 46	4	-14	868	0	0	0
235	SLU 47	4	-13	871	0	0	0
235	SLU 48	4	-16	864	0	0	0
235	SLU 49	4	-14	875	0	0	0
235	SLU 50	4	-16	860	0	0	0
235	SLU 51	4	-14	871	0	0	0
235	SLU 52	5	-14	953	0	0	0
235	SLU 53	4	-17	945	0	0	0
235	SLU 54	4	-16	956	0	0	0
235	SLU 55	4	-14	959	0	0	0
235	SLU 56	4	-17	952	0	0	0
235	SLU 57	4	-16	963	0	0	0
235	SLU 58	4	-17	948	0	0	0
235	SLU 59	4	-16	959	0	0	0
235	SLU 60	4	-17	973	0	0	0
235	SLU 61	5	-16	984	0	0	0
235	SLU 62	4	-18	979	0	0	0
235	SLU 63	4	-16	990	0	0	0
235	SLU 64	5	-17	936	0	0	0
235	SLU 65	5	-14	954	0	0	0
235	SLU 66	5	-17	946	0	0	0
235	SLU 67	5	-16	957	0	0	0
235	SLU 68	5	-15	960	0	0	0
235	SLU 69	5	-18	953	0	0	0
235	SLU 70	5	-16	963	0	0	0
235	SLU 71	5	-18	949	0	0	0
235	SLU 72	5	-16	959	0	0	0
235	SLU 73	5	-16	1042	0	0	0
235	SLU 74	5	-19	1034	0	0	0
235	SLU 75	5	-17	1045	0	0	0
235	SLU 76	5	-16	1048	0	0	0
235	SLU 77	5	-19	1041	0	0	0
235	SLU 78	5	-17	1051	0	0	0
235	SLU 79	5	-19	1037	0	0	0
235	SLU 80	5	-17	1047	0	0	0
235	SLU 81	5	-19	1062	0	0	0
235	SLU 82	5	-17	1072	0	0	0
235	SLU 83	5	-19	1068	0	0	0
235	SLU 84	5	-17	1079	0	0	0
235	SLE RA 1	4	-13	700	0	0	0
235	SLE RA 2	4	-11	712	0	0	0
235	SLE RA 3	4	-13	707	0	0	0
235	SLE RA 4	4	-12	715	0	0	0
235	SLE RA 5	4	-11	717	0	0	0
235	SLE RA 6	4	-13	712	0	0	0
235	SLE RA 7	4	-12	719	0	0	0
235	SLE RA 8	4	-13	709	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
235	SLE RA 9	4	-12	716	0	0	0
235	SLE RA 10	4	-12	771	0	0	0
235	SLE RA 11	4	-14	766	0	0	0
235	SLE RA 12	4	-13	773	0	0	0
235	SLE RA 13	4	-12	775	0	0	0
235	SLE RA 14	4	-14	770	0	0	0
235	SLE RA 15	4	-13	777	0	0	0
235	SLE RA 16	4	-14	768	0	0	0
235	SLE RA 17	4	-13	775	0	0	0
235	SLE RA 18	4	-14	784	0	0	0
235	SLE RA 19	4	-13	791	0	0	0
235	SLE RA 20	4	-14	788	0	0	0
235	SLE RA 21	4	-13	796	0	0	0
235	SLE FR 1	4	-13	700	0	0	0
235	SLE FR 2	4	-13	703	0	0	0
235	SLE FR 3	4	-13	702	0	0	0
235	SLE FR 4	4	-13	728	0	0	0
235	SLE FR 5	4	-13	727	0	0	0
235	SLE FR 6	4	-13	742	0	0	0
235	SLE QP 1	4	-13	700	0	0	0
235	SLE QP 2	4	-13	726	0	0	0
235	SLD 1	64	8	799	0	0	0
235	SLD 2	76	12	805	0	0	0
235	SLD 3	62	-23	573	0	0	0
235	SLD 4	75	-19	579	0	0	0
235	SLD 5	22	39	1090	0	0	0
235	SLD 6	30	42	1093	0	0	0
235	SLD 7	16	-64	336	0	0	0
235	SLD 8	25	-61	340	0	0	0
235	SLD 9	-17	34	1111	0	0	0
235	SLD 10	-9	37	1115	0	0	0
235	SLD 11	-23	-68	358	0	0	0
235	SLD 12	-15	-66	362	0	0	0
235	SLD 13	-67	-7	872	0	0	0
235	SLD 14	-55	-3	878	0	0	0
235	SLD 15	-69	-38	646	0	0	0
235	SLD 16	-57	-34	652	0	0	0
235	SLV 1	98	20	847	0	0	0
235	SLV 2	117	27	856	0	0	0
235	SLV 3	95	-30	481	0	0	0
235	SLV 4	115	-23	490	0	0	0
235	SLV 5	33	71	1315	0	0	0
235	SLV 6	46	75	1321	0	0	0
235	SLV 7	23	-95	96	0	0	0
235	SLV 8	36	-91	102	0	0	0
235	SLV 9	-29	64	1349	0	0	0
235	SLV 10	-16	68	1355	0	0	0
235	SLV 11	-38	-102	130	0	0	0
235	SLV 12	-26	-98	136	0	0	0
235	SLV 13	-107	-3	961	0	0	0
235	SLV 14	-88	3	970	0	0	0
235	SLV 15	-110	-53	595	0	0	0
235	SLV 16	-91	-47	604	0	0	0
235	SLV FO 1	108	24	859	0	0	0
235	SLV FO 2	129	31	869	0	0	0
235	SLV FO 3	105	-31	457	0	0	0
235	SLV FO 4	126	-24	467	0	0	0
235	SLV FO 5	36	80	1374	0	0	0
235	SLV FO 6	50	84	1380	0	0	0
235	SLV FO 7	25	-103	33	0	0	0
235	SLV FO 8	39	-98	40	0	0	0
235	SLV FO 9	-32	72	1411	0	0	0
235	SLV FO 10	-18	77	1418	0	0	0
235	SLV FO 11	-43	-111	71	0	0	0
235	SLV FO 12	-28	-106	77	0	0	0
235	SLV FO 13	-119	-2	984	0	0	0
235	SLV FO 14	-97	5	994	0	0	0
235	SLV FO 15	-122	-57	582	0	0	0
235	SLV FO 16	-101	-50	592	0	0	0
235	CRTFP Uy+	0	0	0	0	0	0
235	CRTFP Uy-	0	0	0	0	0	0
236	SLU 1	4	-14	744	0	0	0
236	SLU 2	4	-11	764	0	0	0
236	SLU 3	4	-14	756	0	0	0
236	SLU 4	4	-12	767	0	0	0
236	SLU 5	4	-11	771	0	0	0
236	SLU 6	4	-14	763	0	0	0
236	SLU 7	4	-13	774	0	0	0
236	SLU 8	4	-14	758	0	0	0
236	SLU 9	4	-12	770	0	0	0
236	SLU 10	4	-12	861	0	0	0
236	SLU 11	4	-16	853	0	0	0
236	SLU 12	4	-14	865	0	0	0
236	SLU 13	4	-12	868	0	0	0
236	SLU 14	4	-16	860	0	0	0
236	SLU 15	4	-14	872	0	0	0
236	SLU 16	4	-16	855	0	0	0
236	SLU 17	4	-14	867	0	0	0
236	SLU 18	4	-16	883	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLU 19	4	-14	895	0	0	0
236	SLU 20	4	-16	890	0	0	0
236	SLU 21	4	-14	902	0	0	0
236	SLU 22	4	-16	842	0	0	0
236	SLU 23	4	-13	862	0	0	0
236	SLU 24	4	-16	853	0	0	0
236	SLU 25	4	-14	865	0	0	0
236	SLU 26	4	-13	869	0	0	0
236	SLU 27	4	-16	860	0	0	0
236	SLU 28	4	-14	872	0	0	0
236	SLU 29	4	-16	856	0	0	0
236	SLU 30	4	-14	868	0	0	0
236	SLU 31	4	-14	959	0	0	0
236	SLU 32	4	-17	951	0	0	0
236	SLU 33	4	-15	963	0	0	0
236	SLU 34	4	-14	966	0	0	0
236	SLU 35	4	-17	958	0	0	0
236	SLU 36	4	-16	970	0	0	0
236	SLU 37	4	-17	953	0	0	0
236	SLU 38	4	-15	965	0	0	0
236	SLU 39	4	-18	981	0	0	0
236	SLU 40	4	-16	993	0	0	0
236	SLU 41	4	-18	988	0	0	0
236	SLU 42	4	-16	1000	0	0	0
236	SLU 43	5	-18	934	0	0	0
236	SLU 44	5	-14	954	0	0	0
236	SLU 45	5	-18	945	0	0	0
236	SLU 46	5	-16	957	0	0	0
236	SLU 47	5	-15	961	0	0	0
236	SLU 48	5	-18	952	0	0	0
236	SLU 49	5	-16	964	0	0	0
236	SLU 50	5	-18	948	0	0	0
236	SLU 51	5	-16	960	0	0	0
236	SLU 52	5	-16	1051	0	0	0
236	SLU 53	5	-19	1043	0	0	0
236	SLU 54	5	-17	1054	0	0	0
236	SLU 55	5	-16	1058	0	0	0
236	SLU 56	5	-19	1050	0	0	0
236	SLU 57	5	-17	1061	0	0	0
236	SLU 58	5	-19	1045	0	0	0
236	SLU 59	5	-17	1057	0	0	0
236	SLU 60	5	-20	1073	0	0	0
236	SLU 61	5	-18	1085	0	0	0
236	SLU 62	5	-20	1080	0	0	0
236	SLU 63	5	-18	1092	0	0	0
236	SLU 64	5	-19	1032	0	0	0
236	SLU 65	5	-16	1051	0	0	0
236	SLU 66	5	-19	1043	0	0	0
236	SLU 67	5	-18	1055	0	0	0
236	SLU 68	5	-16	1058	0	0	0
236	SLU 69	5	-20	1050	0	0	0
236	SLU 70	5	-18	1062	0	0	0
236	SLU 71	5	-20	1046	0	0	0
236	SLU 72	5	-18	1057	0	0	0
236	SLU 73	5	-17	1149	0	0	0
236	SLU 74	5	-21	1140	0	0	0
236	SLU 75	5	-19	1152	0	0	0
236	SLU 76	5	-18	1156	0	0	0
236	SLU 77	5	-21	1147	0	0	0
236	SLU 78	5	-19	1159	0	0	0
236	SLU 79	5	-21	1143	0	0	0
236	SLU 80	5	-19	1155	0	0	0
236	SLU 81	5	-21	1171	0	0	0
236	SLU 82	5	-19	1182	0	0	0
236	SLU 83	5	-21	1178	0	0	0
236	SLU 84	5	-19	1190	0	0	0
236	SLE RA 1	4	-14	772	0	0	0
236	SLE RA 2	4	-12	785	0	0	0
236	SLE RA 3	4	-15	780	0	0	0
236	SLE RA 4	4	-13	788	0	0	0
236	SLE RA 5	4	-12	790	0	0	0
236	SLE RA 6	4	-15	784	0	0	0
236	SLE RA 7	4	-13	792	0	0	0
236	SLE RA 8	4	-15	781	0	0	0
236	SLE RA 9	4	-13	789	0	0	0
236	SLE RA 10	4	-13	850	0	0	0
236	SLE RA 11	4	-16	845	0	0	0
236	SLE RA 12	4	-14	852	0	0	0
236	SLE RA 13	4	-13	855	0	0	0
236	SLE RA 14	4	-16	849	0	0	0
236	SLE RA 15	4	-14	857	0	0	0
236	SLE RA 16	4	-16	846	0	0	0
236	SLE RA 17	4	-14	854	0	0	0
236	SLE RA 18	4	-16	865	0	0	0
236	SLE RA 19	4	-14	873	0	0	0
236	SLE RA 20	4	-16	869	0	0	0
236	SLE RA 21	4	-15	877	0	0	0
236	SLE FR 1	4	-14	772	0	0	0
236	SLE FR 2	4	-14	775	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
236	SLE FR 3	4	-14	774	0	0	0
236	SLE FR 4	4	-14	802	0	0	0
236	SLE FR 5	4	-15	802	0	0	0
236	SLE FR 6	4	-15	818	0	0	0
236	SLE QP 1	4	-14	772	0	0	0
236	SLE QP 2	4	-15	800	0	0	0
236	SLD 1	71	8	887	0	0	0
236	SLD 2	84	12	893	0	0	0
236	SLD 3	69	-26	639	0	0	0
236	SLD 4	83	-23	645	0	0	0
236	SLD 5	24	44	1202	0	0	0
236	SLD 6	33	47	1206	0	0	0
236	SLD 7	18	-72	374	0	0	0
236	SLD 8	27	-69	377	0	0	0
236	SLD 9	-19	40	1222	0	0	0
236	SLD 10	-10	42	1226	0	0	0
236	SLD 11	-26	-76	394	0	0	0
236	SLD 12	-17	-74	398	0	0	0
236	SLD 13	-75	-7	955	0	0	0
236	SLD 14	-61	-3	961	0	0	0
236	SLD 15	-77	-42	707	0	0	0
236	SLD 16	-63	-38	713	0	0	0
236	SLV 1	109	22	943	0	0	0
236	SLV 2	130	28	952	0	0	0
236	SLV 3	106	-34	541	0	0	0
236	SLV 4	127	-28	551	0	0	0
236	SLV 5	36	81	1450	0	0	0
236	SLV 6	50	85	1457	0	0	0
236	SLV 7	26	-107	111	0	0	0
236	SLV 8	40	-103	118	0	0	0
236	SLV 9	-32	73	1482	0	0	0
236	SLV 10	-18	77	1488	0	0	0
236	SLV 11	-43	-114	143	0	0	0
236	SLV 12	-28	-110	149	0	0	0
236	SLV 13	-119	-2	1049	0	0	0
236	SLV 14	-98	4	1058	0	0	0
236	SLV 15	-122	-58	647	0	0	0
236	SLV 16	-101	-52	657	0	0	0
236	SLV FO 1	119	26	957	0	0	0
236	SLV FO 2	143	33	968	0	0	0
236	SLV FO 3	116	-36	515	0	0	0
236	SLV FO 4	139	-29	526	0	0	0
236	SLV FO 5	39	90	1515	0	0	0
236	SLV FO 6	55	95	1522	0	0	0
236	SLV FO 7	28	-116	42	0	0	0
236	SLV FO 8	44	-112	49	0	0	0
236	SLV FO 9	-36	82	1550	0	0	0
236	SLV FO 10	-20	87	1557	0	0	0
236	SLV FO 11	-47	-124	77	0	0	0
236	SLV FO 12	-32	-120	84	0	0	0
236	SLV FO 13	-132	-1	1074	0	0	0
236	SLV FO 14	-108	6	1084	0	0	0
236	SLV FO 15	-135	-62	632	0	0	0
236	SLV FO 16	-112	-56	642	0	0	0
236	CRTFP Uy+	0	0	0	0	0	0
236	CRTFP Uy-	0	0	0	0	0	0
237	SLU 1	3	-14	723	0	0	0
237	SLU 2	4	-11	742	0	0	0
237	SLU 3	3	-14	734	0	0	0
237	SLU 4	3	-12	746	0	0	0
237	SLU 5	4	-11	749	0	0	0
237	SLU 6	3	-14	741	0	0	0
237	SLU 7	3	-12	753	0	0	0
237	SLU 8	3	-14	737	0	0	0
237	SLU 9	3	-12	748	0	0	0
237	SLU 10	4	-12	837	0	0	0
237	SLU 11	4	-15	829	0	0	0
237	SLU 12	4	-13	841	0	0	0
237	SLU 13	4	-12	844	0	0	0
237	SLU 14	3	-15	836	0	0	0
237	SLU 15	4	-14	848	0	0	0
237	SLU 16	3	-15	832	0	0	0
237	SLU 17	4	-14	843	0	0	0
237	SLU 18	4	-16	859	0	0	0
237	SLU 19	4	-14	870	0	0	0
237	SLU 20	4	-16	866	0	0	0
237	SLU 21	4	-14	877	0	0	0
237	SLU 22	4	-15	818	0	0	0
237	SLU 23	4	-12	837	0	0	0
237	SLU 24	4	-16	829	0	0	0
237	SLU 25	4	-14	841	0	0	0
237	SLU 26	4	-12	844	0	0	0
237	SLU 27	4	-16	836	0	0	0
237	SLU 28	4	-14	848	0	0	0
237	SLU 29	4	-16	832	0	0	0
237	SLU 30	4	-14	843	0	0	0
237	SLU 31	4	-14	932	0	0	0
237	SLU 32	4	-17	924	0	0	0
237	SLU 33	4	-15	936	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLU 34	4	-14	939	0	0	0
237	SLU 35	4	-17	931	0	0	0
237	SLU 36	4	-15	943	0	0	0
237	SLU 37	4	-17	927	0	0	0
237	SLU 38	4	-15	938	0	0	0
237	SLU 39	4	-17	954	0	0	0
237	SLU 40	4	-15	965	0	0	0
237	SLU 41	4	-17	961	0	0	0
237	SLU 42	4	-16	972	0	0	0
237	SLU 43	4	-17	908	0	0	0
237	SLU 44	4	-14	927	0	0	0
237	SLU 45	4	-17	919	0	0	0
237	SLU 46	4	-16	930	0	0	0
237	SLU 47	4	-14	934	0	0	0
237	SLU 48	4	-18	926	0	0	0
237	SLU 49	4	-16	937	0	0	0
237	SLU 50	4	-18	921	0	0	0
237	SLU 51	4	-16	933	0	0	0
237	SLU 52	5	-16	1022	0	0	0
237	SLU 53	4	-19	1014	0	0	0
237	SLU 54	4	-17	1025	0	0	0
237	SLU 55	4	-16	1029	0	0	0
237	SLU 56	4	-19	1021	0	0	0
237	SLU 57	4	-17	1032	0	0	0
237	SLU 58	4	-19	1016	0	0	0
237	SLU 59	4	-17	1028	0	0	0
237	SLU 60	4	-19	1043	0	0	0
237	SLU 61	5	-17	1055	0	0	0
237	SLU 62	4	-19	1050	0	0	0
237	SLU 63	4	-17	1062	0	0	0
237	SLU 64	5	-19	1003	0	0	0
237	SLU 65	5	-16	1022	0	0	0
237	SLU 66	5	-19	1014	0	0	0
237	SLU 67	5	-17	1025	0	0	0
237	SLU 68	5	-16	1029	0	0	0
237	SLU 69	5	-19	1021	0	0	0
237	SLU 70	5	-17	1032	0	0	0
237	SLU 71	5	-19	1016	0	0	0
237	SLU 72	5	-17	1028	0	0	0
237	SLU 73	5	-17	1117	0	0	0
237	SLU 74	5	-20	1109	0	0	0
237	SLU 75	5	-19	1120	0	0	0
237	SLU 76	5	-17	1124	0	0	0
237	SLU 77	5	-21	1116	0	0	0
237	SLU 78	5	-19	1127	0	0	0
237	SLU 79	5	-21	1111	0	0	0
237	SLU 80	5	-19	1123	0	0	0
237	SLU 81	5	-21	1138	0	0	0
237	SLU 82	5	-19	1150	0	0	0
237	SLU 83	5	-21	1145	0	0	0
237	SLU 84	5	-19	1157	0	0	0
237	SLE RA 1	4	-14	750	0	0	0
237	SLE RA 2	4	-12	763	0	0	0
237	SLE RA 3	4	-14	758	0	0	0
237	SLE RA 4	4	-13	765	0	0	0
237	SLE RA 5	4	-12	768	0	0	0
237	SLE RA 6	4	-14	762	0	0	0
237	SLE RA 7	4	-13	770	0	0	0
237	SLE RA 8	4	-14	759	0	0	0
237	SLE RA 9	4	-13	767	0	0	0
237	SLE RA 10	4	-13	826	0	0	0
237	SLE RA 11	4	-15	821	0	0	0
237	SLE RA 12	4	-14	829	0	0	0
237	SLE RA 13	4	-13	831	0	0	0
237	SLE RA 14	4	-15	826	0	0	0
237	SLE RA 15	4	-14	833	0	0	0
237	SLE RA 16	4	-15	823	0	0	0
237	SLE RA 17	4	-14	830	0	0	0
237	SLE RA 18	4	-15	841	0	0	0
237	SLE RA 19	4	-14	849	0	0	0
237	SLE RA 20	4	-16	845	0	0	0
237	SLE RA 21	4	-14	853	0	0	0
237	SLE FR 1	4	-14	750	0	0	0
237	SLE FR 2	4	-14	753	0	0	0
237	SLE FR 3	4	-14	752	0	0	0
237	SLE FR 4	4	-14	780	0	0	0
237	SLE FR 5	4	-15	779	0	0	0
237	SLE FR 6	4	-15	796	0	0	0
237	SLE QP 1	4	-14	750	0	0	0
237	SLE QP 2	4	-15	777	0	0	0
237	SLD 1	69	8	868	0	0	0
237	SLD 2	82	11	874	0	0	0
237	SLD 3	67	-27	627	0	0	0
237	SLD 4	80	-23	633	0	0	0
237	SLD 5	23	44	1169	0	0	0
237	SLD 6	32	46	1172	0	0	0
237	SLD 7	18	-71	366	0	0	0
237	SLD 8	26	-69	370	0	0	0
237	SLD 9	-19	40	1185	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
237	SLD 10	-10	42	1188	0	0	0
237	SLD 11	-25	-75	383	0	0	0
237	SLD 12	-16	-73	386	0	0	0
237	SLD 13	-73	-6	922	0	0	0
237	SLD 14	-60	-2	927	0	0	0
237	SLD 15	-75	-40	681	0	0	0
237	SLD 16	-62	-37	687	0	0	0
237	SLV 1	106	21	926	0	0	0
237	SLV 2	127	27	934	0	0	0
237	SLV 3	103	-34	537	0	0	0
237	SLV 4	124	-29	545	0	0	0
237	SLV 5	35	80	1411	0	0	0
237	SLV 6	49	84	1416	0	0	0
237	SLV 7	25	-106	114	0	0	0
237	SLV 8	39	-103	119	0	0	0
237	SLV 9	-32	74	1436	0	0	0
237	SLV 10	-18	77	1441	0	0	0
237	SLV 11	-42	-113	139	0	0	0
237	SLV 12	-28	-109	144	0	0	0
237	SLV 13	-117	0	1010	0	0	0
237	SLV 14	-96	5	1018	0	0	0
237	SLV 15	-120	-56	621	0	0	0
237	SLV 16	-99	-51	629	0	0	0
237	SLV FO 1	116	25	941	0	0	0
237	SLV FO 2	139	31	950	0	0	0
237	SLV FO 3	113	-36	513	0	0	0
237	SLV FO 4	136	-31	522	0	0	0
237	SLV FO 5	38	90	1474	0	0	0
237	SLV FO 6	53	93	1480	0	0	0
237	SLV FO 7	27	-116	47	0	0	0
237	SLV FO 8	43	-112	53	0	0	0
237	SLV FO 9	-35	83	1502	0	0	0
237	SLV FO 10	-20	86	1508	0	0	0
237	SLV FO 11	-46	-122	75	0	0	0
237	SLV FO 12	-31	-119	81	0	0	0
237	SLV FO 13	-129	2	1033	0	0	0
237	SLV FO 14	-106	7	1042	0	0	0
237	SLV FO 15	-132	-60	605	0	0	0
237	SLV FO 16	-109	-54	614	0	0	0
237	CRTFP Uy+	0	0	0	0	0	0
237	CRTFP Uy-	0	0	0	0	0	0
238	SLU 1	3	-11	602	0	0	0
238	SLU 2	3	-9	618	0	0	0
238	SLU 3	3	-12	611	0	0	0
238	SLU 4	3	-10	621	0	0	0
238	SLU 5	3	-9	623	0	0	0
238	SLU 6	3	-12	617	0	0	0
238	SLU 7	3	-10	626	0	0	0
238	SLU 8	3	-12	613	0	0	0
238	SLU 9	3	-10	623	0	0	0
238	SLU 10	3	-10	697	0	0	0
238	SLU 11	3	-13	690	0	0	0
238	SLU 12	3	-11	700	0	0	0
238	SLU 13	3	-10	703	0	0	0
238	SLU 14	3	-13	696	0	0	0
238	SLU 15	3	-11	706	0	0	0
238	SLU 16	3	-13	693	0	0	0
238	SLU 17	3	-11	702	0	0	0
238	SLU 18	3	-13	715	0	0	0
238	SLU 19	3	-12	725	0	0	0
238	SLU 20	3	-13	721	0	0	0
238	SLU 21	3	-12	730	0	0	0
238	SLU 22	3	-13	681	0	0	0
238	SLU 23	3	-10	697	0	0	0
238	SLU 24	3	-13	690	0	0	0
238	SLU 25	3	-12	700	0	0	0
238	SLU 26	3	-10	703	0	0	0
238	SLU 27	3	-13	696	0	0	0
238	SLU 28	3	-12	705	0	0	0
238	SLU 29	3	-13	692	0	0	0
238	SLU 30	3	-12	702	0	0	0
238	SLU 31	3	-11	776	0	0	0
238	SLU 32	3	-14	770	0	0	0
238	SLU 33	3	-13	779	0	0	0
238	SLU 34	3	-12	782	0	0	0
238	SLU 35	3	-14	775	0	0	0
238	SLU 36	3	-13	785	0	0	0
238	SLU 37	3	-14	772	0	0	0
238	SLU 38	3	-13	781	0	0	0
238	SLU 39	3	-14	794	0	0	0
238	SLU 40	3	-13	804	0	0	0
238	SLU 41	3	-15	800	0	0	0
238	SLU 42	3	-13	810	0	0	0
238	SLU 43	3	-14	755	0	0	0
238	SLU 44	4	-12	771	0	0	0
238	SLU 45	3	-15	764	0	0	0
238	SLU 46	3	-13	774	0	0	0
238	SLU 47	4	-12	777	0	0	0
238	SLU 48	3	-15	770	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
238	SLU 49	3	-13	780	0	0	0
238	SLU 50	3	-15	767	0	0	0
238	SLU 51	3	-13	776	0	0	0
238	SLU 52	4	-13	850	0	0	0
238	SLU 53	4	-16	844	0	0	0
238	SLU 54	4	-14	853	0	0	0
238	SLU 55	4	-13	856	0	0	0
238	SLU 56	3	-16	850	0	0	0
238	SLU 57	4	-14	859	0	0	0
238	SLU 58	3	-16	846	0	0	0
238	SLU 59	4	-14	856	0	0	0
238	SLU 60	4	-16	869	0	0	0
238	SLU 61	4	-14	878	0	0	0
238	SLU 62	4	-16	874	0	0	0
238	SLU 63	4	-15	884	0	0	0
238	SLU 64	4	-16	834	0	0	0
238	SLU 65	4	-13	850	0	0	0
238	SLU 66	4	-16	844	0	0	0
238	SLU 67	4	-14	853	0	0	0
238	SLU 68	4	-13	856	0	0	0
238	SLU 69	4	-16	849	0	0	0
238	SLU 70	4	-15	859	0	0	0
238	SLU 71	4	-16	846	0	0	0
238	SLU 72	4	-15	855	0	0	0
238	SLU 73	4	-14	930	0	0	0
238	SLU 74	4	-17	923	0	0	0
238	SLU 75	4	-16	933	0	0	0
238	SLU 76	4	-15	935	0	0	0
238	SLU 77	4	-17	929	0	0	0
238	SLU 78	4	-16	938	0	0	0
238	SLU 79	4	-17	925	0	0	0
238	SLU 80	4	-16	935	0	0	0
238	SLU 81	4	-17	948	0	0	0
238	SLU 82	4	-16	957	0	0	0
238	SLU 83	4	-18	953	0	0	0
238	SLU 84	4	-16	963	0	0	0
238	SLE RA 1	3	-12	624	0	0	0
238	SLE RA 2	3	-10	635	0	0	0
238	SLE RA 3	3	-12	631	0	0	0
238	SLE RA 4	3	-11	637	0	0	0
238	SLE RA 5	3	-10	639	0	0	0
238	SLE RA 6	3	-12	634	0	0	0
238	SLE RA 7	3	-11	641	0	0	0
238	SLE RA 8	3	-12	632	0	0	0
238	SLE RA 9	3	-11	638	0	0	0
238	SLE RA 10	3	-11	688	0	0	0
238	SLE RA 11	3	-13	683	0	0	0
238	SLE RA 12	3	-12	690	0	0	0
238	SLE RA 13	3	-11	692	0	0	0
238	SLE RA 14	3	-13	687	0	0	0
238	SLE RA 15	3	-12	694	0	0	0
238	SLE RA 16	3	-13	685	0	0	0
238	SLE RA 17	3	-12	691	0	0	0
238	SLE RA 18	3	-13	700	0	0	0
238	SLE RA 19	3	-12	706	0	0	0
238	SLE RA 20	3	-13	704	0	0	0
238	SLE RA 21	3	-12	710	0	0	0
238	SLE FR 1	3	-12	624	0	0	0
238	SLE FR 2	3	-12	626	0	0	0
238	SLE FR 3	3	-12	626	0	0	0
238	SLE FR 4	3	-12	649	0	0	0
238	SLE FR 5	3	-12	649	0	0	0
238	SLE FR 6	3	-12	662	0	0	0
238	SLE QP 1	3	-12	624	0	0	0
238	SLE QP 2	3	-12	647	0	0	0
238	SLD 1	57	6	727	0	0	0
238	SLD 2	68	9	731	0	0	0
238	SLD 3	56	-23	527	0	0	0
238	SLD 4	67	-21	531	0	0	0
238	SLD 5	19	37	973	0	0	0
238	SLD 6	27	39	976	0	0	0
238	SLD 7	15	-60	307	0	0	0
238	SLD 8	22	-59	310	0	0	0
238	SLD 9	-16	34	984	0	0	0
238	SLD 10	-9	36	987	0	0	0
238	SLD 11	-21	-63	318	0	0	0
238	SLD 12	-14	-62	321	0	0	0
238	SLD 13	-61	-4	763	0	0	0
238	SLD 14	-50	-1	767	0	0	0
238	SLD 15	-62	-33	563	0	0	0
238	SLD 16	-52	-31	567	0	0	0
238	SLV 1	88	18	777	0	0	0
238	SLV 2	105	21	783	0	0	0
238	SLV 3	86	-30	454	0	0	0
238	SLV 4	103	-26	461	0	0	0
238	SLV 5	29	68	1175	0	0	0
238	SLV 6	40	70	1179	0	0	0
238	SLV 7	21	-90	98	0	0	0
238	SLV 8	32	-88	103	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
238	SLV 9	-27	63	1191	0	0	0
238	SLV 10	-15	66	1196	0	0	0
238	SLV 11	-35	-95	115	0	0	0
238	SLV 12	-23	-92	119	0	0	0
238	SLV 13	-97	2	833	0	0	0
238	SLV 14	-80	6	840	0	0	0
238	SLV 15	-100	-45	511	0	0	0
238	SLV 16	-82	-42	517	0	0	0
238	SLV FO 1	97	21	790	0	0	0
238	SLV FO 2	116	24	797	0	0	0
238	SLV FO 3	94	-32	435	0	0	0
238	SLV FO 4	113	-28	442	0	0	0
238	SLV FO 5	32	76	1227	0	0	0
238	SLV FO 6	44	79	1232	0	0	0
238	SLV FO 7	23	-98	43	0	0	0
238	SLV FO 8	35	-95	48	0	0	0
238	SLV FO 9	-30	71	1246	0	0	0
238	SLV FO 10	-17	73	1251	0	0	0
238	SLV FO 11	-38	-103	62	0	0	0
238	SLV FO 12	-26	-100	67	0	0	0
238	SLV FO 13	-107	3	852	0	0	0
238	SLV FO 14	-88	7	859	0	0	0
238	SLV FO 15	-110	-49	497	0	0	0
238	SLV FO 16	-91	-45	504	0	0	0
238	CRTFP Uy+	0	0	0	0	0	0
238	CRTFP Uy-	0	0	0	0	0	0
239	SLU 1	2	-8	407	0	0	0
239	SLU 2	2	-6	418	0	0	0
239	SLU 3	2	-8	413	0	0	0
239	SLU 4	2	-7	420	0	0	0
239	SLU 5	2	-6	422	0	0	0
239	SLU 6	2	-8	417	0	0	0
239	SLU 7	2	-7	424	0	0	0
239	SLU 8	2	-8	415	0	0	0
239	SLU 9	2	-7	421	0	0	0
239	SLU 10	2	-7	472	0	0	0
239	SLU 11	2	-9	467	0	0	0
239	SLU 12	2	-8	474	0	0	0
239	SLU 13	2	-7	476	0	0	0
239	SLU 14	2	-9	471	0	0	0
239	SLU 15	2	-8	478	0	0	0
239	SLU 16	2	-9	469	0	0	0
239	SLU 17	2	-8	475	0	0	0
239	SLU 18	2	-9	484	0	0	0
239	SLU 19	2	-8	490	0	0	0
239	SLU 20	2	-9	488	0	0	0
239	SLU 21	2	-8	494	0	0	0
239	SLU 22	2	-9	461	0	0	0
239	SLU 23	2	-7	471	0	0	0
239	SLU 24	2	-9	467	0	0	0
239	SLU 25	2	-8	473	0	0	0
239	SLU 26	2	-7	475	0	0	0
239	SLU 27	2	-9	471	0	0	0
239	SLU 28	2	-8	477	0	0	0
239	SLU 29	2	-9	468	0	0	0
239	SLU 30	2	-8	475	0	0	0
239	SLU 31	2	-8	525	0	0	0
239	SLU 32	2	-10	521	0	0	0
239	SLU 33	2	-9	527	0	0	0
239	SLU 34	2	-8	529	0	0	0
239	SLU 35	2	-10	525	0	0	0
239	SLU 36	2	-9	531	0	0	0
239	SLU 37	2	-10	522	0	0	0
239	SLU 38	2	-9	529	0	0	0
239	SLU 39	2	-10	538	0	0	0
239	SLU 40	2	-9	544	0	0	0
239	SLU 41	2	-10	542	0	0	0
239	SLU 42	2	-9	548	0	0	0
239	SLU 43	2	-10	511	0	0	0
239	SLU 44	2	-8	521	0	0	0
239	SLU 45	2	-10	517	0	0	0
239	SLU 46	2	-9	524	0	0	0
239	SLU 47	2	-8	525	0	0	0
239	SLU 48	2	-10	521	0	0	0
239	SLU 49	2	-9	527	0	0	0
239	SLU 50	2	-10	519	0	0	0
239	SLU 51	2	-9	525	0	0	0
239	SLU 52	2	-9	575	0	0	0
239	SLU 53	2	-11	571	0	0	0
239	SLU 54	2	-10	577	0	0	0
239	SLU 55	2	-9	579	0	0	0
239	SLU 56	2	-11	575	0	0	0
239	SLU 57	2	-10	581	0	0	0
239	SLU 58	2	-11	572	0	0	0
239	SLU 59	2	-10	579	0	0	0
239	SLU 60	2	-11	588	0	0	0
239	SLU 61	2	-10	594	0	0	0
239	SLU 62	2	-11	592	0	0	0
239	SLU 63	2	-10	598	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
239	SLU 64	2	-11	564	0	0	0
239	SLU 65	3	-9	575	0	0	0
239	SLU 66	2	-11	571	0	0	0
239	SLU 67	3	-10	577	0	0	0
239	SLU 68	3	-9	579	0	0	0
239	SLU 69	2	-11	575	0	0	0
239	SLU 70	3	-10	581	0	0	0
239	SLU 71	2	-11	572	0	0	0
239	SLU 72	2	-10	579	0	0	0
239	SLU 73	3	-10	629	0	0	0
239	SLU 74	3	-12	625	0	0	0
239	SLU 75	3	-11	631	0	0	0
239	SLU 76	3	-10	633	0	0	0
239	SLU 77	3	-12	628	0	0	0
239	SLU 78	3	-11	635	0	0	0
239	SLU 79	3	-12	626	0	0	0
239	SLU 80	3	-11	632	0	0	0
239	SLU 81	3	-12	641	0	0	0
239	SLU 82	3	-11	648	0	0	0
239	SLU 83	3	-12	645	0	0	0
239	SLU 84	3	-11	652	0	0	0
239	SLE RA 1	2	-8	422	0	0	0
239	SLE RA 2	2	-7	429	0	0	0
239	SLE RA 3	2	-8	427	0	0	0
239	SLE RA 4	2	-7	431	0	0	0
239	SLE RA 5	2	-7	432	0	0	0
239	SLE RA 6	2	-8	429	0	0	0
239	SLE RA 7	2	-8	433	0	0	0
239	SLE RA 8	2	-8	428	0	0	0
239	SLE RA 9	2	-7	432	0	0	0
239	SLE RA 10	2	-7	465	0	0	0
239	SLE RA 11	2	-9	463	0	0	0
239	SLE RA 12	2	-8	467	0	0	0
239	SLE RA 13	2	-7	468	0	0	0
239	SLE RA 14	2	-9	465	0	0	0
239	SLE RA 15	2	-8	469	0	0	0
239	SLE RA 16	2	-9	463	0	0	0
239	SLE RA 17	2	-8	468	0	0	0
239	SLE RA 18	2	-9	474	0	0	0
239	SLE RA 19	2	-8	478	0	0	0
239	SLE RA 20	2	-9	476	0	0	0
239	SLE RA 21	2	-8	481	0	0	0
239	SLE FR 1	2	-8	422	0	0	0
239	SLE FR 2	2	-8	424	0	0	0
239	SLE FR 3	2	-8	423	0	0	0
239	SLE FR 4	2	-8	439	0	0	0
239	SLE FR 5	2	-8	439	0	0	0
239	SLE FR 6	2	-8	448	0	0	0
239	SLE QP 1	2	-8	422	0	0	0
239	SLE QP 2	2	-8	438	0	0	0
239	SLD 1	39	4	493	0	0	0
239	SLD 2	46	5	496	0	0	0
239	SLD 3	38	-16	359	0	0	0
239	SLD 4	45	-15	362	0	0	0
239	SLD 5	13	26	658	0	0	0
239	SLD 6	18	27	660	0	0	0
239	SLD 7	10	-41	210	0	0	0
239	SLD 8	15	-40	211	0	0	0
239	SLD 9	-11	24	664	0	0	0
239	SLD 10	-6	25	666	0	0	0
239	SLD 11	-14	-43	216	0	0	0
239	SLD 12	-9	-42	218	0	0	0
239	SLD 13	-41	-2	514	0	0	0
239	SLD 14	-34	-1	516	0	0	0
239	SLD 15	-42	-22	379	0	0	0
239	SLD 16	-35	-21	382	0	0	0
239	SLV 1	60	12	528	0	0	0
239	SLV 2	71	14	532	0	0	0
239	SLV 3	58	-21	311	0	0	0
239	SLV 4	70	-19	315	0	0	0
239	SLV 5	19	47	794	0	0	0
239	SLV 6	27	48	796	0	0	0
239	SLV 7	14	-62	69	0	0	0
239	SLV 8	22	-60	72	0	0	0
239	SLV 9	-18	44	803	0	0	0
239	SLV 10	-10	45	806	0	0	0
239	SLV 11	-24	-65	79	0	0	0
239	SLV 12	-16	-63	82	0	0	0
239	SLV 13	-66	2	560	0	0	0
239	SLV 14	-54	4	564	0	0	0
239	SLV 15	-67	-30	343	0	0	0
239	SLV 16	-56	-28	347	0	0	0
239	SLV FO 1	65	14	538	0	0	0
239	SLV FO 2	78	16	542	0	0	0
239	SLV FO 3	64	-22	298	0	0	0
239	SLV FO 4	76	-20	303	0	0	0
239	SLV FO 5	21	52	829	0	0	0
239	SLV FO 6	30	54	832	0	0	0
239	SLV FO 7	15	-67	33	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
239	SLV FO 8	24	-66	36	0	0	0
239	SLV FO 9	-20	49	840	0	0	0
239	SLV FO 10	-11	51	843	0	0	0
239	SLV FO 11	-26	-70	43	0	0	0
239	SLV FO 12	-17	-69	46	0	0	0
239	SLV FO 13	-73	3	573	0	0	0
239	SLV FO 14	-60	6	577	0	0	0
239	SLV FO 15	-74	-33	334	0	0	0
239	SLV FO 16	-62	-30	338	0	0	0
239	CRTFP Uy+	0	0	0	0	0	0
239	CRTFP Uy-	0	0	0	0	0	0
240	SLU 1	-2	-10	461	0	0	0
240	SLU 2	-2	-9	473	0	0	0
240	SLU 3	-2	-11	469	0	0	0
240	SLU 4	-2	-10	476	0	0	0
240	SLU 5	-2	-9	478	0	0	0
240	SLU 6	-2	-11	473	0	0	0
240	SLU 7	-2	-10	480	0	0	0
240	SLU 8	-2	-11	470	0	0	0
240	SLU 9	-2	-10	477	0	0	0
240	SLU 10	-2	-10	534	0	0	0
240	SLU 11	-2	-12	529	0	0	0
240	SLU 12	-2	-11	536	0	0	0
240	SLU 13	-2	-10	538	0	0	0
240	SLU 14	-2	-12	534	0	0	0
240	SLU 15	-2	-11	541	0	0	0
240	SLU 16	-2	-12	531	0	0	0
240	SLU 17	-2	-11	538	0	0	0
240	SLU 18	-2	-12	548	0	0	0
240	SLU 19	-2	-11	555	0	0	0
240	SLU 20	-2	-12	553	0	0	0
240	SLU 21	-2	-11	560	0	0	0
240	SLU 22	-2	-12	524	0	0	0
240	SLU 23	-2	-10	536	0	0	0
240	SLU 24	-2	-12	531	0	0	0
240	SLU 25	-2	-11	538	0	0	0
240	SLU 26	-2	-10	540	0	0	0
240	SLU 27	-2	-12	536	0	0	0
240	SLU 28	-2	-11	543	0	0	0
240	SLU 29	-2	-12	533	0	0	0
240	SLU 30	-2	-11	540	0	0	0
240	SLU 31	-2	-11	596	0	0	0
240	SLU 32	-2	-13	592	0	0	0
240	SLU 33	-2	-12	599	0	0	0
240	SLU 34	-2	-11	601	0	0	0
240	SLU 35	-2	-13	596	0	0	0
240	SLU 36	-2	-12	603	0	0	0
240	SLU 37	-2	-13	593	0	0	0
240	SLU 38	-2	-12	600	0	0	0
240	SLU 39	-2	-13	611	0	0	0
240	SLU 40	-2	-12	618	0	0	0
240	SLU 41	-2	-13	615	0	0	0
240	SLU 42	-2	-12	622	0	0	0
240	SLU 43	-2	-13	578	0	0	0
240	SLU 44	-2	-11	590	0	0	0
240	SLU 45	-2	-13	586	0	0	0
240	SLU 46	-2	-12	593	0	0	0
240	SLU 47	-2	-11	595	0	0	0
240	SLU 48	-2	-13	590	0	0	0
240	SLU 49	-2	-12	597	0	0	0
240	SLU 50	-2	-13	587	0	0	0
240	SLU 51	-2	-12	594	0	0	0
240	SLU 52	-2	-12	651	0	0	0
240	SLU 53	-2	-14	646	0	0	0
240	SLU 54	-2	-13	653	0	0	0
240	SLU 55	-2	-13	655	0	0	0
240	SLU 56	-2	-14	651	0	0	0
240	SLU 57	-2	-13	658	0	0	0
240	SLU 58	-2	-14	648	0	0	0
240	SLU 59	-2	-13	655	0	0	0
240	SLU 60	-2	-15	665	0	0	0
240	SLU 61	-2	-14	672	0	0	0
240	SLU 62	-2	-15	670	0	0	0
240	SLU 63	-2	-14	677	0	0	0
240	SLU 64	-2	-14	641	0	0	0
240	SLU 65	-3	-13	653	0	0	0
240	SLU 66	-3	-14	648	0	0	0
240	SLU 67	-3	-13	655	0	0	0
240	SLU 68	-3	-13	657	0	0	0
240	SLU 69	-3	-15	653	0	0	0
240	SLU 70	-3	-14	660	0	0	0
240	SLU 71	-3	-14	650	0	0	0
240	SLU 72	-3	-13	657	0	0	0
240	SLU 73	-2	-14	713	0	0	0
240	SLU 74	-2	-16	709	0	0	0
240	SLU 75	-3	-15	716	0	0	0
240	SLU 76	-3	-14	718	0	0	0
240	SLU 77	-3	-16	713	0	0	0
240	SLU 78	-3	-15	720	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
240	SLU 79	-3	-16	710	0	0	0
240	SLU 80	-3	-15	717	0	0	0
240	SLU 81	-2	-16	728	0	0	0
240	SLU 82	-2	-15	735	0	0	0
240	SLU 83	-2	-16	732	0	0	0
240	SLU 84	-2	-15	739	0	0	0
240	SLE RA 1	-2	-11	479	0	0	0
240	SLE RA 2	-2	-10	487	0	0	0
240	SLE RA 3	-2	-11	484	0	0	0
240	SLE RA 4	-2	-10	489	0	0	0
240	SLE RA 5	-2	-10	490	0	0	0
240	SLE RA 6	-2	-11	487	0	0	0
240	SLE RA 7	-2	-10	492	0	0	0
240	SLE RA 8	-2	-11	485	0	0	0
240	SLE RA 9	-2	-10	490	0	0	0
240	SLE RA 10	-2	-10	527	0	0	0
240	SLE RA 11	-2	-12	525	0	0	0
240	SLE RA 12	-2	-11	529	0	0	0
240	SLE RA 13	-2	-10	530	0	0	0
240	SLE RA 14	-2	-12	528	0	0	0
240	SLE RA 15	-2	-11	532	0	0	0
240	SLE RA 16	-2	-12	526	0	0	0
240	SLE RA 17	-2	-11	530	0	0	0
240	SLE RA 18	-2	-12	537	0	0	0
240	SLE RA 19	-2	-11	542	0	0	0
240	SLE RA 20	-2	-12	540	0	0	0
240	SLE RA 21	-2	-11	545	0	0	0
240	SLE FR 1	-2	-11	479	0	0	0
240	SLE FR 2	-2	-10	481	0	0	0
240	SLE FR 3	-2	-11	480	0	0	0
240	SLE FR 4	-2	-11	498	0	0	0
240	SLE FR 5	-2	-11	498	0	0	0
240	SLE FR 6	-2	-11	508	0	0	0
240	SLE QP 1	-2	-11	479	0	0	0
240	SLE QP 2	-2	-11	497	0	0	0
240	SLD 1	35	-5	613	0	0	0
240	SLD 2	42	-9	608	0	0	0
240	SLD 3	37	-24	464	0	0	0
240	SLD 4	45	-28	459	0	0	0
240	SLD 5	4	20	758	0	0	0
240	SLD 6	9	17	755	0	0	0
240	SLD 7	12	-43	262	0	0	0
240	SLD 8	17	-45	259	0	0	0
240	SLD 9	-21	23	734	0	0	0
240	SLD 10	-16	21	731	0	0	0
240	SLD 11	-13	-39	238	0	0	0
240	SLD 12	-8	-42	235	0	0	0
240	SLD 13	-48	6	534	0	0	0
240	SLD 14	-41	2	529	0	0	0
240	SLD 15	-46	-13	385	0	0	0
240	SLD 16	-38	-17	380	0	0	0
240	SLV 1	55	-1	682	0	0	0
240	SLV 2	67	-8	675	0	0	0
240	SLV 3	59	-32	442	0	0	0
240	SLV 4	71	-38	434	0	0	0
240	SLV 5	7	39	919	0	0	0
240	SLV 6	15	35	914	0	0	0
240	SLV 7	20	-62	116	0	0	0
240	SLV 8	28	-66	112	0	0	0
240	SLV 9	-32	44	882	0	0	0
240	SLV 10	-24	40	877	0	0	0
240	SLV 11	-19	-57	79	0	0	0
240	SLV 12	-11	-61	75	0	0	0
240	SLV 13	-75	16	559	0	0	0
240	SLV 14	-63	10	552	0	0	0
240	SLV 15	-71	-14	318	0	0	0
240	SLV 16	-59	-21	311	0	0	0
240	SLV FO 1	61	0	701	0	0	0
240	SLV FO 2	74	-7	693	0	0	0
240	SLV FO 3	65	-34	436	0	0	0
240	SLV FO 4	78	-41	428	0	0	0
240	SLV FO 5	8	44	961	0	0	0
240	SLV FO 6	17	40	955	0	0	0
240	SLV FO 7	22	-67	78	0	0	0
240	SLV FO 8	31	-72	73	0	0	0
240	SLV FO 9	-35	50	920	0	0	0
240	SLV FO 10	-26	45	915	0	0	0
240	SLV FO 11	-20	-62	38	0	0	0
240	SLV FO 12	-12	-66	32	0	0	0
240	SLV FO 13	-82	19	565	0	0	0
240	SLV FO 14	-69	12	557	0	0	0
240	SLV FO 15	-78	-15	300	0	0	0
240	SLV FO 16	-65	-22	292	0	0	0
240	CRTFP Uy+	0	0	0	0	0	0
240	CRTFP Uy-	0	0	0	0	0	0
241	SLU 1	-4	-19	913	0	0	0
241	SLU 2	-4	-16	936	0	0	0
241	SLU 3	-4	-19	927	0	0	0
241	SLU 4	-4	-17	941	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
241	SLU 5	-4	-16	945	0	0	0
241	SLU 6	-4	-20	936	0	0	0
241	SLU 7	-4	-18	950	0	0	0
241	SLU 8	-4	-20	930	0	0	0
241	SLU 9	-4	-18	944	0	0	0
241	SLU 10	-3	-18	1056	0	0	0
241	SLU 11	-4	-22	1047	0	0	0
241	SLU 12	-4	-19	1061	0	0	0
241	SLU 13	-4	-18	1065	0	0	0
241	SLU 14	-4	-22	1056	0	0	0
241	SLU 15	-4	-20	1070	0	0	0
241	SLU 16	-4	-22	1050	0	0	0
241	SLU 17	-4	-20	1064	0	0	0
241	SLU 18	-3	-22	1084	0	0	0
241	SLU 19	-3	-20	1098	0	0	0
241	SLU 20	-3	-22	1093	0	0	0
241	SLU 21	-3	-20	1107	0	0	0
241	SLU 22	-4	-21	1036	0	0	0
241	SLU 23	-4	-18	1059	0	0	0
241	SLU 24	-4	-22	1050	0	0	0
241	SLU 25	-4	-20	1064	0	0	0
241	SLU 26	-4	-18	1068	0	0	0
241	SLU 27	-4	-22	1059	0	0	0
241	SLU 28	-4	-20	1073	0	0	0
241	SLU 29	-4	-22	1053	0	0	0
241	SLU 30	-4	-20	1067	0	0	0
241	SLU 31	-4	-20	1179	0	0	0
241	SLU 32	-4	-24	1170	0	0	0
241	SLU 33	-4	-22	1184	0	0	0
241	SLU 34	-4	-20	1188	0	0	0
241	SLU 35	-4	-24	1179	0	0	0
241	SLU 36	-4	-22	1193	0	0	0
241	SLU 37	-4	-24	1173	0	0	0
241	SLU 38	-4	-22	1187	0	0	0
241	SLU 39	-4	-24	1207	0	0	0
241	SLU 40	-4	-22	1221	0	0	0
241	SLU 41	-4	-25	1216	0	0	0
241	SLU 42	-4	-22	1230	0	0	0
241	SLU 43	-4	-24	1145	0	0	0
241	SLU 44	-5	-21	1168	0	0	0
241	SLU 45	-5	-24	1159	0	0	0
241	SLU 46	-5	-22	1173	0	0	0
241	SLU 47	-5	-21	1176	0	0	0
241	SLU 48	-5	-25	1168	0	0	0
241	SLU 49	-5	-23	1181	0	0	0
241	SLU 50	-5	-25	1162	0	0	0
241	SLU 51	-5	-23	1176	0	0	0
241	SLU 52	-4	-23	1288	0	0	0
241	SLU 53	-4	-27	1279	0	0	0
241	SLU 54	-4	-24	1293	0	0	0
241	SLU 55	-4	-23	1296	0	0	0
241	SLU 56	-5	-27	1288	0	0	0
241	SLU 57	-5	-25	1301	0	0	0
241	SLU 58	-4	-27	1282	0	0	0
241	SLU 59	-5	-25	1296	0	0	0
241	SLU 60	-4	-27	1316	0	0	0
241	SLU 61	-4	-25	1330	0	0	0
241	SLU 62	-4	-27	1325	0	0	0
241	SLU 63	-4	-25	1339	0	0	0
241	SLU 64	-5	-26	1268	0	0	0
241	SLU 65	-5	-23	1291	0	0	0
241	SLU 66	-5	-27	1282	0	0	0
241	SLU 67	-5	-25	1296	0	0	0
241	SLU 68	-5	-23	1299	0	0	0
241	SLU 69	-5	-27	1291	0	0	0
241	SLU 70	-5	-25	1304	0	0	0
241	SLU 71	-5	-27	1285	0	0	0
241	SLU 72	-5	-25	1299	0	0	0
241	SLU 73	-5	-25	1411	0	0	0
241	SLU 74	-5	-29	1402	0	0	0
241	SLU 75	-5	-27	1416	0	0	0
241	SLU 76	-5	-25	1419	0	0	0
241	SLU 77	-5	-29	1411	0	0	0
241	SLU 78	-5	-27	1424	0	0	0
241	SLU 79	-5	-29	1405	0	0	0
241	SLU 80	-5	-27	1419	0	0	0
241	SLU 81	-5	-29	1439	0	0	0
241	SLU 82	-5	-27	1453	0	0	0
241	SLU 83	-5	-29	1448	0	0	0
241	SLU 84	-5	-27	1462	0	0	0
241	SLE RA 1	-4	-20	948	0	0	0
241	SLE RA 2	-4	-18	963	0	0	0
241	SLE RA 3	-4	-20	958	0	0	0
241	SLE RA 4	-4	-19	967	0	0	0
241	SLE RA 5	-4	-18	969	0	0	0
241	SLE RA 6	-4	-20	963	0	0	0
241	SLE RA 7	-4	-19	973	0	0	0
241	SLE RA 8	-4	-20	960	0	0	0
241	SLE RA 9	-4	-19	969	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
241	SLE RA 10	-4	-19	1043	0	0	0
241	SLE RA 11	-4	-21	1038	0	0	0
241	SLE RA 12	-4	-20	1047	0	0	0
241	SLE RA 13	-4	-19	1049	0	0	0
241	SLE RA 14	-4	-22	1043	0	0	0
241	SLE RA 15	-4	-20	1053	0	0	0
241	SLE RA 16	-4	-21	1040	0	0	0
241	SLE RA 17	-4	-20	1049	0	0	0
241	SLE RA 18	-4	-22	1062	0	0	0
241	SLE RA 19	-4	-20	1072	0	0	0
241	SLE RA 20	-4	-22	1068	0	0	0
241	SLE RA 21	-4	-21	1077	0	0	0
241	SLE FR 1	-4	-20	948	0	0	0
241	SLE FR 2	-4	-19	951	0	0	0
241	SLE FR 3	-4	-20	950	0	0	0
241	SLE FR 4	-4	-20	985	0	0	0
241	SLE FR 5	-4	-20	985	0	0	0
241	SLE FR 6	-4	-21	1005	0	0	0
241	SLE QP 1	-4	-20	948	0	0	0
241	SLE QP 2	-4	-20	982	0	0	0
241	SLD 1	70	-7	1205	0	0	0
241	SLD 2	85	-15	1196	0	0	0
241	SLD 3	75	-46	910	0	0	0
241	SLD 4	90	-53	902	0	0	0
241	SLD 5	8	44	1497	0	0	0
241	SLD 6	18	39	1491	0	0	0
241	SLD 7	25	-85	516	0	0	0
241	SLD 8	35	-90	510	0	0	0
241	SLD 9	-42	50	1454	0	0	0
241	SLD 10	-32	45	1448	0	0	0
241	SLD 11	-26	-79	474	0	0	0
241	SLD 12	-15	-84	468	0	0	0
241	SLD 13	-98	13	1063	0	0	0
241	SLD 14	-82	5	1054	0	0	0
241	SLD 15	-93	-26	769	0	0	0
241	SLD 16	-77	-33	760	0	0	0
241	SLV 1	111	1	1337	0	0	0
241	SLV 2	135	-10	1324	0	0	0
241	SLV 3	119	-61	862	0	0	0
241	SLV 4	143	-73	848	0	0	0
241	SLV 5	14	83	1812	0	0	0
241	SLV 6	30	75	1803	0	0	0
241	SLV 7	41	-125	228	0	0	0
241	SLV 8	57	-133	218	0	0	0
241	SLV 9	-64	92	1746	0	0	0
241	SLV 10	-48	85	1737	0	0	0
241	SLV 11	-38	-116	161	0	0	0
241	SLV 12	-22	-124	152	0	0	0
241	SLV 13	-151	32	1116	0	0	0
241	SLV 14	-127	21	1103	0	0	0
241	SLV 15	-143	-30	641	0	0	0
241	SLV 16	-119	-42	627	0	0	0
241	SLV FO 1	123	3	1373	0	0	0
241	SLV FO 2	149	-9	1358	0	0	0
241	SLV FO 3	132	-65	850	0	0	0
241	SLV FO 4	158	-78	835	0	0	0
241	SLV FO 5	16	93	1896	0	0	0
241	SLV FO 6	34	85	1885	0	0	0
241	SLV FO 7	45	-136	152	0	0	0
241	SLV FO 8	63	-144	142	0	0	0
241	SLV FO 9	-70	104	1822	0	0	0
241	SLV FO 10	-53	95	1812	0	0	0
241	SLV FO 11	-41	-126	79	0	0	0
241	SLV FO 12	-23	-134	69	0	0	0
241	SLV FO 13	-165	37	1129	0	0	0
241	SLV FO 14	-139	25	1115	0	0	0
241	SLV FO 15	-157	-31	606	0	0	0
241	SLV FO 16	-130	-44	592	0	0	0
241	CRTFP Uy+	0	0	0	0	0	0
241	CRTFP Uy-	0	0	0	0	0	0
242	SLU 1	-4	-18	923	0	0	0
242	SLU 2	-4	-15	946	0	0	0
242	SLU 3	-4	-19	937	0	0	0
242	SLU 4	-4	-16	951	0	0	0
242	SLU 5	-4	-15	955	0	0	0
242	SLU 6	-4	-19	946	0	0	0
242	SLU 7	-4	-17	960	0	0	0
242	SLU 8	-4	-19	940	0	0	0
242	SLU 9	-4	-17	954	0	0	0
242	SLU 10	-4	-17	1068	0	0	0
242	SLU 11	-4	-20	1059	0	0	0
242	SLU 12	-4	-18	1073	0	0	0
242	SLU 13	-4	-17	1076	0	0	0
242	SLU 14	-4	-21	1067	0	0	0
242	SLU 15	-4	-19	1081	0	0	0
242	SLU 16	-4	-21	1062	0	0	0
242	SLU 17	-4	-18	1076	0	0	0
242	SLU 18	-3	-21	1096	0	0	0
242	SLU 19	-3	-19	1110	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
242	SLU 20	-3	-21	1105	0	0	0
242	SLU 21	-4	-19	1119	0	0	0
242	SLU 22	-4	-20	1047	0	0	0
242	SLU 23	-4	-17	1070	0	0	0
242	SLU 24	-4	-21	1061	0	0	0
242	SLU 25	-4	-19	1075	0	0	0
242	SLU 26	-4	-17	1079	0	0	0
242	SLU 27	-4	-21	1070	0	0	0
242	SLU 28	-4	-19	1084	0	0	0
242	SLU 29	-4	-21	1064	0	0	0
242	SLU 30	-4	-19	1078	0	0	0
242	SLU 31	-4	-19	1191	0	0	0
242	SLU 32	-4	-23	1182	0	0	0
242	SLU 33	-4	-21	1196	0	0	0
242	SLU 34	-4	-19	1200	0	0	0
242	SLU 35	-4	-23	1191	0	0	0
242	SLU 36	-4	-21	1205	0	0	0
242	SLU 37	-4	-23	1186	0	0	0
242	SLU 38	-4	-21	1200	0	0	0
242	SLU 39	-4	-23	1220	0	0	0
242	SLU 40	-4	-21	1234	0	0	0
242	SLU 41	-4	-23	1229	0	0	0
242	SLU 42	-4	-21	1243	0	0	0
242	SLU 43	-4	-23	1157	0	0	0
242	SLU 44	-5	-19	1180	0	0	0
242	SLU 45	-5	-23	1172	0	0	0
242	SLU 46	-5	-21	1186	0	0	0
242	SLU 47	-5	-20	1189	0	0	0
242	SLU 48	-5	-23	1180	0	0	0
242	SLU 49	-5	-21	1194	0	0	0
242	SLU 50	-5	-23	1175	0	0	0
242	SLU 51	-5	-21	1189	0	0	0
242	SLU 52	-4	-21	1302	0	0	0
242	SLU 53	-4	-25	1293	0	0	0
242	SLU 54	-4	-23	1307	0	0	0
242	SLU 55	-5	-22	1311	0	0	0
242	SLU 56	-5	-25	1302	0	0	0
242	SLU 57	-5	-23	1316	0	0	0
242	SLU 58	-5	-25	1296	0	0	0
242	SLU 59	-5	-23	1310	0	0	0
242	SLU 60	-4	-26	1331	0	0	0
242	SLU 61	-4	-24	1345	0	0	0
242	SLU 62	-4	-26	1339	0	0	0
242	SLU 63	-4	-24	1353	0	0	0
242	SLU 64	-5	-25	1281	0	0	0
242	SLU 65	-5	-22	1304	0	0	0
242	SLU 66	-5	-25	1295	0	0	0
242	SLU 67	-5	-23	1309	0	0	0
242	SLU 68	-5	-22	1313	0	0	0
242	SLU 69	-5	-26	1304	0	0	0
242	SLU 70	-5	-24	1318	0	0	0
242	SLU 71	-5	-26	1299	0	0	0
242	SLU 72	-5	-23	1313	0	0	0
242	SLU 73	-5	-23	1426	0	0	0
242	SLU 74	-5	-27	1417	0	0	0
242	SLU 75	-5	-25	1431	0	0	0
242	SLU 76	-5	-24	1434	0	0	0
242	SLU 77	-5	-28	1426	0	0	0
242	SLU 78	-5	-25	1440	0	0	0
242	SLU 79	-5	-27	1420	0	0	0
242	SLU 80	-5	-25	1434	0	0	0
242	SLU 81	-5	-28	1454	0	0	0
242	SLU 82	-5	-26	1468	0	0	0
242	SLU 83	-5	-28	1463	0	0	0
242	SLU 84	-5	-26	1477	0	0	0
242	SLE RA 1	-4	-19	958	0	0	0
242	SLE RA 2	-4	-16	974	0	0	0
242	SLE RA 3	-4	-19	968	0	0	0
242	SLE RA 4	-4	-18	977	0	0	0
242	SLE RA 5	-4	-17	980	0	0	0
242	SLE RA 6	-4	-19	974	0	0	0
242	SLE RA 7	-4	-18	983	0	0	0
242	SLE RA 8	-4	-19	970	0	0	0
242	SLE RA 9	-4	-18	979	0	0	0
242	SLE RA 10	-4	-18	1055	0	0	0
242	SLE RA 11	-4	-20	1049	0	0	0
242	SLE RA 12	-4	-19	1058	0	0	0
242	SLE RA 13	-4	-18	1060	0	0	0
242	SLE RA 14	-4	-20	1055	0	0	0
242	SLE RA 15	-4	-19	1064	0	0	0
242	SLE RA 16	-4	-20	1051	0	0	0
242	SLE RA 17	-4	-19	1060	0	0	0
242	SLE RA 18	-4	-21	1074	0	0	0
242	SLE RA 19	-4	-19	1083	0	0	0
242	SLE RA 20	-4	-21	1080	0	0	0
242	SLE RA 21	-4	-19	1089	0	0	0
242	SLE FR 1	-4	-19	958	0	0	0
242	SLE FR 2	-4	-18	961	0	0	0
242	SLE FR 3	-4	-19	960	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
242	SLE FR 4	-4	-19	996	0	0	0
242	SLE FR 5	-4	-19	995	0	0	0
242	SLE FR 6	-4	-20	1016	0	0	0
242	SLE QP 1	-4	-19	958	0	0	0
242	SLE QP 2	-4	-19	993	0	0	0
242	SLD 1	72	-5	1209	0	0	0
242	SLD 2	88	-12	1201	0	0	0
242	SLD 3	77	-45	912	0	0	0
242	SLD 4	93	-52	904	0	0	0
242	SLD 5	8	48	1510	0	0	0
242	SLD 6	19	43	1504	0	0	0
242	SLD 7	25	-87	520	0	0	0
242	SLD 8	36	-92	514	0	0	0
242	SLD 9	-43	53	1471	0	0	0
242	SLD 10	-33	49	1466	0	0	0
242	SLD 11	-26	-82	481	0	0	0
242	SLD 12	-16	-87	476	0	0	0
242	SLD 13	-100	13	1081	0	0	0
242	SLD 14	-84	6	1073	0	0	0
242	SLD 15	-95	-27	784	0	0	0
242	SLD 16	-79	-34	776	0	0	0
242	SLV 1	115	5	1339	0	0	0
242	SLV 2	140	-6	1326	0	0	0
242	SLV 3	123	-61	859	0	0	0
242	SLV 4	148	-72	846	0	0	0
242	SLV 5	15	89	1827	0	0	0
242	SLV 6	32	82	1819	0	0	0
242	SLV 7	42	-129	227	0	0	0
242	SLV 8	59	-136	218	0	0	0
242	SLV 9	-66	98	1767	0	0	0
242	SLV 10	-49	90	1759	0	0	0
242	SLV 11	-39	-121	167	0	0	0
242	SLV 12	-22	-128	158	0	0	0
242	SLV 13	-155	33	1139	0	0	0
242	SLV 14	-130	22	1127	0	0	0
242	SLV 15	-147	-33	659	0	0	0
242	SLV 16	-122	-43	647	0	0	0
242	SLV FO 1	127	7	1374	0	0	0
242	SLV FO 2	154	-5	1360	0	0	0
242	SLV FO 3	135	-65	846	0	0	0
242	SLV FO 4	163	-77	831	0	0	0
242	SLV FO 5	17	100	1911	0	0	0
242	SLV FO 6	35	92	1901	0	0	0
242	SLV FO 7	47	-140	150	0	0	0
242	SLV FO 8	65	-148	141	0	0	0
242	SLV FO 9	-72	109	1845	0	0	0
242	SLV FO 10	-54	101	1835	0	0	0
242	SLV FO 11	-42	-131	84	0	0	0
242	SLV FO 12	-24	-139	75	0	0	0
242	SLV FO 13	-170	38	1154	0	0	0
242	SLV FO 14	-143	26	1140	0	0	0
242	SLV FO 15	-161	-34	626	0	0	0
242	SLV FO 16	-134	-46	612	0	0	0
242	CRTFP Uy+	0	0	0	0	0	0
242	CRTFP Uy-	0	0	0	0	0	0
243	SLU 1	-4	-17	937	0	0	0
243	SLU 2	-4	-14	961	0	0	0
243	SLU 3	-4	-18	952	0	0	0
243	SLU 4	-4	-15	966	0	0	0
243	SLU 5	-4	-14	970	0	0	0
243	SLU 6	-4	-18	961	0	0	0
243	SLU 7	-4	-16	975	0	0	0
243	SLU 8	-4	-18	955	0	0	0
243	SLU 9	-4	-16	970	0	0	0
243	SLU 10	-3	-16	1085	0	0	0
243	SLU 11	-3	-20	1076	0	0	0
243	SLU 12	-4	-17	1090	0	0	0
243	SLU 13	-4	-16	1094	0	0	0
243	SLU 14	-4	-20	1085	0	0	0
243	SLU 15	-4	-18	1099	0	0	0
243	SLU 16	-4	-20	1079	0	0	0
243	SLU 17	-4	-17	1093	0	0	0
243	SLU 18	-3	-20	1114	0	0	0
243	SLU 19	-3	-18	1128	0	0	0
243	SLU 20	-3	-20	1123	0	0	0
243	SLU 21	-3	-18	1137	0	0	0
243	SLU 22	-4	-19	1063	0	0	0
243	SLU 23	-4	-16	1087	0	0	0
243	SLU 24	-4	-20	1077	0	0	0
243	SLU 25	-4	-18	1092	0	0	0
243	SLU 26	-4	-16	1095	0	0	0
243	SLU 27	-4	-20	1086	0	0	0
243	SLU 28	-4	-18	1101	0	0	0
243	SLU 29	-4	-20	1081	0	0	0
243	SLU 30	-4	-18	1095	0	0	0
243	SLU 31	-4	-18	1210	0	0	0
243	SLU 32	-4	-22	1201	0	0	0
243	SLU 33	-4	-19	1215	0	0	0
243	SLU 34	-4	-18	1219	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLU 35	-4	-22	1210	0	0	0
243	SLU 36	-4	-20	1224	0	0	0
243	SLU 37	-4	-22	1204	0	0	0
243	SLU 38	-4	-19	1218	0	0	0
243	SLU 39	-4	-22	1239	0	0	0
243	SLU 40	-4	-20	1253	0	0	0
243	SLU 41	-4	-22	1248	0	0	0
243	SLU 42	-4	-20	1262	0	0	0
243	SLU 43	-4	-22	1176	0	0	0
243	SLU 44	-5	-18	1200	0	0	0
243	SLU 45	-5	-22	1190	0	0	0
243	SLU 46	-5	-20	1205	0	0	0
243	SLU 47	-5	-18	1209	0	0	0
243	SLU 48	-5	-22	1199	0	0	0
243	SLU 49	-5	-20	1214	0	0	0
243	SLU 50	-5	-22	1194	0	0	0
243	SLU 51	-5	-20	1208	0	0	0
243	SLU 52	-4	-20	1323	0	0	0
243	SLU 53	-4	-24	1314	0	0	0
243	SLU 54	-4	-22	1328	0	0	0
243	SLU 55	-4	-20	1332	0	0	0
243	SLU 56	-4	-24	1323	0	0	0
243	SLU 57	-5	-22	1337	0	0	0
243	SLU 58	-4	-24	1317	0	0	0
243	SLU 59	-5	-22	1331	0	0	0
243	SLU 60	-4	-25	1352	0	0	0
243	SLU 61	-4	-22	1367	0	0	0
243	SLU 62	-4	-25	1361	0	0	0
243	SLU 63	-4	-23	1375	0	0	0
243	SLU 64	-5	-24	1301	0	0	0
243	SLU 65	-5	-20	1325	0	0	0
243	SLU 66	-5	-24	1316	0	0	0
243	SLU 67	-5	-22	1330	0	0	0
243	SLU 68	-5	-20	1334	0	0	0
243	SLU 69	-5	-24	1325	0	0	0
243	SLU 70	-5	-22	1339	0	0	0
243	SLU 71	-5	-24	1319	0	0	0
243	SLU 72	-5	-22	1333	0	0	0
243	SLU 73	-5	-22	1448	0	0	0
243	SLU 74	-5	-26	1439	0	0	0
243	SLU 75	-5	-24	1453	0	0	0
243	SLU 76	-5	-22	1457	0	0	0
243	SLU 77	-5	-26	1448	0	0	0
243	SLU 78	-5	-24	1462	0	0	0
243	SLU 79	-5	-26	1442	0	0	0
243	SLU 80	-5	-24	1457	0	0	0
243	SLU 81	-5	-27	1478	0	0	0
243	SLU 82	-5	-24	1492	0	0	0
243	SLU 83	-5	-27	1486	0	0	0
243	SLU 84	-5	-25	1501	0	0	0
243	SLE RA 1	-4	-18	973	0	0	0
243	SLE RA 2	-4	-15	989	0	0	0
243	SLE RA 3	-4	-18	983	0	0	0
243	SLE RA 4	-4	-17	993	0	0	0
243	SLE RA 5	-4	-16	995	0	0	0
243	SLE RA 6	-4	-18	989	0	0	0
243	SLE RA 7	-4	-17	998	0	0	0
243	SLE RA 8	-4	-18	985	0	0	0
243	SLE RA 9	-4	-17	995	0	0	0
243	SLE RA 10	-4	-17	1071	0	0	0
243	SLE RA 11	-4	-19	1065	0	0	0
243	SLE RA 12	-4	-18	1075	0	0	0
243	SLE RA 13	-4	-17	1077	0	0	0
243	SLE RA 14	-4	-20	1071	0	0	0
243	SLE RA 15	-4	-18	1081	0	0	0
243	SLE RA 16	-4	-19	1068	0	0	0
243	SLE RA 17	-4	-18	1077	0	0	0
243	SLE RA 18	-4	-20	1091	0	0	0
243	SLE RA 19	-4	-18	1100	0	0	0
243	SLE RA 20	-4	-20	1097	0	0	0
243	SLE RA 21	-4	-18	1106	0	0	0
243	SLE FR 1	-4	-18	973	0	0	0
243	SLE FR 2	-4	-17	976	0	0	0
243	SLE FR 3	-4	-18	976	0	0	0
243	SLE FR 4	-4	-18	1012	0	0	0
243	SLE FR 5	-4	-19	1011	0	0	0
243	SLE FR 6	-4	-19	1032	0	0	0
243	SLE QP 1	-4	-18	973	0	0	0
243	SLE QP 2	-4	-18	1009	0	0	0
243	SLD 1	75	-2	1220	0	0	0
243	SLD 2	91	-9	1212	0	0	0
243	SLD 3	80	-45	918	0	0	0
243	SLD 4	96	-51	911	0	0	0
243	SLD 5	9	52	1531	0	0	0
243	SLD 6	20	48	1526	0	0	0
243	SLD 7	26	-90	526	0	0	0
243	SLD 8	37	-94	520	0	0	0
243	SLD 9	-44	57	1497	0	0	0
243	SLD 10	-34	53	1492	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
243	SLD 11	-27	-85	492	0	0	0
243	SLD 12	-16	-89	486	0	0	0
243	SLD 13	-103	14	1106	0	0	0
243	SLD 14	-87	8	1099	0	0	0
243	SLD 15	-98	-28	805	0	0	0
243	SLD 16	-82	-35	797	0	0	0
243	SLV 1	119	8	1347	0	0	0
243	SLV 2	144	-2	1335	0	0	0
243	SLV 3	127	-61	859	0	0	0
243	SLV 4	153	-71	847	0	0	0
243	SLV 5	16	96	1851	0	0	0
243	SLV 6	33	89	1843	0	0	0
243	SLV 7	43	-134	227	0	0	0
243	SLV 8	60	-140	219	0	0	0
243	SLV 9	-68	103	1798	0	0	0
243	SLV 10	-51	97	1790	0	0	0
243	SLV 11	-40	-126	174	0	0	0
243	SLV 12	-23	-133	166	0	0	0
243	SLV 13	-160	34	1170	0	0	0
243	SLV 14	-134	24	1158	0	0	0
243	SLV 15	-152	-35	682	0	0	0
243	SLV 16	-126	-45	670	0	0	0
243	SLV FO 1	131	11	1381	0	0	0
243	SLV FO 2	159	0	1367	0	0	0
243	SLV FO 3	140	-65	844	0	0	0
243	SLV FO 4	168	-76	831	0	0	0
243	SLV FO 5	18	107	1936	0	0	0
243	SLV FO 6	37	100	1927	0	0	0
243	SLV FO 7	48	-145	149	0	0	0
243	SLV FO 8	67	-153	140	0	0	0
243	SLV FO 9	-74	116	1877	0	0	0
243	SLV FO 10	-55	108	1868	0	0	0
243	SLV FO 11	-44	-137	90	0	0	0
243	SLV FO 12	-25	-144	81	0	0	0
243	SLV FO 13	-175	39	1186	0	0	0
243	SLV FO 14	-147	28	1173	0	0	0
243	SLV FO 15	-166	-37	650	0	0	0
243	SLV FO 16	-138	-48	637	0	0	0
243	CRTFP Uy+	0	0	0	0	0	0
243	CRTFP Uy-	0	0	0	0	0	0
244	SLU 1	-3	-16	948	0	0	0
244	SLU 2	-4	-12	972	0	0	0
244	SLU 3	-4	-17	963	0	0	0
244	SLU 4	-4	-14	977	0	0	0
244	SLU 5	-4	-13	981	0	0	0
244	SLU 6	-4	-17	972	0	0	0
244	SLU 7	-4	-14	986	0	0	0
244	SLU 8	-4	-17	966	0	0	0
244	SLU 9	-4	-14	980	0	0	0
244	SLU 10	-3	-14	1097	0	0	0
244	SLU 11	-3	-18	1088	0	0	0
244	SLU 12	-3	-16	1102	0	0	0
244	SLU 13	-3	-14	1106	0	0	0
244	SLU 14	-3	-19	1097	0	0	0
244	SLU 15	-4	-16	1111	0	0	0
244	SLU 16	-3	-18	1091	0	0	0
244	SLU 17	-4	-16	1106	0	0	0
244	SLU 18	-3	-19	1127	0	0	0
244	SLU 19	-3	-17	1141	0	0	0
244	SLU 20	-3	-19	1136	0	0	0
244	SLU 21	-3	-17	1150	0	0	0
244	SLU 22	-4	-18	1074	0	0	0
244	SLU 23	-4	-14	1098	0	0	0
244	SLU 24	-4	-18	1089	0	0	0
244	SLU 25	-4	-16	1103	0	0	0
244	SLU 26	-4	-15	1107	0	0	0
244	SLU 27	-4	-19	1098	0	0	0
244	SLU 28	-4	-16	1112	0	0	0
244	SLU 29	-4	-19	1092	0	0	0
244	SLU 30	-4	-16	1107	0	0	0
244	SLU 31	-4	-16	1223	0	0	0
244	SLU 32	-4	-20	1214	0	0	0
244	SLU 33	-4	-18	1229	0	0	0
244	SLU 34	-4	-16	1232	0	0	0
244	SLU 35	-4	-20	1223	0	0	0
244	SLU 36	-4	-18	1238	0	0	0
244	SLU 37	-4	-20	1217	0	0	0
244	SLU 38	-4	-18	1232	0	0	0
244	SLU 39	-4	-21	1253	0	0	0
244	SLU 40	-4	-18	1267	0	0	0
244	SLU 41	-4	-21	1262	0	0	0
244	SLU 42	-4	-19	1276	0	0	0
244	SLU 43	-4	-21	1189	0	0	0
244	SLU 44	-4	-17	1213	0	0	0
244	SLU 45	-4	-21	1204	0	0	0
244	SLU 46	-4	-19	1218	0	0	0
244	SLU 47	-4	-17	1222	0	0	0
244	SLU 48	-5	-21	1213	0	0	0
244	SLU 49	-5	-19	1227	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLU 50	-5	-21	1207	0	0	0
244	SLU 51	-5	-19	1221	0	0	0
244	SLU 52	-4	-18	1338	0	0	0
244	SLU 53	-4	-23	1329	0	0	0
244	SLU 54	-4	-20	1343	0	0	0
244	SLU 55	-4	-19	1347	0	0	0
244	SLU 56	-4	-23	1338	0	0	0
244	SLU 57	-4	-20	1352	0	0	0
244	SLU 58	-4	-23	1332	0	0	0
244	SLU 59	-4	-20	1347	0	0	0
244	SLU 60	-4	-23	1368	0	0	0
244	SLU 61	-4	-21	1382	0	0	0
244	SLU 62	-4	-23	1377	0	0	0
244	SLU 63	-4	-21	1391	0	0	0
244	SLU 64	-5	-22	1315	0	0	0
244	SLU 65	-5	-19	1339	0	0	0
244	SLU 66	-5	-23	1330	0	0	0
244	SLU 67	-5	-20	1344	0	0	0
244	SLU 68	-5	-19	1348	0	0	0
244	SLU 69	-5	-23	1339	0	0	0
244	SLU 70	-5	-21	1353	0	0	0
244	SLU 71	-5	-23	1333	0	0	0
244	SLU 72	-5	-20	1348	0	0	0
244	SLU 73	-5	-20	1464	0	0	0
244	SLU 74	-5	-24	1455	0	0	0
244	SLU 75	-5	-22	1470	0	0	0
244	SLU 76	-5	-21	1474	0	0	0
244	SLU 77	-5	-25	1464	0	0	0
244	SLU 78	-5	-22	1479	0	0	0
244	SLU 79	-5	-25	1458	0	0	0
244	SLU 80	-5	-22	1473	0	0	0
244	SLU 81	-5	-25	1494	0	0	0
244	SLU 82	-5	-23	1508	0	0	0
244	SLU 83	-5	-25	1503	0	0	0
244	SLU 84	-5	-23	1518	0	0	0
244	SLE RA 1	-4	-17	984	0	0	0
244	SLE RA 2	-4	-14	1000	0	0	0
244	SLE RA 3	-4	-17	994	0	0	0
244	SLE RA 4	-4	-15	1003	0	0	0
244	SLE RA 5	-4	-14	1006	0	0	0
244	SLE RA 6	-4	-17	1000	0	0	0
244	SLE RA 7	-4	-16	1009	0	0	0
244	SLE RA 8	-4	-17	996	0	0	0
244	SLE RA 9	-4	-16	1006	0	0	0
244	SLE RA 10	-4	-15	1083	0	0	0
244	SLE RA 11	-4	-18	1077	0	0	0
244	SLE RA 12	-4	-17	1087	0	0	0
244	SLE RA 13	-4	-16	1089	0	0	0
244	SLE RA 14	-4	-18	1083	0	0	0
244	SLE RA 15	-4	-17	1093	0	0	0
244	SLE RA 16	-4	-18	1079	0	0	0
244	SLE RA 17	-4	-17	1089	0	0	0
244	SLE RA 18	-3	-18	1103	0	0	0
244	SLE RA 19	-3	-17	1113	0	0	0
244	SLE RA 20	-3	-19	1109	0	0	0
244	SLE RA 21	-3	-17	1119	0	0	0
244	SLE FR 1	-4	-17	984	0	0	0
244	SLE FR 2	-4	-16	987	0	0	0
244	SLE FR 3	-4	-17	986	0	0	0
244	SLE FR 4	-4	-17	1023	0	0	0
244	SLE FR 5	-4	-17	1022	0	0	0
244	SLE FR 6	-3	-18	1044	0	0	0
244	SLE QP 1	-4	-17	984	0	0	0
244	SLE QP 2	-4	-17	1020	0	0	0
244	SLD 1	76	0	1224	0	0	0
244	SLD 2	93	-5	1217	0	0	0
244	SLD 3	82	-44	920	0	0	0
244	SLD 4	98	-50	912	0	0	0
244	SLD 5	10	56	1544	0	0	0
244	SLD 6	21	52	1540	0	0	0
244	SLD 7	27	-91	529	0	0	0
244	SLD 8	38	-95	524	0	0	0
244	SLD 9	-45	61	1515	0	0	0
244	SLD 10	-34	57	1510	0	0	0
244	SLD 11	-28	-87	500	0	0	0
244	SLD 12	-17	-91	495	0	0	0
244	SLD 13	-105	15	1127	0	0	0
244	SLD 14	-89	9	1120	0	0	0
244	SLD 15	-100	-29	822	0	0	0
244	SLD 16	-84	-35	815	0	0	0
244	SLV 1	122	12	1347	0	0	0
244	SLV 2	148	2	1336	0	0	0
244	SLV 3	130	-60	855	0	0	0
244	SLV 4	156	-69	844	0	0	0
244	SLV 5	17	102	1867	0	0	0
244	SLV 6	34	95	1859	0	0	0
244	SLV 7	44	-137	226	0	0	0
244	SLV 8	62	-143	218	0	0	0
244	SLV 9	-69	108	1821	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
244	SLV 10	-51	102	1814	0	0	0
244	SLV 11	-41	-130	180	0	0	0
244	SLV 12	-24	-136	173	0	0	0
244	SLV 13	-163	34	1196	0	0	0
244	SLV 14	-137	25	1184	0	0	0
244	SLV 15	-155	-37	703	0	0	0
244	SLV 16	-129	-46	692	0	0	0
244	SLV FO 1	134	14	1380	0	0	0
244	SLV FO 2	163	4	1368	0	0	0
244	SLV FO 3	143	-64	839	0	0	0
244	SLV FO 4	172	-74	826	0	0	0
244	SLV FO 5	19	113	1951	0	0	0
244	SLV FO 6	38	107	1943	0	0	0
244	SLV FO 7	49	-149	146	0	0	0
244	SLV FO 8	68	-156	138	0	0	0
244	SLV FO 9	-75	121	1901	0	0	0
244	SLV FO 10	-56	114	1893	0	0	0
244	SLV FO 11	-45	-141	96	0	0	0
244	SLV FO 12	-26	-148	88	0	0	0
244	SLV FO 13	-179	40	1213	0	0	0
244	SLV FO 14	-150	30	1201	0	0	0
244	SLV FO 15	-170	-39	672	0	0	0
244	SLV FO 16	-141	-49	659	0	0	0
244	CRTFP Uy+	0	0	0	0	0	0
244	CRTFP Uy-	0	0	0	0	0	0
245	SLU 1	-3	-15	958	0	0	0
245	SLU 2	-3	-11	982	0	0	0
245	SLU 3	-3	-15	973	0	0	0
245	SLU 4	-4	-13	987	0	0	0
245	SLU 5	-4	-11	991	0	0	0
245	SLU 6	-4	-15	982	0	0	0
245	SLU 7	-4	-13	996	0	0	0
245	SLU 8	-4	-15	976	0	0	0
245	SLU 9	-4	-13	991	0	0	0
245	SLU 10	-3	-13	1109	0	0	0
245	SLU 11	-3	-17	1100	0	0	0
245	SLU 12	-3	-14	1114	0	0	0
245	SLU 13	-3	-13	1118	0	0	0
245	SLU 14	-3	-17	1109	0	0	0
245	SLU 15	-3	-15	1124	0	0	0
245	SLU 16	-3	-17	1103	0	0	0
245	SLU 17	-3	-15	1118	0	0	0
245	SLU 18	-3	-17	1139	0	0	0
245	SLU 19	-3	-15	1154	0	0	0
245	SLU 20	-3	-17	1148	0	0	0
245	SLU 21	-3	-15	1163	0	0	0
245	SLU 22	-4	-17	1085	0	0	0
245	SLU 23	-4	-13	1109	0	0	0
245	SLU 24	-4	-17	1100	0	0	0
245	SLU 25	-4	-15	1115	0	0	0
245	SLU 26	-4	-13	1119	0	0	0
245	SLU 27	-4	-17	1109	0	0	0
245	SLU 28	-4	-15	1124	0	0	0
245	SLU 29	-4	-17	1103	0	0	0
245	SLU 30	-4	-15	1118	0	0	0
245	SLU 31	-4	-14	1236	0	0	0
245	SLU 32	-4	-19	1227	0	0	0
245	SLU 33	-4	-16	1242	0	0	0
245	SLU 34	-4	-15	1246	0	0	0
245	SLU 35	-4	-19	1236	0	0	0
245	SLU 36	-4	-16	1251	0	0	0
245	SLU 37	-4	-19	1230	0	0	0
245	SLU 38	-4	-16	1245	0	0	0
245	SLU 39	-4	-19	1267	0	0	0
245	SLU 40	-4	-17	1281	0	0	0
245	SLU 41	-4	-19	1276	0	0	0
245	SLU 42	-4	-17	1290	0	0	0
245	SLU 43	-4	-19	1201	0	0	0
245	SLU 44	-4	-15	1226	0	0	0
245	SLU 45	-4	-19	1216	0	0	0
245	SLU 46	-4	-17	1231	0	0	0
245	SLU 47	-4	-15	1235	0	0	0
245	SLU 48	-4	-19	1226	0	0	0
245	SLU 49	-4	-17	1240	0	0	0
245	SLU 50	-4	-19	1220	0	0	0
245	SLU 51	-4	-17	1234	0	0	0
245	SLU 52	-4	-17	1353	0	0	0
245	SLU 53	-4	-21	1343	0	0	0
245	SLU 54	-4	-18	1358	0	0	0
245	SLU 55	-4	-17	1362	0	0	0
245	SLU 56	-4	-21	1353	0	0	0
245	SLU 57	-4	-19	1367	0	0	0
245	SLU 58	-4	-21	1347	0	0	0
245	SLU 59	-4	-18	1361	0	0	0
245	SLU 60	-4	-21	1383	0	0	0
245	SLU 61	-4	-19	1397	0	0	0
245	SLU 62	-4	-21	1392	0	0	0
245	SLU 63	-4	-19	1407	0	0	0
245	SLU 64	-5	-21	1329	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
245	SLU 65	-5	-17	1353	0	0	0
245	SLU 66	-5	-21	1344	0	0	0
245	SLU 67	-5	-18	1358	0	0	0
245	SLU 68	-5	-17	1362	0	0	0
245	SLU 69	-5	-21	1353	0	0	0
245	SLU 70	-5	-19	1367	0	0	0
245	SLU 71	-5	-21	1347	0	0	0
245	SLU 72	-5	-19	1362	0	0	0
245	SLU 73	-5	-18	1480	0	0	0
245	SLU 74	-5	-22	1471	0	0	0
245	SLU 75	-5	-20	1485	0	0	0
245	SLU 76	-5	-18	1489	0	0	0
245	SLU 77	-5	-23	1480	0	0	0
245	SLU 78	-5	-20	1495	0	0	0
245	SLU 79	-5	-23	1474	0	0	0
245	SLU 80	-5	-20	1489	0	0	0
245	SLU 81	-4	-23	1510	0	0	0
245	SLU 82	-4	-20	1525	0	0	0
245	SLU 83	-4	-23	1519	0	0	0
245	SLU 84	-5	-21	1534	0	0	0
245	SLE RA 1	-3	-15	994	0	0	0
245	SLE RA 2	-4	-13	1010	0	0	0
245	SLE RA 3	-4	-16	1004	0	0	0
245	SLE RA 4	-4	-14	1014	0	0	0
245	SLE RA 5	-4	-13	1016	0	0	0
245	SLE RA 6	-4	-16	1010	0	0	0
245	SLE RA 7	-4	-14	1020	0	0	0
245	SLE RA 8	-4	-16	1006	0	0	0
245	SLE RA 9	-4	-14	1016	0	0	0
245	SLE RA 10	-3	-14	1095	0	0	0
245	SLE RA 11	-3	-17	1089	0	0	0
245	SLE RA 12	-3	-15	1099	0	0	0
245	SLE RA 13	-3	-14	1101	0	0	0
245	SLE RA 14	-3	-17	1095	0	0	0
245	SLE RA 15	-4	-15	1105	0	0	0
245	SLE RA 16	-3	-17	1091	0	0	0
245	SLE RA 17	-4	-15	1101	0	0	0
245	SLE RA 18	-3	-17	1115	0	0	0
245	SLE RA 19	-3	-15	1125	0	0	0
245	SLE RA 20	-3	-17	1121	0	0	0
245	SLE RA 21	-3	-16	1131	0	0	0
245	SLE FR 1	-3	-15	994	0	0	0
245	SLE FR 2	-3	-15	997	0	0	0
245	SLE FR 3	-4	-15	997	0	0	0
245	SLE FR 4	-3	-15	1034	0	0	0
245	SLE FR 5	-3	-16	1033	0	0	0
245	SLE FR 6	-3	-16	1055	0	0	0
245	SLE QP 1	-3	-15	994	0	0	0
245	SLE QP 2	-3	-16	1030	0	0	0
245	SLD 1	78	3	1228	0	0	0
245	SLD 2	95	-2	1221	0	0	0
245	SLD 3	83	-42	920	0	0	0
245	SLD 4	100	-48	914	0	0	0
245	SLD 5	10	60	1557	0	0	0
245	SLD 6	21	57	1552	0	0	0
245	SLD 7	27	-92	533	0	0	0
245	SLD 8	38	-96	528	0	0	0
245	SLD 9	-45	64	1533	0	0	0
245	SLD 10	-34	61	1528	0	0	0
245	SLD 11	-28	-89	508	0	0	0
245	SLD 12	-17	-92	504	0	0	0
245	SLD 13	-107	16	1147	0	0	0
245	SLD 14	-90	11	1141	0	0	0
245	SLD 15	-101	-30	840	0	0	0
245	SLD 16	-85	-35	833	0	0	0
245	SLV 1	124	15	1347	0	0	0
245	SLV 2	150	7	1336	0	0	0
245	SLV 3	132	-59	850	0	0	0
245	SLV 4	158	-67	840	0	0	0
245	SLV 5	17	107	1881	0	0	0
245	SLV 6	35	102	1874	0	0	0
245	SLV 7	45	-139	225	0	0	0
245	SLV 8	62	-145	218	0	0	0
245	SLV 9	-69	113	1843	0	0	0
245	SLV 10	-51	108	1836	0	0	0
245	SLV 11	-42	-133	187	0	0	0
245	SLV 12	-24	-139	180	0	0	0
245	SLV 13	-165	35	1221	0	0	0
245	SLV 14	-139	27	1211	0	0	0
245	SLV 15	-157	-39	725	0	0	0
245	SLV 16	-130	-47	714	0	0	0
245	SLV FO 1	136	18	1378	0	0	0
245	SLV FO 2	165	10	1367	0	0	0
245	SLV FO 3	145	-63	832	0	0	0
245	SLV FO 4	174	-72	821	0	0	0
245	SLV FO 5	19	119	1966	0	0	0
245	SLV FO 6	39	113	1958	0	0	0
245	SLV FO 7	49	-152	144	0	0	0
245	SLV FO 8	69	-158	137	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
245	SLV FO 9	-76	126	1924	0	0	0
245	SLV FO 10	-56	120	1917	0	0	0
245	SLV FO 11	-46	-145	103	0	0	0
245	SLV FO 12	-26	-151	95	0	0	0
245	SLV FO 13	-181	40	1240	0	0	0
245	SLV FO 14	-152	31	1229	0	0	0
245	SLV FO 15	-172	-41	694	0	0	0
245	SLV FO 16	-143	-50	682	0	0	0
245	CRTFP Uy+	0	0	0	0	0	0
245	CRTFP Uy-	0	0	0	0	0	0
246	SLU 1	-3	-13	973	0	0	0
246	SLU 2	-3	-9	998	0	0	0
246	SLU 3	-3	-14	988	0	0	0
246	SLU 4	-3	-11	1003	0	0	0
246	SLU 5	-3	-10	1007	0	0	0
246	SLU 6	-3	-14	998	0	0	0
246	SLU 7	-4	-11	1013	0	0	0
246	SLU 8	-3	-14	992	0	0	0
246	SLU 9	-3	-11	1007	0	0	0
246	SLU 10	-3	-11	1128	0	0	0
246	SLU 11	-3	-15	1118	0	0	0
246	SLU 12	-3	-13	1133	0	0	0
246	SLU 13	-3	-11	1137	0	0	0
246	SLU 14	-3	-15	1127	0	0	0
246	SLU 15	-3	-13	1142	0	0	0
246	SLU 16	-3	-15	1122	0	0	0
246	SLU 17	-3	-13	1136	0	0	0
246	SLU 18	-3	-15	1158	0	0	0
246	SLU 19	-3	-13	1173	0	0	0
246	SLU 20	-3	-16	1168	0	0	0
246	SLU 21	-3	-13	1183	0	0	0
246	SLU 22	-4	-15	1102	0	0	0
246	SLU 23	-4	-11	1127	0	0	0
246	SLU 24	-4	-15	1118	0	0	0
246	SLU 25	-4	-13	1133	0	0	0
246	SLU 26	-4	-11	1137	0	0	0
246	SLU 27	-4	-15	1127	0	0	0
246	SLU 28	-4	-13	1142	0	0	0
246	SLU 29	-4	-15	1121	0	0	0
246	SLU 30	-4	-13	1136	0	0	0
246	SLU 31	-4	-12	1257	0	0	0
246	SLU 32	-4	-17	1247	0	0	0
246	SLU 33	-4	-14	1262	0	0	0
246	SLU 34	-4	-12	1266	0	0	0
246	SLU 35	-4	-17	1257	0	0	0
246	SLU 36	-4	-14	1272	0	0	0
246	SLU 37	-4	-17	1251	0	0	0
246	SLU 38	-4	-14	1266	0	0	0
246	SLU 39	-3	-17	1288	0	0	0
246	SLU 40	-3	-15	1303	0	0	0
246	SLU 41	-3	-17	1297	0	0	0
246	SLU 42	-4	-15	1312	0	0	0
246	SLU 43	-4	-17	1221	0	0	0
246	SLU 44	-4	-13	1245	0	0	0
246	SLU 45	-4	-17	1236	0	0	0
246	SLU 46	-4	-15	1251	0	0	0
246	SLU 47	-4	-13	1255	0	0	0
246	SLU 48	-4	-17	1245	0	0	0
246	SLU 49	-4	-15	1260	0	0	0
246	SLU 50	-4	-17	1239	0	0	0
246	SLU 51	-4	-15	1254	0	0	0
246	SLU 52	-4	-14	1375	0	0	0
246	SLU 53	-4	-19	1366	0	0	0
246	SLU 54	-4	-16	1380	0	0	0
246	SLU 55	-4	-14	1384	0	0	0
246	SLU 56	-4	-19	1375	0	0	0
246	SLU 57	-4	-16	1390	0	0	0
246	SLU 58	-4	-19	1369	0	0	0
246	SLU 59	-4	-16	1384	0	0	0
246	SLU 60	-4	-19	1406	0	0	0
246	SLU 61	-4	-17	1421	0	0	0
246	SLU 62	-4	-19	1415	0	0	0
246	SLU 63	-4	-17	1430	0	0	0
246	SLU 64	-4	-18	1350	0	0	0
246	SLU 65	-5	-14	1375	0	0	0
246	SLU 66	-5	-19	1365	0	0	0
246	SLU 67	-5	-16	1380	0	0	0
246	SLU 68	-5	-15	1384	0	0	0
246	SLU 69	-5	-19	1375	0	0	0
246	SLU 70	-5	-16	1389	0	0	0
246	SLU 71	-5	-19	1369	0	0	0
246	SLU 72	-5	-16	1384	0	0	0
246	SLU 73	-4	-16	1504	0	0	0
246	SLU 74	-4	-20	1495	0	0	0
246	SLU 75	-4	-18	1510	0	0	0
246	SLU 76	-4	-16	1514	0	0	0
246	SLU 77	-5	-20	1504	0	0	0
246	SLU 78	-5	-18	1519	0	0	0
246	SLU 79	-4	-20	1498	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
246	SLU 80	-5	-18	1513	0	0	0
246	SLU 81	-4	-20	1535	0	0	0
246	SLU 82	-4	-18	1550	0	0	0
246	SLU 83	-4	-21	1545	0	0	0
246	SLU 84	-4	-18	1560	0	0	0
246	SLE RA 1	-3	-14	1010	0	0	0
246	SLE RA 2	-3	-11	1027	0	0	0
246	SLE RA 3	-3	-14	1020	0	0	0
246	SLE RA 4	-3	-12	1030	0	0	0
246	SLE RA 5	-3	-11	1033	0	0	0
246	SLE RA 6	-4	-14	1026	0	0	0
246	SLE RA 7	-4	-12	1036	0	0	0
246	SLE RA 8	-3	-14	1022	0	0	0
246	SLE RA 9	-4	-12	1032	0	0	0
246	SLE RA 10	-3	-12	1113	0	0	0
246	SLE RA 11	-3	-15	1107	0	0	0
246	SLE RA 12	-3	-13	1117	0	0	0
246	SLE RA 13	-3	-12	1119	0	0	0
246	SLE RA 14	-3	-15	1113	0	0	0
246	SLE RA 15	-3	-13	1123	0	0	0
246	SLE RA 16	-3	-15	1109	0	0	0
246	SLE RA 17	-3	-13	1119	0	0	0
246	SLE RA 18	-3	-15	1134	0	0	0
246	SLE RA 19	-3	-14	1143	0	0	0
246	SLE RA 20	-3	-15	1140	0	0	0
246	SLE RA 21	-3	-14	1150	0	0	0
246	SLE FR 1	-3	-14	1010	0	0	0
246	SLE FR 2	-3	-13	1013	0	0	0
246	SLE FR 3	-3	-14	1012	0	0	0
246	SLE FR 4	-3	-14	1050	0	0	0
246	SLE FR 5	-3	-14	1050	0	0	0
246	SLE FR 6	-3	-15	1072	0	0	0
246	SLE QP 1	-3	-14	1010	0	0	0
246	SLE QP 2	-3	-14	1047	0	0	0
246	SLD 1	79	6	1238	0	0	0
246	SLD 2	96	2	1232	0	0	0
246	SLD 3	84	-41	926	0	0	0
246	SLD 4	101	-45	920	0	0	0
246	SLD 5	11	64	1578	0	0	0
246	SLD 6	22	61	1574	0	0	0
246	SLD 7	27	-93	540	0	0	0
246	SLD 8	39	-96	536	0	0	0
246	SLD 9	-45	67	1559	0	0	0
246	SLD 10	-34	65	1555	0	0	0
246	SLD 11	-28	-90	520	0	0	0
246	SLD 12	-17	-93	516	0	0	0
246	SLD 13	-108	17	1174	0	0	0
246	SLD 14	-90	12	1168	0	0	0
246	SLD 15	-103	-31	862	0	0	0
246	SLD 16	-85	-35	856	0	0	0
246	SLV 1	125	19	1353	0	0	0
246	SLV 2	152	13	1344	0	0	0
246	SLV 3	133	-57	850	0	0	0
246	SLV 4	160	-64	840	0	0	0
246	SLV 5	18	113	1904	0	0	0
246	SLV 6	36	108	1898	0	0	0
246	SLV 7	45	-141	226	0	0	0
246	SLV 8	63	-146	220	0	0	0
246	SLV 9	-70	118	1874	0	0	0
246	SLV 10	-51	113	1868	0	0	0
246	SLV 11	-43	-137	196	0	0	0
246	SLV 12	-25	-141	190	0	0	0
246	SLV 13	-167	35	1254	0	0	0
246	SLV 14	-140	28	1244	0	0	0
246	SLV 15	-159	-41	750	0	0	0
246	SLV 16	-132	-48	741	0	0	0
246	SLV FO 1	138	23	1384	0	0	0
246	SLV FO 2	167	15	1374	0	0	0
246	SLV FO 3	147	-61	830	0	0	0
246	SLV FO 4	176	-69	820	0	0	0
246	SLV FO 5	20	125	1990	0	0	0
246	SLV FO 6	40	120	1983	0	0	0
246	SLV FO 7	50	-154	144	0	0	0
246	SLV FO 8	70	-159	137	0	0	0
246	SLV FO 9	-76	131	1957	0	0	0
246	SLV FO 10	-56	126	1950	0	0	0
246	SLV FO 11	-47	-149	111	0	0	0
246	SLV FO 12	-27	-154	104	0	0	0
246	SLV FO 13	-183	40	1274	0	0	0
246	SLV FO 14	-153	33	1264	0	0	0
246	SLV FO 15	-174	-44	721	0	0	0
246	SLV FO 16	-145	-51	710	0	0	0
246	CRTFP Uy+	0	0	0	0	0	0
246	CRTFP Uy-	0	0	0	0	0	0
247	SLU 1	-3	-12	997	0	0	0
247	SLU 2	-3	-8	1023	0	0	0
247	SLU 3	-3	-12	1013	0	0	0
247	SLU 4	-3	-10	1028	0	0	0
247	SLU 5	-3	-8	1032	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
247	SLU 6	-3	-12	1023	0	0	0
247	SLU 7	-3	-10	1038	0	0	0
247	SLU 8	-3	-12	1017	0	0	0
247	SLU 9	-3	-10	1032	0	0	0
247	SLU 10	-3	-9	1157	0	0	0
247	SLU 11	-3	-13	1147	0	0	0
247	SLU 12	-3	-11	1162	0	0	0
247	SLU 13	-3	-9	1166	0	0	0
247	SLU 14	-3	-13	1157	0	0	0
247	SLU 15	-3	-11	1172	0	0	0
247	SLU 16	-3	-13	1151	0	0	0
247	SLU 17	-3	-11	1166	0	0	0
247	SLU 18	-3	-14	1189	0	0	0
247	SLU 19	-3	-11	1204	0	0	0
247	SLU 20	-3	-14	1198	0	0	0
247	SLU 21	-3	-11	1213	0	0	0
247	SLU 22	-4	-13	1130	0	0	0
247	SLU 23	-4	-9	1155	0	0	0
247	SLU 24	-4	-13	1146	0	0	0
247	SLU 25	-4	-11	1161	0	0	0
247	SLU 26	-4	-9	1165	0	0	0
247	SLU 27	-4	-13	1156	0	0	0
247	SLU 28	-4	-11	1171	0	0	0
247	SLU 29	-4	-13	1149	0	0	0
247	SLU 30	-4	-11	1165	0	0	0
247	SLU 31	-4	-10	1289	0	0	0
247	SLU 32	-4	-15	1280	0	0	0
247	SLU 33	-4	-12	1295	0	0	0
247	SLU 34	-4	-10	1299	0	0	0
247	SLU 35	-4	-15	1289	0	0	0
247	SLU 36	-4	-12	1305	0	0	0
247	SLU 37	-4	-15	1283	0	0	0
247	SLU 38	-4	-12	1299	0	0	0
247	SLU 39	-3	-15	1321	0	0	0
247	SLU 40	-3	-12	1337	0	0	0
247	SLU 41	-3	-15	1331	0	0	0
247	SLU 42	-4	-13	1346	0	0	0
247	SLU 43	-4	-15	1251	0	0	0
247	SLU 44	-4	-11	1276	0	0	0
247	SLU 45	-4	-15	1267	0	0	0
247	SLU 46	-4	-13	1282	0	0	0
247	SLU 47	-4	-11	1286	0	0	0
247	SLU 48	-4	-15	1276	0	0	0
247	SLU 49	-4	-13	1292	0	0	0
247	SLU 50	-4	-15	1270	0	0	0
247	SLU 51	-4	-13	1286	0	0	0
247	SLU 52	-4	-12	1410	0	0	0
247	SLU 53	-4	-16	1401	0	0	0
247	SLU 54	-4	-14	1416	0	0	0
247	SLU 55	-4	-12	1420	0	0	0
247	SLU 56	-4	-17	1410	0	0	0
247	SLU 57	-4	-14	1426	0	0	0
247	SLU 58	-4	-16	1404	0	0	0
247	SLU 59	-4	-14	1419	0	0	0
247	SLU 60	-4	-17	1442	0	0	0
247	SLU 61	-4	-14	1458	0	0	0
247	SLU 62	-4	-17	1452	0	0	0
247	SLU 63	-4	-14	1467	0	0	0
247	SLU 64	-4	-16	1384	0	0	0
247	SLU 65	-5	-12	1409	0	0	0
247	SLU 66	-5	-16	1400	0	0	0
247	SLU 67	-5	-14	1415	0	0	0
247	SLU 68	-5	-12	1419	0	0	0
247	SLU 69	-5	-17	1409	0	0	0
247	SLU 70	-5	-14	1424	0	0	0
247	SLU 71	-5	-16	1403	0	0	0
247	SLU 72	-5	-14	1418	0	0	0
247	SLU 73	-4	-13	1543	0	0	0
247	SLU 74	-4	-18	1533	0	0	0
247	SLU 75	-4	-15	1549	0	0	0
247	SLU 76	-4	-13	1553	0	0	0
247	SLU 77	-4	-18	1543	0	0	0
247	SLU 78	-5	-15	1558	0	0	0
247	SLU 79	-4	-18	1537	0	0	0
247	SLU 80	-5	-15	1552	0	0	0
247	SLU 81	-4	-18	1575	0	0	0
247	SLU 82	-4	-16	1590	0	0	0
247	SLU 83	-4	-18	1585	0	0	0
247	SLU 84	-4	-16	1600	0	0	0
247	SLE RA 1	-3	-12	1035	0	0	0
247	SLE RA 2	-3	-9	1052	0	0	0
247	SLE RA 3	-3	-12	1046	0	0	0
247	SLE RA 4	-3	-11	1056	0	0	0
247	SLE RA 5	-3	-10	1059	0	0	0
247	SLE RA 6	-3	-12	1052	0	0	0
247	SLE RA 7	-4	-11	1062	0	0	0
247	SLE RA 8	-3	-12	1048	0	0	0
247	SLE RA 9	-4	-11	1058	0	0	0
247	SLE RA 10	-3	-10	1141	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
247	SLE RA 11	-3	-13	1135	0	0	0
247	SLE RA 12	-3	-12	1145	0	0	0
247	SLE RA 13	-3	-10	1148	0	0	0
247	SLE RA 14	-3	-13	1141	0	0	0
247	SLE RA 15	-3	-12	1152	0	0	0
247	SLE RA 16	-3	-13	1137	0	0	0
247	SLE RA 17	-3	-12	1148	0	0	0
247	SLE RA 18	-3	-13	1163	0	0	0
247	SLE RA 19	-3	-12	1173	0	0	0
247	SLE RA 20	-3	-13	1169	0	0	0
247	SLE RA 21	-3	-12	1179	0	0	0
247	SLE FR 1	-3	-12	1035	0	0	0
247	SLE FR 2	-3	-12	1039	0	0	0
247	SLE FR 3	-3	-12	1038	0	0	0
247	SLE FR 4	-3	-12	1077	0	0	0
247	SLE FR 5	-3	-13	1076	0	0	0
247	SLE FR 6	-3	-13	1099	0	0	0
247	SLE QP 1	-3	-12	1035	0	0	0
247	SLE QP 2	-3	-13	1074	0	0	0
247	SLD 1	80	10	1259	0	0	0
247	SLD 2	97	6	1254	0	0	0
247	SLD 3	85	-39	941	0	0	0
247	SLD 4	102	-43	936	0	0	0
247	SLD 5	11	69	1613	0	0	0
247	SLD 6	22	66	1609	0	0	0
247	SLD 7	28	-94	552	0	0	0
247	SLD 8	39	-96	549	0	0	0
247	SLD 9	-46	71	1598	0	0	0
247	SLD 10	-34	69	1595	0	0	0
247	SLD 11	-29	-92	538	0	0	0
247	SLD 12	-17	-94	534	0	0	0
247	SLD 13	-109	17	1211	0	0	0
247	SLD 14	-91	14	1206	0	0	0
247	SLD 15	-104	-31	893	0	0	0
247	SLD 16	-86	-35	888	0	0	0
247	SLV 1	127	24	1373	0	0	0
247	SLV 2	154	18	1364	0	0	0
247	SLV 3	135	-55	858	0	0	0
247	SLV 4	162	-61	850	0	0	0
247	SLV 5	18	119	1945	0	0	0
247	SLV 6	37	115	1939	0	0	0
247	SLV 7	45	-144	231	0	0	0
247	SLV 8	64	-148	225	0	0	0
247	SLV 9	-70	123	1922	0	0	0
247	SLV 10	-52	119	1916	0	0	0
247	SLV 11	-43	-140	208	0	0	0
247	SLV 12	-25	-144	202	0	0	0
247	SLV 13	-168	36	1297	0	0	0
247	SLV 14	-141	30	1289	0	0	0
247	SLV 15	-160	-43	783	0	0	0
247	SLV 16	-133	-49	774	0	0	0
247	SLV FO 1	140	27	1402	0	0	0
247	SLV FO 2	170	21	1393	0	0	0
247	SLV FO 3	149	-59	837	0	0	0
247	SLV FO 4	178	-66	827	0	0	0
247	SLV FO 5	21	132	2032	0	0	0
247	SLV FO 6	41	128	2025	0	0	0
247	SLV FO 7	50	-157	146	0	0	0
247	SLV FO 8	70	-161	140	0	0	0
247	SLV FO 9	-77	136	2007	0	0	0
247	SLV FO 10	-57	132	2001	0	0	0
247	SLV FO 11	-47	-153	122	0	0	0
247	SLV FO 12	-27	-157	115	0	0	0
247	SLV FO 13	-185	41	1320	0	0	0
247	SLV FO 14	-155	34	1310	0	0	0
247	SLV FO 15	-176	-46	754	0	0	0
247	SLV FO 16	-146	-52	745	0	0	0
247	CRTFP Uy+	0	0	0	0	0	0
247	CRTFP Uy-	0	0	0	0	0	0
248	SLU 1	-3	-10	1029	0	0	0
248	SLU 2	-3	-6	1055	0	0	0
248	SLU 3	-3	-10	1045	0	0	0
248	SLU 4	-3	-8	1061	0	0	0
248	SLU 5	-3	-6	1065	0	0	0
248	SLU 6	-3	-10	1055	0	0	0
248	SLU 7	-3	-8	1071	0	0	0
248	SLU 8	-3	-10	1049	0	0	0
248	SLU 9	-3	-8	1065	0	0	0
248	SLU 10	-3	-7	1194	0	0	0
248	SLU 11	-3	-12	1185	0	0	0
248	SLU 12	-3	-9	1200	0	0	0
248	SLU 13	-3	-7	1204	0	0	0
248	SLU 14	-3	-12	1195	0	0	0
248	SLU 15	-3	-9	1210	0	0	0
248	SLU 16	-3	-12	1188	0	0	0
248	SLU 17	-3	-9	1204	0	0	0
248	SLU 18	-3	-12	1228	0	0	0
248	SLU 19	-3	-9	1243	0	0	0
248	SLU 20	-3	-12	1238	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLU 21	-3	-9	1254	0	0	0
248	SLU 22	-4	-11	1166	0	0	0
248	SLU 23	-4	-7	1192	0	0	0
248	SLU 24	-4	-11	1183	0	0	0
248	SLU 25	-4	-9	1198	0	0	0
248	SLU 26	-4	-7	1203	0	0	0
248	SLU 27	-4	-12	1193	0	0	0
248	SLU 28	-4	-9	1208	0	0	0
248	SLU 29	-4	-11	1186	0	0	0
248	SLU 30	-4	-9	1202	0	0	0
248	SLU 31	-3	-8	1332	0	0	0
248	SLU 32	-4	-13	1322	0	0	0
248	SLU 33	-4	-10	1338	0	0	0
248	SLU 34	-4	-8	1342	0	0	0
248	SLU 35	-4	-13	1332	0	0	0
248	SLU 36	-4	-10	1348	0	0	0
248	SLU 37	-4	-13	1326	0	0	0
248	SLU 38	-4	-10	1341	0	0	0
248	SLU 39	-3	-13	1365	0	0	0
248	SLU 40	-3	-10	1381	0	0	0
248	SLU 41	-3	-13	1375	0	0	0
248	SLU 42	-3	-10	1391	0	0	0
248	SLU 43	-4	-13	1291	0	0	0
248	SLU 44	-4	-9	1317	0	0	0
248	SLU 45	-4	-13	1307	0	0	0
248	SLU 46	-4	-10	1323	0	0	0
248	SLU 47	-4	-9	1327	0	0	0
248	SLU 48	-4	-13	1317	0	0	0
248	SLU 49	-4	-11	1333	0	0	0
248	SLU 50	-4	-13	1311	0	0	0
248	SLU 51	-4	-11	1326	0	0	0
248	SLU 52	-4	-10	1456	0	0	0
248	SLU 53	-4	-14	1446	0	0	0
248	SLU 54	-4	-12	1462	0	0	0
248	SLU 55	-4	-10	1466	0	0	0
248	SLU 56	-4	-14	1456	0	0	0
248	SLU 57	-4	-12	1472	0	0	0
248	SLU 58	-4	-14	1450	0	0	0
248	SLU 59	-4	-12	1466	0	0	0
248	SLU 60	-4	-15	1489	0	0	0
248	SLU 61	-4	-12	1505	0	0	0
248	SLU 62	-4	-15	1499	0	0	0
248	SLU 63	-4	-12	1515	0	0	0
248	SLU 64	-4	-14	1428	0	0	0
248	SLU 65	-4	-10	1454	0	0	0
248	SLU 66	-4	-14	1444	0	0	0
248	SLU 67	-5	-12	1460	0	0	0
248	SLU 68	-5	-10	1464	0	0	0
248	SLU 69	-5	-14	1454	0	0	0
248	SLU 70	-5	-12	1470	0	0	0
248	SLU 71	-5	-14	1448	0	0	0
248	SLU 72	-5	-12	1464	0	0	0
248	SLU 73	-4	-11	1593	0	0	0
248	SLU 74	-4	-15	1583	0	0	0
248	SLU 75	-4	-13	1599	0	0	0
248	SLU 76	-4	-11	1603	0	0	0
248	SLU 77	-4	-15	1594	0	0	0
248	SLU 78	-4	-13	1609	0	0	0
248	SLU 79	-4	-15	1587	0	0	0
248	SLU 80	-4	-13	1603	0	0	0
248	SLU 81	-4	-16	1627	0	0	0
248	SLU 82	-4	-13	1642	0	0	0
248	SLU 83	-4	-16	1637	0	0	0
248	SLU 84	-4	-13	1652	0	0	0
248	SLE RA 1	-3	-10	1068	0	0	0
248	SLE RA 2	-3	-8	1086	0	0	0
248	SLE RA 3	-3	-11	1079	0	0	0
248	SLE RA 4	-3	-9	1090	0	0	0
248	SLE RA 5	-3	-8	1092	0	0	0
248	SLE RA 6	-3	-11	1086	0	0	0
248	SLE RA 7	-3	-9	1096	0	0	0
248	SLE RA 8	-3	-11	1082	0	0	0
248	SLE RA 9	-3	-9	1092	0	0	0
248	SLE RA 10	-3	-8	1178	0	0	0
248	SLE RA 11	-3	-11	1172	0	0	0
248	SLE RA 12	-3	-10	1182	0	0	0
248	SLE RA 13	-3	-8	1185	0	0	0
248	SLE RA 14	-3	-11	1179	0	0	0
248	SLE RA 15	-3	-10	1189	0	0	0
248	SLE RA 16	-3	-11	1174	0	0	0
248	SLE RA 17	-3	-10	1185	0	0	0
248	SLE RA 18	-3	-12	1201	0	0	0
248	SLE RA 19	-3	-10	1211	0	0	0
248	SLE RA 20	-3	-12	1207	0	0	0
248	SLE RA 21	-3	-10	1218	0	0	0
248	SLE FR 1	-3	-10	1068	0	0	0
248	SLE FR 2	-3	-10	1072	0	0	0
248	SLE FR 3	-3	-11	1071	0	0	0
248	SLE FR 4	-3	-10	1112	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
248	SLE FR 5	-3	-11	1111	0	0	0
248	SLE FR 6	-3	-11	1135	0	0	0
248	SLE QP 1	-3	-10	1068	0	0	0
248	SLE QP 2	-3	-11	1108	0	0	0
248	SLD 1	81	13	1291	0	0	0
248	SLD 2	99	11	1286	0	0	0
248	SLD 3	86	-37	964	0	0	0
248	SLD 4	104	-40	959	0	0	0
248	SLD 5	11	74	1660	0	0	0
248	SLD 6	23	72	1656	0	0	0
248	SLD 7	28	-95	570	0	0	0
248	SLD 8	40	-97	567	0	0	0
248	SLD 9	-46	75	1650	0	0	0
248	SLD 10	-34	73	1646	0	0	0
248	SLD 11	-29	-93	560	0	0	0
248	SLD 12	-18	-95	557	0	0	0
248	SLD 13	-110	18	1257	0	0	0
248	SLD 14	-92	16	1252	0	0	0
248	SLD 15	-105	-32	930	0	0	0
248	SLD 16	-87	-35	925	0	0	0
248	SLV 1	129	28	1402	0	0	0
248	SLV 2	156	24	1394	0	0	0
248	SLV 3	137	-54	874	0	0	0
248	SLV 4	164	-58	866	0	0	0
248	SLV 5	19	126	1999	0	0	0
248	SLV 6	38	123	1994	0	0	0
248	SLV 7	46	-147	238	0	0	0
248	SLV 8	64	-150	232	0	0	0
248	SLV 9	-71	128	1984	0	0	0
248	SLV 10	-52	125	1978	0	0	0
248	SLV 11	-44	-144	222	0	0	0
248	SLV 12	-25	-147	217	0	0	0
248	SLV 13	-170	36	1350	0	0	0
248	SLV 14	-143	32	1342	0	0	0
248	SLV 15	-162	-45	822	0	0	0
248	SLV 16	-135	-50	814	0	0	0
248	SLV FO 1	142	32	1432	0	0	0
248	SLV FO 2	172	27	1423	0	0	0
248	SLV FO 3	151	-58	850	0	0	0
248	SLV FO 4	181	-63	842	0	0	0
248	SLV FO 5	21	139	2088	0	0	0
248	SLV FO 6	42	136	2082	0	0	0
248	SLV FO 7	51	-160	151	0	0	0
248	SLV FO 8	71	-164	145	0	0	0
248	SLV FO 9	-77	142	2071	0	0	0
248	SLV FO 10	-57	139	2065	0	0	0
248	SLV FO 11	-48	-158	134	0	0	0
248	SLV FO 12	-28	-161	128	0	0	0
248	SLV FO 13	-187	41	1374	0	0	0
248	SLV FO 14	-157	36	1366	0	0	0
248	SLV FO 15	-178	-49	793	0	0	0
248	SLV FO 16	-148	-54	784	0	0	0
248	CRTFP Uy+	0	0	0	0	0	0
248	CRTFP Uy-	0	0	0	0	0	0
249	SLU 1	-2	-4	531	0	0	0
249	SLU 2	-2	-2	544	0	0	0
249	SLU 3	-2	-4	539	0	0	0
249	SLU 4	-2	-3	547	0	0	0
249	SLU 5	-2	-2	550	0	0	0
249	SLU 6	-2	-4	545	0	0	0
249	SLU 7	-2	-3	553	0	0	0
249	SLU 8	-2	-4	541	0	0	0
249	SLU 9	-2	-3	549	0	0	0
249	SLU 10	-2	-3	617	0	0	0
249	SLU 11	-2	-5	612	0	0	0
249	SLU 12	-2	-4	620	0	0	0
249	SLU 13	-2	-3	622	0	0	0
249	SLU 14	-2	-5	617	0	0	0
249	SLU 15	-2	-4	625	0	0	0
249	SLU 16	-2	-5	614	0	0	0
249	SLU 17	-2	-4	622	0	0	0
249	SLU 18	-1	-5	634	0	0	0
249	SLU 19	-1	-4	642	0	0	0
249	SLU 20	-1	-5	639	0	0	0
249	SLU 21	-2	-4	647	0	0	0
249	SLU 22	-2	-5	602	0	0	0
249	SLU 23	-2	-2	615	0	0	0
249	SLU 24	-2	-5	610	0	0	0
249	SLU 25	-2	-3	618	0	0	0
249	SLU 26	-2	-3	621	0	0	0
249	SLU 27	-2	-5	616	0	0	0
249	SLU 28	-2	-3	624	0	0	0
249	SLU 29	-2	-5	612	0	0	0
249	SLU 30	-2	-3	620	0	0	0
249	SLU 31	-2	-3	688	0	0	0
249	SLU 32	-2	-5	683	0	0	0
249	SLU 33	-2	-4	691	0	0	0
249	SLU 34	-2	-3	693	0	0	0
249	SLU 35	-2	-5	688	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLU 36	-2	-4	696	0	0	0
249	SLU 37	-2	-5	685	0	0	0
249	SLU 38	-2	-4	693	0	0	0
249	SLU 39	-2	-5	705	0	0	0
249	SLU 40	-2	-4	713	0	0	0
249	SLU 41	-2	-5	710	0	0	0
249	SLU 42	-2	-4	718	0	0	0
249	SLU 43	-2	-5	666	0	0	0
249	SLU 44	-2	-3	679	0	0	0
249	SLU 45	-2	-5	674	0	0	0
249	SLU 46	-2	-4	682	0	0	0
249	SLU 47	-2	-3	684	0	0	0
249	SLU 48	-2	-6	679	0	0	0
249	SLU 49	-2	-4	688	0	0	0
249	SLU 50	-2	-6	676	0	0	0
249	SLU 51	-2	-4	684	0	0	0
249	SLU 52	-2	-4	751	0	0	0
249	SLU 53	-2	-6	747	0	0	0
249	SLU 54	-2	-5	755	0	0	0
249	SLU 55	-2	-4	757	0	0	0
249	SLU 56	-2	-6	752	0	0	0
249	SLU 57	-2	-5	760	0	0	0
249	SLU 58	-2	-6	748	0	0	0
249	SLU 59	-2	-5	757	0	0	0
249	SLU 60	-2	-6	769	0	0	0
249	SLU 61	-2	-5	777	0	0	0
249	SLU 62	-2	-6	774	0	0	0
249	SLU 63	-2	-5	782	0	0	0
249	SLU 64	-2	-6	737	0	0	0
249	SLU 65	-2	-4	750	0	0	0
249	SLU 66	-2	-6	745	0	0	0
249	SLU 67	-2	-5	753	0	0	0
249	SLU 68	-2	-4	755	0	0	0
249	SLU 69	-2	-6	750	0	0	0
249	SLU 70	-2	-5	759	0	0	0
249	SLU 71	-2	-6	747	0	0	0
249	SLU 72	-2	-5	755	0	0	0
249	SLU 73	-2	-4	822	0	0	0
249	SLU 74	-2	-6	818	0	0	0
249	SLU 75	-2	-5	826	0	0	0
249	SLU 76	-2	-4	828	0	0	0
249	SLU 77	-2	-6	823	0	0	0
249	SLU 78	-2	-5	831	0	0	0
249	SLU 79	-2	-6	819	0	0	0
249	SLU 80	-2	-5	828	0	0	0
249	SLU 81	-2	-7	840	0	0	0
249	SLU 82	-2	-5	848	0	0	0
249	SLU 83	-2	-7	845	0	0	0
249	SLU 84	-2	-5	853	0	0	0
249	SLE RA 1	-2	-4	551	0	0	0
249	SLE RA 2	-2	-3	560	0	0	0
249	SLE RA 3	-2	-4	557	0	0	0
249	SLE RA 4	-2	-4	562	0	0	0
249	SLE RA 5	-2	-3	564	0	0	0
249	SLE RA 6	-2	-4	560	0	0	0
249	SLE RA 7	-2	-4	566	0	0	0
249	SLE RA 8	-2	-4	558	0	0	0
249	SLE RA 9	-2	-4	563	0	0	0
249	SLE RA 10	-2	-3	608	0	0	0
249	SLE RA 11	-2	-5	605	0	0	0
249	SLE RA 12	-2	-4	610	0	0	0
249	SLE RA 13	-2	-3	612	0	0	0
249	SLE RA 14	-2	-5	608	0	0	0
249	SLE RA 15	-2	-4	614	0	0	0
249	SLE RA 16	-2	-5	606	0	0	0
249	SLE RA 17	-2	-4	612	0	0	0
249	SLE RA 18	-2	-5	620	0	0	0
249	SLE RA 19	-2	-4	625	0	0	0
249	SLE RA 20	-2	-5	623	0	0	0
249	SLE RA 21	-2	-4	629	0	0	0
249	SLE FR 1	-2	-4	551	0	0	0
249	SLE FR 2	-2	-4	553	0	0	0
249	SLE FR 3	-2	-4	553	0	0	0
249	SLE FR 4	-2	-4	574	0	0	0
249	SLE FR 5	-2	-5	573	0	0	0
249	SLE FR 6	-2	-5	586	0	0	0
249	SLE QP 1	-2	-4	551	0	0	0
249	SLE QP 2	-2	-5	572	0	0	0
249	SLD 1	41	8	662	0	0	0
249	SLD 2	50	7	660	0	0	0
249	SLD 3	43	-18	494	0	0	0
249	SLD 4	52	-19	492	0	0	0
249	SLD 5	6	39	854	0	0	0
249	SLD 6	11	39	852	0	0	0
249	SLD 7	14	-48	294	0	0	0
249	SLD 8	20	-49	293	0	0	0
249	SLD 9	-23	40	851	0	0	0
249	SLD 10	-17	39	849	0	0	0
249	SLD 11	-15	-48	291	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
249	SLD 12	-9	-48	290	0	0	0
249	SLD 13	-56	10	652	0	0	0
249	SLD 14	-47	9	650	0	0	0
249	SLD 15	-53	-16	484	0	0	0
249	SLD 16	-44	-17	482	0	0	0
249	SLV 1	65	16	717	0	0	0
249	SLV 2	79	14	713	0	0	0
249	SLV 3	69	-27	446	0	0	0
249	SLV 4	83	-28	442	0	0	0
249	SLV 5	10	66	1028	0	0	0
249	SLV 6	19	65	1025	0	0	0
249	SLV 7	23	-75	123	0	0	0
249	SLV 8	32	-76	120	0	0	0
249	SLV 9	-36	67	1023	0	0	0
249	SLV 10	-26	66	1021	0	0	0
249	SLV 11	-22	-74	118	0	0	0
249	SLV 12	-13	-75	116	0	0	0
249	SLV 13	-86	19	702	0	0	0
249	SLV 14	-72	17	698	0	0	0
249	SLV 15	-82	-23	430	0	0	0
249	SLV 16	-68	-25	427	0	0	0
249	SLV FO 1	72	18	732	0	0	0
249	SLV FO 2	87	16	728	0	0	0
249	SLV FO 3	76	-29	433	0	0	0
249	SLV FO 4	91	-30	429	0	0	0
249	SLV FO 5	11	73	1073	0	0	0
249	SLV FO 6	21	72	1071	0	0	0
249	SLV FO 7	26	-82	78	0	0	0
249	SLV FO 8	36	-83	75	0	0	0
249	SLV FO 9	-39	74	1068	0	0	0
249	SLV FO 10	-29	73	1066	0	0	0
249	SLV FO 11	-24	-81	73	0	0	0
249	SLV FO 12	-14	-82	70	0	0	0
249	SLV FO 13	-95	21	714	0	0	0
249	SLV FO 14	-79	20	711	0	0	0
249	SLV FO 15	-90	-25	416	0	0	0
249	SLV FO 16	-75	-27	412	0	0	0
249	CRTFP Uy+	0	0	0	0	0	0
249	CRTFP Uy-	0	0	0	0	0	0
251	SLU 1	16	-72	3762	-2.12	1176.56	22.3
251	SLU 2	16	-55	3860	-2.32	1207.09	17.04
251	SLU 3	15	-73	3822	-2.12	1195.27	22.73
251	SLU 4	16	-63	3880	-2.24	1213.59	19.57
251	SLU 5	16	-56	3896	-2.32	1218.56	17.29
251	SLU 6	15	-74	3858	-2.12	1206.74	22.98
251	SLU 7	16	-64	3917	-2.24	1225.06	19.82
251	SLU 8	15	-73	3835	-2.12	1199.5	22.81
251	SLU 9	15	-63	3894	-2.24	1217.82	19.65
251	SLU 10	17	-62	4365	-2.54	1365.8	19.39
251	SLU 11	16	-81	4327	-2.34	1353.98	25.08
251	SLU 12	16	-70	4385	-2.46	1372.3	21.92
251	SLU 13	16	-63	4401	-2.54	1377.27	19.64
251	SLU 14	16	-81	4363	-2.34	1365.45	25.33
251	SLU 15	16	-71	4422	-2.46	1383.76	22.17
251	SLU 16	16	-81	4340	-2.34	1358.2	25.16
251	SLU 17	16	-71	4399	-2.46	1376.52	22
251	SLU 18	16	-82	4483	-2.44	1403.29	25.66
251	SLU 19	17	-72	4542	-2.55	1421.6	22.5
251	SLU 20	16	-83	4520	-2.43	1414.75	25.92
251	SLU 21	16	-73	4578	-2.55	1433.07	22.76
251	SLU 22	18	-81	4260	-2.31	1332.37	25.09
251	SLU 23	18	-64	4357	-2.51	1362.9	19.82
251	SLU 24	17	-82	4319	-2.32	1351.08	25.51
251	SLU 25	18	-72	4378	-2.43	1369.39	22.35
251	SLU 26	18	-65	4394	-2.51	1374.36	20.08
251	SLU 27	17	-83	4356	-2.31	1362.54	25.77
251	SLU 28	18	-73	4415	-2.43	1380.86	22.61
251	SLU 29	17	-82	4333	-2.31	1355.3	25.6
251	SLU 30	17	-72	4391	-2.43	1373.62	22.44
251	SLU 31	19	-71	4862	-2.73	1521.6	22.18
251	SLU 32	18	-90	4824	-2.54	1509.78	27.87
251	SLU 33	18	-79	4883	-2.65	1528.1	24.71
251	SLU 34	18	-72	4899	-2.73	1533.07	22.43
251	SLU 35	18	-90	4861	-2.54	1521.25	28.12
251	SLU 36	18	-80	4919	-2.65	1539.57	24.96
251	SLU 37	18	-90	4838	-2.53	1514.01	27.95
251	SLU 38	18	-80	4896	-2.65	1532.33	24.79
251	SLU 39	18	-91	4981	-2.63	1559.09	28.45
251	SLU 40	19	-81	5040	-2.75	1577.41	25.29
251	SLU 41	18	-92	5018	-2.63	1570.56	28.71
251	SLU 42	18	-82	5076	-2.75	1588.87	25.55
251	SLU 43	20	-90	4720	-2.69	1476.11	28.04
251	SLU 44	20	-73	4818	-2.89	1506.64	22.77
251	SLU 45	19	-91	4780	-2.69	1494.82	28.46
251	SLU 46	20	-81	4838	-2.81	1513.14	25.3
251	SLU 47	20	-74	4854	-2.89	1518.11	23.02
251	SLU 48	19	-92	4816	-2.69	1506.29	28.71
251	SLU 49	20	-82	4875	-2.81	1524.61	25.55
251	SLU 50	19	-92	4793	-2.69	1499.05	28.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLU 51	19	-82	4852	-2.81	1517.37	25.38
251	SLU 52	21	-81	5323	-3.11	1665.35	25.12
251	SLU 53	20	-99	5285	-2.91	1653.53	30.81
251	SLU 54	20	-89	5343	-3.03	1671.85	27.65
251	SLU 55	20	-82	5359	-3.11	1676.82	25.38
251	SLU 56	20	-100	5321	-2.91	1665	31.07
251	SLU 57	20	-90	5380	-3.03	1683.31	27.91
251	SLU 58	20	-99	5298	-2.91	1657.75	30.9
251	SLU 59	20	-89	5357	-3.03	1676.07	27.74
251	SLU 60	20	-101	5441	-3.01	1702.84	31.4
251	SLU 61	21	-91	5500	-3.12	1721.15	28.24
251	SLU 62	20	-102	5478	-3	1714.3	31.65
251	SLU 63	20	-92	5536	-3.12	1732.62	28.49
251	SLU 64	22	-99	5218	-2.88	1631.92	30.83
251	SLU 65	22	-82	5315	-3.08	1662.45	25.56
251	SLU 66	21	-100	5277	-2.89	1650.63	31.25
251	SLU 67	22	-90	5336	-3	1668.94	28.09
251	SLU 68	22	-83	5352	-3.08	1673.91	25.81
251	SLU 69	21	-101	5314	-2.88	1662.09	31.5
251	SLU 70	22	-91	5373	-3	1680.41	28.34
251	SLU 71	21	-101	5291	-2.88	1654.85	31.33
251	SLU 72	21	-91	5349	-3	1673.17	28.17
251	SLU 73	23	-90	5820	-3.3	1821.15	27.91
251	SLU 74	22	-108	5782	-3.11	1809.33	33.6
251	SLU 75	22	-98	5841	-3.23	1827.65	30.44
251	SLU 76	22	-91	5857	-3.3	1832.62	28.17
251	SLU 77	22	-109	5819	-3.11	1820.8	33.86
251	SLU 78	22	-99	5877	-3.22	1839.12	30.7
251	SLU 79	22	-108	5796	-3.1	1813.56	33.69
251	SLU 80	22	-98	5854	-3.22	1831.88	30.53
251	SLU 81	22	-110	5939	-3.2	1858.64	34.19
251	SLU 82	23	-100	5998	-3.32	1876.96	31.03
251	SLU 83	22	-111	5976	-3.2	1870.11	34.44
251	SLU 84	22	-101	6034	-3.32	1888.43	31.28
251	SLE RA 1	16	-74	3904	-2.17	1221.08	23.1
251	SLE RA 2	17	-63	3969	-2.31	1241.43	19.59
251	SLE RA 3	16	-75	3944	-2.18	1233.55	23.38
251	SLE RA 4	16	-68	3983	-2.26	1245.76	21.27
251	SLE RA 5	16	-64	3994	-2.31	1249.08	19.76
251	SLE RA 6	16	-76	3968	-2.18	1241.2	23.55
251	SLE RA 7	16	-69	4007	-2.26	1253.41	21.44
251	SLE RA 8	16	-75	3953	-2.17	1236.37	23.44
251	SLE RA 9	16	-69	3992	-2.25	1248.58	21.33
251	SLE RA 10	17	-68	4306	-2.45	1347.24	21.16
251	SLE RA 11	16	-80	4281	-2.32	1339.35	24.95
251	SLE RA 12	17	-73	4320	-2.4	1351.57	22.84
251	SLE RA 13	17	-69	4330	-2.45	1354.88	21.33
251	SLE RA 14	16	-81	4305	-2.32	1347	25.12
251	SLE RA 15	16	-74	4344	-2.4	1359.21	23.01
251	SLE RA 16	16	-80	4290	-2.32	1342.17	25.01
251	SLE RA 17	16	-74	4329	-2.4	1354.38	22.9
251	SLE RA 18	17	-81	4385	-2.39	1372.23	25.34
251	SLE RA 19	17	-75	4424	-2.46	1384.44	23.23
251	SLE RA 20	16	-82	4409	-2.38	1379.87	25.51
251	SLE RA 21	17	-75	4448	-2.46	1392.08	23.4
251	SLE FR 1	16	-74	3904	-2.17	1221.08	23.1
251	SLE FR 2	16	-72	3917	-2.2	1225.15	22.4
251	SLE FR 3	16	-74	3914	-2.17	1224.14	23.17
251	SLE FR 4	16	-74	4062	-2.26	1270.49	23.07
251	SLE FR 5	16	-77	4058	-2.24	1269.48	23.84
251	SLE FR 6	16	-78	4145	-2.28	1296.65	24.22
251	SLE QP 1	16	-74	3904	-2.17	1221.08	23.1
251	SLE QP 2	16	-76	4049	-2.24	1266.42	23.77
251	SLD 1	357	34	4610	-3.21	1448.02	-10.42
251	SLD 2	425	38	4626	-3.24	1451.63	-11.56
251	SLD 3	348	-162	3394	-0.73	1068.14	50.92
251	SLD 4	416	-158	3409	-0.76	1071.75	49.78
251	SLD 5	120	253	6059	-6.29	1896.4	-79.32
251	SLD 6	165	256	6070	-6.31	1898.79	-80.07
251	SLD 7	90	-400	2004	1.99	630.14	125.16
251	SLD 8	135	-397	2014	1.96	632.52	124.41
251	SLD 9	-102	244	6083	-6.44	1900.33	-76.86
251	SLD 10	-57	247	6093	-6.46	1902.71	-77.62
251	SLD 11	-132	-408	2027	1.83	634.06	127.62
251	SLD 12	-87	-406	2038	1.81	636.44	126.86
251	SLD 13	-383	5	4688	-3.72	1461.09	-2.24
251	SLD 14	-315	10	4703	-3.75	1464.7	-3.38
251	SLD 15	-392	-191	3471	-1.24	1081.21	59.11
251	SLD 16	-324	-186	3487	-1.27	1084.82	57.97
251	SLV 1	550	101	4959	-3.82	1560.35	-31.39
251	SLV 2	656	107	4983	-3.87	1566	-33.17
251	SLV 3	535	-216	2992	0.19	946.23	67.76
251	SLV 4	641	-209	3017	0.14	951.89	65.97
251	SLV 5	179	456	7300	-8.79	2284.96	-142.82
251	SLV 6	251	460	7316	-8.82	2288.76	-144.02
251	SLV 7	129	-600	744	4.58	237.9	187.67
251	SLV 8	201	-595	761	4.55	241.71	186.47
251	SLV 9	-168	442	7336	-9.03	2291.14	-138.93
251	SLV 10	-97	447	7353	-9.06	2294.94	-140.13



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLV 11	-218	-613	781	4.35	244.08	191.56
251	SLV 12	-147	-609	797	4.31	247.89	190.36
251	SLV 13	-609	56	5080	-4.62	1580.96	-18.43
251	SLV 14	-502	63	5105	-4.67	1586.61	-20.21
251	SLV 15	-624	-260	3114	-0.6	966.84	80.72
251	SLV 16	-517	-254	3138	-0.65	972.49	78.94
251	SLV FO 1	603	119	5050	-3.98	1589.74	-36.91
251	SLV FO 2	720	126	5077	-4.04	1595.96	-38.87
251	SLV FO 3	587	-230	2887	0.43	914.22	72.15
251	SLV FO 4	704	-222	2913	0.38	920.43	70.19
251	SLV FO 5	195	509	7625	-9.44	2386.81	-159.48
251	SLV FO 6	274	514	7643	-9.48	2391	-160.8
251	SLV FO 7	141	-652	414	5.27	135.05	204.06
251	SLV FO 8	219	-647	432	5.23	139.24	202.74
251	SLV FO 9	-187	494	7665	-9.71	2393.61	-155.2
251	SLV FO 10	-108	499	7683	-9.74	2397.8	-156.52
251	SLV FO 11	-242	-667	454	5	141.85	208.34
251	SLV FO 12	-163	-662	472	4.97	146.04	207.02
251	SLV FO 13	-671	70	5184	-4.85	1612.41	-22.65
251	SLV FO 14	-554	77	5210	-4.91	1618.63	-24.61
251	SLV FO 15	-688	-279	3020	-0.44	936.88	86.41
251	SLV FO 16	-571	-271	3047	-0.49	943.1	84.45
251	CRTFP Ux+	0	0	0	0	0	0
251	CRTFP Ux-	0	0	0	0	0	0
251	CRTFP Uy+	0	0	0	0	-0.01	0
251	CRTFP Uy-	0	0	0	0	0.01	0
252	SLU 1	7	-24	1276	0	0	0
252	SLU 2	7	-18	1308	0	0	0
252	SLU 3	7	-24	1296	0	0	0
252	SLU 4	7	-21	1315	0	0	0
252	SLU 5	7	-19	1320	0	0	0
252	SLU 6	7	-24	1308	0	0	0
252	SLU 7	7	-21	1327	0	0	0
252	SLU 8	7	-24	1300	0	0	0
252	SLU 9	7	-21	1320	0	0	0
252	SLU 10	7	-21	1474	0	0	0
252	SLU 11	7	-26	1462	0	0	0
252	SLU 12	7	-23	1481	0	0	0
252	SLU 13	7	-21	1486	0	0	0
252	SLU 14	7	-27	1474	0	0	0
252	SLU 15	7	-23	1493	0	0	0
252	SLU 16	7	-26	1466	0	0	0
252	SLU 17	7	-23	1486	0	0	0
252	SLU 18	7	-27	1513	0	0	0
252	SLU 19	7	-24	1532	0	0	0
252	SLU 20	7	-27	1525	0	0	0
252	SLU 21	7	-24	1544	0	0	0
252	SLU 22	8	-26	1445	0	0	0
252	SLU 23	8	-21	1478	0	0	0
252	SLU 24	8	-27	1465	0	0	0
252	SLU 25	8	-24	1484	0	0	0
252	SLU 26	8	-21	1490	0	0	0
252	SLU 27	8	-27	1477	0	0	0
252	SLU 28	8	-24	1497	0	0	0
252	SLU 29	8	-27	1469	0	0	0
252	SLU 30	8	-24	1489	0	0	0
252	SLU 31	8	-23	1643	0	0	0
252	SLU 32	8	-29	1631	0	0	0
252	SLU 33	8	-26	1650	0	0	0
252	SLU 34	8	-24	1656	0	0	0
252	SLU 35	8	-29	1643	0	0	0
252	SLU 36	8	-26	1663	0	0	0
252	SLU 37	8	-29	1635	0	0	0
252	SLU 38	8	-26	1655	0	0	0
252	SLU 39	8	-29	1682	0	0	0
252	SLU 40	8	-26	1702	0	0	0
252	SLU 41	8	-30	1694	0	0	0
252	SLU 42	8	-27	1714	0	0	0
252	SLU 43	9	-30	1600	0	0	0
252	SLU 44	9	-25	1633	0	0	0
252	SLU 45	9	-30	1620	0	0	0
252	SLU 46	9	-27	1640	0	0	0
252	SLU 47	9	-25	1645	0	0	0
252	SLU 48	9	-30	1632	0	0	0
252	SLU 49	9	-27	1652	0	0	0
252	SLU 50	9	-30	1625	0	0	0
252	SLU 51	9	-27	1644	0	0	0
252	SLU 52	9	-27	1799	0	0	0
252	SLU 53	9	-32	1786	0	0	0
252	SLU 54	9	-29	1806	0	0	0
252	SLU 55	9	-27	1811	0	0	0
252	SLU 56	9	-33	1798	0	0	0
252	SLU 57	9	-30	1818	0	0	0
252	SLU 58	9	-33	1791	0	0	0
252	SLU 59	9	-29	1810	0	0	0
252	SLU 60	9	-33	1837	0	0	0
252	SLU 61	9	-30	1857	0	0	0
252	SLU 62	9	-33	1850	0	0	0
252	SLU 63	9	-30	1869	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLU 64	10	-32	1770	0	0	0
252	SLU 65	10	-27	1802	0	0	0
252	SLU 66	10	-33	1790	0	0	0
252	SLU 67	10	-30	1809	0	0	0
252	SLU 68	10	-28	1814	0	0	0
252	SLU 69	10	-33	1802	0	0	0
252	SLU 70	10	-30	1821	0	0	0
252	SLU 71	10	-33	1794	0	0	0
252	SLU 72	10	-30	1814	0	0	0
252	SLU 73	10	-30	1968	0	0	0
252	SLU 74	10	-35	1956	0	0	0
252	SLU 75	10	-32	1975	0	0	0
252	SLU 76	10	-30	1980	0	0	0
252	SLU 77	10	-35	1968	0	0	0
252	SLU 78	10	-32	1987	0	0	0
252	SLU 79	10	-35	1960	0	0	0
252	SLU 80	10	-32	1980	0	0	0
252	SLU 81	10	-36	2007	0	0	0
252	SLU 82	10	-33	2026	0	0	0
252	SLU 83	10	-36	2019	0	0	0
252	SLU 84	10	-33	2038	0	0	0
252	SLE RA 1	7	-24	1324	0	0	0
252	SLE RA 2	7	-21	1346	0	0	0
252	SLE RA 3	7	-25	1337	0	0	0
252	SLE RA 4	7	-23	1350	0	0	0
252	SLE RA 5	7	-21	1354	0	0	0
252	SLE RA 6	7	-25	1345	0	0	0
252	SLE RA 7	7	-23	1358	0	0	0
252	SLE RA 8	7	-25	1340	0	0	0
252	SLE RA 9	7	-23	1353	0	0	0
252	SLE RA 10	8	-22	1456	0	0	0
252	SLE RA 11	7	-26	1448	0	0	0
252	SLE RA 12	7	-24	1461	0	0	0
252	SLE RA 13	7	-23	1465	0	0	0
252	SLE RA 14	7	-26	1456	0	0	0
252	SLE RA 15	7	-24	1469	0	0	0
252	SLE RA 16	7	-26	1451	0	0	0
252	SLE RA 17	7	-24	1464	0	0	0
252	SLE RA 18	7	-27	1482	0	0	0
252	SLE RA 19	8	-24	1495	0	0	0
252	SLE RA 20	7	-27	1490	0	0	0
252	SLE RA 21	7	-25	1503	0	0	0
252	SLE FR 1	7	-24	1324	0	0	0
252	SLE FR 2	7	-24	1328	0	0	0
252	SLE FR 3	7	-24	1327	0	0	0
252	SLE FR 4	7	-24	1376	0	0	0
252	SLE FR 5	7	-25	1375	0	0	0
252	SLE FR 6	7	-25	1403	0	0	0
252	SLE QP 1	7	-24	1324	0	0	0
252	SLE QP 2	7	-25	1371	0	0	0
252	SLD 1	122	15	1490	0	0	0
252	SLD 2	145	24	1502	0	0	0
252	SLD 3	118	-42	1079	0	0	0
252	SLD 4	141	-33	1091	0	0	0
252	SLD 5	43	72	2028	0	0	0
252	SLD 6	58	78	2035	0	0	0
252	SLD 7	31	-118	659	0	0	0
252	SLD 8	46	-112	667	0	0	0
252	SLD 9	-31	62	2076	0	0	0
252	SLD 10	-16	68	2084	0	0	0
252	SLD 11	-44	-128	707	0	0	0
252	SLD 12	-29	-122	715	0	0	0
252	SLD 13	-126	-17	1652	0	0	0
252	SLD 14	-104	-8	1664	0	0	0
252	SLD 15	-130	-74	1241	0	0	0
252	SLD 16	-107	-65	1253	0	0	0
252	SLV 1	187	39	1568	0	0	0
252	SLV 2	222	53	1586	0	0	0
252	SLV 3	181	-53	904	0	0	0
252	SLV 4	216	-39	922	0	0	0
252	SLV 5	64	132	2434	0	0	0
252	SLV 6	88	141	2446	0	0	0
252	SLV 7	43	-176	221	0	0	0
252	SLV 8	67	-167	233	0	0	0
252	SLV 9	-53	117	2510	0	0	0
252	SLV 10	-29	126	2522	0	0	0
252	SLV 11	-73	-191	297	0	0	0
252	SLV 12	-49	-182	309	0	0	0
252	SLV 13	-202	-11	1820	0	0	0
252	SLV 14	-166	3	1839	0	0	0
252	SLV 15	-208	-103	1157	0	0	0
252	SLV 16	-172	-89	1175	0	0	0
252	SLV FO 1	205	45	1587	0	0	0
252	SLV FO 2	244	61	1608	0	0	0
252	SLV FO 3	198	-56	857	0	0	0
252	SLV FO 4	237	-41	878	0	0	0
252	SLV FO 5	69	147	2540	0	0	0
252	SLV FO 6	96	158	2554	0	0	0
252	SLV FO 7	47	-191	106	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
252	SLV FO 8	73	-181	120	0	0	0
252	SLV FO 9	-59	131	2623	0	0	0
252	SLV FO 10	-32	141	2637	0	0	0
252	SLV FO 11	-81	-208	189	0	0	0
252	SLV FO 12	-55	-197	203	0	0	0
252	SLV FO 13	-223	-9	1865	0	0	0
252	SLV FO 14	-183	6	1886	0	0	0
252	SLV FO 15	-229	-111	1135	0	0	0
252	SLV FO 16	-190	-95	1156	0	0	0
252	CRTFP Ux+	0	0	0	0	0	0
252	CRTFP Ux-	0	0	0	0	0	0
252	CRTFP Uy+	0	0	0	0	0	0
252	CRTFP Uy-	0	0	0	0	0	0
253	SLU 1	3	-14	741	0	0	0
253	SLU 2	3	-11	760	0	0	0
253	SLU 3	3	-15	753	0	0	0
253	SLU 4	3	-13	764	0	0	0
253	SLU 5	3	-11	767	0	0	0
253	SLU 6	3	-15	760	0	0	0
253	SLU 7	3	-13	771	0	0	0
253	SLU 8	3	-15	755	0	0	0
253	SLU 9	3	-13	767	0	0	0
253	SLU 10	3	-13	859	0	0	0
253	SLU 11	3	-16	851	0	0	0
253	SLU 12	3	-14	863	0	0	0
253	SLU 13	3	-13	866	0	0	0
253	SLU 14	3	-16	859	0	0	0
253	SLU 15	3	-14	870	0	0	0
253	SLU 16	3	-16	854	0	0	0
253	SLU 17	3	-14	865	0	0	0
253	SLU 18	3	-16	882	0	0	0
253	SLU 19	3	-15	893	0	0	0
253	SLU 20	3	-17	889	0	0	0
253	SLU 21	3	-15	901	0	0	0
253	SLU 22	4	-16	839	0	0	0
253	SLU 23	4	-13	858	0	0	0
253	SLU 24	4	-16	851	0	0	0
253	SLU 25	4	-14	862	0	0	0
253	SLU 26	4	-13	865	0	0	0
253	SLU 27	4	-17	858	0	0	0
253	SLU 28	4	-15	869	0	0	0
253	SLU 29	4	-16	853	0	0	0
253	SLU 30	4	-15	865	0	0	0
253	SLU 31	4	-14	957	0	0	0
253	SLU 32	4	-18	949	0	0	0
253	SLU 33	4	-16	961	0	0	0
253	SLU 34	4	-15	964	0	0	0
253	SLU 35	4	-18	957	0	0	0
253	SLU 36	4	-16	968	0	0	0
253	SLU 37	4	-18	952	0	0	0
253	SLU 38	4	-16	963	0	0	0
253	SLU 39	4	-18	980	0	0	0
253	SLU 40	4	-16	991	0	0	0
253	SLU 41	4	-18	987	0	0	0
253	SLU 42	4	-16	999	0	0	0
253	SLU 43	4	-18	930	0	0	0
253	SLU 44	4	-15	949	0	0	0
253	SLU 45	4	-18	941	0	0	0
253	SLU 46	4	-16	953	0	0	0
253	SLU 47	4	-15	956	0	0	0
253	SLU 48	4	-19	949	0	0	0
253	SLU 49	4	-17	960	0	0	0
253	SLU 50	4	-18	944	0	0	0
253	SLU 51	4	-16	955	0	0	0
253	SLU 52	4	-16	1047	0	0	0
253	SLU 53	4	-20	1040	0	0	0
253	SLU 54	4	-18	1051	0	0	0
253	SLU 55	4	-16	1055	0	0	0
253	SLU 56	4	-20	1047	0	0	0
253	SLU 57	4	-18	1059	0	0	0
253	SLU 58	4	-20	1043	0	0	0
253	SLU 59	4	-18	1054	0	0	0
253	SLU 60	4	-20	1071	0	0	0
253	SLU 61	4	-18	1082	0	0	0
253	SLU 62	4	-20	1078	0	0	0
253	SLU 63	4	-18	1089	0	0	0
253	SLU 64	4	-20	1028	0	0	0
253	SLU 65	5	-17	1047	0	0	0
253	SLU 66	4	-20	1039	0	0	0
253	SLU 67	5	-18	1051	0	0	0
253	SLU 68	5	-17	1054	0	0	0
253	SLU 69	4	-20	1046	0	0	0
253	SLU 70	4	-18	1058	0	0	0
253	SLU 71	4	-20	1042	0	0	0
253	SLU 72	4	-18	1053	0	0	0
253	SLU 73	5	-18	1145	0	0	0
253	SLU 74	5	-22	1138	0	0	0
253	SLU 75	5	-20	1149	0	0	0
253	SLU 76	5	-18	1153	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
253	SLU 77	4	-22	1145	0	0	0
253	SLU 78	5	-20	1157	0	0	0
253	SLU 79	4	-22	1141	0	0	0
253	SLU 80	5	-20	1152	0	0	0
253	SLU 81	5	-22	1169	0	0	0
253	SLU 82	5	-20	1180	0	0	0
253	SLU 83	5	-22	1176	0	0	0
253	SLU 84	5	-20	1187	0	0	0
253	SLE RA 1	3	-15	769	0	0	0
253	SLE RA 2	3	-13	782	0	0	0
253	SLE RA 3	3	-15	777	0	0	0
253	SLE RA 4	3	-14	784	0	0	0
253	SLE RA 5	3	-13	786	0	0	0
253	SLE RA 6	3	-15	782	0	0	0
253	SLE RA 7	3	-14	789	0	0	0
253	SLE RA 8	3	-15	778	0	0	0
253	SLE RA 9	3	-14	786	0	0	0
253	SLE RA 10	3	-14	847	0	0	0
253	SLE RA 11	3	-16	843	0	0	0
253	SLE RA 12	3	-15	850	0	0	0
253	SLE RA 13	3	-14	852	0	0	0
253	SLE RA 14	3	-16	847	0	0	0
253	SLE RA 15	3	-15	855	0	0	0
253	SLE RA 16	3	-16	844	0	0	0
253	SLE RA 17	3	-15	852	0	0	0
253	SLE RA 18	3	-16	863	0	0	0
253	SLE RA 19	3	-15	871	0	0	0
253	SLE RA 20	3	-16	868	0	0	0
253	SLE RA 21	3	-15	875	0	0	0
253	SLE FR 1	3	-15	769	0	0	0
253	SLE FR 2	3	-14	771	0	0	0
253	SLE FR 3	3	-15	771	0	0	0
253	SLE FR 4	3	-15	800	0	0	0
253	SLE FR 5	3	-15	799	0	0	0
253	SLE FR 6	3	-16	816	0	0	0
253	SLE QP 1	3	-15	769	0	0	0
253	SLE QP 2	3	-15	797	0	0	0
253	SLD 1	71	7	900	0	0	0
253	SLD 2	84	9	904	0	0	0
253	SLD 3	69	-30	662	0	0	0
253	SLD 4	82	-28	667	0	0	0
253	SLD 5	24	48	1187	0	0	0
253	SLD 6	33	49	1190	0	0	0
253	SLD 7	18	-77	396	0	0	0
253	SLD 8	27	-76	399	0	0	0
253	SLD 9	-20	45	1196	0	0	0
253	SLD 10	-11	46	1198	0	0	0
253	SLD 11	-26	-80	404	0	0	0
253	SLD 12	-17	-79	407	0	0	0
253	SLD 13	-76	-2	928	0	0	0
253	SLD 14	-62	0	932	0	0	0
253	SLD 15	-77	-40	690	0	0	0
253	SLD 16	-64	-38	694	0	0	0
253	SLV 1	109	21	964	0	0	0
253	SLV 2	130	24	971	0	0	0
253	SLV 3	106	-40	580	0	0	0
253	SLV 4	127	-37	587	0	0	0
253	SLV 5	36	87	1428	0	0	0
253	SLV 6	50	89	1433	0	0	0
253	SLV 7	26	-115	149	0	0	0
253	SLV 8	40	-113	153	0	0	0
253	SLV 9	-33	83	1441	0	0	0
253	SLV 10	-19	85	1446	0	0	0
253	SLV 11	-43	-120	162	0	0	0
253	SLV 12	-29	-118	166	0	0	0
253	SLV 13	-120	6	1008	0	0	0
253	SLV 14	-99	9	1014	0	0	0
253	SLV 15	-123	-55	624	0	0	0
253	SLV 16	-102	-52	630	0	0	0
253	SLV FO 1	120	25	981	0	0	0
253	SLV FO 2	143	28	988	0	0	0
253	SLV FO 3	116	-42	559	0	0	0
253	SLV FO 4	139	-39	566	0	0	0
253	SLV FO 5	39	97	1491	0	0	0
253	SLV FO 6	55	100	1496	0	0	0
253	SLV FO 7	28	-125	84	0	0	0
253	SLV FO 8	43	-123	89	0	0	0
253	SLV FO 9	-37	92	1506	0	0	0
253	SLV FO 10	-21	95	1510	0	0	0
253	SLV FO 11	-48	-130	98	0	0	0
253	SLV FO 12	-32	-128	103	0	0	0
253	SLV FO 13	-133	8	1029	0	0	0
253	SLV FO 14	-109	12	1036	0	0	0
253	SLV FO 15	-136	-59	606	0	0	0
253	SLV FO 16	-113	-55	613	0	0	0
253	CRTFP Uy+	0	0	0	0	0	0
253	CRTFP Uy-	0	0	0	0	0	0
254	SLU 1	4	-16	823	0	0	0
254	SLU 2	5	-12	843	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLU 3	4	-16	836	0	0	0
254	SLU 4	4	-14	848	0	0	0
254	SLU 5	4	-12	851	0	0	0
254	SLU 6	4	-16	843	0	0	0
254	SLU 7	4	-14	856	0	0	0
254	SLU 8	4	-16	838	0	0	0
254	SLU 9	4	-14	851	0	0	0
254	SLU 10	5	-14	951	0	0	0
254	SLU 11	4	-17	943	0	0	0
254	SLU 12	5	-15	955	0	0	0
254	SLU 13	5	-14	959	0	0	0
254	SLU 14	4	-18	951	0	0	0
254	SLU 15	5	-16	963	0	0	0
254	SLU 16	4	-18	946	0	0	0
254	SLU 17	5	-15	958	0	0	0
254	SLU 18	5	-18	976	0	0	0
254	SLU 19	5	-16	988	0	0	0
254	SLU 20	5	-18	984	0	0	0
254	SLU 21	5	-16	996	0	0	0
254	SLU 22	5	-18	932	0	0	0
254	SLU 23	5	-14	952	0	0	0
254	SLU 24	5	-18	945	0	0	0
254	SLU 25	5	-16	957	0	0	0
254	SLU 26	5	-14	960	0	0	0
254	SLU 27	5	-18	952	0	0	0
254	SLU 28	5	-16	965	0	0	0
254	SLU 29	5	-18	947	0	0	0
254	SLU 30	5	-16	960	0	0	0
254	SLU 31	5	-16	1060	0	0	0
254	SLU 32	5	-19	1052	0	0	0
254	SLU 33	5	-17	1064	0	0	0
254	SLU 34	5	-16	1068	0	0	0
254	SLU 35	5	-19	1060	0	0	0
254	SLU 36	5	-17	1072	0	0	0
254	SLU 37	5	-19	1055	0	0	0
254	SLU 38	5	-17	1067	0	0	0
254	SLU 39	5	-20	1085	0	0	0
254	SLU 40	5	-18	1097	0	0	0
254	SLU 41	5	-20	1093	0	0	0
254	SLU 42	5	-18	1105	0	0	0
254	SLU 43	5	-20	1032	0	0	0
254	SLU 44	6	-16	1053	0	0	0
254	SLU 45	5	-20	1045	0	0	0
254	SLU 46	6	-18	1057	0	0	0
254	SLU 47	6	-16	1061	0	0	0
254	SLU 48	5	-20	1053	0	0	0
254	SLU 49	6	-18	1065	0	0	0
254	SLU 50	5	-20	1048	0	0	0
254	SLU 51	5	-18	1060	0	0	0
254	SLU 52	6	-18	1160	0	0	0
254	SLU 53	6	-22	1152	0	0	0
254	SLU 54	6	-19	1165	0	0	0
254	SLU 55	6	-18	1168	0	0	0
254	SLU 56	6	-22	1160	0	0	0
254	SLU 57	6	-20	1173	0	0	0
254	SLU 58	6	-22	1155	0	0	0
254	SLU 59	6	-20	1168	0	0	0
254	SLU 60	6	-22	1185	0	0	0
254	SLU 61	6	-20	1198	0	0	0
254	SLU 62	6	-22	1193	0	0	0
254	SLU 63	6	-20	1206	0	0	0
254	SLU 64	6	-22	1141	0	0	0
254	SLU 65	6	-18	1162	0	0	0
254	SLU 66	6	-22	1154	0	0	0
254	SLU 67	6	-20	1166	0	0	0
254	SLU 68	6	-18	1170	0	0	0
254	SLU 69	6	-22	1162	0	0	0
254	SLU 70	6	-20	1174	0	0	0
254	SLU 71	6	-22	1157	0	0	0
254	SLU 72	6	-20	1169	0	0	0
254	SLU 73	6	-20	1269	0	0	0
254	SLU 74	6	-23	1261	0	0	0
254	SLU 75	6	-21	1274	0	0	0
254	SLU 76	6	-20	1277	0	0	0
254	SLU 77	6	-24	1269	0	0	0
254	SLU 78	6	-21	1282	0	0	0
254	SLU 79	6	-23	1264	0	0	0
254	SLU 80	6	-21	1277	0	0	0
254	SLU 81	6	-24	1294	0	0	0
254	SLU 82	6	-22	1307	0	0	0
254	SLU 83	6	-24	1302	0	0	0
254	SLU 84	6	-22	1315	0	0	0
254	SLE RA 1	5	-16	854	0	0	0
254	SLE RA 2	5	-14	868	0	0	0
254	SLE RA 3	5	-16	862	0	0	0
254	SLE RA 4	5	-15	871	0	0	0
254	SLE RA 5	5	-14	873	0	0	0
254	SLE RA 6	4	-17	868	0	0	0
254	SLE RA 7	5	-15	876	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
254	SLE RA 8	4	-16	864	0	0	0
254	SLE RA 9	5	-15	873	0	0	0
254	SLE RA 10	5	-15	939	0	0	0
254	SLE RA 11	5	-17	934	0	0	0
254	SLE RA 12	5	-16	942	0	0	0
254	SLE RA 13	5	-15	944	0	0	0
254	SLE RA 14	5	-18	939	0	0	0
254	SLE RA 15	5	-16	948	0	0	0
254	SLE RA 16	5	-17	936	0	0	0
254	SLE RA 17	5	-16	944	0	0	0
254	SLE RA 18	5	-18	956	0	0	0
254	SLE RA 19	5	-16	964	0	0	0
254	SLE RA 20	5	-18	961	0	0	0
254	SLE RA 21	5	-16	970	0	0	0
254	SLE FR 1	5	-16	854	0	0	0
254	SLE FR 2	5	-16	857	0	0	0
254	SLE FR 3	5	-16	856	0	0	0
254	SLE FR 4	5	-16	887	0	0	0
254	SLE FR 5	5	-17	887	0	0	0
254	SLE FR 6	5	-17	905	0	0	0
254	SLE QP 1	5	-16	854	0	0	0
254	SLE QP 2	5	-17	884	0	0	0
254	SLD 1	80	10	968	0	0	0
254	SLD 2	95	15	975	0	0	0
254	SLD 3	77	-29	707	0	0	0
254	SLD 4	92	-24	714	0	0	0
254	SLD 5	28	49	1304	0	0	0
254	SLD 6	38	52	1308	0	0	0
254	SLD 7	20	-79	434	0	0	0
254	SLD 8	30	-76	439	0	0	0
254	SLD 9	-21	43	1330	0	0	0
254	SLD 10	-11	46	1334	0	0	0
254	SLD 11	-29	-85	460	0	0	0
254	SLD 12	-19	-82	465	0	0	0
254	SLD 13	-83	-10	1055	0	0	0
254	SLD 14	-68	-4	1062	0	0	0
254	SLD 15	-86	-48	794	0	0	0
254	SLD 16	-71	-43	801	0	0	0
254	SLV 1	123	25	1022	0	0	0
254	SLV 2	146	34	1033	0	0	0
254	SLV 3	119	-37	601	0	0	0
254	SLV 4	142	-29	612	0	0	0
254	SLV 5	42	89	1563	0	0	0
254	SLV 6	57	94	1571	0	0	0
254	SLV 7	28	-118	158	0	0	0
254	SLV 8	44	-113	165	0	0	0
254	SLV 9	-35	80	1604	0	0	0
254	SLV 10	-19	85	1611	0	0	0
254	SLV 11	-48	-127	198	0	0	0
254	SLV 12	-33	-122	206	0	0	0
254	SLV 13	-133	-5	1157	0	0	0
254	SLV 14	-109	3	1168	0	0	0
254	SLV 15	-137	-67	736	0	0	0
254	SLV 16	-113	-59	747	0	0	0
254	SLV FO 1	134	30	1036	0	0	0
254	SLV FO 2	160	39	1048	0	0	0
254	SLV FO 3	130	-39	572	0	0	0
254	SLV FO 4	156	-30	584	0	0	0
254	SLV FO 5	45	99	1631	0	0	0
254	SLV FO 6	63	105	1639	0	0	0
254	SLV FO 7	31	-128	85	0	0	0
254	SLV FO 8	48	-122	93	0	0	0
254	SLV FO 9	-39	89	1676	0	0	0
254	SLV FO 10	-22	95	1684	0	0	0
254	SLV FO 11	-54	-138	130	0	0	0
254	SLV FO 12	-36	-132	138	0	0	0
254	SLV FO 13	-146	-4	1184	0	0	0
254	SLV FO 14	-121	5	1197	0	0	0
254	SLV FO 15	-151	-72	721	0	0	0
254	SLV FO 16	-125	-63	733	0	0	0
254	CRTFP Uy+	0	0	0	0	0	0
254	CRTFP Uy-	0	0	0	0	0	0
255	SLU 1	2	-11	542	0	0	0
255	SLU 2	3	-8	555	0	0	0
255	SLU 3	2	-11	550	0	0	0
255	SLU 4	3	-9	559	0	0	0
255	SLU 5	3	-8	561	0	0	0
255	SLU 6	2	-11	556	0	0	0
255	SLU 7	2	-9	564	0	0	0
255	SLU 8	2	-11	552	0	0	0
255	SLU 9	2	-9	560	0	0	0
255	SLU 10	3	-9	627	0	0	0
255	SLU 11	3	-12	622	0	0	0
255	SLU 12	3	-10	631	0	0	0
255	SLU 13	3	-9	633	0	0	0
255	SLU 14	2	-12	628	0	0	0
255	SLU 15	3	-11	636	0	0	0
255	SLU 16	2	-12	624	0	0	0
255	SLU 17	3	-10	633	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLU 18	3	-12	645	0	0	0
255	SLU 19	3	-11	653	0	0	0
255	SLU 20	3	-12	650	0	0	0
255	SLU 21	3	-11	658	0	0	0
255	SLU 22	3	-12	613	0	0	0
255	SLU 23	3	-9	627	0	0	0
255	SLU 24	3	-12	622	0	0	0
255	SLU 25	3	-11	630	0	0	0
255	SLU 26	3	-10	632	0	0	0
255	SLU 27	3	-12	627	0	0	0
255	SLU 28	3	-11	636	0	0	0
255	SLU 29	3	-12	624	0	0	0
255	SLU 30	3	-11	632	0	0	0
255	SLU 31	3	-11	699	0	0	0
255	SLU 32	3	-13	694	0	0	0
255	SLU 33	3	-12	702	0	0	0
255	SLU 34	3	-11	704	0	0	0
255	SLU 35	3	-13	699	0	0	0
255	SLU 36	3	-12	708	0	0	0
255	SLU 37	3	-13	696	0	0	0
255	SLU 38	3	-12	704	0	0	0
255	SLU 39	3	-13	716	0	0	0
255	SLU 40	3	-12	725	0	0	0
255	SLU 41	3	-14	722	0	0	0
255	SLU 42	3	-12	730	0	0	0
255	SLU 43	3	-13	680	0	0	0
255	SLU 44	3	-11	693	0	0	0
255	SLU 45	3	-13	688	0	0	0
255	SLU 46	3	-12	696	0	0	0
255	SLU 47	3	-11	699	0	0	0
255	SLU 48	3	-14	694	0	0	0
255	SLU 49	3	-12	702	0	0	0
255	SLU 50	3	-14	690	0	0	0
255	SLU 51	3	-12	698	0	0	0
255	SLU 52	3	-12	765	0	0	0
255	SLU 53	3	-15	760	0	0	0
255	SLU 54	3	-13	768	0	0	0
255	SLU 55	3	-12	771	0	0	0
255	SLU 56	3	-15	766	0	0	0
255	SLU 57	3	-13	774	0	0	0
255	SLU 58	3	-15	762	0	0	0
255	SLU 59	3	-13	770	0	0	0
255	SLU 60	3	-15	783	0	0	0
255	SLU 61	3	-13	791	0	0	0
255	SLU 62	3	-15	788	0	0	0
255	SLU 63	3	-14	796	0	0	0
255	SLU 64	3	-15	751	0	0	0
255	SLU 65	4	-12	765	0	0	0
255	SLU 66	3	-15	760	0	0	0
255	SLU 67	3	-13	768	0	0	0
255	SLU 68	3	-12	770	0	0	0
255	SLU 69	3	-15	765	0	0	0
255	SLU 70	3	-13	773	0	0	0
255	SLU 71	3	-15	762	0	0	0
255	SLU 72	3	-13	770	0	0	0
255	SLU 73	4	-13	837	0	0	0
255	SLU 74	3	-16	832	0	0	0
255	SLU 75	4	-14	840	0	0	0
255	SLU 76	4	-13	842	0	0	0
255	SLU 77	3	-16	837	0	0	0
255	SLU 78	3	-15	845	0	0	0
255	SLU 79	3	-16	834	0	0	0
255	SLU 80	3	-14	842	0	0	0
255	SLU 81	3	-16	854	0	0	0
255	SLU 82	4	-15	862	0	0	0
255	SLU 83	3	-16	860	0	0	0
255	SLU 84	4	-15	868	0	0	0
255	SLE RA 1	3	-11	562	0	0	0
255	SLE RA 2	3	-9	571	0	0	0
255	SLE RA 3	3	-11	568	0	0	0
255	SLE RA 4	3	-10	573	0	0	0
255	SLE RA 5	3	-9	575	0	0	0
255	SLE RA 6	3	-11	571	0	0	0
255	SLE RA 7	3	-10	577	0	0	0
255	SLE RA 8	3	-11	569	0	0	0
255	SLE RA 9	3	-10	575	0	0	0
255	SLE RA 10	3	-10	619	0	0	0
255	SLE RA 11	3	-12	616	0	0	0
255	SLE RA 12	3	-11	621	0	0	0
255	SLE RA 13	3	-10	623	0	0	0
255	SLE RA 14	3	-12	619	0	0	0
255	SLE RA 15	3	-11	625	0	0	0
255	SLE RA 16	3	-12	617	0	0	0
255	SLE RA 17	3	-11	623	0	0	0
255	SLE RA 18	3	-12	631	0	0	0
255	SLE RA 19	3	-11	636	0	0	0
255	SLE RA 20	3	-12	634	0	0	0
255	SLE RA 21	3	-11	640	0	0	0
255	SLE FR 1	3	-11	562	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
255	SLE FR 2	3	-11	564	0	0	0
255	SLE FR 3	3	-11	564	0	0	0
255	SLE FR 4	3	-11	585	0	0	0
255	SLE FR 5	3	-11	584	0	0	0
255	SLE FR 6	3	-11	597	0	0	0
255	SLE QP 1	3	-11	562	0	0	0
255	SLE QP 2	3	-11	583	0	0	0
255	SLD 1	52	6	654	0	0	0
255	SLD 2	62	7	658	0	0	0
255	SLD 3	51	-22	484	0	0	0
255	SLD 4	61	-20	487	0	0	0
255	SLD 5	18	35	863	0	0	0
255	SLD 6	24	36	865	0	0	0
255	SLD 7	13	-56	293	0	0	0
255	SLD 8	20	-55	295	0	0	0
255	SLD 9	-14	33	870	0	0	0
255	SLD 10	-8	34	872	0	0	0
255	SLD 11	-19	-59	301	0	0	0
255	SLD 12	-13	-57	303	0	0	0
255	SLD 13	-55	-2	679	0	0	0
255	SLD 14	-46	-1	682	0	0	0
255	SLD 15	-57	-30	508	0	0	0
255	SLD 16	-47	-28	511	0	0	0
255	SLV 1	80	16	699	0	0	0
255	SLV 2	96	19	704	0	0	0
255	SLV 3	78	-28	423	0	0	0
255	SLV 4	93	-26	428	0	0	0
255	SLV 5	27	63	1036	0	0	0
255	SLV 6	37	65	1039	0	0	0
255	SLV 7	19	-84	115	0	0	0
255	SLV 8	29	-82	118	0	0	0
255	SLV 9	-24	60	1047	0	0	0
255	SLV 10	-14	61	1051	0	0	0
255	SLV 11	-32	-88	126	0	0	0
255	SLV 12	-22	-86	130	0	0	0
255	SLV 13	-88	3	737	0	0	0
255	SLV 14	-73	6	743	0	0	0
255	SLV 15	-91	-41	461	0	0	0
255	SLV 16	-75	-38	466	0	0	0
255	SLV FO 1	88	19	711	0	0	0
255	SLV FO 2	105	22	717	0	0	0
255	SLV FO 3	86	-30	407	0	0	0
255	SLV FO 4	102	-27	413	0	0	0
255	SLV FO 5	29	71	1081	0	0	0
255	SLV FO 6	41	73	1085	0	0	0
255	SLV FO 7	20	-91	68	0	0	0
255	SLV FO 8	32	-89	72	0	0	0
255	SLV FO 9	-27	67	1094	0	0	0
255	SLV FO 10	-15	69	1097	0	0	0
255	SLV FO 11	-35	-95	81	0	0	0
255	SLV FO 12	-24	-93	84	0	0	0
255	SLV FO 13	-97	5	753	0	0	0
255	SLV FO 14	-80	8	758	0	0	0
255	SLV FO 15	-100	-44	449	0	0	0
255	SLV FO 16	-83	-41	455	0	0	0
255	CRTFP Uy+	0	0	0	0	0	0
255	CRTFP Uy-	0	0	0	0	0	0
256	SLU 1	4	-15	794	0	0	0
256	SLU 2	4	-12	814	0	0	0
256	SLU 3	4	-16	806	0	0	0
256	SLU 4	4	-14	818	0	0	0
256	SLU 5	4	-12	821	0	0	0
256	SLU 6	4	-16	814	0	0	0
256	SLU 7	4	-14	826	0	0	0
256	SLU 8	4	-16	809	0	0	0
256	SLU 9	4	-14	821	0	0	0
256	SLU 10	4	-13	918	0	0	0
256	SLU 11	4	-17	910	0	0	0
256	SLU 12	4	-15	922	0	0	0
256	SLU 13	4	-14	925	0	0	0
256	SLU 14	4	-17	918	0	0	0
256	SLU 15	4	-15	930	0	0	0
256	SLU 16	4	-17	913	0	0	0
256	SLU 17	4	-15	925	0	0	0
256	SLU 18	4	-17	942	0	0	0
256	SLU 19	4	-15	954	0	0	0
256	SLU 20	4	-18	950	0	0	0
256	SLU 21	4	-16	962	0	0	0
256	SLU 22	5	-17	899	0	0	0
256	SLU 23	5	-14	919	0	0	0
256	SLU 24	5	-17	911	0	0	0
256	SLU 25	5	-15	923	0	0	0
256	SLU 26	5	-14	926	0	0	0
256	SLU 27	5	-18	919	0	0	0
256	SLU 28	5	-16	931	0	0	0
256	SLU 29	5	-18	914	0	0	0
256	SLU 30	5	-16	926	0	0	0
256	SLU 31	5	-15	1023	0	0	0
256	SLU 32	5	-19	1015	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLU 33	5	-17	1027	0	0	0
256	SLU 34	5	-15	1030	0	0	0
256	SLU 35	5	-19	1023	0	0	0
256	SLU 36	5	-17	1035	0	0	0
256	SLU 37	5	-19	1018	0	0	0
256	SLU 38	5	-17	1030	0	0	0
256	SLU 39	5	-19	1047	0	0	0
256	SLU 40	5	-17	1059	0	0	0
256	SLU 41	5	-19	1055	0	0	0
256	SLU 42	5	-17	1067	0	0	0
256	SLU 43	5	-19	996	0	0	0
256	SLU 44	5	-16	1016	0	0	0
256	SLU 45	5	-20	1008	0	0	0
256	SLU 46	5	-18	1020	0	0	0
256	SLU 47	5	-16	1023	0	0	0
256	SLU 48	5	-20	1016	0	0	0
256	SLU 49	5	-18	1028	0	0	0
256	SLU 50	5	-20	1011	0	0	0
256	SLU 51	5	-18	1023	0	0	0
256	SLU 52	5	-17	1120	0	0	0
256	SLU 53	5	-21	1112	0	0	0
256	SLU 54	5	-19	1124	0	0	0
256	SLU 55	5	-18	1127	0	0	0
256	SLU 56	5	-21	1120	0	0	0
256	SLU 57	5	-19	1132	0	0	0
256	SLU 58	5	-21	1115	0	0	0
256	SLU 59	5	-19	1127	0	0	0
256	SLU 60	5	-21	1144	0	0	0
256	SLU 61	5	-19	1156	0	0	0
256	SLU 62	5	-22	1152	0	0	0
256	SLU 63	5	-20	1164	0	0	0
256	SLU 64	6	-21	1101	0	0	0
256	SLU 65	6	-18	1121	0	0	0
256	SLU 66	6	-21	1113	0	0	0
256	SLU 67	6	-19	1125	0	0	0
256	SLU 68	6	-18	1128	0	0	0
256	SLU 69	6	-22	1121	0	0	0
256	SLU 70	6	-20	1133	0	0	0
256	SLU 71	6	-22	1116	0	0	0
256	SLU 72	6	-19	1128	0	0	0
256	SLU 73	6	-19	1225	0	0	0
256	SLU 74	6	-23	1217	0	0	0
256	SLU 75	6	-21	1229	0	0	0
256	SLU 76	6	-19	1232	0	0	0
256	SLU 77	6	-23	1225	0	0	0
256	SLU 78	6	-21	1237	0	0	0
256	SLU 79	6	-23	1220	0	0	0
256	SLU 80	6	-21	1232	0	0	0
256	SLU 81	6	-23	1249	0	0	0
256	SLU 82	6	-21	1261	0	0	0
256	SLU 83	6	-23	1257	0	0	0
256	SLU 84	6	-21	1269	0	0	0
256	SLE RA 1	4	-16	824	0	0	0
256	SLE RA 2	4	-14	837	0	0	0
256	SLE RA 3	4	-16	832	0	0	0
256	SLE RA 4	4	-15	840	0	0	0
256	SLE RA 5	4	-14	842	0	0	0
256	SLE RA 6	4	-16	837	0	0	0
256	SLE RA 7	4	-15	845	0	0	0
256	SLE RA 8	4	-16	834	0	0	0
256	SLE RA 9	4	-15	842	0	0	0
256	SLE RA 10	4	-15	906	0	0	0
256	SLE RA 11	4	-17	901	0	0	0
256	SLE RA 12	4	-16	909	0	0	0
256	SLE RA 13	4	-15	911	0	0	0
256	SLE RA 14	4	-17	906	0	0	0
256	SLE RA 15	4	-16	914	0	0	0
256	SLE RA 16	4	-17	903	0	0	0
256	SLE RA 17	4	-16	911	0	0	0
256	SLE RA 18	4	-17	923	0	0	0
256	SLE RA 19	4	-16	931	0	0	0
256	SLE RA 20	4	-17	928	0	0	0
256	SLE RA 21	4	-16	936	0	0	0
256	SLE FR 1	4	-16	824	0	0	0
256	SLE FR 2	4	-15	826	0	0	0
256	SLE FR 3	4	-16	826	0	0	0
256	SLE FR 4	4	-16	856	0	0	0
256	SLE FR 5	4	-16	855	0	0	0
256	SLE FR 6	4	-17	873	0	0	0
256	SLE QP 1	4	-16	824	0	0	0
256	SLE QP 2	4	-16	853	0	0	0
256	SLD 1	78	9	941	0	0	0
256	SLD 2	92	14	947	0	0	0
256	SLD 3	75	-29	691	0	0	0
256	SLD 4	90	-25	697	0	0	0
256	SLD 5	27	48	1257	0	0	0
256	SLD 6	37	51	1262	0	0	0
256	SLD 7	19	-79	425	0	0	0
256	SLD 8	29	-76	429	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
256	SLD 9	-20	43	1278	0	0	0
256	SLD 10	-11	46	1282	0	0	0
256	SLD 11	-28	-84	445	0	0	0
256	SLD 12	-19	-81	449	0	0	0
256	SLD 13	-81	-8	1010	0	0	0
256	SLD 14	-67	-4	1016	0	0	0
256	SLD 15	-84	-46	760	0	0	0
256	SLD 16	-69	-42	766	0	0	0
256	SLV 1	119	25	997	0	0	0
256	SLV 2	142	31	1007	0	0	0
256	SLV 3	115	-37	593	0	0	0
256	SLV 4	138	-30	603	0	0	0
256	SLV 5	40	88	1507	0	0	0
256	SLV 6	56	93	1514	0	0	0
256	SLV 7	27	-117	161	0	0	0
256	SLV 8	43	-113	167	0	0	0
256	SLV 9	-34	80	1539	0	0	0
256	SLV 10	-19	85	1546	0	0	0
256	SLV 11	-47	-126	193	0	0	0
256	SLV 12	-32	-121	200	0	0	0
256	SLV 13	-129	-2	1104	0	0	0
256	SLV 14	-107	5	1114	0	0	0
256	SLV 15	-133	-64	700	0	0	0
256	SLV 16	-111	-57	710	0	0	0
256	SLV FO 1	131	29	1011	0	0	0
256	SLV FO 2	156	36	1022	0	0	0
256	SLV FO 3	126	-39	567	0	0	0
256	SLV FO 4	151	-32	578	0	0	0
256	SLV FO 5	44	99	1573	0	0	0
256	SLV FO 6	61	104	1580	0	0	0
256	SLV FO 7	30	-128	91	0	0	0
256	SLV FO 8	47	-122	99	0	0	0
256	SLV FO 9	-38	90	1608	0	0	0
256	SLV FO 10	-21	95	1615	0	0	0
256	SLV FO 11	-52	-136	127	0	0	0
256	SLV FO 12	-36	-131	134	0	0	0
256	SLV FO 13	-143	-1	1129	0	0	0
256	SLV FO 14	-118	7	1140	0	0	0
256	SLV FO 15	-147	-69	685	0	0	0
256	SLV FO 16	-122	-61	696	0	0	0
256	CRTFP Uy+	0	0	0	0	0	0
256	CRTFP Uy-	0	0	0	0	0	0
257	SLU 1	3	-13	651	0	0	0
257	SLU 2	3	-10	668	0	0	0
257	SLU 3	3	-13	662	0	0	0
257	SLU 4	3	-11	671	0	0	0
257	SLU 5	3	-10	674	0	0	0
257	SLU 6	3	-13	668	0	0	0
257	SLU 7	3	-11	678	0	0	0
257	SLU 8	3	-13	664	0	0	0
257	SLU 9	3	-11	674	0	0	0
257	SLU 10	3	-11	754	0	0	0
257	SLU 11	3	-14	748	0	0	0
257	SLU 12	3	-13	758	0	0	0
257	SLU 13	3	-11	760	0	0	0
257	SLU 14	3	-14	754	0	0	0
257	SLU 15	3	-13	764	0	0	0
257	SLU 16	3	-14	750	0	0	0
257	SLU 17	3	-13	760	0	0	0
257	SLU 18	3	-15	774	0	0	0
257	SLU 19	3	-13	784	0	0	0
257	SLU 20	3	-15	781	0	0	0
257	SLU 21	3	-13	791	0	0	0
257	SLU 22	3	-14	737	0	0	0
257	SLU 23	4	-11	754	0	0	0
257	SLU 24	3	-15	748	0	0	0
257	SLU 25	4	-13	758	0	0	0
257	SLU 26	4	-12	760	0	0	0
257	SLU 27	3	-15	754	0	0	0
257	SLU 28	4	-13	764	0	0	0
257	SLU 29	3	-15	750	0	0	0
257	SLU 30	3	-13	760	0	0	0
257	SLU 31	4	-13	840	0	0	0
257	SLU 32	4	-16	834	0	0	0
257	SLU 33	4	-14	844	0	0	0
257	SLU 34	4	-13	846	0	0	0
257	SLU 35	4	-16	840	0	0	0
257	SLU 36	4	-14	850	0	0	0
257	SLU 37	3	-16	836	0	0	0
257	SLU 38	4	-14	846	0	0	0
257	SLU 39	4	-16	861	0	0	0
257	SLU 40	4	-14	870	0	0	0
257	SLU 41	4	-16	867	0	0	0
257	SLU 42	4	-15	877	0	0	0
257	SLU 43	4	-16	817	0	0	0
257	SLU 44	4	-13	833	0	0	0
257	SLU 45	4	-16	827	0	0	0
257	SLU 46	4	-15	837	0	0	0
257	SLU 47	4	-13	840	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLU 48	4	-16	834	0	0	0
257	SLU 49	4	-15	844	0	0	0
257	SLU 50	4	-16	830	0	0	0
257	SLU 51	4	-15	840	0	0	0
257	SLU 52	4	-14	920	0	0	0
257	SLU 53	4	-18	914	0	0	0
257	SLU 54	4	-16	923	0	0	0
257	SLU 55	4	-15	926	0	0	0
257	SLU 56	4	-18	920	0	0	0
257	SLU 57	4	-16	930	0	0	0
257	SLU 58	4	-18	916	0	0	0
257	SLU 59	4	-16	926	0	0	0
257	SLU 60	4	-18	940	0	0	0
257	SLU 61	4	-16	950	0	0	0
257	SLU 62	4	-18	947	0	0	0
257	SLU 63	4	-16	956	0	0	0
257	SLU 64	4	-18	903	0	0	0
257	SLU 65	4	-15	920	0	0	0
257	SLU 66	4	-18	914	0	0	0
257	SLU 67	4	-16	923	0	0	0
257	SLU 68	4	-15	926	0	0	0
257	SLU 69	4	-18	920	0	0	0
257	SLU 70	4	-16	930	0	0	0
257	SLU 71	4	-18	916	0	0	0
257	SLU 72	4	-16	926	0	0	0
257	SLU 73	4	-16	1006	0	0	0
257	SLU 74	4	-19	1000	0	0	0
257	SLU 75	4	-17	1010	0	0	0
257	SLU 76	4	-16	1012	0	0	0
257	SLU 77	4	-19	1006	0	0	0
257	SLU 78	4	-17	1016	0	0	0
257	SLU 79	4	-19	1002	0	0	0
257	SLU 80	4	-17	1012	0	0	0
257	SLU 81	4	-19	1026	0	0	0
257	SLU 82	4	-18	1036	0	0	0
257	SLU 83	4	-20	1033	0	0	0
257	SLU 84	4	-18	1043	0	0	0
257	SLE RA 1	3	-13	676	0	0	0
257	SLE RA 2	3	-11	687	0	0	0
257	SLE RA 3	3	-13	683	0	0	0
257	SLE RA 4	3	-12	689	0	0	0
257	SLE RA 5	3	-11	691	0	0	0
257	SLE RA 6	3	-13	687	0	0	0
257	SLE RA 7	3	-12	694	0	0	0
257	SLE RA 8	3	-13	684	0	0	0
257	SLE RA 9	3	-12	691	0	0	0
257	SLE RA 10	3	-12	744	0	0	0
257	SLE RA 11	3	-14	740	0	0	0
257	SLE RA 12	3	-13	747	0	0	0
257	SLE RA 13	3	-12	748	0	0	0
257	SLE RA 14	3	-14	744	0	0	0
257	SLE RA 15	3	-13	751	0	0	0
257	SLE RA 16	3	-14	742	0	0	0
257	SLE RA 17	3	-13	748	0	0	0
257	SLE RA 18	3	-14	758	0	0	0
257	SLE RA 19	3	-13	765	0	0	0
257	SLE RA 20	3	-14	762	0	0	0
257	SLE RA 21	3	-13	769	0	0	0
257	SLE FR 1	3	-13	676	0	0	0
257	SLE FR 2	3	-13	678	0	0	0
257	SLE FR 3	3	-13	678	0	0	0
257	SLE FR 4	3	-13	703	0	0	0
257	SLE FR 5	3	-14	702	0	0	0
257	SLE FR 6	3	-14	717	0	0	0
257	SLE QP 1	3	-13	676	0	0	0
257	SLE QP 2	3	-14	701	0	0	0
257	SLD 1	63	7	782	0	0	0
257	SLD 2	75	10	787	0	0	0
257	SLD 3	61	-25	578	0	0	0
257	SLD 4	73	-23	582	0	0	0
257	SLD 5	22	42	1034	0	0	0
257	SLD 6	30	43	1037	0	0	0
257	SLD 7	16	-67	353	0	0	0
257	SLD 8	24	-65	356	0	0	0
257	SLD 9	-17	38	1045	0	0	0
257	SLD 10	-9	40	1048	0	0	0
257	SLD 11	-23	-70	364	0	0	0
257	SLD 12	-15	-69	367	0	0	0
257	SLD 13	-67	-4	819	0	0	0
257	SLD 14	-55	-2	823	0	0	0
257	SLD 15	-69	-37	614	0	0	0
257	SLD 16	-57	-34	619	0	0	0
257	SLV 1	97	20	834	0	0	0
257	SLV 2	116	24	841	0	0	0
257	SLV 3	94	-33	503	0	0	0
257	SLV 4	113	-29	510	0	0	0
257	SLV 5	33	75	1241	0	0	0
257	SLV 6	45	78	1245	0	0	0
257	SLV 7	22	-100	139	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
257	SLV 8	35	-97	143	0	0	0
257	SLV 9	-29	70	1258	0	0	0
257	SLV 10	-16	73	1262	0	0	0
257	SLV 11	-39	-105	156	0	0	0
257	SLV 12	-26	-102	160	0	0	0
257	SLV 13	-106	2	891	0	0	0
257	SLV 14	-88	6	898	0	0	0
257	SLV 15	-109	-51	560	0	0	0
257	SLV 16	-91	-47	567	0	0	0
257	SLV FO 1	107	23	847	0	0	0
257	SLV FO 2	127	27	855	0	0	0
257	SLV FO 3	103	-35	484	0	0	0
257	SLV FO 4	124	-31	491	0	0	0
257	SLV FO 5	36	84	1295	0	0	0
257	SLV FO 6	49	87	1300	0	0	0
257	SLV FO 7	24	-109	82	0	0	0
257	SLV FO 8	38	-106	87	0	0	0
257	SLV FO 9	-32	79	1314	0	0	0
257	SLV FO 10	-18	82	1319	0	0	0
257	SLV FO 11	-43	-114	101	0	0	0
257	SLV FO 12	-29	-111	106	0	0	0
257	SLV FO 13	-117	4	910	0	0	0
257	SLV FO 14	-97	8	917	0	0	0
257	SLV FO 15	-121	-54	546	0	0	0
257	SLV FO 16	-100	-50	554	0	0	0
257	CRTFP Uy+	0	0	0	0	0	0
257	CRTFP Uy-	0	0	0	0	0	0
258	SLU 1	4	-14	734	0	0	0
258	SLU 2	4	-11	752	0	0	0
258	SLU 3	4	-15	746	0	0	0
258	SLU 4	4	-13	757	0	0	0
258	SLU 5	4	-11	760	0	0	0
258	SLU 6	4	-15	753	0	0	0
258	SLU 7	4	-13	764	0	0	0
258	SLU 8	4	-15	748	0	0	0
258	SLU 9	4	-13	759	0	0	0
258	SLU 10	4	-13	849	0	0	0
258	SLU 11	4	-16	842	0	0	0
258	SLU 12	4	-14	853	0	0	0
258	SLU 13	4	-13	856	0	0	0
258	SLU 14	4	-16	849	0	0	0
258	SLU 15	4	-14	861	0	0	0
258	SLU 16	4	-16	845	0	0	0
258	SLU 17	4	-14	856	0	0	0
258	SLU 18	4	-16	872	0	0	0
258	SLU 19	4	-14	883	0	0	0
258	SLU 20	4	-16	879	0	0	0
258	SLU 21	4	-15	890	0	0	0
258	SLU 22	4	-16	831	0	0	0
258	SLU 23	4	-13	850	0	0	0
258	SLU 24	4	-16	843	0	0	0
258	SLU 25	4	-14	854	0	0	0
258	SLU 26	4	-13	857	0	0	0
258	SLU 27	4	-16	850	0	0	0
258	SLU 28	4	-15	861	0	0	0
258	SLU 29	4	-16	845	0	0	0
258	SLU 30	4	-14	856	0	0	0
258	SLU 31	4	-14	946	0	0	0
258	SLU 32	4	-18	940	0	0	0
258	SLU 33	4	-16	951	0	0	0
258	SLU 34	4	-14	953	0	0	0
258	SLU 35	4	-18	947	0	0	0
258	SLU 36	4	-16	958	0	0	0
258	SLU 37	4	-18	942	0	0	0
258	SLU 38	4	-16	953	0	0	0
258	SLU 39	4	-18	969	0	0	0
258	SLU 40	4	-16	980	0	0	0
258	SLU 41	4	-18	976	0	0	0
258	SLU 42	4	-16	987	0	0	0
258	SLU 43	5	-18	921	0	0	0
258	SLU 44	5	-15	939	0	0	0
258	SLU 45	5	-18	933	0	0	0
258	SLU 46	5	-16	944	0	0	0
258	SLU 47	5	-15	946	0	0	0
258	SLU 48	4	-18	940	0	0	0
258	SLU 49	5	-17	951	0	0	0
258	SLU 50	4	-18	935	0	0	0
258	SLU 51	5	-16	946	0	0	0
258	SLU 52	5	-16	1036	0	0	0
258	SLU 53	5	-20	1029	0	0	0
258	SLU 54	5	-18	1040	0	0	0
258	SLU 55	5	-16	1043	0	0	0
258	SLU 56	5	-20	1036	0	0	0
258	SLU 57	5	-18	1047	0	0	0
258	SLU 58	5	-20	1032	0	0	0
258	SLU 59	5	-18	1043	0	0	0
258	SLU 60	5	-20	1059	0	0	0
258	SLU 61	5	-18	1070	0	0	0
258	SLU 62	5	-20	1066	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
258	SLU 63	5	-18	1077	0	0	0
258	SLU 64	5	-20	1018	0	0	0
258	SLU 65	5	-17	1036	0	0	0
258	SLU 66	5	-20	1030	0	0	0
258	SLU 67	5	-18	1041	0	0	0
258	SLU 68	5	-17	1044	0	0	0
258	SLU 69	5	-20	1037	0	0	0
258	SLU 70	5	-18	1048	0	0	0
258	SLU 71	5	-20	1032	0	0	0
258	SLU 72	5	-18	1043	0	0	0
258	SLU 73	5	-18	1133	0	0	0
258	SLU 74	5	-21	1126	0	0	0
258	SLU 75	5	-20	1137	0	0	0
258	SLU 76	5	-18	1140	0	0	0
258	SLU 77	5	-22	1134	0	0	0
258	SLU 78	5	-20	1145	0	0	0
258	SLU 79	5	-21	1129	0	0	0
258	SLU 80	5	-20	1140	0	0	0
258	SLU 81	5	-22	1156	0	0	0
258	SLU 82	5	-20	1167	0	0	0
258	SLU 83	5	-22	1163	0	0	0
258	SLU 84	5	-20	1174	0	0	0
258	SLE RA 1	4	-15	762	0	0	0
258	SLE RA 2	4	-13	774	0	0	0
258	SLE RA 3	4	-15	770	0	0	0
258	SLE RA 4	4	-14	777	0	0	0
258	SLE RA 5	4	-13	779	0	0	0
258	SLE RA 6	4	-15	774	0	0	0
258	SLE RA 7	4	-14	782	0	0	0
258	SLE RA 8	4	-15	771	0	0	0
258	SLE RA 9	4	-14	779	0	0	0
258	SLE RA 10	4	-14	839	0	0	0
258	SLE RA 11	4	-16	834	0	0	0
258	SLE RA 12	4	-15	841	0	0	0
258	SLE RA 13	4	-14	843	0	0	0
258	SLE RA 14	4	-16	839	0	0	0
258	SLE RA 15	4	-15	846	0	0	0
258	SLE RA 16	4	-16	836	0	0	0
258	SLE RA 17	4	-15	843	0	0	0
258	SLE RA 18	4	-16	854	0	0	0
258	SLE RA 19	4	-15	861	0	0	0
258	SLE RA 20	4	-16	859	0	0	0
258	SLE RA 21	4	-15	866	0	0	0
258	SLE FR 1	4	-15	762	0	0	0
258	SLE FR 2	4	-14	764	0	0	0
258	SLE FR 3	4	-15	764	0	0	0
258	SLE FR 4	4	-15	792	0	0	0
258	SLE FR 5	4	-15	791	0	0	0
258	SLE FR 6	4	-15	808	0	0	0
258	SLE QP 1	4	-15	762	0	0	0
258	SLE QP 2	4	-15	789	0	0	0
258	SLD 1	72	8	876	0	0	0
258	SLD 2	85	12	882	0	0	0
258	SLD 3	70	-28	646	0	0	0
258	SLD 4	83	-24	651	0	0	0
258	SLD 5	25	46	1164	0	0	0
258	SLD 6	34	48	1167	0	0	0
258	SLD 7	18	-74	396	0	0	0
258	SLD 8	27	-72	399	0	0	0
258	SLD 9	-19	42	1179	0	0	0
258	SLD 10	-10	44	1183	0	0	0
258	SLD 11	-26	-79	411	0	0	0
258	SLD 12	-17	-76	415	0	0	0
258	SLD 13	-75	-6	928	0	0	0
258	SLD 14	-62	-3	933	0	0	0
258	SLD 15	-78	-42	697	0	0	0
258	SLD 16	-64	-39	703	0	0	0
258	SLV 1	110	22	931	0	0	0
258	SLV 2	131	28	940	0	0	0
258	SLV 3	107	-36	559	0	0	0
258	SLV 4	128	-30	567	0	0	0
258	SLV 5	37	84	1395	0	0	0
258	SLV 6	51	87	1401	0	0	0
258	SLV 7	25	-111	154	0	0	0
258	SLV 8	40	-107	159	0	0	0
258	SLV 9	-32	77	1420	0	0	0
258	SLV 10	-18	81	1425	0	0	0
258	SLV 11	-44	-118	178	0	0	0
258	SLV 12	-30	-114	183	0	0	0
258	SLV 13	-120	0	1012	0	0	0
258	SLV 14	-99	5	1020	0	0	0
258	SLV 15	-124	-58	639	0	0	0
258	SLV 16	-103	-53	648	0	0	0
258	SLV FO 1	121	26	946	0	0	0
258	SLV FO 2	144	32	955	0	0	0
258	SLV FO 3	117	-38	536	0	0	0
258	SLV FO 4	140	-32	545	0	0	0
258	SLV FO 5	40	94	1456	0	0	0
258	SLV FO 6	56	98	1462	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
258	SLV FO 7	28	-121	90	0	0	0
258	SLV FO 8	43	-117	96	0	0	0
258	SLV FO 9	-36	86	1483	0	0	0
258	SLV FO 10	-20	90	1489	0	0	0
258	SLV FO 11	-48	-128	117	0	0	0
258	SLV FO 12	-33	-124	123	0	0	0
258	SLV FO 13	-133	2	1034	0	0	0
258	SLV FO 14	-110	8	1043	0	0	0
258	SLV FO 15	-136	-63	624	0	0	0
258	SLV FO 16	-113	-57	633	0	0	0
258	CRTFP Uy+	0	0	0	0	0	0
258	CRTFP Uy-	0	0	0	0	0	0
259	SLU 1	4	-14	737	0	0	0
259	SLU 2	4	-11	756	0	0	0
259	SLU 3	4	-14	749	0	0	0
259	SLU 4	4	-12	760	0	0	0
259	SLU 5	4	-11	763	0	0	0
259	SLU 6	4	-14	756	0	0	0
259	SLU 7	4	-12	767	0	0	0
259	SLU 8	4	-14	752	0	0	0
259	SLU 9	4	-12	763	0	0	0
259	SLU 10	4	-12	851	0	0	0
259	SLU 11	4	-15	845	0	0	0
259	SLU 12	4	-13	856	0	0	0
259	SLU 13	4	-12	859	0	0	0
259	SLU 14	4	-15	852	0	0	0
259	SLU 15	4	-13	863	0	0	0
259	SLU 16	4	-15	848	0	0	0
259	SLU 17	4	-13	859	0	0	0
259	SLU 18	4	-15	874	0	0	0
259	SLU 19	4	-14	885	0	0	0
259	SLU 20	4	-15	881	0	0	0
259	SLU 21	4	-14	892	0	0	0
259	SLU 22	5	-15	837	0	0	0
259	SLU 23	5	-12	855	0	0	0
259	SLU 24	5	-15	849	0	0	0
259	SLU 25	5	-14	859	0	0	0
259	SLU 26	5	-12	862	0	0	0
259	SLU 27	5	-15	856	0	0	0
259	SLU 28	5	-14	867	0	0	0
259	SLU 29	5	-15	851	0	0	0
259	SLU 30	5	-14	862	0	0	0
259	SLU 31	5	-13	951	0	0	0
259	SLU 32	5	-17	944	0	0	0
259	SLU 33	5	-15	955	0	0	0
259	SLU 34	5	-14	958	0	0	0
259	SLU 35	5	-17	951	0	0	0
259	SLU 36	5	-15	962	0	0	0
259	SLU 37	5	-17	947	0	0	0
259	SLU 38	5	-15	958	0	0	0
259	SLU 39	5	-17	974	0	0	0
259	SLU 40	5	-15	985	0	0	0
259	SLU 41	5	-17	981	0	0	0
259	SLU 42	5	-15	992	0	0	0
259	SLU 43	5	-17	925	0	0	0
259	SLU 44	5	-14	943	0	0	0
259	SLU 45	5	-17	936	0	0	0
259	SLU 46	5	-16	947	0	0	0
259	SLU 47	5	-14	950	0	0	0
259	SLU 48	5	-18	944	0	0	0
259	SLU 49	5	-16	955	0	0	0
259	SLU 50	5	-17	939	0	0	0
259	SLU 51	5	-16	950	0	0	0
259	SLU 52	5	-16	1039	0	0	0
259	SLU 53	5	-19	1032	0	0	0
259	SLU 54	5	-17	1043	0	0	0
259	SLU 55	5	-16	1046	0	0	0
259	SLU 56	5	-19	1039	0	0	0
259	SLU 57	5	-17	1050	0	0	0
259	SLU 58	5	-19	1035	0	0	0
259	SLU 59	5	-17	1046	0	0	0
259	SLU 60	5	-19	1061	0	0	0
259	SLU 61	5	-17	1072	0	0	0
259	SLU 62	5	-19	1069	0	0	0
259	SLU 63	5	-17	1080	0	0	0
259	SLU 64	6	-19	1024	0	0	0
259	SLU 65	6	-16	1042	0	0	0
259	SLU 66	6	-19	1036	0	0	0
259	SLU 67	6	-17	1047	0	0	0
259	SLU 68	6	-16	1049	0	0	0
259	SLU 69	6	-19	1043	0	0	0
259	SLU 70	6	-17	1054	0	0	0
259	SLU 71	6	-19	1038	0	0	0
259	SLU 72	6	-17	1049	0	0	0
259	SLU 73	6	-17	1138	0	0	0
259	SLU 74	6	-20	1131	0	0	0
259	SLU 75	6	-18	1142	0	0	0
259	SLU 76	6	-17	1145	0	0	0
259	SLU 77	6	-20	1139	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
259	SLU 78	6	-19	1150	0	0	0
259	SLU 79	6	-20	1134	0	0	0
259	SLU 80	6	-18	1145	0	0	0
259	SLU 81	6	-20	1161	0	0	0
259	SLU 82	6	-19	1172	0	0	0
259	SLU 83	6	-20	1168	0	0	0
259	SLU 84	6	-19	1179	0	0	0
259	SLE RA 1	4	-14	766	0	0	0
259	SLE RA 2	4	-12	778	0	0	0
259	SLE RA 3	4	-14	774	0	0	0
259	SLE RA 4	4	-13	781	0	0	0
259	SLE RA 5	4	-12	783	0	0	0
259	SLE RA 6	4	-14	778	0	0	0
259	SLE RA 7	4	-13	786	0	0	0
259	SLE RA 8	4	-14	775	0	0	0
259	SLE RA 9	4	-13	783	0	0	0
259	SLE RA 10	4	-13	842	0	0	0
259	SLE RA 11	4	-15	837	0	0	0
259	SLE RA 12	4	-14	845	0	0	0
259	SLE RA 13	4	-13	847	0	0	0
259	SLE RA 14	4	-15	842	0	0	0
259	SLE RA 15	4	-14	850	0	0	0
259	SLE RA 16	4	-15	839	0	0	0
259	SLE RA 17	4	-14	847	0	0	0
259	SLE RA 18	4	-15	857	0	0	0
259	SLE RA 19	4	-14	864	0	0	0
259	SLE RA 20	4	-15	862	0	0	0
259	SLE RA 21	4	-14	869	0	0	0
259	SLE FR 1	4	-14	766	0	0	0
259	SLE FR 2	4	-14	768	0	0	0
259	SLE FR 3	4	-14	768	0	0	0
259	SLE FR 4	4	-14	796	0	0	0
259	SLE FR 5	4	-14	795	0	0	0
259	SLE FR 6	4	-15	811	0	0	0
259	SLE QP 1	4	-14	766	0	0	0
259	SLE QP 2	4	-14	793	0	0	0
259	SLD 1	68	8	843	0	0	0
259	SLD 2	80	15	851	0	0	0
259	SLD 3	66	-22	611	0	0	0
259	SLD 4	78	-15	619	0	0	0
259	SLD 5	25	37	1159	0	0	0
259	SLD 6	33	41	1164	0	0	0
259	SLD 7	17	-63	385	0	0	0
259	SLD 8	25	-59	390	0	0	0
259	SLD 9	-17	31	1196	0	0	0
259	SLD 10	-9	35	1202	0	0	0
259	SLD 11	-24	-70	422	0	0	0
259	SLD 12	-16	-66	428	0	0	0
259	SLD 13	-70	-13	968	0	0	0
259	SLD 14	-57	-7	976	0	0	0
259	SLD 15	-72	-44	736	0	0	0
259	SLD 16	-59	-37	744	0	0	0
259	SLV 1	104	22	877	0	0	0
259	SLV 2	124	32	890	0	0	0
259	SLV 3	100	-27	502	0	0	0
259	SLV 4	120	-17	514	0	0	0
259	SLV 5	36	69	1385	0	0	0
259	SLV 6	49	76	1394	0	0	0
259	SLV 7	24	-94	134	0	0	0
259	SLV 8	37	-87	143	0	0	0
259	SLV 9	-28	58	1444	0	0	0
259	SLV 10	-15	65	1452	0	0	0
259	SLV 11	-41	-104	193	0	0	0
259	SLV 12	-28	-97	201	0	0	0
259	SLV 13	-111	-12	1072	0	0	0
259	SLV 14	-92	-2	1085	0	0	0
259	SLV 15	-115	-61	697	0	0	0
259	SLV 16	-96	-51	709	0	0	0
259	SLV FO 1	114	26	885	0	0	0
259	SLV FO 2	136	37	899	0	0	0
259	SLV FO 3	110	-28	472	0	0	0
259	SLV FO 4	132	-17	486	0	0	0
259	SLV FO 5	39	77	1445	0	0	0
259	SLV FO 6	54	85	1454	0	0	0
259	SLV FO 7	26	-102	68	0	0	0
259	SLV FO 8	40	-94	77	0	0	0
259	SLV FO 9	-32	66	1509	0	0	0
259	SLV FO 10	-17	73	1518	0	0	0
259	SLV FO 11	-45	-113	132	0	0	0
259	SLV FO 12	-31	-106	142	0	0	0
259	SLV FO 13	-123	-12	1100	0	0	0
259	SLV FO 14	-101	-1	1114	0	0	0
259	SLV FO 15	-127	-66	687	0	0	0
259	SLV FO 16	-106	-54	701	0	0	0
259	CRTFP Uy+	0	0	0	0	0	0
259	CRTFP Uy-	0	0	0	0	0	0
261	SLU 1	8	-26	1415	0	0	0
261	SLU 2	8	-20	1449	0	0	0
261	SLU 3	8	-26	1437	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLU 4	8	-23	1458	0	0	0
261	SLU 5	8	-21	1463	0	0	0
261	SLU 6	8	-27	1451	0	0	0
261	SLU 7	8	-23	1472	0	0	0
261	SLU 8	8	-27	1442	0	0	0
261	SLU 9	8	-23	1463	0	0	0
261	SLU 10	9	-23	1633	0	0	0
261	SLU 11	8	-29	1621	0	0	0
261	SLU 12	9	-25	1642	0	0	0
261	SLU 13	9	-23	1647	0	0	0
261	SLU 14	8	-29	1635	0	0	0
261	SLU 15	9	-26	1656	0	0	0
261	SLU 16	8	-29	1626	0	0	0
261	SLU 17	8	-26	1647	0	0	0
261	SLU 18	8	-29	1677	0	0	0
261	SLU 19	9	-26	1698	0	0	0
261	SLU 20	8	-30	1691	0	0	0
261	SLU 21	9	-26	1712	0	0	0
261	SLU 22	9	-29	1604	0	0	0
261	SLU 23	9	-23	1639	0	0	0
261	SLU 24	9	-29	1627	0	0	0
261	SLU 25	9	-26	1648	0	0	0
261	SLU 26	9	-24	1653	0	0	0
261	SLU 27	9	-30	1641	0	0	0
261	SLU 28	9	-26	1662	0	0	0
261	SLU 29	9	-29	1632	0	0	0
261	SLU 30	9	-26	1653	0	0	0
261	SLU 31	10	-26	1823	0	0	0
261	SLU 32	9	-32	1811	0	0	0
261	SLU 33	10	-28	1832	0	0	0
261	SLU 34	10	-26	1837	0	0	0
261	SLU 35	9	-32	1825	0	0	0
261	SLU 36	10	-29	1845	0	0	0
261	SLU 37	9	-32	1816	0	0	0
261	SLU 38	10	-28	1837	0	0	0
261	SLU 39	10	-32	1867	0	0	0
261	SLU 40	10	-29	1888	0	0	0
261	SLU 41	9	-33	1881	0	0	0
261	SLU 42	10	-29	1902	0	0	0
261	SLU 43	10	-33	1774	0	0	0
261	SLU 44	10	-27	1809	0	0	0
261	SLU 45	10	-33	1797	0	0	0
261	SLU 46	10	-30	1817	0	0	0
261	SLU 47	10	-27	1823	0	0	0
261	SLU 48	10	-33	1810	0	0	0
261	SLU 49	10	-30	1831	0	0	0
261	SLU 50	10	-33	1802	0	0	0
261	SLU 51	10	-30	1822	0	0	0
261	SLU 52	11	-29	1993	0	0	0
261	SLU 53	10	-36	1980	0	0	0
261	SLU 54	11	-32	2001	0	0	0
261	SLU 55	11	-30	2006	0	0	0
261	SLU 56	10	-36	1994	0	0	0
261	SLU 57	11	-33	2015	0	0	0
261	SLU 58	10	-36	1986	0	0	0
261	SLU 59	10	-32	2006	0	0	0
261	SLU 60	10	-36	2037	0	0	0
261	SLU 61	11	-33	2058	0	0	0
261	SLU 62	10	-36	2051	0	0	0
261	SLU 63	11	-33	2071	0	0	0
261	SLU 64	11	-36	1964	0	0	0
261	SLU 65	12	-30	1999	0	0	0
261	SLU 66	11	-36	1986	0	0	0
261	SLU 67	11	-33	2007	0	0	0
261	SLU 68	11	-30	2012	0	0	0
261	SLU 69	11	-36	2000	0	0	0
261	SLU 70	11	-33	2021	0	0	0
261	SLU 71	11	-36	1991	0	0	0
261	SLU 72	11	-33	2012	0	0	0
261	SLU 73	12	-32	2182	0	0	0
261	SLU 74	11	-38	2170	0	0	0
261	SLU 75	12	-35	2191	0	0	0
261	SLU 76	12	-33	2196	0	0	0
261	SLU 77	11	-39	2184	0	0	0
261	SLU 78	12	-35	2205	0	0	0
261	SLU 79	11	-39	2175	0	0	0
261	SLU 80	12	-35	2196	0	0	0
261	SLU 81	12	-39	2227	0	0	0
261	SLU 82	12	-36	2247	0	0	0
261	SLU 83	12	-39	2240	0	0	0
261	SLU 84	12	-36	2261	0	0	0
261	SLE RA 1	8	-27	1469	0	0	0
261	SLE RA 2	9	-23	1492	0	0	0
261	SLE RA 3	8	-27	1484	0	0	0
261	SLE RA 4	9	-25	1498	0	0	0
261	SLE RA 5	9	-23	1501	0	0	0
261	SLE RA 6	8	-27	1493	0	0	0
261	SLE RA 7	8	-25	1507	0	0	0
261	SLE RA 8	8	-27	1487	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
261	SLE RA 9	8	-25	1501	0	0	0
261	SLE RA 10	9	-25	1615	0	0	0
261	SLE RA 11	9	-29	1607	0	0	0
261	SLE RA 12	9	-26	1620	0	0	0
261	SLE RA 13	9	-25	1624	0	0	0
261	SLE RA 14	9	-29	1616	0	0	0
261	SLE RA 15	9	-27	1630	0	0	0
261	SLE RA 16	8	-29	1610	0	0	0
261	SLE RA 17	9	-27	1624	0	0	0
261	SLE RA 18	9	-29	1644	0	0	0
261	SLE RA 19	9	-27	1658	0	0	0
261	SLE RA 20	9	-29	1653	0	0	0
261	SLE RA 21	9	-27	1667	0	0	0
261	SLE FR 1	8	-27	1469	0	0	0
261	SLE FR 2	8	-26	1474	0	0	0
261	SLE FR 3	8	-27	1473	0	0	0
261	SLE FR 4	8	-27	1526	0	0	0
261	SLE FR 5	8	-28	1525	0	0	0
261	SLE FR 6	8	-28	1556	0	0	0
261	SLE QP 1	8	-27	1469	0	0	0
261	SLE QP 2	8	-27	1521	0	0	0
261	SLD 1	134	17	1631	0	0	0
261	SLD 2	159	28	1645	0	0	0
261	SLD 3	129	-44	1190	0	0	0
261	SLD 4	154	-33	1205	0	0	0
261	SLD 5	49	77	2220	0	0	0
261	SLD 6	65	84	2229	0	0	0
261	SLD 7	33	-127	752	0	0	0
261	SLD 8	50	-120	761	0	0	0
261	SLD 9	-33	65	2282	0	0	0
261	SLD 10	-17	72	2291	0	0	0
261	SLD 11	-48	-139	814	0	0	0
261	SLD 12	-32	-131	823	0	0	0
261	SLD 13	-137	-22	1838	0	0	0
261	SLD 14	-113	-10	1852	0	0	0
261	SLD 15	-142	-83	1398	0	0	0
261	SLD 16	-117	-72	1412	0	0	0
261	SLV 1	205	43	1705	0	0	0
261	SLV 2	244	61	1727	0	0	0
261	SLV 3	198	-56	993	0	0	0
261	SLV 4	236	-38	1015	0	0	0
261	SLV 5	72	140	2652	0	0	0
261	SLV 6	98	152	2667	0	0	0
261	SLV 7	47	-189	279	0	0	0
261	SLV 8	73	-177	294	0	0	0
261	SLV 9	-56	122	2749	0	0	0
261	SLV 10	-30	134	2764	0	0	0
261	SLV 11	-81	-207	376	0	0	0
261	SLV 12	-55	-195	391	0	0	0
261	SLV 13	-219	-17	2028	0	0	0
261	SLV 14	-181	1	2050	0	0	0
261	SLV 15	-227	-116	1316	0	0	0
261	SLV 16	-188	-98	1338	0	0	0
261	SLV FO 1	225	50	1723	0	0	0
261	SLV FO 2	267	70	1748	0	0	0
261	SLV FO 3	216	-59	940	0	0	0
261	SLV FO 4	259	-39	964	0	0	0
261	SLV FO 5	78	157	2765	0	0	0
261	SLV FO 6	106	170	2782	0	0	0
261	SLV FO 7	50	-205	154	0	0	0
261	SLV FO 8	79	-192	171	0	0	0
261	SLV FO 9	-62	137	2872	0	0	0
261	SLV FO 10	-34	151	2889	0	0	0
261	SLV FO 11	-90	-225	261	0	0	0
261	SLV FO 12	-61	-212	278	0	0	0
261	SLV FO 13	-242	-16	2079	0	0	0
261	SLV FO 14	-200	4	2103	0	0	0
261	SLV FO 15	-250	-125	1295	0	0	0
261	SLV FO 16	-208	-105	1320	0	0	0
261	CRTFP Ux+	0	0	0	0	0	0
261	CRTFP Ux-	0	0	0	0	0	0
261	CRTFP Uy+	0	0	0	0	0	0
261	CRTFP Uy-	0	0	0	0	0	0
262	SLU 1	-2	-10	425	0	0	0
262	SLU 2	-2	-8	435	0	0	0
262	SLU 3	-2	-10	431	0	0	0
262	SLU 4	-3	-9	437	0	0	0
262	SLU 5	-3	-8	439	0	0	0
262	SLU 6	-3	-10	436	0	0	0
262	SLU 7	-3	-9	442	0	0	0
262	SLU 8	-3	-10	433	0	0	0
262	SLU 9	-3	-9	439	0	0	0
262	SLU 10	-2	-9	490	0	0	0
262	SLU 11	-2	-11	487	0	0	0
262	SLU 12	-2	-10	493	0	0	0
262	SLU 13	-3	-9	495	0	0	0
262	SLU 14	-3	-11	492	0	0	0
262	SLU 15	-3	-10	498	0	0	0
262	SLU 16	-2	-11	489	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLU 17	-3	-10	495	0	0	0
262	SLU 18	-2	-11	504	0	0	0
262	SLU 19	-2	-10	510	0	0	0
262	SLU 20	-2	-11	509	0	0	0
262	SLU 21	-2	-10	515	0	0	0
262	SLU 22	-3	-11	483	0	0	0
262	SLU 23	-3	-9	493	0	0	0
262	SLU 24	-3	-11	490	0	0	0
262	SLU 25	-3	-10	496	0	0	0
262	SLU 26	-3	-9	497	0	0	0
262	SLU 27	-3	-11	494	0	0	0
262	SLU 28	-3	-10	500	0	0	0
262	SLU 29	-3	-11	491	0	0	0
262	SLU 30	-3	-10	497	0	0	0
262	SLU 31	-3	-10	549	0	0	0
262	SLU 32	-3	-12	545	0	0	0
262	SLU 33	-3	-11	551	0	0	0
262	SLU 34	-3	-10	553	0	0	0
262	SLU 35	-3	-12	550	0	0	0
262	SLU 36	-3	-11	556	0	0	0
262	SLU 37	-3	-12	547	0	0	0
262	SLU 38	-3	-11	553	0	0	0
262	SLU 39	-3	-12	562	0	0	0
262	SLU 40	-3	-11	568	0	0	0
262	SLU 41	-3	-12	567	0	0	0
262	SLU 42	-3	-11	573	0	0	0
262	SLU 43	-3	-12	532	0	0	0
262	SLU 44	-3	-11	542	0	0	0
262	SLU 45	-3	-12	539	0	0	0
262	SLU 46	-3	-11	545	0	0	0
262	SLU 47	-3	-11	546	0	0	0
262	SLU 48	-3	-13	543	0	0	0
262	SLU 49	-3	-12	549	0	0	0
262	SLU 50	-3	-12	541	0	0	0
262	SLU 51	-3	-11	547	0	0	0
262	SLU 52	-3	-12	598	0	0	0
262	SLU 53	-3	-13	595	0	0	0
262	SLU 54	-3	-12	601	0	0	0
262	SLU 55	-3	-12	602	0	0	0
262	SLU 56	-3	-14	599	0	0	0
262	SLU 57	-3	-13	605	0	0	0
262	SLU 58	-3	-13	596	0	0	0
262	SLU 59	-3	-13	602	0	0	0
262	SLU 60	-3	-14	612	0	0	0
262	SLU 61	-3	-13	618	0	0	0
262	SLU 62	-3	-14	616	0	0	0
262	SLU 63	-3	-13	622	0	0	0
262	SLU 64	-3	-13	590	0	0	0
262	SLU 65	-3	-12	600	0	0	0
262	SLU 66	-3	-14	597	0	0	0
262	SLU 67	-3	-13	603	0	0	0
262	SLU 68	-3	-12	604	0	0	0
262	SLU 69	-3	-14	601	0	0	0
262	SLU 70	-4	-13	607	0	0	0
262	SLU 71	-3	-14	599	0	0	0
262	SLU 72	-4	-13	605	0	0	0
262	SLU 73	-3	-13	656	0	0	0
262	SLU 74	-3	-15	653	0	0	0
262	SLU 75	-3	-14	659	0	0	0
262	SLU 76	-3	-13	660	0	0	0
262	SLU 77	-3	-15	657	0	0	0
262	SLU 78	-4	-14	663	0	0	0
262	SLU 79	-3	-15	654	0	0	0
262	SLU 80	-3	-14	660	0	0	0
262	SLU 81	-3	-15	670	0	0	0
262	SLU 82	-3	-14	676	0	0	0
262	SLU 83	-3	-15	674	0	0	0
262	SLU 84	-3	-14	680	0	0	0
262	SLE RA 1	-2	-10	441	0	0	0
262	SLE RA 2	-3	-9	448	0	0	0
262	SLE RA 3	-3	-10	446	0	0	0
262	SLE RA 4	-3	-10	450	0	0	0
262	SLE RA 5	-3	-9	451	0	0	0
262	SLE RA 6	-3	-10	449	0	0	0
262	SLE RA 7	-3	-10	453	0	0	0
262	SLE RA 8	-3	-10	447	0	0	0
262	SLE RA 9	-3	-10	451	0	0	0
262	SLE RA 10	-3	-10	485	0	0	0
262	SLE RA 11	-3	-11	483	0	0	0
262	SLE RA 12	-3	-10	487	0	0	0
262	SLE RA 13	-3	-10	488	0	0	0
262	SLE RA 14	-3	-11	486	0	0	0
262	SLE RA 15	-3	-10	490	0	0	0
262	SLE RA 16	-3	-11	484	0	0	0
262	SLE RA 17	-3	-10	488	0	0	0
262	SLE RA 18	-2	-11	494	0	0	0
262	SLE RA 19	-3	-10	498	0	0	0
262	SLE RA 20	-3	-11	497	0	0	0
262	SLE RA 21	-3	-10	501	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
262	SLE FR 1	-2	-10	441	0	0	0
262	SLE FR 2	-2	-10	443	0	0	0
262	SLE FR 3	-3	-10	442	0	0	0
262	SLE FR 4	-2	-10	459	0	0	0
262	SLE FR 5	-3	-10	458	0	0	0
262	SLE FR 6	-2	-11	468	0	0	0
262	SLE QP 1	-2	-10	441	0	0	0
262	SLE QP 2	-2	-10	457	0	0	0
262	SLD 1	32	-5	558	0	0	0
262	SLD 2	38	-8	554	0	0	0
262	SLD 3	34	-23	430	0	0	0
262	SLD 4	41	-26	426	0	0	0
262	SLD 5	2	19	682	0	0	0
262	SLD 6	7	17	680	0	0	0
262	SLD 7	11	-40	256	0	0	0
262	SLD 8	16	-43	253	0	0	0
262	SLD 9	-21	22	662	0	0	0
262	SLD 10	-16	20	659	0	0	0
262	SLD 11	-12	-37	235	0	0	0
262	SLD 12	-7	-40	232	0	0	0
262	SLD 13	-46	6	489	0	0	0
262	SLD 14	-39	2	484	0	0	0
262	SLD 15	-43	-12	361	0	0	0
262	SLD 16	-37	-16	356	0	0	0
262	SLV 1	51	-1	618	0	0	0
262	SLV 2	62	-7	612	0	0	0
262	SLV 3	55	-30	411	0	0	0
262	SLV 4	66	-36	405	0	0	0
262	SLV 5	5	37	821	0	0	0
262	SLV 6	12	33	816	0	0	0
262	SLV 7	19	-59	131	0	0	0
262	SLV 8	27	-63	126	0	0	0
262	SLV 9	-32	42	788	0	0	0
262	SLV 10	-24	38	784	0	0	0
262	SLV 11	-17	-54	98	0	0	0
262	SLV 12	-10	-58	94	0	0	0
262	SLV 13	-71	15	510	0	0	0
262	SLV 14	-60	9	503	0	0	0
262	SLV 15	-67	-14	303	0	0	0
262	SLV 16	-56	-20	296	0	0	0
262	SLV FO 1	56	0	634	0	0	0
262	SLV FO 2	68	-7	627	0	0	0
262	SLV FO 3	61	-32	407	0	0	0
262	SLV FO 4	73	-38	399	0	0	0
262	SLV FO 5	6	42	857	0	0	0
262	SLV FO 6	14	38	852	0	0	0
262	SLV FO 7	21	-64	98	0	0	0
262	SLV FO 8	29	-68	93	0	0	0
262	SLV FO 9	-34	47	821	0	0	0
262	SLV FO 10	-26	43	816	0	0	0
262	SLV FO 11	-19	-58	62	0	0	0
262	SLV FO 12	-11	-63	57	0	0	0
262	SLV FO 13	-78	18	515	0	0	0
262	SLV FO 14	-66	11	508	0	0	0
262	SLV FO 15	-73	-14	287	0	0	0
262	SLV FO 16	-61	-21	280	0	0	0
262	CRTFP Uy+	0	0	0	0	0	0
262	CRTFP Uy-	0	0	0	0	0	0
263	SLU 1	-5	-18	841	0	0	0
263	SLU 2	-5	-15	861	0	0	0
263	SLU 3	-5	-18	854	0	0	0
263	SLU 4	-5	-16	866	0	0	0
263	SLU 5	-5	-15	869	0	0	0
263	SLU 6	-5	-19	863	0	0	0
263	SLU 7	-5	-17	874	0	0	0
263	SLU 8	-5	-19	857	0	0	0
263	SLU 9	-5	-17	869	0	0	0
263	SLU 10	-5	-17	971	0	0	0
263	SLU 11	-5	-20	965	0	0	0
263	SLU 12	-5	-18	977	0	0	0
263	SLU 13	-5	-17	979	0	0	0
263	SLU 14	-5	-21	973	0	0	0
263	SLU 15	-5	-19	985	0	0	0
263	SLU 16	-5	-20	968	0	0	0
263	SLU 17	-5	-18	980	0	0	0
263	SLU 18	-5	-21	999	0	0	0
263	SLU 19	-5	-19	1011	0	0	0
263	SLU 20	-5	-21	1007	0	0	0
263	SLU 21	-5	-19	1019	0	0	0
263	SLU 22	-6	-20	955	0	0	0
263	SLU 23	-6	-17	975	0	0	0
263	SLU 24	-6	-21	969	0	0	0
263	SLU 25	-6	-19	980	0	0	0
263	SLU 26	-6	-17	983	0	0	0
263	SLU 27	-6	-21	977	0	0	0
263	SLU 28	-6	-19	989	0	0	0
263	SLU 29	-6	-21	972	0	0	0
263	SLU 30	-6	-19	984	0	0	0
263	SLU 31	-6	-19	1085	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
263	SLU 32	-6	-22	1079	0	0	0
263	SLU 33	-6	-21	1091	0	0	0
263	SLU 34	-6	-19	1094	0	0	0
263	SLU 35	-6	-23	1087	0	0	0
263	SLU 36	-6	-21	1099	0	0	0
263	SLU 37	-6	-23	1082	0	0	0
263	SLU 38	-6	-21	1094	0	0	0
263	SLU 39	-6	-23	1113	0	0	0
263	SLU 40	-6	-21	1125	0	0	0
263	SLU 41	-6	-23	1121	0	0	0
263	SLU 42	-6	-21	1133	0	0	0
263	SLU 43	-6	-23	1054	0	0	0
263	SLU 44	-6	-20	1074	0	0	0
263	SLU 45	-6	-23	1067	0	0	0
263	SLU 46	-6	-21	1079	0	0	0
263	SLU 47	-6	-20	1082	0	0	0
263	SLU 48	-6	-23	1076	0	0	0
263	SLU 49	-6	-21	1087	0	0	0
263	SLU 50	-6	-23	1070	0	0	0
263	SLU 51	-6	-21	1082	0	0	0
263	SLU 52	-6	-21	1184	0	0	0
263	SLU 53	-6	-25	1178	0	0	0
263	SLU 54	-6	-23	1190	0	0	0
263	SLU 55	-6	-22	1192	0	0	0
263	SLU 56	-6	-25	1186	0	0	0
263	SLU 57	-6	-23	1198	0	0	0
263	SLU 58	-6	-25	1181	0	0	0
263	SLU 59	-6	-23	1193	0	0	0
263	SLU 60	-6	-26	1212	0	0	0
263	SLU 61	-6	-24	1224	0	0	0
263	SLU 62	-6	-26	1220	0	0	0
263	SLU 63	-6	-24	1232	0	0	0
263	SLU 64	-7	-25	1168	0	0	0
263	SLU 65	-7	-22	1188	0	0	0
263	SLU 66	-7	-25	1182	0	0	0
263	SLU 67	-7	-23	1194	0	0	0
263	SLU 68	-7	-22	1196	0	0	0
263	SLU 69	-7	-25	1190	0	0	0
263	SLU 70	-7	-24	1202	0	0	0
263	SLU 71	-7	-25	1185	0	0	0
263	SLU 72	-7	-23	1197	0	0	0
263	SLU 73	-7	-24	1298	0	0	0
263	SLU 74	-7	-27	1292	0	0	0
263	SLU 75	-7	-25	1304	0	0	0
263	SLU 76	-7	-24	1307	0	0	0
263	SLU 77	-7	-27	1300	0	0	0
263	SLU 78	-7	-25	1312	0	0	0
263	SLU 79	-7	-27	1295	0	0	0
263	SLU 80	-7	-25	1307	0	0	0
263	SLU 81	-7	-28	1326	0	0	0
263	SLU 82	-7	-26	1338	0	0	0
263	SLU 83	-7	-28	1334	0	0	0
263	SLU 84	-7	-26	1346	0	0	0
263	SLE RA 1	-5	-19	873	0	0	0
263	SLE RA 2	-5	-17	887	0	0	0
263	SLE RA 3	-5	-19	882	0	0	0
263	SLE RA 4	-5	-18	890	0	0	0
263	SLE RA 5	-5	-17	892	0	0	0
263	SLE RA 6	-5	-19	888	0	0	0
263	SLE RA 7	-5	-18	896	0	0	0
263	SLE RA 8	-5	-19	884	0	0	0
263	SLE RA 9	-5	-18	892	0	0	0
263	SLE RA 10	-5	-18	960	0	0	0
263	SLE RA 11	-5	-20	956	0	0	0
263	SLE RA 12	-5	-19	964	0	0	0
263	SLE RA 13	-5	-18	966	0	0	0
263	SLE RA 14	-5	-20	962	0	0	0
263	SLE RA 15	-5	-19	970	0	0	0
263	SLE RA 16	-5	-20	958	0	0	0
263	SLE RA 17	-5	-19	966	0	0	0
263	SLE RA 18	-5	-21	979	0	0	0
263	SLE RA 19	-5	-19	987	0	0	0
263	SLE RA 20	-5	-21	984	0	0	0
263	SLE RA 21	-5	-19	992	0	0	0
263	SLE FR 1	-5	-19	873	0	0	0
263	SLE FR 2	-5	-18	876	0	0	0
263	SLE FR 3	-5	-19	876	0	0	0
263	SLE FR 4	-5	-19	908	0	0	0
263	SLE FR 5	-5	-19	907	0	0	0
263	SLE FR 6	-5	-20	926	0	0	0
263	SLE QP 1	-5	-19	873	0	0	0
263	SLE QP 2	-5	-19	905	0	0	0
263	SLD 1	64	-7	1098	0	0	0
263	SLD 2	78	-14	1090	0	0	0
263	SLD 3	69	-43	845	0	0	0
263	SLD 4	83	-51	837	0	0	0
263	SLD 5	5	42	1348	0	0	0
263	SLD 6	14	37	1343	0	0	0
263	SLD 7	23	-81	505	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
263	SLD 8	32	-86	499	0	0	0
263	SLD 9	-42	47	1311	0	0	0
263	SLD 10	-33	43	1306	0	0	0
263	SLD 11	-24	-76	467	0	0	0
263	SLD 12	-15	-80	462	0	0	0
263	SLD 13	-93	12	973	0	0	0
263	SLD 14	-79	5	965	0	0	0
263	SLD 15	-88	-25	720	0	0	0
263	SLD 16	-74	-32	712	0	0	0
263	SLV 1	103	1	1213	0	0	0
263	SLV 2	125	-10	1201	0	0	0
263	SLV 3	111	-58	804	0	0	0
263	SLV 4	133	-69	792	0	0	0
263	SLV 5	10	79	1620	0	0	0
263	SLV 6	25	72	1612	0	0	0
263	SLV 7	39	-119	257	0	0	0
263	SLV 8	54	-127	248	0	0	0
263	SLV 9	-64	88	1562	0	0	0
263	SLV 10	-49	81	1553	0	0	0
263	SLV 11	-35	-110	198	0	0	0
263	SLV 12	-20	-118	190	0	0	0
263	SLV 13	-143	31	1018	0	0	0
263	SLV 14	-121	20	1006	0	0	0
263	SLV 15	-135	-29	609	0	0	0
263	SLV 16	-113	-40	597	0	0	0
263	SLV FO 1	113	4	1244	0	0	0
263	SLV FO 2	138	-9	1230	0	0	0
263	SLV FO 3	123	-62	794	0	0	0
263	SLV FO 4	147	-74	780	0	0	0
263	SLV FO 5	12	89	1692	0	0	0
263	SLV FO 6	28	81	1683	0	0	0
263	SLV FO 7	43	-129	192	0	0	0
263	SLV FO 8	60	-137	183	0	0	0
263	SLV FO 9	-70	99	1627	0	0	0
263	SLV FO 10	-53	91	1618	0	0	0
263	SLV FO 11	-38	-120	127	0	0	0
263	SLV FO 12	-22	-128	118	0	0	0
263	SLV FO 13	-157	36	1030	0	0	0
263	SLV FO 14	-133	23	1016	0	0	0
263	SLV FO 15	-148	-30	580	0	0	0
263	SLV FO 16	-124	-42	566	0	0	0
263	CRTFP Uy+	0	0	0	0	0	0
263	CRTFP Uy-	0	0	0	0	0	0
264	SLU 1	-5	-18	865	0	0	0
264	SLU 2	-5	-14	886	0	0	0
264	SLU 3	-5	-18	879	0	0	0
264	SLU 4	-5	-16	891	0	0	0
264	SLU 5	-5	-15	894	0	0	0
264	SLU 6	-5	-18	888	0	0	0
264	SLU 7	-5	-16	900	0	0	0
264	SLU 8	-5	-18	882	0	0	0
264	SLU 9	-5	-16	894	0	0	0
264	SLU 10	-5	-16	999	0	0	0
264	SLU 11	-5	-20	993	0	0	0
264	SLU 12	-5	-18	1005	0	0	0
264	SLU 13	-5	-16	1008	0	0	0
264	SLU 14	-5	-20	1001	0	0	0
264	SLU 15	-5	-18	1014	0	0	0
264	SLU 16	-5	-20	996	0	0	0
264	SLU 17	-5	-18	1008	0	0	0
264	SLU 18	-5	-21	1028	0	0	0
264	SLU 19	-5	-18	1040	0	0	0
264	SLU 20	-5	-21	1036	0	0	0
264	SLU 21	-5	-19	1049	0	0	0
264	SLU 22	-6	-20	982	0	0	0
264	SLU 23	-6	-16	1003	0	0	0
264	SLU 24	-6	-20	996	0	0	0
264	SLU 25	-6	-18	1008	0	0	0
264	SLU 26	-6	-17	1011	0	0	0
264	SLU 27	-6	-20	1005	0	0	0
264	SLU 28	-6	-18	1017	0	0	0
264	SLU 29	-6	-20	999	0	0	0
264	SLU 30	-6	-18	1012	0	0	0
264	SLU 31	-6	-18	1117	0	0	0
264	SLU 32	-6	-22	1110	0	0	0
264	SLU 33	-6	-20	1122	0	0	0
264	SLU 34	-6	-19	1125	0	0	0
264	SLU 35	-6	-22	1118	0	0	0
264	SLU 36	-6	-20	1131	0	0	0
264	SLU 37	-6	-22	1113	0	0	0
264	SLU 38	-6	-20	1125	0	0	0
264	SLU 39	-6	-23	1145	0	0	0
264	SLU 40	-6	-21	1157	0	0	0
264	SLU 41	-6	-23	1153	0	0	0
264	SLU 42	-6	-21	1166	0	0	0
264	SLU 43	-6	-22	1085	0	0	0
264	SLU 44	-6	-19	1105	0	0	0
264	SLU 45	-6	-23	1099	0	0	0
264	SLU 46	-6	-21	1111	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
264	SLU 47	-7	-19	1114	0	0	0
264	SLU 48	-7	-23	1107	0	0	0
264	SLU 49	-7	-21	1119	0	0	0
264	SLU 50	-6	-23	1102	0	0	0
264	SLU 51	-7	-21	1114	0	0	0
264	SLU 52	-6	-21	1219	0	0	0
264	SLU 53	-6	-25	1212	0	0	0
264	SLU 54	-6	-23	1225	0	0	0
264	SLU 55	-6	-21	1227	0	0	0
264	SLU 56	-6	-25	1221	0	0	0
264	SLU 57	-7	-23	1233	0	0	0
264	SLU 58	-6	-25	1215	0	0	0
264	SLU 59	-7	-23	1228	0	0	0
264	SLU 60	-6	-25	1247	0	0	0
264	SLU 61	-6	-23	1259	0	0	0
264	SLU 62	-6	-25	1256	0	0	0
264	SLU 63	-6	-23	1268	0	0	0
264	SLU 64	-7	-25	1202	0	0	0
264	SLU 65	-7	-21	1222	0	0	0
264	SLU 66	-7	-25	1216	0	0	0
264	SLU 67	-7	-23	1228	0	0	0
264	SLU 68	-7	-21	1231	0	0	0
264	SLU 69	-7	-25	1224	0	0	0
264	SLU 70	-7	-23	1236	0	0	0
264	SLU 71	-7	-25	1219	0	0	0
264	SLU 72	-7	-23	1231	0	0	0
264	SLU 73	-7	-23	1336	0	0	0
264	SLU 74	-7	-27	1329	0	0	0
264	SLU 75	-7	-25	1342	0	0	0
264	SLU 76	-7	-23	1344	0	0	0
264	SLU 77	-7	-27	1338	0	0	0
264	SLU 78	-7	-25	1350	0	0	0
264	SLU 79	-7	-27	1333	0	0	0
264	SLU 80	-7	-25	1345	0	0	0
264	SLU 81	-7	-27	1364	0	0	0
264	SLU 82	-7	-25	1377	0	0	0
264	SLU 83	-7	-27	1373	0	0	0
264	SLU 84	-7	-25	1385	0	0	0
264	SLE RA 1	-5	-18	899	0	0	0
264	SLE RA 2	-5	-16	912	0	0	0
264	SLE RA 3	-5	-19	908	0	0	0
264	SLE RA 4	-5	-17	916	0	0	0
264	SLE RA 5	-5	-16	918	0	0	0
264	SLE RA 6	-5	-19	914	0	0	0
264	SLE RA 7	-5	-17	922	0	0	0
264	SLE RA 8	-5	-19	910	0	0	0
264	SLE RA 9	-5	-17	918	0	0	0
264	SLE RA 10	-5	-17	988	0	0	0
264	SLE RA 11	-5	-20	984	0	0	0
264	SLE RA 12	-5	-18	992	0	0	0
264	SLE RA 13	-5	-17	994	0	0	0
264	SLE RA 14	-5	-20	989	0	0	0
264	SLE RA 15	-5	-19	998	0	0	0
264	SLE RA 16	-5	-20	986	0	0	0
264	SLE RA 17	-5	-19	994	0	0	0
264	SLE RA 18	-5	-20	1007	0	0	0
264	SLE RA 19	-5	-19	1015	0	0	0
264	SLE RA 20	-5	-20	1013	0	0	0
264	SLE RA 21	-5	-19	1021	0	0	0
264	SLE FR 1	-5	-18	899	0	0	0
264	SLE FR 2	-5	-18	901	0	0	0
264	SLE FR 3	-5	-18	901	0	0	0
264	SLE FR 4	-5	-18	934	0	0	0
264	SLE FR 5	-5	-19	933	0	0	0
264	SLE FR 6	-5	-19	953	0	0	0
264	SLE QP 1	-5	-18	899	0	0	0
264	SLE QP 2	-5	-19	931	0	0	0
264	SLD 1	67	-5	1122	0	0	0
264	SLD 2	82	-11	1115	0	0	0
264	SLD 3	73	-44	862	0	0	0
264	SLD 4	88	-51	855	0	0	0
264	SLD 5	5	46	1384	0	0	0
264	SLD 6	15	42	1379	0	0	0
264	SLD 7	24	-85	517	0	0	0
264	SLD 8	34	-90	512	0	0	0
264	SLD 9	-44	52	1350	0	0	0
264	SLD 10	-35	47	1345	0	0	0
264	SLD 11	-26	-80	483	0	0	0
264	SLD 12	-16	-84	478	0	0	0
264	SLD 13	-98	13	1008	0	0	0
264	SLD 14	-83	6	1000	0	0	0
264	SLD 15	-93	-26	748	0	0	0
264	SLD 16	-78	-33	740	0	0	0
264	SLV 1	108	4	1237	0	0	0
264	SLV 2	132	-6	1225	0	0	0
264	SLV 3	117	-59	817	0	0	0
264	SLV 4	141	-70	805	0	0	0
264	SLV 5	11	87	1663	0	0	0
264	SLV 6	26	80	1655	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
264	SLV 7	41	-126	261	0	0	0
264	SLV 8	57	-133	253	0	0	0
264	SLV 9	-67	95	1609	0	0	0
264	SLV 10	-51	88	1601	0	0	0
264	SLV 11	-37	-117	208	0	0	0
264	SLV 12	-21	-125	200	0	0	0
264	SLV 13	-151	32	1058	0	0	0
264	SLV 14	-128	21	1046	0	0	0
264	SLV 15	-142	-32	637	0	0	0
264	SLV 16	-119	-42	626	0	0	0
264	SLV FO 1	120	7	1268	0	0	0
264	SLV FO 2	145	-5	1254	0	0	0
264	SLV FO 3	130	-63	805	0	0	0
264	SLV FO 4	155	-75	792	0	0	0
264	SLV FO 5	12	97	1736	0	0	0
264	SLV FO 6	30	89	1727	0	0	0
264	SLV FO 7	46	-136	194	0	0	0
264	SLV FO 8	63	-144	186	0	0	0
264	SLV FO 9	-73	106	1677	0	0	0
264	SLV FO 10	-56	99	1668	0	0	0
264	SLV FO 11	-40	-127	135	0	0	0
264	SLV FO 12	-23	-135	127	0	0	0
264	SLV FO 13	-165	37	1070	0	0	0
264	SLV FO 14	-140	26	1057	0	0	0
264	SLV FO 15	-156	-33	608	0	0	0
264	SLV FO 16	-130	-45	595	0	0	0
264	CRTFP Uy+	0	0	0	0	0	0
264	CRTFP Uy-	0	0	0	0	0	0
265	SLU 1	-5	-18	898	0	0	0
265	SLU 2	-5	-14	920	0	0	0
265	SLU 3	-5	-18	913	0	0	0
265	SLU 4	-5	-16	926	0	0	0
265	SLU 5	-5	-14	928	0	0	0
265	SLU 6	-5	-18	922	0	0	0
265	SLU 7	-5	-16	934	0	0	0
265	SLU 8	-5	-18	916	0	0	0
265	SLU 9	-5	-16	929	0	0	0
265	SLU 10	-5	-16	1038	0	0	0
265	SLU 11	-5	-20	1031	0	0	0
265	SLU 12	-5	-18	1044	0	0	0
265	SLU 13	-5	-16	1047	0	0	0
265	SLU 14	-5	-20	1040	0	0	0
265	SLU 15	-5	-18	1053	0	0	0
265	SLU 16	-5	-20	1034	0	0	0
265	SLU 17	-5	-18	1047	0	0	0
265	SLU 18	-5	-20	1067	0	0	0
265	SLU 19	-5	-18	1080	0	0	0
265	SLU 20	-5	-20	1076	0	0	0
265	SLU 21	-5	-18	1089	0	0	0
265	SLU 22	-6	-20	1019	0	0	0
265	SLU 23	-6	-16	1041	0	0	0
265	SLU 24	-6	-20	1034	0	0	0
265	SLU 25	-6	-18	1047	0	0	0
265	SLU 26	-6	-16	1050	0	0	0
265	SLU 27	-6	-20	1043	0	0	0
265	SLU 28	-6	-18	1055	0	0	0
265	SLU 29	-6	-20	1037	0	0	0
265	SLU 30	-6	-18	1050	0	0	0
265	SLU 31	-6	-18	1159	0	0	0
265	SLU 32	-6	-22	1152	0	0	0
265	SLU 33	-6	-20	1165	0	0	0
265	SLU 34	-6	-18	1168	0	0	0
265	SLU 35	-6	-22	1161	0	0	0
265	SLU 36	-6	-20	1174	0	0	0
265	SLU 37	-6	-22	1155	0	0	0
265	SLU 38	-6	-20	1168	0	0	0
265	SLU 39	-6	-22	1188	0	0	0
265	SLU 40	-6	-20	1201	0	0	0
265	SLU 41	-6	-23	1197	0	0	0
265	SLU 42	-6	-20	1210	0	0	0
265	SLU 43	-6	-22	1126	0	0	0
265	SLU 44	-6	-18	1148	0	0	0
265	SLU 45	-6	-22	1141	0	0	0
265	SLU 46	-6	-20	1154	0	0	0
265	SLU 47	-7	-19	1157	0	0	0
265	SLU 48	-7	-23	1150	0	0	0
265	SLU 49	-7	-20	1162	0	0	0
265	SLU 50	-6	-23	1144	0	0	0
265	SLU 51	-7	-20	1157	0	0	0
265	SLU 52	-6	-20	1266	0	0	0
265	SLU 53	-6	-24	1259	0	0	0
265	SLU 54	-6	-22	1272	0	0	0
265	SLU 55	-6	-21	1275	0	0	0
265	SLU 56	-6	-25	1268	0	0	0
265	SLU 57	-7	-22	1281	0	0	0
265	SLU 58	-6	-24	1262	0	0	0
265	SLU 59	-7	-22	1275	0	0	0
265	SLU 60	-6	-25	1295	0	0	0
265	SLU 61	-6	-23	1308	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
265	SLU 62	-6	-25	1304	0	0	0
265	SLU 63	-6	-23	1317	0	0	0
265	SLU 64	-7	-24	1248	0	0	0
265	SLU 65	-7	-21	1269	0	0	0
265	SLU 66	-7	-25	1262	0	0	0
265	SLU 67	-7	-22	1275	0	0	0
265	SLU 68	-7	-21	1278	0	0	0
265	SLU 69	-7	-25	1271	0	0	0
265	SLU 70	-7	-23	1283	0	0	0
265	SLU 71	-7	-25	1265	0	0	0
265	SLU 72	-7	-22	1278	0	0	0
265	SLU 73	-7	-22	1387	0	0	0
265	SLU 74	-7	-26	1380	0	0	0
265	SLU 75	-7	-24	1393	0	0	0
265	SLU 76	-7	-23	1396	0	0	0
265	SLU 77	-7	-27	1389	0	0	0
265	SLU 78	-7	-24	1402	0	0	0
265	SLU 79	-7	-27	1383	0	0	0
265	SLU 80	-7	-24	1396	0	0	0
265	SLU 81	-7	-27	1416	0	0	0
265	SLU 82	-7	-25	1429	0	0	0
265	SLU 83	-7	-27	1425	0	0	0
265	SLU 84	-7	-25	1438	0	0	0
265	SLE RA 1	-5	-18	933	0	0	0
265	SLE RA 2	-5	-16	947	0	0	0
265	SLE RA 3	-5	-18	943	0	0	0
265	SLE RA 4	-5	-17	951	0	0	0
265	SLE RA 5	-5	-16	953	0	0	0
265	SLE RA 6	-5	-19	948	0	0	0
265	SLE RA 7	-5	-17	957	0	0	0
265	SLE RA 8	-5	-18	945	0	0	0
265	SLE RA 9	-5	-17	953	0	0	0
265	SLE RA 10	-5	-17	1026	0	0	0
265	SLE RA 11	-5	-20	1021	0	0	0
265	SLE RA 12	-5	-18	1030	0	0	0
265	SLE RA 13	-5	-17	1032	0	0	0
265	SLE RA 14	-5	-20	1027	0	0	0
265	SLE RA 15	-5	-18	1036	0	0	0
265	SLE RA 16	-5	-20	1024	0	0	0
265	SLE RA 17	-5	-18	1032	0	0	0
265	SLE RA 18	-5	-20	1046	0	0	0
265	SLE RA 19	-5	-18	1054	0	0	0
265	SLE RA 20	-5	-20	1052	0	0	0
265	SLE RA 21	-5	-19	1060	0	0	0
265	SLE FR 1	-5	-18	933	0	0	0
265	SLE FR 2	-5	-18	936	0	0	0
265	SLE FR 3	-5	-18	935	0	0	0
265	SLE FR 4	-5	-18	970	0	0	0
265	SLE FR 5	-5	-19	969	0	0	0
265	SLE FR 6	-5	-19	989	0	0	0
265	SLE QP 1	-5	-18	933	0	0	0
265	SLE QP 2	-5	-19	967	0	0	0
265	SLD 1	72	-3	1157	0	0	0
265	SLD 2	88	-9	1150	0	0	0
265	SLD 3	78	-45	888	0	0	0
265	SLD 4	93	-52	880	0	0	0
265	SLD 5	6	52	1435	0	0	0
265	SLD 6	17	47	1430	0	0	0
265	SLD 7	26	-90	535	0	0	0
265	SLD 8	36	-94	530	0	0	0
265	SLD 9	-46	57	1403	0	0	0
265	SLD 10	-36	53	1399	0	0	0
265	SLD 11	-27	-85	504	0	0	0
265	SLD 12	-17	-89	499	0	0	0
265	SLD 13	-104	14	1053	0	0	0
265	SLD 14	-88	8	1046	0	0	0
265	SLD 15	-98	-28	784	0	0	0
265	SLD 16	-82	-35	776	0	0	0
265	SLV 1	115	8	1272	0	0	0
265	SLV 2	140	-3	1260	0	0	0
265	SLV 3	125	-61	836	0	0	0
265	SLV 4	149	-71	824	0	0	0
265	SLV 5	12	95	1722	0	0	0
265	SLV 6	29	88	1714	0	0	0
265	SLV 7	43	-134	268	0	0	0
265	SLV 8	60	-141	260	0	0	0
265	SLV 9	-70	103	1673	0	0	0
265	SLV 10	-54	96	1666	0	0	0
265	SLV 11	-39	-126	220	0	0	0
265	SLV 12	-23	-133	212	0	0	0
265	SLV 13	-160	34	1110	0	0	0
265	SLV 14	-135	24	1098	0	0	0
265	SLV 15	-150	-35	673	0	0	0
265	SLV 16	-126	-45	662	0	0	0
265	SLV FO 1	127	10	1302	0	0	0
265	SLV FO 2	155	-1	1290	0	0	0
265	SLV FO 3	138	-65	822	0	0	0
265	SLV FO 4	165	-77	810	0	0	0
265	SLV FO 5	14	107	1797	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
265	SLV FO 6	32	99	1789	0	0	0
265	SLV FO 7	48	-145	198	0	0	0
265	SLV FO 8	67	-153	190	0	0	0
265	SLV FO 9	-77	115	1744	0	0	0
265	SLV FO 10	-59	108	1735	0	0	0
265	SLV FO 11	-43	-137	145	0	0	0
265	SLV FO 12	-24	-144	136	0	0	0
265	SLV FO 13	-175	39	1124	0	0	0
265	SLV FO 14	-148	28	1111	0	0	0
265	SLV FO 15	-165	-36	644	0	0	0
265	SLV FO 16	-138	-48	632	0	0	0
265	CRTFP Uy+	0	0	0	0	0	0
265	CRTFP Uy-	0	0	0	0	0	0
266	SLU 1	-5	-17	911	0	0	0
266	SLU 2	-5	-13	932	0	0	0
266	SLU 3	-5	-17	925	0	0	0
266	SLU 4	-5	-15	938	0	0	0
266	SLU 5	-5	-13	941	0	0	0
266	SLU 6	-5	-17	934	0	0	0
266	SLU 7	-5	-15	947	0	0	0
266	SLU 8	-5	-17	928	0	0	0
266	SLU 9	-5	-15	941	0	0	0
266	SLU 10	-5	-15	1052	0	0	0
266	SLU 11	-5	-19	1045	0	0	0
266	SLU 12	-5	-16	1058	0	0	0
266	SLU 13	-5	-15	1061	0	0	0
266	SLU 14	-5	-19	1054	0	0	0
266	SLU 15	-5	-17	1067	0	0	0
266	SLU 16	-5	-19	1049	0	0	0
266	SLU 17	-5	-16	1062	0	0	0
266	SLU 18	-5	-19	1082	0	0	0
266	SLU 19	-5	-17	1095	0	0	0
266	SLU 20	-5	-19	1091	0	0	0
266	SLU 21	-5	-17	1104	0	0	0
266	SLU 22	-6	-19	1033	0	0	0
266	SLU 23	-6	-15	1054	0	0	0
266	SLU 24	-6	-19	1047	0	0	0
266	SLU 25	-6	-17	1060	0	0	0
266	SLU 26	-6	-15	1063	0	0	0
266	SLU 27	-6	-19	1056	0	0	0
266	SLU 28	-6	-17	1069	0	0	0
266	SLU 29	-6	-19	1051	0	0	0
266	SLU 30	-6	-17	1064	0	0	0
266	SLU 31	-6	-16	1175	0	0	0
266	SLU 32	-6	-21	1168	0	0	0
266	SLU 33	-6	-18	1180	0	0	0
266	SLU 34	-6	-17	1183	0	0	0
266	SLU 35	-6	-21	1176	0	0	0
266	SLU 36	-6	-19	1189	0	0	0
266	SLU 37	-6	-21	1171	0	0	0
266	SLU 38	-6	-18	1184	0	0	0
266	SLU 39	-5	-21	1204	0	0	0
266	SLU 40	-6	-19	1217	0	0	0
266	SLU 41	-6	-21	1213	0	0	0
266	SLU 42	-6	-19	1226	0	0	0
266	SLU 43	-6	-21	1142	0	0	0
266	SLU 44	-6	-17	1164	0	0	0
266	SLU 45	-6	-21	1156	0	0	0
266	SLU 46	-6	-19	1169	0	0	0
266	SLU 47	-6	-17	1172	0	0	0
266	SLU 48	-6	-21	1165	0	0	0
266	SLU 49	-6	-19	1178	0	0	0
266	SLU 50	-6	-21	1160	0	0	0
266	SLU 51	-6	-19	1173	0	0	0
266	SLU 52	-6	-19	1284	0	0	0
266	SLU 53	-6	-23	1277	0	0	0
266	SLU 54	-6	-21	1290	0	0	0
266	SLU 55	-6	-19	1293	0	0	0
266	SLU 56	-6	-23	1286	0	0	0
266	SLU 57	-6	-21	1298	0	0	0
266	SLU 58	-6	-23	1280	0	0	0
266	SLU 59	-6	-21	1293	0	0	0
266	SLU 60	-6	-24	1314	0	0	0
266	SLU 61	-6	-21	1326	0	0	0
266	SLU 62	-6	-24	1322	0	0	0
266	SLU 63	-6	-21	1335	0	0	0
266	SLU 64	-7	-23	1264	0	0	0
266	SLU 65	-7	-19	1286	0	0	0
266	SLU 66	-7	-23	1279	0	0	0
266	SLU 67	-7	-21	1292	0	0	0
266	SLU 68	-7	-19	1295	0	0	0
266	SLU 69	-7	-23	1288	0	0	0
266	SLU 70	-7	-21	1301	0	0	0
266	SLU 71	-7	-23	1282	0	0	0
266	SLU 72	-7	-21	1295	0	0	0
266	SLU 73	-7	-21	1406	0	0	0
266	SLU 74	-7	-25	1399	0	0	0
266	SLU 75	-7	-23	1412	0	0	0
266	SLU 76	-7	-21	1415	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
266	SLU 77	-7	-25	1408	0	0	0
266	SLU 78	-7	-23	1421	0	0	0
266	SLU 79	-7	-25	1402	0	0	0
266	SLU 80	-7	-23	1415	0	0	0
266	SLU 81	-7	-25	1436	0	0	0
266	SLU 82	-7	-23	1449	0	0	0
266	SLU 83	-7	-26	1445	0	0	0
266	SLU 84	-7	-23	1458	0	0	0
266	SLE RA 1	-5	-17	946	0	0	0
266	SLE RA 2	-5	-15	960	0	0	0
266	SLE RA 3	-5	-17	955	0	0	0
266	SLE RA 4	-5	-16	964	0	0	0
266	SLE RA 5	-5	-15	966	0	0	0
266	SLE RA 6	-5	-17	961	0	0	0
266	SLE RA 7	-5	-16	970	0	0	0
266	SLE RA 8	-5	-17	957	0	0	0
266	SLE RA 9	-5	-16	966	0	0	0
266	SLE RA 10	-5	-16	1040	0	0	0
266	SLE RA 11	-5	-19	1035	0	0	0
266	SLE RA 12	-5	-17	1044	0	0	0
266	SLE RA 13	-5	-16	1046	0	0	0
266	SLE RA 14	-5	-19	1041	0	0	0
266	SLE RA 15	-5	-17	1050	0	0	0
266	SLE RA 16	-5	-19	1038	0	0	0
266	SLE RA 17	-5	-17	1046	0	0	0
266	SLE RA 18	-5	-19	1060	0	0	0
266	SLE RA 19	-5	-17	1069	0	0	0
266	SLE RA 20	-5	-19	1066	0	0	0
266	SLE RA 21	-5	-17	1075	0	0	0
266	SLE FR 1	-5	-17	946	0	0	0
266	SLE FR 2	-5	-17	948	0	0	0
266	SLE FR 3	-5	-17	948	0	0	0
266	SLE FR 4	-5	-17	983	0	0	0
266	SLE FR 5	-5	-18	982	0	0	0
266	SLE FR 6	-5	-18	1003	0	0	0
266	SLE QP 1	-5	-17	946	0	0	0
266	SLE QP 2	-5	-18	980	0	0	0
266	SLD 1	74	0	1164	0	0	0
266	SLD 2	91	-6	1158	0	0	0
266	SLD 3	80	-45	891	0	0	0
266	SLD 4	96	-50	884	0	0	0
266	SLD 5	7	56	1451	0	0	0
266	SLD 6	18	52	1446	0	0	0
266	SLD 7	27	-92	540	0	0	0
266	SLD 8	37	-96	536	0	0	0
266	SLD 9	-47	61	1424	0	0	0
266	SLD 10	-37	57	1420	0	0	0
266	SLD 11	-28	-88	513	0	0	0
266	SLD 12	-17	-92	509	0	0	0
266	SLD 13	-107	15	1075	0	0	0
266	SLD 14	-90	9	1069	0	0	0
266	SLD 15	-101	-29	802	0	0	0
266	SLD 16	-84	-35	795	0	0	0
266	SLV 1	119	11	1275	0	0	0
266	SLV 2	144	2	1265	0	0	0
266	SLV 3	129	-61	834	0	0	0
266	SLV 4	154	-70	823	0	0	0
266	SLV 5	13	102	1740	0	0	0
266	SLV 6	30	96	1733	0	0	0
266	SLV 7	45	-138	268	0	0	0
266	SLV 8	62	-144	261	0	0	0
266	SLV 9	-72	109	1699	0	0	0
266	SLV 10	-55	103	1692	0	0	0
266	SLV 11	-40	-131	226	0	0	0
266	SLV 12	-23	-137	219	0	0	0
266	SLV 13	-164	35	1137	0	0	0
266	SLV 14	-139	25	1126	0	0	0
266	SLV 15	-155	-37	695	0	0	0
266	SLV 16	-129	-46	684	0	0	0
266	SLV FO 1	132	14	1305	0	0	0
266	SLV FO 2	159	4	1293	0	0	0
266	SLV FO 3	142	-65	819	0	0	0
266	SLV FO 4	170	-75	807	0	0	0
266	SLV FO 5	15	114	1817	0	0	0
266	SLV FO 6	34	107	1809	0	0	0
266	SLV FO 7	50	-150	197	0	0	0
266	SLV FO 8	68	-157	189	0	0	0
266	SLV FO 9	-79	122	1771	0	0	0
266	SLV FO 10	-60	115	1763	0	0	0
266	SLV FO 11	-44	-142	151	0	0	0
266	SLV FO 12	-25	-149	143	0	0	0
266	SLV FO 13	-180	40	1152	0	0	0
266	SLV FO 14	-152	30	1141	0	0	0
266	SLV FO 15	-170	-39	666	0	0	0
266	SLV FO 16	-142	-49	655	0	0	0
266	CRTFP Uy+	0	0	0	0	0	0
266	CRTFP Uy-	0	0	0	0	0	0
267	SLU 1	-5	-15	920	0	0	0
267	SLU 2	-5	-11	942	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLU 3	-5	-16	935	0	0	0
267	SLU 4	-5	-13	948	0	0	0
267	SLU 5	-5	-11	951	0	0	0
267	SLU 6	-5	-16	944	0	0	0
267	SLU 7	-5	-13	957	0	0	0
267	SLU 8	-5	-16	938	0	0	0
267	SLU 9	-5	-13	951	0	0	0
267	SLU 10	-5	-13	1064	0	0	0
267	SLU 11	-5	-17	1057	0	0	0
267	SLU 12	-5	-15	1070	0	0	0
267	SLU 13	-5	-13	1073	0	0	0
267	SLU 14	-5	-17	1066	0	0	0
267	SLU 15	-5	-15	1079	0	0	0
267	SLU 16	-5	-17	1060	0	0	0
267	SLU 17	-5	-15	1073	0	0	0
267	SLU 18	-5	-18	1094	0	0	0
267	SLU 19	-5	-15	1107	0	0	0
267	SLU 20	-5	-18	1103	0	0	0
267	SLU 21	-5	-15	1116	0	0	0
267	SLU 22	-5	-17	1043	0	0	0
267	SLU 23	-6	-13	1065	0	0	0
267	SLU 24	-6	-17	1058	0	0	0
267	SLU 25	-6	-15	1071	0	0	0
267	SLU 26	-6	-13	1074	0	0	0
267	SLU 27	-6	-17	1067	0	0	0
267	SLU 28	-6	-15	1080	0	0	0
267	SLU 29	-6	-17	1061	0	0	0
267	SLU 30	-6	-15	1074	0	0	0
267	SLU 31	-6	-15	1187	0	0	0
267	SLU 32	-6	-19	1180	0	0	0
267	SLU 33	-6	-17	1193	0	0	0
267	SLU 34	-6	-15	1196	0	0	0
267	SLU 35	-6	-19	1189	0	0	0
267	SLU 36	-6	-17	1202	0	0	0
267	SLU 37	-6	-19	1183	0	0	0
267	SLU 38	-6	-17	1196	0	0	0
267	SLU 39	-5	-19	1217	0	0	0
267	SLU 40	-5	-17	1230	0	0	0
267	SLU 41	-5	-20	1226	0	0	0
267	SLU 42	-6	-17	1239	0	0	0
267	SLU 43	-6	-19	1154	0	0	0
267	SLU 44	-6	-15	1176	0	0	0
267	SLU 45	-6	-20	1169	0	0	0
267	SLU 46	-6	-17	1182	0	0	0
267	SLU 47	-6	-15	1185	0	0	0
267	SLU 48	-6	-20	1178	0	0	0
267	SLU 49	-6	-17	1191	0	0	0
267	SLU 50	-6	-20	1172	0	0	0
267	SLU 51	-6	-17	1185	0	0	0
267	SLU 52	-6	-17	1298	0	0	0
267	SLU 53	-6	-21	1290	0	0	0
267	SLU 54	-6	-19	1304	0	0	0
267	SLU 55	-6	-17	1307	0	0	0
267	SLU 56	-6	-21	1299	0	0	0
267	SLU 57	-6	-19	1313	0	0	0
267	SLU 58	-6	-21	1294	0	0	0
267	SLU 59	-6	-19	1307	0	0	0
267	SLU 60	-6	-22	1328	0	0	0
267	SLU 61	-6	-19	1341	0	0	0
267	SLU 62	-6	-22	1337	0	0	0
267	SLU 63	-6	-19	1350	0	0	0
267	SLU 64	-7	-21	1277	0	0	0
267	SLU 65	-7	-17	1299	0	0	0
267	SLU 66	-7	-21	1292	0	0	0
267	SLU 67	-7	-19	1305	0	0	0
267	SLU 68	-7	-17	1308	0	0	0
267	SLU 69	-7	-21	1301	0	0	0
267	SLU 70	-7	-19	1314	0	0	0
267	SLU 71	-7	-21	1295	0	0	0
267	SLU 72	-7	-19	1308	0	0	0
267	SLU 73	-7	-19	1421	0	0	0
267	SLU 74	-7	-23	1414	0	0	0
267	SLU 75	-7	-21	1427	0	0	0
267	SLU 76	-7	-19	1430	0	0	0
267	SLU 77	-7	-23	1423	0	0	0
267	SLU 78	-7	-21	1436	0	0	0
267	SLU 79	-7	-23	1417	0	0	0
267	SLU 80	-7	-21	1430	0	0	0
267	SLU 81	-7	-23	1451	0	0	0
267	SLU 82	-7	-21	1464	0	0	0
267	SLU 83	-7	-24	1460	0	0	0
267	SLU 84	-7	-21	1473	0	0	0
267	SLE RA 1	-5	-16	955	0	0	0
267	SLE RA 2	-5	-13	970	0	0	0
267	SLE RA 3	-5	-16	965	0	0	0
267	SLE RA 4	-5	-14	974	0	0	0
267	SLE RA 5	-5	-13	976	0	0	0
267	SLE RA 6	-5	-16	971	0	0	0
267	SLE RA 7	-5	-14	980	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
267	SLE RA 8	-5	-16	967	0	0	0
267	SLE RA 9	-5	-14	976	0	0	0
267	SLE RA 10	-5	-14	1051	0	0	0
267	SLE RA 11	-5	-17	1046	0	0	0
267	SLE RA 12	-5	-15	1055	0	0	0
267	SLE RA 13	-5	-14	1057	0	0	0
267	SLE RA 14	-5	-17	1052	0	0	0
267	SLE RA 15	-5	-16	1061	0	0	0
267	SLE RA 16	-5	-17	1049	0	0	0
267	SLE RA 17	-5	-16	1057	0	0	0
267	SLE RA 18	-5	-17	1071	0	0	0
267	SLE RA 19	-5	-16	1080	0	0	0
267	SLE RA 20	-5	-17	1077	0	0	0
267	SLE RA 21	-5	-16	1086	0	0	0
267	SLE FR 1	-5	-16	955	0	0	0
267	SLE FR 2	-5	-15	958	0	0	0
267	SLE FR 3	-5	-16	958	0	0	0
267	SLE FR 4	-5	-16	993	0	0	0
267	SLE FR 5	-5	-16	993	0	0	0
267	SLE FR 6	-5	-17	1013	0	0	0
267	SLE QP 1	-5	-16	955	0	0	0
267	SLE QP 2	-5	-16	990	0	0	0
267	SLD 1	76	3	1168	0	0	0
267	SLD 2	92	-2	1161	0	0	0
267	SLD 3	82	-43	892	0	0	0
267	SLD 4	98	-48	886	0	0	0
267	SLD 5	7	60	1463	0	0	0
267	SLD 6	18	57	1459	0	0	0
267	SLD 7	27	-93	543	0	0	0
267	SLD 8	38	-97	539	0	0	0
267	SLD 9	-48	64	1441	0	0	0
267	SLD 10	-37	61	1437	0	0	0
267	SLD 11	-28	-89	522	0	0	0
267	SLD 12	-17	-93	517	0	0	0
267	SLD 13	-108	16	1095	0	0	0
267	SLD 14	-92	11	1088	0	0	0
267	SLD 15	-102	-30	819	0	0	0
267	SLD 16	-86	-35	813	0	0	0
267	SLV 1	121	15	1275	0	0	0
267	SLV 2	147	7	1265	0	0	0
267	SLV 3	131	-59	829	0	0	0
267	SLV 4	157	-68	819	0	0	0
267	SLV 5	14	108	1753	0	0	0
267	SLV 6	31	102	1747	0	0	0
267	SLV 7	45	-141	267	0	0	0
267	SLV 8	63	-146	261	0	0	0
267	SLV 9	-72	114	1719	0	0	0
267	SLV 10	-55	108	1713	0	0	0
267	SLV 11	-41	-135	233	0	0	0
267	SLV 12	-24	-140	227	0	0	0
267	SLV 13	-166	35	1161	0	0	0
267	SLV 14	-141	27	1151	0	0	0
267	SLV 15	-157	-39	715	0	0	0
267	SLV 16	-131	-47	705	0	0	0
267	SLV FO 1	134	18	1303	0	0	0
267	SLV FO 2	162	9	1293	0	0	0
267	SLV FO 3	144	-64	813	0	0	0
267	SLV FO 4	173	-73	802	0	0	0
267	SLV FO 5	16	120	1830	0	0	0
267	SLV FO 6	35	114	1823	0	0	0
267	SLV FO 7	50	-153	195	0	0	0
267	SLV FO 8	69	-159	188	0	0	0
267	SLV FO 9	-79	127	1792	0	0	0
267	SLV FO 10	-60	121	1785	0	0	0
267	SLV FO 11	-45	-146	158	0	0	0
267	SLV FO 12	-26	-153	150	0	0	0
267	SLV FO 13	-183	40	1178	0	0	0
267	SLV FO 14	-154	31	1167	0	0	0
267	SLV FO 15	-172	-42	688	0	0	0
267	SLV FO 16	-144	-51	677	0	0	0
267	CRTFP Uy+	0	0	0	0	0	0
267	CRTFP Uy-	0	0	0	0	0	0
268	SLU 1	-5	-14	937	0	0	0
268	SLU 2	-5	-10	959	0	0	0
268	SLU 3	-5	-14	952	0	0	0
268	SLU 4	-5	-12	965	0	0	0
268	SLU 5	-5	-10	969	0	0	0
268	SLU 6	-5	-14	961	0	0	0
268	SLU 7	-5	-12	975	0	0	0
268	SLU 8	-5	-14	956	0	0	0
268	SLU 9	-5	-12	969	0	0	0
268	SLU 10	-5	-11	1084	0	0	0
268	SLU 11	-5	-15	1077	0	0	0
268	SLU 12	-5	-13	1090	0	0	0
268	SLU 13	-5	-11	1093	0	0	0
268	SLU 14	-5	-16	1086	0	0	0
268	SLU 15	-5	-13	1100	0	0	0
268	SLU 16	-5	-16	1080	0	0	0
268	SLU 17	-5	-13	1094	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLU 18	-5	-16	1115	0	0	0
268	SLU 19	-5	-13	1129	0	0	0
268	SLU 20	-5	-16	1125	0	0	0
268	SLU 21	-5	-14	1138	0	0	0
268	SLU 22	-5	-15	1062	0	0	0
268	SLU 23	-6	-11	1085	0	0	0
268	SLU 24	-6	-15	1077	0	0	0
268	SLU 25	-6	-13	1091	0	0	0
268	SLU 26	-6	-11	1094	0	0	0
268	SLU 27	-6	-16	1087	0	0	0
268	SLU 28	-6	-13	1100	0	0	0
268	SLU 29	-6	-16	1081	0	0	0
268	SLU 30	-6	-13	1094	0	0	0
268	SLU 31	-5	-13	1210	0	0	0
268	SLU 32	-5	-17	1202	0	0	0
268	SLU 33	-6	-15	1216	0	0	0
268	SLU 34	-6	-13	1219	0	0	0
268	SLU 35	-6	-17	1212	0	0	0
268	SLU 36	-6	-15	1225	0	0	0
268	SLU 37	-6	-17	1206	0	0	0
268	SLU 38	-6	-15	1219	0	0	0
268	SLU 39	-5	-17	1241	0	0	0
268	SLU 40	-5	-15	1254	0	0	0
268	SLU 41	-5	-18	1250	0	0	0
268	SLU 42	-5	-15	1263	0	0	0
268	SLU 43	-6	-17	1175	0	0	0
268	SLU 44	-6	-13	1197	0	0	0
268	SLU 45	-6	-18	1190	0	0	0
268	SLU 46	-6	-15	1204	0	0	0
268	SLU 47	-6	-13	1207	0	0	0
268	SLU 48	-6	-18	1199	0	0	0
268	SLU 49	-6	-15	1213	0	0	0
268	SLU 50	-6	-18	1194	0	0	0
268	SLU 51	-6	-15	1207	0	0	0
268	SLU 52	-6	-15	1322	0	0	0
268	SLU 53	-6	-19	1315	0	0	0
268	SLU 54	-6	-17	1328	0	0	0
268	SLU 55	-6	-15	1332	0	0	0
268	SLU 56	-6	-19	1324	0	0	0
268	SLU 57	-6	-17	1338	0	0	0
268	SLU 58	-6	-19	1319	0	0	0
268	SLU 59	-6	-17	1332	0	0	0
268	SLU 60	-6	-19	1354	0	0	0
268	SLU 61	-6	-17	1367	0	0	0
268	SLU 62	-6	-20	1363	0	0	0
268	SLU 63	-6	-17	1376	0	0	0
268	SLU 64	-7	-19	1301	0	0	0
268	SLU 65	-7	-15	1323	0	0	0
268	SLU 66	-7	-19	1316	0	0	0
268	SLU 67	-7	-17	1329	0	0	0
268	SLU 68	-7	-15	1332	0	0	0
268	SLU 69	-7	-19	1325	0	0	0
268	SLU 70	-7	-17	1338	0	0	0
268	SLU 71	-7	-19	1319	0	0	0
268	SLU 72	-7	-17	1332	0	0	0
268	SLU 73	-7	-16	1448	0	0	0
268	SLU 74	-7	-21	1440	0	0	0
268	SLU 75	-7	-18	1454	0	0	0
268	SLU 76	-7	-16	1457	0	0	0
268	SLU 77	-7	-21	1450	0	0	0
268	SLU 78	-7	-18	1463	0	0	0
268	SLU 79	-7	-21	1444	0	0	0
268	SLU 80	-7	-18	1457	0	0	0
268	SLU 81	-6	-21	1479	0	0	0
268	SLU 82	-6	-19	1492	0	0	0
268	SLU 83	-7	-21	1488	0	0	0
268	SLU 84	-7	-19	1502	0	0	0
268	SLE RA 1	-5	-14	973	0	0	0
268	SLE RA 2	-5	-11	988	0	0	0
268	SLE RA 3	-5	-14	983	0	0	0
268	SLE RA 4	-5	-13	992	0	0	0
268	SLE RA 5	-5	-12	994	0	0	0
268	SLE RA 6	-5	-14	989	0	0	0
268	SLE RA 7	-5	-13	998	0	0	0
268	SLE RA 8	-5	-14	985	0	0	0
268	SLE RA 9	-5	-13	994	0	0	0
268	SLE RA 10	-5	-12	1071	0	0	0
268	SLE RA 11	-5	-15	1066	0	0	0
268	SLE RA 12	-5	-14	1075	0	0	0
268	SLE RA 13	-5	-13	1077	0	0	0
268	SLE RA 14	-5	-15	1072	0	0	0
268	SLE RA 15	-5	-14	1081	0	0	0
268	SLE RA 16	-5	-15	1068	0	0	0
268	SLE RA 17	-5	-14	1077	0	0	0
268	SLE RA 18	-5	-16	1092	0	0	0
268	SLE RA 19	-5	-14	1101	0	0	0
268	SLE RA 20	-5	-16	1098	0	0	0
268	SLE RA 21	-5	-14	1107	0	0	0
268	SLE FR 1	-5	-14	973	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
268	SLE FR 2	-5	-14	976	0	0	0
268	SLE FR 3	-5	-14	975	0	0	0
268	SLE FR 4	-5	-14	1012	0	0	0
268	SLE FR 5	-5	-15	1011	0	0	0
268	SLE FR 6	-5	-15	1032	0	0	0
268	SLE QP 1	-5	-14	973	0	0	0
268	SLE QP 2	-5	-15	1009	0	0	0
268	SLD 1	77	6	1180	0	0	0
268	SLD 2	93	2	1175	0	0	0
268	SLD 3	83	-41	900	0	0	0
268	SLD 4	99	-46	894	0	0	0
268	SLD 5	8	65	1486	0	0	0
268	SLD 6	19	62	1482	0	0	0
268	SLD 7	27	-94	552	0	0	0
268	SLD 8	38	-97	548	0	0	0
268	SLD 9	-48	68	1469	0	0	0
268	SLD 10	-37	65	1465	0	0	0
268	SLD 11	-28	-91	535	0	0	0
268	SLD 12	-17	-94	531	0	0	0
268	SLD 13	-109	17	1123	0	0	0
268	SLD 14	-93	12	1117	0	0	0
268	SLD 15	-103	-31	843	0	0	0
268	SLD 16	-87	-35	837	0	0	0
268	SLV 1	123	19	1284	0	0	0
268	SLV 2	149	12	1275	0	0	0
268	SLV 3	132	-58	831	0	0	0
268	SLV 4	158	-65	822	0	0	0
268	SLV 5	14	114	1780	0	0	0
268	SLV 6	32	109	1774	0	0	0
268	SLV 7	46	-143	270	0	0	0
268	SLV 8	63	-148	264	0	0	0
268	SLV 9	-73	119	1753	0	0	0
268	SLV 10	-56	114	1747	0	0	0
268	SLV 11	-42	-138	243	0	0	0
268	SLV 12	-24	-143	237	0	0	0
268	SLV 13	-168	36	1195	0	0	0
268	SLV 14	-142	29	1186	0	0	0
268	SLV 15	-159	-41	742	0	0	0
268	SLV 16	-133	-48	733	0	0	0
268	SLV FO 1	136	23	1312	0	0	0
268	SLV FO 2	164	15	1302	0	0	0
268	SLV FO 3	146	-62	813	0	0	0
268	SLV FO 4	175	-70	804	0	0	0
268	SLV FO 5	16	126	1857	0	0	0
268	SLV FO 6	35	121	1851	0	0	0
268	SLV FO 7	51	-156	196	0	0	0
268	SLV FO 8	70	-161	189	0	0	0
268	SLV FO 9	-80	132	1828	0	0	0
268	SLV FO 10	-61	127	1821	0	0	0
268	SLV FO 11	-45	-150	167	0	0	0
268	SLV FO 12	-26	-156	160	0	0	0
268	SLV FO 13	-185	41	1213	0	0	0
268	SLV FO 14	-156	33	1204	0	0	0
268	SLV FO 15	-174	-44	715	0	0	0
268	SLV FO 16	-145	-52	705	0	0	0
268	CRTFP Uy+	0	0	0	0	0	0
268	CRTFP Uy-	0	0	0	0	0	0
269	SLU 1	-5	-12	968	0	0	0
269	SLU 2	-5	-8	991	0	0	0
269	SLU 3	-5	-12	984	0	0	0
269	SLU 4	-5	-10	998	0	0	0
269	SLU 5	-5	-8	1001	0	0	0
269	SLU 6	-5	-12	993	0	0	0
269	SLU 7	-5	-10	1007	0	0	0
269	SLU 8	-5	-12	987	0	0	0
269	SLU 9	-5	-10	1001	0	0	0
269	SLU 10	-5	-9	1121	0	0	0
269	SLU 11	-5	-14	1114	0	0	0
269	SLU 12	-5	-11	1128	0	0	0
269	SLU 13	-5	-9	1131	0	0	0
269	SLU 14	-5	-14	1123	0	0	0
269	SLU 15	-5	-11	1137	0	0	0
269	SLU 16	-5	-14	1117	0	0	0
269	SLU 17	-5	-11	1131	0	0	0
269	SLU 18	-4	-14	1154	0	0	0
269	SLU 19	-5	-11	1168	0	0	0
269	SLU 20	-5	-14	1163	0	0	0
269	SLU 21	-5	-12	1177	0	0	0
269	SLU 22	-5	-13	1098	0	0	0
269	SLU 23	-5	-9	1121	0	0	0
269	SLU 24	-5	-14	1114	0	0	0
269	SLU 25	-6	-11	1127	0	0	0
269	SLU 26	-6	-9	1131	0	0	0
269	SLU 27	-6	-14	1123	0	0	0
269	SLU 28	-6	-11	1137	0	0	0
269	SLU 29	-6	-14	1117	0	0	0
269	SLU 30	-6	-11	1131	0	0	0
269	SLU 31	-5	-11	1251	0	0	0
269	SLU 32	-5	-15	1243	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLU 33	-5	-12	1257	0	0	0
269	SLU 34	-5	-11	1260	0	0	0
269	SLU 35	-5	-15	1253	0	0	0
269	SLU 36	-6	-13	1267	0	0	0
269	SLU 37	-5	-15	1247	0	0	0
269	SLU 38	-6	-13	1261	0	0	0
269	SLU 39	-5	-15	1284	0	0	0
269	SLU 40	-5	-13	1297	0	0	0
269	SLU 41	-5	-15	1293	0	0	0
269	SLU 42	-5	-13	1307	0	0	0
269	SLU 43	-6	-15	1214	0	0	0
269	SLU 44	-6	-11	1237	0	0	0
269	SLU 45	-6	-15	1230	0	0	0
269	SLU 46	-6	-13	1244	0	0	0
269	SLU 47	-6	-11	1247	0	0	0
269	SLU 48	-6	-16	1239	0	0	0
269	SLU 49	-6	-13	1253	0	0	0
269	SLU 50	-6	-16	1233	0	0	0
269	SLU 51	-6	-13	1247	0	0	0
269	SLU 52	-6	-12	1367	0	0	0
269	SLU 53	-6	-17	1360	0	0	0
269	SLU 54	-6	-14	1373	0	0	0
269	SLU 55	-6	-13	1377	0	0	0
269	SLU 56	-6	-17	1369	0	0	0
269	SLU 57	-6	-14	1383	0	0	0
269	SLU 58	-6	-17	1363	0	0	0
269	SLU 59	-6	-14	1377	0	0	0
269	SLU 60	-6	-17	1400	0	0	0
269	SLU 61	-6	-15	1414	0	0	0
269	SLU 62	-6	-17	1409	0	0	0
269	SLU 63	-6	-15	1423	0	0	0
269	SLU 64	-6	-17	1344	0	0	0
269	SLU 65	-7	-12	1367	0	0	0
269	SLU 66	-7	-17	1359	0	0	0
269	SLU 67	-7	-14	1373	0	0	0
269	SLU 68	-7	-13	1376	0	0	0
269	SLU 69	-7	-17	1369	0	0	0
269	SLU 70	-7	-14	1383	0	0	0
269	SLU 71	-7	-17	1363	0	0	0
269	SLU 72	-7	-14	1377	0	0	0
269	SLU 73	-6	-14	1497	0	0	0
269	SLU 74	-7	-18	1489	0	0	0
269	SLU 75	-7	-16	1503	0	0	0
269	SLU 76	-7	-14	1506	0	0	0
269	SLU 77	-7	-18	1499	0	0	0
269	SLU 78	-7	-16	1513	0	0	0
269	SLU 79	-7	-18	1493	0	0	0
269	SLU 80	-7	-16	1507	0	0	0
269	SLU 81	-6	-18	1530	0	0	0
269	SLU 82	-6	-16	1543	0	0	0
269	SLU 83	-6	-19	1539	0	0	0
269	SLU 84	-7	-16	1553	0	0	0
269	SLE RA 1	-5	-12	1005	0	0	0
269	SLE RA 2	-5	-10	1021	0	0	0
269	SLE RA 3	-5	-13	1016	0	0	0
269	SLE RA 4	-5	-11	1025	0	0	0
269	SLE RA 5	-5	-10	1027	0	0	0
269	SLE RA 6	-5	-13	1022	0	0	0
269	SLE RA 7	-5	-11	1031	0	0	0
269	SLE RA 8	-5	-13	1018	0	0	0
269	SLE RA 9	-5	-11	1027	0	0	0
269	SLE RA 10	-5	-11	1107	0	0	0
269	SLE RA 11	-5	-13	1102	0	0	0
269	SLE RA 12	-5	-12	1111	0	0	0
269	SLE RA 13	-5	-11	1114	0	0	0
269	SLE RA 14	-5	-14	1109	0	0	0
269	SLE RA 15	-5	-12	1118	0	0	0
269	SLE RA 16	-5	-14	1105	0	0	0
269	SLE RA 17	-5	-12	1114	0	0	0
269	SLE RA 18	-5	-14	1129	0	0	0
269	SLE RA 19	-5	-12	1138	0	0	0
269	SLE RA 20	-5	-14	1135	0	0	0
269	SLE RA 21	-5	-12	1145	0	0	0
269	SLE FR 1	-5	-12	1005	0	0	0
269	SLE FR 2	-5	-12	1008	0	0	0
269	SLE FR 3	-5	-12	1008	0	0	0
269	SLE FR 4	-5	-12	1045	0	0	0
269	SLE FR 5	-5	-13	1045	0	0	0
269	SLE FR 6	-5	-13	1067	0	0	0
269	SLE QP 1	-5	-12	1005	0	0	0
269	SLE QP 2	-5	-13	1042	0	0	0
269	SLD 1	78	10	1210	0	0	0
269	SLD 2	95	6	1205	0	0	0
269	SLD 3	84	-40	922	0	0	0
269	SLD 4	101	-43	917	0	0	0
269	SLD 5	8	70	1531	0	0	0
269	SLD 6	19	67	1528	0	0	0
269	SLD 7	28	-95	570	0	0	0
269	SLD 8	39	-98	566	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
269	SLD 9	-49	72	1519	0	0	0
269	SLD 10	-37	70	1515	0	0	0
269	SLD 11	-29	-93	557	0	0	0
269	SLD 12	-18	-95	553	0	0	0
269	SLD 13	-111	18	1168	0	0	0
269	SLD 14	-94	14	1163	0	0	0
269	SLD 15	-105	-32	879	0	0	0
269	SLD 16	-88	-36	874	0	0	0
269	SLV 1	125	24	1313	0	0	0
269	SLV 2	152	18	1305	0	0	0
269	SLV 3	135	-56	846	0	0	0
269	SLV 4	161	-62	838	0	0	0
269	SLV 5	15	121	1832	0	0	0
269	SLV 6	33	117	1827	0	0	0
269	SLV 7	46	-146	278	0	0	0
269	SLV 8	64	-150	272	0	0	0
269	SLV 9	-74	124	1813	0	0	0
269	SLV 10	-56	120	1807	0	0	0
269	SLV 11	-42	-142	258	0	0	0
269	SLV 12	-24	-146	252	0	0	0
269	SLV 13	-171	36	1247	0	0	0
269	SLV 14	-144	30	1238	0	0	0
269	SLV 15	-161	-44	780	0	0	0
269	SLV 16	-135	-50	772	0	0	0
269	SLV FO 1	138	28	1340	0	0	0
269	SLV FO 2	167	21	1331	0	0	0
269	SLV FO 3	149	-60	827	0	0	0
269	SLV FO 4	178	-67	818	0	0	0
269	SLV FO 5	17	134	1911	0	0	0
269	SLV FO 6	36	130	1905	0	0	0
269	SLV FO 7	52	-159	201	0	0	0
269	SLV FO 8	71	-164	195	0	0	0
269	SLV FO 9	-81	138	1890	0	0	0
269	SLV FO 10	-61	134	1884	0	0	0
269	SLV FO 11	-46	-155	179	0	0	0
269	SLV FO 12	-26	-160	173	0	0	0
269	SLV FO 13	-187	41	1267	0	0	0
269	SLV FO 14	-158	35	1258	0	0	0
269	SLV FO 15	-177	-47	754	0	0	0
269	SLV FO 16	-148	-53	745	0	0	0
269	CRTFP Uy+	0	0	0	0	0	0
269	CRTFP Uy-	0	0	0	0	0	0
270	SLU 1	-5	-10	1017	0	0	0
270	SLU 2	-5	-6	1041	0	0	0
270	SLU 3	-5	-11	1033	0	0	0
270	SLU 4	-5	-8	1048	0	0	0
270	SLU 5	-5	-6	1051	0	0	0
270	SLU 6	-5	-11	1044	0	0	0
270	SLU 7	-5	-8	1058	0	0	0
270	SLU 8	-5	-11	1037	0	0	0
270	SLU 9	-5	-8	1052	0	0	0
270	SLU 10	-5	-7	1179	0	0	0
270	SLU 11	-5	-12	1171	0	0	0
270	SLU 12	-5	-9	1186	0	0	0
270	SLU 13	-5	-7	1189	0	0	0
270	SLU 14	-5	-12	1181	0	0	0
270	SLU 15	-5	-9	1196	0	0	0
270	SLU 16	-5	-12	1175	0	0	0
270	SLU 17	-5	-9	1189	0	0	0
270	SLU 18	-5	-12	1214	0	0	0
270	SLU 19	-5	-10	1228	0	0	0
270	SLU 20	-5	-12	1224	0	0	0
270	SLU 21	-5	-10	1238	0	0	0
270	SLU 22	-5	-12	1154	0	0	0
270	SLU 23	-6	-7	1178	0	0	0
270	SLU 24	-6	-12	1170	0	0	0
270	SLU 25	-6	-9	1185	0	0	0
270	SLU 26	-6	-7	1188	0	0	0
270	SLU 27	-6	-12	1180	0	0	0
270	SLU 28	-6	-9	1195	0	0	0
270	SLU 29	-6	-12	1174	0	0	0
270	SLU 30	-6	-9	1188	0	0	0
270	SLU 31	-5	-8	1315	0	0	0
270	SLU 32	-5	-13	1308	0	0	0
270	SLU 33	-6	-10	1322	0	0	0
270	SLU 34	-6	-9	1326	0	0	0
270	SLU 35	-6	-13	1318	0	0	0
270	SLU 36	-6	-10	1333	0	0	0
270	SLU 37	-6	-13	1312	0	0	0
270	SLU 38	-6	-10	1326	0	0	0
270	SLU 39	-5	-13	1350	0	0	0
270	SLU 40	-5	-11	1365	0	0	0
270	SLU 41	-5	-13	1360	0	0	0
270	SLU 42	-5	-11	1375	0	0	0
270	SLU 43	-6	-13	1275	0	0	0
270	SLU 44	-6	-9	1299	0	0	0
270	SLU 45	-6	-13	1292	0	0	0
270	SLU 46	-6	-11	1306	0	0	0
270	SLU 47	-6	-9	1309	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
270	SLU 48	-6	-14	1302	0	0	0
270	SLU 49	-6	-11	1316	0	0	0
270	SLU 50	-6	-14	1295	0	0	0
270	SLU 51	-6	-11	1310	0	0	0
270	SLU 52	-6	-10	1437	0	0	0
270	SLU 53	-6	-15	1429	0	0	0
270	SLU 54	-6	-12	1444	0	0	0
270	SLU 55	-6	-10	1447	0	0	0
270	SLU 56	-6	-15	1439	0	0	0
270	SLU 57	-6	-12	1454	0	0	0
270	SLU 58	-6	-15	1433	0	0	0
270	SLU 59	-6	-12	1448	0	0	0
270	SLU 60	-6	-15	1472	0	0	0
270	SLU 61	-6	-12	1486	0	0	0
270	SLU 62	-6	-15	1482	0	0	0
270	SLU 63	-6	-12	1496	0	0	0
270	SLU 64	-7	-14	1412	0	0	0
270	SLU 65	-7	-10	1436	0	0	0
270	SLU 66	-7	-15	1428	0	0	0
270	SLU 67	-7	-12	1443	0	0	0
270	SLU 68	-7	-10	1446	0	0	0
270	SLU 69	-7	-15	1439	0	0	0
270	SLU 70	-7	-12	1453	0	0	0
270	SLU 71	-7	-15	1432	0	0	0
270	SLU 72	-7	-12	1447	0	0	0
270	SLU 73	-7	-11	1574	0	0	0
270	SLU 74	-7	-16	1566	0	0	0
270	SLU 75	-7	-13	1580	0	0	0
270	SLU 76	-7	-11	1584	0	0	0
270	SLU 77	-7	-16	1576	0	0	0
270	SLU 78	-7	-13	1591	0	0	0
270	SLU 79	-7	-16	1570	0	0	0
270	SLU 80	-7	-13	1584	0	0	0
270	SLU 81	-6	-16	1608	0	0	0
270	SLU 82	-6	-13	1623	0	0	0
270	SLU 83	-7	-16	1619	0	0	0
270	SLU 84	-7	-14	1633	0	0	0
270	SLE RA 1	-5	-11	1056	0	0	0
270	SLE RA 2	-5	-8	1072	0	0	0
270	SLE RA 3	-5	-11	1067	0	0	0
270	SLE RA 4	-5	-9	1077	0	0	0
270	SLE RA 5	-5	-8	1079	0	0	0
270	SLE RA 6	-5	-11	1074	0	0	0
270	SLE RA 7	-5	-9	1083	0	0	0
270	SLE RA 8	-5	-11	1070	0	0	0
270	SLE RA 9	-5	-9	1079	0	0	0
270	SLE RA 10	-5	-9	1164	0	0	0
270	SLE RA 11	-5	-12	1159	0	0	0
270	SLE RA 12	-5	-10	1168	0	0	0
270	SLE RA 13	-5	-9	1171	0	0	0
270	SLE RA 14	-5	-12	1166	0	0	0
270	SLE RA 15	-5	-10	1175	0	0	0
270	SLE RA 16	-5	-12	1161	0	0	0
270	SLE RA 17	-5	-10	1171	0	0	0
270	SLE RA 18	-5	-12	1187	0	0	0
270	SLE RA 19	-5	-10	1197	0	0	0
270	SLE RA 20	-5	-12	1194	0	0	0
270	SLE RA 21	-5	-10	1204	0	0	0
270	SLE FR 1	-5	-11	1056	0	0	0
270	SLE FR 2	-5	-10	1059	0	0	0
270	SLE FR 3	-5	-11	1059	0	0	0
270	SLE FR 4	-5	-11	1099	0	0	0
270	SLE FR 5	-5	-11	1098	0	0	0
270	SLE FR 6	-5	-11	1122	0	0	0
270	SLE QP 1	-5	-11	1056	0	0	0
270	SLE QP 2	-5	-11	1095	0	0	0
270	SLD 1	80	14	1263	0	0	0
270	SLD 2	97	11	1258	0	0	0
270	SLD 3	86	-38	961	0	0	0
270	SLD 4	103	-41	956	0	0	0
270	SLD 5	8	75	1604	0	0	0
270	SLD 6	20	74	1601	0	0	0
270	SLD 7	29	-97	598	0	0	0
270	SLD 8	40	-99	595	0	0	0
270	SLD 9	-50	77	1596	0	0	0
270	SLD 10	-38	75	1592	0	0	0
270	SLD 11	-29	-96	590	0	0	0
270	SLD 12	-18	-98	587	0	0	0
270	SLD 13	-113	19	1235	0	0	0
270	SLD 14	-96	16	1230	0	0	0
270	SLD 15	-107	-33	933	0	0	0
270	SLD 16	-90	-36	928	0	0	0
270	SLV 1	128	29	1365	0	0	0
270	SLV 2	155	24	1357	0	0	0
270	SLV 3	138	-55	877	0	0	0
270	SLV 4	165	-59	870	0	0	0
270	SLV 5	15	129	1917	0	0	0
270	SLV 6	33	126	1912	0	0	0
270	SLV 7	48	-150	291	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
270	SLV 8	66	-153	286	0	0	0
270	SLV 9	-75	131	1904	0	0	0
270	SLV 10	-57	128	1899	0	0	0
270	SLV 11	-43	-148	278	0	0	0
270	SLV 12	-25	-151	273	0	0	0
270	SLV 13	-174	37	1321	0	0	0
270	SLV 14	-147	33	1314	0	0	0
270	SLV 15	-165	-47	833	0	0	0
270	SLV 16	-138	-51	826	0	0	0
270	SLV FO 1	141	33	1392	0	0	0
270	SLV FO 2	171	28	1384	0	0	0
270	SLV FO 3	152	-59	855	0	0	0
270	SLV FO 4	182	-64	847	0	0	0
270	SLV FO 5	17	143	2000	0	0	0
270	SLV FO 6	37	139	1994	0	0	0
270	SLV FO 7	53	-164	211	0	0	0
270	SLV FO 8	73	-168	206	0	0	0
270	SLV FO 9	-83	145	1985	0	0	0
270	SLV FO 10	-63	142	1980	0	0	0
270	SLV FO 11	-47	-162	197	0	0	0
270	SLV FO 12	-27	-165	191	0	0	0
270	SLV FO 13	-191	42	1344	0	0	0
270	SLV FO 14	-162	37	1335	0	0	0
270	SLV FO 15	-181	-50	807	0	0	0
270	SLV FO 16	-151	-55	799	0	0	0
270	CRTFP Uy+	0	0	0	0	0	0
270	CRTFP Uy-	0	0	0	0	0	0
271	SLU 1	-2	-4	537	0	0	0
271	SLU 2	-2	-2	550	0	0	0
271	SLU 3	-2	-5	546	0	0	0
271	SLU 4	-2	-3	554	0	0	0
271	SLU 5	-3	-2	555	0	0	0
271	SLU 6	-3	-5	552	0	0	0
271	SLU 7	-3	-3	559	0	0	0
271	SLU 8	-3	-5	548	0	0	0
271	SLU 9	-3	-3	556	0	0	0
271	SLU 10	-2	-3	623	0	0	0
271	SLU 11	-2	-5	620	0	0	0
271	SLU 12	-2	-4	627	0	0	0
271	SLU 13	-2	-3	629	0	0	0
271	SLU 14	-2	-5	625	0	0	0
271	SLU 15	-3	-4	633	0	0	0
271	SLU 16	-2	-5	622	0	0	0
271	SLU 17	-2	-4	629	0	0	0
271	SLU 18	-2	-5	642	0	0	0
271	SLU 19	-2	-4	650	0	0	0
271	SLU 20	-2	-5	648	0	0	0
271	SLU 21	-2	-4	655	0	0	0
271	SLU 22	-3	-5	610	0	0	0
271	SLU 23	-3	-3	623	0	0	0
271	SLU 24	-3	-5	619	0	0	0
271	SLU 25	-3	-4	626	0	0	0
271	SLU 26	-3	-3	628	0	0	0
271	SLU 27	-3	-5	624	0	0	0
271	SLU 28	-3	-4	632	0	0	0
271	SLU 29	-3	-5	621	0	0	0
271	SLU 30	-3	-4	628	0	0	0
271	SLU 31	-3	-3	696	0	0	0
271	SLU 32	-3	-5	692	0	0	0
271	SLU 33	-3	-4	700	0	0	0
271	SLU 34	-3	-3	701	0	0	0
271	SLU 35	-3	-6	697	0	0	0
271	SLU 36	-3	-4	705	0	0	0
271	SLU 37	-3	-6	694	0	0	0
271	SLU 38	-3	-4	702	0	0	0
271	SLU 39	-3	-6	715	0	0	0
271	SLU 40	-3	-4	722	0	0	0
271	SLU 41	-3	-6	720	0	0	0
271	SLU 42	-3	-4	728	0	0	0
271	SLU 43	-3	-6	674	0	0	0
271	SLU 44	-3	-3	686	0	0	0
271	SLU 45	-3	-6	682	0	0	0
271	SLU 46	-3	-4	690	0	0	0
271	SLU 47	-3	-3	692	0	0	0
271	SLU 48	-3	-6	688	0	0	0
271	SLU 49	-3	-4	696	0	0	0
271	SLU 50	-3	-6	685	0	0	0
271	SLU 51	-3	-4	692	0	0	0
271	SLU 52	-3	-4	760	0	0	0
271	SLU 53	-3	-6	756	0	0	0
271	SLU 54	-3	-5	763	0	0	0
271	SLU 55	-3	-4	765	0	0	0
271	SLU 56	-3	-6	761	0	0	0
271	SLU 57	-3	-5	769	0	0	0
271	SLU 58	-3	-6	758	0	0	0
271	SLU 59	-3	-5	766	0	0	0
271	SLU 60	-3	-6	778	0	0	0
271	SLU 61	-3	-5	786	0	0	0
271	SLU 62	-3	-6	784	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLU 63	-3	-5	792	0	0	0
271	SLU 64	-3	-6	746	0	0	0
271	SLU 65	-3	-4	759	0	0	0
271	SLU 66	-3	-6	755	0	0	0
271	SLU 67	-3	-5	763	0	0	0
271	SLU 68	-3	-4	764	0	0	0
271	SLU 69	-3	-6	760	0	0	0
271	SLU 70	-4	-5	768	0	0	0
271	SLU 71	-3	-6	757	0	0	0
271	SLU 72	-3	-5	765	0	0	0
271	SLU 73	-3	-4	832	0	0	0
271	SLU 74	-3	-7	828	0	0	0
271	SLU 75	-3	-5	836	0	0	0
271	SLU 76	-3	-4	838	0	0	0
271	SLU 77	-3	-7	834	0	0	0
271	SLU 78	-3	-5	841	0	0	0
271	SLU 79	-3	-7	830	0	0	0
271	SLU 80	-3	-5	838	0	0	0
271	SLU 81	-3	-7	851	0	0	0
271	SLU 82	-3	-5	859	0	0	0
271	SLU 83	-3	-7	856	0	0	0
271	SLU 84	-3	-6	864	0	0	0
271	SLE RA 1	-2	-5	558	0	0	0
271	SLE RA 2	-3	-3	567	0	0	0
271	SLE RA 3	-3	-5	564	0	0	0
271	SLE RA 4	-3	-4	569	0	0	0
271	SLE RA 5	-3	-3	570	0	0	0
271	SLE RA 6	-3	-5	568	0	0	0
271	SLE RA 7	-3	-4	573	0	0	0
271	SLE RA 8	-3	-5	565	0	0	0
271	SLE RA 9	-3	-4	570	0	0	0
271	SLE RA 10	-2	-3	615	0	0	0
271	SLE RA 11	-2	-5	613	0	0	0
271	SLE RA 12	-3	-4	618	0	0	0
271	SLE RA 13	-3	-3	619	0	0	0
271	SLE RA 14	-3	-5	616	0	0	0
271	SLE RA 15	-3	-4	622	0	0	0
271	SLE RA 16	-3	-5	614	0	0	0
271	SLE RA 17	-3	-4	619	0	0	0
271	SLE RA 18	-2	-5	628	0	0	0
271	SLE RA 19	-2	-4	633	0	0	0
271	SLE RA 20	-2	-5	632	0	0	0
271	SLE RA 21	-2	-4	637	0	0	0
271	SLE FR 1	-2	-5	558	0	0	0
271	SLE FR 2	-2	-4	560	0	0	0
271	SLE FR 3	-2	-5	560	0	0	0
271	SLE FR 4	-2	-4	581	0	0	0
271	SLE FR 5	-2	-5	580	0	0	0
271	SLE FR 6	-2	-5	593	0	0	0
271	SLE QP 1	-2	-5	558	0	0	0
271	SLE QP 2	-2	-5	579	0	0	0
271	SLD 1	41	8	663	0	0	0
271	SLD 2	50	7	661	0	0	0
271	SLD 3	44	-19	504	0	0	0
271	SLD 4	53	-20	502	0	0	0
271	SLD 5	4	41	845	0	0	0
271	SLD 6	10	40	844	0	0	0
271	SLD 7	15	-50	316	0	0	0
271	SLD 8	20	-51	315	0	0	0
271	SLD 9	-25	41	843	0	0	0
271	SLD 10	-19	41	842	0	0	0
271	SLD 11	-15	-49	314	0	0	0
271	SLD 12	-9	-50	313	0	0	0
271	SLD 13	-58	10	656	0	0	0
271	SLD 14	-49	9	654	0	0	0
271	SLD 15	-55	-17	497	0	0	0
271	SLD 16	-46	-18	495	0	0	0
271	SLV 1	66	16	715	0	0	0
271	SLV 2	79	15	711	0	0	0
271	SLV 3	71	-28	458	0	0	0
271	SLV 4	84	-29	455	0	0	0
271	SLV 5	8	69	1009	0	0	0
271	SLV 6	17	68	1007	0	0	0
271	SLV 7	24	-78	154	0	0	0
271	SLV 8	34	-79	152	0	0	0
271	SLV 9	-39	70	1006	0	0	0
271	SLV 10	-29	68	1004	0	0	0
271	SLV 11	-22	-77	151	0	0	0
271	SLV 12	-13	-78	149	0	0	0
271	SLV 13	-89	20	703	0	0	0
271	SLV 14	-75	18	700	0	0	0
271	SLV 15	-84	-24	447	0	0	0
271	SLV 16	-70	-26	443	0	0	0
271	SLV FO 1	72	19	728	0	0	0
271	SLV FO 2	88	17	725	0	0	0
271	SLV FO 3	78	-30	446	0	0	0
271	SLV FO 4	93	-31	442	0	0	0
271	SLV FO 5	9	76	1053	0	0	0
271	SLV FO 6	19	75	1050	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
271	SLV FO 7	27	-85	112	0	0	0
271	SLV FO 8	37	-86	109	0	0	0
271	SLV FO 9	-42	77	1049	0	0	0
271	SLV FO 10	-32	76	1046	0	0	0
271	SLV FO 11	-24	-84	108	0	0	0
271	SLV FO 12	-14	-85	105	0	0	0
271	SLV FO 13	-98	22	716	0	0	0
271	SLV FO 14	-83	20	712	0	0	0
271	SLV FO 15	-93	-26	433	0	0	0
271	SLV FO 16	-77	-28	430	0	0	0
271	CRTFP Uy+	0	0	0	0	0	0
271	CRTFP Uy-	0	0	0	0	0	0
273	SLU 1	16	-71	3609	-2.1	1147.99	22.36
273	SLU 2	17	-54	3696	-2.29	1175.8	17.08
273	SLU 3	16	-72	3667	-2.1	1166.68	22.79
273	SLU 4	17	-62	3720	-2.22	1183.36	19.62
273	SLU 5	17	-55	3732	-2.29	1187.29	17.34
273	SLU 6	16	-73	3703	-2.1	1178.17	23.04
273	SLU 7	16	-63	3756	-2.22	1194.85	19.87
273	SLU 8	16	-72	3681	-2.1	1170.99	22.87
273	SLU 9	16	-62	3733	-2.21	1187.67	19.7
273	SLU 10	17	-62	4183	-2.52	1331.55	19.46
273	SLU 11	17	-79	4154	-2.33	1322.43	25.16
273	SLU 12	17	-70	4207	-2.44	1339.12	21.99
273	SLU 13	17	-62	4219	-2.51	1343.05	19.71
273	SLU 14	16	-80	4191	-2.33	1333.93	25.42
273	SLU 15	17	-70	4243	-2.44	1350.61	22.25
273	SLU 16	16	-80	4168	-2.32	1326.74	25.25
273	SLU 17	17	-70	4220	-2.44	1343.42	22.08
273	SLU 18	17	-81	4305	-2.42	1370.5	25.75
273	SLU 19	17	-71	4357	-2.53	1387.18	22.59
273	SLU 20	17	-82	4341	-2.42	1382	26.01
273	SLU 21	17	-72	4393	-2.53	1398.68	22.84
273	SLU 22	18	-80	4090	-2.29	1301.25	25.16
273	SLU 23	19	-63	4178	-2.48	1329.05	19.88
273	SLU 24	18	-81	4149	-2.29	1319.93	25.58
273	SLU 25	19	-71	4201	-2.41	1336.62	22.42
273	SLU 26	19	-64	4214	-2.48	1340.55	20.14
273	SLU 27	18	-82	4185	-2.29	1331.43	25.84
273	SLU 28	18	-72	4237	-2.41	1348.11	22.67
273	SLU 29	18	-81	4162	-2.29	1324.24	25.67
273	SLU 30	18	-71	4215	-2.4	1340.92	22.5
273	SLU 31	19	-70	4665	-2.71	1484.81	22.26
273	SLU 32	19	-88	4636	-2.52	1475.69	27.96
273	SLU 33	19	-78	4688	-2.63	1492.37	24.79
273	SLU 34	19	-71	4701	-2.71	1496.31	22.51
273	SLU 35	18	-89	4672	-2.52	1487.19	28.21
273	SLU 36	19	-79	4724	-2.63	1503.87	25.05
273	SLU 37	18	-89	4649	-2.51	1480	28.04
273	SLU 38	19	-79	4702	-2.63	1496.68	24.88
273	SLU 39	19	-90	4786	-2.61	1523.76	28.55
273	SLU 40	19	-80	4838	-2.73	1540.44	25.39
273	SLU 41	19	-91	4822	-2.61	1535.26	28.81
273	SLU 42	19	-81	4874	-2.73	1551.94	25.64
273	SLU 43	20	-89	4526	-2.66	1439.85	28.11
273	SLU 44	21	-72	4614	-2.85	1467.65	22.83
273	SLU 45	20	-90	4585	-2.66	1458.53	28.53
273	SLU 46	21	-80	4637	-2.78	1475.21	25.37
273	SLU 47	21	-73	4650	-2.85	1479.14	23.08
273	SLU 48	20	-91	4621	-2.66	1470.03	28.79
273	SLU 49	21	-81	4673	-2.78	1486.71	25.62
273	SLU 50	20	-90	4599	-2.66	1462.84	28.62
273	SLU 51	20	-80	4651	-2.78	1479.52	25.45
273	SLU 52	22	-80	5101	-3.08	1623.41	25.21
273	SLU 53	21	-98	5072	-2.89	1614.29	30.91
273	SLU 54	21	-88	5124	-3.01	1630.97	27.74
273	SLU 55	21	-81	5137	-3.08	1634.9	25.46
273	SLU 56	20	-98	5108	-2.89	1625.78	31.16
273	SLU 57	21	-89	5161	-3	1642.46	28
273	SLU 58	20	-98	5086	-2.88	1618.6	30.99
273	SLU 59	21	-88	5138	-3	1635.28	27.83
273	SLU 60	21	-100	5222	-2.98	1662.36	31.5
273	SLU 61	21	-90	5275	-3.1	1679.04	28.33
273	SLU 62	21	-100	5258	-2.98	1673.85	31.76
273	SLU 63	21	-90	5311	-3.1	1690.53	28.59
273	SLU 64	22	-98	5008	-2.85	1593.1	30.91
273	SLU 65	23	-81	5095	-3.05	1620.91	25.63
273	SLU 66	22	-99	5066	-2.86	1611.79	31.33
273	SLU 67	23	-89	5119	-2.97	1628.47	28.17
273	SLU 68	23	-82	5131	-3.05	1632.4	25.88
273	SLU 69	22	-100	5102	-2.86	1623.28	31.59
273	SLU 70	23	-90	5155	-2.97	1639.96	28.42
273	SLU 71	22	-99	5080	-2.85	1616.1	31.42
273	SLU 72	22	-89	5132	-2.97	1632.78	28.25
273	SLU 73	24	-89	5582	-3.27	1776.66	28
273	SLU 74	23	-107	5553	-3.08	1767.54	33.71
273	SLU 75	23	-97	5606	-3.2	1784.23	30.54
273	SLU 76	23	-89	5618	-3.27	1788.16	28.26
273	SLU 77	23	-107	5590	-3.08	1779.04	33.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
273	SLU 78	23	-97	5642	-3.2	1795.72	30.8
273	SLU 79	22	-107	5567	-3.08	1771.85	33.79
273	SLU 80	23	-97	5619	-3.19	1788.53	30.63
273	SLU 81	23	-108	5704	-3.17	1815.61	34.3
273	SLU 82	23	-98	5756	-3.29	1832.29	31.13
273	SLU 83	23	-109	5740	-3.17	1827.11	34.56
273	SLU 84	23	-99	5792	-3.29	1843.79	31.39
273	SLE RA 1	17	-73	3746	-2.15	1191.78	23.16
273	SLE RA 2	17	-62	3805	-2.28	1210.32	19.64
273	SLE RA 3	17	-74	3785	-2.15	1204.24	23.44
273	SLE RA 4	17	-67	3820	-2.23	1215.36	21.33
273	SLE RA 5	17	-63	3829	-2.28	1217.98	19.81
273	SLE RA 6	17	-75	3809	-2.15	1211.9	23.61
273	SLE RA 7	17	-68	3844	-2.23	1223.02	21.5
273	SLE RA 8	16	-74	3794	-2.15	1207.11	23.5
273	SLE RA 9	17	-68	3829	-2.23	1218.23	21.39
273	SLE RA 10	18	-67	4129	-2.43	1314.15	21.22
273	SLE RA 11	17	-79	4110	-2.3	1308.08	25.03
273	SLE RA 12	17	-72	4145	-2.38	1319.2	22.92
273	SLE RA 13	17	-68	4153	-2.43	1321.82	21.39
273	SLE RA 14	17	-80	4134	-2.3	1315.74	25.2
273	SLE RA 15	17	-73	4169	-2.38	1326.86	23.09
273	SLE RA 16	17	-79	4119	-2.3	1310.95	25.08
273	SLE RA 17	17	-73	4154	-2.38	1322.07	22.97
273	SLE RA 18	17	-80	4210	-2.37	1340.12	25.42
273	SLE RA 19	17	-74	4245	-2.44	1351.24	23.31
273	SLE RA 20	17	-81	4234	-2.37	1347.79	25.59
273	SLE RA 21	17	-74	4269	-2.44	1358.91	23.48
273	SLE FR 1	17	-73	3746	-2.15	1191.78	23.16
273	SLE FR 2	17	-71	3758	-2.18	1195.49	22.46
273	SLE FR 3	17	-73	3756	-2.15	1194.85	23.23
273	SLE FR 4	17	-73	3897	-2.24	1239.99	23.14
273	SLE FR 5	17	-76	3895	-2.22	1239.35	23.91
273	SLE FR 6	17	-77	3978	-2.26	1265.95	24.29
273	SLE QP 1	17	-73	3746	-2.15	1191.78	23.16
273	SLE QP 2	17	-75	3886	-2.22	1236.28	23.84
273	SLD 1	349	33	4394	-3.17	1412.59	-10.43
273	SLD 2	413	37	4408	-3.2	1415.85	-11.55
273	SLD 3	338	-160	3308	-0.74	1067.07	51.05
273	SLD 4	403	-156	3321	-0.77	1070.33	49.93
273	SLD 5	121	250	5684	-6.18	1812.62	-79.48
273	SLD 6	163	252	5693	-6.2	1814.78	-80.22
273	SLD 7	86	-395	2061	1.91	660.89	125.45
273	SLD 8	128	-392	2071	1.89	663.05	124.7
273	SLD 9	-95	241	5701	-6.33	1809.52	-77.03
273	SLD 10	-52	244	5710	-6.35	1811.67	-77.77
273	SLD 11	-129	-403	2078	1.76	657.79	127.9
273	SLD 12	-87	-400	2087	1.75	659.94	127.16
273	SLD 13	-369	6	4450	-3.66	1402.23	-2.25
273	SLD 14	-305	10	4463	-3.69	1405.5	-3.37
273	SLD 15	-379	-188	3363	-1.24	1056.72	59.23
273	SLD 16	-315	-184	3377	-1.27	1059.98	58.1
273	SLV 1	537	99	4710	-3.77	1521.23	-31.43
273	SLV 2	638	106	4732	-3.82	1526.35	-33.19
273	SLV 3	520	-213	2953	0.15	962.66	67.93
273	SLV 4	620	-207	2975	0.11	967.77	66.17
273	SLV 5	181	450	6794	-8.63	2167.99	-143.11
273	SLV 6	248	454	6808	-8.66	2171.43	-144.3
273	SLV 7	122	-592	937	4.45	306.07	188.09
273	SLV 8	190	-587	952	4.42	309.51	186.91
273	SLV 9	-156	437	6819	-8.86	2163.06	-139.23
273	SLV 10	-89	441	6834	-8.89	2166.5	-140.42
273	SLV 11	-215	-605	963	4.22	301.14	191.98
273	SLV 12	-147	-600	978	4.19	304.58	190.79
273	SLV 13	-587	56	4796	-4.54	1504.8	-18.49
273	SLV 14	-486	62	4818	-4.59	1509.91	-20.25
273	SLV 15	-604	-256	3039	-0.62	946.22	80.87
273	SLV 16	-503	-250	3061	-0.66	951.34	79.11
273	SLV FO 1	589	117	4792	-3.92	1549.73	-36.96
273	SLV FO 2	700	124	4816	-3.98	1555.36	-38.9
273	SLV FO 3	570	-227	2860	0.39	935.29	72.34
273	SLV FO 4	681	-220	2884	0.34	940.92	70.4
273	SLV FO 5	197	502	7084	-9.27	2261.16	-159.81
273	SLV FO 6	272	507	7100	-9.3	2264.95	-161.11
273	SLV FO 7	133	-643	642	5.12	213.05	204.52
273	SLV FO 8	208	-639	658	5.09	216.83	203.22
273	SLV FO 9	-174	488	7113	-9.52	2255.73	-155.54
273	SLV FO 10	-99	493	7129	-9.56	2259.52	-156.84
273	SLV FO 11	-238	-658	671	4.87	207.62	208.79
273	SLV FO 12	-163	-653	687	4.83	211.41	207.49
273	SLV FO 13	-647	69	4888	-4.77	1531.65	-22.72
273	SLV FO 14	-536	76	4911	-4.83	1537.27	-24.66
273	SLV FO 15	-666	-275	2955	-0.46	917.21	86.57
273	SLV FO 16	-555	-268	2979	-0.51	922.84	84.64
273	CRTFP Ux+	0	0	0	0	0	0
273	CRTFP Ux-	0	0	0	0	0	0
273	CRTFP Uy+	0	0	0	0	-0.01	0
273	CRTFP Uy-	0	0	0	0	0.01	0
274	SLU 1	3	-13	635	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
274	SLU 2	3	-10	650	0	0	0
274	SLU 3	3	-13	645	0	0	0
274	SLU 4	3	-11	654	0	0	0
274	SLU 5	3	-10	656	0	0	0
274	SLU 6	3	-13	652	0	0	0
274	SLU 7	3	-11	661	0	0	0
274	SLU 8	3	-13	648	0	0	0
274	SLU 9	3	-11	657	0	0	0
274	SLU 10	3	-11	735	0	0	0
274	SLU 11	3	-14	730	0	0	0
274	SLU 12	3	-12	739	0	0	0
274	SLU 13	3	-11	741	0	0	0
274	SLU 14	3	-14	737	0	0	0
274	SLU 15	3	-13	746	0	0	0
274	SLU 16	3	-14	733	0	0	0
274	SLU 17	3	-12	742	0	0	0
274	SLU 18	3	-14	756	0	0	0
274	SLU 19	3	-13	766	0	0	0
274	SLU 20	3	-15	763	0	0	0
274	SLU 21	3	-13	772	0	0	0
274	SLU 22	3	-14	720	0	0	0
274	SLU 23	3	-11	735	0	0	0
274	SLU 24	3	-14	730	0	0	0
274	SLU 25	3	-13	739	0	0	0
274	SLU 26	3	-11	741	0	0	0
274	SLU 27	3	-15	736	0	0	0
274	SLU 28	3	-13	745	0	0	0
274	SLU 29	3	-14	732	0	0	0
274	SLU 30	3	-13	741	0	0	0
274	SLU 31	3	-13	820	0	0	0
274	SLU 32	3	-16	815	0	0	0
274	SLU 33	3	-14	824	0	0	0
274	SLU 34	3	-13	826	0	0	0
274	SLU 35	3	-16	821	0	0	0
274	SLU 36	3	-14	830	0	0	0
274	SLU 37	3	-16	817	0	0	0
274	SLU 38	3	-14	826	0	0	0
274	SLU 39	3	-16	841	0	0	0
274	SLU 40	3	-14	850	0	0	0
274	SLU 41	3	-16	847	0	0	0
274	SLU 42	3	-14	857	0	0	0
274	SLU 43	4	-16	796	0	0	0
274	SLU 44	4	-13	812	0	0	0
274	SLU 45	4	-16	807	0	0	0
274	SLU 46	4	-14	816	0	0	0
274	SLU 47	4	-13	818	0	0	0
274	SLU 48	4	-16	813	0	0	0
274	SLU 49	4	-15	822	0	0	0
274	SLU 50	4	-16	809	0	0	0
274	SLU 51	4	-14	818	0	0	0
274	SLU 52	4	-14	897	0	0	0
274	SLU 53	4	-17	892	0	0	0
274	SLU 54	4	-16	901	0	0	0
274	SLU 55	4	-14	903	0	0	0
274	SLU 56	4	-18	898	0	0	0
274	SLU 57	4	-16	907	0	0	0
274	SLU 58	4	-17	894	0	0	0
274	SLU 59	4	-16	903	0	0	0
274	SLU 60	4	-18	918	0	0	0
274	SLU 61	4	-16	927	0	0	0
274	SLU 62	4	-18	924	0	0	0
274	SLU 63	4	-16	933	0	0	0
274	SLU 64	4	-17	881	0	0	0
274	SLU 65	4	-15	896	0	0	0
274	SLU 66	4	-18	891	0	0	0
274	SLU 67	4	-16	900	0	0	0
274	SLU 68	4	-15	903	0	0	0
274	SLU 69	4	-18	898	0	0	0
274	SLU 70	4	-16	907	0	0	0
274	SLU 71	4	-18	894	0	0	0
274	SLU 72	4	-16	903	0	0	0
274	SLU 73	4	-16	981	0	0	0
274	SLU 74	4	-19	976	0	0	0
274	SLU 75	4	-17	985	0	0	0
274	SLU 76	4	-16	988	0	0	0
274	SLU 77	4	-19	983	0	0	0
274	SLU 78	4	-17	992	0	0	0
274	SLU 79	4	-19	979	0	0	0
274	SLU 80	4	-17	988	0	0	0
274	SLU 81	4	-19	1003	0	0	0
274	SLU 82	4	-18	1012	0	0	0
274	SLU 83	4	-19	1009	0	0	0
274	SLU 84	4	-18	1018	0	0	0
274	SLE RA 1	3	-13	659	0	0	0
274	SLE RA 2	3	-11	669	0	0	0
274	SLE RA 3	3	-13	666	0	0	0
274	SLE RA 4	3	-12	672	0	0	0
274	SLE RA 5	3	-11	673	0	0	0
274	SLE RA 6	3	-13	670	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
274	SLE RA 7	3	-12	676	0	0	0
274	SLE RA 8	3	-13	668	0	0	0
274	SLE RA 9	3	-12	674	0	0	0
274	SLE RA 10	3	-12	726	0	0	0
274	SLE RA 11	3	-14	723	0	0	0
274	SLE RA 12	3	-13	729	0	0	0
274	SLE RA 13	3	-12	730	0	0	0
274	SLE RA 14	3	-14	727	0	0	0
274	SLE RA 15	3	-13	733	0	0	0
274	SLE RA 16	3	-14	724	0	0	0
274	SLE RA 17	3	-13	730	0	0	0
274	SLE RA 18	3	-14	740	0	0	0
274	SLE RA 19	3	-13	746	0	0	0
274	SLE RA 20	3	-14	744	0	0	0
274	SLE RA 21	3	-13	750	0	0	0
274	SLE FR 1	3	-13	659	0	0	0
274	SLE FR 2	3	-13	661	0	0	0
274	SLE FR 3	3	-13	661	0	0	0
274	SLE FR 4	3	-13	685	0	0	0
274	SLE FR 5	3	-13	685	0	0	0
274	SLE FR 6	3	-14	700	0	0	0
274	SLE QP 1	3	-13	659	0	0	0
274	SLE QP 2	3	-13	683	0	0	0
274	SLD 1	62	6	767	0	0	0
274	SLD 2	73	8	770	0	0	0
274	SLD 3	60	-27	577	0	0	0
274	SLD 4	71	-25	580	0	0	0
274	SLD 5	22	42	995	0	0	0
274	SLD 6	29	44	998	0	0	0
274	SLD 7	15	-68	363	0	0	0
274	SLD 8	23	-67	365	0	0	0
274	SLD 9	-17	40	1001	0	0	0
274	SLD 10	-9	41	1004	0	0	0
274	SLD 11	-23	-70	369	0	0	0
274	SLD 12	-16	-69	371	0	0	0
274	SLD 13	-65	-2	786	0	0	0
274	SLD 14	-54	0	790	0	0	0
274	SLD 15	-67	-35	597	0	0	0
274	SLD 16	-56	-33	600	0	0	0
274	SLV 1	95	19	819	0	0	0
274	SLV 2	113	21	824	0	0	0
274	SLV 3	92	-35	512	0	0	0
274	SLV 4	110	-32	517	0	0	0
274	SLV 5	32	77	1188	0	0	0
274	SLV 6	44	79	1192	0	0	0
274	SLV 7	22	-102	166	0	0	0
274	SLV 8	34	-100	169	0	0	0
274	SLV 9	-27	73	1197	0	0	0
274	SLV 10	-15	75	1201	0	0	0
274	SLV 11	-38	-106	175	0	0	0
274	SLV 12	-26	-104	179	0	0	0
274	SLV 13	-104	6	850	0	0	0
274	SLV 14	-86	8	855	0	0	0
274	SLV 15	-107	-48	543	0	0	0
274	SLV 16	-89	-45	548	0	0	0
274	SLV FO 1	105	22	832	0	0	0
274	SLV FO 2	124	25	838	0	0	0
274	SLV FO 3	101	-37	495	0	0	0
274	SLV FO 4	121	-34	501	0	0	0
274	SLV FO 5	35	86	1239	0	0	0
274	SLV FO 6	48	88	1242	0	0	0
274	SLV FO 7	23	-110	114	0	0	0
274	SLV FO 8	37	-109	118	0	0	0
274	SLV FO 9	-31	82	1249	0	0	0
274	SLV FO 10	-17	84	1253	0	0	0
274	SLV FO 11	-42	-115	124	0	0	0
274	SLV FO 12	-29	-113	128	0	0	0
274	SLV FO 13	-115	7	866	0	0	0
274	SLV FO 14	-95	10	872	0	0	0
274	SLV FO 15	-118	-51	529	0	0	0
274	SLV FO 16	-99	-49	535	0	0	0
274	CRTFP Uy+	0	0	0	0	0	0
274	CRTFP Uy-	0	0	0	0	0	0
275	SLU 1	5	-16	827	0	0	0
275	SLU 2	5	-12	846	0	0	0
275	SLU 3	5	-16	840	0	0	0
275	SLU 4	5	-14	852	0	0	0
275	SLU 5	5	-13	854	0	0	0
275	SLU 6	5	-16	848	0	0	0
275	SLU 7	5	-14	860	0	0	0
275	SLU 8	5	-16	843	0	0	0
275	SLU 9	5	-14	855	0	0	0
275	SLU 10	5	-14	954	0	0	0
275	SLU 11	5	-18	948	0	0	0
275	SLU 12	5	-16	959	0	0	0
275	SLU 13	5	-14	962	0	0	0
275	SLU 14	5	-18	956	0	0	0
275	SLU 15	5	-16	967	0	0	0
275	SLU 16	5	-18	951	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLU 17	5	-16	962	0	0	0
275	SLU 18	5	-18	981	0	0	0
275	SLU 19	5	-16	992	0	0	0
275	SLU 20	5	-18	989	0	0	0
275	SLU 21	5	-16	1000	0	0	0
275	SLU 22	5	-18	937	0	0	0
275	SLU 23	6	-14	957	0	0	0
275	SLU 24	5	-18	951	0	0	0
275	SLU 25	6	-16	962	0	0	0
275	SLU 26	6	-14	965	0	0	0
275	SLU 27	5	-18	959	0	0	0
275	SLU 28	5	-16	971	0	0	0
275	SLU 29	5	-18	954	0	0	0
275	SLU 30	5	-16	965	0	0	0
275	SLU 31	6	-16	1065	0	0	0
275	SLU 32	6	-20	1059	0	0	0
275	SLU 33	6	-17	1070	0	0	0
275	SLU 34	6	-16	1073	0	0	0
275	SLU 35	6	-20	1067	0	0	0
275	SLU 36	6	-18	1078	0	0	0
275	SLU 37	5	-20	1062	0	0	0
275	SLU 38	6	-18	1073	0	0	0
275	SLU 39	6	-20	1091	0	0	0
275	SLU 40	6	-18	1103	0	0	0
275	SLU 41	6	-20	1100	0	0	0
275	SLU 42	6	-18	1111	0	0	0
275	SLU 43	6	-20	1037	0	0	0
275	SLU 44	6	-17	1056	0	0	0
275	SLU 45	6	-20	1050	0	0	0
275	SLU 46	6	-18	1062	0	0	0
275	SLU 47	6	-17	1064	0	0	0
275	SLU 48	6	-21	1058	0	0	0
275	SLU 49	6	-18	1070	0	0	0
275	SLU 50	6	-20	1053	0	0	0
275	SLU 51	6	-18	1065	0	0	0
275	SLU 52	6	-18	1164	0	0	0
275	SLU 53	6	-22	1158	0	0	0
275	SLU 54	6	-20	1169	0	0	0
275	SLU 55	6	-18	1172	0	0	0
275	SLU 56	6	-22	1166	0	0	0
275	SLU 57	6	-20	1177	0	0	0
275	SLU 58	6	-22	1161	0	0	0
275	SLU 59	6	-20	1172	0	0	0
275	SLU 60	6	-22	1191	0	0	0
275	SLU 61	6	-20	1202	0	0	0
275	SLU 62	6	-22	1199	0	0	0
275	SLU 63	6	-20	1210	0	0	0
275	SLU 64	7	-22	1147	0	0	0
275	SLU 65	7	-18	1167	0	0	0
275	SLU 66	7	-22	1161	0	0	0
275	SLU 67	7	-20	1172	0	0	0
275	SLU 68	7	-19	1175	0	0	0
275	SLU 69	7	-22	1169	0	0	0
275	SLU 70	7	-20	1181	0	0	0
275	SLU 71	7	-22	1164	0	0	0
275	SLU 72	7	-20	1175	0	0	0
275	SLU 73	7	-20	1275	0	0	0
275	SLU 74	7	-24	1269	0	0	0
275	SLU 75	7	-22	1280	0	0	0
275	SLU 76	7	-20	1283	0	0	0
275	SLU 77	7	-24	1277	0	0	0
275	SLU 78	7	-22	1288	0	0	0
275	SLU 79	7	-24	1272	0	0	0
275	SLU 80	7	-22	1283	0	0	0
275	SLU 81	7	-24	1301	0	0	0
275	SLU 82	7	-22	1313	0	0	0
275	SLU 83	7	-24	1310	0	0	0
275	SLU 84	7	-22	1321	0	0	0
275	SLE RA 1	5	-16	858	0	0	0
275	SLE RA 2	5	-14	871	0	0	0
275	SLE RA 3	5	-17	867	0	0	0
275	SLE RA 4	5	-15	875	0	0	0
275	SLE RA 5	5	-14	877	0	0	0
275	SLE RA 6	5	-17	873	0	0	0
275	SLE RA 7	5	-15	880	0	0	0
275	SLE RA 8	5	-17	869	0	0	0
275	SLE RA 9	5	-15	877	0	0	0
275	SLE RA 10	5	-15	943	0	0	0
275	SLE RA 11	5	-18	939	0	0	0
275	SLE RA 12	5	-16	947	0	0	0
275	SLE RA 13	5	-15	949	0	0	0
275	SLE RA 14	5	-18	944	0	0	0
275	SLE RA 15	5	-16	952	0	0	0
275	SLE RA 16	5	-18	941	0	0	0
275	SLE RA 17	5	-16	949	0	0	0
275	SLE RA 18	5	-18	961	0	0	0
275	SLE RA 19	5	-16	969	0	0	0
275	SLE RA 20	5	-18	966	0	0	0
275	SLE RA 21	5	-17	974	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
275	SLE FR 1	5	-16	858	0	0	0
275	SLE FR 2	5	-16	861	0	0	0
275	SLE FR 3	5	-17	860	0	0	0
275	SLE FR 4	5	-16	892	0	0	0
275	SLE FR 5	5	-17	891	0	0	0
275	SLE FR 6	5	-17	910	0	0	0
275	SLE QP 1	5	-16	858	0	0	0
275	SLE QP 2	5	-17	889	0	0	0
275	SLD 1	82	10	960	0	0	0
275	SLD 2	96	16	968	0	0	0
275	SLD 3	79	-28	714	0	0	0
275	SLD 4	93	-22	722	0	0	0
275	SLD 5	30	48	1281	0	0	0
275	SLD 6	40	52	1286	0	0	0
275	SLD 7	20	-80	463	0	0	0
275	SLD 8	30	-76	468	0	0	0
275	SLD 9	-20	42	1310	0	0	0
275	SLD 10	-10	46	1315	0	0	0
275	SLD 11	-30	-86	492	0	0	0
275	SLD 12	-20	-82	497	0	0	0
275	SLD 13	-83	-11	1056	0	0	0
275	SLD 14	-69	-5	1064	0	0	0
275	SLD 15	-86	-50	811	0	0	0
275	SLD 16	-72	-44	818	0	0	0
275	SLV 1	125	26	1007	0	0	0
275	SLV 2	148	36	1019	0	0	0
275	SLV 3	120	-36	610	0	0	0
275	SLV 4	143	-26	622	0	0	0
275	SLV 5	44	88	1524	0	0	0
275	SLV 6	60	95	1532	0	0	0
275	SLV 7	28	-119	201	0	0	0
275	SLV 8	43	-112	209	0	0	0
275	SLV 9	-33	78	1569	0	0	0
275	SLV 10	-18	85	1577	0	0	0
275	SLV 11	-50	-129	246	0	0	0
275	SLV 12	-34	-122	254	0	0	0
275	SLV 13	-133	-7	1157	0	0	0
275	SLV 14	-110	2	1168	0	0	0
275	SLV 15	-138	-69	760	0	0	0
275	SLV 16	-115	-60	771	0	0	0
275	SLV FO 1	137	30	1018	0	0	0
275	SLV FO 2	162	41	1031	0	0	0
275	SLV FO 3	132	-38	582	0	0	0
275	SLV FO 4	157	-27	595	0	0	0
275	SLV FO 5	48	99	1588	0	0	0
275	SLV FO 6	65	106	1597	0	0	0
275	SLV FO 7	30	-129	132	0	0	0
275	SLV FO 8	47	-122	141	0	0	0
275	SLV FO 9	-37	88	1637	0	0	0
275	SLV FO 10	-20	95	1646	0	0	0
275	SLV FO 11	-55	-140	182	0	0	0
275	SLV FO 12	-38	-133	190	0	0	0
275	SLV FO 13	-147	-6	1183	0	0	0
275	SLV FO 14	-122	4	1196	0	0	0
275	SLV FO 15	-152	-75	747	0	0	0
275	SLV FO 16	-127	-64	760	0	0	0
275	CRTFP Uy+	0	0	0	0	0	0
275	CRTFP Uy-	0	0	0	0	0	0
276	SLU 1	3	-13	634	0	0	0
276	SLU 2	3	-10	649	0	0	0
276	SLU 3	3	-13	645	0	0	0
276	SLU 4	3	-11	654	0	0	0
276	SLU 5	3	-10	656	0	0	0
276	SLU 6	3	-13	651	0	0	0
276	SLU 7	3	-11	660	0	0	0
276	SLU 8	3	-13	647	0	0	0
276	SLU 9	3	-11	656	0	0	0
276	SLU 10	3	-11	734	0	0	0
276	SLU 11	3	-14	729	0	0	0
276	SLU 12	3	-12	738	0	0	0
276	SLU 13	3	-11	740	0	0	0
276	SLU 14	3	-14	736	0	0	0
276	SLU 15	3	-13	745	0	0	0
276	SLU 16	3	-14	732	0	0	0
276	SLU 17	3	-13	741	0	0	0
276	SLU 18	3	-15	755	0	0	0
276	SLU 19	3	-13	764	0	0	0
276	SLU 20	3	-15	762	0	0	0
276	SLU 21	3	-13	771	0	0	0
276	SLU 22	3	-14	719	0	0	0
276	SLU 23	4	-11	734	0	0	0
276	SLU 24	3	-14	729	0	0	0
276	SLU 25	3	-13	738	0	0	0
276	SLU 26	3	-12	740	0	0	0
276	SLU 27	3	-15	736	0	0	0
276	SLU 28	3	-13	745	0	0	0
276	SLU 29	3	-15	732	0	0	0
276	SLU 30	3	-13	741	0	0	0
276	SLU 31	4	-13	819	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
276	SLU 32	3	-16	814	0	0	0
276	SLU 33	4	-14	823	0	0	0
276	SLU 34	4	-13	825	0	0	0
276	SLU 35	3	-16	820	0	0	0
276	SLU 36	3	-14	829	0	0	0
276	SLU 37	3	-16	816	0	0	0
276	SLU 38	3	-14	825	0	0	0
276	SLU 39	3	-16	840	0	0	0
276	SLU 40	4	-14	849	0	0	0
276	SLU 41	3	-16	846	0	0	0
276	SLU 42	4	-14	855	0	0	0
276	SLU 43	4	-16	796	0	0	0
276	SLU 44	4	-13	811	0	0	0
276	SLU 45	4	-16	806	0	0	0
276	SLU 46	4	-14	815	0	0	0
276	SLU 47	4	-13	817	0	0	0
276	SLU 48	4	-16	812	0	0	0
276	SLU 49	4	-15	821	0	0	0
276	SLU 50	4	-16	808	0	0	0
276	SLU 51	4	-15	817	0	0	0
276	SLU 52	4	-14	895	0	0	0
276	SLU 53	4	-17	891	0	0	0
276	SLU 54	4	-16	900	0	0	0
276	SLU 55	4	-15	902	0	0	0
276	SLU 56	4	-18	897	0	0	0
276	SLU 57	4	-16	906	0	0	0
276	SLU 58	4	-18	893	0	0	0
276	SLU 59	4	-16	902	0	0	0
276	SLU 60	4	-18	917	0	0	0
276	SLU 61	4	-16	926	0	0	0
276	SLU 62	4	-18	923	0	0	0
276	SLU 63	4	-16	932	0	0	0
276	SLU 64	4	-18	880	0	0	0
276	SLU 65	4	-15	895	0	0	0
276	SLU 66	4	-18	891	0	0	0
276	SLU 67	4	-16	900	0	0	0
276	SLU 68	4	-15	902	0	0	0
276	SLU 69	4	-18	897	0	0	0
276	SLU 70	4	-16	906	0	0	0
276	SLU 71	4	-18	893	0	0	0
276	SLU 72	4	-16	902	0	0	0
276	SLU 73	4	-16	980	0	0	0
276	SLU 74	4	-19	975	0	0	0
276	SLU 75	4	-17	984	0	0	0
276	SLU 76	4	-16	986	0	0	0
276	SLU 77	4	-19	982	0	0	0
276	SLU 78	4	-17	991	0	0	0
276	SLU 79	4	-19	978	0	0	0
276	SLU 80	4	-17	987	0	0	0
276	SLU 81	4	-19	1001	0	0	0
276	SLU 82	4	-18	1010	0	0	0
276	SLU 83	4	-19	1008	0	0	0
276	SLU 84	4	-18	1017	0	0	0
276	SLE RA 1	3	-13	659	0	0	0
276	SLE RA 2	3	-11	669	0	0	0
276	SLE RA 3	3	-13	665	0	0	0
276	SLE RA 4	3	-12	671	0	0	0
276	SLE RA 5	3	-11	673	0	0	0
276	SLE RA 6	3	-13	670	0	0	0
276	SLE RA 7	3	-12	676	0	0	0
276	SLE RA 8	3	-13	667	0	0	0
276	SLE RA 9	3	-12	673	0	0	0
276	SLE RA 10	3	-12	725	0	0	0
276	SLE RA 11	3	-14	722	0	0	0
276	SLE RA 12	3	-13	728	0	0	0
276	SLE RA 13	3	-12	729	0	0	0
276	SLE RA 14	3	-14	726	0	0	0
276	SLE RA 15	3	-13	732	0	0	0
276	SLE RA 16	3	-14	724	0	0	0
276	SLE RA 17	3	-13	730	0	0	0
276	SLE RA 18	3	-14	739	0	0	0
276	SLE RA 19	3	-13	745	0	0	0
276	SLE RA 20	3	-14	743	0	0	0
276	SLE RA 21	3	-13	749	0	0	0
276	SLE FR 1	3	-13	659	0	0	0
276	SLE FR 2	3	-13	661	0	0	0
276	SLE FR 3	3	-13	660	0	0	0
276	SLE FR 4	3	-13	685	0	0	0
276	SLE FR 5	3	-14	684	0	0	0
276	SLE FR 6	3	-14	699	0	0	0
276	SLE QP 1	3	-13	659	0	0	0
276	SLE QP 2	3	-13	683	0	0	0
276	SLD 1	62	7	762	0	0	0
276	SLD 2	74	9	766	0	0	0
276	SLD 3	60	-26	575	0	0	0
276	SLD 4	72	-24	578	0	0	0
276	SLD 5	22	42	991	0	0	0
276	SLD 6	29	44	993	0	0	0
276	SLD 7	15	-68	365	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
276	SLD 8	23	-66	367	0	0	0
276	SLD 9	-16	39	998	0	0	0
276	SLD 10	-9	41	1001	0	0	0
276	SLD 11	-23	-70	372	0	0	0
276	SLD 12	-16	-69	375	0	0	0
276	SLD 13	-66	-3	787	0	0	0
276	SLD 14	-54	-1	791	0	0	0
276	SLD 15	-68	-36	600	0	0	0
276	SLD 16	-56	-34	603	0	0	0
276	SLV 1	96	19	812	0	0	0
276	SLV 2	114	22	818	0	0	0
276	SLV 3	93	-34	509	0	0	0
276	SLV 4	111	-31	514	0	0	0
276	SLV 5	33	76	1181	0	0	0
276	SLV 6	45	79	1185	0	0	0
276	SLV 7	22	-101	169	0	0	0
276	SLV 8	34	-99	173	0	0	0
276	SLV 9	-27	72	1193	0	0	0
276	SLV 10	-15	74	1196	0	0	0
276	SLV 11	-39	-106	181	0	0	0
276	SLV 12	-27	-103	185	0	0	0
276	SLV 13	-104	4	851	0	0	0
276	SLV 14	-87	7	857	0	0	0
276	SLV 15	-108	-49	548	0	0	0
276	SLV 16	-90	-46	553	0	0	0
276	SLV FO 1	105	22	825	0	0	0
276	SLV FO 2	125	26	831	0	0	0
276	SLV FO 3	102	-36	491	0	0	0
276	SLV FO 4	121	-33	497	0	0	0
276	SLV FO 5	36	85	1231	0	0	0
276	SLV FO 6	49	88	1235	0	0	0
276	SLV FO 7	23	-110	118	0	0	0
276	SLV FO 8	37	-107	122	0	0	0
276	SLV FO 9	-30	80	1244	0	0	0
276	SLV FO 10	-17	83	1248	0	0	0
276	SLV FO 11	-43	-115	131	0	0	0
276	SLV FO 12	-30	-112	135	0	0	0
276	SLV FO 13	-115	6	868	0	0	0
276	SLV FO 14	-96	9	874	0	0	0
276	SLV FO 15	-119	-53	534	0	0	0
276	SLV FO 16	-99	-49	541	0	0	0
276	CRTFP Uy+	0	0	0	0	0	0
276	CRTFP Uy-	0	0	0	0	0	0
277	SLU 1	5	-17	868	0	0	0
277	SLU 2	5	-13	888	0	0	0
277	SLU 3	5	-17	882	0	0	0
277	SLU 4	5	-15	894	0	0	0
277	SLU 5	5	-14	897	0	0	0
277	SLU 6	5	-18	891	0	0	0
277	SLU 7	5	-15	903	0	0	0
277	SLU 8	5	-18	885	0	0	0
277	SLU 9	5	-15	897	0	0	0
277	SLU 10	5	-15	1002	0	0	0
277	SLU 11	5	-19	996	0	0	0
277	SLU 12	5	-17	1008	0	0	0
277	SLU 13	5	-15	1011	0	0	0
277	SLU 14	5	-19	1004	0	0	0
277	SLU 15	5	-17	1016	0	0	0
277	SLU 16	5	-19	999	0	0	0
277	SLU 17	5	-17	1011	0	0	0
277	SLU 18	5	-19	1030	0	0	0
277	SLU 19	5	-17	1043	0	0	0
277	SLU 20	5	-20	1039	0	0	0
277	SLU 21	5	-17	1051	0	0	0
277	SLU 22	5	-19	984	0	0	0
277	SLU 23	6	-15	1005	0	0	0
277	SLU 24	5	-19	998	0	0	0
277	SLU 25	6	-17	1010	0	0	0
277	SLU 26	6	-16	1013	0	0	0
277	SLU 27	5	-20	1007	0	0	0
277	SLU 28	6	-17	1019	0	0	0
277	SLU 29	5	-20	1001	0	0	0
277	SLU 30	5	-17	1014	0	0	0
277	SLU 31	6	-17	1118	0	0	0
277	SLU 32	6	-21	1112	0	0	0
277	SLU 33	6	-19	1124	0	0	0
277	SLU 34	6	-17	1127	0	0	0
277	SLU 35	6	-21	1120	0	0	0
277	SLU 36	6	-19	1132	0	0	0
277	SLU 37	5	-21	1115	0	0	0
277	SLU 38	6	-19	1127	0	0	0
277	SLU 39	6	-21	1146	0	0	0
277	SLU 40	6	-19	1159	0	0	0
277	SLU 41	6	-22	1155	0	0	0
277	SLU 42	6	-19	1167	0	0	0
277	SLU 43	6	-22	1089	0	0	0
277	SLU 44	6	-18	1109	0	0	0
277	SLU 45	6	-22	1103	0	0	0
277	SLU 46	6	-20	1115	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
277	SLU 47	6	-18	1118	0	0	0
277	SLU 48	6	-22	1111	0	0	0
277	SLU 49	6	-20	1124	0	0	0
277	SLU 50	6	-22	1106	0	0	0
277	SLU 51	6	-20	1118	0	0	0
277	SLU 52	6	-19	1223	0	0	0
277	SLU 53	6	-24	1216	0	0	0
277	SLU 54	6	-21	1228	0	0	0
277	SLU 55	6	-20	1231	0	0	0
277	SLU 56	6	-24	1225	0	0	0
277	SLU 57	6	-21	1237	0	0	0
277	SLU 58	6	-24	1219	0	0	0
277	SLU 59	6	-21	1232	0	0	0
277	SLU 60	6	-24	1251	0	0	0
277	SLU 61	6	-22	1263	0	0	0
277	SLU 62	6	-24	1260	0	0	0
277	SLU 63	6	-22	1272	0	0	0
277	SLU 64	7	-24	1205	0	0	0
277	SLU 65	7	-20	1225	0	0	0
277	SLU 66	7	-24	1219	0	0	0
277	SLU 67	7	-22	1231	0	0	0
277	SLU 68	7	-20	1234	0	0	0
277	SLU 69	7	-24	1227	0	0	0
277	SLU 70	7	-22	1240	0	0	0
277	SLU 71	7	-24	1222	0	0	0
277	SLU 72	7	-22	1234	0	0	0
277	SLU 73	7	-21	1339	0	0	0
277	SLU 74	7	-26	1332	0	0	0
277	SLU 75	7	-23	1344	0	0	0
277	SLU 76	7	-22	1347	0	0	0
277	SLU 77	7	-26	1341	0	0	0
277	SLU 78	7	-23	1353	0	0	0
277	SLU 79	7	-26	1335	0	0	0
277	SLU 80	7	-23	1348	0	0	0
277	SLU 81	7	-26	1367	0	0	0
277	SLU 82	7	-24	1379	0	0	0
277	SLU 83	7	-26	1376	0	0	0
277	SLU 84	7	-24	1388	0	0	0
277	SLE RA 1	5	-18	901	0	0	0
277	SLE RA 2	5	-15	915	0	0	0
277	SLE RA 3	5	-18	911	0	0	0
277	SLE RA 4	5	-16	919	0	0	0
277	SLE RA 5	5	-15	921	0	0	0
277	SLE RA 6	5	-18	916	0	0	0
277	SLE RA 7	5	-17	924	0	0	0
277	SLE RA 8	5	-18	913	0	0	0
277	SLE RA 9	5	-16	921	0	0	0
277	SLE RA 10	5	-16	991	0	0	0
277	SLE RA 11	5	-19	986	0	0	0
277	SLE RA 12	5	-18	994	0	0	0
277	SLE RA 13	5	-16	996	0	0	0
277	SLE RA 14	5	-19	992	0	0	0
277	SLE RA 15	5	-18	1000	0	0	0
277	SLE RA 16	5	-19	988	0	0	0
277	SLE RA 17	5	-18	997	0	0	0
277	SLE RA 18	5	-19	1009	0	0	0
277	SLE RA 19	5	-18	1018	0	0	0
277	SLE RA 20	5	-19	1015	0	0	0
277	SLE RA 21	5	-18	1023	0	0	0
277	SLE FR 1	5	-18	901	0	0	0
277	SLE FR 2	5	-17	904	0	0	0
277	SLE FR 3	5	-18	904	0	0	0
277	SLE FR 4	5	-18	936	0	0	0
277	SLE FR 5	5	-18	936	0	0	0
277	SLE FR 6	5	-18	955	0	0	0
277	SLE QP 1	5	-18	901	0	0	0
277	SLE QP 2	5	-18	934	0	0	0
277	SLD 1	87	11	1016	0	0	0
277	SLD 2	102	16	1023	0	0	0
277	SLD 3	84	-31	759	0	0	0
277	SLD 4	99	-26	766	0	0	0
277	SLD 5	31	53	1346	0	0	0
277	SLD 6	42	56	1351	0	0	0
277	SLD 7	21	-86	490	0	0	0
277	SLD 8	31	-83	495	0	0	0
277	SLD 9	-21	46	1372	0	0	0
277	SLD 10	-11	50	1377	0	0	0
277	SLD 11	-32	-93	516	0	0	0
277	SLD 12	-21	-89	521	0	0	0
277	SLD 13	-89	-11	1101	0	0	0
277	SLD 14	-74	-5	1109	0	0	0
277	SLD 15	-92	-53	845	0	0	0
277	SLD 16	-77	-47	852	0	0	0
277	SLV 1	133	28	1069	0	0	0
277	SLV 2	158	37	1080	0	0	0
277	SLV 3	128	-40	654	0	0	0
277	SLV 4	152	-31	665	0	0	0
277	SLV 5	47	96	1602	0	0	0
277	SLV 6	63	102	1609	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
277	SLV 7	29	-129	218	0	0	0
277	SLV 8	46	-123	226	0	0	0
277	SLV 9	-36	86	1642	0	0	0
277	SLV 10	-19	92	1650	0	0	0
277	SLV 11	-53	-139	258	0	0	0
277	SLV 12	-37	-133	266	0	0	0
277	SLV 13	-142	-6	1202	0	0	0
277	SLV 14	-118	3	1214	0	0	0
277	SLV 15	-148	-73	787	0	0	0
277	SLV 16	-123	-64	799	0	0	0
277	SLV FO 1	146	32	1082	0	0	0
277	SLV FO 2	173	42	1095	0	0	0
277	SLV FO 3	140	-42	626	0	0	0
277	SLV FO 4	167	-32	638	0	0	0
277	SLV FO 5	51	108	1668	0	0	0
277	SLV FO 6	69	114	1677	0	0	0
277	SLV FO 7	32	-140	146	0	0	0
277	SLV FO 8	50	-133	155	0	0	0
277	SLV FO 9	-40	97	1713	0	0	0
277	SLV FO 10	-22	103	1721	0	0	0
277	SLV FO 11	-59	-151	190	0	0	0
277	SLV FO 12	-41	-144	199	0	0	0
277	SLV FO 13	-157	-4	1229	0	0	0
277	SLV FO 14	-130	6	1242	0	0	0
277	SLV FO 15	-163	-79	773	0	0	0
277	SLV FO 16	-136	-69	785	0	0	0
277	CRTFP Uy+	0	0	0	0	0	0
277	CRTFP Uy-	0	0	0	0	0	0
278	SLU 1	4	-16	795	0	0	0
278	SLU 2	4	-12	814	0	0	0
278	SLU 3	4	-16	808	0	0	0
278	SLU 4	4	-14	819	0	0	0
278	SLU 5	4	-13	822	0	0	0
278	SLU 6	4	-16	816	0	0	0
278	SLU 7	4	-14	827	0	0	0
278	SLU 8	4	-16	811	0	0	0
278	SLU 9	4	-14	822	0	0	0
278	SLU 10	5	-14	918	0	0	0
278	SLU 11	4	-18	913	0	0	0
278	SLU 12	4	-16	924	0	0	0
278	SLU 13	4	-14	926	0	0	0
278	SLU 14	4	-18	921	0	0	0
278	SLU 15	4	-16	932	0	0	0
278	SLU 16	4	-18	916	0	0	0
278	SLU 17	4	-16	927	0	0	0
278	SLU 18	4	-18	945	0	0	0
278	SLU 19	4	-16	956	0	0	0
278	SLU 20	4	-18	952	0	0	0
278	SLU 21	4	-16	964	0	0	0
278	SLU 22	5	-18	901	0	0	0
278	SLU 23	5	-14	920	0	0	0
278	SLU 24	5	-18	914	0	0	0
278	SLU 25	5	-16	925	0	0	0
278	SLU 26	5	-14	928	0	0	0
278	SLU 27	5	-18	922	0	0	0
278	SLU 28	5	-16	933	0	0	0
278	SLU 29	5	-18	917	0	0	0
278	SLU 30	5	-16	928	0	0	0
278	SLU 31	5	-16	1025	0	0	0
278	SLU 32	5	-20	1019	0	0	0
278	SLU 33	5	-18	1030	0	0	0
278	SLU 34	5	-16	1032	0	0	0
278	SLU 35	5	-20	1027	0	0	0
278	SLU 36	5	-18	1038	0	0	0
278	SLU 37	5	-20	1022	0	0	0
278	SLU 38	5	-18	1033	0	0	0
278	SLU 39	5	-20	1051	0	0	0
278	SLU 40	5	-18	1062	0	0	0
278	SLU 41	5	-20	1059	0	0	0
278	SLU 42	5	-18	1070	0	0	0
278	SLU 43	5	-20	998	0	0	0
278	SLU 44	6	-17	1016	0	0	0
278	SLU 45	5	-20	1010	0	0	0
278	SLU 46	5	-18	1022	0	0	0
278	SLU 47	5	-17	1024	0	0	0
278	SLU 48	5	-21	1018	0	0	0
278	SLU 49	5	-18	1029	0	0	0
278	SLU 50	5	-20	1013	0	0	0
278	SLU 51	5	-18	1025	0	0	0
278	SLU 52	6	-18	1121	0	0	0
278	SLU 53	5	-22	1115	0	0	0
278	SLU 54	6	-20	1126	0	0	0
278	SLU 55	6	-18	1129	0	0	0
278	SLU 56	5	-22	1123	0	0	0
278	SLU 57	5	-20	1134	0	0	0
278	SLU 58	5	-22	1118	0	0	0
278	SLU 59	5	-20	1129	0	0	0
278	SLU 60	5	-22	1147	0	0	0
278	SLU 61	6	-20	1158	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLU 62	5	-22	1155	0	0	0
278	SLU 63	6	-20	1166	0	0	0
278	SLU 64	6	-22	1104	0	0	0
278	SLU 65	6	-18	1122	0	0	0
278	SLU 66	6	-22	1117	0	0	0
278	SLU 67	6	-20	1128	0	0	0
278	SLU 68	6	-19	1130	0	0	0
278	SLU 69	6	-22	1124	0	0	0
278	SLU 70	6	-20	1136	0	0	0
278	SLU 71	6	-22	1119	0	0	0
278	SLU 72	6	-20	1131	0	0	0
278	SLU 73	6	-20	1227	0	0	0
278	SLU 74	6	-24	1221	0	0	0
278	SLU 75	6	-22	1232	0	0	0
278	SLU 76	6	-20	1235	0	0	0
278	SLU 77	6	-24	1229	0	0	0
278	SLU 78	6	-22	1240	0	0	0
278	SLU 79	6	-24	1224	0	0	0
278	SLU 80	6	-22	1235	0	0	0
278	SLU 81	6	-24	1253	0	0	0
278	SLU 82	6	-22	1264	0	0	0
278	SLU 83	6	-24	1261	0	0	0
278	SLU 84	6	-22	1272	0	0	0
278	SLE RA 1	4	-16	826	0	0	0
278	SLE RA 2	5	-14	838	0	0	0
278	SLE RA 3	4	-17	834	0	0	0
278	SLE RA 4	4	-15	842	0	0	0
278	SLE RA 5	4	-14	843	0	0	0
278	SLE RA 6	4	-17	839	0	0	0
278	SLE RA 7	4	-15	847	0	0	0
278	SLE RA 8	4	-17	836	0	0	0
278	SLE RA 9	4	-15	844	0	0	0
278	SLE RA 10	5	-15	908	0	0	0
278	SLE RA 11	4	-18	904	0	0	0
278	SLE RA 12	5	-16	911	0	0	0
278	SLE RA 13	5	-15	913	0	0	0
278	SLE RA 14	4	-18	909	0	0	0
278	SLE RA 15	4	-16	917	0	0	0
278	SLE RA 16	4	-18	906	0	0	0
278	SLE RA 17	4	-16	913	0	0	0
278	SLE RA 18	4	-18	925	0	0	0
278	SLE RA 19	5	-17	933	0	0	0
278	SLE RA 20	4	-18	930	0	0	0
278	SLE RA 21	5	-17	938	0	0	0
278	SLE FR 1	4	-16	826	0	0	0
278	SLE FR 2	4	-16	828	0	0	0
278	SLE FR 3	4	-17	828	0	0	0
278	SLE FR 4	4	-16	858	0	0	0
278	SLE FR 5	4	-17	858	0	0	0
278	SLE FR 6	4	-17	875	0	0	0
278	SLE QP 1	4	-16	826	0	0	0
278	SLE QP 2	4	-17	856	0	0	0
278	SLD 1	80	10	937	0	0	0
278	SLD 2	94	14	943	0	0	0
278	SLD 3	77	-30	703	0	0	0
278	SLD 4	92	-25	709	0	0	0
278	SLD 5	29	50	1234	0	0	0
278	SLD 6	38	53	1238	0	0	0
278	SLD 7	19	-81	453	0	0	0
278	SLD 8	29	-78	457	0	0	0
278	SLD 9	-20	45	1254	0	0	0
278	SLD 10	-11	48	1258	0	0	0
278	SLD 11	-29	-87	473	0	0	0
278	SLD 12	-20	-84	477	0	0	0
278	SLD 13	-83	-9	1002	0	0	0
278	SLD 14	-68	-4	1008	0	0	0
278	SLD 15	-86	-48	768	0	0	0
278	SLD 16	-71	-43	774	0	0	0
278	SLV 1	123	25	990	0	0	0
278	SLV 2	145	33	999	0	0	0
278	SLV 3	118	-38	611	0	0	0
278	SLV 4	141	-31	621	0	0	0
278	SLV 5	43	91	1468	0	0	0
278	SLV 6	58	96	1475	0	0	0
278	SLV 7	27	-121	206	0	0	0
278	SLV 8	42	-116	212	0	0	0
278	SLV 9	-34	83	1499	0	0	0
278	SLV 10	-18	87	1505	0	0	0
278	SLV 11	-49	-130	236	0	0	0
278	SLV 12	-34	-125	243	0	0	0
278	SLV 13	-132	-3	1091	0	0	0
278	SLV 14	-109	4	1100	0	0	0
278	SLV 15	-137	-66	712	0	0	0
278	SLV 16	-114	-59	721	0	0	0
278	SLV FO 1	135	30	1003	0	0	0
278	SLV FO 2	160	38	1014	0	0	0
278	SLV FO 3	129	-40	586	0	0	0
278	SLV FO 4	154	-33	597	0	0	0
278	SLV FO 5	47	102	1530	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
278	SLV FO 6	63	107	1537	0	0	0
278	SLV FO 7	29	-132	141	0	0	0
278	SLV FO 8	46	-126	148	0	0	0
278	SLV FO 9	-37	93	1563	0	0	0
278	SLV FO 10	-21	98	1570	0	0	0
278	SLV FO 11	-55	-141	174	0	0	0
278	SLV FO 12	-38	-136	181	0	0	0
278	SLV FO 13	-146	-1	1114	0	0	0
278	SLV FO 14	-121	7	1125	0	0	0
278	SLV FO 15	-151	-71	697	0	0	0
278	SLV FO 16	-126	-63	708	0	0	0
278	CRTFP Uy+	0	0	0	0	0	0
278	CRTFP Uy-	0	0	0	0	0	0
279	SLU 1	4	-11	601	0	0	0
279	SLU 2	4	-9	615	0	0	0
279	SLU 3	4	-12	611	0	0	0
279	SLU 4	4	-10	619	0	0	0
279	SLU 5	4	-9	621	0	0	0
279	SLU 6	4	-12	617	0	0	0
279	SLU 7	4	-10	625	0	0	0
279	SLU 8	4	-12	613	0	0	0
279	SLU 9	4	-10	622	0	0	0
279	SLU 10	4	-10	694	0	0	0
279	SLU 11	4	-13	689	0	0	0
279	SLU 12	4	-11	698	0	0	0
279	SLU 13	4	-10	700	0	0	0
279	SLU 14	4	-13	695	0	0	0
279	SLU 15	4	-11	704	0	0	0
279	SLU 16	4	-13	692	0	0	0
279	SLU 17	4	-11	700	0	0	0
279	SLU 18	4	-13	713	0	0	0
279	SLU 19	4	-11	722	0	0	0
279	SLU 20	4	-13	719	0	0	0
279	SLU 21	4	-11	728	0	0	0
279	SLU 22	4	-13	682	0	0	0
279	SLU 23	4	-10	696	0	0	0
279	SLU 24	4	-13	692	0	0	0
279	SLU 25	4	-11	700	0	0	0
279	SLU 26	4	-10	702	0	0	0
279	SLU 27	4	-13	698	0	0	0
279	SLU 28	4	-11	706	0	0	0
279	SLU 29	4	-13	694	0	0	0
279	SLU 30	4	-11	703	0	0	0
279	SLU 31	4	-11	775	0	0	0
279	SLU 32	4	-14	770	0	0	0
279	SLU 33	4	-12	779	0	0	0
279	SLU 34	4	-11	781	0	0	0
279	SLU 35	4	-14	776	0	0	0
279	SLU 36	4	-13	785	0	0	0
279	SLU 37	4	-14	773	0	0	0
279	SLU 38	4	-12	781	0	0	0
279	SLU 39	4	-14	794	0	0	0
279	SLU 40	4	-13	803	0	0	0
279	SLU 41	4	-14	800	0	0	0
279	SLU 42	4	-13	809	0	0	0
279	SLU 43	5	-14	754	0	0	0
279	SLU 44	5	-12	768	0	0	0
279	SLU 45	5	-15	764	0	0	0
279	SLU 46	5	-13	772	0	0	0
279	SLU 47	5	-12	774	0	0	0
279	SLU 48	5	-15	770	0	0	0
279	SLU 49	5	-13	778	0	0	0
279	SLU 50	5	-15	766	0	0	0
279	SLU 51	5	-13	774	0	0	0
279	SLU 52	5	-13	846	0	0	0
279	SLU 53	5	-16	842	0	0	0
279	SLU 54	5	-14	850	0	0	0
279	SLU 55	5	-13	852	0	0	0
279	SLU 56	5	-16	848	0	0	0
279	SLU 57	5	-14	856	0	0	0
279	SLU 58	5	-16	844	0	0	0
279	SLU 59	5	-14	853	0	0	0
279	SLU 60	5	-16	866	0	0	0
279	SLU 61	5	-14	874	0	0	0
279	SLU 62	5	-16	872	0	0	0
279	SLU 63	5	-14	880	0	0	0
279	SLU 64	5	-16	835	0	0	0
279	SLU 65	5	-13	849	0	0	0
279	SLU 66	5	-16	845	0	0	0
279	SLU 67	5	-14	853	0	0	0
279	SLU 68	5	-13	855	0	0	0
279	SLU 69	5	-16	851	0	0	0
279	SLU 70	5	-14	859	0	0	0
279	SLU 71	5	-16	847	0	0	0
279	SLU 72	5	-14	855	0	0	0
279	SLU 73	5	-14	927	0	0	0
279	SLU 74	5	-17	923	0	0	0
279	SLU 75	5	-15	931	0	0	0
279	SLU 76	5	-14	933	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLU 77	5	-17	929	0	0	0
279	SLU 78	5	-16	937	0	0	0
279	SLU 79	5	-17	925	0	0	0
279	SLU 80	5	-15	934	0	0	0
279	SLU 81	5	-17	947	0	0	0
279	SLU 82	5	-16	955	0	0	0
279	SLU 83	5	-17	953	0	0	0
279	SLU 84	5	-16	961	0	0	0
279	SLE RA 1	4	-12	624	0	0	0
279	SLE RA 2	4	-10	634	0	0	0
279	SLE RA 3	4	-12	631	0	0	0
279	SLE RA 4	4	-11	637	0	0	0
279	SLE RA 5	4	-10	638	0	0	0
279	SLE RA 6	4	-12	635	0	0	0
279	SLE RA 7	4	-11	641	0	0	0
279	SLE RA 8	4	-12	632	0	0	0
279	SLE RA 9	4	-11	638	0	0	0
279	SLE RA 10	4	-11	686	0	0	0
279	SLE RA 11	4	-13	683	0	0	0
279	SLE RA 12	4	-12	689	0	0	0
279	SLE RA 13	4	-11	690	0	0	0
279	SLE RA 14	4	-13	687	0	0	0
279	SLE RA 15	4	-12	693	0	0	0
279	SLE RA 16	4	-13	685	0	0	0
279	SLE RA 17	4	-12	690	0	0	0
279	SLE RA 18	4	-13	699	0	0	0
279	SLE RA 19	4	-12	705	0	0	0
279	SLE RA 20	4	-13	703	0	0	0
279	SLE RA 21	4	-12	709	0	0	0
279	SLE FR 1	4	-12	624	0	0	0
279	SLE FR 2	4	-11	626	0	0	0
279	SLE FR 3	4	-12	626	0	0	0
279	SLE FR 4	4	-12	649	0	0	0
279	SLE FR 5	4	-12	648	0	0	0
279	SLE FR 6	4	-12	662	0	0	0
279	SLE QP 1	4	-12	624	0	0	0
279	SLE QP 2	4	-12	647	0	0	0
279	SLD 1	59	7	694	0	0	0
279	SLD 2	69	12	699	0	0	0
279	SLD 3	57	-20	516	0	0	0
279	SLD 4	67	-15	522	0	0	0
279	SLD 5	22	34	929	0	0	0
279	SLD 6	29	37	933	0	0	0
279	SLD 7	14	-56	338	0	0	0
279	SLD 8	21	-53	342	0	0	0
279	SLD 9	-14	29	952	0	0	0
279	SLD 10	-7	32	956	0	0	0
279	SLD 11	-21	-61	361	0	0	0
279	SLD 12	-14	-58	365	0	0	0
279	SLD 13	-59	-9	772	0	0	0
279	SLD 14	-49	-4	777	0	0	0
279	SLD 15	-62	-36	594	0	0	0
279	SLD 16	-51	-31	600	0	0	0
279	SLV 1	90	19	725	0	0	0
279	SLV 2	106	26	734	0	0	0
279	SLV 3	86	-25	438	0	0	0
279	SLV 4	103	-18	447	0	0	0
279	SLV 5	32	63	1103	0	0	0
279	SLV 6	43	68	1109	0	0	0
279	SLV 7	20	-84	148	0	0	0
279	SLV 8	31	-79	154	0	0	0
279	SLV 9	-23	55	1140	0	0	0
279	SLV 10	-12	60	1146	0	0	0
279	SLV 11	-36	-92	184	0	0	0
279	SLV 12	-25	-87	190	0	0	0
279	SLV 13	-95	-6	846	0	0	0
279	SLV 14	-79	1	855	0	0	0
279	SLV 15	-99	-50	560	0	0	0
279	SLV 16	-82	-43	569	0	0	0
279	SLV FO 1	99	22	733	0	0	0
279	SLV FO 2	117	30	743	0	0	0
279	SLV FO 3	94	-26	417	0	0	0
279	SLV FO 4	113	-18	427	0	0	0
279	SLV FO 5	35	70	1149	0	0	0
279	SLV FO 6	47	75	1156	0	0	0
279	SLV FO 7	21	-91	98	0	0	0
279	SLV FO 8	34	-86	105	0	0	0
279	SLV FO 9	-26	62	1189	0	0	0
279	SLV FO 10	-14	67	1196	0	0	0
279	SLV FO 11	-40	-100	138	0	0	0
279	SLV FO 12	-28	-94	145	0	0	0
279	SLV FO 13	-105	-6	866	0	0	0
279	SLV FO 14	-87	2	876	0	0	0
279	SLV FO 15	-109	-54	551	0	0	0
279	SLV FO 16	-91	-46	561	0	0	0
279	CRTFP Uy+	0	0	0	0	0	0
279	CRTFP Uy-	0	0	0	0	0	0
280	SLU 1	3	-14	701	0	0	0
280	SLU 2	4	-11	717	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLU 3	3	-14	712	0	0	0
280	SLU 4	4	-12	722	0	0	0
280	SLU 5	4	-11	724	0	0	0
280	SLU 6	3	-15	719	0	0	0
280	SLU 7	3	-13	729	0	0	0
280	SLU 8	3	-14	715	0	0	0
280	SLU 9	3	-12	724	0	0	0
280	SLU 10	4	-12	810	0	0	0
280	SLU 11	3	-16	805	0	0	0
280	SLU 12	4	-14	815	0	0	0
280	SLU 13	4	-12	817	0	0	0
280	SLU 14	3	-16	812	0	0	0
280	SLU 15	4	-14	822	0	0	0
280	SLU 16	3	-16	808	0	0	0
280	SLU 17	4	-14	818	0	0	0
280	SLU 18	4	-16	834	0	0	0
280	SLU 19	4	-14	843	0	0	0
280	SLU 20	3	-16	841	0	0	0
280	SLU 21	4	-14	850	0	0	0
280	SLU 22	4	-16	794	0	0	0
280	SLU 23	4	-13	810	0	0	0
280	SLU 24	4	-16	805	0	0	0
280	SLU 25	4	-14	815	0	0	0
280	SLU 26	4	-13	817	0	0	0
280	SLU 27	4	-16	812	0	0	0
280	SLU 28	4	-14	822	0	0	0
280	SLU 29	4	-16	808	0	0	0
280	SLU 30	4	-14	818	0	0	0
280	SLU 31	4	-14	904	0	0	0
280	SLU 32	4	-17	898	0	0	0
280	SLU 33	4	-16	908	0	0	0
280	SLU 34	4	-14	911	0	0	0
280	SLU 35	4	-18	905	0	0	0
280	SLU 36	4	-16	915	0	0	0
280	SLU 37	4	-18	901	0	0	0
280	SLU 38	4	-16	911	0	0	0
280	SLU 39	4	-18	927	0	0	0
280	SLU 40	4	-16	937	0	0	0
280	SLU 41	4	-18	934	0	0	0
280	SLU 42	4	-16	944	0	0	0
280	SLU 43	4	-18	879	0	0	0
280	SLU 44	4	-15	895	0	0	0
280	SLU 45	4	-18	890	0	0	0
280	SLU 46	4	-16	900	0	0	0
280	SLU 47	4	-15	902	0	0	0
280	SLU 48	4	-18	897	0	0	0
280	SLU 49	4	-16	907	0	0	0
280	SLU 50	4	-18	893	0	0	0
280	SLU 51	4	-16	903	0	0	0
280	SLU 52	5	-16	988	0	0	0
280	SLU 53	4	-19	983	0	0	0
280	SLU 54	4	-17	993	0	0	0
280	SLU 55	4	-16	995	0	0	0
280	SLU 56	4	-20	990	0	0	0
280	SLU 57	4	-18	1000	0	0	0
280	SLU 58	4	-19	986	0	0	0
280	SLU 59	4	-18	996	0	0	0
280	SLU 60	4	-20	1012	0	0	0
280	SLU 61	4	-18	1022	0	0	0
280	SLU 62	4	-20	1019	0	0	0
280	SLU 63	4	-18	1029	0	0	0
280	SLU 64	5	-19	972	0	0	0
280	SLU 65	5	-16	989	0	0	0
280	SLU 66	5	-20	984	0	0	0
280	SLU 67	5	-18	993	0	0	0
280	SLU 68	5	-16	996	0	0	0
280	SLU 69	5	-20	991	0	0	0
280	SLU 70	5	-18	1000	0	0	0
280	SLU 71	5	-20	986	0	0	0
280	SLU 72	5	-18	996	0	0	0
280	SLU 73	5	-18	1082	0	0	0
280	SLU 74	5	-21	1077	0	0	0
280	SLU 75	5	-19	1086	0	0	0
280	SLU 76	5	-18	1089	0	0	0
280	SLU 77	5	-21	1084	0	0	0
280	SLU 78	5	-19	1093	0	0	0
280	SLU 79	5	-21	1079	0	0	0
280	SLU 80	5	-19	1089	0	0	0
280	SLU 81	5	-21	1105	0	0	0
280	SLU 82	5	-20	1115	0	0	0
280	SLU 83	5	-22	1112	0	0	0
280	SLU 84	5	-20	1122	0	0	0
280	SLE RA 1	4	-15	727	0	0	0
280	SLE RA 2	4	-12	738	0	0	0
280	SLE RA 3	4	-15	735	0	0	0
280	SLE RA 4	4	-13	741	0	0	0
280	SLE RA 5	4	-13	743	0	0	0
280	SLE RA 6	4	-15	740	0	0	0
280	SLE RA 7	4	-14	746	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
280	SLE RA 8	3	-15	737	0	0	0
280	SLE RA 9	4	-14	743	0	0	0
280	SLE RA 10	4	-13	800	0	0	0
280	SLE RA 11	4	-16	797	0	0	0
280	SLE RA 12	4	-14	804	0	0	0
280	SLE RA 13	4	-13	805	0	0	0
280	SLE RA 14	4	-16	802	0	0	0
280	SLE RA 15	4	-15	808	0	0	0
280	SLE RA 16	4	-16	799	0	0	0
280	SLE RA 17	4	-14	805	0	0	0
280	SLE RA 18	4	-16	816	0	0	0
280	SLE RA 19	4	-15	823	0	0	0
280	SLE RA 20	4	-16	821	0	0	0
280	SLE RA 21	4	-15	827	0	0	0
280	SLE FR 1	4	-15	727	0	0	0
280	SLE FR 2	4	-14	730	0	0	0
280	SLE FR 3	4	-15	729	0	0	0
280	SLE FR 4	4	-15	756	0	0	0
280	SLE FR 5	4	-15	756	0	0	0
280	SLE FR 6	4	-15	772	0	0	0
280	SLE QP 1	4	-15	727	0	0	0
280	SLE QP 2	4	-15	754	0	0	0
280	SLD 1	70	8	837	0	0	0
280	SLD 2	82	11	841	0	0	0
280	SLD 3	67	-28	631	0	0	0
280	SLD 4	80	-25	635	0	0	0
280	SLD 5	25	46	1091	0	0	0
280	SLD 6	33	48	1094	0	0	0
280	SLD 7	17	-74	404	0	0	0
280	SLD 8	25	-72	406	0	0	0
280	SLD 9	-18	42	1101	0	0	0
280	SLD 10	-10	44	1104	0	0	0
280	SLD 11	-26	-78	414	0	0	0
280	SLD 12	-18	-76	417	0	0	0
280	SLD 13	-73	-5	873	0	0	0
280	SLD 14	-60	-2	877	0	0	0
280	SLD 15	-75	-41	666	0	0	0
280	SLD 16	-63	-38	671	0	0	0
280	SLV 1	107	22	889	0	0	0
280	SLV 2	127	26	896	0	0	0
280	SLV 3	103	-37	556	0	0	0
280	SLV 4	123	-32	563	0	0	0
280	SLV 5	37	84	1299	0	0	0
280	SLV 6	50	87	1303	0	0	0
280	SLV 7	24	-111	188	0	0	0
280	SLV 8	37	-108	192	0	0	0
280	SLV 9	-30	78	1315	0	0	0
280	SLV 10	-17	81	1320	0	0	0
280	SLV 11	-43	-116	204	0	0	0
280	SLV 12	-30	-113	209	0	0	0
280	SLV 13	-116	2	945	0	0	0
280	SLV 14	-96	7	952	0	0	0
280	SLV 15	-120	-56	612	0	0	0
280	SLV 16	-100	-52	618	0	0	0
280	SLV FO 1	118	25	903	0	0	0
280	SLV FO 2	139	30	910	0	0	0
280	SLV FO 3	113	-39	536	0	0	0
280	SLV FO 4	135	-34	544	0	0	0
280	SLV FO 5	40	93	1353	0	0	0
280	SLV FO 6	55	97	1358	0	0	0
280	SLV FO 7	26	-120	131	0	0	0
280	SLV FO 8	41	-117	136	0	0	0
280	SLV FO 9	-33	87	1372	0	0	0
280	SLV FO 10	-19	90	1377	0	0	0
280	SLV FO 11	-48	-127	149	0	0	0
280	SLV FO 12	-33	-123	155	0	0	0
280	SLV FO 13	-128	4	964	0	0	0
280	SLV FO 14	-106	9	972	0	0	0
280	SLV FO 15	-132	-60	597	0	0	0
280	SLV FO 16	-110	-55	605	0	0	0
280	CRTFP Uy+	0	0	0	0	0	0
280	CRTFP Uy-	0	0	0	0	0	0
281	SLU 1	4	-15	745	0	0	0
281	SLU 2	4	-12	763	0	0	0
281	SLU 3	4	-15	757	0	0	0
281	SLU 4	4	-13	768	0	0	0
281	SLU 5	4	-12	770	0	0	0
281	SLU 6	4	-15	765	0	0	0
281	SLU 7	4	-13	775	0	0	0
281	SLU 8	4	-15	760	0	0	0
281	SLU 9	4	-13	770	0	0	0
281	SLU 10	4	-13	861	0	0	0
281	SLU 11	4	-17	856	0	0	0
281	SLU 12	4	-15	866	0	0	0
281	SLU 13	4	-13	868	0	0	0
281	SLU 14	4	-17	863	0	0	0
281	SLU 15	4	-15	873	0	0	0
281	SLU 16	4	-17	858	0	0	0
281	SLU 17	4	-15	869	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLU 18	4	-17	886	0	0	0
281	SLU 19	4	-15	896	0	0	0
281	SLU 20	4	-17	893	0	0	0
281	SLU 21	4	-15	904	0	0	0
281	SLU 22	4	-17	845	0	0	0
281	SLU 23	4	-13	862	0	0	0
281	SLU 24	4	-17	857	0	0	0
281	SLU 25	4	-15	867	0	0	0
281	SLU 26	4	-14	869	0	0	0
281	SLU 27	4	-17	864	0	0	0
281	SLU 28	4	-15	874	0	0	0
281	SLU 29	4	-17	859	0	0	0
281	SLU 30	4	-15	870	0	0	0
281	SLU 31	5	-15	960	0	0	0
281	SLU 32	4	-19	955	0	0	0
281	SLU 33	4	-17	965	0	0	0
281	SLU 34	5	-15	968	0	0	0
281	SLU 35	4	-19	962	0	0	0
281	SLU 36	4	-17	973	0	0	0
281	SLU 37	4	-19	958	0	0	0
281	SLU 38	4	-17	968	0	0	0
281	SLU 39	4	-19	985	0	0	0
281	SLU 40	4	-17	996	0	0	0
281	SLU 41	4	-19	992	0	0	0
281	SLU 42	4	-17	1003	0	0	0
281	SLU 43	5	-19	935	0	0	0
281	SLU 44	5	-16	952	0	0	0
281	SLU 45	5	-19	947	0	0	0
281	SLU 46	5	-17	957	0	0	0
281	SLU 47	5	-16	960	0	0	0
281	SLU 48	5	-19	954	0	0	0
281	SLU 49	5	-17	965	0	0	0
281	SLU 50	5	-19	949	0	0	0
281	SLU 51	5	-17	960	0	0	0
281	SLU 52	5	-17	1051	0	0	0
281	SLU 53	5	-21	1045	0	0	0
281	SLU 54	5	-19	1056	0	0	0
281	SLU 55	5	-17	1058	0	0	0
281	SLU 56	5	-21	1053	0	0	0
281	SLU 57	5	-19	1063	0	0	0
281	SLU 58	5	-21	1048	0	0	0
281	SLU 59	5	-19	1058	0	0	0
281	SLU 60	5	-21	1075	0	0	0
281	SLU 61	5	-19	1086	0	0	0
281	SLU 62	5	-21	1083	0	0	0
281	SLU 63	5	-19	1093	0	0	0
281	SLU 64	5	-21	1034	0	0	0
281	SLU 65	5	-17	1051	0	0	0
281	SLU 66	5	-21	1046	0	0	0
281	SLU 67	5	-19	1057	0	0	0
281	SLU 68	5	-18	1059	0	0	0
281	SLU 69	5	-21	1053	0	0	0
281	SLU 70	5	-19	1064	0	0	0
281	SLU 71	5	-21	1049	0	0	0
281	SLU 72	5	-19	1059	0	0	0
281	SLU 73	6	-19	1150	0	0	0
281	SLU 74	5	-22	1144	0	0	0
281	SLU 75	5	-20	1155	0	0	0
281	SLU 76	5	-19	1157	0	0	0
281	SLU 77	5	-23	1152	0	0	0
281	SLU 78	5	-21	1162	0	0	0
281	SLU 79	5	-23	1147	0	0	0
281	SLU 80	5	-21	1158	0	0	0
281	SLU 81	5	-23	1175	0	0	0
281	SLU 82	5	-21	1185	0	0	0
281	SLU 83	5	-23	1182	0	0	0
281	SLU 84	5	-21	1192	0	0	0
281	SLE RA 1	4	-16	774	0	0	0
281	SLE RA 2	4	-13	785	0	0	0
281	SLE RA 3	4	-16	782	0	0	0
281	SLE RA 4	4	-14	789	0	0	0
281	SLE RA 5	4	-13	790	0	0	0
281	SLE RA 6	4	-16	787	0	0	0
281	SLE RA 7	4	-14	793	0	0	0
281	SLE RA 8	4	-16	783	0	0	0
281	SLE RA 9	4	-14	790	0	0	0
281	SLE RA 10	4	-14	851	0	0	0
281	SLE RA 11	4	-17	847	0	0	0
281	SLE RA 12	4	-15	854	0	0	0
281	SLE RA 13	4	-14	856	0	0	0
281	SLE RA 14	4	-17	852	0	0	0
281	SLE RA 15	4	-15	859	0	0	0
281	SLE RA 16	4	-17	849	0	0	0
281	SLE RA 17	4	-15	856	0	0	0
281	SLE RA 18	4	-17	867	0	0	0
281	SLE RA 19	4	-16	874	0	0	0
281	SLE RA 20	4	-17	872	0	0	0
281	SLE RA 21	4	-16	879	0	0	0
281	SLE FR 1	4	-16	774	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLE FR 2	4	-15	776	0	0	0
281	SLE FR 3	4	-16	776	0	0	0
281	SLE FR 4	4	-15	804	0	0	0
281	SLE FR 5	4	-16	804	0	0	0
281	SLE FR 6	4	-16	820	0	0	0
281	SLE QP 1	4	-16	774	0	0	0
281	SLE QP 2	4	-16	802	0	0	0
281	SLD 1	75	9	884	0	0	0
281	SLD 2	88	12	890	0	0	0
281	SLD 3	72	-29	665	0	0	0
281	SLD 4	86	-25	671	0	0	0
281	SLD 5	27	48	1158	0	0	0
281	SLD 6	36	50	1161	0	0	0
281	SLD 7	18	-78	428	0	0	0
281	SLD 8	27	-75	431	0	0	0
281	SLD 9	-19	43	1172	0	0	0
281	SLD 10	-10	46	1176	0	0	0
281	SLD 11	-28	-82	442	0	0	0
281	SLD 12	-19	-80	446	0	0	0
281	SLD 13	-78	-6	933	0	0	0
281	SLD 14	-64	-3	938	0	0	0
281	SLD 15	-80	-44	714	0	0	0
281	SLD 16	-67	-41	719	0	0	0
281	SLV 1	115	24	937	0	0	0
281	SLV 2	136	29	945	0	0	0
281	SLV 3	111	-37	583	0	0	0
281	SLV 4	132	-32	591	0	0	0
281	SLV 5	40	87	1378	0	0	0
281	SLV 6	54	91	1383	0	0	0
281	SLV 7	25	-116	198	0	0	0
281	SLV 8	40	-112	203	0	0	0
281	SLV 9	-32	80	1400	0	0	0
281	SLV 10	-18	84	1406	0	0	0
281	SLV 11	-46	-123	220	0	0	0
281	SLV 12	-32	-119	226	0	0	0
281	SLV 13	-124	0	1012	0	0	0
281	SLV 14	-103	6	1020	0	0	0
281	SLV 15	-128	-61	658	0	0	0
281	SLV 16	-107	-55	667	0	0	0
281	SLV FO 1	126	28	950	0	0	0
281	SLV FO 2	149	34	959	0	0	0
281	SLV FO 3	121	-40	561	0	0	0
281	SLV FO 4	145	-33	570	0	0	0
281	SLV FO 5	43	98	1435	0	0	0
281	SLV FO 6	59	102	1441	0	0	0
281	SLV FO 7	28	-126	137	0	0	0
281	SLV FO 8	43	-122	143	0	0	0
281	SLV FO 9	-35	90	1460	0	0	0
281	SLV FO 10	-20	94	1466	0	0	0
281	SLV FO 11	-51	-134	162	0	0	0
281	SLV FO 12	-36	-130	168	0	0	0
281	SLV FO 13	-137	1	1033	0	0	0
281	SLV FO 14	-113	8	1042	0	0	0
281	SLV FO 15	-141	-66	644	0	0	0
281	SLV FO 16	-118	-59	653	0	0	0
281	CRTFP Uy+	0	0	0	0	0	0
281	CRTFP Uy-	0	0	0	0	0	0
282	SLU 1	3	-10	530	0	0	0
282	SLU 2	4	-8	542	0	0	0
282	SLU 3	3	-10	539	0	0	0
282	SLU 4	4	-9	546	0	0	0
282	SLU 5	4	-8	547	0	0	0
282	SLU 6	3	-10	544	0	0	0
282	SLU 7	4	-9	551	0	0	0
282	SLU 8	3	-10	541	0	0	0
282	SLU 9	3	-9	548	0	0	0
282	SLU 10	4	-9	611	0	0	0
282	SLU 11	4	-11	608	0	0	0
282	SLU 12	4	-10	615	0	0	0
282	SLU 13	4	-9	616	0	0	0
282	SLU 14	4	-11	613	0	0	0
282	SLU 15	4	-10	620	0	0	0
282	SLU 16	3	-11	610	0	0	0
282	SLU 17	4	-10	617	0	0	0
282	SLU 18	4	-11	629	0	0	0
282	SLU 19	4	-10	636	0	0	0
282	SLU 20	4	-11	634	0	0	0
282	SLU 21	4	-10	641	0	0	0
282	SLU 22	4	-11	602	0	0	0
282	SLU 23	4	-9	614	0	0	0
282	SLU 24	4	-11	611	0	0	0
282	SLU 25	4	-10	618	0	0	0
282	SLU 26	4	-9	620	0	0	0
282	SLU 27	4	-11	616	0	0	0
282	SLU 28	4	-10	624	0	0	0
282	SLU 29	4	-11	613	0	0	0
282	SLU 30	4	-10	620	0	0	0
282	SLU 31	4	-10	683	0	0	0
282	SLU 32	4	-12	680	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLU 33	4	-11	687	0	0	0
282	SLU 34	4	-10	689	0	0	0
282	SLU 35	4	-12	685	0	0	0
282	SLU 36	4	-11	693	0	0	0
282	SLU 37	4	-12	682	0	0	0
282	SLU 38	4	-11	689	0	0	0
282	SLU 39	4	-12	701	0	0	0
282	SLU 40	4	-11	708	0	0	0
282	SLU 41	4	-12	706	0	0	0
282	SLU 42	4	-11	713	0	0	0
282	SLU 43	4	-13	664	0	0	0
282	SLU 44	4	-10	676	0	0	0
282	SLU 45	4	-13	673	0	0	0
282	SLU 46	4	-11	680	0	0	0
282	SLU 47	4	-11	682	0	0	0
282	SLU 48	4	-13	678	0	0	0
282	SLU 49	4	-12	685	0	0	0
282	SLU 50	4	-13	675	0	0	0
282	SLU 51	4	-11	682	0	0	0
282	SLU 52	5	-11	745	0	0	0
282	SLU 53	4	-14	742	0	0	0
282	SLU 54	5	-12	749	0	0	0
282	SLU 55	5	-11	750	0	0	0
282	SLU 56	4	-14	747	0	0	0
282	SLU 57	4	-12	754	0	0	0
282	SLU 58	4	-14	744	0	0	0
282	SLU 59	4	-12	751	0	0	0
282	SLU 60	4	-14	763	0	0	0
282	SLU 61	5	-13	770	0	0	0
282	SLU 62	4	-14	768	0	0	0
282	SLU 63	5	-13	775	0	0	0
282	SLU 64	5	-14	737	0	0	0
282	SLU 65	5	-12	748	0	0	0
282	SLU 66	5	-14	745	0	0	0
282	SLU 67	5	-13	752	0	0	0
282	SLU 68	5	-12	754	0	0	0
282	SLU 69	5	-14	751	0	0	0
282	SLU 70	5	-13	758	0	0	0
282	SLU 71	5	-14	747	0	0	0
282	SLU 72	5	-13	754	0	0	0
282	SLU 73	5	-12	817	0	0	0
282	SLU 74	5	-15	814	0	0	0
282	SLU 75	5	-13	821	0	0	0
282	SLU 76	5	-13	823	0	0	0
282	SLU 77	5	-15	820	0	0	0
282	SLU 78	5	-14	827	0	0	0
282	SLU 79	5	-15	816	0	0	0
282	SLU 80	5	-13	823	0	0	0
282	SLU 81	5	-15	835	0	0	0
282	SLU 82	5	-14	842	0	0	0
282	SLU 83	5	-15	841	0	0	0
282	SLU 84	5	-14	848	0	0	0
282	SLE RA 1	4	-10	551	0	0	0
282	SLE RA 2	4	-9	559	0	0	0
282	SLE RA 3	4	-10	557	0	0	0
282	SLE RA 4	4	-10	561	0	0	0
282	SLE RA 5	4	-9	562	0	0	0
282	SLE RA 6	4	-10	560	0	0	0
282	SLE RA 7	4	-10	565	0	0	0
282	SLE RA 8	4	-10	558	0	0	0
282	SLE RA 9	4	-10	563	0	0	0
282	SLE RA 10	4	-9	605	0	0	0
282	SLE RA 11	4	-11	603	0	0	0
282	SLE RA 12	4	-10	607	0	0	0
282	SLE RA 13	4	-10	608	0	0	0
282	SLE RA 14	4	-11	606	0	0	0
282	SLE RA 15	4	-10	611	0	0	0
282	SLE RA 16	4	-11	604	0	0	0
282	SLE RA 17	4	-10	609	0	0	0
282	SLE RA 18	4	-11	616	0	0	0
282	SLE RA 19	4	-10	621	0	0	0
282	SLE RA 20	4	-11	620	0	0	0
282	SLE RA 21	4	-10	625	0	0	0
282	SLE FR 1	4	-10	551	0	0	0
282	SLE FR 2	4	-10	552	0	0	0
282	SLE FR 3	4	-10	552	0	0	0
282	SLE FR 4	4	-10	572	0	0	0
282	SLE FR 5	4	-11	572	0	0	0
282	SLE FR 6	4	-11	584	0	0	0
282	SLE QP 1	4	-10	551	0	0	0
282	SLE QP 2	4	-10	570	0	0	0
282	SLD 1	51	6	602	0	0	0
282	SLD 2	59	11	608	0	0	0
282	SLD 3	48	-16	450	0	0	0
282	SLD 4	57	-11	456	0	0	0
282	SLD 5	19	28	809	0	0	0
282	SLD 6	25	31	813	0	0	0
282	SLD 7	12	-47	303	0	0	0
282	SLD 8	18	-44	307	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
282	SLD 9	-11	23	834	0	0	0
282	SLD 10	-5	26	838	0	0	0
282	SLD 11	-18	-52	328	0	0	0
282	SLD 12	-12	-49	332	0	0	0
282	SLD 13	-50	-10	685	0	0	0
282	SLD 14	-41	-5	691	0	0	0
282	SLD 15	-52	-32	533	0	0	0
282	SLD 16	-43	-27	539	0	0	0
282	SLV 1	77	16	624	0	0	0
282	SLV 2	91	24	633	0	0	0
282	SLV 3	74	-20	378	0	0	0
282	SLV 4	87	-13	387	0	0	0
282	SLV 5	29	51	957	0	0	0
282	SLV 6	38	56	963	0	0	0
282	SLV 7	16	-70	139	0	0	0
282	SLV 8	26	-65	145	0	0	0
282	SLV 9	-19	44	996	0	0	0
282	SLV 10	-9	49	1002	0	0	0
282	SLV 11	-31	-77	178	0	0	0
282	SLV 12	-21	-72	184	0	0	0
282	SLV 13	-80	-8	754	0	0	0
282	SLV 14	-66	-1	763	0	0	0
282	SLV 15	-84	-45	508	0	0	0
282	SLV 16	-70	-37	517	0	0	0
282	SLV FO 1	85	19	629	0	0	0
282	SLV FO 2	100	27	639	0	0	0
282	SLV FO 3	81	-21	359	0	0	0
282	SLV FO 4	96	-13	369	0	0	0
282	SLV FO 5	31	57	996	0	0	0
282	SLV FO 6	41	63	1003	0	0	0
282	SLV FO 7	18	-76	95	0	0	0
282	SLV FO 8	28	-70	102	0	0	0
282	SLV FO 9	-21	49	1039	0	0	0
282	SLV FO 10	-11	55	1046	0	0	0
282	SLV FO 11	-34	-84	138	0	0	0
282	SLV FO 12	-24	-78	145	0	0	0
282	SLV FO 13	-89	-8	772	0	0	0
282	SLV FO 14	-73	0	782	0	0	0
282	SLV FO 15	-93	-48	502	0	0	0
282	SLV FO 16	-77	-40	512	0	0	0
282	CRTFP Uy+	0	0	0	0	0	0
282	CRTFP Uy-	0	0	0	0	0	0
283	SLU 1	7	-18	990	0	0	0
283	SLU 2	7	-14	1012	0	0	0
283	SLU 3	7	-19	1006	0	0	0
283	SLU 4	7	-16	1019	0	0	0
283	SLU 5	7	-15	1022	0	0	0
283	SLU 6	7	-19	1016	0	0	0
283	SLU 7	7	-16	1029	0	0	0
283	SLU 8	7	-19	1010	0	0	0
283	SLU 9	7	-16	1023	0	0	0
283	SLU 10	7	-16	1141	0	0	0
283	SLU 11	7	-20	1135	0	0	0
283	SLU 12	7	-18	1148	0	0	0
283	SLU 13	7	-16	1151	0	0	0
283	SLU 14	7	-21	1145	0	0	0
283	SLU 15	7	-18	1158	0	0	0
283	SLU 16	7	-20	1139	0	0	0
283	SLU 17	7	-18	1152	0	0	0
283	SLU 18	7	-21	1174	0	0	0
283	SLU 19	7	-18	1187	0	0	0
283	SLU 20	7	-21	1184	0	0	0
283	SLU 21	7	-18	1197	0	0	0
283	SLU 22	7	-20	1124	0	0	0
283	SLU 23	8	-16	1146	0	0	0
283	SLU 24	7	-21	1141	0	0	0
283	SLU 25	8	-18	1154	0	0	0
283	SLU 26	8	-17	1156	0	0	0
283	SLU 27	7	-21	1151	0	0	0
283	SLU 28	8	-19	1164	0	0	0
283	SLU 29	7	-21	1145	0	0	0
283	SLU 30	8	-18	1158	0	0	0
283	SLU 31	8	-18	1275	0	0	0
283	SLU 32	8	-22	1270	0	0	0
283	SLU 33	8	-20	1283	0	0	0
283	SLU 34	8	-18	1285	0	0	0
283	SLU 35	8	-23	1280	0	0	0
283	SLU 36	8	-20	1293	0	0	0
283	SLU 37	8	-22	1273	0	0	0
283	SLU 38	8	-20	1287	0	0	0
283	SLU 39	8	-23	1309	0	0	0
283	SLU 40	8	-20	1322	0	0	0
283	SLU 41	8	-23	1319	0	0	0
283	SLU 42	8	-21	1332	0	0	0
283	SLU 43	8	-23	1240	0	0	0
283	SLU 44	9	-19	1262	0	0	0
283	SLU 45	8	-23	1257	0	0	0
283	SLU 46	8	-21	1270	0	0	0
283	SLU 47	9	-19	1272	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLU 48	8	-24	1267	0	0	0
283	SLU 49	8	-21	1280	0	0	0
283	SLU 50	8	-24	1261	0	0	0
283	SLU 51	8	-21	1274	0	0	0
283	SLU 52	9	-21	1391	0	0	0
283	SLU 53	9	-25	1386	0	0	0
283	SLU 54	9	-23	1399	0	0	0
283	SLU 55	9	-21	1401	0	0	0
283	SLU 56	8	-25	1396	0	0	0
283	SLU 57	9	-23	1409	0	0	0
283	SLU 58	8	-25	1389	0	0	0
283	SLU 59	9	-23	1403	0	0	0
283	SLU 60	9	-25	1425	0	0	0
283	SLU 61	9	-23	1438	0	0	0
283	SLU 62	9	-26	1435	0	0	0
283	SLU 63	9	-23	1448	0	0	0
283	SLU 64	9	-25	1375	0	0	0
283	SLU 65	9	-21	1397	0	0	0
283	SLU 66	9	-25	1391	0	0	0
283	SLU 67	9	-23	1405	0	0	0
283	SLU 68	9	-21	1407	0	0	0
283	SLU 69	9	-26	1401	0	0	0
283	SLU 70	9	-23	1415	0	0	0
283	SLU 71	9	-26	1395	0	0	0
283	SLU 72	9	-23	1408	0	0	0
283	SLU 73	10	-23	1526	0	0	0
283	SLU 74	9	-27	1520	0	0	0
283	SLU 75	10	-25	1533	0	0	0
283	SLU 76	10	-23	1536	0	0	0
283	SLU 77	9	-27	1530	0	0	0
283	SLU 78	10	-25	1544	0	0	0
283	SLU 79	9	-27	1524	0	0	0
283	SLU 80	9	-25	1537	0	0	0
283	SLU 81	9	-28	1559	0	0	0
283	SLU 82	10	-25	1572	0	0	0
283	SLU 83	9	-28	1569	0	0	0
283	SLU 84	10	-25	1582	0	0	0
283	SLE RA 1	7	-19	1028	0	0	0
283	SLE RA 2	7	-16	1043	0	0	0
283	SLE RA 3	7	-19	1039	0	0	0
283	SLE RA 4	7	-18	1048	0	0	0
283	SLE RA 5	7	-16	1050	0	0	0
283	SLE RA 6	7	-19	1046	0	0	0
283	SLE RA 7	7	-18	1055	0	0	0
283	SLE RA 8	7	-19	1042	0	0	0
283	SLE RA 9	7	-18	1050	0	0	0
283	SLE RA 10	7	-17	1129	0	0	0
283	SLE RA 11	7	-20	1125	0	0	0
283	SLE RA 12	7	-19	1134	0	0	0
283	SLE RA 13	7	-17	1135	0	0	0
283	SLE RA 14	7	-20	1132	0	0	0
283	SLE RA 15	7	-19	1140	0	0	0
283	SLE RA 16	7	-20	1128	0	0	0
283	SLE RA 17	7	-19	1136	0	0	0
283	SLE RA 18	7	-20	1151	0	0	0
283	SLE RA 19	7	-19	1160	0	0	0
283	SLE RA 20	7	-21	1158	0	0	0
283	SLE RA 21	7	-19	1166	0	0	0
283	SLE FR 1	7	-19	1028	0	0	0
283	SLE FR 2	7	-18	1031	0	0	0
283	SLE FR 3	7	-19	1031	0	0	0
283	SLE FR 4	7	-19	1068	0	0	0
283	SLE FR 5	7	-19	1068	0	0	0
283	SLE FR 6	7	-20	1090	0	0	0
283	SLE QP 1	7	-19	1028	0	0	0
283	SLE QP 2	7	-19	1065	0	0	0
283	SLD 1	97	12	1130	0	0	0
283	SLD 2	113	21	1140	0	0	0
283	SLD 3	92	-32	851	0	0	0
283	SLD 4	109	-23	861	0	0	0
283	SLD 5	37	55	1507	0	0	0
283	SLD 6	48	61	1513	0	0	0
283	SLD 7	23	-91	575	0	0	0
283	SLD 8	34	-86	582	0	0	0
283	SLD 9	-20	47	1548	0	0	0
283	SLD 10	-9	52	1555	0	0	0
283	SLD 11	-35	-99	617	0	0	0
283	SLD 12	-24	-94	624	0	0	0
283	SLD 13	-95	-15	1269	0	0	0
283	SLD 14	-79	-7	1279	0	0	0
283	SLD 15	-100	-59	990	0	0	0
283	SLD 16	-83	-51	1000	0	0	0
283	SLV 1	148	31	1175	0	0	0
283	SLV 2	174	44	1190	0	0	0
283	SLV 3	141	-40	723	0	0	0
283	SLV 4	167	-27	739	0	0	0
283	SLV 5	55	101	1780	0	0	0
283	SLV 6	73	110	1791	0	0	0
283	SLV 7	31	-136	274	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
283	SLV 8	49	-127	285	0	0	0
283	SLV 9	-35	88	1845	0	0	0
283	SLV 10	-18	97	1856	0	0	0
283	SLV 11	-59	-148	339	0	0	0
283	SLV 12	-41	-140	350	0	0	0
283	SLV 13	-153	-12	1391	0	0	0
283	SLV 14	-127	1	1407	0	0	0
283	SLV 15	-160	-83	940	0	0	0
283	SLV 16	-134	-70	956	0	0	0
283	SLV FO 1	162	36	1185	0	0	0
283	SLV FO 2	191	51	1203	0	0	0
283	SLV FO 3	154	-42	689	0	0	0
283	SLV FO 4	183	-27	706	0	0	0
283	SLV FO 5	60	113	1852	0	0	0
283	SLV FO 6	79	123	1863	0	0	0
283	SLV FO 7	34	-147	195	0	0	0
283	SLV FO 8	53	-137	207	0	0	0
283	SLV FO 9	-40	99	1923	0	0	0
283	SLV FO 10	-20	108	1935	0	0	0
283	SLV FO 11	-66	-161	267	0	0	0
283	SLV FO 12	-46	-152	278	0	0	0
283	SLV FO 13	-169	-11	1424	0	0	0
283	SLV FO 14	-140	3	1441	0	0	0
283	SLV FO 15	-177	-89	927	0	0	0
283	SLV FO 16	-148	-75	945	0	0	0
283	CRTFP Uy+	0	0	0	0	0	0
283	CRTFP Uy-	0	0	0	0	0	0
284	SLU 1	-3	-9	380	0	0	0
284	SLU 2	-3	-7	389	0	0	0
284	SLU 3	-3	-9	387	0	0	0
284	SLU 4	-3	-8	392	0	0	0
284	SLU 5	-3	-7	392	0	0	0
284	SLU 6	-3	-9	390	0	0	0
284	SLU 7	-3	-8	395	0	0	0
284	SLU 8	-3	-9	388	0	0	0
284	SLU 9	-3	-8	393	0	0	0
284	SLU 10	-3	-8	439	0	0	0
284	SLU 11	-3	-10	437	0	0	0
284	SLU 12	-3	-9	442	0	0	0
284	SLU 13	-3	-8	442	0	0	0
284	SLU 14	-3	-10	440	0	0	0
284	SLU 15	-3	-9	445	0	0	0
284	SLU 16	-3	-10	438	0	0	0
284	SLU 17	-3	-9	443	0	0	0
284	SLU 18	-3	-10	452	0	0	0
284	SLU 19	-3	-9	457	0	0	0
284	SLU 20	-3	-10	456	0	0	0
284	SLU 21	-3	-9	461	0	0	0
284	SLU 22	-3	-10	433	0	0	0
284	SLU 23	-4	-8	441	0	0	0
284	SLU 24	-3	-10	439	0	0	0
284	SLU 25	-4	-9	444	0	0	0
284	SLU 26	-4	-8	445	0	0	0
284	SLU 27	-4	-10	443	0	0	0
284	SLU 28	-4	-9	448	0	0	0
284	SLU 29	-4	-10	441	0	0	0
284	SLU 30	-4	-9	445	0	0	0
284	SLU 31	-4	-9	491	0	0	0
284	SLU 32	-4	-11	489	0	0	0
284	SLU 33	-4	-10	494	0	0	0
284	SLU 34	-4	-9	495	0	0	0
284	SLU 35	-4	-11	493	0	0	0
284	SLU 36	-4	-10	498	0	0	0
284	SLU 37	-4	-11	491	0	0	0
284	SLU 38	-4	-10	495	0	0	0
284	SLU 39	-3	-11	504	0	0	0
284	SLU 40	-4	-10	509	0	0	0
284	SLU 41	-4	-11	508	0	0	0
284	SLU 42	-4	-10	513	0	0	0
284	SLU 43	-4	-11	476	0	0	0
284	SLU 44	-4	-10	485	0	0	0
284	SLU 45	-4	-11	483	0	0	0
284	SLU 46	-4	-10	488	0	0	0
284	SLU 47	-4	-10	489	0	0	0
284	SLU 48	-4	-11	487	0	0	0
284	SLU 49	-4	-10	492	0	0	0
284	SLU 50	-4	-11	484	0	0	0
284	SLU 51	-4	-10	489	0	0	0
284	SLU 52	-4	-11	535	0	0	0
284	SLU 53	-4	-12	533	0	0	0
284	SLU 54	-4	-11	538	0	0	0
284	SLU 55	-4	-11	539	0	0	0
284	SLU 56	-4	-12	537	0	0	0
284	SLU 57	-4	-11	541	0	0	0
284	SLU 58	-4	-12	534	0	0	0
284	SLU 59	-4	-11	539	0	0	0
284	SLU 60	-4	-12	548	0	0	0
284	SLU 61	-4	-12	553	0	0	0
284	SLU 62	-4	-12	552	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLU 63	-4	-12	557	0	0	0
284	SLU 64	-4	-12	529	0	0	0
284	SLU 65	-4	-11	537	0	0	0
284	SLU 66	-4	-12	535	0	0	0
284	SLU 67	-4	-11	540	0	0	0
284	SLU 68	-4	-11	541	0	0	0
284	SLU 69	-4	-12	539	0	0	0
284	SLU 70	-4	-11	544	0	0	0
284	SLU 71	-4	-12	537	0	0	0
284	SLU 72	-4	-11	542	0	0	0
284	SLU 73	-4	-12	587	0	0	0
284	SLU 74	-4	-13	585	0	0	0
284	SLU 75	-4	-12	590	0	0	0
284	SLU 76	-4	-12	591	0	0	0
284	SLU 77	-4	-13	589	0	0	0
284	SLU 78	-4	-12	594	0	0	0
284	SLU 79	-4	-13	587	0	0	0
284	SLU 80	-4	-12	592	0	0	0
284	SLU 81	-4	-13	600	0	0	0
284	SLU 82	-4	-13	605	0	0	0
284	SLU 83	-4	-14	604	0	0	0
284	SLU 84	-4	-13	609	0	0	0
284	SLE RA 1	-3	-9	395	0	0	0
284	SLE RA 2	-3	-8	401	0	0	0
284	SLE RA 3	-3	-9	399	0	0	0
284	SLE RA 4	-3	-9	403	0	0	0
284	SLE RA 5	-3	-8	403	0	0	0
284	SLE RA 6	-3	-9	402	0	0	0
284	SLE RA 7	-3	-9	405	0	0	0
284	SLE RA 8	-3	-9	400	0	0	0
284	SLE RA 9	-3	-9	404	0	0	0
284	SLE RA 10	-3	-9	434	0	0	0
284	SLE RA 11	-3	-10	433	0	0	0
284	SLE RA 12	-3	-9	436	0	0	0
284	SLE RA 13	-3	-9	437	0	0	0
284	SLE RA 14	-3	-10	435	0	0	0
284	SLE RA 15	-3	-9	439	0	0	0
284	SLE RA 16	-3	-10	434	0	0	0
284	SLE RA 17	-3	-9	437	0	0	0
284	SLE RA 18	-3	-10	443	0	0	0
284	SLE RA 19	-3	-9	446	0	0	0
284	SLE RA 20	-3	-10	445	0	0	0
284	SLE RA 21	-3	-9	449	0	0	0
284	SLE FR 1	-3	-9	395	0	0	0
284	SLE FR 2	-3	-9	396	0	0	0
284	SLE FR 3	-3	-9	396	0	0	0
284	SLE FR 4	-3	-9	411	0	0	0
284	SLE FR 5	-3	-9	411	0	0	0
284	SLE FR 6	-3	-10	419	0	0	0
284	SLE QP 1	-3	-9	395	0	0	0
284	SLE QP 2	-3	-9	410	0	0	0
284	SLD 1	28	-4	494	0	0	0
284	SLD 2	34	-7	491	0	0	0
284	SLD 3	31	-20	388	0	0	0
284	SLD 4	37	-24	384	0	0	0
284	SLD 5	1	18	597	0	0	0
284	SLD 6	5	16	595	0	0	0
284	SLD 7	10	-37	242	0	0	0
284	SLD 8	14	-40	240	0	0	0
284	SLD 9	-21	21	579	0	0	0
284	SLD 10	-16	19	577	0	0	0
284	SLD 11	-11	-35	224	0	0	0
284	SLD 12	-7	-37	222	0	0	0
284	SLD 13	-43	5	435	0	0	0
284	SLD 14	-37	2	431	0	0	0
284	SLD 15	-40	-11	329	0	0	0
284	SLD 16	-34	-15	325	0	0	0
284	SLV 1	45	0	545	0	0	0
284	SLV 2	55	-6	539	0	0	0
284	SLV 3	50	-27	373	0	0	0
284	SLV 4	60	-33	367	0	0	0
284	SLV 5	3	35	712	0	0	0
284	SLV 6	9	31	708	0	0	0
284	SLV 7	18	-54	138	0	0	0
284	SLV 8	24	-58	135	0	0	0
284	SLV 9	-31	39	685	0	0	0
284	SLV 10	-24	36	681	0	0	0
284	SLV 11	-15	-50	111	0	0	0
284	SLV 12	-9	-54	107	0	0	0
284	SLV 13	-66	14	452	0	0	0
284	SLV 14	-56	8	446	0	0	0
284	SLV 15	-61	-13	280	0	0	0
284	SLV 16	-52	-18	274	0	0	0
284	SLV FO 1	50	1	558	0	0	0
284	SLV FO 2	61	-5	552	0	0	0
284	SLV FO 3	55	-29	369	0	0	0
284	SLV FO 4	66	-35	363	0	0	0
284	SLV FO 5	3	40	743	0	0	0
284	SLV FO 6	10	35	738	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
284	SLV FO 7	20	-59	111	0	0	0
284	SLV FO 8	27	-63	107	0	0	0
284	SLV FO 9	-33	44	712	0	0	0
284	SLV FO 10	-26	40	708	0	0	0
284	SLV FO 11	-17	-54	81	0	0	0
284	SLV FO 12	-10	-58	76	0	0	0
284	SLV FO 13	-72	16	457	0	0	0
284	SLV FO 14	-61	10	450	0	0	0
284	SLV FO 15	-67	-13	267	0	0	0
284	SLV FO 16	-56	-19	261	0	0	0
284	CRTFP Uy+	0	0	0	0	0	0
284	CRTFP Uy-	0	0	0	0	0	0
285	SLU 1	-6	-17	752	0	0	0
285	SLU 2	-6	-14	768	0	0	0
285	SLU 3	-6	-17	764	0	0	0
285	SLU 4	-6	-15	774	0	0	0
285	SLU 5	-6	-14	776	0	0	0
285	SLU 6	-6	-17	772	0	0	0
285	SLU 7	-6	-15	782	0	0	0
285	SLU 8	-6	-17	767	0	0	0
285	SLU 9	-6	-15	777	0	0	0
285	SLU 10	-6	-15	867	0	0	0
285	SLU 11	-6	-19	863	0	0	0
285	SLU 12	-6	-17	873	0	0	0
285	SLU 13	-6	-15	875	0	0	0
285	SLU 14	-6	-19	871	0	0	0
285	SLU 15	-7	-17	881	0	0	0
285	SLU 16	-6	-19	866	0	0	0
285	SLU 17	-6	-17	876	0	0	0
285	SLU 18	-6	-19	893	0	0	0
285	SLU 19	-6	-17	903	0	0	0
285	SLU 20	-6	-19	901	0	0	0
285	SLU 21	-6	-17	911	0	0	0
285	SLU 22	-7	-18	855	0	0	0
285	SLU 23	-7	-15	872	0	0	0
285	SLU 24	-7	-19	868	0	0	0
285	SLU 25	-7	-17	878	0	0	0
285	SLU 26	-7	-16	879	0	0	0
285	SLU 27	-7	-19	875	0	0	0
285	SLU 28	-7	-17	885	0	0	0
285	SLU 29	-7	-19	871	0	0	0
285	SLU 30	-7	-17	880	0	0	0
285	SLU 31	-7	-17	971	0	0	0
285	SLU 32	-7	-21	967	0	0	0
285	SLU 33	-7	-19	976	0	0	0
285	SLU 34	-7	-17	978	0	0	0
285	SLU 35	-7	-21	974	0	0	0
285	SLU 36	-7	-19	984	0	0	0
285	SLU 37	-7	-21	970	0	0	0
285	SLU 38	-7	-19	979	0	0	0
285	SLU 39	-7	-21	997	0	0	0
285	SLU 40	-7	-19	1006	0	0	0
285	SLU 41	-7	-21	1004	0	0	0
285	SLU 42	-7	-19	1014	0	0	0
285	SLU 43	-8	-21	942	0	0	0
285	SLU 44	-8	-18	959	0	0	0
285	SLU 45	-8	-21	955	0	0	0
285	SLU 46	-8	-19	964	0	0	0
285	SLU 47	-8	-18	966	0	0	0
285	SLU 48	-8	-21	962	0	0	0
285	SLU 49	-8	-19	972	0	0	0
285	SLU 50	-8	-21	958	0	0	0
285	SLU 51	-8	-19	967	0	0	0
285	SLU 52	-8	-20	1057	0	0	0
285	SLU 53	-8	-23	1054	0	0	0
285	SLU 54	-8	-21	1063	0	0	0
285	SLU 55	-8	-20	1065	0	0	0
285	SLU 56	-8	-23	1061	0	0	0
285	SLU 57	-8	-21	1071	0	0	0
285	SLU 58	-8	-23	1056	0	0	0
285	SLU 59	-8	-21	1066	0	0	0
285	SLU 60	-8	-23	1083	0	0	0
285	SLU 61	-8	-22	1093	0	0	0
285	SLU 62	-8	-23	1091	0	0	0
285	SLU 63	-8	-22	1101	0	0	0
285	SLU 64	-8	-23	1046	0	0	0
285	SLU 65	-9	-20	1062	0	0	0
285	SLU 66	-9	-23	1058	0	0	0
285	SLU 67	-9	-21	1068	0	0	0
285	SLU 68	-9	-20	1070	0	0	0
285	SLU 69	-9	-23	1066	0	0	0
285	SLU 70	-9	-21	1075	0	0	0
285	SLU 71	-9	-23	1061	0	0	0
285	SLU 72	-9	-21	1071	0	0	0
285	SLU 73	-9	-21	1161	0	0	0
285	SLU 74	-9	-25	1157	0	0	0
285	SLU 75	-9	-23	1167	0	0	0
285	SLU 76	-9	-22	1168	0	0	0
285	SLU 77	-9	-25	1164	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
285	SLU 78	-9	-23	1174	0	0	0
285	SLU 79	-9	-25	1160	0	0	0
285	SLU 80	-9	-23	1170	0	0	0
285	SLU 81	-9	-25	1187	0	0	0
285	SLU 82	-9	-23	1197	0	0	0
285	SLU 83	-9	-25	1194	0	0	0
285	SLU 84	-9	-24	1204	0	0	0
285	SLE RA 1	-6	-17	782	0	0	0
285	SLE RA 2	-6	-15	793	0	0	0
285	SLE RA 3	-6	-17	790	0	0	0
285	SLE RA 4	-6	-16	796	0	0	0
285	SLE RA 5	-6	-15	798	0	0	0
285	SLE RA 6	-6	-17	795	0	0	0
285	SLE RA 7	-7	-16	801	0	0	0
285	SLE RA 8	-6	-17	792	0	0	0
285	SLE RA 9	-6	-16	798	0	0	0
285	SLE RA 10	-6	-16	858	0	0	0
285	SLE RA 11	-6	-18	856	0	0	0
285	SLE RA 12	-7	-17	862	0	0	0
285	SLE RA 13	-7	-16	863	0	0	0
285	SLE RA 14	-7	-19	861	0	0	0
285	SLE RA 15	-7	-17	867	0	0	0
285	SLE RA 16	-6	-18	858	0	0	0
285	SLE RA 17	-7	-17	864	0	0	0
285	SLE RA 18	-6	-19	876	0	0	0
285	SLE RA 19	-6	-18	882	0	0	0
285	SLE RA 20	-6	-19	881	0	0	0
285	SLE RA 21	-7	-18	887	0	0	0
285	SLE FR 1	-6	-17	782	0	0	0
285	SLE FR 2	-6	-17	784	0	0	0
285	SLE FR 3	-6	-17	784	0	0	0
285	SLE FR 4	-6	-17	812	0	0	0
285	SLE FR 5	-6	-18	812	0	0	0
285	SLE FR 6	-6	-18	829	0	0	0
285	SLE QP 1	-6	-17	782	0	0	0
285	SLE QP 2	-6	-18	810	0	0	0
285	SLD 1	57	-6	972	0	0	0
285	SLD 2	69	-12	965	0	0	0
285	SLD 3	62	-40	762	0	0	0
285	SLD 4	75	-46	755	0	0	0
285	SLD 5	2	39	1178	0	0	0
285	SLD 6	10	35	1173	0	0	0
285	SLD 7	21	-75	478	0	0	0
285	SLD 8	29	-79	474	0	0	0
285	SLD 9	-42	44	1146	0	0	0
285	SLD 10	-33	40	1141	0	0	0
285	SLD 11	-22	-70	446	0	0	0
285	SLD 12	-14	-74	442	0	0	0
285	SLD 13	-87	11	865	0	0	0
285	SLD 14	-75	5	858	0	0	0
285	SLD 15	-82	-23	655	0	0	0
285	SLD 16	-69	-30	648	0	0	0
285	SLV 1	92	2	1068	0	0	0
285	SLV 2	112	-8	1057	0	0	0
285	SLV 3	101	-53	729	0	0	0
285	SLV 4	121	-64	718	0	0	0
285	SLV 5	6	74	1404	0	0	0
285	SLV 6	19	67	1397	0	0	0
285	SLV 7	36	-110	273	0	0	0
285	SLV 8	49	-117	266	0	0	0
285	SLV 9	-62	82	1354	0	0	0
285	SLV 10	-49	75	1347	0	0	0
285	SLV 11	-31	-102	223	0	0	0
285	SLV 12	-18	-109	216	0	0	0
285	SLV 13	-133	28	902	0	0	0
285	SLV 14	-114	18	891	0	0	0
285	SLV 15	-124	-27	562	0	0	0
285	SLV 16	-105	-37	551	0	0	0
285	SLV FO 1	102	4	1094	0	0	0
285	SLV FO 2	123	-7	1082	0	0	0
285	SLV FO 3	112	-57	721	0	0	0
285	SLV FO 4	134	-68	709	0	0	0
285	SLV FO 5	7	83	1463	0	0	0
285	SLV FO 6	21	76	1455	0	0	0
285	SLV FO 7	41	-120	219	0	0	0
285	SLV FO 8	55	-127	211	0	0	0
285	SLV FO 9	-68	92	1408	0	0	0
285	SLV FO 10	-53	84	1400	0	0	0
285	SLV FO 11	-34	-111	164	0	0	0
285	SLV FO 12	-19	-118	156	0	0	0
285	SLV FO 13	-146	33	911	0	0	0
285	SLV FO 14	-125	22	899	0	0	0
285	SLV FO 15	-136	-28	538	0	0	0
285	SLV FO 16	-114	-39	526	0	0	0
285	CRTFP Uy+	0	0	0	0	0	0
285	CRTFP Uy-	0	0	0	0	0	0
286	SLU 1	-6	-17	801	0	0	0
286	SLU 2	-6	-14	818	0	0	0
286	SLU 3	-6	-18	814	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLU 4	-6	-16	824	0	0	0
286	SLU 5	-6	-14	826	0	0	0
286	SLU 6	-6	-18	822	0	0	0
286	SLU 7	-7	-16	832	0	0	0
286	SLU 8	-6	-18	817	0	0	0
286	SLU 9	-7	-16	827	0	0	0
286	SLU 10	-6	-16	923	0	0	0
286	SLU 11	-6	-19	919	0	0	0
286	SLU 12	-7	-17	929	0	0	0
286	SLU 13	-7	-16	931	0	0	0
286	SLU 14	-7	-20	927	0	0	0
286	SLU 15	-7	-18	937	0	0	0
286	SLU 16	-6	-20	922	0	0	0
286	SLU 17	-7	-18	932	0	0	0
286	SLU 18	-6	-20	951	0	0	0
286	SLU 19	-6	-18	961	0	0	0
286	SLU 20	-6	-20	959	0	0	0
286	SLU 21	-7	-18	969	0	0	0
286	SLU 22	-7	-19	910	0	0	0
286	SLU 23	-7	-16	927	0	0	0
286	SLU 24	-7	-20	923	0	0	0
286	SLU 25	-7	-18	934	0	0	0
286	SLU 26	-7	-16	936	0	0	0
286	SLU 27	-7	-20	931	0	0	0
286	SLU 28	-7	-18	942	0	0	0
286	SLU 29	-7	-20	926	0	0	0
286	SLU 30	-7	-18	937	0	0	0
286	SLU 31	-7	-18	1033	0	0	0
286	SLU 32	-7	-22	1028	0	0	0
286	SLU 33	-7	-20	1039	0	0	0
286	SLU 34	-7	-18	1041	0	0	0
286	SLU 35	-7	-22	1037	0	0	0
286	SLU 36	-8	-20	1047	0	0	0
286	SLU 37	-7	-22	1031	0	0	0
286	SLU 38	-7	-20	1042	0	0	0
286	SLU 39	-7	-22	1060	0	0	0
286	SLU 40	-7	-20	1071	0	0	0
286	SLU 41	-7	-22	1068	0	0	0
286	SLU 42	-7	-20	1079	0	0	0
286	SLU 43	-8	-22	1003	0	0	0
286	SLU 44	-8	-18	1021	0	0	0
286	SLU 45	-8	-22	1016	0	0	0
286	SLU 46	-8	-20	1027	0	0	0
286	SLU 47	-8	-19	1029	0	0	0
286	SLU 48	-8	-22	1025	0	0	0
286	SLU 49	-8	-20	1035	0	0	0
286	SLU 50	-8	-22	1020	0	0	0
286	SLU 51	-8	-20	1030	0	0	0
286	SLU 52	-8	-20	1126	0	0	0
286	SLU 53	-8	-24	1122	0	0	0
286	SLU 54	-8	-22	1132	0	0	0
286	SLU 55	-8	-21	1134	0	0	0
286	SLU 56	-8	-24	1130	0	0	0
286	SLU 57	-8	-22	1140	0	0	0
286	SLU 58	-8	-24	1125	0	0	0
286	SLU 59	-8	-22	1135	0	0	0
286	SLU 60	-8	-24	1154	0	0	0
286	SLU 61	-8	-22	1164	0	0	0
286	SLU 62	-8	-25	1162	0	0	0
286	SLU 63	-8	-23	1172	0	0	0
286	SLU 64	-9	-24	1113	0	0	0
286	SLU 65	-9	-21	1130	0	0	0
286	SLU 66	-9	-24	1126	0	0	0
286	SLU 67	-9	-22	1136	0	0	0
286	SLU 68	-9	-21	1138	0	0	0
286	SLU 69	-9	-24	1134	0	0	0
286	SLU 70	-9	-22	1144	0	0	0
286	SLU 71	-9	-24	1129	0	0	0
286	SLU 72	-9	-22	1139	0	0	0
286	SLU 73	-9	-22	1235	0	0	0
286	SLU 74	-9	-26	1231	0	0	0
286	SLU 75	-9	-24	1242	0	0	0
286	SLU 76	-9	-23	1243	0	0	0
286	SLU 77	-9	-26	1239	0	0	0
286	SLU 78	-9	-24	1250	0	0	0
286	SLU 79	-9	-26	1234	0	0	0
286	SLU 80	-9	-24	1245	0	0	0
286	SLU 81	-9	-26	1263	0	0	0
286	SLU 82	-9	-24	1273	0	0	0
286	SLU 83	-9	-27	1271	0	0	0
286	SLU 84	-9	-25	1282	0	0	0
286	SLE RA 1	-6	-18	832	0	0	0
286	SLE RA 2	-7	-16	844	0	0	0
286	SLE RA 3	-6	-18	841	0	0	0
286	SLE RA 4	-7	-17	848	0	0	0
286	SLE RA 5	-7	-16	849	0	0	0
286	SLE RA 6	-7	-18	846	0	0	0
286	SLE RA 7	-7	-17	853	0	0	0
286	SLE RA 8	-7	-18	843	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
286	SLE RA 9	-7	-17	850	0	0	0
286	SLE RA 10	-7	-17	914	0	0	0
286	SLE RA 11	-7	-19	911	0	0	0
286	SLE RA 12	-7	-18	918	0	0	0
286	SLE RA 13	-7	-17	919	0	0	0
286	SLE RA 14	-7	-19	916	0	0	0
286	SLE RA 15	-7	-18	923	0	0	0
286	SLE RA 16	-7	-19	913	0	0	0
286	SLE RA 17	-7	-18	920	0	0	0
286	SLE RA 18	-6	-20	932	0	0	0
286	SLE RA 19	-7	-18	939	0	0	0
286	SLE RA 20	-7	-20	938	0	0	0
286	SLE RA 21	-7	-18	944	0	0	0
286	SLE FR 1	-6	-18	832	0	0	0
286	SLE FR 2	-6	-17	834	0	0	0
286	SLE FR 3	-6	-18	834	0	0	0
286	SLE FR 4	-6	-18	864	0	0	0
286	SLE FR 5	-6	-18	864	0	0	0
286	SLE FR 6	-6	-19	882	0	0	0
286	SLE QP 1	-6	-18	832	0	0	0
286	SLE QP 2	-6	-18	862	0	0	0
286	SLD 1	63	-5	1028	0	0	0
286	SLD 2	76	-11	1021	0	0	0
286	SLD 3	69	-43	805	0	0	0
286	SLD 4	82	-49	798	0	0	0
286	SLD 5	3	44	1251	0	0	0
286	SLD 6	12	40	1246	0	0	0
286	SLD 7	23	-82	508	0	0	0
286	SLD 8	32	-86	504	0	0	0
286	SLD 9	-45	49	1220	0	0	0
286	SLD 10	-36	45	1216	0	0	0
286	SLD 11	-24	-77	478	0	0	0
286	SLD 12	-15	-81	473	0	0	0
286	SLD 13	-95	12	926	0	0	0
286	SLD 14	-81	6	919	0	0	0
286	SLD 15	-89	-25	703	0	0	0
286	SLD 16	-75	-32	696	0	0	0
286	SLV 1	101	4	1127	0	0	0
286	SLV 2	123	-6	1116	0	0	0
286	SLV 3	111	-57	767	0	0	0
286	SLV 4	133	-68	756	0	0	0
286	SLV 5	7	83	1490	0	0	0
286	SLV 6	21	76	1482	0	0	0
286	SLV 7	40	-121	289	0	0	0
286	SLV 8	54	-128	282	0	0	0
286	SLV 9	-67	91	1442	0	0	0
286	SLV 10	-53	84	1435	0	0	0
286	SLV 11	-34	-113	242	0	0	0
286	SLV 12	-20	-120	234	0	0	0
286	SLV 13	-145	31	968	0	0	0
286	SLV 14	-124	21	957	0	0	0
286	SLV 15	-136	-30	608	0	0	0
286	SLV 16	-114	-41	597	0	0	0
286	SLV FO 1	112	6	1153	0	0	0
286	SLV FO 2	136	-5	1141	0	0	0
286	SLV FO 3	123	-61	757	0	0	0
286	SLV FO 4	146	-73	745	0	0	0
286	SLV FO 5	8	93	1552	0	0	0
286	SLV FO 6	24	86	1544	0	0	0
286	SLV FO 7	44	-131	232	0	0	0
286	SLV FO 8	60	-139	224	0	0	0
286	SLV FO 9	-73	102	1500	0	0	0
286	SLV FO 10	-57	94	1492	0	0	0
286	SLV FO 11	-37	-122	180	0	0	0
286	SLV FO 12	-21	-130	172	0	0	0
286	SLV FO 13	-159	36	979	0	0	0
286	SLV FO 14	-136	24	967	0	0	0
286	SLV FO 15	-148	-32	583	0	0	0
286	SLV FO 16	-125	-43	571	0	0	0
286	CRTFP Uy+	0	0	0	0	0	0
286	CRTFP Uy-	0	0	0	0	0	0
287	SLU 1	-6	-18	881	0	0	0
287	SLU 2	-7	-15	900	0	0	0
287	SLU 3	-7	-19	895	0	0	0
287	SLU 4	-7	-16	907	0	0	0
287	SLU 5	-7	-15	909	0	0	0
287	SLU 6	-7	-19	904	0	0	0
287	SLU 7	-7	-17	916	0	0	0
287	SLU 8	-7	-19	899	0	0	0
287	SLU 9	-7	-17	910	0	0	0
287	SLU 10	-7	-17	1016	0	0	0
287	SLU 11	-7	-21	1011	0	0	0
287	SLU 12	-7	-18	1023	0	0	0
287	SLU 13	-7	-17	1025	0	0	0
287	SLU 14	-7	-21	1020	0	0	0
287	SLU 15	-7	-19	1031	0	0	0
287	SLU 16	-7	-21	1014	0	0	0
287	SLU 17	-7	-18	1026	0	0	0
287	SLU 18	-7	-21	1046	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLU 19	-7	-19	1058	0	0	0
287	SLU 20	-7	-21	1055	0	0	0
287	SLU 21	-7	-19	1067	0	0	0
287	SLU 22	-7	-20	1001	0	0	0
287	SLU 23	-8	-17	1020	0	0	0
287	SLU 24	-8	-21	1015	0	0	0
287	SLU 25	-8	-19	1027	0	0	0
287	SLU 26	-8	-17	1029	0	0	0
287	SLU 27	-8	-21	1024	0	0	0
287	SLU 28	-8	-19	1035	0	0	0
287	SLU 29	-8	-21	1018	0	0	0
287	SLU 30	-8	-19	1030	0	0	0
287	SLU 31	-8	-19	1136	0	0	0
287	SLU 32	-8	-23	1131	0	0	0
287	SLU 33	-8	-21	1142	0	0	0
287	SLU 34	-8	-19	1144	0	0	0
287	SLU 35	-8	-23	1140	0	0	0
287	SLU 36	-8	-21	1151	0	0	0
287	SLU 37	-8	-23	1134	0	0	0
287	SLU 38	-8	-21	1146	0	0	0
287	SLU 39	-8	-23	1166	0	0	0
287	SLU 40	-8	-21	1178	0	0	0
287	SLU 41	-8	-24	1175	0	0	0
287	SLU 42	-8	-21	1186	0	0	0
287	SLU 43	-8	-23	1104	0	0	0
287	SLU 44	-8	-19	1123	0	0	0
287	SLU 45	-8	-23	1119	0	0	0
287	SLU 46	-8	-21	1130	0	0	0
287	SLU 47	-8	-20	1132	0	0	0
287	SLU 48	-8	-24	1127	0	0	0
287	SLU 49	-9	-21	1139	0	0	0
287	SLU 50	-8	-24	1122	0	0	0
287	SLU 51	-9	-21	1133	0	0	0
287	SLU 52	-8	-21	1239	0	0	0
287	SLU 53	-8	-25	1234	0	0	0
287	SLU 54	-8	-23	1246	0	0	0
287	SLU 55	-9	-22	1248	0	0	0
287	SLU 56	-9	-26	1243	0	0	0
287	SLU 57	-9	-23	1255	0	0	0
287	SLU 58	-8	-26	1238	0	0	0
287	SLU 59	-9	-23	1249	0	0	0
287	SLU 60	-8	-26	1270	0	0	0
287	SLU 61	-8	-24	1281	0	0	0
287	SLU 62	-8	-26	1278	0	0	0
287	SLU 63	-8	-24	1290	0	0	0
287	SLU 64	-9	-25	1224	0	0	0
287	SLU 65	-9	-21	1243	0	0	0
287	SLU 66	-9	-26	1238	0	0	0
287	SLU 67	-9	-23	1250	0	0	0
287	SLU 68	-9	-22	1252	0	0	0
287	SLU 69	-9	-26	1247	0	0	0
287	SLU 70	-10	-24	1259	0	0	0
287	SLU 71	-9	-26	1242	0	0	0
287	SLU 72	-9	-23	1253	0	0	0
287	SLU 73	-9	-23	1359	0	0	0
287	SLU 74	-9	-28	1354	0	0	0
287	SLU 75	-9	-25	1366	0	0	0
287	SLU 76	-9	-24	1368	0	0	0
287	SLU 77	-9	-28	1363	0	0	0
287	SLU 78	-10	-25	1374	0	0	0
287	SLU 79	-9	-28	1357	0	0	0
287	SLU 80	-10	-25	1369	0	0	0
287	SLU 81	-9	-28	1389	0	0	0
287	SLU 82	-9	-26	1401	0	0	0
287	SLU 83	-9	-28	1398	0	0	0
287	SLU 84	-9	-26	1410	0	0	0
287	SLE RA 1	-7	-19	915	0	0	0
287	SLE RA 2	-7	-16	928	0	0	0
287	SLE RA 3	-7	-19	925	0	0	0
287	SLE RA 4	-7	-18	932	0	0	0
287	SLE RA 5	-7	-17	934	0	0	0
287	SLE RA 6	-7	-19	931	0	0	0
287	SLE RA 7	-7	-18	938	0	0	0
287	SLE RA 8	-7	-19	927	0	0	0
287	SLE RA 9	-7	-18	935	0	0	0
287	SLE RA 10	-7	-18	1005	0	0	0
287	SLE RA 11	-7	-20	1002	0	0	0
287	SLE RA 12	-7	-19	1010	0	0	0
287	SLE RA 13	-7	-18	1011	0	0	0
287	SLE RA 14	-7	-21	1008	0	0	0
287	SLE RA 15	-7	-19	1015	0	0	0
287	SLE RA 16	-7	-21	1004	0	0	0
287	SLE RA 17	-7	-19	1012	0	0	0
287	SLE RA 18	-7	-21	1025	0	0	0
287	SLE RA 19	-7	-19	1033	0	0	0
287	SLE RA 20	-7	-21	1031	0	0	0
287	SLE RA 21	-7	-19	1039	0	0	0
287	SLE FR 1	-7	-19	915	0	0	0
287	SLE FR 2	-7	-18	918	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
287	SLE FR 3	-7	-19	917	0	0	0
287	SLE FR 4	-7	-19	951	0	0	0
287	SLE FR 5	-7	-20	951	0	0	0
287	SLE FR 6	-7	-20	970	0	0	0
287	SLE QP 1	-7	-19	915	0	0	0
287	SLE QP 2	-7	-20	948	0	0	0
287	SLD 1	71	-3	1123	0	0	0
287	SLD 2	87	-10	1115	0	0	0
287	SLD 3	78	-47	878	0	0	0
287	SLD 4	94	-53	871	0	0	0
287	SLD 5	4	53	1373	0	0	0
287	SLD 6	14	48	1368	0	0	0
287	SLD 7	26	-92	557	0	0	0
287	SLD 8	36	-97	553	0	0	0
287	SLD 9	-50	58	1344	0	0	0
287	SLD 10	-40	53	1339	0	0	0
287	SLD 11	-27	-87	528	0	0	0
287	SLD 12	-17	-92	524	0	0	0
287	SLD 13	-107	14	1025	0	0	0
287	SLD 14	-92	8	1018	0	0	0
287	SLD 15	-100	-29	781	0	0	0
287	SLD 16	-85	-36	774	0	0	0
287	SLV 1	115	7	1227	0	0	0
287	SLV 2	140	-3	1216	0	0	0
287	SLV 3	126	-63	832	0	0	0
287	SLV 4	150	-74	821	0	0	0
287	SLV 5	9	97	1634	0	0	0
287	SLV 6	25	90	1626	0	0	0
287	SLV 7	45	-137	316	0	0	0
287	SLV 8	61	-144	308	0	0	0
287	SLV 9	-75	105	1588	0	0	0
287	SLV 10	-59	98	1581	0	0	0
287	SLV 11	-39	-129	270	0	0	0
287	SLV 12	-22	-136	263	0	0	0
287	SLV 13	-164	35	1076	0	0	0
287	SLV 14	-140	24	1065	0	0	0
287	SLV 15	-153	-36	680	0	0	0
287	SLV 16	-129	-46	669	0	0	0
287	SLV FO 1	128	10	1255	0	0	0
287	SLV FO 2	154	-2	1243	0	0	0
287	SLV FO 3	139	-68	820	0	0	0
287	SLV FO 4	166	-79	808	0	0	0
287	SLV FO 5	10	109	1702	0	0	0
287	SLV FO 6	28	101	1694	0	0	0
287	SLV FO 7	50	-149	253	0	0	0
287	SLV FO 8	68	-157	244	0	0	0
287	SLV FO 9	-82	118	1652	0	0	0
287	SLV FO 10	-64	110	1644	0	0	0
287	SLV FO 11	-42	-140	203	0	0	0
287	SLV FO 12	-24	-148	194	0	0	0
287	SLV FO 13	-180	40	1088	0	0	0
287	SLV FO 14	-153	29	1076	0	0	0
287	SLV FO 15	-168	-37	654	0	0	0
287	SLV FO 16	-141	-49	641	0	0	0
287	CRTFP Uy+	0	0	0	0	0	0
287	CRTFP Uy-	0	0	0	0	0	0
288	SLU 1	-6	-17	879	0	0	0
288	SLU 2	-6	-13	899	0	0	0
288	SLU 3	-6	-17	894	0	0	0
288	SLU 4	-7	-15	905	0	0	0
288	SLU 5	-7	-13	908	0	0	0
288	SLU 6	-7	-18	903	0	0	0
288	SLU 7	-7	-15	914	0	0	0
288	SLU 8	-7	-18	897	0	0	0
288	SLU 9	-7	-15	909	0	0	0
288	SLU 10	-7	-15	1014	0	0	0
288	SLU 11	-7	-19	1010	0	0	0
288	SLU 12	-7	-17	1021	0	0	0
288	SLU 13	-7	-15	1023	0	0	0
288	SLU 14	-7	-20	1019	0	0	0
288	SLU 15	-7	-17	1030	0	0	0
288	SLU 16	-7	-19	1013	0	0	0
288	SLU 17	-7	-17	1025	0	0	0
288	SLU 18	-6	-20	1045	0	0	0
288	SLU 19	-6	-17	1056	0	0	0
288	SLU 20	-6	-20	1054	0	0	0
288	SLU 21	-7	-18	1065	0	0	0
288	SLU 22	-7	-19	998	0	0	0
288	SLU 23	-7	-15	1018	0	0	0
288	SLU 24	-7	-19	1013	0	0	0
288	SLU 25	-8	-17	1024	0	0	0
288	SLU 26	-8	-15	1027	0	0	0
288	SLU 27	-8	-20	1022	0	0	0
288	SLU 28	-8	-17	1033	0	0	0
288	SLU 29	-8	-20	1016	0	0	0
288	SLU 30	-8	-17	1028	0	0	0
288	SLU 31	-7	-17	1133	0	0	0
288	SLU 32	-7	-21	1129	0	0	0
288	SLU 33	-8	-19	1140	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
288	SLU 34	-8	-17	1142	0	0	0
288	SLU 35	-8	-21	1138	0	0	0
288	SLU 36	-8	-19	1149	0	0	0
288	SLU 37	-8	-21	1132	0	0	0
288	SLU 38	-8	-19	1144	0	0	0
288	SLU 39	-7	-22	1164	0	0	0
288	SLU 40	-7	-19	1175	0	0	0
288	SLU 41	-7	-22	1173	0	0	0
288	SLU 42	-8	-20	1184	0	0	0
288	SLU 43	-8	-22	1103	0	0	0
288	SLU 44	-8	-18	1122	0	0	0
288	SLU 45	-8	-22	1117	0	0	0
288	SLU 46	-8	-20	1128	0	0	0
288	SLU 47	-8	-18	1131	0	0	0
288	SLU 48	-8	-22	1126	0	0	0
288	SLU 49	-8	-20	1137	0	0	0
288	SLU 50	-8	-22	1120	0	0	0
288	SLU 51	-8	-20	1132	0	0	0
288	SLU 52	-8	-20	1238	0	0	0
288	SLU 53	-8	-24	1233	0	0	0
288	SLU 54	-8	-21	1244	0	0	0
288	SLU 55	-8	-20	1246	0	0	0
288	SLU 56	-8	-24	1242	0	0	0
288	SLU 57	-8	-22	1253	0	0	0
288	SLU 58	-8	-24	1236	0	0	0
288	SLU 59	-8	-22	1248	0	0	0
288	SLU 60	-8	-24	1268	0	0	0
288	SLU 61	-8	-22	1280	0	0	0
288	SLU 62	-8	-24	1277	0	0	0
288	SLU 63	-8	-22	1288	0	0	0
288	SLU 64	-9	-24	1222	0	0	0
288	SLU 65	-9	-20	1241	0	0	0
288	SLU 66	-9	-24	1236	0	0	0
288	SLU 67	-9	-22	1247	0	0	0
288	SLU 68	-9	-20	1250	0	0	0
288	SLU 69	-9	-24	1245	0	0	0
288	SLU 70	-9	-22	1256	0	0	0
288	SLU 71	-9	-24	1239	0	0	0
288	SLU 72	-9	-22	1251	0	0	0
288	SLU 73	-9	-22	1357	0	0	0
288	SLU 74	-9	-26	1352	0	0	0
288	SLU 75	-9	-23	1363	0	0	0
288	SLU 76	-9	-22	1365	0	0	0
288	SLU 77	-9	-26	1361	0	0	0
288	SLU 78	-9	-24	1372	0	0	0
288	SLU 79	-9	-26	1355	0	0	0
288	SLU 80	-9	-24	1367	0	0	0
288	SLU 81	-9	-26	1387	0	0	0
288	SLU 82	-9	-24	1399	0	0	0
288	SLU 83	-9	-26	1396	0	0	0
288	SLU 84	-9	-24	1407	0	0	0
288	SLE RA 1	-7	-18	913	0	0	0
288	SLE RA 2	-7	-15	926	0	0	0
288	SLE RA 3	-7	-18	923	0	0	0
288	SLE RA 4	-7	-16	931	0	0	0
288	SLE RA 5	-7	-15	932	0	0	0
288	SLE RA 6	-7	-18	929	0	0	0
288	SLE RA 7	-7	-16	937	0	0	0
288	SLE RA 8	-7	-18	925	0	0	0
288	SLE RA 9	-7	-16	933	0	0	0
288	SLE RA 10	-7	-16	1003	0	0	0
288	SLE RA 11	-7	-19	1000	0	0	0
288	SLE RA 12	-7	-18	1008	0	0	0
288	SLE RA 13	-7	-16	1009	0	0	0
288	SLE RA 14	-7	-19	1006	0	0	0
288	SLE RA 15	-7	-18	1014	0	0	0
288	SLE RA 16	-7	-19	1003	0	0	0
288	SLE RA 17	-7	-18	1010	0	0	0
288	SLE RA 18	-7	-19	1024	0	0	0
288	SLE RA 19	-7	-18	1031	0	0	0
288	SLE RA 20	-7	-20	1030	0	0	0
288	SLE RA 21	-7	-18	1037	0	0	0
288	SLE FR 1	-7	-18	913	0	0	0
288	SLE FR 2	-7	-17	916	0	0	0
288	SLE FR 3	-7	-18	916	0	0	0
288	SLE FR 4	-7	-18	949	0	0	0
288	SLE FR 5	-7	-18	949	0	0	0
288	SLE FR 6	-7	-19	969	0	0	0
288	SLE QP 1	-7	-18	913	0	0	0
288	SLE QP 2	-7	-18	947	0	0	0
288	SLD 1	73	0	1112	0	0	0
288	SLD 2	89	-7	1106	0	0	0
288	SLD 3	80	-46	868	0	0	0
288	SLD 4	96	-52	862	0	0	0
288	SLD 5	4	57	1367	0	0	0
288	SLD 6	15	53	1363	0	0	0
288	SLD 7	27	-94	554	0	0	0
288	SLD 8	37	-98	550	0	0	0
288	SLD 9	-50	61	1343	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
288	SLD 10	-40	57	1339	0	0	0
288	SLD 11	-28	-89	530	0	0	0
288	SLD 12	-17	-93	526	0	0	0
288	SLD 13	-109	15	1031	0	0	0
288	SLD 14	-93	9	1025	0	0	0
288	SLD 15	-102	-30	787	0	0	0
288	SLD 16	-86	-36	781	0	0	0
288	SLV 1	118	11	1212	0	0	0
288	SLV 2	143	1	1202	0	0	0
288	SLV 3	129	-62	818	0	0	0
288	SLV 4	153	-72	808	0	0	0
288	SLV 5	10	103	1626	0	0	0
288	SLV 6	26	96	1619	0	0	0
288	SLV 7	46	-140	312	0	0	0
288	SLV 8	62	-147	305	0	0	0
288	SLV 9	-76	110	1588	0	0	0
288	SLV 10	-59	104	1581	0	0	0
288	SLV 11	-40	-133	274	0	0	0
288	SLV 12	-23	-139	267	0	0	0
288	SLV 13	-167	35	1085	0	0	0
288	SLV 14	-142	26	1075	0	0	0
288	SLV 15	-156	-38	691	0	0	0
288	SLV 16	-131	-47	681	0	0	0
288	SLV FO 1	130	14	1239	0	0	0
288	SLV FO 2	158	3	1228	0	0	0
288	SLV FO 3	142	-67	805	0	0	0
288	SLV FO 4	169	-77	794	0	0	0
288	SLV FO 5	11	115	1694	0	0	0
288	SLV FO 6	30	108	1686	0	0	0
288	SLV FO 7	51	-152	249	0	0	0
288	SLV FO 8	69	-160	241	0	0	0
288	SLV FO 9	-82	123	1652	0	0	0
288	SLV FO 10	-64	116	1645	0	0	0
288	SLV FO 11	-43	-144	207	0	0	0
288	SLV FO 12	-25	-151	199	0	0	0
288	SLV FO 13	-183	41	1099	0	0	0
288	SLV FO 14	-155	30	1088	0	0	0
288	SLV FO 15	-171	-40	666	0	0	0
288	SLV FO 16	-143	-50	654	0	0	0
288	CRTFP Uy+	0	0	0	0	0	0
288	CRTFP Uy-	0	0	0	0	0	0
289	SLU 1	-6	-16	881	0	0	0
289	SLU 2	-6	-12	901	0	0	0
289	SLU 3	-6	-16	896	0	0	0
289	SLU 4	-7	-14	907	0	0	0
289	SLU 5	-7	-12	910	0	0	0
289	SLU 6	-7	-16	905	0	0	0
289	SLU 7	-7	-14	916	0	0	0
289	SLU 8	-6	-16	899	0	0	0
289	SLU 9	-7	-14	911	0	0	0
289	SLU 10	-6	-13	1017	0	0	0
289	SLU 11	-6	-18	1012	0	0	0
289	SLU 12	-7	-15	1024	0	0	0
289	SLU 13	-7	-14	1026	0	0	0
289	SLU 14	-7	-18	1021	0	0	0
289	SLU 15	-7	-15	1033	0	0	0
289	SLU 16	-7	-18	1016	0	0	0
289	SLU 17	-7	-15	1027	0	0	0
289	SLU 18	-6	-18	1048	0	0	0
289	SLU 19	-6	-16	1059	0	0	0
289	SLU 20	-6	-18	1057	0	0	0
289	SLU 21	-7	-16	1068	0	0	0
289	SLU 22	-7	-17	1000	0	0	0
289	SLU 23	-7	-13	1019	0	0	0
289	SLU 24	-7	-18	1015	0	0	0
289	SLU 25	-7	-15	1026	0	0	0
289	SLU 26	-7	-14	1028	0	0	0
289	SLU 27	-7	-18	1024	0	0	0
289	SLU 28	-8	-15	1035	0	0	0
289	SLU 29	-7	-18	1018	0	0	0
289	SLU 30	-8	-15	1030	0	0	0
289	SLU 31	-7	-15	1136	0	0	0
289	SLU 32	-7	-19	1131	0	0	0
289	SLU 33	-7	-17	1143	0	0	0
289	SLU 34	-7	-15	1145	0	0	0
289	SLU 35	-7	-20	1140	0	0	0
289	SLU 36	-8	-17	1152	0	0	0
289	SLU 37	-7	-19	1135	0	0	0
289	SLU 38	-8	-17	1146	0	0	0
289	SLU 39	-7	-20	1167	0	0	0
289	SLU 40	-7	-17	1178	0	0	0
289	SLU 41	-7	-20	1176	0	0	0
289	SLU 42	-7	-18	1187	0	0	0
289	SLU 43	-8	-20	1105	0	0	0
289	SLU 44	-8	-16	1124	0	0	0
289	SLU 45	-8	-20	1119	0	0	0
289	SLU 46	-8	-18	1131	0	0	0
289	SLU 47	-8	-16	1133	0	0	0
289	SLU 48	-8	-20	1128	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLU 49	-8	-18	1140	0	0	0
289	SLU 50	-8	-20	1123	0	0	0
289	SLU 51	-8	-18	1134	0	0	0
289	SLU 52	-8	-17	1241	0	0	0
289	SLU 53	-8	-22	1236	0	0	0
289	SLU 54	-8	-19	1248	0	0	0
289	SLU 55	-8	-18	1250	0	0	0
289	SLU 56	-8	-22	1245	0	0	0
289	SLU 57	-8	-19	1256	0	0	0
289	SLU 58	-8	-22	1239	0	0	0
289	SLU 59	-8	-19	1251	0	0	0
289	SLU 60	-8	-22	1272	0	0	0
289	SLU 61	-8	-20	1283	0	0	0
289	SLU 62	-8	-22	1280	0	0	0
289	SLU 63	-8	-20	1292	0	0	0
289	SLU 64	-9	-21	1224	0	0	0
289	SLU 65	-9	-17	1243	0	0	0
289	SLU 66	-9	-22	1238	0	0	0
289	SLU 67	-9	-19	1250	0	0	0
289	SLU 68	-9	-18	1252	0	0	0
289	SLU 69	-9	-22	1247	0	0	0
289	SLU 70	-9	-20	1259	0	0	0
289	SLU 71	-9	-22	1242	0	0	0
289	SLU 72	-9	-19	1253	0	0	0
289	SLU 73	-9	-19	1360	0	0	0
289	SLU 74	-9	-23	1355	0	0	0
289	SLU 75	-9	-21	1366	0	0	0
289	SLU 76	-9	-19	1369	0	0	0
289	SLU 77	-9	-24	1364	0	0	0
289	SLU 78	-9	-21	1375	0	0	0
289	SLU 79	-9	-24	1358	0	0	0
289	SLU 80	-9	-21	1370	0	0	0
289	SLU 81	-9	-24	1390	0	0	0
289	SLU 82	-9	-22	1402	0	0	0
289	SLU 83	-9	-24	1399	0	0	0
289	SLU 84	-9	-22	1411	0	0	0
289	SLE RA 1	-6	-16	915	0	0	0
289	SLE RA 2	-7	-13	928	0	0	0
289	SLE RA 3	-7	-16	925	0	0	0
289	SLE RA 4	-7	-15	933	0	0	0
289	SLE RA 5	-7	-14	934	0	0	0
289	SLE RA 6	-7	-16	931	0	0	0
289	SLE RA 7	-7	-15	939	0	0	0
289	SLE RA 8	-7	-16	927	0	0	0
289	SLE RA 9	-7	-15	935	0	0	0
289	SLE RA 10	-7	-15	1006	0	0	0
289	SLE RA 11	-7	-17	1003	0	0	0
289	SLE RA 12	-7	-16	1010	0	0	0
289	SLE RA 13	-7	-15	1012	0	0	0
289	SLE RA 14	-7	-18	1009	0	0	0
289	SLE RA 15	-7	-16	1016	0	0	0
289	SLE RA 16	-7	-18	1005	0	0	0
289	SLE RA 17	-7	-16	1013	0	0	0
289	SLE RA 18	-6	-18	1026	0	0	0
289	SLE RA 19	-7	-16	1034	0	0	0
289	SLE RA 20	-7	-18	1032	0	0	0
289	SLE RA 21	-7	-16	1040	0	0	0
289	SLE FR 1	-6	-16	915	0	0	0
289	SLE FR 2	-6	-16	918	0	0	0
289	SLE FR 3	-6	-16	918	0	0	0
289	SLE FR 4	-6	-16	951	0	0	0
289	SLE FR 5	-7	-17	951	0	0	0
289	SLE FR 6	-6	-17	971	0	0	0
289	SLE QP 1	-6	-16	915	0	0	0
289	SLE QP 2	-6	-17	949	0	0	0
289	SLD 1	74	3	1106	0	0	0
289	SLD 2	90	-3	1100	0	0	0
289	SLD 3	81	-44	862	0	0	0
289	SLD 4	97	-49	856	0	0	0
289	SLD 5	5	61	1367	0	0	0
289	SLD 6	15	57	1364	0	0	0
289	SLD 7	27	-94	553	0	0	0
289	SLD 8	38	-98	550	0	0	0
289	SLD 9	-50	65	1348	0	0	0
289	SLD 10	-40	61	1344	0	0	0
289	SLD 11	-28	-90	534	0	0	0
289	SLD 12	-18	-94	530	0	0	0
289	SLD 13	-109	16	1041	0	0	0
289	SLD 14	-94	11	1035	0	0	0
289	SLD 15	-103	-31	797	0	0	0
289	SLD 16	-87	-36	791	0	0	0
289	SLV 1	119	15	1202	0	0	0
289	SLV 2	144	6	1192	0	0	0
289	SLV 3	130	-60	807	0	0	0
289	SLV 4	155	-69	798	0	0	0
289	SLV 5	10	108	1625	0	0	0
289	SLV 6	27	103	1619	0	0	0
289	SLV 7	46	-142	309	0	0	0
289	SLV 8	63	-148	303	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
289	SLV 9	-76	115	1594	0	0	0
289	SLV 10	-59	109	1588	0	0	0
289	SLV 11	-40	-136	278	0	0	0
289	SLV 12	-23	-142	272	0	0	0
289	SLV 13	-168	36	1100	0	0	0
289	SLV 14	-143	27	1090	0	0	0
289	SLV 15	-157	-40	705	0	0	0
289	SLV 16	-132	-48	696	0	0	0
289	SLV FO 1	132	18	1227	0	0	0
289	SLV FO 2	159	9	1217	0	0	0
289	SLV FO 3	144	-65	793	0	0	0
289	SLV FO 4	171	-74	783	0	0	0
289	SLV FO 5	12	121	1692	0	0	0
289	SLV FO 6	30	115	1686	0	0	0
289	SLV FO 7	51	-155	245	0	0	0
289	SLV FO 8	70	-161	238	0	0	0
289	SLV FO 9	-83	128	1659	0	0	0
289	SLV FO 10	-64	122	1652	0	0	0
289	SLV FO 11	-43	-148	211	0	0	0
289	SLV FO 12	-25	-154	205	0	0	0
289	SLV FO 13	-184	41	1115	0	0	0
289	SLV FO 14	-157	32	1105	0	0	0
289	SLV FO 15	-172	-42	680	0	0	0
289	SLV FO 16	-145	-51	670	0	0	0
289	CRTFP Uy+	0	0	0	0	0	0
289	CRTFP Uy-	0	0	0	0	0	0
290	SLU 1	-6	-14	894	0	0	0
290	SLU 2	-6	-10	914	0	0	0
290	SLU 3	-6	-14	909	0	0	0
290	SLU 4	-6	-12	921	0	0	0
290	SLU 5	-6	-10	923	0	0	0
290	SLU 6	-6	-14	918	0	0	0
290	SLU 7	-7	-12	930	0	0	0
290	SLU 8	-6	-14	912	0	0	0
290	SLU 9	-7	-12	924	0	0	0
290	SLU 10	-6	-11	1033	0	0	0
290	SLU 11	-6	-16	1028	0	0	0
290	SLU 12	-6	-13	1040	0	0	0
290	SLU 13	-6	-12	1042	0	0	0
290	SLU 14	-6	-16	1037	0	0	0
290	SLU 15	-7	-13	1049	0	0	0
290	SLU 16	-6	-16	1032	0	0	0
290	SLU 17	-7	-13	1043	0	0	0
290	SLU 18	-6	-16	1064	0	0	0
290	SLU 19	-6	-14	1076	0	0	0
290	SLU 20	-6	-16	1073	0	0	0
290	SLU 21	-6	-14	1085	0	0	0
290	SLU 22	-7	-16	1015	0	0	0
290	SLU 23	-7	-11	1035	0	0	0
290	SLU 24	-7	-16	1030	0	0	0
290	SLU 25	-7	-13	1041	0	0	0
290	SLU 26	-7	-12	1044	0	0	0
290	SLU 27	-7	-16	1039	0	0	0
290	SLU 28	-7	-14	1050	0	0	0
290	SLU 29	-7	-16	1033	0	0	0
290	SLU 30	-7	-13	1045	0	0	0
290	SLU 31	-7	-13	1154	0	0	0
290	SLU 32	-7	-17	1149	0	0	0
290	SLU 33	-7	-15	1160	0	0	0
290	SLU 34	-7	-13	1163	0	0	0
290	SLU 35	-7	-18	1158	0	0	0
290	SLU 36	-8	-15	1169	0	0	0
290	SLU 37	-7	-17	1152	0	0	0
290	SLU 38	-7	-15	1164	0	0	0
290	SLU 39	-7	-18	1185	0	0	0
290	SLU 40	-7	-15	1197	0	0	0
290	SLU 41	-7	-18	1194	0	0	0
290	SLU 42	-7	-15	1206	0	0	0
290	SLU 43	-8	-18	1121	0	0	0
290	SLU 44	-8	-14	1141	0	0	0
290	SLU 45	-8	-18	1136	0	0	0
290	SLU 46	-8	-15	1148	0	0	0
290	SLU 47	-8	-14	1150	0	0	0
290	SLU 48	-8	-18	1145	0	0	0
290	SLU 49	-8	-16	1157	0	0	0
290	SLU 50	-8	-18	1139	0	0	0
290	SLU 51	-8	-16	1151	0	0	0
290	SLU 52	-8	-15	1260	0	0	0
290	SLU 53	-8	-19	1255	0	0	0
290	SLU 54	-8	-17	1267	0	0	0
290	SLU 55	-8	-15	1269	0	0	0
290	SLU 56	-8	-20	1264	0	0	0
290	SLU 57	-8	-17	1276	0	0	0
290	SLU 58	-8	-20	1258	0	0	0
290	SLU 59	-8	-17	1270	0	0	0
290	SLU 60	-8	-20	1291	0	0	0
290	SLU 61	-8	-17	1303	0	0	0
290	SLU 62	-8	-20	1300	0	0	0
290	SLU 63	-8	-18	1312	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLU 64	-9	-19	1242	0	0	0
290	SLU 65	-9	-15	1261	0	0	0
290	SLU 66	-9	-19	1257	0	0	0
290	SLU 67	-9	-17	1268	0	0	0
290	SLU 68	-9	-15	1271	0	0	0
290	SLU 69	-9	-20	1266	0	0	0
290	SLU 70	-9	-17	1277	0	0	0
290	SLU 71	-9	-20	1260	0	0	0
290	SLU 72	-9	-17	1272	0	0	0
290	SLU 73	-9	-17	1381	0	0	0
290	SLU 74	-9	-21	1376	0	0	0
290	SLU 75	-9	-19	1387	0	0	0
290	SLU 76	-9	-17	1390	0	0	0
290	SLU 77	-9	-21	1385	0	0	0
290	SLU 78	-9	-19	1396	0	0	0
290	SLU 79	-9	-21	1379	0	0	0
290	SLU 80	-9	-19	1391	0	0	0
290	SLU 81	-9	-21	1412	0	0	0
290	SLU 82	-9	-19	1424	0	0	0
290	SLU 83	-9	-22	1421	0	0	0
290	SLU 84	-9	-19	1433	0	0	0
290	SLE RA 1	-6	-14	929	0	0	0
290	SLE RA 2	-7	-12	942	0	0	0
290	SLE RA 3	-6	-15	939	0	0	0
290	SLE RA 4	-7	-13	946	0	0	0
290	SLE RA 5	-7	-12	948	0	0	0
290	SLE RA 6	-7	-15	945	0	0	0
290	SLE RA 7	-7	-13	952	0	0	0
290	SLE RA 8	-7	-15	941	0	0	0
290	SLE RA 9	-7	-13	949	0	0	0
290	SLE RA 10	-7	-13	1021	0	0	0
290	SLE RA 11	-7	-16	1018	0	0	0
290	SLE RA 12	-7	-14	1026	0	0	0
290	SLE RA 13	-7	-13	1027	0	0	0
290	SLE RA 14	-7	-16	1024	0	0	0
290	SLE RA 15	-7	-14	1032	0	0	0
290	SLE RA 16	-7	-16	1020	0	0	0
290	SLE RA 17	-7	-14	1028	0	0	0
290	SLE RA 18	-6	-16	1042	0	0	0
290	SLE RA 19	-6	-14	1050	0	0	0
290	SLE RA 20	-6	-16	1048	0	0	0
290	SLE RA 21	-7	-14	1056	0	0	0
290	SLE FR 1	-6	-14	929	0	0	0
290	SLE FR 2	-6	-14	931	0	0	0
290	SLE FR 3	-6	-14	931	0	0	0
290	SLE FR 4	-6	-14	965	0	0	0
290	SLE FR 5	-6	-15	965	0	0	0
290	SLE FR 6	-6	-15	985	0	0	0
290	SLE QP 1	-6	-14	929	0	0	0
290	SLE QP 2	-6	-15	963	0	0	0
290	SLD 1	75	6	1114	0	0	0
290	SLD 2	91	1	1109	0	0	0
290	SLD 3	81	-42	867	0	0	0
290	SLD 4	97	-47	862	0	0	0
290	SLD 5	5	65	1385	0	0	0
290	SLD 6	15	62	1381	0	0	0
290	SLD 7	27	-95	560	0	0	0
290	SLD 8	38	-98	556	0	0	0
290	SLD 9	-51	68	1370	0	0	0
290	SLD 10	-40	65	1366	0	0	0
290	SLD 11	-28	-92	544	0	0	0
290	SLD 12	-18	-95	541	0	0	0
290	SLD 13	-110	17	1064	0	0	0
290	SLD 14	-94	12	1059	0	0	0
290	SLD 15	-104	-31	817	0	0	0
290	SLD 16	-87	-36	811	0	0	0
290	SLV 1	120	19	1206	0	0	0
290	SLV 2	146	12	1198	0	0	0
290	SLV 3	131	-58	806	0	0	0
290	SLV 4	156	-66	798	0	0	0
290	SLV 5	11	114	1644	0	0	0
290	SLV 6	28	109	1639	0	0	0
290	SLV 7	46	-144	310	0	0	0
290	SLV 8	63	-149	305	0	0	0
290	SLV 9	-76	119	1621	0	0	0
290	SLV 10	-59	114	1615	0	0	0
290	SLV 11	-40	-139	287	0	0	0
290	SLV 12	-23	-144	281	0	0	0
290	SLV 13	-169	36	1128	0	0	0
290	SLV 14	-144	29	1120	0	0	0
290	SLV 15	-158	-42	728	0	0	0
290	SLV 16	-133	-49	719	0	0	0
290	SLV FO 1	133	22	1231	0	0	0
290	SLV FO 2	161	15	1222	0	0	0
290	SLV FO 3	145	-63	790	0	0	0
290	SLV FO 4	173	-71	781	0	0	0
290	SLV FO 5	12	127	1712	0	0	0
290	SLV FO 6	31	122	1706	0	0	0
290	SLV FO 7	52	-157	245	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
290	SLV FO 8	70	-162	239	0	0	0
290	SLV FO 9	-83	133	1686	0	0	0
290	SLV FO 10	-65	127	1680	0	0	0
290	SLV FO 11	-44	-152	219	0	0	0
290	SLV FO 12	-25	-157	213	0	0	0
290	SLV FO 13	-185	41	1144	0	0	0
290	SLV FO 14	-158	33	1135	0	0	0
290	SLV FO 15	-174	-44	704	0	0	0
290	SLV FO 16	-146	-52	695	0	0	0
290	CRTFP Uy+	0	0	0	0	0	0
290	CRTFP Uy-	0	0	0	0	0	0
291	SLU 1	-6	-12	925	0	0	0
291	SLU 2	-6	-8	946	0	0	0
291	SLU 3	-6	-13	940	0	0	0
291	SLU 4	-6	-10	953	0	0	0
291	SLU 5	-6	-8	955	0	0	0
291	SLU 6	-6	-13	950	0	0	0
291	SLU 7	-7	-10	962	0	0	0
291	SLU 8	-6	-13	944	0	0	0
291	SLU 9	-7	-10	956	0	0	0
291	SLU 10	-6	-9	1070	0	0	0
291	SLU 11	-6	-14	1065	0	0	0
291	SLU 12	-6	-11	1077	0	0	0
291	SLU 13	-6	-10	1079	0	0	0
291	SLU 14	-6	-14	1074	0	0	0
291	SLU 15	-7	-12	1086	0	0	0
291	SLU 16	-6	-14	1068	0	0	0
291	SLU 17	-7	-11	1080	0	0	0
291	SLU 18	-6	-14	1103	0	0	0
291	SLU 19	-6	-12	1115	0	0	0
291	SLU 20	-6	-14	1112	0	0	0
291	SLU 21	-6	-12	1124	0	0	0
291	SLU 22	-7	-14	1050	0	0	0
291	SLU 23	-7	-9	1070	0	0	0
291	SLU 24	-7	-14	1065	0	0	0
291	SLU 25	-7	-11	1078	0	0	0
291	SLU 26	-7	-10	1080	0	0	0
291	SLU 27	-7	-14	1075	0	0	0
291	SLU 28	-7	-12	1087	0	0	0
291	SLU 29	-7	-14	1069	0	0	0
291	SLU 30	-7	-11	1081	0	0	0
291	SLU 31	-7	-11	1195	0	0	0
291	SLU 32	-7	-15	1189	0	0	0
291	SLU 33	-7	-13	1202	0	0	0
291	SLU 34	-7	-11	1204	0	0	0
291	SLU 35	-7	-15	1199	0	0	0
291	SLU 36	-7	-13	1211	0	0	0
291	SLU 37	-7	-15	1193	0	0	0
291	SLU 38	-7	-13	1205	0	0	0
291	SLU 39	-7	-16	1227	0	0	0
291	SLU 40	-7	-13	1240	0	0	0
291	SLU 41	-7	-16	1237	0	0	0
291	SLU 42	-7	-13	1249	0	0	0
291	SLU 43	-8	-16	1160	0	0	0
291	SLU 44	-8	-11	1180	0	0	0
291	SLU 45	-8	-16	1175	0	0	0
291	SLU 46	-8	-13	1187	0	0	0
291	SLU 47	-8	-11	1190	0	0	0
291	SLU 48	-8	-16	1185	0	0	0
291	SLU 49	-8	-13	1197	0	0	0
291	SLU 50	-8	-16	1179	0	0	0
291	SLU 51	-8	-13	1191	0	0	0
291	SLU 52	-8	-13	1304	0	0	0
291	SLU 53	-8	-17	1299	0	0	0
291	SLU 54	-8	-15	1312	0	0	0
291	SLU 55	-8	-13	1314	0	0	0
291	SLU 56	-8	-17	1309	0	0	0
291	SLU 57	-8	-15	1321	0	0	0
291	SLU 58	-8	-17	1303	0	0	0
291	SLU 59	-8	-15	1315	0	0	0
291	SLU 60	-8	-18	1337	0	0	0
291	SLU 61	-8	-15	1349	0	0	0
291	SLU 62	-8	-18	1347	0	0	0
291	SLU 63	-8	-15	1359	0	0	0
291	SLU 64	-9	-17	1285	0	0	0
291	SLU 65	-9	-13	1305	0	0	0
291	SLU 66	-9	-17	1300	0	0	0
291	SLU 67	-9	-15	1312	0	0	0
291	SLU 68	-9	-13	1315	0	0	0
291	SLU 69	-9	-17	1310	0	0	0
291	SLU 70	-9	-15	1322	0	0	0
291	SLU 71	-9	-17	1304	0	0	0
291	SLU 72	-9	-15	1316	0	0	0
291	SLU 73	-9	-14	1429	0	0	0
291	SLU 74	-9	-18	1424	0	0	0
291	SLU 75	-9	-16	1436	0	0	0
291	SLU 76	-9	-14	1439	0	0	0
291	SLU 77	-9	-19	1434	0	0	0
291	SLU 78	-9	-16	1446	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLU 79	-9	-19	1428	0	0	0
291	SLU 80	-9	-16	1440	0	0	0
291	SLU 81	-9	-19	1462	0	0	0
291	SLU 82	-9	-16	1474	0	0	0
291	SLU 83	-9	-19	1472	0	0	0
291	SLU 84	-9	-16	1484	0	0	0
291	SLE RA 1	-6	-13	961	0	0	0
291	SLE RA 2	-6	-10	974	0	0	0
291	SLE RA 3	-6	-13	971	0	0	0
291	SLE RA 4	-7	-11	979	0	0	0
291	SLE RA 5	-7	-10	981	0	0	0
291	SLE RA 6	-7	-13	977	0	0	0
291	SLE RA 7	-7	-11	986	0	0	0
291	SLE RA 8	-7	-13	973	0	0	0
291	SLE RA 9	-7	-11	982	0	0	0
291	SLE RA 10	-7	-11	1057	0	0	0
291	SLE RA 11	-6	-14	1054	0	0	0
291	SLE RA 12	-7	-12	1062	0	0	0
291	SLE RA 13	-7	-11	1063	0	0	0
291	SLE RA 14	-7	-14	1060	0	0	0
291	SLE RA 15	-7	-12	1068	0	0	0
291	SLE RA 16	-7	-14	1056	0	0	0
291	SLE RA 17	-7	-12	1064	0	0	0
291	SLE RA 18	-6	-14	1079	0	0	0
291	SLE RA 19	-6	-12	1087	0	0	0
291	SLE RA 20	-6	-14	1085	0	0	0
291	SLE RA 21	-7	-12	1094	0	0	0
291	SLE FR 1	-6	-13	961	0	0	0
291	SLE FR 2	-6	-12	964	0	0	0
291	SLE FR 3	-6	-13	963	0	0	0
291	SLE FR 4	-6	-13	999	0	0	0
291	SLE FR 5	-6	-13	999	0	0	0
291	SLE FR 6	-6	-13	1020	0	0	0
291	SLE QP 1	-6	-13	961	0	0	0
291	SLE QP 2	-6	-13	996	0	0	0
291	SLD 1	76	10	1144	0	0	0
291	SLD 2	92	6	1140	0	0	0
291	SLD 3	83	-40	889	0	0	0
291	SLD 4	99	-44	884	0	0	0
291	SLD 5	5	70	1429	0	0	0
291	SLD 6	16	67	1426	0	0	0
291	SLD 7	28	-96	577	0	0	0
291	SLD 8	38	-98	574	0	0	0
291	SLD 9	-51	72	1418	0	0	0
291	SLD 10	-40	70	1415	0	0	0
291	SLD 11	-29	-93	567	0	0	0
291	SLD 12	-18	-96	564	0	0	0
291	SLD 13	-112	18	1108	0	0	0
291	SLD 14	-95	14	1104	0	0	0
291	SLD 15	-105	-32	853	0	0	0
291	SLD 16	-89	-36	848	0	0	0
291	SLV 1	122	24	1235	0	0	0
291	SLV 2	148	18	1227	0	0	0
291	SLV 3	133	-57	822	0	0	0
291	SLV 4	158	-62	814	0	0	0
291	SLV 5	11	121	1696	0	0	0
291	SLV 6	28	117	1691	0	0	0
291	SLV 7	47	-147	319	0	0	0
291	SLV 8	64	-151	314	0	0	0
291	SLV 9	-77	125	1679	0	0	0
291	SLV 10	-60	121	1674	0	0	0
291	SLV 11	-41	-143	302	0	0	0
291	SLV 12	-24	-147	297	0	0	0
291	SLV 13	-171	36	1178	0	0	0
291	SLV 14	-146	30	1171	0	0	0
291	SLV 15	-160	-44	765	0	0	0
291	SLV 16	-135	-50	758	0	0	0
291	SLV FO 1	135	27	1259	0	0	0
291	SLV FO 2	163	21	1250	0	0	0
291	SLV FO 3	147	-61	804	0	0	0
291	SLV FO 4	175	-67	796	0	0	0
291	SLV FO 5	13	134	1766	0	0	0
291	SLV FO 6	32	130	1760	0	0	0
291	SLV FO 7	53	-160	251	0	0	0
291	SLV FO 8	71	-165	246	0	0	0
291	SLV FO 9	-84	138	1747	0	0	0
291	SLV FO 10	-65	134	1742	0	0	0
291	SLV FO 11	-44	-156	233	0	0	0
291	SLV FO 12	-25	-160	227	0	0	0
291	SLV FO 13	-188	41	1197	0	0	0
291	SLV FO 14	-160	35	1188	0	0	0
291	SLV FO 15	-176	-47	742	0	0	0
291	SLV FO 16	-148	-54	734	0	0	0
291	CRTFP Uy+	0	0	0	0	0	0
291	CRTFP Uy-	0	0	0	0	0	0
292	SLU 1	-6	-11	997	0	0	0
292	SLU 2	-6	-6	1019	0	0	0
292	SLU 3	-6	-11	1014	0	0	0
292	SLU 4	-7	-8	1027	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
292	SLU 5	-7	-6	1029	0	0	0
292	SLU 6	-7	-11	1024	0	0	0
292	SLU 7	-7	-8	1037	0	0	0
292	SLU 8	-7	-11	1017	0	0	0
292	SLU 9	-7	-8	1031	0	0	0
292	SLU 10	-6	-8	1154	0	0	0
292	SLU 11	-6	-12	1149	0	0	0
292	SLU 12	-7	-10	1162	0	0	0
292	SLU 13	-7	-8	1164	0	0	0
292	SLU 14	-7	-12	1159	0	0	0
292	SLU 15	-7	-10	1172	0	0	0
292	SLU 16	-7	-12	1153	0	0	0
292	SLU 17	-7	-10	1166	0	0	0
292	SLU 18	-6	-13	1190	0	0	0
292	SLU 19	-6	-10	1203	0	0	0
292	SLU 20	-6	-13	1200	0	0	0
292	SLU 21	-6	-10	1213	0	0	0
292	SLU 22	-7	-12	1132	0	0	0
292	SLU 23	-7	-7	1154	0	0	0
292	SLU 24	-7	-12	1149	0	0	0
292	SLU 25	-7	-9	1162	0	0	0
292	SLU 26	-7	-8	1164	0	0	0
292	SLU 27	-7	-12	1159	0	0	0
292	SLU 28	-8	-10	1172	0	0	0
292	SLU 29	-7	-12	1153	0	0	0
292	SLU 30	-8	-10	1166	0	0	0
292	SLU 31	-7	-9	1289	0	0	0
292	SLU 32	-7	-13	1284	0	0	0
292	SLU 33	-7	-11	1297	0	0	0
292	SLU 34	-7	-9	1299	0	0	0
292	SLU 35	-7	-13	1294	0	0	0
292	SLU 36	-8	-11	1307	0	0	0
292	SLU 37	-7	-13	1288	0	0	0
292	SLU 38	-8	-11	1301	0	0	0
292	SLU 39	-7	-14	1325	0	0	0
292	SLU 40	-7	-11	1338	0	0	0
292	SLU 41	-7	-14	1335	0	0	0
292	SLU 42	-7	-11	1348	0	0	0
292	SLU 43	-8	-14	1250	0	0	0
292	SLU 44	-8	-9	1272	0	0	0
292	SLU 45	-8	-14	1266	0	0	0
292	SLU 46	-8	-11	1280	0	0	0
292	SLU 47	-8	-9	1282	0	0	0
292	SLU 48	-8	-14	1277	0	0	0
292	SLU 49	-8	-11	1290	0	0	0
292	SLU 50	-8	-14	1270	0	0	0
292	SLU 51	-8	-11	1283	0	0	0
292	SLU 52	-8	-10	1407	0	0	0
292	SLU 53	-8	-15	1401	0	0	0
292	SLU 54	-8	-12	1415	0	0	0
292	SLU 55	-8	-11	1417	0	0	0
292	SLU 56	-8	-15	1412	0	0	0
292	SLU 57	-8	-13	1425	0	0	0
292	SLU 58	-8	-15	1405	0	0	0
292	SLU 59	-8	-12	1418	0	0	0
292	SLU 60	-8	-15	1443	0	0	0
292	SLU 61	-8	-13	1456	0	0	0
292	SLU 62	-8	-16	1453	0	0	0
292	SLU 63	-8	-13	1466	0	0	0
292	SLU 64	-9	-15	1385	0	0	0
292	SLU 65	-9	-10	1407	0	0	0
292	SLU 66	-9	-15	1401	0	0	0
292	SLU 67	-9	-12	1415	0	0	0
292	SLU 68	-9	-10	1417	0	0	0
292	SLU 69	-9	-15	1412	0	0	0
292	SLU 70	-9	-12	1425	0	0	0
292	SLU 71	-9	-15	1405	0	0	0
292	SLU 72	-9	-12	1418	0	0	0
292	SLU 73	-9	-12	1542	0	0	0
292	SLU 74	-9	-16	1536	0	0	0
292	SLU 75	-9	-14	1550	0	0	0
292	SLU 76	-9	-12	1552	0	0	0
292	SLU 77	-9	-16	1547	0	0	0
292	SLU 78	-9	-14	1560	0	0	0
292	SLU 79	-9	-16	1540	0	0	0
292	SLU 80	-9	-14	1553	0	0	0
292	SLU 81	-9	-17	1578	0	0	0
292	SLU 82	-9	-14	1591	0	0	0
292	SLU 83	-9	-17	1588	0	0	0
292	SLU 84	-9	-14	1601	0	0	0
292	SLE RA 1	-6	-11	1036	0	0	0
292	SLE RA 2	-7	-8	1050	0	0	0
292	SLE RA 3	-7	-11	1047	0	0	0
292	SLE RA 4	-7	-9	1055	0	0	0
292	SLE RA 5	-7	-8	1057	0	0	0
292	SLE RA 6	-7	-11	1053	0	0	0
292	SLE RA 7	-7	-10	1062	0	0	0
292	SLE RA 8	-7	-11	1049	0	0	0
292	SLE RA 9	-7	-9	1058	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
292	SLE RA 10	-7	-9	1140	0	0	0
292	SLE RA 11	-7	-12	1137	0	0	0
292	SLE RA 12	-7	-10	1145	0	0	0
292	SLE RA 13	-7	-9	1147	0	0	0
292	SLE RA 14	-7	-12	1143	0	0	0
292	SLE RA 15	-7	-10	1152	0	0	0
292	SLE RA 16	-7	-12	1139	0	0	0
292	SLE RA 17	-7	-10	1148	0	0	0
292	SLE RA 18	-6	-12	1164	0	0	0
292	SLE RA 19	-7	-10	1173	0	0	0
292	SLE RA 20	-7	-12	1171	0	0	0
292	SLE RA 21	-7	-11	1180	0	0	0
292	SLE FR 1	-6	-11	1036	0	0	0
292	SLE FR 2	-6	-11	1038	0	0	0
292	SLE FR 3	-7	-11	1038	0	0	0
292	SLE FR 4	-6	-11	1077	0	0	0
292	SLE FR 5	-7	-11	1077	0	0	0
292	SLE FR 6	-6	-12	1100	0	0	0
292	SLE QP 1	-6	-11	1036	0	0	0
292	SLE QP 2	-6	-11	1074	0	0	0
292	SLD 1	79	14	1225	0	0	0
292	SLD 2	96	11	1220	0	0	0
292	SLD 3	86	-39	950	0	0	0
292	SLD 4	103	-42	946	0	0	0
292	SLD 5	6	77	1536	0	0	0
292	SLD 6	17	75	1533	0	0	0
292	SLD 7	29	-100	622	0	0	0
292	SLD 8	40	-102	619	0	0	0
292	SLD 9	-53	79	1529	0	0	0
292	SLD 10	-42	77	1527	0	0	0
292	SLD 11	-30	-98	615	0	0	0
292	SLD 12	-18	-100	612	0	0	0
292	SLD 13	-116	19	1202	0	0	0
292	SLD 14	-99	16	1198	0	0	0
292	SLD 15	-109	-34	928	0	0	0
292	SLD 16	-92	-37	923	0	0	0
292	SLV 1	127	29	1317	0	0	0
292	SLV 2	154	25	1310	0	0	0
292	SLV 3	139	-56	873	0	0	0
292	SLV 4	165	-61	867	0	0	0
292	SLV 5	12	132	1821	0	0	0
292	SLV 6	30	128	1816	0	0	0
292	SLV 7	49	-154	343	0	0	0
292	SLV 8	67	-157	338	0	0	0
292	SLV 9	-80	134	1810	0	0	0
292	SLV 10	-62	131	1806	0	0	0
292	SLV 11	-43	-151	332	0	0	0
292	SLV 12	-25	-155	327	0	0	0
292	SLV 13	-178	38	1282	0	0	0
292	SLV 14	-152	33	1275	0	0	0
292	SLV 15	-167	-48	838	0	0	0
292	SLV 16	-140	-52	831	0	0	0
292	SLV FO 1	141	33	1341	0	0	0
292	SLV FO 2	170	28	1334	0	0	0
292	SLV FO 3	153	-61	853	0	0	0
292	SLV FO 4	182	-66	846	0	0	0
292	SLV FO 5	14	146	1896	0	0	0
292	SLV FO 6	33	142	1891	0	0	0
292	SLV FO 7	55	-168	269	0	0	0
292	SLV FO 8	74	-172	264	0	0	0
292	SLV FO 9	-87	149	1884	0	0	0
292	SLV FO 10	-68	145	1879	0	0	0
292	SLV FO 11	-46	-165	258	0	0	0
292	SLV FO 12	-26	-169	253	0	0	0
292	SLV FO 13	-195	43	1302	0	0	0
292	SLV FO 14	-166	38	1295	0	0	0
292	SLV FO 15	-183	-51	814	0	0	0
292	SLV FO 16	-154	-56	807	0	0	0
292	CRTFP Uy+	0	0	0	0	0	0
292	CRTFP Uy-	0	0	0	0	0	0
293	SLU 1	-3	-5	556	0	0	0
293	SLU 2	-3	-2	569	0	0	0
293	SLU 3	-3	-5	566	0	0	0
293	SLU 4	-3	-3	573	0	0	0
293	SLU 5	-4	-2	574	0	0	0
293	SLU 6	-4	-5	571	0	0	0
293	SLU 7	-4	-3	579	0	0	0
293	SLU 8	-3	-5	568	0	0	0
293	SLU 9	-4	-3	575	0	0	0
293	SLU 10	-3	-3	645	0	0	0
293	SLU 11	-3	-5	642	0	0	0
293	SLU 12	-3	-4	649	0	0	0
293	SLU 13	-4	-3	650	0	0	0
293	SLU 14	-3	-5	648	0	0	0
293	SLU 15	-4	-4	655	0	0	0
293	SLU 16	-3	-5	644	0	0	0
293	SLU 17	-4	-4	651	0	0	0
293	SLU 18	-3	-6	665	0	0	0
293	SLU 19	-3	-4	672	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLU 20	-3	-6	671	0	0	0
293	SLU 21	-3	-4	678	0	0	0
293	SLU 22	-4	-5	632	0	0	0
293	SLU 23	-4	-3	644	0	0	0
293	SLU 24	-4	-5	641	0	0	0
293	SLU 25	-4	-4	649	0	0	0
293	SLU 26	-4	-3	650	0	0	0
293	SLU 27	-4	-5	647	0	0	0
293	SLU 28	-4	-4	654	0	0	0
293	SLU 29	-4	-5	644	0	0	0
293	SLU 30	-4	-4	651	0	0	0
293	SLU 31	-4	-3	720	0	0	0
293	SLU 32	-4	-6	717	0	0	0
293	SLU 33	-4	-4	725	0	0	0
293	SLU 34	-4	-3	726	0	0	0
293	SLU 35	-4	-6	723	0	0	0
293	SLU 36	-4	-4	731	0	0	0
293	SLU 37	-4	-6	720	0	0	0
293	SLU 38	-4	-4	727	0	0	0
293	SLU 39	-4	-6	741	0	0	0
293	SLU 40	-4	-5	748	0	0	0
293	SLU 41	-4	-6	747	0	0	0
293	SLU 42	-4	-5	754	0	0	0
293	SLU 43	-4	-6	697	0	0	0
293	SLU 44	-4	-4	709	0	0	0
293	SLU 45	-4	-6	707	0	0	0
293	SLU 46	-4	-5	714	0	0	0
293	SLU 47	-4	-4	715	0	0	0
293	SLU 48	-4	-6	712	0	0	0
293	SLU 49	-4	-5	720	0	0	0
293	SLU 50	-4	-6	709	0	0	0
293	SLU 51	-4	-5	716	0	0	0
293	SLU 52	-4	-4	786	0	0	0
293	SLU 53	-4	-7	783	0	0	0
293	SLU 54	-4	-5	790	0	0	0
293	SLU 55	-4	-4	791	0	0	0
293	SLU 56	-4	-7	788	0	0	0
293	SLU 57	-4	-5	796	0	0	0
293	SLU 58	-4	-7	785	0	0	0
293	SLU 59	-4	-5	792	0	0	0
293	SLU 60	-4	-7	806	0	0	0
293	SLU 61	-4	-5	813	0	0	0
293	SLU 62	-4	-7	812	0	0	0
293	SLU 63	-4	-5	819	0	0	0
293	SLU 64	-5	-6	773	0	0	0
293	SLU 65	-5	-4	785	0	0	0
293	SLU 66	-5	-7	782	0	0	0
293	SLU 67	-5	-5	790	0	0	0
293	SLU 68	-5	-4	791	0	0	0
293	SLU 69	-5	-7	788	0	0	0
293	SLU 70	-5	-5	795	0	0	0
293	SLU 71	-5	-7	785	0	0	0
293	SLU 72	-5	-5	792	0	0	0
293	SLU 73	-5	-5	861	0	0	0
293	SLU 74	-5	-7	858	0	0	0
293	SLU 75	-5	-6	866	0	0	0
293	SLU 76	-5	-5	867	0	0	0
293	SLU 77	-5	-7	864	0	0	0
293	SLU 78	-5	-6	872	0	0	0
293	SLU 79	-5	-7	861	0	0	0
293	SLU 80	-5	-6	868	0	0	0
293	SLU 81	-5	-7	882	0	0	0
293	SLU 82	-5	-6	889	0	0	0
293	SLU 83	-5	-7	887	0	0	0
293	SLU 84	-5	-6	895	0	0	0
293	SLE RA 1	-3	-5	578	0	0	0
293	SLE RA 2	-4	-3	586	0	0	0
293	SLE RA 3	-4	-5	584	0	0	0
293	SLE RA 4	-4	-4	589	0	0	0
293	SLE RA 5	-4	-3	590	0	0	0
293	SLE RA 6	-4	-5	588	0	0	0
293	SLE RA 7	-4	-4	593	0	0	0
293	SLE RA 8	-4	-5	586	0	0	0
293	SLE RA 9	-4	-4	591	0	0	0
293	SLE RA 10	-4	-4	637	0	0	0
293	SLE RA 11	-4	-5	635	0	0	0
293	SLE RA 12	-4	-4	640	0	0	0
293	SLE RA 13	-4	-4	641	0	0	0
293	SLE RA 14	-4	-5	639	0	0	0
293	SLE RA 15	-4	-4	644	0	0	0
293	SLE RA 16	-4	-5	636	0	0	0
293	SLE RA 17	-4	-4	641	0	0	0
293	SLE RA 18	-3	-5	650	0	0	0
293	SLE RA 19	-3	-4	655	0	0	0
293	SLE RA 20	-4	-5	654	0	0	0
293	SLE RA 21	-4	-4	659	0	0	0
293	SLE FR 1	-3	-5	578	0	0	0
293	SLE FR 2	-3	-5	580	0	0	0
293	SLE FR 3	-3	-5	579	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
293	SLE FR 4	-3	-5	601	0	0	0
293	SLE FR 5	-3	-5	601	0	0	0
293	SLE FR 6	-3	-5	614	0	0	0
293	SLE QP 1	-3	-5	578	0	0	0
293	SLE QP 2	-3	-5	600	0	0	0
293	SLD 1	42	9	680	0	0	0
293	SLD 2	51	8	678	0	0	0
293	SLD 3	46	-20	527	0	0	0
293	SLD 4	55	-21	525	0	0	0
293	SLD 5	3	43	855	0	0	0
293	SLD 6	9	43	854	0	0	0
293	SLD 7	15	-53	347	0	0	0
293	SLD 8	21	-54	346	0	0	0
293	SLD 9	-28	44	854	0	0	0
293	SLD 10	-22	43	852	0	0	0
293	SLD 11	-16	-53	345	0	0	0
293	SLD 12	-10	-53	344	0	0	0
293	SLD 13	-62	11	674	0	0	0
293	SLD 14	-53	10	672	0	0	0
293	SLD 15	-58	-18	522	0	0	0
293	SLD 16	-49	-19	520	0	0	0
293	SLV 1	68	18	729	0	0	0
293	SLV 2	82	16	726	0	0	0
293	SLV 3	74	-29	482	0	0	0
293	SLV 4	88	-31	479	0	0	0
293	SLV 5	6	73	1013	0	0	0
293	SLV 6	16	72	1011	0	0	0
293	SLV 7	26	-83	191	0	0	0
293	SLV 8	36	-84	189	0	0	0
293	SLV 9	-43	74	1010	0	0	0
293	SLV 10	-33	73	1008	0	0	0
293	SLV 11	-23	-82	188	0	0	0
293	SLV 12	-13	-83	186	0	0	0
293	SLV 13	-95	21	720	0	0	0
293	SLV 14	-81	19	717	0	0	0
293	SLV 15	-89	-26	474	0	0	0
293	SLV 16	-75	-28	471	0	0	0
293	SLV FO 1	75	20	742	0	0	0
293	SLV FO 2	91	18	738	0	0	0
293	SLV FO 3	82	-32	470	0	0	0
293	SLV FO 4	97	-34	467	0	0	0
293	SLV FO 5	7	81	1054	0	0	0
293	SLV FO 6	18	80	1052	0	0	0
293	SLV FO 7	29	-91	150	0	0	0
293	SLV FO 8	40	-92	148	0	0	0
293	SLV FO 9	-47	82	1052	0	0	0
293	SLV FO 10	-36	81	1049	0	0	0
293	SLV FO 11	-25	-90	147	0	0	0
293	SLV FO 12	-14	-91	145	0	0	0
293	SLV FO 13	-104	24	732	0	0	0
293	SLV FO 14	-89	22	729	0	0	0
293	SLV FO 15	-98	-28	461	0	0	0
293	SLV FO 16	-82	-30	458	0	0	0
293	CRTFP Uy+	0	0	0	0	0	0
293	CRTFP Uy-	0	0	0	0	0	0
295	SLU 1	14	-58	2893	-73.52	911.14	18.57
295	SLU 2	14	-45	2959	-75.25	931.75	14.3
295	SLU 3	14	-59	2941	-74.72	926.28	18.92
295	SLU 4	14	-51	2981	-75.76	938.65	16.35
295	SLU 5	14	-45	2988	-75.99	941.1	14.5
295	SLU 6	13	-60	2971	-75.46	935.63	19.12
295	SLU 7	14	-52	3010	-76.5	948	16.56
295	SLU 8	13	-60	2953	-75	929.84	18.98
295	SLU 9	14	-51	2992	-76.04	942.2	16.42
295	SLU 10	15	-51	3351	-85.2	1055.95	16.25
295	SLU 11	14	-66	3334	-84.67	1050.49	20.87
295	SLU 12	14	-57	3373	-85.71	1062.85	18.31
295	SLU 13	15	-51	3381	-85.94	1065.3	16.46
295	SLU 14	14	-66	3363	-85.41	1059.83	21.08
295	SLU 15	14	-58	3403	-86.45	1072.2	18.51
295	SLU 16	14	-66	3345	-84.95	1054.04	20.94
295	SLU 17	14	-58	3384	-85.99	1066.4	18.37
295	SLU 18	14	-67	3454	-87.73	1088.57	21.36
295	SLU 19	15	-59	3493	-88.77	1100.94	18.8
295	SLU 20	14	-68	3484	-88.47	1097.92	21.57
295	SLU 21	14	-60	3523	-89.51	1110.29	19
295	SLU 22	15	-66	3282	-83.35	1033.66	20.9
295	SLU 23	16	-52	3348	-85.09	1054.27	16.63
295	SLU 24	15	-67	3330	-84.56	1048.8	21.25
295	SLU 25	16	-58	3369	-85.6	1061.17	18.68
295	SLU 26	16	-53	3377	-85.83	1063.62	16.83
295	SLU 27	15	-67	3360	-85.3	1058.15	21.45
295	SLU 28	16	-59	3399	-86.34	1070.52	18.89
295	SLU 29	15	-67	3342	-84.84	1052.36	21.31
295	SLU 30	16	-59	3381	-85.88	1064.72	18.74
295	SLU 31	16	-58	3740	-95.03	1178.47	18.58
295	SLU 32	16	-73	3723	-94.5	1173.01	23.2
295	SLU 33	16	-65	3762	-95.54	1185.37	20.64
295	SLU 34	16	-59	3769	-95.77	1187.82	18.78



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
295	SLU 35	15	-73	3752	-95.24	1182.35	23.4
295	SLU 36	16	-65	3791	-96.28	1194.72	20.84
295	SLU 37	15	-73	3734	-94.78	1176.56	23.26
295	SLU 38	16	-65	3773	-95.82	1188.92	20.7
295	SLU 39	16	-74	3843	-97.56	1211.09	23.69
295	SLU 40	16	-66	3882	-98.6	1223.46	21.13
295	SLU 41	16	-75	3872	-98.3	1220.44	23.9
295	SLU 42	16	-67	3912	-99.34	1232.81	21.33
295	SLU 43	17	-73	3628	-92.2	1142.48	23.35
295	SLU 44	18	-60	3693	-93.94	1163.09	19.07
295	SLU 45	17	-74	3676	-93.41	1157.62	23.69
295	SLU 46	18	-66	3715	-94.45	1169.99	21.13
295	SLU 47	18	-60	3723	-94.68	1172.44	19.28
295	SLU 48	17	-75	3706	-94.15	1166.97	23.9
295	SLU 49	17	-67	3745	-95.19	1179.33	21.33
295	SLU 50	17	-75	3687	-93.69	1161.17	23.75
295	SLU 51	17	-66	3727	-94.73	1173.54	21.19
295	SLU 52	18	-66	4086	-103.88	1287.29	21.03
295	SLU 53	17	-81	4068	-103.35	1281.82	25.65
295	SLU 54	18	-72	4108	-104.39	1294.19	23.08
295	SLU 55	18	-66	4115	-104.62	1296.64	21.23
295	SLU 56	17	-81	4098	-104.09	1291.17	25.85
295	SLU 57	18	-73	4137	-105.13	1303.53	23.29
295	SLU 58	17	-81	4080	-103.63	1285.37	25.71
295	SLU 59	18	-73	4119	-104.67	1297.74	23.14
295	SLU 60	18	-82	4189	-106.41	1319.91	26.14
295	SLU 61	18	-74	4228	-107.45	1332.28	23.57
295	SLU 62	17	-83	4218	-107.15	1329.26	26.34
295	SLU 63	18	-75	4257	-108.19	1341.62	23.78
295	SLU 64	19	-80	4017	-102.04	1265	25.67
295	SLU 65	20	-67	4082	-103.77	1285.61	21.4
295	SLU 66	19	-82	4065	-103.24	1280.14	26.02
295	SLU 67	19	-73	4104	-104.28	1292.51	23.46
295	SLU 68	20	-67	4112	-104.51	1294.96	21.6
295	SLU 69	19	-82	4095	-103.98	1289.49	26.22
295	SLU 70	19	-74	4134	-105.02	1301.85	23.66
295	SLU 71	19	-82	4076	-103.52	1283.69	26.08
295	SLU 72	19	-74	4115	-104.56	1296.06	23.52
295	SLU 73	20	-73	4475	-113.72	1409.81	23.35
295	SLU 74	19	-88	4457	-113.19	1404.34	27.97
295	SLU 75	20	-80	4496	-114.23	1416.71	25.41
295	SLU 76	20	-74	4504	-114.46	1419.16	23.56
295	SLU 77	19	-88	4487	-113.93	1413.69	28.18
295	SLU 78	19	-80	4526	-114.97	1426.05	25.61
295	SLU 79	19	-88	4469	-113.47	1407.89	28.04
295	SLU 80	19	-80	4508	-114.51	1420.26	25.47
295	SLU 81	19	-89	4577	-116.25	1442.43	28.47
295	SLU 82	20	-81	4617	-117.29	1454.8	25.9
295	SLU 83	19	-90	4607	-116.99	1451.78	28.67
295	SLU 84	20	-82	4646	-118.03	1464.14	26.1
295	SLE RA 1	14	-60	3005	-76.33	946.15	19.24
295	SLE RA 2	15	-51	3048	-77.49	959.89	16.39
295	SLE RA 3	14	-61	3037	-77.13	956.24	19.47
295	SLE RA 4	14	-56	3063	-77.82	964.49	17.76
295	SLE RA 5	15	-52	3068	-77.98	966.12	16.52
295	SLE RA 6	14	-61	3056	-77.63	962.47	19.6
295	SLE RA 7	14	-56	3082	-78.32	970.72	17.89
295	SLE RA 8	14	-61	3044	-77.32	958.61	19.51
295	SLE RA 9	14	-56	3070	-78.01	966.86	17.8
295	SLE RA 10	15	-55	3310	-84.12	1042.69	17.69
295	SLE RA 11	14	-65	3298	-83.76	1039.04	20.77
295	SLE RA 12	15	-60	3324	-84.46	1047.29	19.06
295	SLE RA 13	15	-56	3329	-84.61	1048.92	17.83
295	SLE RA 14	14	-66	3318	-84.26	1045.28	20.91
295	SLE RA 15	15	-60	3344	-84.95	1053.52	19.2
295	SLE RA 16	14	-65	3306	-83.95	1041.41	20.81
295	SLE RA 17	14	-60	3332	-84.64	1049.66	19.1
295	SLE RA 18	14	-66	3378	-85.8	1064.44	21.1
295	SLE RA 19	15	-61	3404	-86.49	1072.68	19.39
295	SLE RA 20	14	-67	3398	-86.3	1070.67	21.23
295	SLE RA 21	15	-61	3424	-86.99	1078.91	19.53
295	SLE FR 1	14	-60	3005	-76.33	946.15	19.24
295	SLE FR 2	14	-58	3013	-76.56	948.9	18.67
295	SLE FR 3	14	-60	3012	-76.53	948.64	19.29
295	SLE FR 4	14	-60	3125	-79.4	984.38	19.23
295	SLE FR 5	14	-62	3125	-79.37	984.13	19.85
295	SLE FR 6	14	-63	3191	-81.07	1005.29	20.17
295	SLE QP 1	14	-60	3005	-76.33	946.15	19.24
295	SLE QP 2	14	-62	3117	-79.17	981.64	19.8
295	SLD 1	285	27	3501	-89.36	1113.01	-0.81
295	SLD 2	336	31	3511	-89.62	1115.41	-0.47
295	SLD 3	275	-132	2690	-67.77	857.19	48.99
295	SLD 4	325	-129	2700	-68.04	859.59	49.34
295	SLD 5	102	205	4460	-114.91	1408.61	-61.99
295	SLD 6	136	208	4467	-115.09	1410.2	-61.76
295	SLD 7	67	-325	1757	-42.97	555.88	104.03
295	SLD 8	101	-323	1764	-43.15	557.46	104.26
295	SLD 9	199	-72	4470	-115.2	1405.81	-64.67
295	SLD 10	-39	201	4477	-115.37	1407.4	-64.44



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
295	SLD 11	-107	-332	1766	-43.25	553.08	101.35
295	SLD 12	-74	-330	1773	-43.43	554.66	101.58
295	SLD 13	-297	4	3533	-90.3	1103.68	-9.75
295	SLD 14	-246	8	3543	-90.57	1106.08	-9.4
295	SLD 15	-308	-155	2722	-68.72	847.86	40.06
295	SLD 16	-257	-151	2732	-68.99	850.26	40.41
295	SLV 1	439	82	3739	-95.66	1193.93	-13.58
295	SLV 2	518	87	3755	-96.08	1197.69	-13.04
295	SLV 3	421	-175	2428	-60.77	780.36	66.91
295	SLV 4	501	-170	2444	-61.19	784.12	67.46
295	SLV 5	153	370	5289	-136.96	1671.87	-112.4
295	SLV 6	207	374	5300	-137.24	1674.41	-112.04
295	SLV 7	95	-487	918	-20.65	293.3	155.91
295	SLV 8	149	-484	929	-20.94	295.83	156.28
295	SLV 9	-120	360	5304	-137.41	1667.44	-116.69
295	SLV 10	-67	363	5315	-137.69	1669.97	-116.32
295	SLV 11	-178	-498	934	-21.1	288.87	151.63
295	SLV 12	-125	-494	944	-21.38	291.4	151.99
295	SLV 13	-473	46	3789	-97.15	1179.16	-27.86
295	SLV 14	-393	51	3806	-97.57	1182.92	-27.32
295	SLV 15	-490	-211	2478	-62.26	765.58	52.63
295	SLV 16	-410	-206	2495	-62.68	769.34	53.18
295	SLV FO 1	481	96	3801	-97.31	1215.16	-16.92
295	SLV FO 2	569	102	3819	-97.78	1219.29	-16.32
295	SLV FO 3	462	-187	2359	-58.93	760.23	71.62
295	SLV FO 4	550	-181	2377	-59.39	764.36	72.22
295	SLV FO 5	167	414	5506	-142.74	1740.9	-125.62
295	SLV FO 6	226	417	5518	-143.05	1743.68	-125.22
295	SLV FO 7	103	-530	699	-14.8	224.47	169.52
295	SLV FO 8	162	-526	711	-15.11	227.25	169.93
295	SLV FO 9	-134	402	5523	-143.23	1736.02	-130.34
295	SLV FO 10	-75	406	5535	-143.54	1738.81	-129.93
295	SLV FO 11	-198	-542	715	-15.29	219.59	164.81
295	SLV FO 12	-139	-538	727	-15.6	222.37	165.21
295	SLV FO 13	-521	57	3857	-98.95	1198.91	-32.63
295	SLV FO 14	-434	63	3875	-99.41	1203.04	-32.03
295	SLV FO 15	-540	-226	2414	-60.57	743.98	55.91
295	SLV FO 16	-453	-220	2432	-61.03	748.11	56.51
295	CRTFP Ux+	0	0	0	0	0	0
295	CRTFP Ux-	0	0	0	0	0	0
295	CRTFP Uy+	0	0	0	0	0	0
295	CRTFP Uy-	0	0	0	0	0	0
296	SLU 1	3	-12	576	0	0	0
296	SLU 2	3	-9	589	0	0	0
296	SLU 3	3	-12	586	0	0	0
296	SLU 4	3	-10	593	0	0	0
296	SLU 5	3	-9	595	0	0	0
296	SLU 6	3	-12	592	0	0	0
296	SLU 7	3	-10	599	0	0	0
296	SLU 8	3	-12	588	0	0	0
296	SLU 9	3	-10	596	0	0	0
296	SLU 10	3	-10	666	0	0	0
296	SLU 11	3	-13	663	0	0	0
296	SLU 12	3	-12	671	0	0	0
296	SLU 13	3	-10	672	0	0	0
296	SLU 14	3	-13	669	0	0	0
296	SLU 15	3	-12	677	0	0	0
296	SLU 16	3	-13	666	0	0	0
296	SLU 17	3	-12	673	0	0	0
296	SLU 18	3	-13	687	0	0	0
296	SLU 19	3	-12	695	0	0	0
296	SLU 20	3	-14	693	0	0	0
296	SLU 21	3	-12	701	0	0	0
296	SLU 22	3	-13	654	0	0	0
296	SLU 23	3	-10	666	0	0	0
296	SLU 24	3	-13	663	0	0	0
296	SLU 25	3	-12	671	0	0	0
296	SLU 26	3	-11	672	0	0	0
296	SLU 27	3	-14	669	0	0	0
296	SLU 28	3	-12	677	0	0	0
296	SLU 29	3	-13	665	0	0	0
296	SLU 30	3	-12	673	0	0	0
296	SLU 31	3	-12	744	0	0	0
296	SLU 32	3	-15	741	0	0	0
296	SLU 33	3	-13	748	0	0	0
296	SLU 34	3	-12	750	0	0	0
296	SLU 35	3	-15	747	0	0	0
296	SLU 36	3	-13	754	0	0	0
296	SLU 37	3	-15	743	0	0	0
296	SLU 38	3	-13	751	0	0	0
296	SLU 39	3	-15	764	0	0	0
296	SLU 40	3	-13	772	0	0	0
296	SLU 41	3	-15	770	0	0	0
296	SLU 42	3	-13	778	0	0	0
296	SLU 43	3	-15	722	0	0	0
296	SLU 44	4	-12	735	0	0	0
296	SLU 45	3	-15	732	0	0	0
296	SLU 46	4	-13	740	0	0	0
296	SLU 47	4	-12	741	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
296	SLU 48	3	-15	738	0	0	0
296	SLU 49	4	-13	746	0	0	0
296	SLU 50	3	-15	734	0	0	0
296	SLU 51	3	-13	742	0	0	0
296	SLU 52	4	-13	813	0	0	0
296	SLU 53	3	-16	810	0	0	0
296	SLU 54	4	-15	817	0	0	0
296	SLU 55	4	-13	819	0	0	0
296	SLU 56	3	-16	815	0	0	0
296	SLU 57	4	-15	823	0	0	0
296	SLU 58	3	-16	812	0	0	0
296	SLU 59	4	-15	819	0	0	0
296	SLU 60	4	-16	833	0	0	0
296	SLU 61	4	-15	841	0	0	0
296	SLU 62	3	-17	839	0	0	0
296	SLU 63	4	-15	847	0	0	0
296	SLU 64	4	-16	800	0	0	0
296	SLU 65	4	-14	813	0	0	0
296	SLU 66	4	-16	809	0	0	0
296	SLU 67	4	-15	817	0	0	0
296	SLU 68	4	-14	819	0	0	0
296	SLU 69	4	-17	815	0	0	0
296	SLU 70	4	-15	823	0	0	0
296	SLU 71	4	-16	812	0	0	0
296	SLU 72	4	-15	819	0	0	0
296	SLU 73	4	-15	890	0	0	0
296	SLU 74	4	-18	887	0	0	0
296	SLU 75	4	-16	895	0	0	0
296	SLU 76	4	-15	896	0	0	0
296	SLU 77	4	-18	893	0	0	0
296	SLU 78	4	-16	901	0	0	0
296	SLU 79	4	-18	889	0	0	0
296	SLU 80	4	-16	897	0	0	0
296	SLU 81	4	-18	911	0	0	0
296	SLU 82	4	-16	918	0	0	0
296	SLU 83	4	-18	917	0	0	0
296	SLU 84	4	-16	924	0	0	0
296	SLE RA 1	3	-12	598	0	0	0
296	SLE RA 2	3	-10	607	0	0	0
296	SLE RA 3	3	-12	605	0	0	0
296	SLE RA 4	3	-11	610	0	0	0
296	SLE RA 5	3	-10	611	0	0	0
296	SLE RA 6	3	-12	609	0	0	0
296	SLE RA 7	3	-11	614	0	0	0
296	SLE RA 8	3	-12	606	0	0	0
296	SLE RA 9	3	-11	611	0	0	0
296	SLE RA 10	3	-11	658	0	0	0
296	SLE RA 11	3	-13	656	0	0	0
296	SLE RA 12	3	-12	661	0	0	0
296	SLE RA 13	3	-11	662	0	0	0
296	SLE RA 14	3	-13	660	0	0	0
296	SLE RA 15	3	-12	665	0	0	0
296	SLE RA 16	3	-13	658	0	0	0
296	SLE RA 17	3	-12	663	0	0	0
296	SLE RA 18	3	-13	672	0	0	0
296	SLE RA 19	3	-12	677	0	0	0
296	SLE RA 20	3	-13	676	0	0	0
296	SLE RA 21	3	-12	681	0	0	0
296	SLE FR 1	3	-12	598	0	0	0
296	SLE FR 2	3	-12	600	0	0	0
296	SLE FR 3	3	-12	600	0	0	0
296	SLE FR 4	3	-12	622	0	0	0
296	SLE FR 5	3	-13	622	0	0	0
296	SLE FR 6	3	-13	635	0	0	0
296	SLE QP 1	3	-12	598	0	0	0
296	SLE QP 2	3	-12	620	0	0	0
296	SLD 1	57	6	691	0	0	0
296	SLD 2	68	8	694	0	0	0
296	SLD 3	55	-25	532	0	0	0
296	SLD 4	65	-23	535	0	0	0
296	SLD 5	21	40	883	0	0	0
296	SLD 6	27	41	885	0	0	0
296	SLD 7	13	-63	352	0	0	0
296	SLD 8	20	-62	354	0	0	0
296	SLD 9	-14	37	887	0	0	0
296	SLD 10	-8	38	889	0	0	0
296	SLD 11	-22	-66	356	0	0	0
296	SLD 12	-15	-65	358	0	0	0
296	SLD 13	-60	-2	706	0	0	0
296	SLD 14	-50	0	709	0	0	0
296	SLD 15	-62	-33	547	0	0	0
296	SLD 16	-52	-31	549	0	0	0
296	SLV 1	88	17	736	0	0	0
296	SLV 2	104	20	740	0	0	0
296	SLV 3	85	-33	478	0	0	0
296	SLV 4	101	-30	482	0	0	0
296	SLV 5	31	72	1045	0	0	0
296	SLV 6	42	74	1048	0	0	0
296	SLV 7	19	-95	186	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
296	SLV 8	30	-93	189	0	0	0
296	SLV 9	-24	68	1052	0	0	0
296	SLV 10	-13	70	1055	0	0	0
296	SLV 11	-36	-99	193	0	0	0
296	SLV 12	-25	-97	196	0	0	0
296	SLV 13	-95	5	758	0	0	0
296	SLV 14	-79	8	763	0	0	0
296	SLV 15	-99	-45	501	0	0	0
296	SLV 16	-83	-42	505	0	0	0
296	SLV FO 1	97	20	747	0	0	0
296	SLV FO 2	114	23	752	0	0	0
296	SLV FO 3	93	-35	464	0	0	0
296	SLV FO 4	110	-32	469	0	0	0
296	SLV FO 5	34	80	1087	0	0	0
296	SLV FO 6	46	82	1091	0	0	0
296	SLV FO 7	21	-103	143	0	0	0
296	SLV FO 8	32	-101	146	0	0	0
296	SLV FO 9	-27	76	1095	0	0	0
296	SLV FO 10	-15	78	1098	0	0	0
296	SLV FO 11	-40	-107	150	0	0	0
296	SLV FO 12	-28	-105	154	0	0	0
296	SLV FO 13	-105	7	772	0	0	0
296	SLV FO 14	-87	10	777	0	0	0
296	SLV FO 15	-109	-48	489	0	0	0
296	SLV FO 16	-91	-45	494	0	0	0
296	CRTFP Uy+	0	0	0	0	0	0
296	CRTFP Uy-	0	0	0	0	0	0
297	SLU 1	5	-14	729	0	0	0
297	SLU 2	5	-11	745	0	0	0
297	SLU 3	5	-14	741	0	0	0
297	SLU 4	5	-12	750	0	0	0
297	SLU 5	5	-11	752	0	0	0
297	SLU 6	5	-14	748	0	0	0
297	SLU 7	5	-13	758	0	0	0
297	SLU 8	5	-14	744	0	0	0
297	SLU 9	5	-13	753	0	0	0
297	SLU 10	5	-12	840	0	0	0
297	SLU 11	5	-16	836	0	0	0
297	SLU 12	5	-14	845	0	0	0
297	SLU 13	5	-12	847	0	0	0
297	SLU 14	5	-16	843	0	0	0
297	SLU 15	5	-14	853	0	0	0
297	SLU 16	5	-16	839	0	0	0
297	SLU 17	5	-14	848	0	0	0
297	SLU 18	5	-16	865	0	0	0
297	SLU 19	5	-14	874	0	0	0
297	SLU 20	5	-16	872	0	0	0
297	SLU 21	5	-14	882	0	0	0
297	SLU 22	5	-16	828	0	0	0
297	SLU 23	5	-13	844	0	0	0
297	SLU 24	5	-16	840	0	0	0
297	SLU 25	5	-14	849	0	0	0
297	SLU 26	5	-13	851	0	0	0
297	SLU 27	5	-16	847	0	0	0
297	SLU 28	5	-14	857	0	0	0
297	SLU 29	5	-16	843	0	0	0
297	SLU 30	5	-14	852	0	0	0
297	SLU 31	6	-14	939	0	0	0
297	SLU 32	5	-17	935	0	0	0
297	SLU 33	6	-15	944	0	0	0
297	SLU 34	6	-14	946	0	0	0
297	SLU 35	5	-17	942	0	0	0
297	SLU 36	6	-16	952	0	0	0
297	SLU 37	5	-17	938	0	0	0
297	SLU 38	5	-15	947	0	0	0
297	SLU 39	5	-18	964	0	0	0
297	SLU 40	6	-16	973	0	0	0
297	SLU 41	5	-18	971	0	0	0
297	SLU 42	6	-16	981	0	0	0
297	SLU 43	6	-18	914	0	0	0
297	SLU 44	6	-15	929	0	0	0
297	SLU 45	6	-18	926	0	0	0
297	SLU 46	6	-16	935	0	0	0
297	SLU 47	6	-15	937	0	0	0
297	SLU 48	6	-18	933	0	0	0
297	SLU 49	6	-16	942	0	0	0
297	SLU 50	6	-18	928	0	0	0
297	SLU 51	6	-16	938	0	0	0
297	SLU 52	6	-16	1024	0	0	0
297	SLU 53	6	-19	1021	0	0	0
297	SLU 54	6	-17	1030	0	0	0
297	SLU 55	6	-16	1032	0	0	0
297	SLU 56	6	-19	1028	0	0	0
297	SLU 57	6	-18	1037	0	0	0
297	SLU 58	6	-19	1023	0	0	0
297	SLU 59	6	-18	1033	0	0	0
297	SLU 60	6	-20	1049	0	0	0
297	SLU 61	6	-18	1059	0	0	0
297	SLU 62	6	-20	1057	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
297	SLU 63	6	-18	1066	0	0	0
297	SLU 64	6	-19	1013	0	0	0
297	SLU 65	7	-16	1028	0	0	0
297	SLU 66	6	-20	1025	0	0	0
297	SLU 67	7	-18	1034	0	0	0
297	SLU 68	7	-16	1036	0	0	0
297	SLU 69	6	-20	1032	0	0	0
297	SLU 70	7	-18	1042	0	0	0
297	SLU 71	6	-20	1027	0	0	0
297	SLU 72	7	-18	1037	0	0	0
297	SLU 73	7	-18	1123	0	0	0
297	SLU 74	7	-21	1120	0	0	0
297	SLU 75	7	-19	1129	0	0	0
297	SLU 76	7	-18	1131	0	0	0
297	SLU 77	7	-21	1127	0	0	0
297	SLU 78	7	-19	1137	0	0	0
297	SLU 79	7	-21	1122	0	0	0
297	SLU 80	7	-19	1132	0	0	0
297	SLU 81	7	-21	1148	0	0	0
297	SLU 82	7	-19	1158	0	0	0
297	SLU 83	7	-21	1156	0	0	0
297	SLU 84	7	-20	1165	0	0	0
297	SLE RA 1	5	-15	757	0	0	0
297	SLE RA 2	5	-12	768	0	0	0
297	SLE RA 3	5	-15	765	0	0	0
297	SLE RA 4	5	-13	772	0	0	0
297	SLE RA 5	5	-13	773	0	0	0
297	SLE RA 6	5	-15	770	0	0	0
297	SLE RA 7	5	-14	776	0	0	0
297	SLE RA 8	5	-15	767	0	0	0
297	SLE RA 9	5	-14	773	0	0	0
297	SLE RA 10	5	-13	831	0	0	0
297	SLE RA 11	5	-16	829	0	0	0
297	SLE RA 12	5	-14	835	0	0	0
297	SLE RA 13	5	-13	836	0	0	0
297	SLE RA 14	5	-16	833	0	0	0
297	SLE RA 15	5	-14	840	0	0	0
297	SLE RA 16	5	-16	830	0	0	0
297	SLE RA 17	5	-14	837	0	0	0
297	SLE RA 18	5	-16	848	0	0	0
297	SLE RA 19	5	-15	854	0	0	0
297	SLE RA 20	5	-16	853	0	0	0
297	SLE RA 21	5	-15	859	0	0	0
297	SLE FR 1	5	-15	757	0	0	0
297	SLE FR 2	5	-14	759	0	0	0
297	SLE FR 3	5	-15	759	0	0	0
297	SLE FR 4	5	-14	786	0	0	0
297	SLE FR 5	5	-15	786	0	0	0
297	SLE FR 6	5	-15	802	0	0	0
297	SLE QP 1	5	-15	757	0	0	0
297	SLE QP 2	5	-15	784	0	0	0
297	SLD 1	73	9	836	0	0	0
297	SLD 2	85	15	843	0	0	0
297	SLD 3	70	-24	635	0	0	0
297	SLD 4	82	-19	642	0	0	0
297	SLD 5	28	42	1104	0	0	0
297	SLD 6	36	46	1108	0	0	0
297	SLD 7	17	-70	433	0	0	0
297	SLD 8	25	-66	438	0	0	0
297	SLD 9	-16	36	1131	0	0	0
297	SLD 10	-7	40	1136	0	0	0
297	SLD 11	-27	-76	460	0	0	0
297	SLD 12	-18	-72	465	0	0	0
297	SLD 13	-72	-11	927	0	0	0
297	SLD 14	-60	-5	934	0	0	0
297	SLD 15	-76	-45	726	0	0	0
297	SLD 16	-63	-39	733	0	0	0
297	SLV 1	111	23	870	0	0	0
297	SLV 2	131	33	881	0	0	0
297	SLV 3	106	-31	545	0	0	0
297	SLV 4	126	-22	556	0	0	0
297	SLV 5	41	77	1302	0	0	0
297	SLV 6	55	83	1309	0	0	0
297	SLV 7	23	-104	217	0	0	0
297	SLV 8	37	-97	224	0	0	0
297	SLV 9	-27	68	1344	0	0	0
297	SLV 10	-14	74	1352	0	0	0
297	SLV 11	-45	-113	260	0	0	0
297	SLV 12	-32	-107	267	0	0	0
297	SLV 13	-116	-8	1013	0	0	0
297	SLV 14	-96	1	1024	0	0	0
297	SLV 15	-121	-62	687	0	0	0
297	SLV 16	-102	-53	698	0	0	0
297	SLV FO 1	122	27	879	0	0	0
297	SLV FO 2	144	37	891	0	0	0
297	SLV FO 3	116	-32	521	0	0	0
297	SLV FO 4	138	-22	533	0	0	0
297	SLV FO 5	45	86	1353	0	0	0
297	SLV FO 6	60	93	1361	0	0	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
297	SLV FO 7	25	-113	160	0	0	0
297	SLV FO 8	40	-106	168	0	0	0
297	SLV FO 9	-30	76	1400	0	0	0
297	SLV FO 10	-15	83	1408	0	0	0
297	SLV FO 11	-50	-123	207	0	0	0
297	SLV FO 12	-35	-116	215	0	0	0
297	SLV FO 13	-128	-8	1035	0	0	0
297	SLV FO 14	-106	3	1048	0	0	0
297	SLV FO 15	-134	-67	677	0	0	0
297	SLV FO 16	-112	-57	690	0	0	0
297	CRTFP Uy+	0	0	0	0	0	0
297	CRTFP Uy-	0	0	0	0	0	0
298	SLU 1	5	-15	763	0	0	0
298	SLU 2	5	-12	779	0	0	0
298	SLU 3	5	-16	775	0	0	0
298	SLU 4	5	-14	785	0	0	0
298	SLU 5	5	-12	787	0	0	0
298	SLU 6	5	-16	783	0	0	0
298	SLU 7	5	-14	793	0	0	0
298	SLU 8	5	-16	778	0	0	0
298	SLU 9	5	-14	788	0	0	0
298	SLU 10	5	-13	879	0	0	0
298	SLU 11	5	-17	875	0	0	0
298	SLU 12	5	-15	885	0	0	0
298	SLU 13	5	-14	887	0	0	0
298	SLU 14	5	-17	883	0	0	0
298	SLU 15	5	-15	893	0	0	0
298	SLU 16	5	-17	878	0	0	0
298	SLU 17	5	-15	888	0	0	0
298	SLU 18	5	-17	905	0	0	0
298	SLU 19	5	-15	915	0	0	0
298	SLU 20	5	-17	913	0	0	0
298	SLU 21	5	-15	923	0	0	0
298	SLU 22	5	-17	866	0	0	0
298	SLU 23	5	-14	882	0	0	0
298	SLU 24	5	-17	879	0	0	0
298	SLU 25	5	-15	888	0	0	0
298	SLU 26	5	-14	890	0	0	0
298	SLU 27	5	-17	886	0	0	0
298	SLU 28	5	-15	896	0	0	0
298	SLU 29	5	-17	881	0	0	0
298	SLU 30	5	-15	891	0	0	0
298	SLU 31	6	-15	982	0	0	0
298	SLU 32	5	-19	978	0	0	0
298	SLU 33	5	-17	988	0	0	0
298	SLU 34	6	-15	990	0	0	0
298	SLU 35	5	-19	986	0	0	0
298	SLU 36	5	-17	996	0	0	0
298	SLU 37	5	-19	981	0	0	0
298	SLU 38	5	-17	991	0	0	0
298	SLU 39	5	-19	1008	0	0	0
298	SLU 40	5	-17	1018	0	0	0
298	SLU 41	5	-19	1016	0	0	0
298	SLU 42	5	-17	1026	0	0	0
298	SLU 43	6	-19	956	0	0	0
298	SLU 44	6	-16	973	0	0	0
298	SLU 45	6	-20	969	0	0	0
298	SLU 46	6	-18	979	0	0	0
298	SLU 47	6	-16	980	0	0	0
298	SLU 48	6	-20	976	0	0	0
298	SLU 49	6	-18	986	0	0	0
298	SLU 50	6	-20	972	0	0	0
298	SLU 51	6	-18	982	0	0	0
298	SLU 52	6	-17	1072	0	0	0
298	SLU 53	6	-21	1068	0	0	0
298	SLU 54	6	-19	1078	0	0	0
298	SLU 55	6	-18	1080	0	0	0
298	SLU 56	6	-21	1076	0	0	0
298	SLU 57	6	-19	1086	0	0	0
298	SLU 58	6	-21	1071	0	0	0
298	SLU 59	6	-19	1081	0	0	0
298	SLU 60	6	-21	1098	0	0	0
298	SLU 61	6	-19	1108	0	0	0
298	SLU 62	6	-21	1106	0	0	0
298	SLU 63	6	-19	1116	0	0	0
298	SLU 64	6	-21	1059	0	0	0
298	SLU 65	7	-18	1076	0	0	0
298	SLU 66	6	-21	1072	0	0	0
298	SLU 67	6	-19	1082	0	0	0
298	SLU 68	7	-18	1084	0	0	0
298	SLU 69	6	-21	1080	0	0	0
298	SLU 70	6	-19	1090	0	0	0
298	SLU 71	6	-21	1075	0	0	0
298	SLU 72	6	-19	1085	0	0	0
298	SLU 73	7	-19	1176	0	0	0
298	SLU 74	6	-23	1172	0	0	0
298	SLU 75	7	-21	1181	0	0	0
298	SLU 76	7	-19	1183	0	0	0
298	SLU 77	6	-23	1179	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
298	SLU 78	7	-21	1189	0	0	0
298	SLU 79	6	-23	1174	0	0	0
298	SLU 80	7	-21	1184	0	0	0
298	SLU 81	6	-23	1202	0	0	0
298	SLU 82	7	-21	1212	0	0	0
298	SLU 83	6	-23	1209	0	0	0
298	SLU 84	7	-21	1219	0	0	0
298	SLE RA 1	5	-16	792	0	0	0
298	SLE RA 2	5	-14	803	0	0	0
298	SLE RA 3	5	-16	801	0	0	0
298	SLE RA 4	5	-15	807	0	0	0
298	SLE RA 5	5	-14	808	0	0	0
298	SLE RA 6	5	-16	806	0	0	0
298	SLE RA 7	5	-15	812	0	0	0
298	SLE RA 8	5	-16	803	0	0	0
298	SLE RA 9	5	-15	809	0	0	0
298	SLE RA 10	5	-15	870	0	0	0
298	SLE RA 11	5	-17	867	0	0	0
298	SLE RA 12	5	-16	874	0	0	0
298	SLE RA 13	5	-15	875	0	0	0
298	SLE RA 14	5	-17	872	0	0	0
298	SLE RA 15	5	-16	879	0	0	0
298	SLE RA 16	5	-17	869	0	0	0
298	SLE RA 17	5	-16	876	0	0	0
298	SLE RA 18	5	-17	887	0	0	0
298	SLE RA 19	5	-16	894	0	0	0
298	SLE RA 20	5	-17	892	0	0	0
298	SLE RA 21	5	-16	899	0	0	0
298	SLE FR 1	5	-16	792	0	0	0
298	SLE FR 2	5	-15	794	0	0	0
298	SLE FR 3	5	-16	794	0	0	0
298	SLE FR 4	5	-16	823	0	0	0
298	SLE FR 5	5	-16	823	0	0	0
298	SLE FR 6	5	-16	840	0	0	0
298	SLE QP 1	5	-16	792	0	0	0
298	SLE QP 2	5	-16	821	0	0	0
298	SLD 1	78	9	880	0	0	0
298	SLD 2	91	15	887	0	0	0
298	SLD 3	74	-27	671	0	0	0
298	SLD 4	88	-21	678	0	0	0
298	SLD 5	29	46	1155	0	0	0
298	SLD 6	38	50	1160	0	0	0
298	SLD 7	18	-76	456	0	0	0
298	SLD 8	27	-72	461	0	0	0
298	SLD 9	-17	40	1180	0	0	0
298	SLD 10	-9	43	1185	0	0	0
298	SLD 11	-29	-82	481	0	0	0
298	SLD 12	-20	-78	486	0	0	0
298	SLD 13	-78	-11	964	0	0	0
298	SLD 14	-65	-5	971	0	0	0
298	SLD 15	-81	-48	754	0	0	0
298	SLD 16	-68	-42	761	0	0	0
298	SLV 1	119	25	920	0	0	0
298	SLV 2	140	34	931	0	0	0
298	SLV 3	113	-34	581	0	0	0
298	SLV 4	134	-25	592	0	0	0
298	SLV 5	43	84	1363	0	0	0
298	SLV 6	58	90	1370	0	0	0
298	SLV 7	25	-113	233	0	0	0
298	SLV 8	39	-107	240	0	0	0
298	SLV 9	-30	74	1402	0	0	0
298	SLV 10	-15	80	1409	0	0	0
298	SLV 11	-48	-122	272	0	0	0
298	SLV 12	-34	-116	279	0	0	0
298	SLV 13	-125	-7	1050	0	0	0
298	SLV 14	-104	2	1060	0	0	0
298	SLV 15	-130	-66	711	0	0	0
298	SLV 16	-109	-57	722	0	0	0
298	SLV FO 1	130	29	930	0	0	0
298	SLV FO 2	153	39	942	0	0	0
298	SLV FO 3	124	-36	557	0	0	0
298	SLV FO 4	147	-26	569	0	0	0
298	SLV FO 5	47	94	1417	0	0	0
298	SLV FO 6	63	101	1425	0	0	0
298	SLV FO 7	27	-122	174	0	0	0
298	SLV FO 8	43	-116	182	0	0	0
298	SLV FO 9	-33	83	1460	0	0	0
298	SLV FO 10	-17	90	1468	0	0	0
298	SLV FO 11	-53	-133	217	0	0	0
298	SLV FO 12	-38	-126	225	0	0	0
298	SLV FO 13	-138	-6	1073	0	0	0
298	SLV FO 14	-115	4	1084	0	0	0
298	SLV FO 15	-144	-71	700	0	0	0
298	SLV FO 16	-121	-61	712	0	0	0
298	CRTFP Uy+	0	0	0	0	0	0
298	CRTFP Uy-	0	0	0	0	0	0
299	SLU 1	3	-13	628	0	0	0
299	SLU 2	3	-10	641	0	0	0
299	SLU 3	3	-13	638	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
299	SLU 4	3	-11	646	0	0	0
299	SLU 5	3	-10	648	0	0	0
299	SLU 6	3	-13	644	0	0	0
299	SLU 7	3	-11	653	0	0	0
299	SLU 8	3	-13	640	0	0	0
299	SLU 9	3	-11	649	0	0	0
299	SLU 10	3	-11	725	0	0	0
299	SLU 11	3	-14	722	0	0	0
299	SLU 12	3	-13	730	0	0	0
299	SLU 13	3	-11	732	0	0	0
299	SLU 14	3	-15	728	0	0	0
299	SLU 15	3	-13	737	0	0	0
299	SLU 16	3	-14	725	0	0	0
299	SLU 17	3	-13	733	0	0	0
299	SLU 18	3	-15	748	0	0	0
299	SLU 19	3	-13	756	0	0	0
299	SLU 20	3	-15	754	0	0	0
299	SLU 21	3	-13	762	0	0	0
299	SLU 22	3	-14	712	0	0	0
299	SLU 23	4	-11	726	0	0	0
299	SLU 24	3	-15	722	0	0	0
299	SLU 25	4	-13	731	0	0	0
299	SLU 26	4	-12	732	0	0	0
299	SLU 27	3	-15	729	0	0	0
299	SLU 28	3	-13	737	0	0	0
299	SLU 29	3	-15	725	0	0	0
299	SLU 30	3	-13	733	0	0	0
299	SLU 31	4	-13	810	0	0	0
299	SLU 32	3	-16	806	0	0	0
299	SLU 33	4	-14	815	0	0	0
299	SLU 34	4	-13	816	0	0	0
299	SLU 35	3	-16	813	0	0	0
299	SLU 36	4	-14	821	0	0	0
299	SLU 37	3	-16	809	0	0	0
299	SLU 38	3	-14	817	0	0	0
299	SLU 39	3	-16	832	0	0	0
299	SLU 40	4	-15	840	0	0	0
299	SLU 41	3	-16	838	0	0	0
299	SLU 42	4	-15	847	0	0	0
299	SLU 43	4	-16	787	0	0	0
299	SLU 44	4	-13	801	0	0	0
299	SLU 45	4	-16	797	0	0	0
299	SLU 46	4	-15	806	0	0	0
299	SLU 47	4	-13	807	0	0	0
299	SLU 48	4	-17	804	0	0	0
299	SLU 49	4	-15	812	0	0	0
299	SLU 50	4	-16	800	0	0	0
299	SLU 51	4	-15	808	0	0	0
299	SLU 52	4	-15	885	0	0	0
299	SLU 53	4	-18	881	0	0	0
299	SLU 54	4	-16	890	0	0	0
299	SLU 55	4	-15	891	0	0	0
299	SLU 56	4	-18	888	0	0	0
299	SLU 57	4	-16	896	0	0	0
299	SLU 58	4	-18	884	0	0	0
299	SLU 59	4	-16	892	0	0	0
299	SLU 60	4	-18	907	0	0	0
299	SLU 61	4	-16	915	0	0	0
299	SLU 62	4	-18	913	0	0	0
299	SLU 63	4	-16	922	0	0	0
299	SLU 64	4	-18	871	0	0	0
299	SLU 65	4	-15	885	0	0	0
299	SLU 66	4	-18	882	0	0	0
299	SLU 67	4	-16	890	0	0	0
299	SLU 68	4	-15	891	0	0	0
299	SLU 69	4	-18	888	0	0	0
299	SLU 70	4	-16	896	0	0	0
299	SLU 71	4	-18	884	0	0	0
299	SLU 72	4	-16	892	0	0	0
299	SLU 73	4	-16	969	0	0	0
299	SLU 74	4	-19	966	0	0	0
299	SLU 75	4	-18	974	0	0	0
299	SLU 76	4	-16	976	0	0	0
299	SLU 77	4	-19	972	0	0	0
299	SLU 78	4	-18	980	0	0	0
299	SLU 79	4	-19	968	0	0	0
299	SLU 80	4	-18	976	0	0	0
299	SLU 81	4	-20	991	0	0	0
299	SLU 82	4	-18	1000	0	0	0
299	SLU 83	4	-20	998	0	0	0
299	SLU 84	4	-18	1006	0	0	0
299	SLE RA 1	3	-13	652	0	0	0
299	SLE RA 2	3	-11	661	0	0	0
299	SLE RA 3	3	-13	659	0	0	0
299	SLE RA 4	3	-12	664	0	0	0
299	SLE RA 5	3	-11	665	0	0	0
299	SLE RA 6	3	-14	663	0	0	0
299	SLE RA 7	3	-12	668	0	0	0
299	SLE RA 8	3	-13	660	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
299	SLE RA 9	3	-12	666	0	0	0
299	SLE RA 10	3	-12	717	0	0	0
299	SLE RA 11	3	-14	715	0	0	0
299	SLE RA 12	3	-13	720	0	0	0
299	SLE RA 13	3	-12	721	0	0	0
299	SLE RA 14	3	-14	719	0	0	0
299	SLE RA 15	3	-13	724	0	0	0
299	SLE RA 16	3	-14	716	0	0	0
299	SLE RA 17	3	-13	722	0	0	0
299	SLE RA 18	3	-15	732	0	0	0
299	SLE RA 19	3	-13	737	0	0	0
299	SLE RA 20	3	-15	736	0	0	0
299	SLE RA 21	3	-13	742	0	0	0
299	SLE FR 1	3	-13	652	0	0	0
299	SLE FR 2	3	-13	653	0	0	0
299	SLE FR 3	3	-13	653	0	0	0
299	SLE FR 4	3	-13	677	0	0	0
299	SLE FR 5	3	-14	677	0	0	0
299	SLE FR 6	3	-14	692	0	0	0
299	SLE QP 1	3	-13	652	0	0	0
299	SLE QP 2	3	-14	676	0	0	0
299	SLD 1	63	7	750	0	0	0
299	SLD 2	74	9	753	0	0	0
299	SLD 3	61	-27	577	0	0	0
299	SLD 4	72	-24	581	0	0	0
299	SLD 5	23	43	959	0	0	0
299	SLD 6	30	44	961	0	0	0
299	SLD 7	15	-69	384	0	0	0
299	SLD 8	22	-67	386	0	0	0
299	SLD 9	-16	40	965	0	0	0
299	SLD 10	-8	41	967	0	0	0
299	SLD 11	-24	-72	390	0	0	0
299	SLD 12	-17	-70	393	0	0	0
299	SLD 13	-65	-3	771	0	0	0
299	SLD 14	-54	-1	774	0	0	0
299	SLD 15	-68	-36	598	0	0	0
299	SLD 16	-57	-34	602	0	0	0
299	SLV 1	97	19	796	0	0	0
299	SLV 2	115	23	801	0	0	0
299	SLV 3	93	-35	517	0	0	0
299	SLV 4	110	-31	523	0	0	0
299	SLV 5	34	78	1133	0	0	0
299	SLV 6	46	80	1137	0	0	0
299	SLV 7	21	-103	204	0	0	0
299	SLV 8	32	-101	208	0	0	0
299	SLV 9	-26	73	1143	0	0	0
299	SLV 10	-14	75	1147	0	0	0
299	SLV 11	-40	-107	214	0	0	0
299	SLV 12	-28	-105	218	0	0	0
299	SLV 13	-104	4	829	0	0	0
299	SLV 14	-87	7	834	0	0	0
299	SLV 15	-108	-50	550	0	0	0
299	SLV 16	-91	-47	555	0	0	0
299	SLV FO 1	107	23	808	0	0	0
299	SLV FO 2	126	26	814	0	0	0
299	SLV FO 3	102	-37	501	0	0	0
299	SLV FO 4	121	-33	507	0	0	0
299	SLV FO 5	37	87	1179	0	0	0
299	SLV FO 6	50	89	1183	0	0	0
299	SLV FO 7	22	-112	157	0	0	0
299	SLV FO 8	35	-109	161	0	0	0
299	SLV FO 9	-29	82	1190	0	0	0
299	SLV FO 10	-16	84	1194	0	0	0
299	SLV FO 11	-44	-117	168	0	0	0
299	SLV FO 12	-31	-114	172	0	0	0
299	SLV FO 13	-115	6	844	0	0	0
299	SLV FO 14	-96	9	850	0	0	0
299	SLV FO 15	-119	-54	538	0	0	0
299	SLV FO 16	-100	-50	543	0	0	0
299	CRTFP Uy+	0	0	0	0	0	0
299	CRTFP Uy-	0	0	0	0	0	0
300	SLU 1	4	-16	784	0	0	0
300	SLU 2	5	-13	801	0	0	0
300	SLU 3	4	-16	797	0	0	0
300	SLU 4	5	-14	807	0	0	0
300	SLU 5	5	-13	809	0	0	0
300	SLU 6	4	-17	805	0	0	0
300	SLU 7	5	-14	815	0	0	0
300	SLU 8	4	-16	800	0	0	0
300	SLU 9	5	-14	810	0	0	0
300	SLU 10	5	-14	904	0	0	0
300	SLU 11	5	-18	900	0	0	0
300	SLU 12	5	-16	910	0	0	0
300	SLU 13	5	-14	912	0	0	0
300	SLU 14	5	-18	908	0	0	0
300	SLU 15	5	-16	918	0	0	0
300	SLU 16	5	-18	903	0	0	0
300	SLU 17	5	-16	913	0	0	0
300	SLU 18	5	-18	931	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLU 19	5	-16	941	0	0	0
300	SLU 20	5	-18	939	0	0	0
300	SLU 21	5	-16	949	0	0	0
300	SLU 22	5	-18	890	0	0	0
300	SLU 23	5	-14	907	0	0	0
300	SLU 24	5	-18	903	0	0	0
300	SLU 25	5	-16	913	0	0	0
300	SLU 26	5	-15	915	0	0	0
300	SLU 27	5	-18	911	0	0	0
300	SLU 28	5	-16	921	0	0	0
300	SLU 29	5	-18	906	0	0	0
300	SLU 30	5	-16	916	0	0	0
300	SLU 31	5	-16	1010	0	0	0
300	SLU 32	5	-20	1006	0	0	0
300	SLU 33	5	-18	1016	0	0	0
300	SLU 34	5	-16	1018	0	0	0
300	SLU 35	5	-20	1014	0	0	0
300	SLU 36	5	-18	1024	0	0	0
300	SLU 37	5	-20	1009	0	0	0
300	SLU 38	5	-18	1019	0	0	0
300	SLU 39	5	-20	1037	0	0	0
300	SLU 40	5	-18	1047	0	0	0
300	SLU 41	5	-20	1045	0	0	0
300	SLU 42	5	-18	1055	0	0	0
300	SLU 43	6	-20	983	0	0	0
300	SLU 44	6	-17	1000	0	0	0
300	SLU 45	6	-21	996	0	0	0
300	SLU 46	6	-18	1006	0	0	0
300	SLU 47	6	-17	1008	0	0	0
300	SLU 48	6	-21	1004	0	0	0
300	SLU 49	6	-19	1014	0	0	0
300	SLU 50	6	-21	999	0	0	0
300	SLU 51	6	-19	1009	0	0	0
300	SLU 52	6	-18	1103	0	0	0
300	SLU 53	6	-22	1099	0	0	0
300	SLU 54	6	-20	1109	0	0	0
300	SLU 55	6	-18	1111	0	0	0
300	SLU 56	6	-22	1107	0	0	0
300	SLU 57	6	-20	1117	0	0	0
300	SLU 58	6	-22	1102	0	0	0
300	SLU 59	6	-20	1112	0	0	0
300	SLU 60	6	-22	1130	0	0	0
300	SLU 61	6	-20	1140	0	0	0
300	SLU 62	6	-23	1138	0	0	0
300	SLU 63	6	-21	1148	0	0	0
300	SLU 64	6	-22	1089	0	0	0
300	SLU 65	6	-19	1106	0	0	0
300	SLU 66	6	-22	1102	0	0	0
300	SLU 67	6	-20	1112	0	0	0
300	SLU 68	6	-19	1114	0	0	0
300	SLU 69	6	-23	1110	0	0	0
300	SLU 70	6	-21	1120	0	0	0
300	SLU 71	6	-23	1105	0	0	0
300	SLU 72	6	-20	1115	0	0	0
300	SLU 73	7	-20	1209	0	0	0
300	SLU 74	6	-24	1205	0	0	0
300	SLU 75	6	-22	1215	0	0	0
300	SLU 76	7	-20	1217	0	0	0
300	SLU 77	6	-24	1213	0	0	0
300	SLU 78	6	-22	1223	0	0	0
300	SLU 79	6	-24	1208	0	0	0
300	SLU 80	6	-22	1218	0	0	0
300	SLU 81	6	-24	1236	0	0	0
300	SLU 82	6	-22	1246	0	0	0
300	SLU 83	6	-25	1244	0	0	0
300	SLU 84	6	-22	1254	0	0	0
300	SLE RA 1	5	-17	815	0	0	0
300	SLE RA 2	5	-14	826	0	0	0
300	SLE RA 3	5	-17	823	0	0	0
300	SLE RA 4	5	-15	830	0	0	0
300	SLE RA 5	5	-14	831	0	0	0
300	SLE RA 6	5	-17	828	0	0	0
300	SLE RA 7	5	-16	835	0	0	0
300	SLE RA 8	5	-17	825	0	0	0
300	SLE RA 9	5	-15	832	0	0	0
300	SLE RA 10	5	-15	894	0	0	0
300	SLE RA 11	5	-18	892	0	0	0
300	SLE RA 12	5	-16	898	0	0	0
300	SLE RA 13	5	-15	900	0	0	0
300	SLE RA 14	5	-18	897	0	0	0
300	SLE RA 15	5	-17	904	0	0	0
300	SLE RA 16	5	-18	894	0	0	0
300	SLE RA 17	5	-16	900	0	0	0
300	SLE RA 18	5	-18	912	0	0	0
300	SLE RA 19	5	-17	919	0	0	0
300	SLE RA 20	5	-18	918	0	0	0
300	SLE RA 21	5	-17	925	0	0	0
300	SLE FR 1	5	-17	815	0	0	0
300	SLE FR 2	5	-16	817	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
300	SLE FR 3	5	-17	817	0	0	0
300	SLE FR 4	5	-17	846	0	0	0
300	SLE FR 5	5	-17	846	0	0	0
300	SLE FR 6	5	-17	863	0	0	0
300	SLE QP 1	5	-17	815	0	0	0
300	SLE QP 2	5	-17	844	0	0	0
300	SLD 1	81	10	912	0	0	0
300	SLD 2	95	15	918	0	0	0
300	SLD 3	77	-29	697	0	0	0
300	SLD 4	92	-24	704	0	0	0
300	SLD 5	30	49	1188	0	0	0
300	SLD 6	40	53	1193	0	0	0
300	SLD 7	19	-81	474	0	0	0
300	SLD 8	28	-77	478	0	0	0
300	SLD 9	-19	43	1210	0	0	0
300	SLD 10	-9	47	1214	0	0	0
300	SLD 11	-30	-87	495	0	0	0
300	SLD 12	-21	-83	500	0	0	0
300	SLD 13	-82	-10	984	0	0	0
300	SLD 14	-68	-5	990	0	0	0
300	SLD 15	-86	-49	770	0	0	0
300	SLD 16	-72	-44	776	0	0	0
300	SLV 1	124	26	956	0	0	0
300	SLV 2	146	34	966	0	0	0
300	SLV 3	118	-37	609	0	0	0
300	SLV 4	141	-29	619	0	0	0
300	SLV 5	45	90	1401	0	0	0
300	SLV 6	60	95	1408	0	0	0
300	SLV 7	26	-120	246	0	0	0
300	SLV 8	41	-114	253	0	0	0
300	SLV 9	-32	80	1435	0	0	0
300	SLV 10	-17	86	1442	0	0	0
300	SLV 11	-51	-130	280	0	0	0
300	SLV 12	-36	-124	287	0	0	0
300	SLV 13	-131	-6	1068	0	0	0
300	SLV 14	-109	3	1079	0	0	0
300	SLV 15	-137	-68	722	0	0	0
300	SLV 16	-115	-60	732	0	0	0
300	SLV FO 1	136	30	967	0	0	0
300	SLV FO 2	160	40	978	0	0	0
300	SLV FO 3	130	-39	586	0	0	0
300	SLV FO 4	154	-30	597	0	0	0
300	SLV FO 5	49	100	1457	0	0	0
300	SLV FO 6	65	107	1465	0	0	0
300	SLV FO 7	28	-130	186	0	0	0
300	SLV FO 8	45	-124	194	0	0	0
300	SLV FO 9	-35	90	1494	0	0	0
300	SLV FO 10	-19	96	1502	0	0	0
300	SLV FO 11	-56	-141	223	0	0	0
300	SLV FO 12	-40	-135	231	0	0	0
300	SLV FO 13	-145	-4	1091	0	0	0
300	SLV FO 14	-120	5	1102	0	0	0
300	SLV FO 15	-151	-74	710	0	0	0
300	SLV FO 16	-127	-64	721	0	0	0
300	CRTFP Uy+	0	0	0	0	0	0
300	CRTFP Uy-	0	0	0	0	0	0
301	SLU 1	4	-15	740	0	0	0
301	SLU 2	4	-12	756	0	0	0
301	SLU 3	4	-16	752	0	0	0
301	SLU 4	4	-14	762	0	0	0
301	SLU 5	4	-12	764	0	0	0
301	SLU 6	4	-16	760	0	0	0
301	SLU 7	4	-14	770	0	0	0
301	SLU 8	4	-16	755	0	0	0
301	SLU 9	4	-14	765	0	0	0
301	SLU 10	4	-13	854	0	0	0
301	SLU 11	4	-17	850	0	0	0
301	SLU 12	4	-15	860	0	0	0
301	SLU 13	4	-14	862	0	0	0
301	SLU 14	4	-17	858	0	0	0
301	SLU 15	4	-15	868	0	0	0
301	SLU 16	4	-17	853	0	0	0
301	SLU 17	4	-15	863	0	0	0
301	SLU 18	4	-18	880	0	0	0
301	SLU 19	4	-15	890	0	0	0
301	SLU 20	4	-18	888	0	0	0
301	SLU 21	4	-16	897	0	0	0
301	SLU 22	4	-17	840	0	0	0
301	SLU 23	5	-14	856	0	0	0
301	SLU 24	4	-18	852	0	0	0
301	SLU 25	5	-15	862	0	0	0
301	SLU 26	5	-14	863	0	0	0
301	SLU 27	4	-18	859	0	0	0
301	SLU 28	4	-16	869	0	0	0
301	SLU 29	4	-18	855	0	0	0
301	SLU 30	4	-16	864	0	0	0
301	SLU 31	5	-15	954	0	0	0
301	SLU 32	4	-19	950	0	0	0
301	SLU 33	5	-17	960	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLU 34	5	-16	961	0	0	0
301	SLU 35	4	-19	957	0	0	0
301	SLU 36	5	-17	967	0	0	0
301	SLU 37	4	-19	953	0	0	0
301	SLU 38	4	-17	962	0	0	0
301	SLU 39	4	-19	980	0	0	0
301	SLU 40	5	-17	989	0	0	0
301	SLU 41	4	-20	987	0	0	0
301	SLU 42	5	-18	997	0	0	0
301	SLU 43	5	-19	928	0	0	0
301	SLU 44	5	-16	944	0	0	0
301	SLU 45	5	-20	940	0	0	0
301	SLU 46	5	-18	950	0	0	0
301	SLU 47	5	-16	952	0	0	0
301	SLU 48	5	-20	948	0	0	0
301	SLU 49	5	-18	958	0	0	0
301	SLU 50	5	-20	943	0	0	0
301	SLU 51	5	-18	953	0	0	0
301	SLU 52	5	-17	1042	0	0	0
301	SLU 53	5	-21	1038	0	0	0
301	SLU 54	5	-19	1048	0	0	0
301	SLU 55	5	-18	1050	0	0	0
301	SLU 56	5	-21	1046	0	0	0
301	SLU 57	5	-19	1056	0	0	0
301	SLU 58	5	-21	1041	0	0	0
301	SLU 59	5	-19	1051	0	0	0
301	SLU 60	5	-22	1068	0	0	0
301	SLU 61	5	-19	1078	0	0	0
301	SLU 62	5	-22	1076	0	0	0
301	SLU 63	5	-20	1085	0	0	0
301	SLU 64	5	-21	1028	0	0	0
301	SLU 65	6	-18	1044	0	0	0
301	SLU 66	5	-22	1040	0	0	0
301	SLU 67	6	-19	1050	0	0	0
301	SLU 68	6	-18	1051	0	0	0
301	SLU 69	5	-22	1047	0	0	0
301	SLU 70	5	-20	1057	0	0	0
301	SLU 71	5	-22	1043	0	0	0
301	SLU 72	5	-20	1052	0	0	0
301	SLU 73	6	-19	1142	0	0	0
301	SLU 74	5	-23	1138	0	0	0
301	SLU 75	6	-21	1148	0	0	0
301	SLU 76	6	-19	1149	0	0	0
301	SLU 77	5	-23	1145	0	0	0
301	SLU 78	6	-21	1155	0	0	0
301	SLU 79	5	-23	1141	0	0	0
301	SLU 80	5	-21	1150	0	0	0
301	SLU 81	5	-23	1168	0	0	0
301	SLU 82	6	-21	1177	0	0	0
301	SLU 83	5	-24	1175	0	0	0
301	SLU 84	6	-22	1185	0	0	0
301	SLE RA 1	4	-16	769	0	0	0
301	SLE RA 2	4	-14	779	0	0	0
301	SLE RA 3	4	-16	777	0	0	0
301	SLE RA 4	4	-15	783	0	0	0
301	SLE RA 5	4	-14	784	0	0	0
301	SLE RA 6	4	-16	782	0	0	0
301	SLE RA 7	4	-15	788	0	0	0
301	SLE RA 8	4	-16	779	0	0	0
301	SLE RA 9	4	-15	785	0	0	0
301	SLE RA 10	4	-15	845	0	0	0
301	SLE RA 11	4	-17	842	0	0	0
301	SLE RA 12	4	-16	849	0	0	0
301	SLE RA 13	4	-15	850	0	0	0
301	SLE RA 14	4	-17	847	0	0	0
301	SLE RA 15	4	-16	854	0	0	0
301	SLE RA 16	4	-17	844	0	0	0
301	SLE RA 17	4	-16	850	0	0	0
301	SLE RA 18	4	-17	862	0	0	0
301	SLE RA 19	4	-16	868	0	0	0
301	SLE RA 20	4	-17	867	0	0	0
301	SLE RA 21	4	-16	873	0	0	0
301	SLE FR 1	4	-16	769	0	0	0
301	SLE FR 2	4	-15	771	0	0	0
301	SLE FR 3	4	-16	771	0	0	0
301	SLE FR 4	4	-16	799	0	0	0
301	SLE FR 5	4	-16	799	0	0	0
301	SLE FR 6	4	-17	815	0	0	0
301	SLE QP 1	4	-16	769	0	0	0
301	SLE QP 2	4	-16	797	0	0	0
301	SLD 1	76	9	873	0	0	0
301	SLD 2	90	13	878	0	0	0
301	SLD 3	73	-30	671	0	0	0
301	SLD 4	87	-26	676	0	0	0
301	SLD 5	28	49	1126	0	0	0
301	SLD 6	37	52	1129	0	0	0
301	SLD 7	18	-80	451	0	0	0
301	SLD 8	26	-77	455	0	0	0
301	SLD 9	-18	44	1139	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
301	SLD 10	-10	47	1142	0	0	0
301	SLD 11	-29	-84	464	0	0	0
301	SLD 12	-20	-82	468	0	0	0
301	SLD 13	-78	-7	917	0	0	0
301	SLD 14	-65	-3	922	0	0	0
301	SLD 15	-82	-45	715	0	0	0
301	SLD 16	-68	-42	720	0	0	0
301	SLV 1	117	24	922	0	0	0
301	SLV 2	138	30	930	0	0	0
301	SLV 3	112	-38	595	0	0	0
301	SLV 4	133	-32	603	0	0	0
301	SLV 5	42	89	1329	0	0	0
301	SLV 6	56	93	1334	0	0	0
301	SLV 7	25	-119	239	0	0	0
301	SLV 8	39	-115	244	0	0	0
301	SLV 9	-31	82	1349	0	0	0
301	SLV 10	-17	86	1355	0	0	0
301	SLV 11	-48	-126	259	0	0	0
301	SLV 12	-34	-122	264	0	0	0
301	SLV 13	-125	0	990	0	0	0
301	SLV 14	-104	6	998	0	0	0
301	SLV 15	-130	-63	663	0	0	0
301	SLV 16	-109	-57	671	0	0	0
301	SLV FO 1	129	28	935	0	0	0
301	SLV FO 2	152	35	943	0	0	0
301	SLV FO 3	123	-41	575	0	0	0
301	SLV FO 4	146	-34	583	0	0	0
301	SLV FO 5	46	100	1382	0	0	0
301	SLV FO 6	61	104	1388	0	0	0
301	SLV FO 7	27	-129	183	0	0	0
301	SLV FO 8	42	-125	189	0	0	0
301	SLV FO 9	-34	92	1405	0	0	0
301	SLV FO 10	-19	96	1410	0	0	0
301	SLV FO 11	-53	-137	205	0	0	0
301	SLV FO 12	-38	-133	211	0	0	0
301	SLV FO 13	-138	1	1010	0	0	0
301	SLV FO 14	-115	8	1019	0	0	0
301	SLV FO 15	-144	-67	650	0	0	0
301	SLV FO 16	-121	-61	659	0	0	0
301	CRTFP Uy+	0	0	0	0	0	0
301	CRTFP Uy-	0	0	0	0	0	0
302	SLU 1	4	-16	751	0	0	0
302	SLU 2	4	-12	767	0	0	0
302	SLU 3	4	-16	763	0	0	0
302	SLU 4	4	-14	773	0	0	0
302	SLU 5	4	-12	775	0	0	0
302	SLU 6	4	-16	771	0	0	0
302	SLU 7	4	-14	781	0	0	0
302	SLU 8	4	-16	766	0	0	0
302	SLU 9	4	-14	776	0	0	0
302	SLU 10	4	-14	866	0	0	0
302	SLU 11	4	-17	862	0	0	0
302	SLU 12	4	-15	872	0	0	0
302	SLU 13	4	-14	874	0	0	0
302	SLU 14	4	-18	870	0	0	0
302	SLU 15	4	-16	880	0	0	0
302	SLU 16	4	-17	865	0	0	0
302	SLU 17	4	-15	875	0	0	0
302	SLU 18	4	-18	892	0	0	0
302	SLU 19	4	-16	902	0	0	0
302	SLU 20	4	-18	900	0	0	0
302	SLU 21	4	-16	910	0	0	0
302	SLU 22	5	-17	852	0	0	0
302	SLU 23	5	-14	868	0	0	0
302	SLU 24	5	-18	864	0	0	0
302	SLU 25	5	-16	874	0	0	0
302	SLU 26	5	-14	876	0	0	0
302	SLU 27	5	-18	872	0	0	0
302	SLU 28	5	-16	882	0	0	0
302	SLU 29	5	-18	867	0	0	0
302	SLU 30	5	-16	877	0	0	0
302	SLU 31	5	-16	967	0	0	0
302	SLU 32	5	-19	963	0	0	0
302	SLU 33	5	-17	973	0	0	0
302	SLU 34	5	-16	975	0	0	0
302	SLU 35	5	-19	971	0	0	0
302	SLU 36	5	-17	981	0	0	0
302	SLU 37	5	-19	966	0	0	0
302	SLU 38	5	-17	976	0	0	0
302	SLU 39	5	-20	993	0	0	0
302	SLU 40	5	-18	1003	0	0	0
302	SLU 41	5	-20	1001	0	0	0
302	SLU 42	5	-18	1011	0	0	0
302	SLU 43	5	-20	942	0	0	0
302	SLU 44	5	-16	958	0	0	0
302	SLU 45	5	-20	954	0	0	0
302	SLU 46	5	-18	964	0	0	0
302	SLU 47	5	-16	966	0	0	0
302	SLU 48	5	-20	962	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLU 49	5	-18	972	0	0	0
302	SLU 50	5	-20	957	0	0	0
302	SLU 51	5	-18	967	0	0	0
302	SLU 52	5	-18	1057	0	0	0
302	SLU 53	5	-21	1053	0	0	0
302	SLU 54	5	-19	1063	0	0	0
302	SLU 55	5	-18	1065	0	0	0
302	SLU 56	5	-22	1061	0	0	0
302	SLU 57	5	-20	1070	0	0	0
302	SLU 58	5	-21	1056	0	0	0
302	SLU 59	5	-19	1066	0	0	0
302	SLU 60	5	-22	1083	0	0	0
302	SLU 61	5	-20	1093	0	0	0
302	SLU 62	5	-22	1091	0	0	0
302	SLU 63	5	-20	1100	0	0	0
302	SLU 64	6	-21	1043	0	0	0
302	SLU 65	6	-18	1059	0	0	0
302	SLU 66	6	-22	1055	0	0	0
302	SLU 67	6	-20	1065	0	0	0
302	SLU 68	6	-18	1067	0	0	0
302	SLU 69	6	-22	1063	0	0	0
302	SLU 70	6	-20	1073	0	0	0
302	SLU 71	6	-22	1058	0	0	0
302	SLU 72	6	-20	1068	0	0	0
302	SLU 73	6	-20	1158	0	0	0
302	SLU 74	6	-23	1154	0	0	0
302	SLU 75	6	-21	1164	0	0	0
302	SLU 76	6	-20	1166	0	0	0
302	SLU 77	6	-23	1162	0	0	0
302	SLU 78	6	-21	1171	0	0	0
302	SLU 79	6	-23	1157	0	0	0
302	SLU 80	6	-21	1167	0	0	0
302	SLU 81	6	-24	1184	0	0	0
302	SLU 82	6	-22	1194	0	0	0
302	SLU 83	6	-24	1192	0	0	0
302	SLU 84	6	-22	1201	0	0	0
302	SLE RA 1	4	-16	780	0	0	0
302	SLE RA 2	4	-14	791	0	0	0
302	SLE RA 3	4	-16	788	0	0	0
302	SLE RA 4	4	-15	795	0	0	0
302	SLE RA 5	4	-14	796	0	0	0
302	SLE RA 6	4	-16	793	0	0	0
302	SLE RA 7	4	-15	800	0	0	0
302	SLE RA 8	4	-16	790	0	0	0
302	SLE RA 9	4	-15	797	0	0	0
302	SLE RA 10	4	-15	857	0	0	0
302	SLE RA 11	4	-17	854	0	0	0
302	SLE RA 12	4	-16	861	0	0	0
302	SLE RA 13	4	-15	862	0	0	0
302	SLE RA 14	4	-17	859	0	0	0
302	SLE RA 15	4	-16	866	0	0	0
302	SLE RA 16	4	-17	856	0	0	0
302	SLE RA 17	4	-16	863	0	0	0
302	SLE RA 18	4	-18	874	0	0	0
302	SLE RA 19	4	-16	881	0	0	0
302	SLE RA 20	4	-18	879	0	0	0
302	SLE RA 21	4	-16	886	0	0	0
302	SLE FR 1	4	-16	780	0	0	0
302	SLE FR 2	4	-16	782	0	0	0
302	SLE FR 3	4	-16	782	0	0	0
302	SLE FR 4	4	-16	810	0	0	0
302	SLE FR 5	4	-17	810	0	0	0
302	SLE FR 6	4	-17	827	0	0	0
302	SLE QP 1	4	-16	780	0	0	0
302	SLE QP 2	4	-17	808	0	0	0
302	SLD 1	78	9	880	0	0	0
302	SLD 2	91	14	885	0	0	0
302	SLD 3	75	-29	675	0	0	0
302	SLD 4	88	-25	680	0	0	0
302	SLD 5	29	49	1140	0	0	0
302	SLD 6	38	52	1144	0	0	0
302	SLD 7	18	-79	456	0	0	0
302	SLD 8	27	-76	460	0	0	0
302	SLD 9	-18	43	1157	0	0	0
302	SLD 10	-9	46	1160	0	0	0
302	SLD 11	-29	-85	473	0	0	0
302	SLD 12	-20	-82	477	0	0	0
302	SLD 13	-80	-8	936	0	0	0
302	SLD 14	-66	-4	942	0	0	0
302	SLD 15	-83	-47	731	0	0	0
302	SLD 16	-69	-42	737	0	0	0
302	SLV 1	119	25	926	0	0	0
302	SLV 2	141	32	934	0	0	0
302	SLV 3	114	-37	594	0	0	0
302	SLV 4	135	-30	603	0	0	0
302	SLV 5	43	89	1345	0	0	0
302	SLV 6	57	94	1351	0	0	0
302	SLV 7	25	-118	239	0	0	0
302	SLV 8	39	-114	245	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
302	SLV 9	-31	80	1371	0	0	0
302	SLV 10	-17	85	1377	0	0	0
302	SLV 11	-49	-127	266	0	0	0
302	SLV 12	-34	-122	272	0	0	0
302	SLV 13	-127	-3	1014	0	0	0
302	SLV 14	-106	4	1022	0	0	0
302	SLV 15	-132	-65	682	0	0	0
302	SLV 16	-111	-58	691	0	0	0
302	SLV FO 1	131	29	937	0	0	0
302	SLV FO 2	154	37	947	0	0	0
302	SLV FO 3	125	-39	573	0	0	0
302	SLV FO 4	149	-32	582	0	0	0
302	SLV FO 5	47	99	1398	0	0	0
302	SLV FO 6	63	105	1405	0	0	0
302	SLV FO 7	27	-128	182	0	0	0
302	SLV FO 8	43	-123	189	0	0	0
302	SLV FO 9	-34	90	1427	0	0	0
302	SLV FO 10	-19	95	1434	0	0	0
302	SLV FO 11	-54	-138	211	0	0	0
302	SLV FO 12	-38	-132	218	0	0	0
302	SLV FO 13	-140	-2	1034	0	0	0
302	SLV FO 14	-117	6	1044	0	0	0
302	SLV FO 15	-146	-70	669	0	0	0
302	SLV FO 16	-122	-62	679	0	0	0
302	CRTFP Uy+	0	0	0	0	0	0
302	CRTFP Uy-	0	0	0	0	0	0
303	SLU 1	4	-15	714	0	0	0
303	SLU 2	4	-11	730	0	0	0
303	SLU 3	4	-15	726	0	0	0
303	SLU 4	4	-13	735	0	0	0
303	SLU 5	4	-12	737	0	0	0
303	SLU 6	4	-15	733	0	0	0
303	SLU 7	4	-13	743	0	0	0
303	SLU 8	3	-15	729	0	0	0
303	SLU 9	4	-13	738	0	0	0
303	SLU 10	4	-13	825	0	0	0
303	SLU 11	4	-17	821	0	0	0
303	SLU 12	4	-15	830	0	0	0
303	SLU 13	4	-13	832	0	0	0
303	SLU 14	4	-17	828	0	0	0
303	SLU 15	4	-15	838	0	0	0
303	SLU 16	4	-17	824	0	0	0
303	SLU 17	4	-15	833	0	0	0
303	SLU 18	4	-17	850	0	0	0
303	SLU 19	4	-15	859	0	0	0
303	SLU 20	4	-17	857	0	0	0
303	SLU 21	4	-15	867	0	0	0
303	SLU 22	4	-17	810	0	0	0
303	SLU 23	4	-13	826	0	0	0
303	SLU 24	4	-17	822	0	0	0
303	SLU 25	4	-15	831	0	0	0
303	SLU 26	4	-13	833	0	0	0
303	SLU 27	4	-17	829	0	0	0
303	SLU 28	4	-15	839	0	0	0
303	SLU 29	4	-17	825	0	0	0
303	SLU 30	4	-15	834	0	0	0
303	SLU 31	4	-15	921	0	0	0
303	SLU 32	4	-18	917	0	0	0
303	SLU 33	4	-16	926	0	0	0
303	SLU 34	4	-15	928	0	0	0
303	SLU 35	4	-18	924	0	0	0
303	SLU 36	4	-16	934	0	0	0
303	SLU 37	4	-18	920	0	0	0
303	SLU 38	4	-16	929	0	0	0
303	SLU 39	4	-19	946	0	0	0
303	SLU 40	4	-17	955	0	0	0
303	SLU 41	4	-19	953	0	0	0
303	SLU 42	4	-17	963	0	0	0
303	SLU 43	4	-19	895	0	0	0
303	SLU 44	5	-15	911	0	0	0
303	SLU 45	4	-19	907	0	0	0
303	SLU 46	5	-17	917	0	0	0
303	SLU 47	5	-15	918	0	0	0
303	SLU 48	4	-19	915	0	0	0
303	SLU 49	5	-17	924	0	0	0
303	SLU 50	4	-19	910	0	0	0
303	SLU 51	5	-17	919	0	0	0
303	SLU 52	5	-17	1006	0	0	0
303	SLU 53	5	-20	1002	0	0	0
303	SLU 54	5	-18	1012	0	0	0
303	SLU 55	5	-17	1014	0	0	0
303	SLU 56	5	-21	1010	0	0	0
303	SLU 57	5	-19	1019	0	0	0
303	SLU 58	4	-20	1005	0	0	0
303	SLU 59	5	-18	1015	0	0	0
303	SLU 60	5	-21	1031	0	0	0
303	SLU 61	5	-19	1041	0	0	0
303	SLU 62	5	-21	1039	0	0	0
303	SLU 63	5	-19	1048	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLU 64	5	-20	991	0	0	0
303	SLU 65	5	-17	1007	0	0	0
303	SLU 66	5	-21	1003	0	0	0
303	SLU 67	5	-19	1013	0	0	0
303	SLU 68	5	-17	1014	0	0	0
303	SLU 69	5	-21	1011	0	0	0
303	SLU 70	5	-19	1020	0	0	0
303	SLU 71	5	-21	1006	0	0	0
303	SLU 72	5	-19	1015	0	0	0
303	SLU 73	5	-19	1102	0	0	0
303	SLU 74	5	-22	1098	0	0	0
303	SLU 75	5	-20	1108	0	0	0
303	SLU 76	5	-19	1109	0	0	0
303	SLU 77	5	-22	1106	0	0	0
303	SLU 78	5	-20	1115	0	0	0
303	SLU 79	5	-22	1101	0	0	0
303	SLU 80	5	-20	1111	0	0	0
303	SLU 81	5	-22	1127	0	0	0
303	SLU 82	5	-20	1137	0	0	0
303	SLU 83	5	-23	1135	0	0	0
303	SLU 84	5	-21	1144	0	0	0
303	SLE RA 1	4	-15	742	0	0	0
303	SLE RA 2	4	-13	752	0	0	0
303	SLE RA 3	4	-15	749	0	0	0
303	SLE RA 4	4	-14	756	0	0	0
303	SLE RA 5	4	-13	757	0	0	0
303	SLE RA 6	4	-16	754	0	0	0
303	SLE RA 7	4	-14	761	0	0	0
303	SLE RA 8	4	-16	751	0	0	0
303	SLE RA 9	4	-14	758	0	0	0
303	SLE RA 10	4	-14	815	0	0	0
303	SLE RA 11	4	-16	813	0	0	0
303	SLE RA 12	4	-15	819	0	0	0
303	SLE RA 13	4	-14	820	0	0	0
303	SLE RA 14	4	-17	818	0	0	0
303	SLE RA 15	4	-15	824	0	0	0
303	SLE RA 16	4	-16	815	0	0	0
303	SLE RA 17	4	-15	821	0	0	0
303	SLE RA 18	4	-17	832	0	0	0
303	SLE RA 19	4	-15	838	0	0	0
303	SLE RA 20	4	-17	837	0	0	0
303	SLE RA 21	4	-15	843	0	0	0
303	SLE FR 1	4	-15	742	0	0	0
303	SLE FR 2	4	-15	744	0	0	0
303	SLE FR 3	4	-15	743	0	0	0
303	SLE FR 4	4	-15	771	0	0	0
303	SLE FR 5	4	-16	771	0	0	0
303	SLE FR 6	4	-16	787	0	0	0
303	SLE QP 1	4	-15	742	0	0	0
303	SLE QP 2	4	-16	769	0	0	0
303	SLD 1	73	8	848	0	0	0
303	SLD 2	86	11	852	0	0	0
303	SLD 3	70	-30	653	0	0	0
303	SLD 4	83	-27	657	0	0	0
303	SLD 5	27	48	1088	0	0	0
303	SLD 6	35	50	1090	0	0	0
303	SLD 7	17	-78	437	0	0	0
303	SLD 8	25	-76	440	0	0	0
303	SLD 9	-18	44	1097	0	0	0
303	SLD 10	-9	46	1100	0	0	0
303	SLD 11	-28	-82	447	0	0	0
303	SLD 12	-19	-80	450	0	0	0
303	SLD 13	-75	-5	880	0	0	0
303	SLD 14	-62	-2	884	0	0	0
303	SLD 15	-78	-43	685	0	0	0
303	SLD 16	-65	-40	689	0	0	0
303	SLV 1	112	23	898	0	0	0
303	SLV 2	132	27	905	0	0	0
303	SLV 3	107	-38	583	0	0	0
303	SLV 4	127	-34	589	0	0	0
303	SLV 5	40	88	1285	0	0	0
303	SLV 6	53	91	1289	0	0	0
303	SLV 7	24	-116	233	0	0	0
303	SLV 8	37	-113	238	0	0	0
303	SLV 9	-30	82	1299	0	0	0
303	SLV 10	-16	85	1304	0	0	0
303	SLV 11	-46	-122	248	0	0	0
303	SLV 12	-32	-119	253	0	0	0
303	SLV 13	-120	2	948	0	0	0
303	SLV 14	-100	7	955	0	0	0
303	SLV 15	-125	-59	633	0	0	0
303	SLV 16	-105	-54	639	0	0	0
303	SLV FO 1	123	27	911	0	0	0
303	SLV FO 2	145	32	918	0	0	0
303	SLV FO 3	118	-41	564	0	0	0
303	SLV FO 4	140	-35	572	0	0	0
303	SLV FO 5	43	98	1336	0	0	0
303	SLV FO 6	58	102	1341	0	0	0
303	SLV FO 7	26	-126	180	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
303	SLV FO 8	41	-123	185	0	0	0
303	SLV FO 9	-33	91	1353	0	0	0
303	SLV FO 10	-18	95	1358	0	0	0
303	SLV FO 11	-51	-133	196	0	0	0
303	SLV FO 12	-36	-129	201	0	0	0
303	SLV FO 13	-132	4	966	0	0	0
303	SLV FO 14	-110	9	973	0	0	0
303	SLV FO 15	-137	-63	619	0	0	0
303	SLV FO 16	-115	-58	626	0	0	0
303	CRTFP Uy+	0	0	0	0	0	0
303	CRTFP Uy-	0	0	0	0	0	0
304	SLU 1	-59	72	5329	1226.26	-914.92	27.64
304	SLU 2	-63	103	5439	1249.5	-933.84	34.26
304	SLU 3	-61	73	5422	1248.08	-930.66	28.25
304	SLU 4	-63	91	5488	1262.02	-942.01	32.22
304	SLU 5	-64	103	5496	1262.91	-943.49	34.67
304	SLU 6	-62	73	5479	1261.49	-940.31	28.67
304	SLU 7	-65	92	5545	1275.43	-951.66	32.64
304	SLU 8	-62	73	5443	1253.09	-934.22	28.47
304	SLU 9	-64	92	5509	1267.03	-945.57	32.44
304	SLU 10	-64	113	6094	1399.44	-1045.85	36.24
304	SLU 11	-62	83	6077	1398.03	-1042.68	30.24
304	SLU 12	-64	101	6143	1411.97	-1054.03	34.21
304	SLU 13	-65	113	6151	1412.86	-1055.5	36.66
304	SLU 14	-63	83	6134	1411.44	-1052.33	30.65
304	SLU 15	-65	102	6200	1425.38	-1063.68	34.62
304	SLU 16	-62	83	6098	1403.04	-1046.24	30.45
304	SLU 17	-65	102	6164	1416.98	-1057.59	34.42
304	SLU 18	-60	86	6265	1440.47	-1074.94	30.48
304	SLU 19	-63	104	6331	1454.41	-1086.29	34.45
304	SLU 20	-61	86	6322	1453.89	-1084.59	30.89
304	SLU 21	-64	105	6388	1467.83	-1095.94	34.86
304	SLU 22	-66	79	6071	1397.56	-1041.39	30.76
304	SLU 23	-70	110	6181	1420.79	-1060.31	37.38
304	SLU 24	-68	80	6164	1419.37	-1057.14	31.37
304	SLU 25	-70	99	6230	1433.32	-1068.49	35.34
304	SLU 26	-71	111	6238	1434.21	-1069.96	37.79
304	SLU 27	-69	81	6221	1432.79	-1066.79	31.78
304	SLU 28	-72	100	6287	1446.73	-1078.14	35.75
304	SLU 29	-69	81	6185	1424.38	-1060.69	31.59
304	SLU 30	-71	99	6251	1438.32	-1072.04	35.56
304	SLU 31	-71	120	6836	1570.74	-1172.32	39.36
304	SLU 32	-69	90	6819	1569.32	-1169.15	33.36
304	SLU 33	-71	109	6884	1583.26	-1180.5	37.32
304	SLU 34	-72	121	6892	1584.15	-1181.97	39.77
304	SLU 35	-70	91	6876	1582.74	-1178.8	33.77
304	SLU 36	-72	109	6941	1596.68	-1190.15	37.74
304	SLU 37	-69	90	6840	1574.33	-1172.71	33.57
304	SLU 38	-72	109	6905	1588.27	-1184.06	37.54
304	SLU 39	-67	93	7006	1611.77	-1201.41	33.59
304	SLU 40	-70	112	7072	1625.71	-1212.76	37.56
304	SLU 41	-68	94	7063	1625.18	-1211.06	34.01
304	SLU 42	-71	113	7129	1639.12	-1222.41	37.98
304	SLU 43	-74	91	6674	1535.41	-1146.03	34.87
304	SLU 44	-79	122	6784	1558.64	-1164.95	41.48
304	SLU 45	-76	92	6767	1557.23	-1161.78	35.48
304	SLU 46	-79	110	6833	1571.17	-1173.13	39.45
304	SLU 47	-80	122	6841	1572.06	-1174.6	41.9
304	SLU 48	-77	92	6824	1570.64	-1171.43	35.89
304	SLU 49	-80	111	6889	1584.58	-1182.78	39.86
304	SLU 50	-77	92	6788	1562.24	-1165.33	35.69
304	SLU 51	-79	111	6854	1576.18	-1176.68	39.66
304	SLU 52	-79	132	7438	1708.59	-1276.96	43.47
304	SLU 53	-77	102	7422	1707.17	-1273.79	37.46
304	SLU 54	-79	120	7487	1721.12	-1285.14	41.43
304	SLU 55	-81	132	7495	1722.01	-1286.62	43.88
304	SLU 56	-78	102	7478	1720.59	-1283.44	37.88
304	SLU 57	-81	121	7544	1734.53	-1294.79	41.84
304	SLU 58	-78	102	7443	1712.18	-1277.35	37.68
304	SLU 59	-80	120	7508	1726.12	-1288.7	41.65
304	SLU 60	-76	105	7609	1749.62	-1306.05	37.7
304	SLU 61	-78	123	7675	1763.56	-1317.4	41.67
304	SLU 62	-77	105	7666	1763.03	-1315.7	38.11
304	SLU 63	-79	124	7732	1776.97	-1327.06	42.08
304	SLU 64	-81	98	7416	1706.71	-1272.5	37.98
304	SLU 65	-86	129	7525	1729.94	-1291.42	44.6
304	SLU 66	-83	99	7508	1728.52	-1288.25	38.6
304	SLU 67	-86	118	7574	1742.46	-1299.6	42.56
304	SLU 68	-87	130	7582	1743.35	-1301.07	45.01
304	SLU 69	-84	100	7565	1741.94	-1297.9	39.01
304	SLU 70	-87	119	7631	1755.88	-1309.25	42.98
304	SLU 71	-84	100	7529	1733.53	-1291.81	38.81
304	SLU 72	-86	118	7595	1747.47	-1303.16	42.78
304	SLU 73	-86	139	8180	1879.89	-1403.44	46.58
304	SLU 74	-84	109	8163	1878.47	-1400.26	40.58
304	SLU 75	-86	128	8229	1892.41	-1411.61	44.55
304	SLU 76	-88	140	8237	1893.3	-1413.09	47
304	SLU 77	-85	110	8220	1891.88	-1409.91	40.99
304	SLU 78	-88	128	8286	1905.82	-1421.27	44.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
304	SLU 79	-85	109	8184	1883.48	-1403.82	40.79
304	SLU 80	-87	128	8250	1897.42	-1415.17	44.76
304	SLU 81	-83	112	8351	1920.92	-1432.53	40.82
304	SLU 82	-85	131	8417	1934.86	-1443.88	44.79
304	SLU 83	-84	113	8408	1934.33	-1442.18	41.23
304	SLU 84	-86	132	8474	1948.27	-1453.53	45.2
304	SLE RA 1	-61	74	5541	1275.2	-951.05	28.53
304	SLE RA 2	-64	95	5614	1290.69	-963.66	32.94
304	SLE RA 3	-62	75	5603	1289.75	-961.55	28.94
304	SLE RA 4	-64	87	5647	1299.04	-969.12	31.59
304	SLE RA 5	-65	95	5652	1299.64	-970.1	33.22
304	SLE RA 6	-63	75	5641	1298.69	-967.98	29.22
304	SLE RA 7	-65	87	5685	1307.98	-975.55	31.86
304	SLE RA 8	-63	75	5617	1293.09	-963.92	29.08
304	SLE RA 9	-64	87	5661	1302.38	-971.49	31.73
304	SLE RA 10	-64	101	6051	1390.66	-1038.34	34.27
304	SLE RA 11	-63	81	6040	1389.71	-1036.23	30.26
304	SLE RA 12	-64	94	6084	1399.01	-1043.79	32.91
304	SLE RA 13	-65	102	6089	1399.6	-1044.78	34.54
304	SLE RA 14	-64	82	6078	1398.66	-1042.66	30.54
304	SLE RA 15	-65	94	6121	1407.95	-1050.23	33.19
304	SLE RA 16	-63	81	6054	1393.05	-1038.6	30.41
304	SLE RA 17	-65	94	6098	1402.35	-1046.16	33.05
304	SLE RA 18	-62	83	6165	1418.01	-1057.74	30.42
304	SLE RA 19	-64	96	6209	1427.3	-1065.3	33.07
304	SLE RA 20	-63	84	6203	1426.95	-1064.17	30.7
304	SLE RA 21	-64	96	6247	1436.25	-1071.74	33.34
304	SLE FR 1	-61	74	5541	1275.2	-951.05	28.53
304	SLE FR 2	-62	78	5556	1278.3	-953.58	29.42
304	SLE FR 3	-61	74	5556	1278.78	-953.63	28.64
304	SLE FR 4	-62	81	5743	1321.14	-985.58	29.98
304	SLE FR 5	-62	77	5744	1321.62	-985.63	29.21
304	SLE FR 6	-61	79	5853	1346.61	-1004.39	29.48
304	SLE QP 1	-61	74	5541	1275.2	-951.05	28.53
304	SLE QP 2	-61	77	5728	1318.05	-983.06	29.1
304	SLD 1	352	264	8124	1853.37	-1388.16	-35.16
304	SLD 2	436	114	7986	1824.4	-1364.67	-83.04
304	SLD 3	414	-83	6605	1534.28	-1125.19	-113.09
304	SLD 4	497	-234	6468	1505.3	-1101.7	-160.98
304	SLD 5	-45	687	8775	1967.83	-1507.67	136.65
304	SLD 6	10	587	8684	1948.69	-1492.16	105.03
304	SLD 7	159	-471	3713	904.18	-631.08	-123.13
304	SLD 8	214	-570	3622	885.04	-615.57	-154.75
304	SLD 9	-337	723	7835	1751.05	-1350.54	212.95
304	SLD 10	-282	624	7744	1731.92	-1335.04	181.33
304	SLD 11	-133	-434	2772	687.4	-473.96	-46.83
304	SLD 12	-78	-533	2681	668.27	-458.45	-78.45
304	SLD 13	-620	387	4989	1130.79	-864.42	219.18
304	SLD 14	-536	236	4852	1101.81	-840.93	171.29
304	SLD 15	-558	40	3470	811.7	-601.44	141.24
304	SLD 16	-475	-111	3333	782.72	-577.96	93.36
304	SLV 1	585	379	9508	2162.05	-1622.35	-69.61
304	SLV 2	716	143	9292	2116.65	-1585.55	-144.64
304	SLV 3	684	-182	7054	1646.52	-1197.5	-195.35
304	SLV 4	814	-418	6839	1601.12	-1160.7	-270.38
304	SLV 5	-41	1062	10624	2361.61	-1826.06	204.2
304	SLV 6	47	903	10479	2331.04	-1801.29	153.68
304	SLV 7	287	-807	2445	643.18	-409.91	-214.94
304	SLV 8	375	-966	2300	612.61	-385.13	-265.45
304	SLV 9	-498	1119	9157	2023.48	-1580.98	323.65
304	SLV 10	-410	961	9012	1992.91	-1556.21	273.14
304	SLV 11	-170	-750	978	305.05	-164.83	-95.48
304	SLV 12	-81	-908	833	274.49	-140.05	-146
304	SLV 13	-937	571	4618	1034.97	-805.41	328.58
304	SLV 14	-806	335	4403	989.57	-768.62	253.55
304	SLV 15	-839	10	2165	519.44	-380.57	202.84
304	SLV 16	-708	-226	1949	474.04	-343.77	127.81
304	SLV FO 1	650	409	9886	2246.45	-1686.27	-79.48
304	SLV FO 2	794	150	9649	2196.51	-1645.8	-162.01
304	SLV FO 3	758	-208	7187	1679.37	-1218.94	-217.8
304	SLV FO 4	902	-467	6950	1629.43	-1178.47	-300.33
304	SLV FO 5	-39	1160	11113	2465.96	-1910.36	221.71
304	SLV FO 6	58	986	10954	2432.34	-1883.11	166.14
304	SLV FO 7	322	-896	2117	575.69	-352.59	-239.34
304	SLV FO 8	419	-1070	1957	542.07	-325.34	-294.91
304	SLV FO 9	-541	1224	9500	2094.03	-1640.78	353.11
304	SLV FO 10	-445	1049	9340	2060.4	-1613.52	297.54
304	SLV FO 11	-180	-832	503	203.76	-83	-107.94
304	SLV FO 12	-83	-1007	343	170.13	-55.75	-163.51
304	SLV FO 13	-1025	620	4507	1006.67	-787.65	358.53
304	SLV FO 14	-881	361	4270	956.72	-747.17	276
304	SLV FO 15	-916	4	1808	439.58	-320.32	220.21
304	SLV FO 16	-772	-256	1571	389.64	-279.84	137.68
304	CRTFP Ux+	0	0	0	0	0	0
304	CRTFP Ux-	0	0	0	0	0	0
304	CRTFP Uy+	0	0	0	0	0	0
304	CRTFP Uy-	0	0	0	0	0	0
306	SLU 1	-43	50	3678	1014.6	-94.32	16.34
306	SLU 2	-46	72	3751	1033.15	-96.19	17.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLU 3	-44	51	3742	1032.49	-95.94	16.8
306	SLU 4	-46	64	3786	1043.62	-97.06	17.68
306	SLU 5	-46	73	3791	1044.16	-97.18	18.12
306	SLU 6	-45	52	3781	1043.5	-96.94	17.12
306	SLU 7	-47	65	3825	1054.63	-98.06	18
306	SLU 8	-45	51	3756	1036.62	-96.31	16.97
306	SLU 9	-46	64	3800	1047.75	-97.43	17.85
306	SLU 10	-46	79	4201	1154.6	-107.68	18.16
306	SLU 11	-45	58	4192	1153.94	-107.44	17.16
306	SLU 12	-46	71	4236	1165.07	-108.56	18.04
306	SLU 13	-47	80	4241	1165.61	-108.68	18.48
306	SLU 14	-46	59	4231	1164.95	-108.44	17.48
306	SLU 15	-47	72	4275	1176.08	-109.56	18.36
306	SLU 16	-45	58	4206	1158.07	-107.81	17.33
306	SLU 17	-47	71	4251	1169.2	-108.93	18.21
306	SLU 18	-44	61	4321	1188.1	-110.74	16.86
306	SLU 19	-45	74	4365	1199.23	-111.86	17.73
306	SLU 20	-45	61	4360	1199.11	-111.74	17.17
306	SLU 21	-46	74	4404	1210.24	-112.86	18.05
306	SLU 22	-48	56	4188	1153.88	-107.31	18.28
306	SLU 23	-51	78	4261	1172.43	-109.18	19.75
306	SLU 24	-49	56	4252	1171.77	-108.94	18.75
306	SLU 25	-51	70	4296	1182.9	-110.06	19.63
306	SLU 26	-52	78	4301	1183.44	-110.18	20.06
306	SLU 27	-50	57	4291	1182.78	-109.94	19.06
306	SLU 28	-52	70	4335	1193.91	-111.06	19.94
306	SLU 29	-50	57	4266	1175.9	-109.31	18.92
306	SLU 30	-51	70	4311	1187.03	-110.43	19.8
306	SLU 31	-51	85	4712	1293.88	-120.68	20.11
306	SLU 32	-50	63	4702	1293.22	-120.43	19.11
306	SLU 33	-52	77	4746	1304.35	-121.55	19.99
306	SLU 34	-52	85	4751	1304.89	-121.67	20.43
306	SLU 35	-51	64	4741	1304.23	-121.43	19.43
306	SLU 36	-52	77	4785	1315.36	-122.55	20.3
306	SLU 37	-50	64	4717	1297.35	-120.8	19.28
306	SLU 38	-52	77	4761	1308.48	-121.92	20.16
306	SLU 39	-49	66	4831	1327.38	-123.74	18.8
306	SLU 40	-50	79	4875	1338.51	-124.86	19.68
306	SLU 41	-50	66	4870	1338.39	-124.73	19.12
306	SLU 42	-51	79	4914	1349.52	-125.85	20
306	SLU 43	-54	64	4606	1271.23	-118.16	20.57
306	SLU 44	-57	86	4680	1289.78	-120.03	22.04
306	SLU 45	-55	64	4670	1289.12	-119.79	21.04
306	SLU 46	-57	78	4714	1300.25	-120.91	21.92
306	SLU 47	-58	86	4719	1300.79	-121.03	22.35
306	SLU 48	-56	65	4709	1300.13	-120.78	21.35
306	SLU 49	-58	78	4753	1311.26	-121.9	22.23
306	SLU 50	-56	65	4685	1293.25	-120.16	21.21
306	SLU 51	-57	78	4729	1304.38	-121.28	22.08
306	SLU 52	-57	93	5130	1411.23	-131.52	22.4
306	SLU 53	-56	71	5120	1410.57	-131.28	21.4
306	SLU 54	-57	85	5164	1421.7	-132.4	22.28
306	SLU 55	-58	93	5169	1422.24	-132.52	22.72
306	SLU 56	-57	72	5159	1421.58	-132.28	21.72
306	SLU 57	-58	85	5204	1432.71	-133.4	22.59
306	SLU 58	-56	72	5135	1414.7	-131.65	21.57
306	SLU 59	-58	85	5179	1425.83	-132.77	22.45
306	SLU 60	-55	74	5249	1444.73	-134.58	21.09
306	SLU 61	-56	87	5293	1455.86	-135.71	21.97
306	SLU 62	-56	74	5288	1455.74	-135.58	21.41
306	SLU 63	-57	87	5333	1466.87	-136.7	22.28
306	SLU 64	-59	69	5116	1410.51	-131.15	22.52
306	SLU 65	-62	91	5190	1429.06	-133.02	23.98
306	SLU 66	-61	70	5180	1428.4	-132.78	22.98
306	SLU 67	-62	83	5224	1439.53	-133.9	23.86
306	SLU 68	-63	91	5229	1440.07	-134.02	24.3
306	SLU 69	-61	70	5219	1439.41	-133.78	23.3
306	SLU 70	-63	83	5264	1450.54	-134.9	24.18
306	SLU 71	-61	70	5195	1432.53	-133.15	23.15
306	SLU 72	-63	83	5239	1443.66	-134.27	24.03
306	SLU 73	-62	98	5640	1550.51	-144.52	24.34
306	SLU 74	-61	77	5630	1549.85	-144.28	23.34
306	SLU 75	-63	90	5675	1560.98	-145.4	24.22
306	SLU 76	-63	98	5679	1561.52	-145.52	24.66
306	SLU 77	-62	77	5670	1560.86	-145.27	23.66
306	SLU 78	-64	90	5714	1571.99	-146.39	24.54
306	SLU 79	-62	77	5645	1553.98	-144.65	23.51
306	SLU 80	-63	90	5689	1565.11	-145.77	24.39
306	SLU 81	-60	79	5759	1584.01	-147.58	23.04
306	SLU 82	-62	92	5804	1595.14	-148.7	23.91
306	SLU 83	-61	80	5799	1595.02	-148.58	23.35
306	SLU 84	-62	93	5843	1606.15	-149.7	24.23
306	SLE RA 1	-44	52	3823	1054.39	-98.03	16.89
306	SLE RA 2	-46	67	3872	1066.76	-99.28	17.87
306	SLE RA 3	-45	52	3866	1066.32	-99.12	17.2
306	SLE RA 4	-46	61	3896	1073.74	-99.86	17.79
306	SLE RA 5	-47	67	3899	1074.1	-99.94	18.08
306	SLE RA 6	-46	53	3892	1073.66	-99.78	17.41
306	SLE RA 7	-47	61	3922	1081.08	-100.53	18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
306	SLE RA 8	-46	53	3876	1069.07	-99.36	17.32
306	SLE RA 9	-47	61	3905	1076.49	-100.11	17.9
306	SLE RA 10	-47	71	4173	1147.73	-106.94	18.11
306	SLE RA 11	-46	57	4166	1147.29	-106.78	17.44
306	SLE RA 12	-47	66	4196	1154.71	-107.53	18.03
306	SLE RA 13	-47	72	4199	1155.07	-107.61	18.32
306	SLE RA 14	-46	57	4192	1154.63	-107.44	17.66
306	SLE RA 15	-47	66	4222	1162.05	-108.19	18.24
306	SLE RA 16	-46	57	4176	1150.04	-107.03	17.56
306	SLE RA 17	-47	66	4205	1157.46	-107.77	18.14
306	SLE RA 18	-45	59	4252	1170.06	-108.98	17.24
306	SLE RA 19	-46	67	4282	1177.48	-109.73	17.82
306	SLE RA 20	-46	59	4278	1177.4	-109.65	17.45
306	SLE RA 21	-47	68	4308	1184.82	-110.39	18.04
306	SLE FR 1	-44	52	3823	1054.39	-98.03	16.89
306	SLE FR 2	-45	55	3833	1056.87	-98.28	17.09
306	SLE FR 3	-45	52	3834	1057.33	-98.3	16.98
306	SLE FR 4	-45	57	3962	1091.57	-101.57	17.19
306	SLE FR 5	-45	54	3963	1092.03	-101.58	17.08
306	SLE FR 6	-45	55	4038	1112.23	-103.51	17.07
306	SLE QP 1	-44	52	3823	1054.39	-98.03	16.89
306	SLE QP 2	-45	54	3952	1089.1	-101.32	17
306	SLD 1	265	189	5563	1520.4	-141.41	-87.38
306	SLD 2	325	82	5471	1497.57	-139.14	-111.05
306	SLD 3	307	-60	4542	1269.76	-115.41	-108.4
306	SLD 4	367	-166	4451	1246.93	-113.14	-132.08
306	SLD 5	-26	490	5999	1602.74	-153.19	21.84
306	SLD 6	14	420	5939	1587.66	-151.69	6.21
306	SLD 7	113	-337	2598	767.27	-66.52	-48.24
306	SLD 8	153	-408	2538	752.2	-65.02	-63.88
306	SLD 9	-242	516	5366	1426	-137.62	97.87
306	SLD 10	-203	446	5306	1410.92	-136.12	82.24
306	SLD 11	-103	-312	1965	590.53	-50.94	27.79
306	SLD 12	-64	-382	1905	575.45	-49.44	12.16
306	SLD 13	-456	274	3453	931.26	-89.5	166.07
306	SLD 14	-396	168	3362	908.43	-87.23	142.4
306	SLD 15	-414	26	2433	680.62	-63.49	145.05
306	SLD 16	-355	-81	2342	657.79	-61.23	121.37
306	SLV 1	440	271	6493	1768.92	-164.58	-145.98
306	SLV 2	534	105	6350	1733.16	-161.03	-183.07
306	SLV 3	507	-130	4845	1363.97	-122.58	-179.81
306	SLV 4	601	-296	4702	1328.2	-119.02	-216.9
306	SLV 5	-19	758	7241	1913.91	-184.67	26.34
306	SLV 6	45	646	7145	1889.83	-182.28	1.36
306	SLV 7	205	-578	1747	564.04	-44.64	-86.43
306	SLV 8	268	-690	1651	539.96	-42.25	-111.41
306	SLV 9	-357	798	6253	1638.23	-160.38	145.4
306	SLV 10	-294	686	6157	1614.15	-157.99	120.43
306	SLV 11	-134	-538	759	288.36	-20.35	32.63
306	SLV 12	-71	-650	663	264.28	-17.96	7.66
306	SLV 13	-690	404	3202	849.99	-83.61	250.9
306	SLV 14	-596	238	3059	814.22	-80.06	213.8
306	SLV 15	-623	3	1554	445.03	-41.6	217.07
306	SLV 16	-529	-163	1411	409.27	-38.05	179.97
306	SLV FO 1	488	293	6747	1836.91	-170.91	-162.27
306	SLV FO 2	591	110	6590	1797.56	-167	-203.08
306	SLV FO 3	562	-148	4934	1391.45	-124.7	-199.49
306	SLV FO 4	665	-331	4777	1352.11	-120.79	-240.29
306	SLV FO 5	-16	829	7570	1996.39	-193.01	27.27
306	SLV FO 6	54	706	7464	1969.9	-190.38	-0.2
306	SLV FO 7	230	-641	1526	511.54	-38.98	-96.77
306	SLV FO 8	299	-765	1420	485.05	-36.35	-124.25
306	SLV FO 9	-389	873	6484	1693.14	-166.29	158.24
306	SLV FO 10	-319	750	6378	1666.65	-163.66	130.77
306	SLV FO 11	-143	-597	440	208.29	-12.26	34.2
306	SLV FO 12	-73	-721	335	181.8	-9.63	6.72
306	SLV FO 13	-754	439	3127	826.08	-81.84	274.29
306	SLV FO 14	-651	256	2970	786.74	-77.93	233.48
306	SLV FO 15	-681	-2	1314	380.63	-35.63	237.07
306	SLV FO 16	-577	-185	1157	341.28	-31.72	196.27
306	CRTFP Ux+	0	0	0	0	0	0
306	CRTFP Ux-	0	0	0	0	0	0
306	CRTFP Uy+	0	0	0	0	0	0
306	CRTFP Uy-	0	0	0	0	0	0
307	SLU 1	-50	52	3925	922.14	11.19	17.34
307	SLU 2	-53	76	4002	939	11.44	18.29
307	SLU 3	-52	53	3992	937.99	11.4	17.85
307	SLU 4	-53	67	4039	948.1	11.56	18.42
307	SLU 5	-54	76	4044	948.75	11.57	18.64
307	SLU 6	-53	53	4034	947.74	11.54	18.21
307	SLU 7	-55	67	4080	957.85	11.69	18.78
307	SLU 8	-52	53	4008	941.64	11.45	18.04
307	SLU 9	-54	67	4054	951.76	11.61	18.61
307	SLU 10	-54	83	4481	1046.25	12.87	18.49
307	SLU 11	-52	60	4471	1045.23	12.83	18.05
307	SLU 12	-54	74	4517	1055.35	12.99	18.62
307	SLU 13	-55	83	4522	1056	13	18.84
307	SLU 14	-53	61	4512	1054.98	12.97	18.4
307	SLU 15	-55	75	4559	1065.1	13.12	18.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
307	SLU 16	-53	61	4486	1048.89	12.88	18.24
307	SLU 17	-55	74	4533		13.03	18.81
307	SLU 18	-51	63	4608	1075.35	13.23	17.62
307	SLU 19	-53	77	4655	1085.47	13.38	18.19
307	SLU 20	-52	63	4650	1085.1	13.36	17.97
307	SLU 21	-54	77	4696	1095.22	13.51	18.54
307	SLU 22	-56	58	4465	1045.15	12.86	19.43
307	SLU 23	-59	81	4543	1062.01	13.11	20.38
307	SLU 24	-58	59	4533	1060.99	13.07	19.95
307	SLU 25	-60	72	4580	1071.11	13.23	20.52
307	SLU 26	-60	81	4585	1071.76	13.24	20.74
307	SLU 27	-59	59	4575	1070.74	13.21	20.3
307	SLU 28	-61	73	4621	1080.86	13.36	20.87
307	SLU 29	-58	59	4548	1064.65	13.12	20.14
307	SLU 30	-60	73	4595	1074.76	13.28	20.71
307	SLU 31	-60	89	5022	1169.26	14.54	20.58
307	SLU 32	-58	66	5012	1168.24	14.5	20.14
307	SLU 33	-60	80	5058	1178.36	14.66	20.72
307	SLU 34	-61	89	5063	1179.01	14.67	20.93
307	SLU 35	-59	66	5053	1177.99	14.64	20.5
307	SLU 36	-61	80	5100	1188.11	14.79	21.07
307	SLU 37	-59	66	5027	1171.9	14.55	20.33
307	SLU 38	-61	80	5074	1182.01	14.7	20.91
307	SLU 39	-57	69	5149	1198.36	14.9	19.71
307	SLU 40	-59	82	5196	1208.48	15.05	20.28
307	SLU 41	-58	69	5191	1208.11	15.03	20.07
307	SLU 42	-60	83	5237	1218.23	15.18	20.64
307	SLU 43	-63	66	4917	1156.61	13.97	21.82
307	SLU 44	-66	89	4994	1173.47	14.23	22.77
307	SLU 45	-65	67	4984	1172.45	14.19	22.34
307	SLU 46	-66	81	5031	1182.57	14.34	22.91
307	SLU 47	-67	90	5036	1183.22	14.36	23.12
307	SLU 48	-66	67	5026	1182.2	14.32	22.69
307	SLU 49	-67	81	5072	1192.32	14.47	23.26
307	SLU 50	-65	67	5000	1176.11	14.24	22.53
307	SLU 51	-67	81	5046	1186.22	14.39	23.1
307	SLU 52	-67	97	5473	1280.72	15.65	22.97
307	SLU 53	-65	74	5463	1279.7	15.62	22.53
307	SLU 54	-67	88	5509	1289.82	15.77	23.1
307	SLU 55	-68	97	5514	1290.47	15.79	23.32
307	SLU 56	-66	75	5504	1289.45	15.75	22.89
307	SLU 57	-68	89	5551	1299.57	15.9	23.46
307	SLU 58	-66	74	5478	1283.36	15.66	22.72
307	SLU 59	-68	88	5525	1293.47	15.82	23.29
307	SLU 60	-64	77	5600	1309.82	16.01	22.1
307	SLU 61	-66	91	5647	1319.94	16.16	22.67
307	SLU 62	-65	77	5642	1319.57	16.14	22.45
307	SLU 63	-67	91	5688	1329.69	16.3	23.03
307	SLU 64	-69	72	5457	1279.62	15.64	23.91
307	SLU 65	-72	95	5535	1296.48	15.9	24.87
307	SLU 66	-71	72	5525	1295.46	15.86	24.43
307	SLU 67	-73	86	5572	1305.58	16.01	25
307	SLU 68	-73	95	5577	1306.23	16.03	25.22
307	SLU 69	-72	73	5566	1305.21	15.99	24.78
307	SLU 70	-74	87	5613	1315.33	16.14	25.35
307	SLU 71	-71	73	5540	1299.12	15.91	24.62
307	SLU 72	-73	86	5587	1309.23	16.06	25.19
307	SLU 73	-73	102	6014	1403.72	17.32	25.06
307	SLU 74	-71	80	6003	1402.71	17.29	24.63
307	SLU 75	-73	94	6050	1412.82	17.44	25.2
307	SLU 76	-74	103	6055	1413.47	17.46	25.42
307	SLU 77	-72	80	6045	1412.46	17.42	24.98
307	SLU 78	-74	94	6092	1422.57	17.57	25.55
307	SLU 79	-72	80	6019	1406.37	17.33	24.82
307	SLU 80	-74	94	6065	1416.48	17.49	25.39
307	SLU 81	-70	82	6141	1432.83	17.68	24.2
307	SLU 82	-72	96	6188	1442.94	17.83	24.77
307	SLU 83	-71	83	6182	1442.58	17.81	24.55
307	SLU 84	-73	97	6229	1452.69	17.97	25.12
307	SLE RA 1	-52	54	4079	957.29	11.66	17.93
307	SLE RA 2	-54	69	4131	968.53	11.83	18.57
307	SLE RA 3	-53	54	4124	967.85	11.81	18.28
307	SLE RA 4	-54	64	4155	974.59	11.91	18.66
307	SLE RA 5	-55	70	4159	975.03	11.92	18.81
307	SLE RA 6	-54	55	4152	974.35	11.9	18.51
307	SLE RA 7	-55	64	4183	981.09	12	18.9
307	SLE RA 8	-53	55	4134	970.29	11.84	18.41
307	SLE RA 9	-54	64	4166	977.03	11.94	18.79
307	SLE RA 10	-54	74	4450	1040.02	12.79	18.7
307	SLE RA 11	-53	59	4443	1039.35	12.76	18.41
307	SLE RA 12	-55	69	4474	1046.09	12.86	18.79
307	SLE RA 13	-55	75	4478	1046.52	12.87	18.94
307	SLE RA 14	-54	60	4471	1045.85	12.85	18.65
307	SLE RA 15	-55	69	4502	1052.59	12.95	19.03
307	SLE RA 16	-54	59	4453	1041.79	12.79	18.54
307	SLE RA 17	-55	69	4485	1048.53	12.9	18.92
307	SLE RA 18	-53	61	4535	1059.43	13.02	18.12
307	SLE RA 19	-54	70	4566	1066.17	13.13	18.5
307	SLE RA 20	-53	61	4563	1065.93	13.11	18.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
307	SLE RA 21	-54	71	4594	1072.67	13.22	18.74
307	SLE FR 1	-52	54	4079	957.29	11.66	17.93
307	SLE FR 2	-52	57	4089	959.54	11.7	18.06
307	SLE FR 3	-52	54	4090	959.89	11.7	18.03
307	SLE FR 4	-53	59	4226	990.18	12.11	18.12
307	SLE FR 5	-52	56	4227	990.53	12.11	18.09
307	SLE FR 6	-52	58	4307	1008.36	12.34	18.03
307	SLE QP 1	-52	54	4079	957.29	11.66	17.93
307	SLE QP 2	-52	56	4216	987.93	12.07	17.99
307	SLD 1	308	202	5883	1368.9	18.81	-108.31
307	SLD 2	377	90	5788	1348.76	18.43	-132.23
307	SLD 3	356	-67	4801	1146.19	15.44	-124.53
307	SLD 4	425	-180	4707	1126.05	15.06	-148.45
307	SLD 5	-30	529	6373	1443.63	19.27	9.02
307	SLD 6	16	454	6311	1430.33	19.01	-6.78
307	SLD 7	131	-369	2768	701.26	8.05	-45.06
307	SLD 8	177	-443	2706	687.96	7.79	-60.86
307	SLD 9	-281	556	5726	1287.9	16.35	96.84
307	SLD 10	-235	481	5664	1274.6	16.1	81.04
307	SLD 11	-120	-342	2121	545.53	5.13	42.76
307	SLD 12	-74	-417	2059	532.23	4.88	26.96
307	SLD 13	-529	292	3725	849.81	9.08	184.44
307	SLD 14	-460	179	3631	829.67	8.7	160.51
307	SLD 15	-481	23	2643	627.1	5.72	168.21
307	SLD 16	-412	-90	2549	606.96	5.33	144.29
307	SLV 1	510	292	6846	1588.47	22.68	-179.44
307	SLV 2	619	115	6698	1556.91	22.07	-216.92
307	SLV 3	588	-143	5099	1228.61	17.24	-205.51
307	SLV 4	696	-320	4951	1197.06	16.64	-242.99
307	SLV 5	-21	820	7682	1719.77	23.61	5.3
307	SLV 6	52	700	7583	1698.52	23.2	-19.93
307	SLV 7	237	-630	1858	520.24	5.49	-81.61
307	SLV 8	310	-749	1759	498.99	5.08	-106.85
307	SLV 9	-414	862	6673	1476.87	19.06	142.83
307	SLV 10	-341	743	6573	1455.62	18.65	117.59
307	SLV 11	-156	-588	849	277.34	0.94	55.91
307	SLV 12	-83	-707	749	256.09	0.53	30.68
307	SLV 13	-801	432	3480	778.81	7.51	278.97
307	SLV 14	-692	255	3333	747.25	6.9	241.49
307	SLV 15	-723	-3	1733	418.95	2.07	252.9
307	SLV 16	-614	-180	1586	387.39	1.47	215.42
307	SLV FO 1	566	315	7109	1648.53	23.74	-199.18
307	SLV FO 2	686	121	6947	1613.81	23.07	-240.41
307	SLV FO 3	652	-163	5187	1252.68	17.76	-227.86
307	SLV FO 4	771	-357	5025	1217.97	17.09	-269.09
307	SLV FO 5	-18	896	8029	1792.95	24.76	4.03
307	SLV FO 6	62	765	7920	1769.58	24.32	-23.72
307	SLV FO 7	266	-699	1622	473.47	4.83	-91.57
307	SLV FO 8	346	-830	1513	450.1	4.39	-119.33
307	SLV FO 9	-451	942	6919	1525.76	19.76	155.31
307	SLV FO 10	-370	811	6809	1502.39	19.31	127.55
307	SLV FO 11	-167	-653	512	206.28	-0.17	59.71
307	SLV FO 12	-86	-784	402	182.91	-0.62	31.95
307	SLV FO 13	-875	470	3407	757.89	7.05	305.07
307	SLV FO 14	-756	275	3245	723.18	6.39	263.84
307	SLV FO 15	-790	-9	1485	362.05	1.07	276.39
307	SLV FO 16	-671	-203	1323	327.33	0.41	235.16
307	CRTFP Ux+	0	0	0	0	0	0
307	CRTFP Ux-	0	0	0	0	0	0
307	CRTFP Uy+	0	0	0	0	0	0
307	CRTFP Uy-	0	0	0	0	0	0
308	SLU 1	-50	45	3622	707.08	8.98	17.4
308	SLU 2	-53	66	3693	720.07	9.19	18.34
308	SLU 3	-52	45	3684	718.8	9.15	17.92
308	SLU 4	-54	58	3727	726.59	9.28	18.48
308	SLU 5	-54	66	3731	727.28	9.29	18.69
308	SLU 6	-53	45	3722	726.01	9.26	18.27
308	SLU 7	-55	58	3764	733.8	9.38	18.84
308	SLU 8	-53	45	3698	721.51	9.19	18.11
308	SLU 9	-54	58	3741	729.3	9.31	18.67
308	SLU 10	-54	72	4133	798.96	10.32	18.55
308	SLU 11	-53	52	4124	797.7	10.28	18.13
308	SLU 12	-54	64	4167	805.49	10.41	18.69
308	SLU 13	-55	72	4171	806.17	10.43	18.9
308	SLU 14	-54	52	4162	804.91	10.39	18.48
308	SLU 15	-55	64	4205	812.7	10.52	19.05
308	SLU 16	-53	52	4138	800.4	10.32	18.32
308	SLU 17	-55	64	4181	808.19	10.45	18.88
308	SLU 18	-51	54	4251	819.79	10.6	17.7
308	SLU 19	-53	67	4294	827.58	10.72	18.27
308	SLU 20	-53	54	4289	827	10.7	18.06
308	SLU 21	-54	67	4331	834.79	10.83	18.62
308	SLU 22	-57	50	4118	797.59	10.31	19.52
308	SLU 23	-59	70	4189	810.57	10.52	20.45
308	SLU 24	-58	50	4180	809.31	10.48	20.03
308	SLU 25	-60	62	4222	817.1	10.61	20.59
308	SLU 26	-61	71	4227	817.79	10.63	20.8
308	SLU 27	-59	50	4218	816.52	10.59	20.39
308	SLU 28	-61	63	4260	824.31	10.72	20.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLU 29	-59	50	4194	812.02	10.52	20.22
308	SLU 30	-60	63	4236	819.81	10.65	20.78
308	SLU 31	-60	77	4629	889.47	11.65	20.66
308	SLU 32	-59	56	4620	888.21	11.62	20.24
308	SLU 33	-61	69	4662	896	11.74	20.8
308	SLU 34	-61	77	4667	896.68	11.76	21.02
308	SLU 35	-60	57	4658	895.42	11.73	20.6
308	SLU 36	-62	69	4700	903.21	11.85	21.16
308	SLU 37	-59	57	4634	890.91	11.66	20.43
308	SLU 38	-61	69	4677	898.7	11.78	20.99
308	SLU 39	-58	59	4747	910.3	11.93	19.82
308	SLU 40	-59	71	4789	918.09	12.06	20.38
308	SLU 41	-59	59	4785	917.51	12.04	20.17
308	SLU 42	-60	72	4827	925.3	12.16	20.73
308	SLU 43	-64	57	4539	888.18	11.21	21.9
308	SLU 44	-66	77	4610	901.16	11.42	22.84
308	SLU 45	-65	57	4601	899.89	11.39	22.42
308	SLU 46	-67	69	4643	907.68	11.51	22.98
308	SLU 47	-67	78	4648	908.37	11.53	23.19
308	SLU 48	-66	57	4639	907.11	11.49	22.77
308	SLU 49	-68	70	4681	914.9	11.62	23.33
308	SLU 50	-66	57	4615	902.6	11.42	22.61
308	SLU 51	-67	70	4657	910.39	11.55	23.17
308	SLU 52	-67	84	5050	980.05	12.55	23.05
308	SLU 53	-66	64	5041	978.79	12.52	22.63
308	SLU 54	-67	76	5083	986.58	12.65	23.19
308	SLU 55	-68	84	5088	987.27	12.66	23.4
308	SLU 56	-67	64	5079	986	12.63	22.98
308	SLU 57	-68	76	5121	993.79	12.75	23.54
308	SLU 58	-66	64	5055	981.5	12.56	22.82
308	SLU 59	-68	76	5098	989.29	12.68	23.38
308	SLU 60	-65	66	5168	1000.88	12.83	22.2
308	SLU 61	-66	78	5210	1008.67	12.96	22.76
308	SLU 62	-66	66	5206	1008.1	12.94	22.55
308	SLU 63	-67	79	5248	1015.89	13.06	23.12
308	SLU 64	-70	61	5035	978.68	12.55	24.01
308	SLU 65	-73	82	5106	991.67	12.75	24.95
308	SLU 66	-71	62	5097	990.4	12.72	24.53
308	SLU 67	-73	74	5139	998.19	12.85	25.09
308	SLU 68	-74	82	5144	998.88	12.86	25.3
308	SLU 69	-72	62	5135	997.62	12.83	24.88
308	SLU 70	-74	74	5177	1005.41	12.95	25.44
308	SLU 71	-72	62	5111	993.11	12.76	24.72
308	SLU 72	-73	74	5153	1000.9	12.88	25.28
308	SLU 73	-73	89	5546	1070.56	13.89	25.16
308	SLU 74	-72	68	5537	1069.3	13.85	24.74
308	SLU 75	-74	81	5579	1077.09	13.98	25.3
308	SLU 76	-74	89	5584	1077.78	14	25.51
308	SLU 77	-73	68	5575	1076.51	13.96	25.09
308	SLU 78	-75	81	5617	1084.3	14.09	25.65
308	SLU 79	-72	68	5551	1072.01	13.89	24.93
308	SLU 80	-74	81	5593	1079.8	14.02	25.49
308	SLU 81	-71	71	5664	1091.39	14.17	24.31
308	SLU 82	-72	83	5706	1099.18	14.29	24.87
308	SLU 83	-72	71	5702	1098.6	14.27	24.67
308	SLU 84	-73	83	5744	1106.39	14.4	25.23
308	SLE RA 1	-52	46	3764	732.94	9.36	18.01
308	SLE RA 2	-54	60	3811	741.6	9.5	18.63
308	SLE RA 3	-53	46	3805	740.75	9.47	18.35
308	SLE RA 4	-54	55	3833	745.95	9.56	18.73
308	SLE RA 5	-55	60	3836	746.41	9.57	18.87
308	SLE RA 6	-54	47	3830	745.56	9.54	18.59
308	SLE RA 7	-55	55	3859	750.76	9.63	18.96
308	SLE RA 8	-54	47	3815	742.56	9.5	18.48
308	SLE RA 9	-55	55	3843	747.75	9.58	18.85
308	SLE RA 10	-55	64	4105	794.19	10.25	18.77
308	SLE RA 11	-54	51	4099	793.35	10.23	18.49
308	SLE RA 12	-55	59	4127	798.54	10.31	18.87
308	SLE RA 13	-55	65	4130	799	10.32	19.01
308	SLE RA 14	-54	51	4124	798.16	10.3	18.73
308	SLE RA 15	-56	59	4152	803.35	10.38	19.1
308	SLE RA 16	-54	51	4108	795.16	10.26	18.62
308	SLE RA 17	-55	59	4136	800.35	10.34	18.99
308	SLE RA 18	-53	52	4183	808.08	10.44	18.21
308	SLE RA 19	-54	61	4211	813.27	10.52	18.58
308	SLE RA 20	-54	53	4208	812.89	10.51	18.44
308	SLE RA 21	-55	61	4237	818.08	10.59	18.82
308	SLE FR 1	-52	46	3764	732.94	9.36	18.01
308	SLE FR 2	-53	49	3773	734.67	9.39	18.13
308	SLE FR 3	-53	46	3774	734.87	9.39	18.1
308	SLE FR 4	-53	51	3899	757.21	9.71	18.19
308	SLE FR 5	-53	48	3900	757.41	9.71	18.16
308	SLE FR 6	-53	49	3974	770.51	9.9	18.11
308	SLE QP 1	-52	46	3764	732.94	9.36	18.01
308	SLE QP 2	-52	48	3890	755.48	9.68	18.07
308	SLD 1	308	183	5370	1034.04	15.39	-108.5
308	SLD 2	377	81	5287	1019.43	15.06	-132.46
308	SLD 3	356	-67	4380	868.99	12.64	-124.69
308	SLD 4	425	-169	4297	854.38	12.32	-148.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
308	SLD 5	-30	486	5850	1092.01	15.62	8.97
308	SLD 6	16	419	5795	1082.35	15.4	-6.85
308	SLD 7	130	-347	2550	541.85	6.46	-45
308	SLD 8	176	-415	2495	532.2	6.25	-60.82
308	SLD 9	-281	511	5284	978.77	13.12	96.95
308	SLD 10	-235	443	5229	969.12	12.9	81.14
308	SLD 11	-121	-322	1984	428.61	3.96	42.98
308	SLD 12	-75	-390	1929	418.96	3.74	27.17
308	SLD 13	-530	265	3483	656.59	7.05	184.78
308	SLD 14	-461	163	3399	641.97	6.72	160.83
308	SLD 15	-482	15	2493	491.54	4.3	168.59
308	SLD 16	-413	-87	2409	476.93	3.97	144.64
308	SLV 1	511	266	6227	1194.66	18.66	-179.79
308	SLV 2	620	105	6096	1171.76	18.15	-217.32
308	SLV 3	588	-138	4627	927.95	14.23	-205.81
308	SLV 4	697	-298	4496	905.05	13.71	-243.34
308	SLV 5	-21	755	7041	1296.03	19.2	5.18
308	SLV 6	52	647	6953	1280.61	18.86	-20.09
308	SLV 7	236	-590	1710	406.98	4.41	-81.55
308	SLV 8	310	-698	1622	391.56	4.06	-106.82
308	SLV 9	-415	794	6158	1119.4	15.3	142.96
308	SLV 10	-341	686	6070	1103.99	14.95	117.69
308	SLV 11	-157	-551	827	230.36	0.51	56.23
308	SLV 12	-84	-659	739	214.94	0.16	30.96
308	SLV 13	-802	394	3283	605.92	5.65	279.48
308	SLV 14	-693	234	3152	583.02	5.14	241.94
308	SLV 15	-725	-9	1684	339.21	1.21	253.46
308	SLV 16	-616	-170	1553	316.31	0.7	215.93
308	SLV FO 1	567	288	6460	1238.58	19.56	-199.58
308	SLV FO 2	687	111	6316	1213.39	19	-240.86
308	SLV FO 3	652	-156	4701	945.19	14.68	-228.2
308	SLV FO 4	772	-333	4557	920	14.11	-269.48
308	SLV FO 5	-18	826	7356	1350.08	20.16	3.89
308	SLV FO 6	63	707	7259	1333.12	19.77	-23.91
308	SLV FO 7	265	-654	1492	372.13	3.88	-91.52
308	SLV FO 8	346	-772	1395	355.17	3.5	-119.31
308	SLV FO 9	-451	868	6385	1155.79	15.86	155.45
308	SLV FO 10	-370	750	6288	1138.84	15.48	127.65
308	SLV FO 11	-168	-611	520	177.85	-0.41	60.04
308	SLV FO 12	-87	-730	423	160.89	-0.79	32.25
308	SLV FO 13	-877	429	3222	590.96	5.25	305.62
308	SLV FO 14	-757	252	3078	565.77	4.68	264.33
308	SLV FO 15	-792	-15	1463	297.58	0.37	277
308	SLV FO 16	-672	-192	1319	272.39	-0.2	235.71
308	CRTFP Ux+	0	0	0	0	0	0
308	CRTFP Ux-	0	0	0	0	0	0
308	CRTFP Uy+	0	0	0	0	0	0
308	CRTFP Uy-	0	0	0	0	0	0
309	SLU 1	-51	37	3389	545.86	6.65	17.44
309	SLU 2	-53	55	3454	556	6.8	18.36
309	SLU 3	-52	37	3446	554.5	6.77	17.96
309	SLU 4	-54	48	3485	560.58	6.87	18.51
309	SLU 5	-54	55	3489	561.32	6.88	18.71
309	SLU 6	-53	37	3481	559.82	6.85	18.31
309	SLU 7	-55	48	3520	565.9	6.95	18.86
309	SLU 8	-53	37	3459	556.5	6.8	18.15
309	SLU 9	-54	48	3498	562.59	6.9	18.7
309	SLU 10	-54	61	3865	613.72	7.63	18.59
309	SLU 11	-53	42	3857	612.21	7.6	18.19
309	SLU 12	-55	53	3896	618.3	7.69	18.73
309	SLU 13	-55	61	3900	619.04	7.71	18.94
309	SLU 14	-54	42	3892	617.53	7.68	18.54
309	SLU 15	-56	54	3931	623.62	7.77	19.09
309	SLU 16	-53	42	3870	614.22	7.62	18.38
309	SLU 17	-55	53	3909	620.3	7.72	18.93
309	SLU 18	-52	44	3975	628.31	7.82	17.77
309	SLU 19	-53	56	4014	634.4	7.92	18.31
309	SLU 20	-53	44	4011	633.63	7.9	18.12
309	SLU 21	-54	56	4050	639.71	7.99	18.67
309	SLU 22	-57	40	3850	612.06	7.62	19.57
309	SLU 23	-60	59	3915	622.2	7.78	20.49
309	SLU 24	-58	41	3907	620.7	7.75	20.09
309	SLU 25	-60	52	3946	626.78	7.85	20.64
309	SLU 26	-61	59	3950	627.52	7.86	20.84
309	SLU 27	-59	41	3942	626.02	7.83	20.44
309	SLU 28	-61	52	3981	632.1	7.93	20.99
309	SLU 29	-59	41	3920	622.7	7.78	20.28
309	SLU 30	-61	52	3959	628.78	7.88	20.83
309	SLU 31	-60	64	4326	679.91	8.61	20.71
309	SLU 32	-59	46	4318	678.41	8.58	20.31
309	SLU 33	-61	57	4357	684.5	8.67	20.86
309	SLU 34	-61	65	4361	685.23	8.68	21.07
309	SLU 35	-60	46	4353	683.73	8.65	20.67
309	SLU 36	-62	57	4392	689.82	8.75	21.22
309	SLU 37	-60	46	4331	680.41	8.6	20.5
309	SLU 38	-61	57	4370	686.5	8.7	21.05
309	SLU 39	-58	48	4436	694.51	8.8	19.89
309	SLU 40	-60	59	4476	700.59	8.9	20.44
309	SLU 41	-59	48	4472	699.83	8.88	20.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLU 42	-61	59	4511	705.91	8.97	20.8
309	SLU 43	-64	46	4247	686.92	8.3	21.95
309	SLU 44	-67	65	4312	697.06	8.46	22.86
309	SLU 45	-65	46	4304	695.56	8.43	22.46
309	SLU 46	-67	58	4343	701.65	8.53	23.01
309	SLU 47	-68	65	4347	702.38	8.54	23.22
309	SLU 48	-66	47	4339	700.88	8.51	22.82
309	SLU 49	-68	58	4378	706.97	8.61	23.37
309	SLU 50	-66	47	4317	697.56	8.46	22.66
309	SLU 51	-67	58	4356	703.65	8.56	23.21
309	SLU 52	-67	70	4723	754.78	9.28	23.09
309	SLU 53	-66	52	4715	753.28	9.25	22.69
309	SLU 54	-68	63	4754	759.36	9.35	23.24
309	SLU 55	-68	70	4758	760.1	9.36	23.44
309	SLU 56	-67	52	4750	758.6	9.33	23.04
309	SLU 57	-69	63	4789	764.68	9.43	23.59
309	SLU 58	-67	52	4728	755.28	9.28	22.88
309	SLU 59	-68	63	4767	761.36	9.38	23.43
309	SLU 60	-65	54	4834	769.37	9.48	22.27
309	SLU 61	-66	65	4873	775.46	9.57	22.82
309	SLU 62	-66	54	4869	774.69	9.56	22.62
309	SLU 63	-67	65	4908	780.78	9.65	23.17
309	SLU 64	-70	50	4708	753.12	9.28	24.08
309	SLU 65	-73	69	4773	763.26	9.44	24.99
309	SLU 66	-71	50	4765	761.76	9.41	24.59
309	SLU 67	-73	61	4804	767.84	9.51	25.14
309	SLU 68	-74	69	4808	768.58	9.52	25.35
309	SLU 69	-72	50	4800	767.08	9.49	24.95
309	SLU 70	-74	62	4840	773.16	9.58	25.5
309	SLU 71	-72	50	4778	763.76	9.44	24.78
309	SLU 72	-74	62	4818	769.85	9.53	25.33
309	SLU 73	-73	74	5184	820.98	10.26	25.22
309	SLU 74	-72	56	5176	819.47	10.23	24.82
309	SLU 75	-74	67	5215	825.56	10.33	25.37
309	SLU 76	-74	74	5219	826.3	10.34	25.57
309	SLU 77	-73	56	5211	824.79	10.31	25.17
309	SLU 78	-75	67	5250	830.88	10.41	25.72
309	SLU 79	-73	56	5189	821.48	10.26	25.01
309	SLU 80	-74	67	5228	827.56	10.36	25.56
309	SLU 81	-71	58	5295	835.57	10.46	24.4
309	SLU 82	-73	69	5334	841.66	10.55	24.95
309	SLU 83	-72	58	5330	840.89	10.54	24.75
309	SLU 84	-74	69	5369	846.98	10.63	25.3
309	SLE RA 1	-52	38	3520	564.78	6.93	18.05
309	SLE RA 2	-54	50	3564	571.54	7.03	18.66
309	SLE RA 3	-53	38	3558	570.53	7.01	18.4
309	SLE RA 4	-55	45	3584	574.59	7.07	18.76
309	SLE RA 5	-55	50	3587	575.08	7.08	18.9
309	SLE RA 6	-54	38	3582	574.08	7.06	18.63
309	SLE RA 7	-55	45	3608	578.14	7.13	19
309	SLE RA 8	-54	38	3567	571.87	7.03	18.52
309	SLE RA 9	-55	45	3593	575.92	7.09	18.89
309	SLE RA 10	-55	54	3838	610.01	7.58	18.81
309	SLE RA 11	-54	41	3832	609.01	7.56	18.55
309	SLE RA 12	-55	49	3858	613.07	7.62	18.91
309	SLE RA 13	-55	54	3861	613.56	7.63	19.05
309	SLE RA 14	-55	41	3856	612.56	7.61	18.78
309	SLE RA 15	-56	49	3882	616.61	7.68	19.15
309	SLE RA 16	-54	41	3841	610.34	7.58	18.67
309	SLE RA 17	-55	49	3867	614.4	7.64	19.04
309	SLE RA 18	-53	43	3911	619.74	7.71	18.27
309	SLE RA 19	-54	50	3938	623.8	7.77	18.63
309	SLE RA 20	-54	43	3935	623.29	7.76	18.5
309	SLE RA 21	-55	50	3961	627.34	7.82	18.87
309	SLE FR 1	-52	38	3520	564.78	6.93	18.05
309	SLE FR 2	-53	40	3529	566.13	6.95	18.18
309	SLE FR 3	-53	38	3530	566.19	6.95	18.15
309	SLE FR 4	-53	42	3646	582.62	7.18	18.24
309	SLE FR 5	-53	39	3647	582.68	7.18	18.21
309	SLE FR 6	-53	40	3716	592.26	7.32	18.16
309	SLE QP 1	-52	38	3520	564.78	6.93	18.05
309	SLE QP 2	-53	39	3638	581.27	7.16	18.12
309	SLD 1	308	164	4963	780.93	11.8	-108.7
309	SLD 2	378	71	4889	770.55	11.54	-132.7
309	SLD 3	356	-69	4045	658.88	9.72	-124.87
309	SLD 4	426	-161	3971	648.5	9.45	-148.87
309	SLD 5	-29	445	5441	828.15	11.77	8.93
309	SLD 6	17	384	5391	821.3	11.59	-6.91
309	SLD 7	130	-329	2382	421.3	4.81	-44.99
309	SLD 8	176	-390	2332	414.45	4.63	-60.84
309	SLD 9	-281	468	4943	748.08	9.69	97.07
309	SLD 10	-235	407	4894	741.23	9.51	81.23
309	SLD 11	-122	-306	1884	341.23	2.73	43.15
309	SLD 12	-76	-367	1835	334.38	2.55	27.3
309	SLD 13	-531	240	3304	514.03	4.87	185.11
309	SLD 14	-462	147	3230	503.65	4.6	161.11
309	SLD 15	-483	8	2387	391.98	2.79	168.93
309	SLD 16	-414	-85	2312	381.6	2.52	144.93
309	SLV 1	512	240	5731	896.17	14.46	-180.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
309	SLV 2	621	95	5614	879.91	14.04	-217.72
309	SLV 3	589	-135	4248	698.93	11.09	-206.12
309	SLV 4	697	-280	4132	682.66	10.67	-243.72
309	SLV 5	-20	695	6536	977.93	14.54	5.09
309	SLV 6	53	597	6457	966.98	14.26	-20.22
309	SLV 7	236	-555	1594	320.44	3.31	-81.57
309	SLV 8	309	-652	1515	309.49	3.02	-106.88
309	SLV 9	-414	731	5760	853.04	11.3	143.12
309	SLV 10	-341	633	5681	842.09	11.02	117.8
309	SLV 11	-158	-519	818	195.55	0.06	56.46
309	SLV 12	-85	-617	739	184.6	-0.22	31.14
309	SLV 13	-803	359	3144	479.87	3.65	279.95
309	SLV 14	-694	214	3027	463.61	3.23	242.35
309	SLV 15	-726	-16	1661	282.62	0.28	253.95
309	SLV 16	-617	-161	1544	266.36	-0.14	216.35
309	SLV FO 1	568	260	5940	927.66	15.19	-199.94
309	SLV FO 2	688	100	5812	909.78	14.73	-241.3
309	SLV FO 3	653	-153	4310	710.69	11.48	-228.54
309	SLV FO 4	772	-312	4181	692.8	11.02	-269.9
309	SLV FO 5	-17	761	6826	1017.6	15.28	3.79
309	SLV FO 6	64	653	6739	1005.56	14.97	-24.06
309	SLV FO 7	265	-614	1390	294.36	2.92	-91.53
309	SLV FO 8	345	-721	1303	282.31	2.61	-119.38
309	SLV FO 9	-451	800	5972	880.22	11.71	155.61
309	SLV FO 10	-370	692	5886	868.17	11.4	127.77
309	SLV FO 11	-169	-575	536	156.98	-0.65	60.29
309	SLV FO 12	-88	-682	449	144.93	-0.96	32.44
309	SLV FO 13	-878	391	3094	469.73	3.3	306.14
309	SLV FO 14	-758	231	2966	451.84	2.84	264.78
309	SLV FO 15	-793	-22	1463	252.75	-0.41	277.54
309	SLV FO 16	-674	-181	1335	234.87	-0.87	236.18
309	CRTFP Ux+	0	0	0	0	0	0
309	CRTFP Ux-	0	0	0	0	0	0
309	CRTFP Uy+	0	0	0	0	0	0
309	CRTFP Uy-	0	0	0	0	0	0
310	SLU 1	-51	28	3224	438.18	4.34	17.44
310	SLU 2	-53	45	3285	446.5	4.45	18.33
310	SLU 3	-52	28	3278	444.77	4.43	17.95
310	SLU 4	-54	38	3315	449.77	4.49	18.49
310	SLU 5	-54	45	3319	450.57	4.5	18.69
310	SLU 6	-53	28	3311	448.84	4.48	18.31
310	SLU 7	-55	38	3348	453.83	4.54	18.84
310	SLU 8	-53	28	3291	446.31	4.44	18.14
310	SLU 9	-54	38	3327	451.3	4.51	18.68
310	SLU 10	-54	49	3676	490.19	4.96	18.57
310	SLU 11	-53	33	3669	488.46	4.94	18.19
310	SLU 12	-55	43	3706	493.46	5.01	18.73
310	SLU 13	-55	49	3709	494.26	5.01	18.92
310	SLU 14	-54	33	3702	492.53	4.99	18.54
310	SLU 15	-56	43	3739	497.52	5.06	19.08
310	SLU 16	-53	33	3681	490	4.96	18.38
310	SLU 17	-55	43	3718	494.99	5.02	18.92
310	SLU 18	-52	34	3782	500.59	5.08	17.78
310	SLU 19	-53	44	3819	505.59	5.14	18.31
310	SLU 20	-53	34	3816	504.66	5.13	18.13
310	SLU 21	-54	44	3852	509.65	5.19	18.67
310	SLU 22	-57	31	3661	488.22	4.97	19.58
310	SLU 23	-60	48	3722	496.54	5.08	20.47
310	SLU 24	-58	31	3715	494.81	5.06	20.09
310	SLU 25	-60	41	3752	499.8	5.12	20.63
310	SLU 26	-61	48	3756	500.61	5.13	20.83
310	SLU 27	-59	31	3749	498.88	5.11	20.45
310	SLU 28	-61	41	3785	503.87	5.17	20.98
310	SLU 29	-59	31	3728	496.35	5.07	20.28
310	SLU 30	-60	41	3764	501.34	5.14	20.82
310	SLU 31	-60	52	4113	540.23	5.59	20.71
310	SLU 32	-59	35	4106	538.5	5.57	20.33
310	SLU 33	-61	45	4143	543.5	5.63	20.87
310	SLU 34	-61	52	4147	544.3	5.64	21.06
310	SLU 35	-60	35	4139	542.57	5.62	20.68
310	SLU 36	-62	45	4176	547.56	5.68	21.22
310	SLU 37	-60	35	4119	540.04	5.59	20.52
310	SLU 38	-61	45	4155	545.03	5.65	21.06
310	SLU 39	-58	37	4220	550.63	5.71	19.92
310	SLU 40	-60	47	4256	555.63	5.77	20.45
310	SLU 41	-59	37	4253	554.7	5.76	20.27
310	SLU 42	-61	47	4290	559.69	5.82	20.81
310	SLU 43	-64	36	4042	552.47	5.43	21.94
310	SLU 44	-66	53	4103	560.8	5.54	22.83
310	SLU 45	-65	36	4096	559.07	5.51	22.45
310	SLU 46	-67	46	4132	564.06	5.58	22.99
310	SLU 47	-67	53	4136	564.86	5.59	23.18
310	SLU 48	-66	36	4129	563.13	5.57	22.8
310	SLU 49	-68	46	4166	568.13	5.63	23.34
310	SLU 50	-66	36	4108	560.61	5.53	22.64
310	SLU 51	-67	46	4145	565.6	5.6	23.18
310	SLU 52	-67	57	4494	604.49	6.05	23.07
310	SLU 53	-66	40	4486	602.76	6.03	22.69
310	SLU 54	-68	50	4523	607.75	6.09	23.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
310	SLU 55	-68	57	4527	608.56	6.1	23.42
310	SLU 56	-67	40	4520	606.83	6.08	23.04
310	SLU 57	-69	50	4556	611.82	6.14	23.58
310	SLU 58	-66	40	4499	604.3	6.05	22.88
310	SLU 59	-68	50	4536	609.29	6.11	23.42
310	SLU 60	-65	42	4600	614.89	6.16	22.27
310	SLU 61	-66	52	4637	619.89	6.23	22.81
310	SLU 62	-66	42	4633	618.96	6.21	22.63
310	SLU 63	-67	52	4670	623.95	6.28	23.16
310	SLU 64	-70	39	4479	602.51	6.06	24.08
310	SLU 65	-73	55	4540	610.84	6.17	24.97
310	SLU 66	-71	39	4533	609.11	6.14	24.59
310	SLU 67	-73	49	4569	614.1	6.21	25.13
310	SLU 68	-74	55	4573	614.9	6.22	25.32
310	SLU 69	-72	39	4566	613.17	6.19	24.94
310	SLU 70	-74	49	4603	618.17	6.26	25.48
310	SLU 71	-72	39	4545	610.64	6.16	24.78
310	SLU 72	-74	49	4582	615.64	6.23	25.32
310	SLU 73	-73	60	4931	654.53	6.68	25.21
310	SLU 74	-72	43	4924	652.8	6.66	24.83
310	SLU 75	-74	53	4960	657.79	6.72	25.36
310	SLU 76	-74	60	4964	658.59	6.73	25.56
310	SLU 77	-73	43	4957	656.86	6.71	25.18
310	SLU 78	-75	53	4993	661.86	6.77	25.72
310	SLU 79	-73	43	4936	654.34	6.67	25.02
310	SLU 80	-74	53	4973	659.33	6.74	25.56
310	SLU 81	-71	45	5037	664.93	6.79	24.42
310	SLU 82	-73	55	5074	669.92	6.86	24.95
310	SLU 83	-72	45	5070	669	6.84	24.77
310	SLU 84	-74	55	5107	673.99	6.91	25.3
310	SLE RA 1	-52	29	3349	452.47	4.52	18.05
310	SLE RA 2	-54	40	3390	458.02	4.59	18.65
310	SLE RA 3	-53	29	3385	456.87	4.58	18.39
310	SLE RA 4	-54	36	3410	460.2	4.62	18.75
310	SLE RA 5	-55	40	3412	460.73	4.63	18.88
310	SLE RA 6	-54	29	3407	459.58	4.61	18.63
310	SLE RA 7	-55	36	3432	462.91	4.66	18.99
310	SLE RA 8	-54	29	3393	457.89	4.59	18.52
310	SLE RA 9	-55	36	3418	461.22	4.63	18.88
310	SLE RA 10	-55	43	3650	487.15	4.94	18.8
310	SLE RA 11	-54	32	3646	486	4.92	18.55
310	SLE RA 12	-55	39	3670	489.33	4.96	18.91
310	SLE RA 13	-55	43	3673	489.86	4.97	19.04
310	SLE RA 14	-55	32	3668	488.71	4.95	18.79
310	SLE RA 15	-56	39	3692	492.04	5	19.14
310	SLE RA 16	-54	32	3654	487.02	4.93	18.68
310	SLE RA 17	-55	39	3678	490.35	4.98	19.04
310	SLE RA 18	-53	33	3721	494.09	5.01	18.28
310	SLE RA 19	-54	40	3746	497.41	5.05	18.63
310	SLE RA 20	-54	33	3743	496.8	5.05	18.51
310	SLE RA 21	-55	40	3768	500.13	5.09	18.87
310	SLE FR 1	-52	29	3349	452.47	4.52	18.05
310	SLE FR 2	-53	31	3357	453.58	4.54	18.17
310	SLE FR 3	-53	29	3358	453.56	4.54	18.14
310	SLE FR 4	-53	32	3469	466.07	4.68	18.24
310	SLE FR 5	-53	30	3470	466.04	4.68	18.21
310	SLE FR 6	-53	31	3535	473.28	4.77	18.16
310	SLE QP 1	-52	29	3349	452.47	4.52	18.05
310	SLE QP 2	-53	30	3461	464.96	4.67	18.12
310	SLD 1	309	145	4663	608.38	8.29	-108.91
310	SLD 2	379	61	4595	600.94	8.08	-132.96
310	SLD 3	357	-72	3798	514.66	6.86	-125.08
310	SLD 4	426	-156	3730	507.22	6.65	-149.13
310	SLD 5	-29	409	5146	651.47	7.96	8.86
310	SLD 6	17	354	5101	646.56	7.82	-7.01
310	SLD 7	130	-315	2262	339.06	3.2	-45.03
310	SLD 8	176	-370	2217	334.15	3.06	-60.91
310	SLD 9	-281	431	4704	595.77	6.28	97.15
310	SLD 10	-235	375	4660	590.86	6.14	81.27
310	SLD 11	-123	-293	1820	283.35	1.52	43.25
310	SLD 12	-77	-349	1776	278.44	1.38	27.37
310	SLD 13	-531	217	3191	422.7	2.69	185.37
310	SLD 14	-462	133	3124	415.26	2.48	161.32
310	SLD 15	-484	0	2326	328.97	1.26	169.2
310	SLD 16	-414	-85	2259	321.53	1.05	145.15
310	SLV 1	513	215	5360	691.32	10.35	-180.46
310	SLV 2	622	84	5254	679.67	10.03	-218.14
310	SLV 3	589	-135	3962	539.87	8.05	-206.44
310	SLV 4	698	-267	3857	528.22	7.72	-244.12
310	SLV 5	-19	642	6170	764.74	9.93	4.98
310	SLV 6	54	553	6099	756.89	9.71	-20.39
310	SLV 7	235	-526	1511	259.91	2.25	-81.62
310	SLV 8	309	-615	1440	252.06	2.03	-106.99
310	SLV 9	-414	676	5482	677.85	7.31	143.22
310	SLV 10	-341	587	5410	670	7.09	117.86
310	SLV 11	-160	-493	822	173.02	-0.37	56.62
310	SLV 12	-86	-581	751	165.18	-0.59	31.26
310	SLV 13	-803	327	3065	401.7	1.62	280.35
310	SLV 14	-694	196	2959	390.04	1.29	242.68



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
310	SLV 15	-727	-23	1667	250.25	-0.69	254.37
310	SLV 16	-618	-155	1561	238.59	-1.01	216.7
310	SLV FO 1	570	234	5550	713.96	10.92	-200.32
310	SLV FO 2	689	89	5434	701.14	10.56	-241.76
310	SLV FO 3	653	-152	4013	547.37	8.38	-228.9
310	SLV FO 4	773	-297	3896	534.55	8.03	-270.34
310	SLV FO 5	-16	703	6441	794.72	10.46	3.67
310	SLV FO 6	65	606	6363	786.09	10.22	-24.24
310	SLV FO 7	264	-582	1316	239.41	2	-91.6
310	SLV FO 8	345	-680	1238	230.77	1.76	-119.5
310	SLV FO 9	-450	740	5684	699.14	7.58	155.74
310	SLV FO 10	-369	643	5605	690.51	7.34	127.83
310	SLV FO 11	-170	-545	558	143.83	-0.88	60.47
310	SLV FO 12	-90	-643	480	135.2	-1.12	32.57
310	SLV FO 13	-878	357	3025	395.37	1.31	306.58
310	SLV FO 14	-759	212	2909	382.55	0.95	265.13
310	SLV FO 15	-795	-28	1488	228.78	-1.22	278
310	SLV FO 16	-675	-173	1371	215.96	-1.58	236.55
310	CRTFP Ux+	0	0	0	0	0	0
310	CRTFP Ux-	0	0	0	0	0	0
310	CRTFP Uy+	0	0	0	0	0	0
310	CRTFP Uy-	0	0	0	0	0	0
311	SLU 1	-50	20	3128	380.42	2.13	17.39
311	SLU 2	-53	36	3186	387.87	2.19	18.26
311	SLU 3	-52	20	3180	385.93	2.17	17.9
311	SLU 4	-53	29	3215	390.4	2.2	18.42
311	SLU 5	-54	35	3218	391.27	2.21	18.61
311	SLU 6	-53	20	3212	389.33	2.19	18.25
311	SLU 7	-54	29	3247	393.8	2.23	18.77
311	SLU 8	-52	20	3192	387.22	2.18	18.09
311	SLU 9	-54	29	3227	391.69	2.21	18.61
311	SLU 10	-54	39	3566	424.23	2.4	18.5
311	SLU 11	-53	23	3560	422.3	2.38	18.14
311	SLU 12	-54	32	3595	426.76	2.42	18.67
311	SLU 13	-55	39	3598	427.64	2.42	18.86
311	SLU 14	-54	23	3592	425.7	2.41	18.49
311	SLU 15	-55	32	3627	430.17	2.44	19.02
311	SLU 16	-53	23	3572	423.59	2.39	18.33
311	SLU 17	-55	32	3607	428.06	2.42	18.86
311	SLU 18	-52	25	3670	432.37	2.43	17.74
311	SLU 19	-53	34	3706	436.84	2.47	18.26
311	SLU 20	-53	25	3702	435.77	2.46	18.09
311	SLU 21	-54	34	3738	440.24	2.49	18.61
311	SLU 22	-57	22	3551	421.89	2.42	19.53
311	SLU 23	-59	37	3610	429.34	2.48	20.41
311	SLU 24	-58	22	3603	427.41	2.46	20.04
311	SLU 25	-60	31	3638	431.88	2.49	20.57
311	SLU 26	-60	37	3642	432.75	2.5	20.76
311	SLU 27	-59	22	3635	430.81	2.48	20.4
311	SLU 28	-61	31	3670	435.28	2.52	20.92
311	SLU 29	-59	22	3615	428.7	2.47	20.24
311	SLU 30	-60	31	3650	433.17	2.5	20.76
311	SLU 31	-60	41	3990	465.71	2.69	20.65
311	SLU 32	-59	25	3983	463.77	2.67	20.29
311	SLU 33	-60	34	4018	468.24	2.71	20.81
311	SLU 34	-61	41	4022	469.12	2.71	21
311	SLU 35	-60	25	4015	467.18	2.7	20.64
311	SLU 36	-61	34	4050	471.65	2.73	21.17
311	SLU 37	-59	25	3995	465.07	2.68	20.48
311	SLU 38	-61	34	4030	469.54	2.72	21.01
311	SLU 39	-58	27	4094	473.85	2.72	19.89
311	SLU 40	-59	36	4129	478.32	2.76	20.41
311	SLU 41	-59	27	4126	477.25	2.75	20.24
311	SLU 42	-60	36	4161	481.72	2.78	20.76
311	SLU 43	-63	25	3921	480.32	2.67	21.87
311	SLU 44	-66	41	3979	487.77	2.72	22.74
311	SLU 45	-65	25	3973	485.83	2.71	22.38
311	SLU 46	-66	35	4008	490.3	2.74	22.9
311	SLU 47	-67	41	4012	491.17	2.75	23.09
311	SLU 48	-66	25	4005	489.24	2.73	22.73
311	SLU 49	-67	35	4040	493.71	2.77	23.25
311	SLU 50	-65	25	3985	487.13	2.72	22.57
311	SLU 51	-67	35	4020	491.6	2.75	23.09
311	SLU 52	-67	44	4359	524.14	2.94	22.98
311	SLU 53	-66	29	4353	522.2	2.92	22.62
311	SLU 54	-67	38	4388	526.67	2.96	23.15
311	SLU 55	-68	44	4391	527.54	2.96	23.34
311	SLU 56	-67	28	4385	525.6	2.95	22.97
311	SLU 57	-68	38	4420	530.07	2.98	23.5
311	SLU 58	-66	29	4365	523.5	2.93	22.81
311	SLU 59	-68	38	4400	527.97	2.96	23.34
311	SLU 60	-65	30	4463	532.27	2.97	22.22
311	SLU 61	-66	39	4499	536.74	3.01	22.74
311	SLU 62	-66	30	4496	535.68	3	22.57
311	SLU 63	-67	39	4531	540.15	3.03	23.09
311	SLU 64	-70	27	4344	521.8	2.96	24.01
311	SLU 65	-72	43	4403	529.25	3.01	24.89
311	SLU 66	-71	27	4396	527.31	3	24.52
311	SLU 67	-73	37	4431	531.78	3.03	25.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLU 68	-73	43	4435	532.65	3.04	25.24
311	SLU 69	-72	27	4428	530.71	3.02	24.87
311	SLU 70	-74	36	4464	535.18	3.06	25.4
311	SLU 71	-72	27	4408	528.61	3.01	24.72
311	SLU 72	-73	37	4443	533.08	3.04	25.24
311	SLU 73	-73	46	4783	565.62	3.23	25.13
311	SLU 74	-72	30	4776	563.68	3.21	24.77
311	SLU 75	-73	40	4811	568.15	3.25	25.29
311	SLU 76	-74	46	4815	569.02	3.25	25.48
311	SLU 77	-73	30	4808	567.08	3.24	25.12
311	SLU 78	-74	40	4844	571.55	3.27	25.64
311	SLU 79	-72	30	4788	564.97	3.22	24.96
311	SLU 80	-74	40	4823	569.44	3.25	25.49
311	SLU 81	-71	32	4887	573.75	3.26	24.37
311	SLU 82	-72	41	4922	578.22	3.3	24.89
311	SLU 83	-72	32	4919	577.16	3.29	24.72
311	SLU 84	-73	41	4954	581.63	3.32	25.24
311	SLE RA 1	-52	21	3248	392.27	2.21	18
311	SLE RA 2	-54	31	3288	397.23	2.25	18.58
311	SLE RA 3	-53	21	3283	395.94	2.24	18.34
311	SLE RA 4	-54	27	3307	398.92	2.26	18.69
311	SLE RA 5	-55	31	3309	399.5	2.27	18.81
311	SLE RA 6	-54	21	3305	398.21	2.25	18.57
311	SLE RA 7	-55	27	3328	401.19	2.28	18.92
311	SLE RA 8	-54	21	3291	396.81	2.24	18.47
311	SLE RA 9	-55	27	3315	399.79	2.27	18.82
311	SLE RA 10	-54	33	3541	421.48	2.39	18.75
311	SLE RA 11	-54	23	3537	420.19	2.38	18.51
311	SLE RA 12	-55	29	3560	423.17	2.4	18.85
311	SLE RA 13	-55	33	3562	423.75	2.41	18.98
311	SLE RA 14	-54	23	3558	422.46	2.4	18.74
311	SLE RA 15	-55	29	3581	425.44	2.42	19.09
311	SLE RA 16	-54	23	3545	421.05	2.39	18.63
311	SLE RA 17	-55	29	3568	424.03	2.41	18.98
311	SLE RA 18	-53	24	3610	426.9	2.42	18.24
311	SLE RA 19	-54	30	3634	429.88	2.44	18.58
311	SLE RA 20	-54	24	3632	429.17	2.43	18.47
311	SLE RA 21	-55	30	3655	432.15	2.45	18.82
311	SLE FR 1	-52	21	3248	392.27	2.21	18
311	SLE FR 2	-53	23	3256	393.26	2.22	18.12
311	SLE FR 3	-52	21	3257	393.18	2.22	18.09
311	SLE FR 4	-53	24	3365	403.65	2.28	18.19
311	SLE FR 5	-53	22	3366	403.57	2.28	18.16
311	SLE FR 6	-53	22	3429	409.59	2.31	18.12
311	SLE QP 1	-52	21	3248	392.27	2.21	18
311	SLE QP 2	-52	22	3357	402.66	2.27	18.07
311	SLD 1	310	128	4465	510.22	4.94	-109.15
311	SLD 2	380	51	4403	504.53	4.79	-133.24
311	SLD 3	357	-77	3633	431.33	4.15	-125.3
311	SLD 4	427	-154	3571	425.64	4	-149.4
311	SLD 5	-28	379	4963	555.6	4.3	8.74
311	SLD 6	18	328	4922	551.84	4.2	-7.17
311	SLD 7	129	-306	2189	292.64	1.66	-45.1
311	SLD 8	175	-357	2148	288.88	1.56	-61.01
311	SLD 9	-280	400	4566	516.44	2.98	97.15
311	SLD 10	-234	349	4525	512.68	2.88	81.24
311	SLD 11	-123	-285	1792	253.47	0.34	43.31
311	SLD 12	-77	-336	1751	249.71	0.25	27.4
311	SLD 13	-532	197	3143	379.68	0.54	185.54
311	SLD 14	-462	120	3081	373.98	0.39	161.44
311	SLD 15	-484	-8	2311	300.79	-0.25	169.39
311	SLD 16	-415	-85	2249	295.1	-0.4	145.29
311	SLV 1	514	194	5109	572.65	6.46	-180.8
311	SLV 2	623	73	5012	563.73	6.22	-218.55
311	SLV 3	590	-138	3765	445.2	5.18	-206.76
311	SLV 4	699	-258	3667	436.28	4.95	-244.51
311	SLV 5	-17	599	5940	648.62	5.51	4.82
311	SLV 6	56	518	5874	642.61	5.35	-20.6
311	SLV 7	235	-507	1459	223.79	1.25	-81.69
311	SLV 8	308	-588	1393	217.78	1.09	-107.11
311	SLV 9	-413	631	5321	587.53	3.45	143.25
311	SLV 10	-340	550	5256	581.53	3.29	117.84
311	SLV 11	-161	-474	840	162.7	-0.8	56.74
311	SLV 12	-87	-555	774	156.7	-0.96	31.33
311	SLV 13	-804	301	3047	369.03	-0.4	280.65
311	SLV 14	-695	181	2949	360.11	-0.64	242.9
311	SLV 15	-728	-30	1702	241.58	-1.68	254.7
311	SLV 16	-619	-151	1605	232.66	-1.91	216.95
311	SLV FO 1	571	211	5284	589.65	6.88	-200.69
311	SLV FO 2	691	79	5177	579.84	6.62	-242.22
311	SLV FO 3	654	-154	3806	449.46	5.47	-229.24
311	SLV FO 4	774	-286	3699	439.65	5.21	-270.77
311	SLV FO 5	-14	656	6198	673.22	5.83	3.49
311	SLV FO 6	67	567	6126	666.61	5.66	-24.47
311	SLV FO 7	263	-560	1269	205.9	1.15	-91.67
311	SLV FO 8	344	-649	1197	199.29	0.98	-119.63
311	SLV FO 9	-449	692	5517	606.02	3.57	155.77
311	SLV FO 10	-368	603	5445	599.42	3.39	127.81
311	SLV FO 11	-172	-524	588	138.71	-1.11	60.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
311	SLV FO 12	-91	-613	516	132.1	-1.29	32.65
311	SLV FO 13	-879	329	3016	365.67	-0.67	306.91
311	SLV FO 14	-759	197	2908	355.86	-0.93	265.38
311	SLV FO 15	-796	-35	1537	225.48	-2.07	278.36
311	SLV FO 16	-676	-168	1430	215.66	-2.33	236.83
311	CRTFP Ux+	0	0	0	0	0	0
311	CRTFP Ux-	0	0	0	0	0	0
311	CRTFP Uy+	0	0	0	0	0	0
311	CRTFP Uy-	0	0	0	0	0	0
312	SLU 1	-50	13	3095	369.48	0.03	17.28
312	SLU 2	-53	27	3153	376.93	0.04	18.13
312	SLU 3	-52	12	3147	374.81	0.03	17.79
312	SLU 4	-53	21	3182	379.28	0.03	18.3
312	SLU 5	-54	27	3185	380.23	0.04	18.48
312	SLU 6	-53	12	3179	378.11	0.03	18.14
312	SLU 7	-54	21	3214	382.58	0.03	18.64
312	SLU 8	-52	12	3159	376.08	0.03	17.98
312	SLU 9	-54	21	3194	380.55	0.03	18.49
312	SLU 10	-53	29	3531	412.3	-0.03	18.38
312	SLU 11	-52	15	3525	410.17	-0.04	18.05
312	SLU 12	-54	23	3560	414.64	-0.04	18.55
312	SLU 13	-54	29	3563	415.59	-0.03	18.73
312	SLU 14	-53	14	3557	413.47	-0.04	18.39
312	SLU 15	-55	23	3591	417.94	-0.04	18.9
312	SLU 16	-53	14	3537	411.44	-0.04	18.24
312	SLU 17	-54	23	3572	415.91	-0.04	18.74
312	SLU 18	-51	16	3635	420	-0.07	17.65
312	SLU 19	-53	25	3670	424.47	-0.07	18.16
312	SLU 20	-52	16	3667	423.3	-0.07	18
312	SLU 21	-54	24	3702	427.77	-0.07	18.5
312	SLU 22	-56	14	3515	409.54	0	19.44
312	SLU 23	-59	28	3573	416.99	0.01	20.28
312	SLU 24	-58	13	3567	414.86	0	19.94
312	SLU 25	-59	22	3601	419.34	0	20.45
312	SLU 26	-60	28	3605	420.29	0.01	20.63
312	SLU 27	-59	13	3598	418.16	0	20.29
312	SLU 28	-60	22	3633	422.63	0	20.79
312	SLU 29	-58	13	3579	416.13	0	20.13
312	SLU 30	-60	22	3613	420.6	0	20.64
312	SLU 31	-60	30	3951	452.35	-0.06	20.54
312	SLU 32	-59	16	3944	450.23	-0.07	20.2
312	SLU 33	-60	24	3979	454.7	-0.07	20.7
312	SLU 34	-61	30	3982	455.65	-0.06	20.88
312	SLU 35	-60	15	3976	453.53	-0.07	20.54
312	SLU 36	-61	24	4011	458	-0.07	21.05
312	SLU 37	-59	16	3956	451.5	-0.07	20.39
312	SLU 38	-61	24	3991	455.97	-0.07	20.89
312	SLU 39	-57	17	4055	460.06	-0.1	19.8
312	SLU 40	-59	26	4089	464.53	-0.1	20.31
312	SLU 41	-58	17	4087	463.35	-0.1	20.15
312	SLU 42	-60	25	4121	467.83	-0.1	20.66
312	SLU 43	-63	16	3880	466.59	0.05	21.73
312	SLU 44	-65	31	3938	474.04	0.06	22.58
312	SLU 45	-64	16	3932	471.92	0.05	22.24
312	SLU 46	-66	25	3967	476.39	0.05	22.74
312	SLU 47	-66	30	3970	477.34	0.06	22.92
312	SLU 48	-65	16	3964	475.22	0.05	22.59
312	SLU 49	-67	24	3998	479.69	0.05	23.09
312	SLU 50	-65	16	3944	473.19	0.05	22.43
312	SLU 51	-66	24	3979	477.66	0.05	22.93
312	SLU 52	-66	33	4316	509.41	-0.01	22.83
312	SLU 53	-65	18	4310	507.28	-0.02	22.49
312	SLU 54	-67	27	4344	511.75	-0.02	23
312	SLU 55	-67	33	4348	512.7	-0.01	23.18
312	SLU 56	-66	18	4341	510.58	-0.02	22.84
312	SLU 57	-68	27	4376	515.05	-0.02	23.35
312	SLU 58	-66	18	4322	508.55	-0.02	22.68
312	SLU 59	-67	27	4356	513.02	-0.02	23.19
312	SLU 60	-64	19	4420	517.11	-0.05	22.1
312	SLU 61	-66	28	4455	521.58	-0.05	22.6
312	SLU 62	-65	19	4452	520.41	-0.05	22.45
312	SLU 63	-67	28	4486	524.88	-0.05	22.95
312	SLU 64	-69	17	4300	506.65	0.02	23.88
312	SLU 65	-72	32	4358	514.1	0.03	24.73
312	SLU 66	-71	17	4351	511.97	0.02	24.39
312	SLU 67	-72	26	4386	516.45	0.02	24.89
312	SLU 68	-73	32	4389	517.4	0.03	25.08
312	SLU 69	-72	17	4383	515.27	0.02	24.74
312	SLU 70	-73	25	4418	519.74	0.02	25.24
312	SLU 71	-71	17	4363	513.24	0.02	24.58
312	SLU 72	-73	26	4398	517.71	0.02	25.09
312	SLU 73	-72	34	4735	549.46	-0.04	24.98
312	SLU 74	-71	19	4729	547.34	-0.05	24.64
312	SLU 75	-73	28	4764	551.81	-0.05	25.15
312	SLU 76	-73	34	4767	552.76	-0.04	25.33
312	SLU 77	-72	19	4761	550.64	-0.05	24.99
312	SLU 78	-74	28	4796	555.11	-0.05	25.5
312	SLU 79	-72	19	4741	548.61	-0.05	24.84
312	SLU 80	-73	28	4776	553.08	-0.05	25.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
312	SLU 81	-70	20	4840	557.17	-0.08	24.25
312	SLU 82	-72	29	4874	561.64	-0.08	24.76
312	SLU 83	-71	20	4871	560.46	-0.08	24.6
312	SLU 84	-73	29	4906	564.94	-0.08	25.1
312	SLE RA 1	-52	13	3215	380.92	0.02	17.9
312	SLE RA 2	-53	23	3254	385.89	0.03	18.46
312	SLE RA 3	-53	13	3250	384.48	0.02	18.24
312	SLE RA 4	-54	19	3273	387.46	0.02	18.57
312	SLE RA 5	-54	23	3275	388.09	0.03	18.69
312	SLE RA 6	-53	13	3271	386.68	0.02	18.47
312	SLE RA 7	-54	18	3294	389.66	0.02	18.81
312	SLE RA 8	-53	13	3258	385.32	0.02	18.36
312	SLE RA 9	-54	19	3281	388.3	0.02	18.7
312	SLE RA 10	-54	24	3506	409.47	-0.02	18.63
312	SLE RA 11	-53	14	3502	408.05	-0.03	18.41
312	SLE RA 12	-54	20	3525	411.03	-0.02	18.74
312	SLE RA 13	-55	24	3527	411.67	-0.02	18.86
312	SLE RA 14	-54	14	3523	410.25	-0.03	18.64
312	SLE RA 15	-55	20	3546	413.23	-0.02	18.98
312	SLE RA 16	-54	14	3510	408.9	-0.03	18.53
312	SLE RA 17	-55	20	3533	411.88	-0.02	18.87
312	SLE RA 18	-53	15	3575	414.6	-0.05	18.14
312	SLE RA 19	-54	21	3598	417.59	-0.04	18.48
312	SLE RA 20	-53	15	3596	416.8	-0.05	18.37
312	SLE RA 21	-54	21	3619	419.78	-0.04	18.71
312	SLE FR 1	-52	13	3215	380.92	0.02	17.9
312	SLE FR 2	-52	15	3223	381.92	0.02	18.01
312	SLE FR 3	-52	13	3224	381.8	0.02	17.99
312	SLE FR 4	-52	16	3331	392.02	0	18.08
312	SLE FR 5	-52	14	3332	391.91	0	18.06
312	SLE FR 6	-52	14	3395	397.76	-0.01	18.02
312	SLE QP 1	-52	13	3215	380.92	0.02	17.9
312	SLE QP 2	-52	14	3323	391.03	0	17.97
312	SLD 1	311	114	4365	481.04	1.82	-109.41
312	SLD 2	381	43	4306	476.05	1.72	-133.55
312	SLD 3	358	-84	3547	404.71	1.63	-125.53
312	SLD 4	427	-154	3489	399.72	1.53	-149.67
312	SLD 5	-26	356	4886	534.71	0.85	8.55
312	SLD 6	20	310	4848	531.41	0.79	-7.39
312	SLD 7	129	-303	2161	280.25	0.22	-45.18
312	SLD 8	175	-349	2122	276.96	0.16	-61.12
312	SLD 9	-279	377	4524	505.1	-0.15	97.06
312	SLD 10	-233	330	4486	501.8	-0.22	81.12
312	SLD 11	-124	-282	1799	250.64	-0.78	43.33
312	SLD 12	-78	-329	1760	247.35	-0.85	27.39
312	SLD 13	-531	182	3158	382.34	-1.53	185.61
312	SLD 14	-462	111	3099	377.35	-1.63	161.48
312	SLD 15	-485	-16	2340	306	-1.72	169.5
312	SLD 16	-415	-87	2282	301.01	-1.82	145.36
312	SLV 1	516	176	4971	533.58	2.84	-181.16
312	SLV 2	625	65	4879	525.76	2.69	-218.98
312	SLV 3	591	-143	3650	410.26	2.54	-207.06
312	SLV 4	699	-254	3558	402.44	2.39	-244.87
312	SLV 5	-16	567	5838	622.29	1.34	4.56
312	SLV 6	58	492	5776	617.02	1.24	-20.9
312	SLV 7	234	-496	1435	211.22	0.33	-81.75
312	SLV 8	307	-571	1373	205.96	0.23	-107.21
312	SLV 9	-411	598	5273	576.1	-0.22	143.16
312	SLV 10	-338	524	5212	570.84	-0.33	117.7
312	SLV 11	-162	-465	870	165.03	-1.24	56.84
312	SLV 12	-89	-539	809	159.77	-1.34	31.38
312	SLV 13	-804	281	3088	379.61	-2.38	280.82
312	SLV 14	-695	170	2997	371.8	-2.54	243
312	SLV 15	-729	-38	1767	256.29	-2.69	254.92
312	SLV 16	-620	-148	1676	248.48	-2.84	217.11
312	SLV FO 1	573	192	5135	547.83	3.13	-201.08
312	SLV FO 2	692	70	5035	539.23	2.96	-242.67
312	SLV FO 3	655	-159	3682	412.18	2.79	-229.56
312	SLV FO 4	775	-281	3582	403.58	2.62	-271.16
312	SLV FO 5	-12	622	6089	645.41	1.48	3.22
312	SLV FO 6	69	540	6022	639.62	1.36	-24.78
312	SLV FO 7	263	-547	1246	193.24	0.36	-91.73
312	SLV FO 8	343	-630	1178	187.45	0.25	-119.73
312	SLV FO 9	-447	657	5468	594.61	-0.25	155.68
312	SLV FO 10	-367	575	5400	588.82	-0.36	127.67
312	SLV FO 11	-173	-513	625	142.43	-1.36	60.73
312	SLV FO 12	-92	-595	557	136.64	-1.48	32.72
312	SLV FO 13	-879	308	3065	378.47	-2.62	307.1
312	SLV FO 14	-759	186	2964	369.88	-2.79	265.51
312	SLV FO 15	-796	-43	1612	242.82	-2.96	278.62
312	SLV FO 16	-677	-165	1511	234.22	-3.13	237.02
312	CRTFP Ux+	0	0	0	0	0	0
312	CRTFP Ux-	0	0	0	0	0	0
312	CRTFP Uy+	0	0	0	0	0	0
312	CRTFP Uy-	0	0	0	0	0	0
313	SLU 1	-50	6	3124	402.02	-1.94	17.14
313	SLU 2	-52	20	3183	410.25	-1.98	17.96
313	SLU 3	-51	5	3177	408	-1.98	17.64
313	SLU 4	-52	14	3212	412.93	-2.01	18.13



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
313	SLU 5	-53	20	3215	413.95	-2.01	18.3
313	SLU 6	-52	5	3209	411.7	-2.01	17.99
313	SLU 7	-53	14	3244	416.64	-2.03	18.48
313	SLU 8	-52	5	3189	409.43	-1.99	17.83
313	SLU 9	-53	14	3224	414.37	-2.02	18.32
313	SLU 10	-53	21	3567	450.53	-2.32	18.22
313	SLU 11	-52	7	3561	448.28	-2.32	17.91
313	SLU 12	-53	15	3596	453.22	-2.35	18.4
313	SLU 13	-54	21	3599	454.24	-2.35	18.57
313	SLU 14	-53	7	3593	451.99	-2.35	18.25
313	SLU 15	-54	15	3628	456.92	-2.37	18.74
313	SLU 16	-52	7	3573	449.71	-2.33	18.1
313	SLU 17	-54	15	3608	454.65	-2.36	18.59
313	SLU 18	-51	8	3673	459.56	-2.43	17.52
313	SLU 19	-52	16	3708	464.5	-2.45	18.01
313	SLU 20	-52	7	3705	463.27	-2.46	17.87
313	SLU 21	-53	16	3740	468.21	-2.48	18.35
313	SLU 22	-56	6	3549	447.3	-2.28	19.29
313	SLU 23	-58	20	3608	455.53	-2.31	20.11
313	SLU 24	-57	6	3602	453.28	-2.32	19.79
313	SLU 25	-59	14	3637	458.21	-2.34	20.28
313	SLU 26	-59	20	3640	459.23	-2.34	20.45
313	SLU 27	-58	6	3634	456.98	-2.34	20.14
313	SLU 28	-60	14	3669	461.92	-2.36	20.63
313	SLU 29	-58	6	3614	454.71	-2.33	19.98
313	SLU 30	-59	14	3649	459.65	-2.35	20.47
313	SLU 31	-59	22	3992	495.81	-2.65	20.37
313	SLU 32	-58	7	3986	493.56	-2.66	20.06
313	SLU 33	-59	16	4021	498.5	-2.68	20.55
313	SLU 34	-60	21	4024	499.52	-2.68	20.72
313	SLU 35	-59	7	4018	497.27	-2.68	20.4
313	SLU 36	-60	15	4053	502.2	-2.7	20.89
313	SLU 37	-59	7	3998	494.99	-2.67	20.25
313	SLU 38	-60	16	4033	499.93	-2.69	20.74
313	SLU 39	-57	8	4098	504.84	-2.76	19.67
313	SLU 40	-58	17	4133	509.78	-2.78	20.16
313	SLU 41	-58	8	4130	508.55	-2.79	20.02
313	SLU 42	-59	16	4165	513.49	-2.81	20.51
313	SLU 43	-62	8	3916	507.1	-2.41	21.55
313	SLU 44	-65	22	3974	515.33	-2.45	22.36
313	SLU 45	-64	7	3968	513.08	-2.45	22.05
313	SLU 46	-65	16	4003	518.01	-2.47	22.54
313	SLU 47	-66	21	4006	519.03	-2.48	22.71
313	SLU 48	-65	7	4000	516.78	-2.48	22.39
313	SLU 49	-66	15	4035	521.72	-2.5	22.88
313	SLU 50	-64	7	3980	514.51	-2.46	22.24
313	SLU 51	-66	16	4015	519.45	-2.49	22.73
313	SLU 52	-66	23	4358	555.61	-2.79	22.63
313	SLU 53	-65	8	4352	553.36	-2.79	22.31
313	SLU 54	-66	17	4387	558.3	-2.81	22.8
313	SLU 55	-67	23	4390	559.32	-2.82	22.97
313	SLU 56	-66	8	4384	557.07	-2.82	22.66
313	SLU 57	-67	17	4419	562	-2.84	23.15
313	SLU 58	-65	8	4364	554.79	-2.8	22.5
313	SLU 59	-67	17	4399	559.73	-2.83	22.99
313	SLU 60	-64	9	4465	564.64	-2.9	21.93
313	SLU 61	-65	18	4500	569.58	-2.92	22.42
313	SLU 62	-65	9	4497	568.35	-2.92	22.27
313	SLU 63	-66	18	4532	573.29	-2.95	22.76
313	SLU 64	-69	8	4341	552.38	-2.75	23.7
313	SLU 65	-71	22	4399	560.61	-2.78	24.51
313	SLU 66	-70	7	4393	558.36	-2.79	24.2
313	SLU 67	-71	16	4428	563.29	-2.81	24.69
313	SLU 68	-72	22	4431	564.31	-2.81	24.86
313	SLU 69	-71	7	4425	562.06	-2.81	24.54
313	SLU 70	-72	16	4460	567	-2.83	25.03
313	SLU 71	-71	7	4405	559.79	-2.8	24.39
313	SLU 72	-72	16	4440	564.73	-2.82	24.88
313	SLU 73	-72	23	4783	600.89	-3.12	24.78
313	SLU 74	-71	9	4777	598.64	-3.12	24.46
313	SLU 75	-72	17	4812	603.58	-3.15	24.95
313	SLU 76	-73	23	4815	604.6	-3.15	25.12
313	SLU 77	-72	9	4809	602.35	-3.15	24.81
313	SLU 78	-73	17	4844	607.28	-3.17	25.3
313	SLU 79	-71	9	4789	600.07	-3.14	24.65
313	SLU 80	-73	17	4824	605.01	-3.16	25.14
313	SLU 81	-70	10	4890	609.92	-3.23	24.08
313	SLU 82	-71	18	4925	614.86	-3.25	24.57
313	SLU 83	-71	9	4922	613.63	-3.26	24.42
313	SLU 84	-72	18	4957	618.57	-3.28	24.91
313	SLE RA 1	-51	6	3246	414.95	-2.04	17.76
313	SLE RA 2	-53	15	3285	420.44	-2.06	18.3
313	SLE RA 3	-52	6	3281	418.94	-2.07	18.09
313	SLE RA 4	-53	11	3304	422.23	-2.08	18.42
313	SLE RA 5	-54	15	3306	422.91	-2.08	18.53
313	SLE RA 6	-53	6	3302	421.41	-2.08	18.32
313	SLE RA 7	-54	11	3325	424.7	-2.1	18.65
313	SLE RA 8	-53	6	3289	419.9	-2.07	18.22
313	SLE RA 9	-54	11	3312	423.19	-2.09	18.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
313	SLE RA 10	-53	16	3541	447.3	-2.29	18.48
313	SLE RA 11	-53	7	3537	445.8	-2.29	18.27
313	SLE RA 12	-54	12	3560	449.09	-2.31	18.59
313	SLE RA 13	-54	16	3562	449.77	-2.31	18.71
313	SLE RA 14	-54	6	3558	448.27	-2.31	18.5
313	SLE RA 15	-54	12	3581	451.56	-2.32	18.82
313	SLE RA 16	-53	7	3545	446.75	-2.3	18.39
313	SLE RA 17	-54	12	3568	450.04	-2.31	18.72
313	SLE RA 18	-52	7	3612	453.32	-2.36	18.01
313	SLE RA 19	-53	13	3635	456.61	-2.38	18.34
313	SLE RA 20	-53	7	3633	455.79	-2.38	18.24
313	SLE RA 21	-54	13	3656	459.08	-2.39	18.57
313	SLE FR 1	-51	6	3246	414.95	-2.04	17.76
313	SLE FR 2	-52	8	3254	416.05	-2.04	17.87
313	SLE FR 3	-52	6	3254	415.94	-2.05	17.85
313	SLE FR 4	-52	8	3363	427.56	-2.14	17.94
313	SLE FR 5	-52	6	3364	427.45	-2.14	17.93
313	SLE FR 6	-52	7	3429	434.14	-2.2	17.88
313	SLE QP 1	-51	6	3246	414.95	-2.04	17.76
313	SLE QP 2	-52	6	3356	426.46	-2.14	17.83
313	SLD 1	312	102	4354	515.05	-1.07	-109.69
313	SLD 2	382	36	4298	509.9	-1.12	-133.86
313	SLD 3	358	-91	3534	430.26	-0.7	-125.75
313	SLD 4	428	-157	3477	425.11	-0.75	-149.92
313	SLD 5	-25	341	4910	582.57	-2.37	8.29
313	SLD 6	21	297	4872	579.17	-2.41	-7.67
313	SLD 7	129	-305	2175	299.93	-1.13	-45.25
313	SLD 8	175	-348	2138	296.53	-1.16	-61.2
313	SLD 9	-278	361	4573	556.4	-3.11	96.87
313	SLD 10	-232	317	4536	553	-3.14	80.91
313	SLD 11	-124	-284	1839	273.76	-1.87	43.34
313	SLD 12	-78	-328	1802	270.36	-1.9	27.38
313	SLD 13	-531	170	3234	427.82	-3.53	185.59
313	SLD 14	-462	104	3178	422.67	-3.58	161.42
313	SLD 15	-485	-24	2413	343.03	-3.15	169.53
313	SLD 16	-415	-90	2357	337.88	-3.2	145.36
313	SLV 1	517	161	4936	567.04	-0.48	-181.52
313	SLV 2	626	58	4848	558.97	-0.56	-219.38
313	SLV 3	591	-151	3611	430.02	0.12	-207.32
313	SLV 4	700	-254	3522	421.95	0.04	-245.18
313	SLV 5	-14	546	5857	677.95	-2.54	4.22
313	SLV 6	60	476	5797	672.52	-2.59	-21.27
313	SLV 7	233	-495	1438	221.23	-0.53	-81.77
313	SLV 8	306	-565	1379	215.8	-0.58	-107.27
313	SLV 9	-410	578	5332	637.13	-3.69	142.93
313	SLV 10	-336	508	5273	631.7	-3.74	117.44
313	SLV 11	-163	-464	914	180.41	-1.68	56.94
313	SLV 12	-90	-533	854	174.98	-1.73	31.44
313	SLV 13	-803	267	3189	430.97	-4.31	280.85
313	SLV 14	-694	164	3101	422.91	-4.39	242.98
313	SLV 15	-729	-45	1863	293.96	-3.71	255.05
313	SLV 16	-620	-149	1775	285.89	-3.79	217.18
313	SLV FO 1	574	177	5094	581.1	-0.32	-201.45
313	SLV FO 2	694	63	4997	572.22	-0.41	-243.1
313	SLV FO 3	655	-167	3636	430.38	0.35	-229.83
313	SLV FO 4	775	-280	3539	421.5	0.26	-271.48
313	SLV FO 5	-10	600	6107	703.1	-2.58	2.86
313	SLV FO 6	71	523	6042	697.12	-2.64	-25.18
313	SLV FO 7	262	-545	1246	200.71	-0.37	-91.73
313	SLV FO 8	342	-622	1181	194.73	-0.43	-119.78
313	SLV FO 9	-445	635	5530	658.2	-3.85	155.44
313	SLV FO 10	-365	558	5465	652.22	-3.9	127.4
313	SLV FO 11	-174	-511	670	155.8	-1.63	60.85
313	SLV FO 12	-93	-587	604	149.83	-1.69	32.8
313	SLV FO 13	-878	293	3172	431.42	-4.53	307.15
313	SLV FO 14	-759	179	3075	422.55	-4.62	265.5
313	SLV FO 15	-797	-50	1714	280.71	-3.87	278.77
313	SLV FO 16	-677	-164	1617	271.83	-3.95	237.12
313	CRTFP Ux+	0	0	0	0	0	0
313	CRTFP Ux-	0	0	0	0	0	0
313	CRTFP Uy+	0	0	0	0	0	0
313	CRTFP Uy-	0	0	0	0	0	0
314	SLU 1	-49	0	3210	475.72	-3.76	16.97
314	SLU 2	-51	14	3270	485.41	-3.83	17.75
314	SLU 3	-50	-1	3264	483.13	-3.83	17.46
314	SLU 4	-52	8	3300	488.95	-3.88	17.93
314	SLU 5	-52	14	3303	490.01	-3.88	18.09
314	SLU 6	-51	-1	3297	487.74	-3.88	17.8
314	SLU 7	-53	7	3333	493.55	-3.92	18.27
314	SLU 8	-51	-1	3277	484.92	-3.85	17.65
314	SLU 9	-52	8	3313	490.74	-3.9	18.12
314	SLU 10	-52	14	3668	536.28	-4.42	18.02
314	SLU 11	-51	0	3662	534.01	-4.42	17.73
314	SLU 12	-53	8	3698	539.82	-4.47	18.2
314	SLU 13	-53	14	3701	540.88	-4.47	18.36
314	SLU 14	-52	-1	3695	538.61	-4.47	18.07
314	SLU 15	-54	8	3731	544.43	-4.51	18.54
314	SLU 16	-52	0	3675	535.8	-4.44	17.92
314	SLU 17	-53	8	3711	541.61	-4.49	18.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLU 18	-50	0	3779	548.39	-4.6	17.36
314	SLU 19	-52	9	3815	554.21	-4.64	17.83
314	SLU 20	-51	0	3812	553	-4.64	17.7
314	SLU 21	-53	9	3848	558.81	-4.69	18.17
314	SLU 22	-55	-1	3649	532.55	-4.37	19.12
314	SLU 23	-57	14	3709	542.24	-4.44	19.9
314	SLU 24	-57	-1	3703	539.97	-4.44	19.61
314	SLU 25	-58	7	3739	545.78	-4.49	20.08
314	SLU 26	-58	13	3742	546.85	-4.49	20.24
314	SLU 27	-58	-1	3736	544.57	-4.49	19.95
314	SLU 28	-59	7	3772	550.39	-4.53	20.42
314	SLU 29	-57	-1	3716	541.76	-4.46	19.8
314	SLU 30	-59	7	3752	547.57	-4.51	20.27
314	SLU 31	-58	14	4107	593.12	-5.03	20.17
314	SLU 32	-58	-1	4101	590.84	-5.03	19.88
314	SLU 33	-59	8	4137	596.66	-5.07	20.35
314	SLU 34	-59	14	4140	597.72	-5.08	20.51
314	SLU 35	-59	-1	4134	595.45	-5.08	20.22
314	SLU 36	-60	8	4170	601.26	-5.12	20.69
314	SLU 37	-58	-1	4114	592.63	-5.05	20.07
314	SLU 38	-59	8	4150	598.45	-5.09	20.54
314	SLU 39	-56	0	4218	605.23	-5.21	19.51
314	SLU 40	-58	9	4254	611.04	-5.25	19.98
314	SLU 41	-57	0	4251	609.83	-5.25	19.85
314	SLU 42	-59	8	4287	615.65	-5.3	20.32
314	SLU 43	-62	0	4023	598.95	-4.67	21.32
314	SLU 44	-64	14	4082	608.63	-4.75	22.1
314	SLU 45	-63	-1	4076	606.36	-4.75	21.81
314	SLU 46	-64	8	4112	612.18	-4.8	22.28
314	SLU 47	-65	14	4116	613.24	-4.8	22.44
314	SLU 48	-64	-1	4110	610.97	-4.8	22.15
314	SLU 49	-65	7	4146	616.78	-4.84	22.62
314	SLU 50	-64	-1	4089	608.15	-4.77	22
314	SLU 51	-65	8	4125	613.97	-4.82	22.47
314	SLU 52	-65	14	4480	659.51	-5.34	22.38
314	SLU 53	-64	0	4474	657.24	-5.34	22.09
314	SLU 54	-65	8	4510	663.05	-5.38	22.56
314	SLU 55	-66	14	4514	664.11	-5.39	22.72
314	SLU 56	-65	-1	4508	661.84	-5.38	22.43
314	SLU 57	-66	8	4544	667.66	-5.43	22.9
314	SLU 58	-64	0	4487	659.03	-5.36	22.28
314	SLU 59	-66	8	4523	664.84	-5.4	22.75
314	SLU 60	-63	0	4591	671.62	-5.51	21.71
314	SLU 61	-64	9	4627	677.44	-5.56	22.18
314	SLU 62	-64	0	4624	676.23	-5.56	22.05
314	SLU 63	-65	9	4660	682.04	-5.61	22.52
314	SLU 64	-68	-1	4462	655.78	-5.28	23.47
314	SLU 65	-70	14	4522	665.47	-5.36	24.25
314	SLU 66	-69	-1	4516	663.2	-5.36	23.96
314	SLU 67	-71	7	4552	669.01	-5.4	24.43
314	SLU 68	-71	13	4555	670.07	-5.41	24.59
314	SLU 69	-70	-1	4549	667.8	-5.41	24.3
314	SLU 70	-72	7	4585	673.62	-5.45	24.77
314	SLU 71	-70	-1	4528	664.99	-5.38	24.15
314	SLU 72	-71	7	4564	670.8	-5.42	24.62
314	SLU 73	-71	14	4920	716.34	-5.95	24.53
314	SLU 74	-70	-1	4914	714.07	-5.95	24.24
314	SLU 75	-71	8	4950	719.89	-5.99	24.7
314	SLU 76	-72	14	4953	720.95	-6	24.87
314	SLU 77	-71	-1	4947	718.68	-5.99	24.58
314	SLU 78	-72	8	4983	724.49	-6.04	25.05
314	SLU 79	-71	-1	4926	715.86	-5.97	24.42
314	SLU 80	-72	8	4962	721.68	-6.01	24.89
314	SLU 81	-69	0	5030	728.46	-6.12	23.86
314	SLU 82	-70	9	5066	734.27	-6.17	24.33
314	SLU 83	-70	0	5064	733.06	-6.17	24.2
314	SLU 84	-71	8	5099	738.88	-6.22	24.67
314	SLE RA 1	-51	0	3336	491.96	-3.93	17.58
314	SLE RA 2	-52	9	3376	498.41	-3.98	18.1
314	SLE RA 3	-52	-1	3372	496.9	-3.98	17.91
314	SLE RA 4	-53	5	3395	500.78	-4.01	18.22
314	SLE RA 5	-53	9	3398	501.48	-4.01	18.33
314	SLE RA 6	-52	-1	3394	499.97	-4.01	18.14
314	SLE RA 7	-53	5	3418	503.85	-4.04	18.45
314	SLE RA 8	-52	-1	3380	498.09	-3.99	18.04
314	SLE RA 9	-53	5	3404	501.97	-4.02	18.35
314	SLE RA 10	-53	9	3641	532.33	-4.37	18.29
314	SLE RA 11	-52	0	3637	530.82	-4.37	18.09
314	SLE RA 12	-53	5	3661	534.69	-4.4	18.4
314	SLE RA 13	-54	9	3663	535.4	-4.41	18.51
314	SLE RA 14	-53	-1	3659	533.89	-4.4	18.32
314	SLE RA 15	-54	5	3683	537.76	-4.43	18.63
314	SLE RA 16	-53	-1	3645	532.01	-4.39	18.22
314	SLE RA 17	-54	5	3669	535.89	-4.42	18.53
314	SLE RA 18	-52	0	3715	540.41	-4.49	17.84
314	SLE RA 19	-53	6	3739	544.28	-4.52	18.15
314	SLE RA 20	-52	0	3737	543.48	-4.52	18.07
314	SLE RA 21	-53	6	3761	547.35	-4.55	18.38
314	SLE FR 1	-51	0	3336	491.96	-3.93	17.58



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
314	SLE FR 2	-51	1	3344	493.25	-3.94	17.69
314	SLE FR 3	-51	-1	3344	493.18	-3.94	17.67
314	SLE FR 4	-51	2	3457	507.78	-4.11	17.76
314	SLE FR 5	-51	0	3458	507.72	-4.11	17.75
314	SLE FR 6	-51	0	3525	516.18	-4.21	17.71
314	SLE QP 1	-51	0	3336	491.96	-3.93	17.58
314	SLE QP 2	-51	0	3449	506.49	-4.1	17.66
314	SLD 1	313	93	4426	608	-3.67	-109.99
314	SLD 2	383	31	4370	601.99	-3.68	-134.17
314	SLD 3	359	-100	3586	504.56	-2.8	-125.96
314	SLD 4	428	-163	3531	498.55	-2.81	-150.14
314	SLD 5	-23	332	5025	694.92	-5.29	7.95
314	SLD 6	23	291	4988	690.95	-5.3	-8.02
314	SLD 7	128	-312	2228	350.11	-2.38	-45.29
314	SLD 8	174	-353	2191	346.13	-2.39	-61.26
314	SLD 9	-276	353	4707	666.85	-5.81	96.58
314	SLD 10	-231	311	4671	662.88	-5.82	80.61
314	SLD 11	-125	-291	1910	322.03	-2.9	43.34
314	SLD 12	-79	-333	1874	318.06	-2.9	27.37
314	SLD 13	-530	162	3367	514.44	-5.39	185.46
314	SLD 14	-461	99	3312	508.42	-5.4	161.28
314	SLD 15	-485	-31	2528	410.99	-4.51	169.49
314	SLD 16	-415	-94	2473	404.98	-4.52	145.3
314	SLV 1	519	151	4996	667.79	-3.46	-181.88
314	SLV 2	627	53	4909	658.36	-3.47	-219.77
314	SLV 3	592	-161	3640	500.58	-2.05	-207.53
314	SLV 4	700	-259	3553	491.16	-2.06	-245.42
314	SLV 5	-11	536	5986	810.23	-6.05	3.78
314	SLV 6	62	470	5928	803.89	-6.06	-21.73
314	SLV 7	232	-503	1466	252.89	-1.34	-81.73
314	SLV 8	306	-569	1408	246.54	-1.35	-107.24
314	SLV 9	-408	568	5491	766.44	-6.85	142.56
314	SLV 10	-334	502	5432	760.1	-6.86	117.05
314	SLV 11	-164	-471	971	209.1	-2.14	57.05
314	SLV 12	-91	-537	913	202.75	-2.15	31.54
314	SLV 13	-803	258	3345	521.82	-6.14	280.74
314	SLV 14	-694	160	3258	512.4	-6.15	242.85
314	SLV 15	-729	-53	1989	354.62	-4.72	255.09
314	SLV 16	-621	-151	1903	345.2	-4.74	217.2
314	SLV FO 1	576	166	5151	683.92	-3.39	-201.84
314	SLV FO 2	695	58	5055	673.55	-3.41	-243.51
314	SLV FO 3	656	-177	3659	499.99	-1.84	-230.05
314	SLV FO 4	776	-285	3564	489.63	-1.86	-271.73
314	SLV FO 5	-7	590	6240	840.6	-6.24	2.39
314	SLV FO 6	73	517	6175	833.62	-6.25	-25.67
314	SLV FO 7	261	-553	1268	227.53	-1.06	-91.67
314	SLV FO 8	341	-626	1204	220.55	-1.07	-119.73
314	SLV FO 9	-443	625	5695	792.43	-7.12	155.05
314	SLV FO 10	-363	553	5631	785.46	-7.13	126.99
314	SLV FO 11	-175	-518	723	179.36	-1.94	60.99
314	SLV FO 12	-95	-590	659	172.38	-1.96	32.93
314	SLV FO 13	-878	284	3335	523.35	-6.34	307.05
314	SLV FO 14	-758	176	3239	512.99	-6.36	265.37
314	SLV FO 15	-797	-59	1843	339.43	-4.79	278.83
314	SLV FO 16	-678	-166	1748	329.07	-4.8	237.15
314	CRTFP Ux+	0	0	0	0	0	0
314	CRTFP Ux-	0	0	0	0	0	0
314	CRTFP Uy+	0	0	0	0	0	0
314	CRTFP Uy-	0	0	0	0	0	0
315	SLU 1	-48	-6	3347	586.8	-5.33	16.76
315	SLU 2	-51	8	3409	598.52	-5.44	17.51
315	SLU 3	-50	-7	3403	596.37	-5.44	17.25
315	SLU 4	-51	2	3441	603.41	-5.5	17.7
315	SLU 5	-52	8	3444	604.46	-5.51	17.85
315	SLU 6	-51	-7	3438	602.32	-5.5	17.58
315	SLU 7	-52	2	3476	609.35	-5.57	18.03
315	SLU 8	-50	-7	3417	598.69	-5.47	17.44
315	SLU 9	-52	2	3454	605.72	-5.53	17.88
315	SLU 10	-51	8	3828	665.18	-6.25	17.79
315	SLU 11	-51	-7	3822	663.04	-6.24	17.53
315	SLU 12	-52	2	3860	670.07	-6.31	17.98
315	SLU 13	-52	8	3863	671.13	-6.32	18.13
315	SLU 14	-52	-8	3857	668.99	-6.31	17.87
315	SLU 15	-53	1	3895	676.02	-6.38	18.32
315	SLU 16	-51	-7	3836	665.36	-6.27	17.72
315	SLU 17	-53	1	3873	672.39	-6.34	18.17
315	SLU 18	-50	-7	3945	682.04	-6.48	17.17
315	SLU 19	-51	2	3983	689.07	-6.55	17.62
315	SLU 20	-51	-7	3980	687.98	-6.55	17.5
315	SLU 21	-52	2	4018	695.01	-6.62	17.95
315	SLU 22	-55	-7	3808	660.96	-6.18	18.91
315	SLU 23	-57	7	3871	672.68	-6.29	19.65
315	SLU 24	-56	-8	3864	670.54	-6.29	19.39
315	SLU 25	-57	1	3902	677.57	-6.35	19.84
315	SLU 26	-58	7	3906	678.63	-6.36	19.99
315	SLU 27	-57	-8	3899	676.49	-6.35	19.73
315	SLU 28	-58	1	3937	683.52	-6.42	20.18
315	SLU 29	-57	-8	3878	672.86	-6.31	19.58
315	SLU 30	-58	1	3915	679.89	-6.38	20.03



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
315	SLU 31	-58	7	4289	739.35	-7.1	19.94
315	SLU 32	-57	-8	4283	737.21	-7.09	19.68
315	SLU 33	-58	1	4321	744.24	-7.16	20.12
315	SLU 34	-59	7	4324	745.29	-7.16	20.27
315	SLU 35	-58	-9	4318	743.15	-7.16	20.01
315	SLU 36	-59	0	4356	750.18	-7.23	20.46
315	SLU 37	-57	-8	4297	739.52	-7.12	19.86
315	SLU 38	-59	0	4334	746.55	-7.19	20.31
315	SLU 39	-56	-8	4406	756.2	-7.33	19.31
315	SLU 40	-57	1	4444	763.23	-7.4	19.76
315	SLU 41	-57	-8	4441	762.15	-7.4	19.65
315	SLU 42	-58	1	4479	769.18	-7.47	20.1
315	SLU 43	-61	-8	4193	737.41	-6.64	21.06
315	SLU 44	-63	7	4255	749.13	-6.75	21.8
315	SLU 45	-62	-9	4249	746.99	-6.75	21.54
315	SLU 46	-64	0	4287	754.02	-6.81	21.99
315	SLU 47	-64	6	4290	755.08	-6.82	22.14
315	SLU 48	-63	-9	4284	752.93	-6.81	21.88
315	SLU 49	-65	0	4322	759.96	-6.88	22.33
315	SLU 50	-63	-9	4263	749.31	-6.77	21.73
315	SLU 51	-64	0	4300	756.34	-6.84	22.18
315	SLU 52	-64	6	4674	815.79	-7.56	22.09
315	SLU 53	-63	-9	4668	813.65	-7.55	21.82
315	SLU 54	-64	0	4706	820.68	-7.62	22.27
315	SLU 55	-65	6	4709	821.74	-7.62	22.42
315	SLU 56	-64	-9	4703	819.6	-7.62	22.16
315	SLU 57	-65	0	4741	826.63	-7.68	22.61
315	SLU 58	-64	-9	4682	815.97	-7.58	22.01
315	SLU 59	-65	0	4719	823	-7.65	22.46
315	SLU 60	-62	-9	4791	832.65	-7.79	21.46
315	SLU 61	-63	0	4829	839.68	-7.86	21.91
315	SLU 62	-63	-9	4826	838.6	-7.86	21.8
315	SLU 63	-64	0	4864	845.63	-7.92	22.25
315	SLU 64	-67	-9	4654	811.58	-7.49	23.2
315	SLU 65	-69	6	4716	823.29	-7.6	23.95
315	SLU 66	-68	-10	4710	821.15	-7.6	23.69
315	SLU 67	-70	-1	4748	828.18	-7.66	24.13
315	SLU 68	-70	5	4751	829.24	-7.67	24.28
315	SLU 69	-69	-10	4745	827.1	-7.66	24.02
315	SLU 70	-71	-1	4783	834.13	-7.73	24.47
315	SLU 71	-69	-10	4724	823.47	-7.62	23.87
315	SLU 72	-70	-1	4761	830.5	-7.69	24.32
315	SLU 73	-70	5	5135	889.96	-8.41	24.23
315	SLU 74	-69	-10	5129	887.82	-8.4	23.97
315	SLU 75	-71	-1	5167	894.85	-8.47	24.42
315	SLU 76	-71	5	5170	895.91	-8.47	24.57
315	SLU 77	-70	-10	5164	893.76	-8.47	24.31
315	SLU 78	-72	-1	5202	900.8	-8.53	24.75
315	SLU 79	-70	-10	5143	890.14	-8.43	24.16
315	SLU 80	-71	-1	5180	897.17	-8.5	24.61
315	SLU 81	-68	-9	5252	906.81	-8.64	23.61
315	SLU 82	-70	-1	5290	913.84	-8.71	24.05
315	SLU 83	-69	-10	5287	912.76	-8.71	23.94
315	SLU 84	-71	-1	5325	919.79	-8.77	24.39
315	SLE RA 1	-50	-7	3478	607.99	-5.57	17.38
315	SLE RA 2	-52	3	3520	615.8	-5.65	17.87
315	SLE RA 3	-51	-7	3516	614.37	-5.65	17.7
315	SLE RA 4	-52	-1	3541	619.06	-5.69	18
315	SLE RA 5	-52	3	3544	619.77	-5.69	18.1
315	SLE RA 6	-52	-7	3540	618.34	-5.69	17.92
315	SLE RA 7	-53	-1	3565	623.02	-5.73	18.22
315	SLE RA 8	-52	-7	3525	615.92	-5.66	17.82
315	SLE RA 9	-52	-1	3550	620.61	-5.71	18.12
315	SLE RA 10	-52	3	3800	660.24	-6.19	18.06
315	SLE RA 11	-52	-7	3795	658.82	-6.18	17.89
315	SLE RA 12	-53	-1	3821	663.5	-6.23	18.19
315	SLE RA 13	-53	3	3823	664.21	-6.23	18.29
315	SLE RA 14	-52	-7	3819	662.78	-6.23	18.11
315	SLE RA 15	-53	-2	3844	667.47	-6.27	18.41
315	SLE RA 16	-52	-7	3804	660.36	-6.2	18.01
315	SLE RA 17	-53	-1	3829	665.05	-6.24	18.31
315	SLE RA 18	-51	-7	3877	671.48	-6.34	17.65
315	SLE RA 19	-52	-1	3902	676.17	-6.39	17.94
315	SLE RA 20	-52	-7	3901	675.45	-6.39	17.87
315	SLE RA 21	-53	-1	3926	680.13	-6.43	18.17
315	SLE FR 1	-50	-7	3478	607.99	-5.57	17.38
315	SLE FR 2	-51	-5	3487	609.55	-5.59	17.48
315	SLE FR 3	-51	-7	3488	609.57	-5.59	17.47
315	SLE FR 4	-51	-5	3606	628.6	-5.82	17.56
315	SLE FR 5	-51	-7	3607	628.62	-5.82	17.55
315	SLE FR 6	-51	-7	3678	639.73	-5.96	17.51
315	SLE QP 1	-50	-7	3478	607.99	-5.57	17.38
315	SLE QP 2	-51	-7	3598	627.04	-5.8	17.46
315	SLD 1	314	86	4570	753.5	-5.89	-110.29
315	SLD 2	384	26	4514	746.04	-5.87	-134.48
315	SLD 3	359	-110	3698	622.38	-4.6	-126.14
315	SLD 4	429	-170	3643	614.93	-4.58	-150.32
315	SLD 5	-22	329	5222	865.18	-7.79	7.52
315	SLD 6	24	289	5185	860.26	-7.77	-8.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
315	SLD 7	128	-324	2316	428.12	-3.49	-45.3
315	SLD 8	174	-364	2279	423.2	-3.48	-61.27
315	SLD 9	-275	350	4917	830.88	-8.13	96.18
315	SLD 10	-229	310	4880	825.95	-8.12	80.21
315	SLD 11	-125	-303	2011	393.81	-3.84	43.36
315	SLD 12	-79	-342	1974	388.89	-3.82	27.39
315	SLD 13	-530	156	3554	639.15	-7.03	185.24
315	SLD 14	-460	97	3498	631.69	-7.01	161.05
315	SLD 15	-485	-39	2682	508.03	-5.74	169.39
315	SLD 16	-415	-99	2626	500.58	-5.72	145.2
315	SLV 1	520	143	5138	828.05	-5.97	-182.25
315	SLV 2	628	49	5051	816.37	-5.94	-220.14
315	SLV 3	592	-173	3730	616.09	-3.89	-207.7
315	SLV 4	701	-267	3643	604.42	-3.86	-245.59
315	SLV 5	-9	535	6213	1010.99	-9.02	3.21
315	SLV 6	64	472	6154	1003.13	-9	-22.3
315	SLV 7	231	-518	1518	304.46	-2.08	-81.61
315	SLV 8	304	-582	1459	296.6	-2.06	-107.12
315	SLV 9	-405	568	5737	957.47	-9.55	142.04
315	SLV 10	-332	505	5679	949.61	-9.53	116.53
315	SLV 11	-165	-485	1042	250.95	-2.61	57.21
315	SLV 12	-92	-548	984	243.08	-2.59	31.7
315	SLV 13	-802	253	3553	649.66	-7.75	280.5
315	SLV 14	-693	160	3466	637.98	-7.72	242.61
315	SLV 15	-729	-63	2145	437.7	-5.67	255.05
315	SLV 16	-621	-156	2058	426.02	-5.63	217.16
315	SLV FO 1	577	158	5292	848.15	-5.99	-202.22
315	SLV FO 2	696	54	5197	835.31	-5.95	-243.9
315	SLV FO 3	656	-190	3743	615	-3.7	-230.21
315	SLV FO 4	776	-293	3647	602.15	-3.66	-271.89
315	SLV FO 5	-5	589	6474	1049.38	-9.34	1.79
315	SLV FO 6	76	519	6410	1040.74	-9.32	-26.27
315	SLV FO 7	260	-570	1310	272.21	-1.71	-91.52
315	SLV FO 8	340	-639	1245	263.56	-1.68	-119.58
315	SLV FO 9	-441	626	5951	990.52	-9.93	154.5
315	SLV FO 10	-361	556	5887	981.87	-9.9	126.43
315	SLV FO 11	-177	-533	787	213.34	-2.29	61.18
315	SLV FO 12	-96	-603	722	204.69	-2.27	33.12
315	SLV FO 13	-877	279	3549	651.92	-7.95	306.8
315	SLV FO 14	-757	176	3453	639.08	-7.91	265.12
315	SLV FO 15	-797	-68	2000	418.77	-5.66	278.81
315	SLV FO 16	-678	-171	1904	405.92	-5.62	237.13
315	CRTFP Ux+	0	0	0	0	0	0
315	CRTFP Ux-	0	0	0	0	0	0
315	CRTFP Uy+	0	0	0	0	0	0
315	CRTFP Uy-	0	0	0	0	0	0
316	SLU 1	-48	-13	3525	730.11	-6.53	16.53
316	SLU 2	-50	3	3592	744.29	-6.67	17.24
316	SLU 3	-49	-13	3585	742.47	-6.66	17
316	SLU 4	-50	-4	3625	750.98	-6.74	17.43
316	SLU 5	-51	2	3629	751.97	-6.75	17.57
316	SLU 6	-50	-14	3623	750.14	-6.74	17.34
316	SLU 7	-51	-4	3662	758.65	-6.82	17.76
316	SLU 8	-50	-14	3600	745.47	-6.69	17.19
316	SLU 9	-51	-4	3640	753.98	-6.77	17.62
316	SLU 10	-51	2	4037	831.27	-7.64	17.53
316	SLU 11	-50	-15	4031	829.44	-7.63	17.3
316	SLU 12	-51	-5	4071	837.95	-7.71	17.72
316	SLU 13	-52	1	4074	838.94	-7.72	17.86
316	SLU 14	-51	-15	4068	837.12	-7.71	17.63
316	SLU 15	-52	-6	4108	845.63	-7.79	18.05
316	SLU 16	-51	-15	4045	832.44	-7.66	17.48
316	SLU 17	-52	-5	4085	840.95	-7.75	17.91
316	SLU 18	-49	-15	4162	854.36	-7.92	16.95
316	SLU 19	-50	-5	4202	862.87	-8	17.37
316	SLU 20	-50	-15	4199	862.04	-8	17.28
316	SLU 21	-51	-6	4239	870.55	-8.08	17.7
316	SLU 22	-54	-15	4015	826.6	-7.56	18.67
316	SLU 23	-56	1	4081	840.78	-7.7	19.38
316	SLU 24	-55	-15	4075	838.95	-7.69	19.14
316	SLU 25	-57	-6	4115	847.46	-7.77	19.57
316	SLU 26	-57	1	4118	848.46	-7.78	19.71
316	SLU 27	-56	-15	4112	846.63	-7.77	19.47
316	SLU 28	-58	-6	4152	855.14	-7.86	19.9
316	SLU 29	-56	-15	4089	841.95	-7.73	19.33
316	SLU 30	-57	-6	4129	850.46	-7.81	19.76
316	SLU 31	-57	0	4527	927.75	-8.67	19.67
316	SLU 32	-56	-16	4520	925.93	-8.66	19.44
316	SLU 33	-58	-7	4560	934.44	-8.74	19.86
316	SLU 34	-58	-1	4564	935.43	-8.75	20
316	SLU 35	-57	-17	4558	933.61	-8.74	19.77
316	SLU 36	-58	-7	4597	942.12	-8.83	20.19
316	SLU 37	-57	-16	4535	928.93	-8.7	19.62
316	SLU 38	-58	-7	4575	937.44	-8.78	20.05
316	SLU 39	-55	-16	4651	950.85	-8.95	19.08
316	SLU 40	-57	-7	4691	959.36	-9.03	19.51
316	SLU 41	-56	-17	4688	958.52	-9.03	19.42
316	SLU 42	-57	-7	4728	967.03	-9.11	19.84
316	SLU 43	-60	-16	4415	916.06	-8.14	20.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLU 44	-62	-1	4481	930.24	-8.27	21.46
316	SLU 45	-61	-17	4475	928.42	-8.26	21.23
316	SLU 46	-63	-7	4515	936.93	-8.35	21.65
316	SLU 47	-63	-1	4519	937.92	-8.35	21.79
316	SLU 48	-62	-17	4512	936.1	-8.35	21.56
316	SLU 49	-64	-8	4552	944.61	-8.43	21.99
316	SLU 50	-62	-17	4489	931.42	-8.3	21.42
316	SLU 51	-63	-8	4529	939.93	-8.38	21.84
316	SLU 52	-63	-2	4927	1017.22	-9.24	21.76
316	SLU 53	-62	-18	4921	1015.39	-9.24	21.52
316	SLU 54	-64	-9	4961	1023.9	-9.32	21.95
316	SLU 55	-64	-2	4964	1024.9	-9.32	22.09
316	SLU 56	-63	-18	4958	1023.07	-9.32	21.85
316	SLU 57	-65	-9	4998	1031.58	-9.4	22.28
316	SLU 58	-63	-18	4935	1018.39	-9.27	21.71
316	SLU 59	-64	-9	4975	1026.9	-9.35	22.14
316	SLU 60	-61	-18	5052	1040.31	-9.52	21.17
316	SLU 61	-63	-8	5091	1048.82	-9.6	21.6
316	SLU 62	-62	-18	5089	1047.99	-9.6	21.5
316	SLU 63	-64	-9	5129	1056.5	-9.68	21.93
316	SLU 64	-66	-18	4904	1012.55	-9.17	22.89
316	SLU 65	-68	-2	4971	1026.73	-9.3	23.6
316	SLU 66	-68	-18	4965	1024.91	-9.3	23.37
316	SLU 67	-69	-9	5004	1033.41	-9.38	23.79
316	SLU 68	-69	-3	5008	1034.41	-9.38	23.93
316	SLU 69	-69	-19	5002	1032.58	-9.38	23.7
316	SLU 70	-70	-9	5042	1041.09	-9.46	24.12
316	SLU 71	-68	-19	4979	1027.91	-9.33	23.55
316	SLU 72	-69	-9	5019	1036.42	-9.41	23.98
316	SLU 73	-69	-3	5416	1113.71	-10.27	23.89
316	SLU 74	-69	-20	5410	1111.88	-10.27	23.66
316	SLU 75	-70	-10	5450	1120.39	-10.35	24.09
316	SLU 76	-70	-4	5454	1121.38	-10.36	24.23
316	SLU 77	-70	-20	5447	1119.56	-10.35	23.99
316	SLU 78	-71	-11	5487	1128.07	-10.43	24.42
316	SLU 79	-69	-20	5424	1114.88	-10.3	23.85
316	SLU 80	-70	-10	5464	1123.39	-10.38	24.27
316	SLU 81	-68	-19	5541	1136.8	-10.55	23.31
316	SLU 82	-69	-10	5581	1145.31	-10.64	23.74
316	SLU 83	-69	-20	5578	1144.48	-10.64	23.64
316	SLU 84	-70	-11	5618	1152.99	-10.72	24.07
316	SLE RA 1	-50	-13	3665	757.68	-6.82	17.14
316	SLE RA 2	-51	-3	3709	767.13	-6.92	17.61
316	SLE RA 3	-51	-14	3705	765.92	-6.91	17.46
316	SLE RA 4	-51	-8	3732	771.59	-6.97	17.74
316	SLE RA 5	-52	-3	3734	772.25	-6.97	17.83
316	SLE RA 6	-51	-14	3730	771.03	-6.97	17.68
316	SLE RA 7	-52	-8	3757	776.71	-7.02	17.96
316	SLE RA 8	-51	-14	3715	767.92	-6.93	17.58
316	SLE RA 9	-52	-8	3741	773.59	-6.99	17.86
316	SLE RA 10	-52	-4	4006	825.12	-7.56	17.81
316	SLE RA 11	-51	-14	4002	823.9	-7.56	17.65
316	SLE RA 12	-52	-8	4029	829.57	-7.61	17.94
316	SLE RA 13	-52	-4	4031	830.23	-7.62	18.03
316	SLE RA 14	-52	-15	4027	829.02	-7.61	17.87
316	SLE RA 15	-53	-9	4054	834.69	-7.67	18.16
316	SLE RA 16	-52	-15	4012	825.9	-7.58	17.78
316	SLE RA 17	-52	-8	4038	831.57	-7.63	18.06
316	SLE RA 18	-51	-14	4089	840.51	-7.75	17.42
316	SLE RA 19	-51	-8	4116	846.18	-7.8	17.7
316	SLE RA 20	-51	-15	4114	845.63	-7.8	17.64
316	SLE RA 21	-52	-8	4141	851.3	-7.86	17.92
316	SLE FR 1	-50	-13	3665	757.68	-6.82	17.14
316	SLE FR 2	-50	-11	3674	759.57	-6.84	17.23
316	SLE FR 3	-50	-13	3675	759.73	-6.85	17.23
316	SLE FR 4	-50	-12	3801	784.42	-7.12	17.32
316	SLE FR 5	-50	-14	3802	784.58	-7.12	17.31
316	SLE FR 6	-50	-14	3877	799.09	-7.29	17.28
316	SLE QP 1	-50	-13	3665	757.68	-6.82	17.14
316	SLE QP 2	-50	-14	3792	782.53	-7.1	17.22
316	SLD 1	315	79	4772	943.26	-7.54	-110.62
316	SLD 2	385	21	4716	933.93	-7.5	-134.78
316	SLD 3	360	-122	3858	777.17	-5.97	-126.29
316	SLD 4	429	-180	3801	767.85	-5.92	-150.46
316	SLD 5	-20	329	5484	1084.33	-9.62	7
316	SLD 6	26	291	5447	1078.17	-9.6	-8.95
316	SLD 7	128	-340	2435	530.7	-4.39	-45.26
316	SLD 8	173	-378	2397	524.54	-4.36	-61.21
316	SLD 9	-273	351	5187	1040.51	-9.85	95.66
316	SLD 10	-227	312	5150	1034.36	-9.82	79.7
316	SLD 11	-126	-318	2138	486.88	-4.61	43.4
316	SLD 12	-80	-356	2101	480.73	-4.58	27.44
316	SLD 13	-529	152	3784	797.21	-8.28	184.9
316	SLD 14	-459	94	3727	787.89	-8.24	160.74
316	SLD 15	-484	-48	2869	631.12	-6.71	169.22
316	SLD 16	-415	-106	2812	621.8	-6.67	145.06
316	SLV 1	521	136	5347	1037.99	-7.83	-182.62
316	SLV 2	629	46	5258	1023.39	-7.76	-220.48
316	SLV 3	592	-187	3869	769.51	-5.29	-207.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
316	SLV 4	701	-278	3780	754.91	-5.22	-245.66
316	SLV 5	-7	539	6517	1269.09	-11.19	2.51
316	SLV 6	66	478	6457	1259.25	-11.14	-22.98
316	SLV 7	230	-540	1590	374.16	-2.72	-81.4
316	SLV 8	303	-601	1530	364.32	-2.67	-106.89
316	SLV 9	-403	574	6054	1200.73	-11.53	141.33
316	SLV 10	-330	512	5995	1190.9	-11.49	115.84
316	SLV 11	-166	-505	1127	305.8	-3.06	57.42
316	SLV 12	-93	-567	1068	295.97	-3.02	31.93
316	SLV 13	-800	251	3805	810.15	-8.99	280.1
316	SLV 14	-692	160	3716	795.54	-8.92	242.24
316	SLV 15	-729	-73	2326	541.67	-6.44	254.93
316	SLV 16	-621	-164	2238	527.06	-6.38	217.07
316	SLV FO 1	578	151	5502	1063.54	-7.9	-202.61
316	SLV FO 2	697	51	5405	1047.47	-7.83	-244.25
316	SLV FO 3	656	-205	3876	768.21	-5.1	-230.3
316	SLV FO 4	776	-305	3779	752.15	-5.03	-271.94
316	SLV FO 5	-2	595	6790	1317.74	-11.59	1.04
316	SLV FO 6	78	527	6724	1306.93	-11.54	-27
316	SLV FO 7	258	-592	1370	333.32	-2.28	-91.26
316	SLV FO 8	339	-660	1304	322.5	-2.23	-119.3
316	SLV FO 9	-438	632	6281	1242.55	-11.98	153.74
316	SLV FO 10	-358	565	6215	1231.74	-11.93	125.7
316	SLV FO 11	-178	-555	861	258.13	-2.66	61.44
316	SLV FO 12	-97	-622	795	247.31	-2.61	33.4
316	SLV FO 13	-875	277	3806	812.91	-9.17	306.39
316	SLV FO 14	-756	177	3708	796.84	-9.1	264.74
316	SLV FO 15	-797	-79	2180	517.58	-6.38	278.7
316	SLV FO 16	-678	-179	2082	501.51	-6.31	237.05
316	CRTFP Ux+	0	0	0	0	0	0
316	CRTFP Ux-	0	0	0	0	0	0
316	CRTFP Uy+	0	0	0	0	0	0
316	CRTFP Uy-	0	0	0	0	0	0
317	SLU 1	-47	-20	3731	897.17	-7.12	16.26
317	SLU 2	-49	-4	3802	914.05	-7.26	16.93
317	SLU 3	-49	-21	3795	912.77	-7.26	16.72
317	SLU 4	-50	-11	3838	922.9	-7.35	17.13
317	SLU 5	-50	-4	3842	923.75	-7.35	17.25
317	SLU 6	-50	-21	3835	922.47	-7.35	17.05
317	SLU 7	-51	-11	3878	932.6	-7.44	17.45
317	SLU 8	-49	-21	3811	916.57	-7.3	16.91
317	SLU 9	-50	-11	3853	926.7	-7.38	17.31
317	SLU 10	-50	-6	4278	1024.69	-8.32	17.23
317	SLU 11	-50	-23	4271	1023.4	-8.31	17.03
317	SLU 12	-51	-13	4314	1033.53	-8.4	17.43
317	SLU 13	-51	-6	4318	1034.39	-8.4	17.56
317	SLU 14	-50	-23	4311	1033.1	-8.4	17.35
317	SLU 15	-52	-13	4354	1043.23	-8.49	17.75
317	SLU 16	-50	-23	4287	1027.2	-8.35	17.21
317	SLU 17	-51	-13	4329	1037.33	-8.44	17.61
317	SLU 18	-49	-23	4411	1055.22	-8.62	16.69
317	SLU 19	-50	-13	4454	1065.35	-8.71	17.09
317	SLU 20	-50	-24	4451	1064.92	-8.71	17.01
317	SLU 21	-51	-14	4493	1075.05	-8.8	17.42
317	SLU 22	-53	-23	4253	1019.67	-8.24	18.38
317	SLU 23	-55	-6	4324	1036.56	-8.38	19.06
317	SLU 24	-55	-24	4317	1035.27	-8.38	18.85
317	SLU 25	-56	-14	4360	1045.41	-8.47	19.25
317	SLU 26	-56	-7	4363	1046.26	-8.47	19.38
317	SLU 27	-56	-24	4357	1044.98	-8.47	19.18
317	SLU 28	-57	-14	4399	1055.11	-8.56	19.58
317	SLU 29	-55	-24	4332	1039.07	-8.42	19.04
317	SLU 30	-56	-14	4375	1049.2	-8.5	19.44
317	SLU 31	-56	-8	4800	1147.19	-9.44	19.36
317	SLU 32	-56	-26	4793	1145.91	-9.43	19.15
317	SLU 33	-57	-16	4836	1156.04	-9.52	19.56
317	SLU 34	-57	-9	4839	1156.89	-9.52	19.68
317	SLU 35	-57	-26	4833	1155.61	-9.52	19.48
317	SLU 36	-58	-16	4875	1165.74	-9.61	19.88
317	SLU 37	-56	-26	4809	1149.71	-9.47	19.34
317	SLU 38	-57	-16	4851	1159.84	-9.56	19.74
317	SLU 39	-55	-26	4933	1177.72	-9.74	18.82
317	SLU 40	-56	-16	4975	1187.85	-9.83	19.22
317	SLU 41	-56	-26	4973	1187.42	-9.83	19.14
317	SLU 42	-57	-16	5015	1197.55	-9.92	19.55
317	SLU 43	-59	-26	4671	1124.32	-8.87	20.4
317	SLU 44	-61	-9	4742	1141.2	-9.01	21.07
317	SLU 45	-61	-26	4736	1139.92	-9.01	20.87
317	SLU 46	-62	-16	4778	1150.05	-9.1	21.27
317	SLU 47	-62	-9	4782	1150.9	-9.1	21.4
317	SLU 48	-62	-27	4776	1149.62	-9.1	21.2
317	SLU 49	-63	-17	4818	1159.75	-9.19	21.6
317	SLU 50	-61	-26	4751	1143.72	-9.05	21.06
317	SLU 51	-62	-16	4793	1153.85	-9.14	21.46
317	SLU 52	-62	-11	5218	1251.83	-10.07	21.38
317	SLU 53	-62	-28	5212	1250.55	-10.07	21.17
317	SLU 54	-63	-18	5254	1260.68	-10.15	21.57
317	SLU 55	-63	-11	5258	1261.53	-10.16	21.7
317	SLU 56	-63	-29	5252	1260.25	-10.15	21.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
317	SLU 57	-64	-19	5294	1270.38	-10.24	21.9
317	SLU 58	-62	-28	5227	1254.35	-10.1	21.36
317	SLU 59	-63	-18	5270	1264.48	-10.19	21.76
317	SLU 60	-61	-28	5352	1282.36	-10.37	20.83
317	SLU 61	-62	-19	5394	1292.49	-10.46	21.24
317	SLU 62	-62	-29	5391	1292.06	-10.46	21.16
317	SLU 63	-63	-19	5434	1302.2	-10.55	21.56
317	SLU 64	-65	-28	5193	1246.82	-9.99	22.53
317	SLU 65	-67	-12	5264	1263.71	-10.13	23.2
317	SLU 66	-67	-29	5258	1262.42	-10.13	23
317	SLU 67	-68	-19	5300	1272.55	-10.22	23.4
317	SLU 68	-68	-12	5304	1273.41	-10.22	23.53
317	SLU 69	-68	-29	5297	1272.12	-10.22	23.33
317	SLU 70	-69	-19	5340	1282.25	-10.31	23.73
317	SLU 71	-67	-29	5273	1266.22	-10.17	23.19
317	SLU 72	-68	-19	5315	1276.35	-10.26	23.59
317	SLU 73	-68	-14	5740	1374.34	-11.19	23.5
317	SLU 74	-68	-31	5734	1373.06	-11.19	23.3
317	SLU 75	-69	-21	5776	1383.19	-11.27	23.7
317	SLU 76	-69	-14	5780	1384.04	-11.28	23.83
317	SLU 77	-69	-31	5773	1382.76	-11.28	23.63
317	SLU 78	-70	-21	5816	1392.89	-11.36	24.03
317	SLU 79	-68	-31	5749	1376.86	-11.22	23.49
317	SLU 80	-69	-21	5791	1386.99	-11.31	23.89
317	SLU 81	-67	-31	5873	1404.87	-11.5	22.96
317	SLU 82	-68	-21	5916	1415	-11.58	23.37
317	SLU 83	-68	-31	5913	1414.57	-11.58	23.29
317	SLU 84	-69	-21	5956	1424.7	-11.67	23.69
317	SLE RA 1	-49	-21	3880	932.17	-7.44	16.86
317	SLE RA 2	-50	-10	3927	943.43	-7.54	17.31
317	SLE RA 3	-50	-21	3923	942.57	-7.53	17.18
317	SLE RA 4	-51	-15	3951	949.32	-7.59	17.44
317	SLE RA 5	-51	-10	3954	949.89	-7.59	17.53
317	SLE RA 6	-51	-22	3950	949.04	-7.59	17.39
317	SLE RA 7	-51	-15	3978	955.79	-7.65	17.66
317	SLE RA 8	-50	-22	3933	945.1	-7.56	17.3
317	SLE RA 9	-51	-15	3961	951.86	-7.62	17.57
317	SLE RA 10	-51	-11	4245	1017.18	-8.24	17.51
317	SLE RA 11	-51	-23	4240	1016.33	-8.24	17.38
317	SLE RA 12	-51	-16	4269	1023.08	-8.29	17.65
317	SLE RA 13	-51	-12	4271	1023.65	-8.3	17.73
317	SLE RA 14	-51	-23	4267	1022.79	-8.3	17.59
317	SLE RA 15	-52	-16	4295	1029.55	-8.35	17.86
317	SLE RA 16	-51	-23	4251	1018.86	-8.26	17.5
317	SLE RA 17	-52	-16	4279	1025.61	-8.32	17.77
317	SLE RA 18	-50	-23	4334	1037.53	-8.44	17.15
317	SLE RA 19	-51	-16	4362	1044.29	-8.5	17.42
317	SLE RA 20	-51	-23	4360	1044	-8.5	17.37
317	SLE RA 21	-51	-17	4388	1050.75	-8.56	17.64
317	SLE FR 1	-49	-21	3880	932.17	-7.44	16.86
317	SLE FR 2	-49	-19	3890	934.42	-7.46	16.95
317	SLE FR 3	-49	-21	3891	934.76	-7.46	16.95
317	SLE FR 4	-49	-19	4026	966.03	-7.76	17.04
317	SLE FR 5	-50	-22	4027	966.37	-7.76	17.04
317	SLE FR 6	-49	-22	4107	984.85	-7.94	17.01
317	SLE QP 1	-49	-21	3880	932.17	-7.44	16.86
317	SLE QP 2	-49	-22	4016	963.78	-7.74	16.95
317	SLD 1	316	72	5012	1164.51	-8.31	-110.97
317	SLD 2	385	16	4954	1153.06	-8.26	-135.09
317	SLD 3	360	-134	4048	958.91	-6.65	-126.43
317	SLD 4	429	-191	3990	947.46	-6.61	-150.55
317	SLD 5	-18	329	5787	1337.88	-10.43	6.36
317	SLD 6	27	292	5748	1330.32	-10.4	-9.57
317	SLD 7	127	-358	2575	652.56	-4.91	-45.16
317	SLD 8	173	-395	2537	645	-4.88	-61.09
317	SLD 9	-271	352	5496	1282.56	-10.6	94.99
317	SLD 10	-226	315	5458	1275	-10.57	79.06
317	SLD 11	-126	-336	2284	597.23	-5.08	43.47
317	SLD 12	-80	-373	2246	589.68	-5.05	27.54
317	SLD 13	-527	147	4042	980.09	-8.88	184.45
317	SLD 14	-458	91	3984	968.65	-8.83	160.33
317	SLD 15	-484	-59	3078	774.5	-7.22	168.99
317	SLD 16	-415	-115	3020	763.05	-7.17	144.87
317	SLV 1	522	130	5597	1282.75	-8.67	-183.03
317	SLV 2	630	42	5506	1264.82	-8.6	-220.82
317	SLV 3	592	-203	4040	950.43	-6	-207.84
317	SLV 4	700	-291	3949	932.5	-5.92	-245.63
317	SLV 5	-4	545	6869	1566.84	-12.09	1.64
317	SLV 6	69	486	6808	1554.76	-12.04	-23.8
317	SLV 7	229	-564	1679	459.1	-3.17	-81.07
317	SLV 8	302	-624	1618	447.03	-3.12	-106.51
317	SLV 9	-401	581	6415	1480.53	-12.36	140.41
317	SLV 10	-328	521	6354	1468.45	-12.31	114.97
317	SLV 11	-167	-529	1225	372.79	-3.44	57.7
317	SLV 12	-94	-589	1164	360.72	-3.39	32.26
317	SLV 13	-799	248	4084	995.05	-9.56	279.53
317	SLV 14	-691	159	3993	977.12	-9.48	241.74
317	SLV 15	-729	-85	2527	662.73	-6.88	254.72
317	SLV 16	-621	-174	2436	644.8	-6.81	216.93



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
317	SLV FO 1	579	145	5755	1314.65	-8.77	-203.03
317	SLV FO 2	698	48	5655	1294.93	-8.69	-244.6
317	SLV FO 3	656	-221	4042	949.1	-5.82	-230.32
317	SLV FO 4	775	-318	3942	929.38	-5.74	-271.89
317	SLV FO 5	0	602	7154	1627.14	-12.53	0.11
317	SLV FO 6	80	537	7087	1613.86	-12.47	-27.88
317	SLV FO 7	257	-619	1445	408.64	-2.71	-90.87
317	SLV FO 8	337	-684	1378	395.36	-2.66	-118.86
317	SLV FO 9	-436	641	6655	1532.2	-12.82	152.76
317	SLV FO 10	-356	575	6587	1518.92	-12.77	124.77
317	SLV FO 11	-179	-580	946	313.7	-3.01	61.78
317	SLV FO 12	-99	-645	878	300.42	-2.95	33.79
317	SLV FO 13	-874	275	4090	998.18	-9.74	305.79
317	SLV FO 14	-755	177	3990	978.46	-9.66	264.22
317	SLV FO 15	-797	-91	2378	632.63	-6.8	278.5
317	SLV FO 16	-678	-189	2278	612.91	-6.71	236.92
317	CRTFP Ux+	0	0	0	0	0	0
317	CRTFP Ux-	0	0	0	0	0	0
317	CRTFP Uy+	0	0	0	0	0	0
317	CRTFP Uy-	0	0	0	0	0	0
318	SLU 1	-46	-29	3941	1074.05	-6.75	15.93
318	SLU 2	-48	-12	4016	1093.57	-6.88	16.56
318	SLU 3	-48	-30	4009	1093.1	-6.88	16.39
318	SLU 4	-49	-20	4054	1104.81	-6.96	16.77
318	SLU 5	-49	-12	4058	1105.42	-6.96	16.88
318	SLU 6	-49	-30	4052	1104.95	-6.97	16.71
318	SLU 7	-50	-20	4097	1116.66	-7.05	17.09
318	SLU 8	-48	-30	4026	1097.76	-6.92	16.57
318	SLU 9	-49	-20	4071	1109.47	-7	16.95
318	SLU 10	-49	-15	4523	1229.28	-7.88	16.87
318	SLU 11	-49	-33	4517	1228.82	-7.89	16.7
318	SLU 12	-50	-23	4561	1240.53	-7.96	17.07
318	SLU 13	-50	-15	4565	1241.14	-7.96	17.19
318	SLU 14	-50	-33	4559	1240.67	-7.97	17.02
318	SLU 15	-51	-23	4604	1252.38	-8.05	17.4
318	SLU 16	-49	-33	4533	1233.47	-7.92	16.88
318	SLU 17	-50	-23	4578	1245.18	-8	17.26
318	SLU 18	-48	-34	4665	1267.93	-8.18	16.37
318	SLU 19	-49	-23	4710	1279.64	-8.25	16.75
318	SLU 20	-49	-34	4708	1279.78	-8.26	16.69
318	SLU 21	-50	-24	4753	1291.49	-8.34	17.07
318	SLU 22	-53	-33	4496	1224.12	-7.81	18.04
318	SLU 23	-54	-15	4571	1243.64	-7.94	18.67
318	SLU 24	-54	-34	4564	1243.17	-7.94	18.5
318	SLU 25	-55	-23	4609	1254.88	-8.02	18.88
318	SLU 26	-55	-16	4613	1255.49	-8.02	18.99
318	SLU 27	-55	-34	4607	1255.02	-8.03	18.82
318	SLU 28	-56	-24	4652	1266.73	-8.11	19.2
318	SLU 29	-54	-34	4581	1247.83	-7.98	18.69
318	SLU 30	-55	-23	4626	1259.54	-8.06	19.06
318	SLU 31	-55	-19	5078	1379.36	-8.94	18.98
318	SLU 32	-55	-37	5071	1378.89	-8.95	18.81
318	SLU 33	-56	-26	5116	1390.6	-9.02	19.19
318	SLU 34	-56	-19	5120	1391.21	-9.02	19.3
318	SLU 35	-56	-37	5114	1390.74	-9.03	19.13
318	SLU 36	-57	-27	5159	1402.45	-9.11	19.51
318	SLU 37	-55	-37	5088	1383.54	-8.98	18.99
318	SLU 38	-56	-26	5133	1395.25	-9.06	19.37
318	SLU 39	-54	-37	5220	1418	-9.24	18.48
318	SLU 40	-55	-27	5265	1429.71	-9.32	18.86
318	SLU 41	-55	-38	5263	1429.85	-9.32	18.8
318	SLU 42	-56	-27	5308	1441.56	-9.4	19.18
318	SLU 43	-58	-37	4933	1344.81	-8.41	19.98
318	SLU 44	-60	-19	5008	1364.33	-8.54	20.61
318	SLU 45	-60	-38	5001	1363.86	-8.55	20.44
318	SLU 46	-61	-27	5046	1375.57	-8.62	20.82
318	SLU 47	-61	-20	5050	1376.18	-8.62	20.94
318	SLU 48	-61	-38	5044	1375.72	-8.63	20.76
318	SLU 49	-62	-28	5089	1387.43	-8.71	21.14
318	SLU 50	-60	-38	5018	1368.52	-8.58	20.63
318	SLU 51	-61	-27	5063	1380.23	-8.66	21.01
318	SLU 52	-61	-22	5515	1500.05	-9.54	20.92
318	SLU 53	-61	-41	5509	1499.58	-9.55	20.75
318	SLU 54	-62	-30	5554	1511.29	-9.62	21.13
318	SLU 55	-62	-23	5557	1511.9	-9.62	21.24
318	SLU 56	-62	-41	5551	1511.43	-9.63	21.07
318	SLU 57	-63	-31	5596	1523.14	-9.71	21.45
318	SLU 58	-61	-41	5525	1504.23	-9.58	20.94
318	SLU 59	-62	-30	5570	1515.94	-9.66	21.31
318	SLU 60	-60	-41	5658	1538.69	-9.84	20.42
318	SLU 61	-61	-31	5702	1550.4	-9.92	20.8
318	SLU 62	-61	-42	5700	1550.55	-9.92	20.75
318	SLU 63	-62	-31	5745	1562.26	-10	21.12
318	SLU 64	-64	-40	5488	1494.88	-9.47	22.1
318	SLU 65	-66	-23	5563	1514.4	-9.6	22.73
318	SLU 66	-66	-41	5556	1513.93	-9.61	22.56
318	SLU 67	-67	-31	5601	1525.64	-9.68	22.93
318	SLU 68	-67	-23	5605	1526.25	-9.68	23.05
318	SLU 69	-67	-42	5599	1525.79	-9.69	22.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLU 70	-68	-31	5644	1537.5	-9.77	23.26
318	SLU 71	-66	-41	5573	1518.59	-9.64	22.74
318	SLU 72	-67	-31	5618	1530.3	-9.72	23.12
318	SLU 73	-67	-26	6070	1650.12	-10.6	23.03
318	SLU 74	-67	-44	6063	1649.65	-10.61	22.86
318	SLU 75	-68	-34	6108	1661.36	-10.68	23.24
318	SLU 76	-68	-27	6112	1661.97	-10.68	23.36
318	SLU 77	-68	-45	6106	1661.5	-10.69	23.18
318	SLU 78	-69	-34	6151	1673.21	-10.77	23.56
318	SLU 79	-67	-44	6080	1654.3	-10.64	23.05
318	SLU 80	-68	-34	6125	1666.02	-10.72	23.43
318	SLU 81	-66	-45	6212	1688.76	-10.9	22.54
318	SLU 82	-67	-34	6257	1700.47	-10.98	22.91
318	SLU 83	-67	-45	6255	1700.62	-10.99	22.86
318	SLU 84	-68	-35	6300	1712.33	-11.06	23.24
318	SLE RA 1	-48	-30	4099	1116.93	-7.05	16.53
318	SLE RA 2	-49	-19	4149	1129.94	-7.14	16.95
318	SLE RA 3	-49	-31	4145	1129.63	-7.14	16.84
318	SLE RA 4	-50	-24	4175	1137.44	-7.19	17.09
318	SLE RA 5	-50	-19	4178	1137.84	-7.19	17.17
318	SLE RA 6	-50	-31	4173	1137.53	-7.2	17.05
318	SLE RA 7	-50	-24	4203	1145.34	-7.25	17.31
318	SLE RA 8	-49	-31	4156	1132.73	-7.17	16.96
318	SLE RA 9	-50	-24	4186	1140.54	-7.22	17.21
318	SLE RA 10	-50	-21	4487	1220.42	-7.8	17.16
318	SLE RA 11	-50	-33	4483	1220.11	-7.81	17.04
318	SLE RA 12	-50	-26	4513	1227.91	-7.86	17.3
318	SLE RA 13	-51	-21	4516	1228.32	-7.86	17.37
318	SLE RA 14	-50	-33	4512	1228.01	-7.87	17.26
318	SLE RA 15	-51	-26	4541	1235.81	-7.92	17.51
318	SLE RA 16	-50	-33	4494	1223.21	-7.83	17.17
318	SLE RA 17	-51	-26	4524	1231.02	-7.88	17.42
318	SLE RA 18	-49	-33	4582	1246.18	-8.01	16.83
318	SLE RA 19	-50	-26	4612	1253.99	-8.06	17.08
318	SLE RA 20	-50	-33	4611	1254.08	-8.06	17.04
318	SLE RA 21	-50	-27	4641	1261.89	-8.11	17.29
318	SLE FR 1	-48	-30	4099	1116.93	-7.05	16.53
318	SLE FR 2	-48	-28	4109	1119.53	-7.07	16.62
318	SLE FR 3	-48	-30	4111	1120.09	-7.07	16.62
318	SLE FR 4	-49	-29	4254	1158.31	-7.35	16.71
318	SLE FR 5	-49	-31	4256	1158.86	-7.36	16.71
318	SLE FR 6	-49	-32	4341	1181.56	-7.53	16.68
318	SLE QP 1	-48	-30	4099	1116.93	-7.05	16.53
318	SLE QP 2	-48	-31	4244	1155.7	-7.34	16.62
318	SLD 1	317	64	5255	1397.05	-7.73	-111.39
318	SLD 2	386	9	5196	1383.48	-7.7	-135.44
318	SLD 3	360	-148	4245	1151.64	-6.29	-126.55
318	SLD 4	429	-202	4186	1138.07	-6.26	-150.61
318	SLD 5	-16	328	6091	1602.77	-9.65	5.56
318	SLD 6	29	292	6052	1593.8	-9.63	-10.32
318	SLD 7	127	-377	2722	784.72	-4.84	-45
318	SLD 8	172	-413	2683	775.76	-4.82	-60.89
318	SLD 9	-269	351	5805	1535.65	-9.85	94.13
318	SLD 10	-224	314	5766	1526.69	-9.83	78.25
318	SLD 11	-126	-354	2437	717.6	-5.05	43.57
318	SLD 12	-81	-390	2398	708.64	-5.03	27.68
318	SLD 13	-526	140	4303	1173.34	-8.42	183.85
318	SLD 14	-457	85	4244	1159.77	-8.39	159.8
318	SLD 15	-483	-71	3293	927.93	-6.97	168.68
318	SLD 16	-414	-126	3233	914.35	-6.95	144.63
318	SLV 1	523	123	5850	1539.16	-7.99	-183.49
318	SLV 2	631	37	5757	1517.9	-7.95	-221.18
318	SLV 3	592	-219	4217	1142.52	-5.66	-207.84
318	SLV 4	700	-304	4124	1121.25	-5.61	-245.53
318	SLV 5	-2	548	7220	1876.29	-11.08	0.55
318	SLV 6	71	491	7158	1861.98	-11.05	-24.82
318	SLV 7	228	-589	1777	554.14	-3.31	-80.61
318	SLV 8	301	-647	1714	539.82	-3.28	-105.98
318	SLV 9	-398	584	6774	1771.59	-11.4	139.23
318	SLV 10	-325	526	6712	1757.27	-11.37	113.85
318	SLV 11	-168	-553	1331	449.43	-3.63	58.07
318	SLV 12	-95	-611	1269	435.12	-3.6	32.7
318	SLV 13	-797	242	4365	1190.15	-9.06	278.77
318	SLV 14	-689	156	4272	1168.89	-9.01	241.08
318	SLV 15	-728	-99	2731	793.51	-6.73	254.42
318	SLV 16	-620	-185	2639	772.25	-6.68	216.74
318	SLV FO 1	581	138	6010	1577.51	-8.06	-203.51
318	SLV FO 2	699	44	5909	1554.12	-8.01	-244.96
318	SLV FO 3	656	-237	4214	1141.2	-5.49	-230.29
318	SLV FO 4	775	-332	4112	1117.81	-5.44	-271.74
318	SLV FO 5	3	606	7518	1948.35	-11.45	-1.06
318	SLV FO 6	83	543	7449	1932.6	-11.42	-28.97
318	SLV FO 7	256	-645	1530	493.98	-2.91	-90.33
318	SLV FO 8	336	-708	1461	478.23	-2.87	-118.24
318	SLV FO 9	-433	646	7027	1833.18	-11.8	151.49
318	SLV FO 10	-353	582	6959	1817.43	-11.77	123.58
318	SLV FO 11	-180	-605	1040	378.81	-3.26	62.21
318	SLV FO 12	-100	-669	971	363.06	-3.23	34.3
318	SLV FO 13	-872	269	4377	1193.6	-9.23	304.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
318	SLV FO 14	-753	175	4275	1170.21	-9.18	263.53
318	SLV FO 15	-796	-106	2580	757.29	-6.67	278.2
318	SLV FO 16	-677	-200	2478	733.9	-6.62	236.75
318	CRTFP Ux+	0	0	0	0	0	0
318	CRTFP Ux-	0	0	0	0	0	0
318	CRTFP Uy+	0	0	0	0	0	0
318	CRTFP Uy-	0	0	0	0	0	0
319	SLU 1	-41	-36	3738	1125.43	65.74	14.85
319	SLU 2	-43	-19	3808	1145.09	66.99	15.07
319	SLU 3	-43	-37	3803	1145.67	66.88	15.27
319	SLU 4	-43	-27	3845	1157.47	67.63	15.4
319	SLU 5	-44	-20	3849	1157.7	67.7	15.37
319	SLU 6	-43	-37	3843	1158.28	67.58	15.57
319	SLU 7	-44	-27	3886	1170.08	68.34	15.7
319	SLU 8	-43	-37	3819	1150.64	67.15	15.44
319	SLU 9	-44	-27	3861	1162.44	67.9	15.57
319	SLU 10	-44	-23	4292	1289.67	75.43	15.42
319	SLU 11	-43	-40	4287	1290.26	75.31	15.62
319	SLU 12	-44	-30	4329	1302.06	76.06	15.76
319	SLU 13	-45	-24	4333	1302.28	76.13	15.72
319	SLU 14	-44	-41	4328	1302.86	76.02	15.92
319	SLU 15	-45	-31	4370	1314.66	76.77	16.05
319	SLU 16	-44	-41	4303	1295.22	75.58	15.79
319	SLU 17	-45	-31	4345	1307.02	76.34	15.93
319	SLU 18	-43	-41	4429	1331.97	77.79	15.35
319	SLU 19	-43	-31	4472	1343.77	78.54	15.49
319	SLU 20	-43	-42	4470	1344.58	78.49	15.65
319	SLU 21	-44	-32	4512	1356.38	79.24	15.78
319	SLU 22	-47	-40	4266	1285.14	74.98	16.83
319	SLU 23	-48	-24	4337	1304.81	76.23	17.06
319	SLU 24	-48	-41	4332	1305.39	76.12	17.26
319	SLU 25	-49	-31	4374	1317.19	76.87	17.39
319	SLU 26	-49	-24	4378	1317.42	76.94	17.36
319	SLU 27	-49	-42	4372	1318	76.82	17.55
319	SLU 28	-50	-32	4415	1329.8	77.58	17.69
319	SLU 29	-49	-41	4347	1310.36	76.39	17.43
319	SLU 30	-49	-31	4390	1322.16	77.14	17.56
319	SLU 31	-49	-28	4821	1449.39	84.67	17.41
319	SLU 32	-49	-45	4816	1449.97	84.55	17.61
319	SLU 33	-50	-35	4858	1461.77	85.3	17.74
319	SLU 34	-50	-28	4862	1462	85.37	17.71
319	SLU 35	-50	-45	4856	1462.58	85.26	17.91
319	SLU 36	-51	-35	4899	1474.38	86.01	18.04
319	SLU 37	-49	-45	4832	1454.94	84.82	17.78
319	SLU 38	-50	-35	4874	1466.74	85.58	17.92
319	SLU 39	-48	-46	4958	1491.69	87.03	17.34
319	SLU 40	-49	-36	5000	1503.49	87.78	17.47
319	SLU 41	-49	-46	4999	1504.3	87.73	17.64
319	SLU 42	-50	-36	5041	1516.1	88.49	17.77
319	SLU 43	-52	-45	4677	1408.29	82.29	18.62
319	SLU 44	-53	-29	4748	1427.96	83.55	18.84
319	SLU 45	-53	-46	4743	1428.54	83.43	19.04
319	SLU 46	-54	-36	4785	1440.34	84.18	19.18
319	SLU 47	-54	-29	4789	1440.57	84.25	19.14
319	SLU 48	-54	-46	4783	1441.15	84.14	19.34
319	SLU 49	-55	-36	4826	1452.95	84.89	19.47
319	SLU 50	-53	-46	4759	1433.51	83.7	19.21
319	SLU 51	-54	-36	4801	1445.31	84.46	19.35
319	SLU 52	-54	-32	5232	1572.54	91.98	19.2
319	SLU 53	-54	-49	5227	1573.12	91.86	19.39
319	SLU 54	-55	-40	5269	1584.92	92.62	19.53
319	SLU 55	-55	-33	5273	1585.15	92.69	19.49
319	SLU 56	-55	-50	5268	1585.73	92.57	19.69
319	SLU 57	-56	-40	5310	1597.53	93.32	19.83
319	SLU 58	-54	-50	5243	1578.09	92.14	19.57
319	SLU 59	-55	-40	5285	1589.89	92.89	19.7
319	SLU 60	-53	-50	5369	1614.84	94.34	19.12
319	SLU 61	-54	-40	5412	1626.64	95.09	19.26
319	SLU 62	-54	-51	5410	1627.45	95.04	19.42
319	SLU 63	-55	-41	5452	1639.25	95.8	19.56
319	SLU 64	-57	-49	5206	1568.01	91.53	20.61
319	SLU 65	-59	-33	5277	1587.68	92.79	20.83
319	SLU 66	-59	-50	5272	1588.26	92.67	21.03
319	SLU 67	-59	-40	5314	1600.06	93.42	21.16
319	SLU 68	-60	-33	5317	1600.28	93.49	21.13
319	SLU 69	-59	-51	5312	1600.87	93.38	21.32
319	SLU 70	-60	-41	5355	1612.66	94.13	21.46
319	SLU 71	-59	-50	5287	1593.23	92.94	21.2
319	SLU 72	-60	-41	5330	1605.03	93.7	21.33
319	SLU 73	-60	-37	5761	1732.26	101.22	21.18
319	SLU 74	-59	-54	5756	1732.84	101.1	21.38
319	SLU 75	-60	-44	5798	1744.64	101.86	21.52
319	SLU 76	-61	-37	5802	1744.87	101.93	21.48
319	SLU 77	-60	-54	5796	1745.45	101.81	21.68
319	SLU 78	-61	-45	5839	1757.25	102.56	21.81
319	SLU 79	-60	-54	5772	1737.81	101.38	21.55
319	SLU 80	-61	-44	5814	1749.61	102.13	21.69
319	SLU 81	-59	-55	5898	1774.56	103.58	21.11
319	SLU 82	-60	-45	5940	1786.36	104.33	21.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
319	SLU 83	-59	-55	5938	1787.17	104.28	21.41
319	SLU 84	-60	-45	5981	1798.96	105.04	21.54
319	SLE RA 1	-43	-37	3889	1171.06	68.38	15.41
319	SLE RA 2	-44	-26	3936	1184.17	69.21	15.56
319	SLE RA 3	-44	-38	3932	1184.56	69.14	15.7
319	SLE RA 4	-44	-31	3960	1192.42	69.64	15.78
319	SLE RA 5	-44	-26	3963	1192.57	69.69	15.76
319	SLE RA 6	-44	-38	3959	1192.96	69.61	15.89
319	SLE RA 7	-45	-31	3987	1200.83	70.11	15.98
319	SLE RA 8	-44	-38	3943	1187.87	69.32	15.81
319	SLE RA 9	-45	-31	3971	1195.74	69.82	15.9
319	SLE RA 10	-44	-29	4259	1280.56	74.84	15.8
319	SLE RA 11	-44	-40	4255	1280.95	74.76	15.93
319	SLE RA 12	-45	-33	4283	1288.81	75.26	16.02
319	SLE RA 13	-45	-29	4286	1288.96	75.31	16
319	SLE RA 14	-45	-40	4282	1289.35	75.23	16.13
319	SLE RA 15	-45	-34	4310	1297.22	75.73	16.22
319	SLE RA 16	-45	-40	4265	1284.26	74.94	16.05
319	SLE RA 17	-45	-34	4294	1292.12	75.44	16.14
319	SLE RA 18	-44	-41	4350	1308.76	76.41	15.75
319	SLE RA 19	-44	-34	4378	1316.62	76.91	15.84
319	SLE RA 20	-44	-41	4377	1317.16	76.88	15.95
319	SLE RA 21	-45	-34	4405	1325.03	77.38	16.04
319	SLE FR 1	-43	-37	3889	1171.06	68.38	15.41
319	SLE FR 2	-43	-35	3898	1173.68	68.55	15.44
319	SLE FR 3	-43	-37	3899	1174.42	68.57	15.49
319	SLE FR 4	-43	-36	4036	1214.99	70.95	15.54
319	SLE FR 5	-43	-38	4038	1215.73	70.98	15.59
319	SLE FR 6	-43	-39	4119	1239.91	72.39	15.58
319	SLE QP 1	-43	-37	3889	1171.06	68.38	15.41
319	SLE QP 2	-43	-38	4027	1212.37	70.79	15.51
319	SLD 1	289	48	4949	1463.22	88.08	-102.48
319	SLD 2	352	1	4895	1449.21	87.06	-123.38
319	SLD 3	328	-146	4001	1209.28	71.06	-112.45
319	SLD 4	390	-194	3947	1195.27	70.04	-133.34
319	SLD 5	-13	291	5752	1675.28	101.98	-1.01
319	SLD 6	28	260	5717	1666.03	101.31	-14.81
319	SLD 7	115	-357	2590	828.83	45.23	-34.22
319	SLD 8	156	-388	2554	819.58	44.56	-48.02
319	SLD 9	-243	312	5500	1605.15	97.01	79.05
319	SLD 10	-201	281	5464	1595.9	96.34	65.25
319	SLD 11	-115	-336	2337	758.71	40.27	45.84
319	SLD 12	-73	-368	2301	749.46	39.6	32.04
319	SLD 13	-476	118	4107	1229.46	71.53	164.37
319	SLD 14	-414	70	4053	1215.45	70.52	143.48
319	SLD 15	-438	-77	3158	975.53	54.51	154.41
319	SLD 16	-376	-125	3104	961.52	53.5	133.51
319	SLV 1	477	102	5493	1610.87	98.24	-169.04
319	SLV 2	574	28	5408	1588.92	96.65	-201.78
319	SLV 3	538	-212	3960	1200.48	70.73	-185.02
319	SLV 4	636	-287	3875	1178.53	69.14	-217.76
319	SLV 5	1	494	6808	1958.44	121.04	-9.52
319	SLV 6	67	444	6751	1943.66	119.97	-31.56
319	SLV 7	206	-553	1697	590.47	29.35	-62.76
319	SLV 8	272	-603	1640	575.7	28.28	-84.8
319	SLV 9	-359	527	6414	1849.04	113.3	115.83
319	SLV 10	-293	476	6357	1834.26	112.23	93.79
319	SLV 11	-153	-520	1303	481.08	21.6	62.59
319	SLV 12	-87	-571	1246	466.3	20.53	40.55
319	SLV 13	-722	210	4179	1246.21	72.43	248.79
319	SLV 14	-625	135	4094	1224.26	70.84	216.04
319	SLV 15	-661	-104	2646	835.82	44.92	232.81
319	SLV 16	-563	-179	2561	813.87	43.33	200.07
319	SLV FO 1	529	116	5639	1650.72	100.99	-187.5
319	SLV FO 2	636	34	5546	1626.57	99.24	-223.51
319	SLV FO 3	596	-229	3953	1199.29	70.73	-205.07
319	SLV FO 4	704	-311	3860	1175.15	68.98	-241.08
319	SLV FO 5	5	548	7086	2033.05	126.07	-12.02
319	SLV FO 6	78	492	7023	2016.79	124.89	-36.27
319	SLV FO 7	231	-604	1464	528.29	25.2	-70.59
319	SLV FO 8	304	-659	1401	512.03	24.02	-94.83
319	SLV FO 9	-390	583	6652	1912.71	117.55	125.86
319	SLV FO 10	-318	528	6590	1896.45	116.37	101.61
319	SLV FO 11	-164	-568	1031	407.95	16.68	67.3
319	SLV FO 12	-92	-624	968	391.69	15.51	43.05
319	SLV FO 13	-790	235	4194	1249.59	72.6	272.11
319	SLV FO 14	-683	153	4101	1225.44	70.85	236.1
319	SLV FO 15	-723	-110	2508	798.16	42.34	254.54
319	SLV FO 16	-615	-193	2415	774.02	40.59	218.53
319	CRTFP Ux+	0	0	0	0	0	0
319	CRTFP Ux-	0	0	0	0	0	0
319	CRTFP Uy+	0	0	0	0	0	0
319	CRTFP Uy-	0	0	0	0	0	0
321	SLU 1	-98	-106	8903	2042.87	44.48	21.48
321	SLU 2	-102	-68	9074	2078.48	45.8	21.95
321	SLU 3	-101	-109	9058	2079.61	45.15	22.11
321	SLU 4	-103	-86	9161	2100.98	45.94	22.39
321	SLU 5	-104	-70	9170	2101.35	46.19	22.4
321	SLU 6	-103	-110	9154	2102.48	45.54	22.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
321	SLU 7	-105	-87	9257	2123.85	46.34	22.83
321	SLU 8	-102	-109	9095	2088.61	45.27	22.37
321	SLU 9	-104	-86	9198	2109.98	46.06	22.65
321	SLU 10	-104	-79	10234	2344.36	50.58	22.36
321	SLU 11	-104	-120	10217	2345.49	49.93	22.51
321	SLU 12	-106	-97	10320	2366.85	50.72	22.79
321	SLU 13	-106	-81	10330	2367.23	50.97	22.8
321	SLU 14	-106	-121	10314	2368.36	50.32	22.95
321	SLU 15	-108	-98	10416	2389.73	51.11	23.24
321	SLU 16	-105	-120	10255	2354.49	50.05	22.77
321	SLU 17	-107	-97	10357	2375.86	50.84	23.06
321	SLU 18	-102	-122	10559	2422.7	51.31	22.06
321	SLU 19	-104	-99	10662	2444.06	52.1	22.34
321	SLU 20	-104	-124	10656	2445.57	51.7	22.5
321	SLU 21	-106	-101	10758	2466.93	52.49	22.78
321	SLU 22	-112	-120	10162	2334.96	50.32	24.4
321	SLU 23	-115	-81	10333	2370.57	51.64	24.87
321	SLU 24	-114	-122	10317	2371.7	50.99	25.02
321	SLU 25	-116	-99	10420	2393.07	51.78	25.31
321	SLU 26	-117	-83	10430	2393.44	52.03	25.32
321	SLU 27	-116	-123	10413	2394.58	51.38	25.47
321	SLU 28	-118	-100	10516	2415.94	52.17	25.75
321	SLU 29	-116	-123	10354	2380.71	51.11	25.29
321	SLU 30	-117	-100	10457	2402.07	51.9	25.57
321	SLU 31	-117	-93	11493	2636.45	56.41	25.28
321	SLU 32	-117	-133	11477	2637.58	55.76	25.43
321	SLU 33	-119	-110	11579	2658.95	56.55	25.71
321	SLU 34	-119	-94	11589	2659.32	56.81	25.72
321	SLU 35	-119	-135	11573	2660.45	56.16	25.87
321	SLU 36	-121	-112	11675	2681.82	56.95	26.16
321	SLU 37	-118	-134	11514	2646.58	55.88	25.69
321	SLU 38	-120	-111	11617	2667.95	56.67	25.97
321	SLU 39	-115	-136	11819	2714.79	57.14	24.97
321	SLU 40	-117	-113	11921	2736.15	57.93	25.26
321	SLU 41	-117	-137	11915	2737.66	57.54	25.42
321	SLU 42	-119	-114	12017	2759.03	58.33	25.7
321	SLU 43	-123	-134	11142	2555.59	55.83	26.92
321	SLU 44	-127	-96	11313	2591.2	57.14	27.4
321	SLU 45	-126	-136	11297	2592.33	56.49	27.55
321	SLU 46	-128	-113	11400	2613.69	57.29	27.83
321	SLU 47	-128	-97	11410	2614.07	57.54	27.84
321	SLU 48	-128	-138	11393	2615.2	56.89	27.99
321	SLU 49	-130	-115	11496	2636.56	57.68	28.28
321	SLU 50	-127	-137	11334	2601.33	56.61	27.81
321	SLU 51	-129	-114	11437	2622.69	57.41	28.1
321	SLU 52	-129	-107	12473	2857.07	61.92	27.8
321	SLU 53	-129	-147	12457	2858.2	61.27	27.95
321	SLU 54	-131	-124	12559	2879.57	62.06	28.24
321	SLU 55	-131	-108	12569	2879.94	62.32	28.24
321	SLU 56	-131	-149	12553	2881.08	61.67	28.4
321	SLU 57	-133	-126	12656	2902.44	62.46	28.68
321	SLU 58	-130	-148	12494	2867.21	61.39	28.21
321	SLU 59	-132	-125	12597	2888.57	62.18	28.5
321	SLU 60	-127	-150	12799	2935.41	62.65	27.5
321	SLU 61	-129	-127	12901	2956.78	63.44	27.78
321	SLU 62	-129	-151	12895	2958.28	63.05	27.94
321	SLU 63	-131	-128	12997	2979.65	63.84	28.23
321	SLU 64	-137	-147	12401	2847.68	61.66	29.84
321	SLU 65	-140	-109	12573	2883.29	62.98	30.32
321	SLU 66	-139	-149	12556	2884.42	62.33	30.47
321	SLU 67	-141	-126	12659	2905.78	63.12	30.75
321	SLU 68	-142	-110	12669	2906.16	63.37	30.76
321	SLU 69	-141	-151	12653	2907.29	62.72	30.91
321	SLU 70	-143	-128	12755	2928.66	63.51	31.2
321	SLU 71	-140	-150	12594	2893.42	62.45	30.73
321	SLU 72	-142	-127	12696	2914.79	63.24	31.01
321	SLU 73	-142	-120	13732	3149.17	67.76	30.72
321	SLU 74	-142	-161	13716	3150.3	67.11	30.87
321	SLU 75	-144	-138	13819	3171.66	67.9	31.15
321	SLU 76	-144	-121	13828	3172.04	68.15	31.16
321	SLU 77	-144	-162	13812	3173.17	67.5	31.31
321	SLU 78	-146	-139	13915	3194.53	68.29	31.6
321	SLU 79	-143	-161	13753	3159.3	67.23	31.13
321	SLU 80	-145	-138	13856	3180.66	68.02	31.42
321	SLU 81	-140	-163	14058	3227.5	68.49	30.42
321	SLU 82	-142	-140	14160	3248.87	69.28	30.7
321	SLU 83	-142	-165	14154	3250.38	68.88	30.86
321	SLU 84	-144	-141	14257	3271.74	69.67	31.15
321	SLE RA 1	-102	-110	9263	2126.33	46.15	22.31
321	SLE RA 2	-104	-85	9377	2150.07	47.03	22.63
321	SLE RA 3	-104	-112	9366	2150.82	46.59	22.73
321	SLE RA 4	-105	-96	9435	2165.06	47.12	22.92
321	SLE RA 5	-106	-86	9441	2165.31	47.29	22.93
321	SLE RA 6	-105	-113	9430	2166.07	46.86	23.03
321	SLE RA 7	-107	-97	9499	2180.31	47.38	23.22
321	SLE RA 8	-105	-112	9391	2156.82	46.68	22.91
321	SLE RA 9	-106	-97	9459	2171.06	47.2	23.1
321	SLE RA 10	-106	-92	10150	2327.32	50.21	22.9
321	SLE RA 11	-106	-119	10139	2328.07	49.78	23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
321	SLE RA 12	-107	-104	10208	2342.31	50.31	23.19
321	SLE RA 13	-107	-93	10214	2342.56	50.48	23.19
321	SLE RA 14	-107	-120	10203	2343.32	50.04	23.3
321	SLE RA 15	-108	-105	10272	2357.56	50.57	23.49
321	SLE RA 16	-106	-120	10164	2334.07	49.86	23.17
321	SLE RA 17	-108	-104	10232	2348.32	50.39	23.36
321	SLE RA 18	-105	-121	10367	2379.54	50.7	22.7
321	SLE RA 19	-106	-106	10436	2393.79	51.23	22.89
321	SLE RA 20	-106	-122	10431	2394.79	50.96	22.99
321	SLE RA 21	-107	-107	10500	2409.03	51.49	23.18
321	SLE FR 1	-102	-110	9263	2126.33	46.15	22.31
321	SLE FR 2	-103	-105	9286	2131.07	46.33	22.38
321	SLE FR 3	-103	-111	9288	2132.43	46.25	22.43
321	SLE FR 4	-103	-108	9617	2207.04	47.69	22.49
321	SLE FR 5	-103	-114	9620	2208.39	47.62	22.55
321	SLE FR 6	-103	-116	9815	2252.93	48.42	22.51
321	SLE QP 1	-102	-110	9263	2126.33	46.15	22.31
321	SLE QP 2	-103	-113	9594	2202.29	47.51	22.43
321	SLD 1	658	83	11731	2661.08	78.6	-163.47
321	SLD 2	804	-19	11606	2634.95	76.59	-196.51
321	SLD 3	747	-361	9442	2188.35	59.06	-180.37
321	SLD 4	892	-463	9317	2162.21	57.04	-213.4
321	SLD 5	-34	637	13730	3061.62	86.85	-1.76
321	SLD 6	61	570	13647	3044.36	85.52	-23.57
321	SLD 7	260	-842	6099	1485.83	21.7	-58.09
321	SLD 8	355	-910	6016	1468.57	20.37	-79.9
321	SLD 9	-561	683	13172	2936.01	74.66	124.76
321	SLD 10	-465	615	13089	2918.75	73.33	102.94
321	SLD 11	-267	-796	5541	1360.22	9.51	68.43
321	SLD 12	-171	-864	5458	1342.96	8.18	46.62
321	SLD 13	-1097	236	9872	2242.37	37.99	258.26
321	SLD 14	-952	134	9746	2216.24	35.97	225.22
321	SLD 15	-1009	-208	7582	1769.64	18.44	241.36
321	SLD 16	-864	-310	7457	1743.5	16.43	208.33
321	SLV 1	1087	206	12993	2931.34	96.55	-268.29
321	SLV 2	1315	46	12796	2890.39	93.39	-320.05
321	SLV 3	1229	-511	9293	2167.39	64.99	-295.39
321	SLV 4	1456	-671	9097	2126.44	61.83	-347.15
321	SLV 5	-3	1099	16261	3587.31	110.68	-14.03
321	SLV 6	150	991	16128	3559.74	108.55	-48.88
321	SLV 7	469	-1290	3930	1040.8	5.48	-104.35
321	SLV 8	622	-1398	3798	1013.23	3.36	-139.2
321	SLV 9	-828	1171	15390	3391.35	91.67	184.06
321	SLV 10	-675	1063	15258	3363.78	89.55	149.21
321	SLV 11	-356	-1218	3060	844.84	-13.52	93.74
321	SLV 12	-203	-1326	2927	817.27	-15.65	58.89
321	SLV 13	-1662	444	10091	2278.14	33.2	392
321	SLV 14	-1435	284	9895	2237.19	30.04	340.24
321	SLV 15	-1520	-273	6392	1514.19	1.64	364.91
321	SLV 16	-1293	-433	6196	1473.24	-1.52	313.15
321	SLV FO 1	1206	238	13332	3004.25	101.45	-297.36
321	SLV FO 2	1456	62	13116	2959.2	97.98	-354.3
321	SLV FO 3	1362	-551	9263	2163.9	66.74	-327.17
321	SLV FO 4	1612	-727	9047	2118.86	63.26	-384.1
321	SLV FO 5	7	1221	16927	3725.81	117	-17.68
321	SLV FO 6	175	1102	16782	3695.48	114.66	-56.01
321	SLV FO 7	526	-1407	3364	924.66	1.28	-117.03
321	SLV FO 8	694	-1526	3218	894.33	-1.06	-155.36
321	SLV FO 9	-900	1299	15970	3510.26	96.09	200.22
321	SLV FO 10	-732	1181	15825	3479.93	93.75	161.89
321	SLV FO 11	-381	-1329	2406	709.1	-19.63	100.87
321	SLV FO 12	-213	-1447	2261	678.77	-21.97	62.54
321	SLV FO 13	-1818	500	10141	2285.73	31.76	428.96
321	SLV FO 14	-1568	324	9925	2240.68	28.29	372.03
321	SLV FO 15	-1662	-289	6072	1445.38	-2.95	399.16
321	SLV FO 16	-1412	-465	5856	1400.33	-6.42	342.22
321	CRTFP Ux+	0	0	0	0	0	0
321	CRTFP Ux-	0	0	0	0	0	0
321	CRTFP Uy+	0	0	0	-0.01	0	0
321	CRTFP Uy-	0	0	0	0.01	0	0
323	SLU 1	-32	-48	3223	1042.55	-60.05	10.24
323	SLU 2	-34	-34	3282	1059.41	-61.14	10.9
323	SLU 3	-33	-49	3280	1061.57	-61.11	10.55
323	SLU 4	-34	-41	3315	1071.69	-61.76	10.94
323	SLU 5	-34	-35	3318	1071.29	-61.79	11.12
323	SLU 6	-34	-50	3315	1073.45	-61.76	10.77
323	SLU 7	-35	-41	3351	1083.56	-62.41	11.16
323	SLU 8	-34	-49	3294	1066.3	-61.36	10.68
323	SLU 9	-34	-41	3329	1076.42	-62.02	11.07
323	SLU 10	-34	-39	3704	1195.14	-69	11.01
323	SLU 11	-34	-54	3701	1197.3	-68.97	10.66
323	SLU 12	-35	-46	3737	1207.41	-69.63	11.06
323	SLU 13	-35	-40	3739	1207.01	-69.66	11.23
323	SLU 14	-35	-55	3736	1209.17	-69.63	10.88
323	SLU 15	-35	-46	3772	1219.29	-70.28	11.28
323	SLU 16	-34	-54	3715	1202.02	-69.23	10.79
323	SLU 17	-35	-46	3750	1212.14	-69.88	11.19
323	SLU 18	-33	-55	3825	1236.44	-71.29	10.4
323	SLU 19	-34	-47	3860	1246.56	-71.94	10.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
323	SLU 20	-34	-56	3860	1248.32	-71.95	10.62
323	SLU 21	-35	-47	3896	1258.43	-72.6	11.02
323	SLU 22	-37	-54	3681	1192.29	-68.57	11.66
323	SLU 23	-38	-40	3740	1209.16	-69.66	12.32
323	SLU 24	-38	-55	3737	1211.32	-69.63	11.97
323	SLU 25	-39	-47	3773	1221.43	-70.28	12.36
323	SLU 26	-39	-41	3775	1221.03	-70.32	12.54
323	SLU 27	-39	-56	3773	1223.19	-70.29	12.19
323	SLU 28	-39	-47	3808	1233.31	-70.94	12.58
323	SLU 29	-38	-55	3751	1216.04	-69.89	12.1
323	SLU 30	-39	-47	3787	1226.16	-70.54	12.49
323	SLU 31	-39	-45	4161	1344.88	-77.53	12.43
323	SLU 32	-38	-60	4159	1347.04	-77.5	12.08
323	SLU 33	-39	-52	4194	1357.16	-78.15	12.48
323	SLU 34	-39	-46	4197	1356.76	-78.18	12.65
323	SLU 35	-39	-61	4194	1358.91	-78.15	12.3
323	SLU 36	-40	-52	4230	1369.03	-78.81	12.7
323	SLU 37	-39	-60	4172	1351.77	-77.75	12.21
323	SLU 38	-40	-52	4208	1361.88	-78.41	12.61
323	SLU 39	-38	-61	4282	1386.19	-79.81	11.82
323	SLU 40	-39	-53	4318	1396.3	-80.46	12.22
323	SLU 41	-39	-62	4318	1398.06	-80.47	12.04
323	SLU 42	-39	-53	4353	1408.18	-81.12	12.44
323	SLU 43	-41	-60	4033	1303.98	-75.14	12.82
323	SLU 44	-42	-47	4092	1320.84	-76.23	13.48
323	SLU 45	-42	-61	4090	1323	-76.2	13.13
323	SLU 46	-42	-53	4125	1333.11	-76.85	13.52
323	SLU 47	-42	-47	4128	1332.71	-76.88	13.7
323	SLU 48	-42	-62	4125	1334.87	-76.86	13.35
323	SLU 49	-43	-54	4161	1344.99	-77.51	13.74
323	SLU 50	-42	-62	4104	1327.72	-76.46	13.26
323	SLU 51	-43	-53	4139	1337.84	-77.11	13.66
323	SLU 52	-42	-52	4514	1456.56	-84.1	13.6
323	SLU 53	-42	-66	4511	1458.72	-84.07	13.25
323	SLU 54	-43	-58	4547	1468.84	-84.72	13.64
323	SLU 55	-43	-52	4549	1468.44	-84.75	13.82
323	SLU 56	-43	-67	4546	1470.6	-84.72	13.47
323	SLU 57	-44	-59	4582	1480.71	-85.38	13.86
323	SLU 58	-43	-67	4525	1463.45	-84.32	13.38
323	SLU 59	-43	-58	4560	1473.56	-84.98	13.77
323	SLU 60	-42	-68	4635	1497.87	-86.38	12.99
323	SLU 61	-42	-59	4670	1507.98	-87.03	13.38
323	SLU 62	-42	-68	4670	1509.74	-87.04	13.21
323	SLU 63	-43	-60	4706	1519.86	-87.69	13.6
323	SLU 64	-45	-66	4491	1453.72	-83.66	14.24
323	SLU 65	-46	-52	4550	1470.58	-84.75	14.9
323	SLU 66	-46	-67	4547	1472.74	-84.72	14.55
323	SLU 67	-47	-59	4583	1482.86	-85.37	14.94
323	SLU 68	-47	-53	4585	1482.46	-85.41	15.12
323	SLU 69	-47	-68	4583	1484.61	-85.38	14.77
323	SLU 70	-47	-60	4618	1494.73	-86.03	15.16
323	SLU 71	-46	-68	4561	1477.47	-84.98	14.68
323	SLU 72	-47	-59	4597	1487.58	-85.63	15.08
323	SLU 73	-47	-57	4971	1606.31	-92.62	15.02
323	SLU 74	-47	-72	4969	1608.47	-92.59	14.67
323	SLU 75	-47	-64	5004	1618.58	-93.24	15.06
323	SLU 76	-48	-58	5007	1618.18	-93.28	15.24
323	SLU 77	-47	-73	5004	1620.34	-93.25	14.89
323	SLU 78	-48	-65	5040	1630.46	-93.9	15.28
323	SLU 79	-47	-73	4982	1613.19	-92.85	14.8
323	SLU 80	-48	-64	5018	1623.31	-93.5	15.19
323	SLU 81	-46	-73	5092	1647.61	-94.9	14.41
323	SLU 82	-47	-65	5128	1657.73	-95.56	14.8
323	SLU 83	-47	-74	5128	1659.48	-95.56	14.63
323	SLU 84	-47	-66	5163	1669.6	-96.21	15.02
323	SLE RA 1	-34	-50	3354	1085.33	-62.48	10.65
323	SLE RA 2	-34	-40	3393	1096.58	-63.21	11.08
323	SLE RA 3	-34	-50	3392	1098.02	-63.19	10.85
323	SLE RA 4	-35	-45	3415	1104.76	-63.62	11.11
323	SLE RA 5	-35	-41	3417	1104.49	-63.65	11.23
323	SLE RA 6	-35	-51	3415	1105.93	-63.63	11
323	SLE RA 7	-35	-45	3439	1112.68	-64.06	11.26
323	SLE RA 8	-35	-51	3401	1101.17	-63.36	10.94
323	SLE RA 9	-35	-45	3425	1107.91	-63.79	11.2
323	SLE RA 10	-35	-44	3674	1187.06	-68.45	11.16
323	SLE RA 11	-35	-54	3672	1188.5	-68.43	10.93
323	SLE RA 12	-35	-48	3696	1195.24	-68.87	11.19
323	SLE RA 13	-35	-44	3698	1194.98	-68.89	11.31
323	SLE RA 14	-35	-54	3696	1196.41	-68.87	11.07
323	SLE RA 15	-36	-49	3720	1203.16	-69.31	11.34
323	SLE RA 16	-35	-54	3682	1191.65	-68.61	11.02
323	SLE RA 17	-36	-48	3705	1198.39	-69.04	11.28
323	SLE RA 18	-34	-54	3755	1214.6	-69.98	10.76
323	SLE RA 19	-35	-49	3779	1221.34	-70.41	11.02
323	SLE RA 20	-35	-55	3778	1222.51	-70.42	10.9
323	SLE RA 21	-35	-49	3802	1229.26	-70.85	11.16
323	SLE FR 1	-34	-50	3354	1085.33	-62.48	10.65
323	SLE FR 2	-34	-48	3362	1087.58	-62.63	10.73
323	SLE FR 3	-34	-50	3363	1088.5	-62.66	10.7



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
323	SLE FR 4	-34	-49	3482	1126.36	-64.88	10.77
323	SLE FR 5	-34	-51	3484	1127.28	-64.91	10.74
323	SLE FR 6	-34	-52	3554	1149.97	-66.23	10.7
323	SLE QP 1	-34	-50	3354	1085.33	-62.48	10.65
323	SLE QP 2	-34	-51	3474	1124.11	-64.73	10.68
323	SLD 1	244	18	4199	1340.72	-77.46	-85.37
323	SLD 2	296	-17	4157	1328.1	-76.75	-104.16
323	SLD 3	275	-141	3409	1116.29	-63.09	-99.06
323	SLD 4	327	-176	3367	1103.67	-62.38	-117.86
323	SLD 5	-7	216	4897	1531.75	-90.47	6.02
323	SLD 6	27	193	4870	1523.42	-90	-6.39
323	SLD 7	96	-313	2264	783.66	-42.58	-39.63
323	SLD 8	131	-335	2236	775.32	-42.1	-52.04
323	SLD 9	-199	233	4712	1472.9	-87.36	73.39
323	SLD 10	-164	210	4684	1464.57	-86.89	60.98
323	SLD 11	-95	-296	2078	724.81	-39.46	27.75
323	SLD 12	-61	-319	2051	716.48	-38.99	15.34
323	SLD 13	-395	74	3581	1144.56	-67.08	139.21
323	SLD 14	-343	39	3539	1131.94	-66.37	120.42
323	SLD 15	-364	-85	2791	920.13	-52.72	125.52
323	SLD 16	-312	-120	2749	907.51	-52	106.73
323	SLV 1	400	60	4627	1468.36	-84.99	-139.41
323	SLV 2	482	6	4562	1448.59	-83.88	-168.85
323	SLV 3	450	-196	3351	1105.67	-61.77	-161.4
323	SLV 4	532	-250	3285	1085.9	-60.66	-190.85
323	SLV 5	6	381	5769	1781.16	-106.24	4.5
323	SLV 6	60	345	5725	1767.84	-105.49	-15.32
323	SLV 7	172	-473	1513	572.19	-28.83	-68.81
323	SLV 8	227	-510	1469	558.88	-28.08	-88.63
323	SLV 9	-294	407	5479	1689.35	-101.38	109.99
323	SLV 10	-240	371	5436	1676.04	-100.63	90.16
323	SLV 11	-128	-447	1223	480.38	-23.98	36.68
323	SLV 12	-73	-484	1179	467.07	-23.23	16.85
323	SLV 13	-599	148	3663	1162.33	-68.81	212.2
323	SLV 14	-518	94	3598	1142.56	-67.69	182.76
323	SLV 15	-550	-108	2386	799.64	-45.59	190.21
323	SLV 16	-468	-163	2321	779.87	-44.47	160.77
323	SLV FO 1	444	72	4743	1502.78	-87.02	-154.42
323	SLV FO 2	533	12	4671	1481.03	-85.79	-186.81
323	SLV FO 3	499	-210	3338	1103.82	-61.48	-178.61
323	SLV FO 4	588	-270	3266	1082.08	-60.25	-211
323	SLV FO 5	10	424	5998	1846.86	-110.39	3.88
323	SLV FO 6	70	384	5950	1832.22	-109.56	-17.92
323	SLV FO 7	192	-515	1317	517	-25.24	-76.76
323	SLV FO 8	253	-556	1268	502.36	-24.42	-98.56
323	SLV FO 9	-320	453	5680	1745.87	-105.05	119.92
323	SLV FO 10	-260	413	5632	1731.23	-104.22	98.11
323	SLV FO 11	-138	-486	998	416.01	-19.9	39.28
323	SLV FO 12	-77	-527	950	401.37	-19.07	17.47
323	SLV FO 13	-656	168	3682	1166.15	-69.21	232.36
323	SLV FO 14	-566	108	3610	1144.4	-67.99	199.97
323	SLV FO 15	-601	-114	2277	767.19	-43.67	208.16
323	SLV FO 16	-512	-174	2206	745.44	-42.44	175.78
323	CRTFP Ux+	0	0	0	0	0	0
323	CRTFP Ux-	0	0	0	0	0	0
323	CRTFP Uy+	0	0	0	0	0	0
323	CRTFP Uy-	0	0	0	0	0	0
324	SLU 1	-36	-65	3597	1149.48	0.95	12.17
324	SLU 2	-37	-50	3662	1167.52	1	12.6
324	SLU 3	-37	-66	3660	1170.44	0.97	12.53
324	SLU 4	-38	-57	3700	1181.26	1	12.79
324	SLU 5	-38	-50	3702	1180.61	1.01	12.86
324	SLU 6	-38	-67	3700	1183.53	0.98	12.78
324	SLU 7	-38	-58	3739	1194.36	1.01	13.04
324	SLU 8	-37	-67	3676	1175.67	0.97	12.68
324	SLU 9	-38	-57	3715	1186.49	1	12.94
324	SLU 10	-38	-56	4133	1317.14	1.1	12.84
324	SLU 11	-38	-73	4131	1320.06	1.07	12.76
324	SLU 12	-38	-64	4170	1330.88	1.1	13.02
324	SLU 13	-38	-57	4173	1330.23	1.11	13.09
324	SLU 14	-38	-74	4171	1333.16	1.09	13.02
324	SLU 15	-39	-64	4210	1343.98	1.12	13.28
324	SLU 16	-38	-73	4147	1325.29	1.08	12.91
324	SLU 17	-39	-64	4186	1336.11	1.11	13.17
324	SLU 18	-37	-75	4270	1363.22	1.1	12.5
324	SLU 19	-38	-65	4309	1374.05	1.13	12.76
324	SLU 20	-38	-75	4309	1376.32	1.11	12.76
324	SLU 21	-38	-66	4348	1387.14	1.14	13.02
324	SLU 22	-41	-73	4107	1314.36	1.11	13.87
324	SLU 23	-42	-57	4173	1332.4	1.16	14.3
324	SLU 24	-42	-74	4171	1335.33	1.13	14.23
324	SLU 25	-42	-65	4210	1346.15	1.16	14.49
324	SLU 26	-43	-58	4212	1345.5	1.17	14.56
324	SLU 27	-42	-75	4210	1348.42	1.14	14.48
324	SLU 28	-43	-66	4249	1359.24	1.17	14.74
324	SLU 29	-42	-74	4186	1340.55	1.14	14.38
324	SLU 30	-43	-65	4225	1351.38	1.16	14.64
324	SLU 31	-43	-64	4643	1482.02	1.27	14.53
324	SLU 32	-42	-81	4641	1484.95	1.24	14.46



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
324	SLU 33	-43	-72	4681	1495.77	1.27	14.72
324	SLU 34	-43	-65	4683	1495.12	1.28	14.79
324	SLU 35	-43	-82	4681	1498.04	1.25	14.71
324	SLU 36	-44	-72	4720	1508.86	1.28	14.97
324	SLU 37	-43	-81	4657	1490.17	1.24	14.61
324	SLU 38	-44	-72	4696	1501	1.27	14.87
324	SLU 39	-42	-82	4780	1528.11	1.26	14.2
324	SLU 40	-43	-73	4819	1538.93	1.29	14.46
324	SLU 41	-43	-83	4819	1541.2	1.28	14.46
324	SLU 42	-43	-74	4858	1552.03	1.3	14.72
324	SLU 43	-45	-82	4501	1437.79	1.17	15.24
324	SLU 44	-46	-66	4567	1455.83	1.22	15.67
324	SLU 45	-46	-83	4565	1458.75	1.19	15.6
324	SLU 46	-47	-74	4604	1469.57	1.22	15.86
324	SLU 47	-47	-67	4606	1468.92	1.24	15.93
324	SLU 48	-47	-84	4604	1471.85	1.21	15.85
324	SLU 49	-47	-75	4643	1482.67	1.24	16.11
324	SLU 50	-46	-83	4580	1463.98	1.2	15.75
324	SLU 51	-47	-74	4619	1474.8	1.23	16.01
324	SLU 52	-47	-73	5038	1605.45	1.33	15.9
324	SLU 53	-47	-90	5036	1608.37	1.3	15.83
324	SLU 54	-47	-80	5075	1619.2	1.33	16.09
324	SLU 55	-48	-74	5077	1618.54	1.34	16.16
324	SLU 56	-47	-91	5075	1621.47	1.31	16.08
324	SLU 57	-48	-81	5114	1632.29	1.34	16.34
324	SLU 58	-47	-90	5051	1613.6	1.3	15.98
324	SLU 59	-48	-81	5090	1624.42	1.33	16.24
324	SLU 60	-46	-91	5174	1651.53	1.33	15.57
324	SLU 61	-47	-82	5213	1662.36	1.36	15.83
324	SLU 62	-47	-92	5213	1664.63	1.34	15.83
324	SLU 63	-47	-83	5253	1675.45	1.37	16.09
324	SLU 64	-50	-90	5012	1602.68	1.34	16.94
324	SLU 65	-51	-74	5077	1620.71	1.39	17.37
324	SLU 66	-51	-91	5075	1623.64	1.36	17.3
324	SLU 67	-51	-82	5114	1634.46	1.39	17.55
324	SLU 68	-52	-75	5116	1633.81	1.4	17.63
324	SLU 69	-51	-92	5114	1636.73	1.37	17.55
324	SLU 70	-52	-82	5153	1647.55	1.4	17.81
324	SLU 71	-51	-91	5090	1628.87	1.36	17.45
324	SLU 72	-52	-82	5129	1639.69	1.39	17.71
324	SLU 73	-52	-81	5548	1770.34	1.49	17.6
324	SLU 74	-51	-98	5546	1773.26	1.47	17.53
324	SLU 75	-52	-88	5585	1784.08	1.49	17.79
324	SLU 76	-52	-82	5587	1783.43	1.51	17.86
324	SLU 77	-52	-98	5585	1786.35	1.48	17.78
324	SLU 78	-53	-89	5624	1797.18	1.51	18.04
324	SLU 79	-52	-98	5561	1778.49	1.47	17.68
324	SLU 80	-53	-89	5600	1789.31	1.5	17.94
324	SLU 81	-51	-99	5684	1816.42	1.49	17.27
324	SLU 82	-52	-90	5723	1827.24	1.52	17.53
324	SLU 83	-52	-100	5724	1829.51	1.5	17.52
324	SLU 84	-52	-91	5763	1840.34	1.53	17.78
324	SLE RA 1	-37	-67	3743	1196.59	0.99	12.66
324	SLE RA 2	-38	-57	3786	1208.61	1.03	12.94
324	SLE RA 3	-38	-68	3785	1210.56	1.01	12.89
324	SLE RA 4	-38	-62	3811	1217.78	1.03	13.07
324	SLE RA 5	-38	-57	3813	1217.34	1.03	13.12
324	SLE RA 6	-38	-69	3811	1219.29	1.01	13.06
324	SLE RA 7	-39	-62	3837	1226.51	1.03	13.24
324	SLE RA 8	-38	-68	3795	1214.05	1.01	13
324	SLE RA 9	-39	-62	3822	1221.26	1.03	13.17
324	SLE RA 10	-38	-61	4100	1308.36	1.1	13.1
324	SLE RA 11	-38	-73	4099	1310.31	1.08	13.05
324	SLE RA 12	-39	-66	4125	1317.53	1.1	13.22
324	SLE RA 13	-39	-62	4127	1317.09	1.11	13.27
324	SLE RA 14	-39	-73	4125	1319.04	1.09	13.22
324	SLE RA 15	-39	-67	4151	1326.26	1.11	13.39
324	SLE RA 16	-39	-73	4109	1313.8	1.08	13.15
324	SLE RA 17	-39	-67	4135	1321.01	1.1	13.32
324	SLE RA 18	-38	-74	4191	1339.09	1.09	12.88
324	SLE RA 19	-38	-67	4217	1346.3	1.11	13.05
324	SLE RA 20	-38	-74	4218	1347.81	1.1	13.05
324	SLE RA 21	-39	-68	4244	1355.03	1.12	13.22
324	SLE FR 1	-37	-67	3743	1196.59	0.99	12.66
324	SLE FR 2	-37	-65	3752	1198.99	1	12.71
324	SLE FR 3	-37	-67	3753	1200.08	1	12.72
324	SLE FR 4	-38	-67	3886	1241.74	1.03	12.78
324	SLE FR 5	-38	-69	3888	1242.83	1.03	12.79
324	SLE FR 6	-38	-70	3967	1267.84	1.04	12.77
324	SLE QP 1	-37	-67	3743	1196.59	0.99	12.66
324	SLE QP 2	-37	-69	3877	1239.34	1.02	12.72
324	SLD 1	275	2	4649	1465.59	2.4	-96.68
324	SLD 2	333	-35	4605	1452.06	2.29	-117.05
324	SLD 3	309	-173	3784	1224.84	1.63	-108.63
324	SLD 4	367	-210	3741	1211.31	1.52	-129
324	SLD 5	-6	224	5428	1674.79	2.62	1.7
324	SLD 6	32	199	5399	1665.86	2.55	-11.75
324	SLD 7	108	-358	2546	872.28	0.06	-38.14
324	SLD 8	147	-383	2518	863.35	-0.01	-51.59



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
324	SLD 9	-221	245	5237	1615.32	2.06	77.04
324	SLD 10	-183	220	5209	1606.39	1.98	63.59
324	SLD 11	-107	-337	2356	812.81	-0.5	37.19
324	SLD 12	-68	-362	2327	803.88	-0.57	23.74
324	SLD 13	-442	72	4014	1267.36	0.52	154.45
324	SLD 14	-384	34	3971	1253.84	0.41	134.08
324	SLD 15	-408	-103	3150	1026.61	-0.24	142.49
324	SLD 16	-349	-140	3106	1013.09	-0.36	122.12
324	SLV 1	450	47	5105	1599.11	3.2	-158.32
324	SLV 2	542	-12	5037	1577.92	3.02	-190.23
324	SLV 3	506	-235	3708	1210.03	1.96	-177.49
324	SLV 4	597	-294	3640	1188.84	1.78	-209.41
324	SLV 5	8	405	6377	1941.33	3.59	-3.55
324	SLV 6	70	365	6332	1927.06	3.47	-25.03
324	SLV 7	192	-536	1720	644.4	-0.54	-67.47
324	SLV 8	254	-575	1675	630.13	-0.66	-88.96
324	SLV 9	-328	437	6080	1848.55	2.71	114.4
324	SLV 10	-267	398	6034	1834.28	2.59	92.92
324	SLV 11	-144	-503	1423	551.61	-1.42	50.48
324	SLV 12	-83	-543	1378	537.35	-1.54	28.99
324	SLV 13	-672	156	4115	1289.84	0.27	234.85
324	SLV 14	-580	97	4047	1268.65	0.09	202.94
324	SLV 15	-616	-127	2718	900.76	-0.97	215.67
324	SLV 16	-525	-185	2650	879.57	-1.15	183.76
324	SLV FO 1	499	58	5228	1635.09	3.41	-175.42
324	SLV FO 2	600	-6	5153	1611.78	3.22	-210.52
324	SLV FO 3	560	-252	3691	1207.1	2.05	-196.52
324	SLV FO 4	660	-316	3616	1183.79	1.86	-231.62
324	SLV FO 5	13	452	6627	2011.53	3.84	-5.18
324	SLV FO 6	80	409	6577	1995.83	3.71	-28.81
324	SLV FO 7	215	-583	1505	584.9	-0.7	-75.49
324	SLV FO 8	283	-626	1455	569.21	-0.83	-99.12
324	SLV FO 9	-358	488	6300	1909.47	2.88	124.57
324	SLV FO 10	-290	444	6250	1893.77	2.75	100.94
324	SLV FO 11	-155	-547	1178	482.84	-1.67	54.25
324	SLV FO 12	-87	-590	1128	467.15	-1.8	30.62
324	SLV FO 13	-735	178	4139	1294.89	0.19	257.06
324	SLV FO 14	-635	114	4064	1271.58	0	221.96
324	SLV FO 15	-674	-132	2602	866.9	-1.17	235.97
324	SLV FO 16	-574	-197	2527	843.59	-1.37	200.87
324	CRTFP Ux+	0	0	0	0	0	0
324	CRTFP Ux-	0	0	0	0	0	0
324	CRTFP Uy+	0	0	0	0	0	0
324	CRTFP Uy-	0	0	0	0	0	0
325	SLU 1	-30	-63	2979	946.07	84.21	12
325	SLU 2	-31	-50	3032	960.41	85.73	12
325	SLU 3	-31	-64	3031	963.3	85.69	12.33
325	SLU 4	-31	-56	3063	971.9	86.6	12.33
325	SLU 5	-31	-51	3064	971.18	86.65	12.24
325	SLU 6	-31	-65	3063	974.07	86.61	12.57
325	SLU 7	-32	-57	3095	982.67	87.52	12.57
325	SLU 8	-31	-64	3044	967.61	86.05	12.47
325	SLU 9	-32	-56	3075	976.21	86.96	12.47
325	SLU 10	-31	-56	3422	1083.57	96.76	12.41
325	SLU 11	-31	-70	3421	1086.46	96.72	12.74
325	SLU 12	-32	-63	3453	1095.06	97.63	12.74
325	SLU 13	-32	-57	3454	1094.34	97.68	12.64
325	SLU 14	-32	-71	3453	1097.22	97.64	12.98
325	SLU 15	-33	-63	3485	1105.83	98.55	12.98
325	SLU 16	-32	-71	3434	1090.77	97.08	12.88
325	SLU 17	-32	-63	3466	1099.37	97.99	12.88
325	SLU 18	-31	-72	3536	1122.01	99.96	12.58
325	SLU 19	-31	-64	3568	1130.61	100.88	12.58
325	SLU 20	-31	-73	3568	1132.78	100.88	12.82
325	SLU 21	-32	-65	3600	1141.38	101.8	12.82
325	SLU 22	-34	-70	3400	1081.5	96.15	13.65
325	SLU 23	-35	-57	3453	1095.84	97.67	13.65
325	SLU 24	-35	-71	3452	1098.73	97.63	13.98
325	SLU 25	-35	-64	3484	1107.33	98.55	13.98
325	SLU 26	-36	-58	3486	1106.61	98.59	13.89
325	SLU 27	-35	-72	3485	1109.5	98.55	14.22
325	SLU 28	-36	-64	3517	1118.1	99.47	14.22
325	SLU 29	-35	-72	3465	1103.04	97.99	14.12
325	SLU 30	-36	-64	3497	1111.64	98.91	14.12
325	SLU 31	-36	-64	3843	1219	108.7	14.06
325	SLU 32	-35	-78	3842	1221.89	108.66	14.39
325	SLU 33	-36	-70	3874	1230.49	109.57	14.39
325	SLU 34	-36	-65	3876	1229.77	109.62	14.3
325	SLU 35	-36	-79	3875	1232.66	109.58	14.63
325	SLU 36	-37	-71	3907	1241.26	110.49	14.63
325	SLU 37	-36	-78	3855	1226.2	109.02	14.53
325	SLU 38	-36	-70	3887	1234.8	109.93	14.53
325	SLU 39	-35	-79	3957	1257.44	111.9	14.23
325	SLU 40	-35	-72	3989	1266.04	112.82	14.24
325	SLU 41	-35	-80	3990	1268.21	112.83	14.47
325	SLU 42	-36	-73	4022	1276.81	113.74	14.47
325	SLU 43	-37	-79	3728	1183.46	105.38	15.03
325	SLU 44	-38	-66	3781	1197.8	106.9	15.03
325	SLU 45	-38	-80	3780	1200.69	106.86	15.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLU 46	-39	-72	3812	1209.29	107.77	15.37
325	SLU 47	-39	-67	3813	1208.57	107.82	15.27
325	SLU 48	-39	-81	3812	1211.45	107.78	15.6
325	SLU 49	-39	-73	3844	1220.06	108.69	15.6
325	SLU 50	-38	-80	3793	1205	107.22	15.5
325	SLU 51	-39	-73	3825	1213.6	108.13	15.5
325	SLU 52	-39	-73	4171	1320.95	117.93	15.44
325	SLU 53	-39	-87	4170	1323.84	117.89	15.77
325	SLU 54	-39	-79	4202	1332.45	118.8	15.77
325	SLU 55	-40	-73	4203	1331.72	118.85	15.68
325	SLU 56	-39	-87	4203	1334.61	118.81	16.01
325	SLU 57	-40	-80	4234	1343.22	119.72	16.01
325	SLU 58	-39	-87	4183	1328.15	118.25	15.91
325	SLU 59	-40	-79	4215	1336.76	119.16	15.91
325	SLU 60	-38	-88	4285	1359.4	121.13	15.62
325	SLU 61	-39	-80	4317	1368	122.04	15.62
325	SLU 62	-39	-89	4317	1370.17	122.05	15.85
325	SLU 63	-39	-81	4349	1378.77	122.97	15.85
325	SLU 64	-41	-86	4149	1318.89	117.32	16.68
325	SLU 65	-42	-74	4202	1333.23	118.84	16.68
325	SLU 66	-42	-88	4201	1336.12	118.8	17.02
325	SLU 67	-43	-80	4233	1344.72	119.71	17.02
325	SLU 68	-43	-74	4235	1344	119.76	16.92
325	SLU 69	-43	-88	4234	1346.89	119.72	17.25
325	SLU 70	-43	-81	4266	1355.49	120.63	17.25
325	SLU 71	-43	-88	4214	1340.43	119.16	17.15
325	SLU 72	-43	-80	4246	1349.03	120.07	17.16
325	SLU 73	-43	-80	4592	1456.39	129.87	17.09
325	SLU 74	-43	-94	4591	1459.27	129.83	17.43
325	SLU 75	-44	-86	4623	1467.88	130.74	17.43
325	SLU 76	-44	-81	4625	1467.15	130.79	17.33
325	SLU 77	-44	-95	4624	1470.04	130.75	17.66
325	SLU 78	-44	-87	4656	1478.65	131.66	17.66
325	SLU 79	-43	-94	4604	1463.59	130.19	17.56
325	SLU 80	-44	-87	4636	1472.19	131.1	17.56
325	SLU 81	-42	-96	4706	1494.83	133.07	17.27
325	SLU 82	-43	-88	4738	1503.43	133.99	17.27
325	SLU 83	-43	-96	4739	1505.6	133.99	17.5
325	SLU 84	-44	-89	4771	1514.2	134.91	17.5
325	SLE RA 1	-31	-65	3099	984.77	87.62	12.47
325	SLE RA 2	-32	-56	3134	994.32	88.64	12.47
325	SLE RA 3	-31	-66	3134	996.25	88.61	12.69
325	SLE RA 4	-32	-60	3155	1001.99	89.22	12.69
325	SLE RA 5	-32	-57	3156	1001.5	89.25	12.63
325	SLE RA 6	-32	-66	3155	1003.43	89.22	12.85
325	SLE RA 7	-32	-61	3177	1009.16	89.83	12.85
325	SLE RA 8	-32	-66	3142	999.12	88.85	12.78
325	SLE RA 9	-32	-61	3164	1004.86	89.46	12.79
325	SLE RA 10	-32	-61	3394	1076.43	95.99	12.74
325	SLE RA 11	-32	-70	3394	1078.36	95.96	12.97
325	SLE RA 12	-32	-65	3415	1084.09	96.57	12.97
325	SLE RA 13	-32	-61	3416	1083.61	96.6	12.9
325	SLE RA 14	-32	-70	3416	1085.53	96.57	13.12
325	SLE RA 15	-33	-65	3437	1091.27	97.18	13.12
325	SLE RA 16	-32	-70	3402	1081.23	96.2	13.06
325	SLE RA 17	-33	-65	3424	1086.96	96.81	13.06
325	SLE RA 18	-32	-71	3470	1102.06	98.12	12.86
325	SLE RA 19	-32	-66	3492	1107.79	98.73	12.86
325	SLE RA 20	-32	-71	3492	1109.24	98.74	13.02
325	SLE RA 21	-32	-66	3513	1114.97	99.35	13.02
325	SLE FR 1	-31	-65	3099	984.77	87.62	12.47
325	SLE FR 2	-31	-63	3106	986.68	87.83	12.47
325	SLE FR 3	-31	-65	3108	987.64	87.87	12.53
325	SLE FR 4	-31	-65	3217	1021.87	90.98	12.59
325	SLE FR 5	-31	-67	3219	1022.83	91.02	12.65
325	SLE FR 6	-31	-68	3285	1043.41	92.87	12.67
325	SLE QP 1	-31	-65	3099	984.77	87.62	12.47
325	SLE QP 2	-31	-67	3210	1019.95	90.77	12.59
325	SLD 1	231	-12	3817	1194.42	108.62	-80.64
325	SLD 2	280	-42	3784	1183.76	107.62	-96.89
325	SLD 3	259	-156	3116	1002.67	88.49	-86.76
325	SLD 4	308	-186	3082	992.02	87.49	-103.01
325	SLD 5	-5	174	4462	1365.02	126.84	-3.17
325	SLD 6	28	154	4440	1357.98	126.18	-13.9
325	SLD 7	90	-307	2124	725.88	59.73	-23.57
325	SLD 8	123	-327	2102	718.84	59.08	-34.3
325	SLD 9	-185	194	4319	1321.06	122.47	59.48
325	SLD 10	-153	174	4297	1314.03	121.81	48.75
325	SLD 11	-90	-288	1980	681.92	55.37	39.08
325	SLD 12	-58	-307	1958	674.89	54.71	28.35
325	SLD 13	-370	53	3338	1047.89	94.05	128.19
325	SLD 14	-322	23	3305	1037.23	93.06	111.94
325	SLD 15	-342	-91	2637	856.15	73.92	122.07
325	SLD 16	-293	-121	2604	845.49	72.93	105.82
325	SLV 1	378	23	4177	1297.56	119.18	-133.26
325	SLV 2	455	-24	4125	1280.86	117.62	-158.72
325	SLV 3	424	-210	3043	987.68	86.65	-143.07
325	SLV 4	501	-258	2991	970.98	85.09	-168.53
325	SLV 5	8	323	5230	1576.34	148.93	-11.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
325	SLV 6	60	291	5195	1565.1	147.88	-28.69
325	SLV 7	161	-455	1450	543.4	40.48	-44.23
325	SLV 8	212	-487	1415	532.16	39.43	-61.37
325	SLV 9	-274	353	5006	1507.75	142.11	86.54
325	SLV 10	-223	321	4971	1496.51	141.06	69.4
325	SLV 11	-122	-424	1226	474.81	33.67	53.86
325	SLV 12	-70	-456	1191	463.57	32.62	36.72
325	SLV 13	-563	124	3430	1068.93	96.46	193.7
325	SLV 14	-486	77	3378	1052.23	94.9	168.24
325	SLV 15	-517	-109	2296	759.04	63.92	183.9
325	SLV 16	-441	-156	2244	742.35	62.37	158.44
325	SLV FO 1	419	32	4273	1325.32	122.02	-147.85
325	SLV FO 2	504	-20	4216	1306.95	120.31	-175.86
325	SLV FO 3	470	-225	3026	984.45	86.23	-158.63
325	SLV FO 4	554	-277	2969	966.08	84.52	-186.64
325	SLV FO 5	12	362	5431	1631.98	154.74	-13.96
325	SLV FO 6	69	327	5393	1619.61	153.59	-32.82
325	SLV FO 7	180	-493	1274	495.74	35.45	-49.91
325	SLV FO 8	236	-529	1236	483.38	34.3	-68.76
325	SLV FO 9	-299	395	5185	1556.53	147.25	93.94
325	SLV FO 10	-242	360	5147	1544.16	146.09	75.08
325	SLV FO 11	-131	-460	1028	420.29	57.99	57.99
325	SLV FO 12	-74	-495	989	407.93	26.8	39.14
325	SLV FO 13	-616	144	3452	1073.82	97.03	211.82
325	SLV FO 14	-532	91	3395	1055.46	95.31	183.81
325	SLV FO 15	-566	-113	2205	732.95	61.24	201.03
325	SLV FO 16	-482	-165	2148	714.59	59.53	173.03
325	CRTFP Ux+	0	0	0	0	0	0
325	CRTFP Ux-	0	0	0	0	0	0
325	CRTFP Uy+	0	0	0	0	0	0
325	CRTFP Uy-	0	0	0	0	0	0
326	SLU 1	-44	-101	4355	1350.36	89.63	16.69
326	SLU 2	-46	-82	4432	1369.99	91.25	16.82
326	SLU 3	-46	-103	4431	1374.92	91.21	17.15
326	SLU 4	-46	-91	4477	1386.7	92.18	17.23
326	SLU 5	-47	-83	4479	1385.35	92.23	17.15
326	SLU 6	-46	-104	4478	1390.29	92.19	17.48
326	SLU 7	-47	-93	4524	1402.06	93.16	17.56
326	SLU 8	-46	-103	4450	1381.09	91.59	17.35
326	SLU 9	-47	-92	4496	1392.86	92.56	17.43
326	SLU 10	-47	-92	5002	1546.25	103	17.38
326	SLU 11	-47	-113	5001	1551.18	102.95	17.71
326	SLU 12	-48	-102	5048	1562.96	103.93	17.79
326	SLU 13	-48	-94	5050	1561.61	103.98	17.71
326	SLU 14	-48	-115	5049	1566.54	103.93	18.04
326	SLU 15	-49	-103	5095	1578.32	104.91	18.12
326	SLU 16	-47	-114	5020	1557.35	103.34	17.91
326	SLU 17	-48	-102	5066	1569.12	104.31	17.99
326	SLU 18	-46	-116	5170	1602.16	106.41	17.49
326	SLU 19	-47	-105	5216	1613.94	107.38	17.57
326	SLU 20	-47	-117	5217	1617.52	107.39	17.82
326	SLU 21	-48	-106	5263	1629.3	108.36	17.9
326	SLU 22	-51	-113	4968	1543.35	102.37	19
326	SLU 23	-52	-94	5045	1562.98	103.99	19.14
326	SLU 24	-52	-115	5044	1567.92	103.95	19.47
326	SLU 25	-53	-103	5090	1579.69	104.92	19.55
326	SLU 26	-53	-95	5092	1578.34	104.97	19.47
326	SLU 27	-53	-116	5092	1583.28	104.93	19.8
326	SLU 28	-54	-105	5138	1595.05	105.9	19.88
326	SLU 29	-52	-115	5063	1574.08	104.33	19.67
326	SLU 30	-53	-104	5109	1585.86	105.3	19.75
326	SLU 31	-53	-104	5616	1739.24	115.74	19.7
326	SLU 32	-53	-125	5615	1744.17	115.69	20.03
326	SLU 33	-54	-114	5661	1755.95	116.67	20.11
326	SLU 34	-54	-106	5663	1754.6	116.72	20.03
326	SLU 35	-54	-126	5662	1759.54	116.67	20.36
326	SLU 36	-55	-115	5708	1771.31	117.65	20.44
326	SLU 37	-54	-126	5633	1750.34	116.08	20.23
326	SLU 38	-54	-114	5679	1762.11	117.05	20.31
326	SLU 39	-52	-128	5783	1795.15	119.15	19.81
326	SLU 40	-53	-117	5829	1806.93	120.12	19.89
326	SLU 41	-53	-129	5830	1810.51	120.13	20.14
326	SLU 42	-54	-118	5877	1822.29	121.1	20.22
326	SLU 43	-55	-127	5451	1689.3	112.15	20.9
326	SLU 44	-57	-108	5528	1708.93	113.77	21.03
326	SLU 45	-57	-129	5527	1713.86	113.73	21.36
326	SLU 46	-58	-118	5573	1725.64	114.7	21.44
326	SLU 47	-58	-109	5575	1724.29	114.75	21.36
326	SLU 48	-58	-130	5574	1729.23	114.71	21.69
326	SLU 49	-59	-119	5621	1741	115.68	21.77
326	SLU 50	-57	-129	5546	1720.03	114.11	21.56
326	SLU 51	-58	-118	5592	1731.81	115.08	21.64
326	SLU 52	-58	-119	6099	1885.19	125.52	21.59
326	SLU 53	-58	-140	6098	1890.12	125.47	21.92
326	SLU 54	-59	-128	6144	1901.9	126.45	22
326	SLU 55	-59	-120	6146	1900.55	126.5	21.93
326	SLU 56	-59	-141	6145	1905.48	126.46	22.25
326	SLU 57	-60	-129	6191	1917.26	127.43	22.34
326	SLU 58	-58	-140	6116	1896.29	125.86	22.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
326	SLU 59	-59	-129	6162	1908.06	126.83	22.2
326	SLU 60	-57	-142	6266	1941.1	128.93	21.7
326	SLU 61	-58	-131	6312	1952.88	129.9	21.78
326	SLU 62	-58	-143	6313	1956.46	129.91	22.03
326	SLU 63	-59	-132	6360	1968.24	130.88	22.11
326	SLU 64	-62	-139	6064	1882.29	124.89	23.21
326	SLU 65	-63	-120	6141	1901.92	126.51	23.35
326	SLU 66	-63	-141	6140	1906.86	126.47	23.68
326	SLU 67	-64	-130	6187	1918.63	127.44	23.76
326	SLU 68	-64	-121	6189	1917.28	127.49	23.68
326	SLU 69	-64	-142	6188	1922.22	127.45	24.01
326	SLU 70	-65	-131	6234	1934	128.42	24.09
326	SLU 71	-64	-141	6159	1913.02	126.85	23.88
326	SLU 72	-64	-130	6205	1924.8	127.82	23.96
326	SLU 73	-64	-131	6712	2078.18	138.26	23.91
326	SLU 74	-64	-151	6711	2083.11	138.21	24.24
326	SLU 75	-65	-140	6757	2094.89	139.19	24.32
326	SLU 76	-65	-132	6759	2093.54	139.24	24.24
326	SLU 77	-65	-153	6758	2098.48	139.19	24.57
326	SLU 78	-66	-141	6804	2110.25	140.17	24.65
326	SLU 79	-65	-152	6729	2089.28	138.6	24.44
326	SLU 80	-66	-141	6776	2101.05	139.57	24.52
326	SLU 81	-63	-154	6879	2134.09	141.67	24.02
326	SLU 82	-64	-143	6926	2145.87	142.64	24.1
326	SLU 83	-64	-155	6927	2149.45	142.65	24.35
326	SLU 84	-65	-144	6973	2161.23	143.62	24.43
326	SLE RA 1	-46	-104	4530	1405.5	93.27	17.35
326	SLE RA 2	-47	-92	4581	1418.59	94.35	17.44
326	SLE RA 3	-47	-106	4581	1421.88	94.32	17.66
326	SLE RA 4	-48	-98	4612	1429.73	94.97	17.71
326	SLE RA 5	-48	-92	4613	1428.83	95	17.66
326	SLE RA 6	-48	-106	4612	1432.12	94.98	17.88
326	SLE RA 7	-48	-99	4643	1439.97	95.62	17.93
326	SLE RA 8	-47	-106	4593	1425.99	94.58	17.79
326	SLE RA 9	-48	-98	4624	1433.84	95.23	17.84
326	SLE RA 10	-48	-99	4962	1536.09	102.18	17.81
326	SLE RA 11	-48	-113	4961	1539.38	102.15	18.03
326	SLE RA 12	-48	-105	4992	1547.23	102.8	18.09
326	SLE RA 13	-48	-99	4993	1546.33	102.83	18.03
326	SLE RA 14	-48	-113	4993	1549.62	102.81	18.25
326	SLE RA 15	-49	-106	5023	1557.48	103.45	18.31
326	SLE RA 16	-48	-113	4974	1543.49	102.41	18.16
326	SLE RA 17	-49	-105	5004	1551.34	103.06	18.22
326	SLE RA 18	-47	-114	5073	1573.37	104.46	17.88
326	SLE RA 19	-48	-107	5104	1581.22	105.1	17.94
326	SLE RA 20	-48	-115	5105	1583.61	105.11	18.1
326	SLE RA 21	-48	-108	5136	1591.46	105.76	18.16
326	SLE FR 1	-46	-104	4530	1405.5	93.27	17.35
326	SLE FR 2	-46	-102	4540	1408.12	93.49	17.37
326	SLE FR 3	-46	-105	4543	1409.6	93.53	17.44
326	SLE FR 4	-47	-105	4703	1458.48	96.84	17.53
326	SLE FR 5	-47	-108	4706	1459.96	96.89	17.6
326	SLE FR 6	-47	-109	4802	1489.44	98.86	17.62
326	SLE QP 1	-46	-104	4530	1405.5	93.27	17.35
326	SLE QP 2	-46	-107	4693	1455.86	96.63	17.51
326	SLD 1	345	-30	5532	1683.85	115.85	-116.02
326	SLD 2	418	-73	5487	1669.79	114.78	-139.71
326	SLD 3	387	-245	4522	1421.38	94.4	-126.21
326	SLD 4	460	-288	4477	1407.33	93.33	-149.9
326	SLD 5	-6	249	6484	1924.86	135.12	-2.84
326	SLD 6	42	221	6455	1915.58	134.41	-18.48
326	SLD 7	134	-466	3118	1049.98	63.62	-36.79
326	SLD 8	183	-495	3089	1040.7	62.91	-52.43
326	SLD 9	-275	280	6298	1871.02	130.34	87.45
326	SLD 10	-227	252	6268	1861.74	129.63	71.81
326	SLD 11	-135	-435	2931	996.14	58.84	53.49
326	SLD 12	-87	-464	2902	986.87	58.13	37.85
326	SLD 13	-553	73	4909	1504.39	99.92	184.91
326	SLD 14	-480	30	4865	1490.34	98.85	161.23
326	SLD 15	-511	-142	3899	1241.93	78.47	174.73
326	SLD 16	-438	-185	3855	1227.88	77.4	151.04
326	SLV 1	565	19	6030	1819.01	127.23	-191.36
326	SLV 2	680	-48	5960	1796.99	125.55	-228.47
326	SLV 3	633	-327	4397	1394.8	92.56	-207.68
326	SLV 4	747	-395	4328	1372.79	90.88	-244.79
326	SLV 5	13	469	7583	2212.29	158.7	-13.47
326	SLV 6	90	424	7536	2197.47	157.57	-38.46
326	SLV 7	238	-687	2142	798.28	43.14	-67.87
326	SLV 8	315	-732	2095	783.45	42.01	-92.86
326	SLV 9	-408	518	7291	2128.27	151.24	127.88
326	SLV 10	-331	472	7245	2113.45	150.11	102.89
326	SLV 11	-183	-639	1850	714.25	35.68	73.48
326	SLV 12	-106	-684	1804	699.43	34.55	48.49
326	SLV 13	-840	180	5058	1538.94	102.37	279.81
326	SLV 14	-725	113	4989	1516.92	100.69	242.7
326	SLV 15	-772	-167	3426	1114.73	67.7	263.49
326	SLV 16	-658	-234	3357	1092.72	66.02	226.38
326	SLV FO 1	626	32	6163	1855.32	130.29	-212.25
326	SLV FO 2	752	-42	6087	1831.1	128.44	-253.07



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
326	SLV FO 3	701	-349	4368	1388.69	92.16	-230.2
326	SLV FO 4	826	-424	4292	1364.48	90.31	-271.02
326	SLV FO 5	19	527	7872	2287.93	164.91	-16.57
326	SLV FO 6	104	477	7820	2271.63	163.66	-44.05
326	SLV FO 7	267	-745	1887	732.52	37.79	-76.41
326	SLV FO 8	352	-795	1835	716.21	36.55	-103.9
326	SLV FO 9	-444	580	7551	2195.51	156.7	138.91
326	SLV FO 10	-360	530	7500	2179.21	155.46	111.43
326	SLV FO 11	-197	-692	1566	640.09	29.59	79.07
326	SLV FO 12	-112	-742	1515	623.79	28.35	51.59
326	SLV FO 13	-919	209	5095	1547.25	102.94	306.04
326	SLV FO 14	-793	135	5018	1523.03	101.1	265.22
326	SLV FO 15	-845	-173	3299	1080.62	64.81	288.08
326	SLV FO 16	-719	-247	3223	1056.4	62.96	247.27
326	CRTFP Ux+	0	0	0	0	0	0
326	CRTFP Ux-	0	0	0	0	0	0
326	CRTFP Uy+	0	0	0	0	0	0
326	CRTFP Uy-	0	0	0	0	0	0
327	SLU 1	-25	-58	2386	661.94	-56.45	6.13
327	SLU 2	-26	-47	2428	671.34	-57.43	6.64
327	SLU 3	-26	-59	2427	673.94	-57.44	6.32
327	SLU 4	-26	-52	2453	679.58	-58.02	6.63
327	SLU 5	-26	-48	2454	678.85	-58.04	6.78
327	SLU 6	-26	-59	2453	681.45	-58.05	6.46
327	SLU 7	-27	-53	2478	687.09	-58.63	6.77
327	SLU 8	-26	-59	2437	676.96	-57.68	6.41
327	SLU 9	-26	-53	2463	682.6	-58.26	6.71
327	SLU 10	-26	-53	2741	757.75	-64.82	6.7
327	SLU 11	-26	-65	2740	760.35	-64.83	6.38
327	SLU 12	-27	-59	2765	765.99	-65.41	6.69
327	SLU 13	-27	-54	2766	765.26	-65.43	6.84
327	SLU 14	-27	-66	2765	767.86	-65.44	6.52
327	SLU 15	-27	-59	2791	773.51	-66.02	6.83
327	SLU 16	-27	-65	2750	763.37	-65.07	6.47
327	SLU 17	-27	-59	2775	769.01	-65.65	6.78
327	SLU 18	-26	-66	2832	785.39	-67.01	6.22
327	SLU 19	-26	-60	2858	791.03	-67.6	6.52
327	SLU 20	-26	-67	2858	792.9	-67.62	6.36
327	SLU 21	-27	-61	2883	798.54	-68.21	6.66
327	SLU 22	-28	-64	2720	756.16	-64.36	7.03
327	SLU 23	-29	-54	2762	765.56	-65.33	7.54
327	SLU 24	-29	-66	2761	768.16	-65.34	7.22
327	SLU 25	-30	-59	2787	773.8	-65.93	7.53
327	SLU 26	-30	-55	2788	773.07	-65.95	7.68
327	SLU 27	-30	-66	2787	775.67	-65.95	7.36
327	SLU 28	-30	-60	2812	781.31	-66.54	7.67
327	SLU 29	-29	-66	2771	771.18	-65.58	7.31
327	SLU 30	-30	-59	2797	776.82	-66.17	7.61
327	SLU 31	-30	-60	3075	851.97	-72.73	7.6
327	SLU 32	-30	-72	3074	854.58	-72.73	7.28
327	SLU 33	-30	-65	3099	860.22	-73.32	7.59
327	SLU 34	-30	-61	3100	859.48	-73.34	7.74
327	SLU 35	-30	-72	3099	862.09	-73.34	7.42
327	SLU 36	-31	-66	3125	867.73	-73.93	7.73
327	SLU 37	-30	-63	3084	857.59	-72.97	7.37
327	SLU 38	-31	-66	3109	863.23	-73.56	7.67
327	SLU 39	-29	-73	3166	879.61	-74.92	7.12
327	SLU 40	-30	-67	3192	885.25	-75.5	7.42
327	SLU 41	-30	-74	3192	887.12	-75.53	7.26
327	SLU 42	-30	-68	3217	892.76	-76.11	7.56
327	SLU 43	-31	-73	2987	828.21	-70.68	7.66
327	SLU 44	-32	-62	3029	837.61	-71.66	8.17
327	SLU 45	-32	-74	3028	840.22	-71.66	7.85
327	SLU 46	-32	-67	3054	845.86	-72.25	8.16
327	SLU 47	-32	-63	3055	845.12	-72.27	8.31
327	SLU 48	-32	-74	3054	847.73	-72.27	7.99
327	SLU 49	-33	-68	3079	853.37	-72.86	8.3
327	SLU 50	-32	-74	3038	843.23	-71.9	7.94
327	SLU 51	-33	-68	3064	848.87	-72.49	8.25
327	SLU 52	-33	-68	3342	924.03	-79.05	8.23
327	SLU 53	-33	-80	3341	926.63	-79.05	7.91
327	SLU 54	-33	-74	3366	932.27	-79.64	8.22
327	SLU 55	-33	-69	3367	931.54	-79.66	8.37
327	SLU 56	-33	-81	3367	934.14	-79.67	8.05
327	SLU 57	-34	-74	3392	939.78	-80.25	8.36
327	SLU 58	-33	-80	3351	929.65	-79.29	8
327	SLU 59	-33	-74	3376	935.29	-79.88	8.31
327	SLU 60	-32	-81	3433	951.66	-81.24	7.75
327	SLU 61	-33	-75	3459	957.3	-81.83	8.06
327	SLU 62	-33	-82	3459	959.17	-81.85	7.89
327	SLU 63	-33	-76	3484	964.81	-82.44	8.19
327	SLU 64	-35	-79	3321	922.43	-78.58	8.56
327	SLU 65	-35	-69	3363	931.84	-79.56	9.07
327	SLU 66	-35	-81	3362	934.44	-79.57	8.75
327	SLU 67	-36	-74	3388	940.08	-80.15	9.06
327	SLU 68	-36	-70	3389	939.35	-80.17	9.21
327	SLU 69	-36	-81	3388	941.95	-80.18	8.89
327	SLU 70	-36	-75	3414	947.59	-80.76	9.2
327	SLU 71	-36	-81	3373	937.46	-79.81	8.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLU 72	-36	-74	3398	943.1	-80.39	9.15
327	SLU 73	-36	-75	3676	1018.25	-86.95	9.13
327	SLU 74	-36	-87	3675	1020.85	-86.96	8.81
327	SLU 75	-37	-80	3700	1026.49	-87.54	9.12
327	SLU 76	-37	-76	3702	1025.76	-87.56	9.27
327	SLU 77	-37	-87	3701	1028.36	-87.57	8.95
327	SLU 78	-37	-81	3726	1034	-88.15	9.26
327	SLU 79	-36	-87	3685	1023.87	-87.2	8.9
327	SLU 80	-37	-81	3710	1029.51	-87.78	9.21
327	SLU 81	-36	-88	3767	1045.88	-89.14	8.65
327	SLU 82	-36	-82	3793	1051.53	-89.73	8.95
327	SLU 83	-36	-89	3793	1053.4	-89.75	8.79
327	SLU 84	-37	-83	3819	1059.04	-90.34	9.09
327	SLE RA 1	-26	-60	2481	688.86	-58.71	6.39
327	SLE RA 2	-26	-53	2509	695.12	-59.36	6.73
327	SLE RA 3	-26	-60	2509	696.86	-59.37	6.52
327	SLE RA 4	-27	-56	2526	700.62	-59.76	6.72
327	SLE RA 5	-27	-53	2527	700.13	-59.77	6.82
327	SLE RA 6	-27	-61	2526	701.87	-59.77	6.61
327	SLE RA 7	-27	-57	2543	705.63	-60.17	6.81
327	SLE RA 8	-27	-61	2516	698.87	-59.53	6.57
327	SLE RA 9	-27	-56	2532	702.63	-59.92	6.78
327	SLE RA 10	-27	-57	2718	752.73	-64.29	6.77
327	SLE RA 11	-27	-64	2717	754.47	-64.29	6.56
327	SLE RA 12	-27	-60	2734	758.23	-64.69	6.76
327	SLE RA 13	-27	-57	2735	757.74	-64.7	6.86
327	SLE RA 14	-27	-65	2734	759.48	-64.7	6.65
327	SLE RA 15	-27	-61	2751	763.24	-65.09	6.85
327	SLE RA 16	-27	-65	2724	756.48	-64.45	6.61
327	SLE RA 17	-27	-60	2741	760.24	-64.85	6.82
327	SLE RA 18	-27	-65	2779	771.16	-65.75	6.45
327	SLE RA 19	-27	-61	2796	774.92	-66.14	6.65
327	SLE RA 20	-27	-66	2796	776.16	-66.16	6.54
327	SLE RA 21	-27	-62	2813	779.92	-66.55	6.74
327	SLE FR 1	-26	-60	2481	688.86	-58.71	6.39
327	SLE FR 2	-26	-58	2487	690.11	-58.84	6.46
327	SLE FR 3	-26	-60	2488	690.86	-58.88	6.43
327	SLE FR 4	-26	-60	2576	714.8	-60.95	6.47
327	SLE FR 5	-26	-62	2577	715.55	-60.99	6.44
327	SLE FR 6	-26	-63	2630	730.01	-62.23	6.42
327	SLE QP 1	-26	-60	2481	688.86	-58.71	6.39
327	SLE QP 2	-26	-61	2571	713.55	-60.82	6.41
327	SLD 1	192	-19	3010	817.37	-70.83	-58.6
327	SLD 2	233	-42	2988	811.12	-70.32	-71.45
327	SLD 3	215	-139	2458	692.27	-58.09	-68.54
327	SLD 4	256	-162	2436	686.03	-57.57	-81.39
327	SLD 5	-3	138	3543	935.54	-83.24	4.29
327	SLD 6	24	123	3528	931.42	-82.9	-4.19
327	SLD 7	74	-263	1704	518.57	-40.77	-28.83
327	SLD 8	101	-278	1689	514.45	-40.43	-37.32
327	SLD 9	-153	155	3452	912.65	-81.22	50.13
327	SLD 10	-126	140	3437	908.53	-80.88	41.65
327	SLD 11	-76	-245	1613	495.68	-38.74	17.01
327	SLD 12	-49	-260	1598	491.55	-38.41	8.52
327	SLD 13	-308	39	2705	741.06	-64.07	94.2
327	SLD 14	-267	16	2683	734.82	-63.56	81.35
327	SLD 15	-285	-81	2153	615.97	-51.33	84.26
327	SLD 16	-244	-104	2131	609.73	-50.82	71.41
327	SLV 1	315	8	3272	879.09	-76.79	-95.16
327	SLV 2	379	-28	3237	869.31	-75.99	-115.28
327	SLV 3	352	-186	2380	676.89	-56.2	-111.12
327	SLV 4	416	-222	2345	667.12	-55.4	-131.25
327	SLV 5	8	261	4140	1071.69	-97	3.91
327	SLV 6	51	237	4116	1065.11	-96.46	-9.65
327	SLV 7	132	-387	1167	397.72	-28.35	-49.31
327	SLV 8	175	-411	1144	391.14	-27.81	-62.86
327	SLV 9	-227	288	3997	1035.96	-93.84	75.67
327	SLV 10	-184	264	3974	1029.38	-93.3	62.12
327	SLV 11	-103	-359	1025	361.99	-25.19	22.46
327	SLV 12	-60	-383	1001	355.4	-24.65	8.91
327	SLV 13	-468	99	2796	759.98	-66.25	144.06
327	SLV 14	-404	63	2761	750.2	-65.45	123.93
327	SLV 15	-431	-95	1904	557.79	-45.66	128.1
327	SLV 16	-367	-131	1869	548.01	-44.86	107.97
327	SLV FO 1	349	15	3342	895.64	-78.39	-105.31
327	SLV FO 2	419	-24	3303	884.88	-77.51	-127.45
327	SLV FO 3	390	-199	2361	673.23	-55.73	-122.87
327	SLV FO 4	460	-238	2322	662.47	-54.85	-145.01
327	SLV FO 5	11	293	4297	1107.51	-100.62	3.66
327	SLV FO 6	58	266	4271	1100.26	-100.02	-11.25
327	SLV FO 7	148	-419	1027	366.14	-25.1	-54.88
327	SLV FO 8	195	-446	1001	358.89	-24.51	-69.78
327	SLV FO 9	-247	323	4140	1068.2	-97.14	82.6
327	SLV FO 10	-200	296	4114	1060.96	-96.55	67.69
327	SLV FO 11	-111	-389	870	326.83	-21.62	24.06
327	SLV FO 12	-63	-415	844	319.59	-21.03	9.16
327	SLV FO 13	-512	115	2819	764.62	-66.8	157.82
327	SLV FO 14	-442	76	2780	753.86	-65.92	135.68
327	SLV FO 15	-471	-98	1838	542.21	-44.14	140.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
327	SLV FO 16	-401	-138	1799	531.45	-43.26	118.12
327	CRTFP Ux+	0	0	0	0	0	0
327	CRTFP Uy-	0	0	0	0	0	0
327	CRTFP Uy+	0	0	0	0	0	0
327	CRTFP Uy-	0	0	0	0	0	0
328	SLU 1	-37	-85	3482	998.89	-87	9.68
328	SLU 2	-39	-69	3543	1012.88	-88.48	10.49
328	SLU 3	-39	-86	3543	1016.95	-88.5	9.98
328	SLU 4	-39	-77	3579	1025.35	-89.4	10.46
328	SLU 5	-39	-70	3581	1024.19	-89.42	10.71
328	SLU 6	-39	-87	3580	1028.26	-89.44	10.19
328	SLU 7	-40	-78	3617	1036.65	-90.33	10.68
328	SLU 8	-39	-87	3557	1021.5	-88.87	10.11
328	SLU 9	-40	-77	3594	1029.9	-89.77	10.6
328	SLU 10	-40	-78	3999	1143.25	-99.87	10.62
328	SLU 11	-40	-96	3998	1147.32	-99.89	10.11
328	SLU 12	-40	-86	4035	1155.71	-100.78	10.59
328	SLU 13	-41	-79	4037	1154.55	-100.81	10.84
328	SLU 14	-40	-96	4036	1158.62	-100.82	10.32
328	SLU 15	-41	-87	4073	1167.02	-101.72	10.81
328	SLU 16	-40	-96	4013	1151.86	-100.25	10.24
328	SLU 17	-41	-86	4050	1160.26	-101.15	10.73
328	SLU 18	-39	-98	4134	1185.13	-103.26	9.87
328	SLU 19	-40	-88	4170	1193.52	-104.15	10.36
328	SLU 20	-40	-99	4171	1196.43	-104.2	10.08
328	SLU 21	-41	-89	4208	1204.83	-105.09	10.57
328	SLU 22	-43	-95	3968	1140.45	-99.08	11.1
328	SLU 23	-44	-79	4029	1154.44	-100.57	11.91
328	SLU 24	-44	-96	4028	1158.51	-100.59	11.39
328	SLU 25	-45	-87	4065	1166.9	-101.48	11.88
328	SLU 26	-45	-80	4066	1165.74	-101.51	12.13
328	SLU 27	-45	-97	4066	1169.81	-101.53	11.61
328	SLU 28	-45	-88	4102	1178.21	-102.42	12.1
328	SLU 29	-44	-97	4043	1163.05	-100.96	11.53
328	SLU 30	-45	-87	4080	1171.45	-101.85	12.02
328	SLU 31	-45	-88	4485	1284.8	-111.96	12.04
328	SLU 32	-45	-105	4484	1288.87	-111.97	11.53
328	SLU 33	-46	-96	4521	1297.27	-112.87	12.01
328	SLU 34	-46	-89	4522	1296.11	-112.89	12.26
328	SLU 35	-46	-106	4522	1300.18	-112.91	11.74
328	SLU 36	-46	-97	4558	1308.57	-113.81	12.23
328	SLU 37	-45	-106	4499	1293.42	-112.34	11.66
328	SLU 38	-46	-96	4535	1301.82	-113.24	12.15
328	SLU 39	-44	-108	4619	1326.68	-115.34	11.29
328	SLU 40	-45	-98	4656	1335.08	-116.24	11.77
328	SLU 41	-45	-109	4657	1337.99	-116.28	11.5
328	SLU 42	-46	-99	4693	1346.38	-117.18	11.99
328	SLU 43	-47	-107	4360	1250.02	-108.95	12.1
328	SLU 44	-48	-91	4421	1264.02	-110.44	12.91
328	SLU 45	-48	-109	4421	1268.09	-110.46	12.4
328	SLU 46	-49	-99	4457	1276.48	-111.35	12.88
328	SLU 47	-49	-92	4459	1275.32	-111.38	13.13
328	SLU 48	-49	-110	4458	1279.39	-111.4	12.61
328	SLU 49	-49	-100	4495	1287.79	-112.29	13.1
328	SLU 50	-48	-109	4435	1272.63	-110.83	12.53
328	SLU 51	-49	-99	4472	1281.03	-111.72	13.02
328	SLU 52	-49	-100	4877	1394.38	-121.82	13.04
328	SLU 53	-49	-118	4877	1398.45	-121.84	12.53
328	SLU 54	-50	-108	4913	1406.85	-122.73	13.01
328	SLU 55	-50	-101	4915	1405.69	-122.76	13.26
328	SLU 56	-50	-119	4914	1409.76	-122.78	12.74
328	SLU 57	-51	-109	4951	1418.15	-123.67	13.23
328	SLU 58	-50	-118	4891	1403	-122.21	12.66
328	SLU 59	-50	-108	4928	1411.39	-123.1	13.15
328	SLU 60	-48	-120	5012	1436.26	-125.21	12.29
328	SLU 61	-49	-110	5048	1444.66	-126.1	12.77
328	SLU 62	-49	-121	5049	1447.57	-126.15	12.5
328	SLU 63	-50	-111	5086	1455.96	-127.04	12.99
328	SLU 64	-52	-117	4846	1391.58	-121.04	13.52
328	SLU 65	-53	-101	4907	1405.57	-122.53	14.33
328	SLU 66	-53	-118	4906	1409.64	-122.54	13.81
328	SLU 67	-54	-109	4943	1418.04	-123.44	14.3
328	SLU 68	-54	-102	4945	1416.88	-123.46	14.54
328	SLU 69	-54	-119	4944	1420.95	-123.48	14.03
328	SLU 70	-55	-110	4981	1429.34	-124.38	14.51
328	SLU 71	-54	-119	4921	1414.19	-122.91	13.95
328	SLU 72	-54	-109	4958	1422.58	-123.81	14.43
328	SLU 73	-55	-110	5363	1535.94	-133.91	14.46
328	SLU 74	-54	-128	5362	1540.01	-133.93	13.94
328	SLU 75	-55	-118	5399	1548.4	-134.82	14.43
328	SLU 76	-55	-111	5401	1547.24	-134.85	14.67
328	SLU 77	-55	-129	5400	1551.31	-134.87	14.16
328	SLU 78	-56	-119	5436	1559.71	-135.76	14.65
328	SLU 79	-55	-128	5377	1544.55	-134.3	14.08
328	SLU 80	-56	-118	5414	1552.95	-135.19	14.57
328	SLU 81	-54	-130	5497	1577.82	-137.3	13.71
328	SLU 82	-55	-120	5534	1586.21	-138.19	14.19
328	SLU 83	-55	-131	5535	1589.12	-138.24	13.92
328	SLU 84	-55	-121	5572	1597.52	-139.13	14.41



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
328	SLE RA 1	-39	-88	3621	1039.34	-90.45	10.09
328	SLE RA 2	-40	-77	3662	1048.66	-91.44	10.63
328	SLE RA 3	-40	-89	3661	1051.38	-91.45	10.28
328	SLE RA 4	-40	-82	3686	1056.97	-92.05	10.61
328	SLE RA 5	-40	-78	3687	1056.2	-92.07	10.77
328	SLE RA 6	-40	-89	3686	1058.91	-92.08	10.43
328	SLE RA 7	-41	-83	3711	1064.51	-92.68	10.75
328	SLE RA 8	-40	-89	3671	1054.41	-91.7	10.37
328	SLE RA 9	-40	-83	3695	1060	-92.3	10.7
328	SLE RA 10	-41	-83	3966	1135.57	-99.03	10.71
328	SLE RA 11	-40	-95	3965	1138.29	-99.04	10.37
328	SLE RA 12	-41	-88	3990	1143.88	-99.64	10.7
328	SLE RA 13	-41	-84	3991	1143.11	-99.66	10.86
328	SLE RA 14	-41	-95	3990	1145.82	-99.67	10.51
328	SLE RA 15	-41	-89	4015	1151.42	-100.26	10.84
328	SLE RA 16	-41	-95	3975	1141.32	-99.29	10.46
328	SLE RA 17	-41	-89	3999	1146.91	-99.88	10.79
328	SLE RA 18	-40	-96	4055	1163.49	-101.29	10.21
328	SLE RA 19	-41	-90	4080	1169.09	-101.89	10.54
328	SLE RA 20	-41	-97	4080	1171.03	-101.92	10.36
328	SLE RA 21	-41	-91	4105	1176.63	-102.51	10.68
328	SLE FR 1	-39	-88	3621	1039.34	-90.45	10.09
328	SLE FR 2	-39	-86	3629	1041.2	-90.65	10.2
328	SLE FR 3	-39	-88	3631	1042.35	-90.7	10.14
328	SLE FR 4	-39	-88	3759	1078.45	-93.9	10.23
328	SLE FR 5	-39	-91	3761	1079.6	-93.95	10.18
328	SLE FR 6	-39	-92	3838	1101.41	-95.87	10.15
328	SLE QP 1	-39	-88	3621	1039.34	-90.45	10.09
328	SLE QP 2	-39	-90	3751	1076.58	-93.7	10.12
328	SLD 1	287	-26	4362	1224.03	-107.94	-90
328	SLD 2	348	-58	4331	1215.36	-107.25	-109.75
328	SLD 3	322	-207	3568	1038.7	-88.64	-105.6
328	SLD 4	383	-240	3537	1030.04	-87.94	-125.36
328	SLD 5	-5	210	5144	1403.45	-127.38	7.32
328	SLD 6	35	189	5124	1397.72	-126.92	-5.73
328	SLD 7	111	-395	2498	785.71	-63.03	-44.71
328	SLD 8	151	-416	2478	779.99	-62.57	-57.75
328	SLD 9	-230	236	5025	1373.18	-124.83	78
328	SLD 10	-189	215	5005	1367.45	-124.37	64.95
328	SLD 11	-114	-370	2379	755.44	-60.49	25.98
328	SLD 12	-73	-391	2358	749.72	-60.03	12.93
328	SLD 13	-461	59	3965	1123.13	-99.46	145.61
328	SLD 14	-400	27	3935	1114.46	-98.76	125.85
328	SLD 15	-427	-123	3171	937.81	-80.16	130
328	SLD 16	-365	-155	3141	929.14	-79.46	110.25
328	SLV 1	471	16	4726	1311.91	-116.47	-146.29
328	SLV 2	566	-35	4679	1298.33	-115.38	-177.24
328	SLV 3	526	-278	3443	1012.36	-85.26	-171.36
328	SLV 4	622	-328	3395	998.78	-84.17	-202.31
328	SLV 5	11	396	5999	1604.04	-148.06	7.01
328	SLV 6	76	362	5967	1594.9	-147.32	-13.83
328	SLV 7	197	-582	1721	605.52	-44.05	-76.57
328	SLV 8	262	-616	1689	596.38	-43.31	-97.41
328	SLV 9	-340	436	5813	1556.79	-144.09	117.66
328	SLV 10	-276	402	5781	1547.64	-143.35	96.82
328	SLV 11	-154	-543	1536	558.27	-40.08	34.08
328	SLV 12	-90	-577	1504	549.12	-39.34	13.24
328	SLV 13	-701	148	4107	1154.39	-103.23	222.56
328	SLV 14	-605	97	4059	1140.81	-102.14	191.61
328	SLV 15	-645	-146	2824	854.83	-72.03	197.49
328	SLV 16	-549	-196	2776	841.25	-70.94	166.54
328	SLV FO 1	522	26	4824	1335.45	-118.74	-161.93
328	SLV FO 2	627	-29	4771	1320.51	-117.54	-195.97
328	SLV FO 3	583	-297	3412	1005.93	-84.42	-189.51
328	SLV FO 4	688	-352	3360	991	-83.22	-223.56
328	SLV FO 5	16	445	6224	1656.79	-153.5	6.69
328	SLV FO 6	87	407	6188	1646.73	-152.69	-16.23
328	SLV FO 7	221	-632	1518	558.42	-39.08	-85.24
328	SLV FO 8	292	-669	1483	548.36	-38.28	-108.17
328	SLV FO 9	-370	488	6019	1604.81	-149.13	128.41
328	SLV FO 10	-299	451	5984	1594.75	-148.32	105.49
328	SLV FO 11	-166	-588	1314	506.43	-34.72	36.48
328	SLV FO 12	-95	-625	1279	496.38	-33.91	13.55
328	SLV FO 13	-767	171	4143	1162.17	-104.18	243.8
328	SLV FO 14	-662	116	4090	1147.23	-102.98	209.76
328	SLV FO 15	-705	-152	2731	832.66	-69.86	216.22
328	SLV FO 16	-600	-207	2679	817.72	-68.66	182.18
328	CRTFP Ux+	0	0	0	0	0	0
328	CRTFP Ux-	0	0	0	0	0	0
328	CRTFP Uy+	0	0	0	0	0	0
328	CRTFP Uy-	0	0	0	0	0	0
329	SLU 1	-44	-94	3946	1138.49	3.61	14.25
329	SLU 2	-45	-75	4014	1154.2	3.68	14.73
329	SLU 3	-45	-95	4014	1159.02	3.68	14.65
329	SLU 4	-46	-84	4055	1168.44	3.72	14.94
329	SLU 5	-46	-76	4057	1167.05	3.72	15.01
329	SLU 6	-46	-96	4056	1171.87	3.72	14.94
329	SLU 7	-47	-85	4097	1181.29	3.76	15.22
329	SLU 8	-46	-96	4030	1164.19	3.69	14.82



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
329	SLU 9	-47	-84	4071	1173.62	3.74	15.11
329	SLU 10	-47	-85	4531	1302.77	4.14	15.21
329	SLU 11	-47	-105	4530	1307.59	4.14	15.13
329	SLU 12	-47	-94	4571	1317.02	4.18	15.41
329	SLU 13	-48	-86	4573	1315.63	4.18	15.49
329	SLU 14	-47	-106	4573	1320.45	4.18	15.41
329	SLU 15	-48	-95	4614	1329.87	4.22	15.7
329	SLU 16	-47	-106	4547	1312.77	4.16	15.3
329	SLU 17	-48	-95	4588	1322.2	4.2	15.59
329	SLU 18	-46	-108	4683	1350.75	4.27	14.94
329	SLU 19	-47	-97	4725	1360.17	4.31	15.22
329	SLU 20	-47	-109	4726	1363.6	4.31	15.22
329	SLU 21	-48	-98	4767	1373.02	4.35	15.51
329	SLU 22	-50	-105	4493	1298.81	4.21	16.26
329	SLU 23	-52	-86	4561	1314.52	4.28	16.74
329	SLU 24	-51	-106	4561	1319.34	4.28	16.66
329	SLU 25	-52	-95	4602	1328.76	4.32	16.94
329	SLU 26	-52	-87	4604	1327.37	4.32	17.02
329	SLU 27	-52	-107	4603	1332.19	4.32	16.94
329	SLU 28	-53	-96	4644	1341.61	4.36	17.23
329	SLU 29	-52	-107	4577	1324.51	4.29	16.83
329	SLU 30	-53	-95	4619	1333.94	4.34	17.11
329	SLU 31	-53	-96	5078	1463.09	4.74	17.21
329	SLU 32	-53	-116	5077	1467.91	4.74	17.13
329	SLU 33	-54	-105	5118	1477.34	4.78	17.42
329	SLU 34	-54	-97	5120	1475.95	4.79	17.5
329	SLU 35	-54	-117	5120	1480.77	4.78	17.42
329	SLU 36	-55	-106	5161	1490.19	4.83	17.7
329	SLU 37	-53	-117	5094	1473.09	4.76	17.31
329	SLU 38	-54	-105	5135	1482.52	4.8	17.59
329	SLU 39	-52	-119	5231	1511.07	4.87	16.94
329	SLU 40	-53	-108	5272	1520.49	4.91	17.23
329	SLU 41	-53	-120	5273	1523.92	4.91	17.23
329	SLU 42	-54	-109	5314	1533.34	4.96	17.51
329	SLU 43	-55	-118	4942	1425.07	4.49	17.84
329	SLU 44	-56	-99	5010	1440.78	4.56	18.32
329	SLU 45	-56	-120	5010	1445.6	4.55	18.24
329	SLU 46	-57	-108	5051	1455.02	4.6	18.52
329	SLU 47	-57	-100	5053	1453.63	4.6	18.6
329	SLU 48	-57	-121	5052	1458.45	4.6	18.52
329	SLU 49	-58	-109	5093	1467.87	4.64	18.81
329	SLU 50	-57	-120	5026	1450.77	4.57	18.41
329	SLU 51	-58	-109	5068	1460.2	4.61	18.7
329	SLU 52	-58	-109	5527	1589.35	5.02	18.8
329	SLU 53	-58	-130	5526	1594.17	5.02	18.72
329	SLU 54	-58	-118	5568	1603.6	5.06	19
329	SLU 55	-59	-110	5569	1602.21	5.06	19.08
329	SLU 56	-58	-131	5569	1607.03	5.06	19
329	SLU 57	-59	-120	5610	1616.45	5.1	19.29
329	SLU 58	-58	-130	5543	1599.35	5.03	18.89
329	SLU 59	-59	-119	5584	1608.78	5.08	19.18
329	SLU 60	-57	-132	5680	1637.33	5.15	18.53
329	SLU 61	-58	-121	5721	1646.75	5.19	18.81
329	SLU 62	-58	-133	5722	1650.18	5.19	18.81
329	SLU 63	-59	-122	5763	1659.6	5.23	19.1
329	SLU 64	-61	-129	5489	1585.39	5.09	19.85
329	SLU 65	-63	-110	5557	1601.1	5.16	20.32
329	SLU 66	-62	-131	5557	1605.92	5.16	20.25
329	SLU 67	-63	-119	5598	1615.34	5.2	20.53
329	SLU 68	-64	-111	5600	1613.95	5.2	20.61
329	SLU 69	-63	-132	5599	1618.77	5.2	20.53
329	SLU 70	-64	-120	5640	1628.19	5.24	20.82
329	SLU 71	-63	-131	5573	1611.1	5.17	20.42
329	SLU 72	-64	-120	5615	1620.52	5.21	20.7
329	SLU 73	-64	-120	6074	1749.67	5.62	20.8
329	SLU 74	-64	-141	6073	1754.5	5.62	20.72
329	SLU 75	-65	-129	6115	1763.92	5.66	21.01
329	SLU 76	-65	-121	6116	1762.53	5.66	21.09
329	SLU 77	-65	-142	6116	1767.35	5.66	21.01
329	SLU 78	-66	-130	6157	1776.77	5.7	21.29
329	SLU 79	-64	-141	6090	1759.67	5.63	20.9
329	SLU 80	-65	-130	6131	1769.1	5.68	21.18
329	SLU 81	-63	-143	6227	1797.65	5.75	20.53
329	SLU 82	-64	-132	6268	1807.07	5.79	20.82
329	SLU 83	-64	-144	6269	1810.5	5.79	20.82
329	SLU 84	-65	-133	6310	1819.92	5.83	21.1
329	SLE RA 1	-46	-97	4102	1184.3	3.78	14.83
329	SLE RA 2	-47	-84	4148	1194.77	3.83	15.14
329	SLE RA 3	-47	-98	4147	1197.98	3.83	15.09
329	SLE RA 4	-47	-90	4175	1204.26	3.85	15.28
329	SLE RA 5	-47	-85	4176	1203.33	3.86	15.33
329	SLE RA 6	-47	-99	4175	1206.55	3.85	15.28
329	SLE RA 7	-48	-91	4203	1212.83	3.88	15.47
329	SLE RA 8	-47	-98	4158	1201.43	3.84	15.21
329	SLE RA 9	-47	-91	4186	1207.71	3.87	15.4
329	SLE RA 10	-48	-91	4492	1293.82	4.14	15.46
329	SLE RA 11	-47	-105	4492	1297.03	4.14	15.41
329	SLE RA 12	-48	-97	4519	1303.31	4.16	15.6
329	SLE RA 13	-48	-92	4520	1302.39	4.16	15.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
329	SLE RA 14	-48	-105	4520	1305.6	4.16	15.6
329	SLE RA 15	-49	-98	4547	1311.88	4.19	15.79
329	SLE RA 16	-48	-105	4503	1300.48	4.15	15.53
329	SLE RA 17	-48	-97	4530	1306.77	4.17	15.72
329	SLE RA 18	-47	-106	4594	1325.8	4.22	15.28
329	SLE RA 19	-48	-99	4621	1332.08	4.25	15.47
329	SLE RA 20	-48	-107	4622	1334.37	4.25	15.47
329	SLE RA 21	-48	-99	4650	1340.65	4.28	15.66
329	SLE FR 1	-46	-97	4102	1184.3	3.78	14.83
329	SLE FR 2	-46	-94	4111	1186.39	3.79	14.89
329	SLE FR 3	-46	-97	4113	1187.72	3.79	14.9
329	SLE FR 4	-46	-97	4259	1228.84	3.92	15.03
329	SLE FR 5	-46	-100	4261	1230.17	3.92	15.04
329	SLE FR 6	-46	-102	4348	1255.05	4	15.05
329	SLE QP 1	-46	-97	4102	1184.3	3.78	14.83
329	SLE QP 2	-46	-100	4249	1226.75	3.91	14.96
329	SLD 1	335	-20	4900	1381.67	5.7	-104.72
329	SLD 2	406	-54	4868	1372.88	5.58	-126.94
329	SLD 3	376	-236	4011	1175.07	4.65	-117.73
329	SLD 4	447	-270	3979	1166.28	4.52	-139.95
329	SLD 5	-6	259	5798	1588.15	6.07	2.79
329	SLD 6	41	236	5778	1582.35	5.99	-11.88
329	SLD 7	129	-463	2835	899.48	2.56	-40.57
329	SLD 8	176	-485	2815	893.68	2.48	-55.24
329	SLD 9	-268	286	5684	1559.82	5.35	85.17
329	SLD 10	-221	263	5664	1554.01	5.27	70.49
329	SLD 11	-133	-435	2721	871.15	1.84	41.81
329	SLD 12	-86	-458	2701	865.34	1.76	27.14
329	SLD 13	-539	71	4519	1287.22	3.3	169.88
329	SLD 14	-468	37	4488	1278.43	3.18	147.66
329	SLD 15	-498	-145	3630	1080.62	2.25	156.87
329	SLD 16	-427	-180	3599	1071.83	2.12	134.65
329	SLV 1	550	31	5289	1474.37	6.74	-172.15
329	SLV 2	661	-22	5240	1460.6	6.54	-206.97
329	SLV 3	615	-318	3852	1140.4	5.04	-193.02
329	SLV 4	726	-372	3803	1126.63	4.84	-227.83
329	SLV 5	13	480	6750	1810.13	7.38	-3.03
329	SLV 6	88	444	6717	1800.85	7.24	-26.47
329	SLV 7	230	-685	1960	696.89	1.71	-72.58
329	SLV 8	305	-722	1927	687.62	1.57	-96.02
329	SLV 9	-397	522	6572	1765.88	6.25	125.95
329	SLV 10	-322	486	6539	1756.6	6.12	102.51
329	SLV 11	-181	-643	1782	652.64	0.59	56.4
329	SLV 12	-105	-679	1749	643.37	0.45	32.96
329	SLV 13	-819	173	4696	1326.87	2.99	257.76
329	SLV 14	-707	119	4647	1313.1	2.79	222.95
329	SLV 15	-754	-177	3259	992.9	1.29	236.9
329	SLV 16	-642	-231	3210	979.13	1.09	202.08
329	SLV FO 1	609	44	5393	1499.13	7.02	-190.87
329	SLV FO 2	732	-15	5339	1483.98	6.8	-229.16
329	SLV FO 3	681	-340	3812	1131.76	5.15	-213.82
329	SLV FO 4	804	-399	3759	1116.61	4.93	-252.11
329	SLV FO 5	19	538	7000	1868.46	7.72	-4.83
329	SLV FO 6	102	498	6963	1858.26	7.57	-30.61
329	SLV FO 7	258	-744	1731	643.9	1.49	-81.33
329	SLV FO 8	340	-784	1695	633.71	1.34	-107.12
329	SLV FO 9	-432	585	6804	1819.79	6.49	137.04
329	SLV FO 10	-350	545	6768	1809.59	6.34	111.26
329	SLV FO 11	-194	-697	1535	595.23	0.25	60.54
329	SLV FO 12	-111	-737	1499	585.03	0.1	34.76
329	SLV FO 13	-896	200	4740	1336.88	2.9	282.04
329	SLV FO 14	-773	141	4686	1321.73	2.68	243.75
329	SLV FO 15	-824	-185	3160	969.51	1.03	259.09
329	SLV FO 16	-702	-244	3106	954.37	0.81	220.79
329	CRTFP Ux+	0	0	0	0	0	0
329	CRTFP Ux-	0	0	0	0	0	0
329	CRTFP Uy+	0	0	0	0	0	0
329	CRTFP Uy-	0	0	0	0	0	0
330	SLU 1	-44	-86	3847	1102.38	2.31	14.31
330	SLU 2	-45	-67	3914	1117.46	2.34	14.79
330	SLU 3	-45	-87	3913	1122.22	2.35	14.7
330	SLU 4	-46	-76	3953	1131.26	2.37	14.99
330	SLU 5	-46	-68	3955	1129.88	2.37	15.07
330	SLU 6	-46	-88	3954	1134.64	2.37	14.99
330	SLU 7	-47	-77	3994	1143.69	2.4	15.27
330	SLU 8	-46	-88	3929	1127.23	2.36	14.87
330	SLU 9	-47	-76	3969	1136.28	2.38	15.16
330	SLU 10	-47	-76	4418	1261.54	2.6	15.29
330	SLU 11	-47	-97	4417	1266.3	2.61	15.2
330	SLU 12	-48	-85	4458	1275.34	2.63	15.49
330	SLU 13	-48	-77	4459	1273.96	2.63	15.57
330	SLU 14	-48	-98	4459	1278.72	2.64	15.49
330	SLU 15	-48	-86	4499	1287.77	2.66	15.77
330	SLU 16	-47	-97	4434	1271.31	2.62	15.38
330	SLU 17	-48	-85	4474	1280.36	2.64	15.66
330	SLU 18	-46	-99	4567	1308.21	2.68	15.02
330	SLU 19	-47	-87	4607	1317.26	2.7	15.31
330	SLU 20	-47	-100	4609	1320.64	2.71	15.31
330	SLU 21	-48	-88	4649	1329.68	2.73	15.59



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
330	SLU 22	-50	-96	4377	1256.58	2.71	16.32
330	SLU 23	-52	-76	4444	1271.66	2.74	16.8
330	SLU 24	-51	-97	4443	1276.42	2.75	16.72
330	SLU 25	-52	-86	4483	1285.46	2.77	17
330	SLU 26	-53	-77	4485	1284.08	2.77	17.08
330	SLU 27	-52	-98	4484	1288.84	2.77	17
330	SLU 28	-53	-87	4524	1297.89	2.8	17.29
330	SLU 29	-52	-98	4459	1281.43	2.76	16.89
330	SLU 30	-53	-86	4499	1290.48	2.78	17.18
330	SLU 31	-53	-86	4948	1415.74	3	17.3
330	SLU 32	-53	-106	4947	1420.5	3.01	17.22
330	SLU 33	-54	-95	4988	1429.55	3.03	17.5
330	SLU 34	-54	-87	4989	1428.17	3.03	17.58
330	SLU 35	-54	-107	4989	1432.93	3.04	17.5
330	SLU 36	-55	-96	5029	1441.97	3.06	17.79
330	SLU 37	-53	-107	4964	1425.52	3.02	17.39
330	SLU 38	-54	-95	5004	1434.56	3.04	17.68
330	SLU 39	-52	-109	5097	1462.42	3.08	17.04
330	SLU 40	-53	-97	5138	1471.46	3.1	17.32
330	SLU 41	-53	-110	5139	1474.84	3.11	17.32
330	SLU 42	-54	-98	5179	1483.89	3.13	17.61
330	SLU 43	-55	-108	4819	1380.22	2.86	17.91
330	SLU 44	-57	-89	4886	1395.3	2.9	18.39
330	SLU 45	-56	-110	4885	1400.06	2.9	18.3
330	SLU 46	-57	-98	4925	1409.11	2.92	18.59
330	SLU 47	-57	-90	4927	1407.72	2.92	18.67
330	SLU 48	-57	-111	4926	1412.48	2.93	18.59
330	SLU 49	-58	-99	4967	1421.53	2.95	18.87
330	SLU 50	-57	-110	4901	1405.07	2.91	18.48
330	SLU 51	-58	-99	4941	1414.12	2.93	18.76
330	SLU 52	-58	-98	5390	1539.38	3.16	18.89
330	SLU 53	-58	-119	5390	1544.14	3.17	18.8
330	SLU 54	-59	-107	5430	1553.19	3.19	19.09
330	SLU 55	-59	-99	5432	1551.81	3.18	19.17
330	SLU 56	-59	-120	5431	1556.57	3.19	19.09
330	SLU 57	-59	-108	5471	1565.61	3.21	19.38
330	SLU 58	-58	-119	5406	1549.16	3.18	18.98
330	SLU 59	-59	-108	5446	1558.2	3.2	19.26
330	SLU 60	-57	-121	5540	1586.06	3.24	18.62
330	SLU 61	-58	-110	5580	1595.1	3.26	18.91
330	SLU 62	-58	-122	5581	1598.48	3.26	18.91
330	SLU 63	-59	-111	5621	1607.53	3.28	19.2
330	SLU 64	-61	-118	5349	1534.43	3.26	19.92
330	SLU 65	-63	-99	5416	1549.5	3.3	20.4
330	SLU 66	-62	-120	5415	1554.26	3.3	20.32
330	SLU 67	-63	-108	5455	1563.31	3.32	20.6
330	SLU 68	-64	-100	5457	1561.93	3.32	20.69
330	SLU 69	-63	-121	5456	1566.69	3.33	20.6
330	SLU 70	-64	-109	5497	1575.73	3.35	20.89
330	SLU 71	-63	-120	5431	1559.28	3.31	20.49
330	SLU 72	-64	-108	5472	1568.32	3.33	20.78
330	SLU 73	-64	-108	5920	1693.59	3.56	20.9
330	SLU 74	-64	-129	5920	1698.35	3.57	20.82
330	SLU 75	-65	-117	5960	1707.39	3.59	21.11
330	SLU 76	-65	-109	5962	1706.01	3.58	21.19
330	SLU 77	-65	-130	5961	1710.77	3.59	21.1
330	SLU 78	-66	-118	6001	1719.82	3.61	21.39
330	SLU 79	-64	-129	5936	1703.36	3.57	20.99
330	SLU 80	-65	-118	5976	1712.41	3.6	21.28
330	SLU 81	-63	-131	6070	1740.26	3.64	20.64
330	SLU 82	-64	-120	6110	1749.31	3.66	20.93
330	SLU 83	-64	-132	6111	1752.69	3.66	20.92
330	SLU 84	-65	-121	6151	1761.73	3.68	21.21
330	SLE RA 1	-46	-89	3998	1146.44	2.42	14.88
330	SLE RA 2	-47	-76	4043	1156.49	2.44	15.2
330	SLE RA 3	-47	-90	4042	1159.66	2.45	15.15
330	SLE RA 4	-47	-82	4069	1165.69	2.46	15.34
330	SLE RA 5	-47	-76	4070	1164.77	2.46	15.39
330	SLE RA 6	-47	-90	4070	1167.94	2.47	15.33
330	SLE RA 7	-48	-83	4097	1173.97	2.48	15.53
330	SLE RA 8	-47	-90	4053	1163	2.45	15.26
330	SLE RA 9	-48	-82	4080	1169.03	2.47	15.45
330	SLE RA 10	-48	-82	4379	1252.54	2.62	15.54
330	SLE RA 11	-48	-96	4379	1255.72	2.62	15.48
330	SLE RA 12	-48	-88	4405	1261.75	2.64	15.67
330	SLE RA 13	-48	-83	4407	1260.83	2.64	15.73
330	SLE RA 14	-48	-96	4406	1264	2.64	15.67
330	SLE RA 15	-49	-89	4433	1270.03	2.65	15.86
330	SLE RA 16	-48	-96	4389	1259.06	2.63	15.59
330	SLE RA 17	-48	-88	4416	1265.09	2.64	15.79
330	SLE RA 18	-47	-97	4479	1283.66	2.67	15.36
330	SLE RA 19	-48	-90	4505	1289.69	2.68	15.55
330	SLE RA 20	-48	-98	4506	1291.94	2.69	15.55
330	SLE RA 21	-48	-90	4533	1297.97	2.7	15.74
330	SLE FR 1	-46	-89	3998	1146.44	2.42	14.88
330	SLE FR 2	-46	-86	4007	1148.45	2.42	14.95
330	SLE FR 3	-46	-89	4009	1149.75	2.43	14.96
330	SLE FR 4	-46	-89	4151	1189.61	2.5	15.09
330	SLE FR 5	-46	-91	4153	1190.92	2.5	15.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
330	SLE FR 6	-46	-93	4238	1215.05	2.55	15.12
330	SLE QP 1	-46	-89	3998	1146.44	2.42	14.88
330	SLE QP 2	-46	-91	4142	1187.6	2.5	15.03
330	SLD 1	335	-5	4736	1325.06	3.93	-104.35
330	SLD 2	406	-35	4709	1317.68	3.82	-126.51
330	SLD 3	375	-226	3875	1128.38	3.32	-117.35
330	SLD 4	447	-257	3848	1120.99	3.2	-139.5
330	SLD 5	-6	276	5631	1528.48	3.88	2.91
330	SLD 6	41	256	5613	1523.6	3.81	-11.72
330	SLD 7	129	-462	2761	872.86	1.83	-40.4
330	SLD 8	176	-482	2743	867.98	1.75	-55.03
330	SLD 9	-268	300	5541	1507.22	3.24	85.08
330	SLD 10	-221	280	5523	1502.35	3.16	70.45
330	SLD 11	-133	-438	2671	851.61	1.18	41.77
330	SLD 12	-86	-458	2654	846.73	1.11	27.14
330	SLD 13	-539	74	4436	1254.22	1.79	169.56
330	SLD 14	-468	44	4409	1246.83	1.67	147.4
330	SLD 15	-498	-147	3575	1057.53	1.17	156.56
330	SLD 16	-427	-177	3548	1050.15	1.06	134.41
330	SLV 1	550	50	5093	1407.7	4.76	-171.62
330	SLV 2	661	2	5051	1396.14	4.58	-206.33
330	SLV 3	615	-308	3701	1089.74	3.76	-192.46
330	SLV 4	726	-356	3659	1078.18	3.58	-227.17
330	SLV 5	13	502	6546	1738.03	4.71	-2.87
330	SLV 6	88	470	6517	1730.24	4.6	-26.24
330	SLV 7	230	-690	1907	678.17	1.4	-72.36
330	SLV 8	305	-722	1879	670.38	1.28	-95.73
330	SLV 9	-397	540	6406	1704.83	3.71	125.78
330	SLV 10	-322	507	6377	1697.04	3.59	102.41
330	SLV 11	-181	-653	1767	644.97	0.39	56.29
330	SLV 12	-106	-685	1738	637.18	0.28	32.92
330	SLV 13	-818	173	4625	1297.03	1.41	257.22
330	SLV 14	-707	126	4583	1285.47	1.23	222.51
330	SLV 15	-753	-184	3234	979.07	0.41	236.38
330	SLV 16	-642	-232	3191	967.51	0.23	201.67
330	SLV FO 1	609	64	5188	1429.71	4.98	-190.28
330	SLV FO 2	732	11	5142	1416.99	4.79	-228.46
330	SLV FO 3	681	-330	3657	1079.96	3.89	-213.21
330	SLV FO 4	803	-382	3611	1067.24	3.69	-251.39
330	SLV FO 5	19	562	6786	1793.07	4.94	-4.66
330	SLV FO 6	102	526	6755	1784.5	4.81	-30.37
330	SLV FO 7	257	-750	1684	627.23	1.29	-81.1
330	SLV FO 8	340	-785	1652	618.66	1.16	-106.8
330	SLV FO 9	-432	603	6632	1756.55	3.83	136.86
330	SLV FO 10	-350	567	6601	1747.98	3.7	111.15
330	SLV FO 11	-194	-709	1529	590.71	0.18	60.42
330	SLV FO 12	-111	-744	1498	582.14	0.05	34.71
330	SLV FO 13	-896	200	4673	1307.97	1.3	281.44
330	SLV FO 14	-773	147	4627	1295.25	1.1	243.26
330	SLV FO 15	-824	-194	3143	958.22	0.2	258.51
330	SLV FO 16	-701	-246	3096	945.5	0.01	220.33
330	CRTFP Ux+	0	0	0	0	0	0
330	CRTFP Ux-	0	0	0	0	0	0
330	CRTFP Uy+	0	0	0	0	0	0
330	CRTFP Uy-	0	0	0	0	0	0
331	SLU 1	-44	-77	3799	1083.56	0.54	14.27
331	SLU 2	-45	-58	3865	1098.46	0.53	14.75
331	SLU 3	-45	-79	3864	1103.05	0.54	14.66
331	SLU 4	-46	-67	3904	1111.98	0.54	14.95
331	SLU 5	-46	-59	3906	1110.67	0.54	15.03
331	SLU 6	-46	-80	3905	1115.26	0.55	14.94
331	SLU 7	-47	-68	3945	1124.19	0.55	15.23
331	SLU 8	-46	-79	3881	1107.98	0.55	14.83
331	SLU 9	-46	-67	3920	1116.92	0.54	15.12
331	SLU 10	-47	-66	4366	1240.67	0.53	15.26
331	SLU 11	-47	-87	4365	1245.26	0.54	15.17
331	SLU 12	-47	-75	4405	1254.2	0.54	15.46
331	SLU 13	-48	-67	4407	1252.88	0.53	15.54
331	SLU 14	-47	-88	4406	1257.47	0.54	15.45
331	SLU 15	-48	-76	4445	1266.41	0.54	15.74
331	SLU 16	-47	-87	4381	1250.2	0.54	15.34
331	SLU 17	-48	-76	4421	1259.13	0.54	15.63
331	SLU 18	-46	-89	4514	1286.73	0.53	14.99
331	SLU 19	-47	-78	4554	1295.67	0.53	15.28
331	SLU 20	-47	-90	4554	1298.94	0.53	15.28
331	SLU 21	-48	-78	4594	1307.87	0.53	15.56
331	SLU 22	-50	-86	4320	1234.31	0.66	16.28
331	SLU 23	-52	-67	4387	1249.2	0.66	16.76
331	SLU 24	-51	-87	4386	1253.8	0.67	16.67
331	SLU 25	-52	-76	4426	1262.73	0.67	16.96
331	SLU 26	-52	-67	4427	1261.41	0.66	17.04
331	SLU 27	-52	-88	4426	1266.01	0.67	16.95
331	SLU 28	-53	-77	4466	1274.94	0.67	17.24
331	SLU 29	-52	-88	4402	1258.73	0.67	16.84
331	SLU 30	-53	-76	4442	1267.67	0.67	17.13
331	SLU 31	-53	-75	4887	1391.42	0.65	17.27
331	SLU 32	-53	-96	4886	1396.01	0.67	17.18
331	SLU 33	-54	-84	4926	1404.95	0.66	17.47
331	SLU 34	-54	-76	4928	1403.63	0.66	17.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLU 35	-54	-97	4927	1408.22	0.67	17.46
331	SLU 36	-55	-85	4967	1417.16	0.67	17.75
331	SLU 37	-53	-96	4902	1400.95	0.67	17.35
331	SLU 38	-54	-85	4942	1409.88	0.66	17.64
331	SLU 39	-52	-98	5035	1437.48	0.66	17.01
331	SLU 40	-53	-86	5075	1446.41	0.65	17.29
331	SLU 41	-53	-99	5076	1449.69	0.66	17.29
331	SLU 42	-54	-87	5116	1458.62	0.66	17.58
331	SLU 43	-55	-97	4760	1356.95	0.66	17.86
331	SLU 44	-56	-78	4827	1371.84	0.65	18.34
331	SLU 45	-56	-99	4826	1376.43	0.66	18.25
331	SLU 46	-57	-87	4865	1385.37	0.66	18.54
331	SLU 47	-57	-79	4867	1384.05	0.65	18.62
331	SLU 48	-57	-100	4866	1388.64	0.67	18.53
331	SLU 49	-58	-88	4906	1397.58	0.66	18.82
331	SLU 50	-57	-99	4842	1381.36	0.66	18.42
331	SLU 51	-58	-87	4881	1390.3	0.66	18.71
331	SLU 52	-58	-86	5327	1514.06	0.64	18.85
331	SLU 53	-58	-107	5326	1518.65	0.66	18.76
331	SLU 54	-58	-95	5366	1527.58	0.65	19.05
331	SLU 55	-59	-87	5368	1526.27	0.65	19.13
331	SLU 56	-58	-108	5367	1530.86	0.66	19.04
331	SLU 57	-59	-96	5406	1539.79	0.66	19.33
331	SLU 58	-58	-108	5342	1523.58	0.66	18.93
331	SLU 59	-59	-96	5382	1532.52	0.66	19.22
331	SLU 60	-57	-109	5475	1560.11	0.65	18.58
331	SLU 61	-58	-98	5515	1569.05	0.64	18.87
331	SLU 62	-58	-110	5516	1572.32	0.65	18.87
331	SLU 63	-59	-99	5555	1581.26	0.65	19.15
331	SLU 64	-61	-106	5281	1507.69	0.78	19.87
331	SLU 65	-63	-87	5348	1522.59	0.78	20.35
331	SLU 66	-62	-108	5347	1527.18	0.79	20.26
331	SLU 67	-63	-96	5387	1536.12	0.78	20.55
331	SLU 68	-63	-88	5388	1534.8	0.78	20.63
331	SLU 69	-63	-108	5387	1539.39	0.79	20.54
331	SLU 70	-64	-97	5427	1548.32	0.79	20.83
331	SLU 71	-63	-108	5363	1532.11	0.79	20.43
331	SLU 72	-64	-96	5403	1541.05	0.79	20.72
331	SLU 73	-64	-95	5848	1664.8	0.77	20.86
331	SLU 74	-64	-116	5847	1669.4	0.78	20.77
331	SLU 75	-65	-104	5887	1678.33	0.78	21.06
331	SLU 76	-65	-96	5889	1677.01	0.77	21.14
331	SLU 77	-65	-117	5888	1681.61	0.79	21.05
331	SLU 78	-66	-105	5928	1690.54	0.78	21.34
331	SLU 79	-64	-116	5863	1674.33	0.78	20.94
331	SLU 80	-65	-105	5903	1683.27	0.78	21.23
331	SLU 81	-63	-118	5996	1710.86	0.77	20.6
331	SLU 82	-64	-106	6036	1719.8	0.77	20.88
331	SLU 83	-64	-119	6037	1723.07	0.78	20.88
331	SLU 84	-65	-107	6077	1732.01	0.77	21.17
331	SLE RA 1	-46	-80	3948	1126.63	0.57	14.84
331	SLE RA 2	-47	-67	3992	1136.56	0.57	15.16
331	SLE RA 3	-46	-81	3992	1139.62	0.58	15.1
331	SLE RA 4	-47	-73	4018	1145.58	0.58	15.3
331	SLE RA 5	-47	-67	4019	1144.7	0.57	15.35
331	SLE RA 6	-47	-81	4019	1147.76	0.58	15.29
331	SLE RA 7	-48	-73	4045	1153.72	0.58	15.48
331	SLE RA 8	-47	-81	4002	1142.91	0.58	15.22
331	SLE RA 9	-47	-73	4029	1148.87	0.58	15.41
331	SLE RA 10	-48	-72	4326	1231.37	0.57	15.5
331	SLE RA 11	-47	-86	4325	1234.43	0.57	15.44
331	SLE RA 12	-48	-78	4352	1240.39	0.57	15.63
331	SLE RA 13	-48	-73	4353	1239.51	0.57	15.69
331	SLE RA 14	-48	-87	4352	1242.57	0.58	15.63
331	SLE RA 15	-49	-79	4379	1248.53	0.58	15.82
331	SLE RA 16	-48	-87	4336	1237.72	0.58	15.56
331	SLE RA 17	-48	-79	4362	1243.68	0.57	15.75
331	SLE RA 18	-47	-88	4424	1262.08	0.57	15.33
331	SLE RA 19	-48	-80	4451	1268.04	0.57	15.52
331	SLE RA 20	-48	-88	4452	1270.22	0.57	15.51
331	SLE RA 21	-48	-81	4478	1276.17	0.57	15.71
331	SLE FR 1	-46	-80	3948	1126.63	0.57	14.84
331	SLE FR 2	-46	-77	3957	1128.62	0.57	14.91
331	SLE FR 3	-46	-80	3959	1129.89	0.57	14.92
331	SLE FR 4	-46	-80	4100	1169.25	0.57	15.05
331	SLE FR 5	-46	-82	4102	1170.52	0.57	15.06
331	SLE FR 6	-46	-84	4186	1194.36	0.57	15.08
331	SLE QP 1	-46	-80	3948	1126.63	0.57	14.84
331	SLE QP 2	-46	-82	4091	1167.27	0.57	14.99
331	SLD 1	335	11	4641	1291.72	1.63	-104.15
331	SLD 2	406	-15	4617	1285.55	1.53	-126.25
331	SLD 3	375	-215	3792	1099.21	1.54	-117.12
331	SLD 4	446	-242	3768	1093.04	1.44	-139.22
331	SLD 5	-6	294	5548	1497.7	1.04	2.91
331	SLD 6	41	277	5533	1493.62	0.98	-11.68
331	SLD 7	129	-461	2717	855.98	0.74	-40.35
331	SLD 8	176	-478	2702	851.91	0.68	-54.94
331	SLD 9	-268	314	5480	1482.63	0.46	84.91
331	SLD 10	-221	297	5464	1478.55	0.4	70.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
331	SLD 11	-133	-441	2649	840.91	0.16	41.65
331	SLD 12	-86	-458	2634	836.84	0.1	27.06
331	SLD 13	-538	78	4413	1241.5	-0.3	169.2
331	SLD 14	-467	51	4390	1235.33	-0.4	147.1
331	SLD 15	-498	-149	3564	1048.98	-0.39	156.22
331	SLD 16	-427	-175	3541	1042.81	-0.49	134.12
331	SLV 1	549	70	4973	1366.96	2.22	-171.27
331	SLV 2	661	28	4936	1357.29	2.07	-205.89
331	SLV 3	614	-296	3600	1055.73	2.08	-192.09
331	SLV 4	725	-338	3564	1046.06	1.93	-226.71
331	SLV 5	13	526	6444	1701	1.32	-2.85
331	SLV 6	88	498	6420	1694.5	1.21	-26.16
331	SLV 7	230	-694	1869	663.58	0.83	-72.25
331	SLV 8	305	-722	1844	657.08	0.73	-95.56
331	SLV 9	-397	557	6338	1677.46	0.41	125.53
331	SLV 10	-322	529	6313	1670.95	0.31	102.22
331	SLV 11	-180	-662	1762	640.04	-0.07	56.14
331	SLV 12	-105	-690	1738	633.53	-0.17	32.82
331	SLV 13	-817	174	4618	1288.47	-0.79	256.68
331	SLV 14	-706	132	4582	1278.8	-0.94	222.06
331	SLV 15	-753	-192	3245	977.24	-0.93	235.86
331	SLV 16	-641	-234	3209	967.58	-1.08	201.24
331	SLV FO 1	609	85	5061	1386.93	2.39	-189.89
331	SLV FO 2	731	39	5021	1376.29	2.22	-227.98
331	SLV FO 3	680	-318	3551	1044.58	2.23	-212.79
331	SLV FO 4	803	-364	3511	1033.94	2.06	-250.88
331	SLV FO 5	19	587	6679	1754.38	1.39	-4.63
331	SLV FO 6	102	556	6652	1747.22	1.28	-30.28
331	SLV FO 7	257	-755	1646	613.22	0.86	-80.97
331	SLV FO 8	340	-786	1619	606.06	0.75	-106.62
331	SLV FO 9	-432	621	6562	1728.48	0.4	136.59
331	SLV FO 10	-349	591	6535	1721.32	0.28	110.95
331	SLV FO 11	-194	-720	1529	587.32	-0.13	60.25
331	SLV FO 12	-111	-751	1502	580.16	-0.25	34.61
331	SLV FO 13	-895	199	4671	1300.59	-0.92	280.85
331	SLV FO 14	-772	154	4631	1289.96	-1.09	242.77
331	SLV FO 15	-823	-203	3161	958.24	-1.08	257.95
331	SLV FO 16	-701	-249	3121	947.61	-1.25	219.87
331	CRTFP Ux+	0	0	0	0	0	0
331	CRTFP Ux-	0	0	0	0	0	0
331	CRTFP Uy+	0	0	0	0	0	0
331	CRTFP Uy-	0	0	0	0	0	0
332	SLU 1	-44	-69	3817	1086.27	-1.38	14.2
332	SLU 2	-45	-49	3884	1101.49	-1.43	14.68
332	SLU 3	-45	-70	3883	1105.83	-1.41	14.59
332	SLU 4	-46	-58	3923	1114.96	-1.44	14.88
332	SLU 5	-46	-50	3925	1113.75	-1.45	14.96
332	SLU 6	-46	-71	3924	1118.08	-1.43	14.87
332	SLU 7	-47	-59	3964	1127.21	-1.46	15.16
332	SLU 8	-45	-70	3899	1110.78	-1.42	14.76
332	SLU 9	-46	-58	3939	1119.91	-1.45	15.05
332	SLU 10	-47	-56	4390	1245.08	-1.72	15.19
332	SLU 11	-46	-77	4389	1249.42	-1.71	15.09
332	SLU 12	-47	-65	4429	1258.55	-1.73	15.39
332	SLU 13	-47	-57	4431	1257.34	-1.74	15.47
332	SLU 14	-47	-78	4430	1261.67	-1.72	15.37
332	SLU 15	-48	-66	4470	1270.8	-1.75	15.66
332	SLU 16	-47	-78	4405	1254.37	-1.71	15.27
332	SLU 17	-48	-66	4445	1263.5	-1.74	15.56
332	SLU 18	-46	-79	4540	1291.4	-1.8	14.92
332	SLU 19	-47	-67	4580	1300.53	-1.83	15.21
332	SLU 20	-47	-80	4581	1303.65	-1.82	15.2
332	SLU 21	-48	-68	4621	1312.79	-1.85	15.49
332	SLU 22	-50	-76	4339	1236.9	-1.56	16.2
332	SLU 23	-51	-56	4407	1252.12	-1.6	16.69
332	SLU 24	-51	-78	4405	1256.45	-1.58	16.59
332	SLU 25	-52	-66	4445	1265.59	-1.61	16.88
332	SLU 26	-52	-57	4448	1264.37	-1.62	16.97
332	SLU 27	-52	-78	4446	1268.71	-1.6	16.87
332	SLU 28	-53	-66	4486	1277.84	-1.63	17.16
332	SLU 29	-52	-78	4421	1261.41	-1.59	16.76
332	SLU 30	-52	-66	4462	1270.54	-1.62	17.05
332	SLU 31	-53	-64	4913	1395.71	-1.9	17.2
332	SLU 32	-53	-85	4911	1400.04	-1.88	17.1
332	SLU 33	-53	-73	4951	1409.18	-1.91	17.39
332	SLU 34	-54	-65	4954	1407.96	-1.92	17.48
332	SLU 35	-53	-86	4952	1412.3	-1.9	17.38
332	SLU 36	-54	-74	4992	1421.43	-1.93	17.67
332	SLU 37	-53	-85	4927	1405	-1.89	17.27
332	SLU 38	-54	-74	4968	1414.13	-1.92	17.56
332	SLU 39	-52	-87	5062	1442.03	-1.98	16.93
332	SLU 40	-53	-75	5102	1451.16	-2	17.22
332	SLU 41	-53	-88	5103	1454.28	-1.99	17.21
332	SLU 42	-54	-76	5143	1463.41	-2.02	17.5
332	SLU 43	-55	-86	4783	1360.51	-1.74	17.77
332	SLU 44	-56	-67	4850	1375.73	-1.78	18.25
332	SLU 45	-56	-88	4849	1380.07	-1.77	18.16
332	SLU 46	-57	-76	4889	1389.2	-1.8	18.45
332	SLU 47	-57	-68	4891	1387.99	-1.8	18.53



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLU 48	-57	-89	4890	1392.32	-1.79	18.44
332	SLU 49	-58	-77	4930	1401.45	-1.81	18.73
332	SLU 50	-56	-88	4865	1385.02	-1.77	18.33
332	SLU 51	-57	-76	4905	1394.15	-1.8	18.62
332	SLU 52	-58	-74	5356	1519.32	-2.08	18.76
332	SLU 53	-57	-95	5355	1523.65	-2.06	18.67
332	SLU 54	-58	-83	5395	1532.79	-2.09	18.96
332	SLU 55	-58	-75	5397	1531.57	-2.1	19.04
332	SLU 56	-58	-96	5396	1535.91	-2.08	18.95
332	SLU 57	-59	-84	5436	1545.04	-2.11	19.24
332	SLU 58	-58	-96	5371	1528.61	-2.07	18.84
332	SLU 59	-59	-84	5411	1537.74	-2.1	19.13
332	SLU 60	-57	-97	5505	1565.64	-2.16	18.49
332	SLU 61	-58	-85	5546	1574.77	-2.19	18.78
332	SLU 62	-58	-98	5547	1577.89	-2.18	18.77
332	SLU 63	-58	-86	5587	1587.02	-2.21	19.06
332	SLU 64	-61	-94	5305	1511.14	-1.91	19.77
332	SLU 65	-62	-74	5372	1526.36	-1.96	20.26
332	SLU 66	-62	-95	5371	1530.69	-1.94	20.16
332	SLU 67	-63	-84	5411	1539.83	-1.97	20.45
332	SLU 68	-63	-75	5413	1538.61	-1.98	20.54
332	SLU 69	-63	-96	5412	1542.95	-1.96	20.44
332	SLU 70	-64	-84	5452	1552.08	-1.99	20.73
332	SLU 71	-63	-96	5387	1535.65	-1.95	20.33
332	SLU 72	-63	-84	5428	1544.78	-1.98	20.62
332	SLU 73	-64	-82	5878	1669.95	-2.25	20.77
332	SLU 74	-63	-103	5877	1674.28	-2.23	20.67
332	SLU 75	-64	-91	5917	1683.41	-2.26	20.96
332	SLU 76	-65	-83	5919	1682.2	-2.27	21.05
332	SLU 77	-64	-104	5918	1686.53	-2.25	20.95
332	SLU 78	-65	-92	5958	1695.67	-2.28	21.24
332	SLU 79	-64	-103	5893	1679.23	-2.24	20.84
332	SLU 80	-65	-92	5934	1688.37	-2.27	21.13
332	SLU 81	-63	-105	6028	1716.27	-2.33	20.5
332	SLU 82	-64	-93	6068	1725.4	-2.36	20.79
332	SLU 83	-64	-106	6069	1728.52	-2.35	20.78
332	SLU 84	-65	-94	6109	1737.65	-2.38	21.07
332	SLE RA 1	-45	-71	3966	1129.31	-1.43	14.77
332	SLE RA 2	-46	-58	4011	1139.46	-1.46	15.09
332	SLE RA 3	-46	-72	4010	1142.35	-1.45	15.03
332	SLE RA 4	-47	-64	4037	1148.43	-1.47	15.22
332	SLE RA 5	-47	-58	4038	1147.63	-1.48	15.28
332	SLE RA 6	-47	-72	4037	1150.51	-1.46	15.22
332	SLE RA 7	-47	-64	4064	1156.6	-1.48	15.41
332	SLE RA 8	-47	-72	4021	1145.65	-1.46	15.14
332	SLE RA 9	-47	-64	4048	1151.74	-1.48	15.34
332	SLE RA 10	-47	-63	4348	1235.18	-1.66	15.43
332	SLE RA 11	-47	-77	4347	1238.07	-1.65	15.37
332	SLE RA 12	-48	-69	4374	1244.16	-1.67	15.56
332	SLE RA 13	-48	-63	4376	1243.35	-1.67	15.62
332	SLE RA 14	-48	-77	4375	1246.24	-1.66	15.56
332	SLE RA 15	-48	-69	4402	1252.33	-1.68	15.75
332	SLE RA 16	-48	-77	4358	1241.37	-1.65	15.48
332	SLE RA 17	-48	-69	4385	1247.46	-1.67	15.68
332	SLE RA 18	-47	-78	4448	1266.06	-1.71	15.25
332	SLE RA 19	-47	-70	4475	1272.15	-1.73	15.45
332	SLE RA 20	-47	-79	4475	1274.23	-1.72	15.44
332	SLE RA 21	-48	-71	4502	1280.32	-1.74	15.63
332	SLE FR 1	-45	-71	3966	1129.31	-1.43	14.77
332	SLE FR 2	-46	-68	3975	1131.34	-1.44	14.83
332	SLE FR 3	-46	-71	3977	1132.58	-1.44	14.84
332	SLE FR 4	-46	-70	4120	1172.37	-1.52	14.98
332	SLE FR 5	-46	-73	4121	1173.6	-1.52	14.99
332	SLE FR 6	-46	-74	4207	1197.69	-1.57	15.01
332	SLE QP 1	-45	-71	3966	1129.31	-1.43	14.77
332	SLE QP 2	-46	-73	4111	1170.34	-1.52	14.92
332	SLD 1	334	27	4630	1286.3	-0.82	-103.99
332	SLD 2	405	5	4610	1281.14	-0.9	-126.04
332	SLD 3	375	-204	3773	1091.46	-0.36	-116.95
332	SLD 4	446	-227	3753	1086.3	-0.44	-138.99
332	SLD 5	-6	313	5569	1501.56	-1.98	2.86
332	SLD 6	41	298	5555	1498.16	-2.04	-11.7
332	SLD 7	129	-460	2714	852.09	-0.46	-40.32
332	SLD 8	176	-475	2701	848.69	-0.52	-54.87
332	SLD 9	-267	329	5520	1491.98	-2.51	84.7
332	SLD 10	-220	314	5507	1488.58	-2.57	70.15
332	SLD 11	-133	-444	2666	842.52	-0.99	41.53
332	SLD 12	-86	-459	2652	839.11	-1.05	26.97
332	SLD 13	-537	81	4468	1254.37	-2.59	168.82
332	SLD 14	-466	58	4448	1249.21	-2.67	146.78
332	SLD 15	-497	-151	3612	1059.53	-2.13	155.87
332	SLD 16	-426	-173	3591	1054.37	-2.21	133.82
332	SLV 1	549	90	4945	1356.85	-0.44	-170.99
332	SLV 2	660	55	4913	1348.77	-0.57	-205.52
332	SLV 3	613	-284	3560	1041.85	0.3	-191.77
332	SLV 4	725	-320	3529	1033.77	0.17	-226.3
332	SLV 5	14	551	6466	1705.54	-2.29	-2.89
332	SLV 6	88	527	6445	1700.1	-2.37	-26.15
332	SLV 7	229	-698	1852	655.56	0.17	-72.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLV 8	304	-722	1831	650.12	0.09	-95.41
332	SLV 9	-396	576	6390	1690.55	-3.12	125.24
332	SLV 10	-321	552	6369	1685.11	-3.2	101.99
332	SLV 11	-180	-673	1776	640.58	-0.66	55.98
332	SLV 12	-105	-696	1755	635.14	-0.74	32.73
332	SLV 13	-816	174	4692	1306.9	-3.2	256.13
332	SLV 14	-705	139	4661	1298.82	-3.33	221.6
332	SLV 15	-752	-201	3308	991.91	-2.46	235.36
332	SLV 16	-640	-236	3276	983.83	-2.59	200.82
332	SLV FO 1	608	106	5028	1375.5	-0.33	-189.58
332	SLV FO 2	730	68	4993	1366.61	-0.47	-227.57
332	SLV FO 3	679	-306	3505	1029.01	0.48	-212.44
332	SLV FO 4	802	-344	3471	1020.12	0.34	-250.43
332	SLV FO 5	20	613	6702	1759.06	-2.36	-4.68
332	SLV FO 6	102	587	6678	1753.07	-2.46	-30.25
332	SLV FO 7	257	-760	1626	604.08	0.34	-80.87
332	SLV FO 8	339	-786	1603	598.1	0.25	-106.44
332	SLV FO 9	-431	641	6618	1742.57	-3.28	136.27
332	SLV FO 10	-348	614	6595	1736.59	-3.37	110.7
332	SLV FO 11	-194	-733	1543	587.6	-0.57	60.08
332	SLV FO 12	-111	-759	1519	581.62	-0.67	34.51
332	SLV FO 13	-893	198	4750	1320.56	-3.37	280.26
332	SLV FO 14	-771	160	4716	1311.67	-3.51	242.27
332	SLV FO 15	-822	-214	3228	974.06	-2.56	257.4
332	SLV FO 16	-700	-252	3193	965.17	-2.7	219.41
332	CRTFP Ux+	0	0	0	0	0	0
332	CRTFP Ux-	0	0	0	0	0	0
332	CRTFP Uy+	0	0	0	0	0	0
332	CRTFP Uy-	0	0	0	0	0	0
333	SLU 1	-43	-60	3902	1110.23	-3.18	14.13
333	SLU 2	-45	-40	3972	1126.25	-3.27	14.62
333	SLU 3	-45	-61	3970	1130.26	-3.25	14.52
333	SLU 4	-46	-49	4012	1139.87	-3.3	14.81
333	SLU 5	-46	-40	4014	1138.8	-3.31	14.9
333	SLU 6	-46	-62	4012	1142.81	-3.29	14.8
333	SLU 7	-46	-50	4054	1152.42	-3.34	15.09
333	SLU 8	-45	-61	3987	1135.33	-3.26	14.69
333	SLU 9	-46	-49	4029	1144.94	-3.31	14.98
333	SLU 10	-46	-46	4494	1274.4	-3.83	15.13
333	SLU 11	-46	-68	4492	1278.4	-3.81	15.03
333	SLU 12	-47	-56	4534	1288.02	-3.86	15.32
333	SLU 13	-47	-47	4536	1286.95	-3.87	15.41
333	SLU 14	-47	-68	4534	1290.96	-3.85	15.31
333	SLU 15	-48	-56	4576	1300.57	-3.9	15.6
333	SLU 16	-47	-68	4509	1283.48	-3.83	15.2
333	SLU 17	-48	-56	4550	1293.09	-3.88	15.49
333	SLU 18	-46	-69	4648	1321.86	-3.99	14.87
333	SLU 19	-46	-57	4690	1331.48	-4.04	15.16
333	SLU 20	-46	-70	4690	1334.42	-4.03	15.14
333	SLU 21	-47	-58	4732	1344.03	-4.08	15.43
333	SLU 22	-50	-66	4437	1264.04	-3.64	16.14
333	SLU 23	-51	-46	4506	1280.07	-3.72	16.62
333	SLU 24	-51	-68	4504	1284.08	-3.7	16.53
333	SLU 25	-52	-55	4546	1293.69	-3.75	16.82
333	SLU 26	-52	-47	4549	1292.62	-3.76	16.9
333	SLU 27	-52	-68	4546	1296.63	-3.74	16.8
333	SLU 28	-53	-56	4588	1306.24	-3.79	17.09
333	SLU 29	-51	-68	4521	1289.15	-3.72	16.7
333	SLU 30	-52	-56	4563	1298.76	-3.77	16.99
333	SLU 31	-53	-53	5028	1428.21	-4.29	17.13
333	SLU 32	-52	-74	5026	1432.22	-4.27	17.04
333	SLU 33	-53	-62	5068	1441.83	-4.32	17.33
333	SLU 34	-53	-54	5070	1440.76	-4.33	17.41
333	SLU 35	-53	-75	5068	1444.77	-4.31	17.32
333	SLU 36	-54	-63	5110	1454.38	-4.36	17.61
333	SLU 37	-53	-75	5043	1437.29	-4.28	17.21
333	SLU 38	-54	-63	5085	1446.9	-4.33	17.5
333	SLU 39	-52	-76	5182	1475.68	-4.44	16.87
333	SLU 40	-53	-64	5224	1485.29	-4.49	17.16
333	SLU 41	-53	-77	5224	1488.23	-4.48	17.15
333	SLU 42	-53	-65	5266	1497.84	-4.54	17.44
333	SLU 43	-54	-76	4890	1390.56	-3.98	17.69
333	SLU 44	-56	-55	4960	1406.58	-4.06	18.17
333	SLU 45	-56	-77	4958	1410.59	-4.04	18.07
333	SLU 46	-56	-65	4999	1420.21	-4.09	18.36
333	SLU 47	-57	-56	5002	1419.13	-4.1	18.45
333	SLU 48	-56	-77	5000	1423.14	-4.08	18.35
333	SLU 49	-57	-65	5042	1432.76	-4.14	18.64
333	SLU 50	-56	-77	4974	1415.66	-4.06	18.24
333	SLU 51	-57	-65	5016	1425.28	-4.11	18.53
333	SLU 52	-57	-62	5482	1554.73	-4.63	18.68
333	SLU 53	-57	-83	5479	1558.74	-4.61	18.59
333	SLU 54	-58	-71	5521	1568.35	-4.66	18.88
333	SLU 55	-58	-63	5524	1567.28	-4.67	18.96
333	SLU 56	-58	-84	5522	1571.29	-4.65	18.86
333	SLU 57	-59	-72	5564	1580.9	-4.7	19.15
333	SLU 58	-58	-84	5496	1563.81	-4.63	18.76
333	SLU 59	-58	-72	5538	1573.42	-4.68	19.05
333	SLU 60	-56	-85	5635	1602.2	-4.79	18.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLU 61	-57	-73	5677	1611.81	-4.84	18.71
333	SLU 62	-57	-86	5678	1614.75	-4.83	18.7
333	SLU 63	-58	-74	5720	1624.36	-4.88	18.99
333	SLU 64	-61	-82	5424	1544.38	-4.43	19.69
333	SLU 65	-62	-62	5494	1560.4	-4.52	20.18
333	SLU 66	-62	-83	5492	1564.41	-4.5	20.08
333	SLU 67	-63	-71	5534	1574.02	-4.55	20.37
333	SLU 68	-63	-63	5536	1572.95	-4.56	20.45
333	SLU 69	-63	-84	5534	1576.96	-4.54	20.36
333	SLU 70	-63	-72	5576	1586.57	-4.59	20.65
333	SLU 71	-62	-84	5508	1569.48	-4.52	20.25
333	SLU 72	-63	-72	5550	1579.09	-4.57	20.54
333	SLU 73	-63	-69	6016	1708.54	-5.08	20.69
333	SLU 74	-63	-90	6014	1712.55	-5.06	20.59
333	SLU 75	-64	-78	6056	1722.16	-5.12	20.88
333	SLU 76	-64	-69	6058	1721.09	-5.12	20.97
333	SLU 77	-64	-91	6056	1725.1	-5.11	20.87
333	SLU 78	-65	-79	6098	1734.72	-5.16	21.16
333	SLU 79	-64	-90	6030	1717.62	-5.08	20.76
333	SLU 80	-65	-78	6072	1727.24	-5.13	21.05
333	SLU 81	-63	-92	6170	1756.01	-5.24	20.42
333	SLU 82	-64	-80	6212	1765.62	-5.29	20.71
333	SLU 83	-63	-92	6212	1768.56	-5.28	20.7
333	SLU 84	-64	-80	6254	1778.18	-5.33	20.99
333	SLE RA 1	-45	-62	4055	1154.18	-3.31	14.71
333	SLE RA 2	-46	-48	4102	1164.86	-3.37	15.03
333	SLE RA 3	-46	-62	4100	1167.53	-3.35	14.97
333	SLE RA 4	-47	-54	4128	1173.94	-3.39	15.16
333	SLE RA 5	-47	-49	4130	1173.23	-3.39	15.22
333	SLE RA 6	-47	-63	4128	1175.9	-3.38	15.15
333	SLE RA 7	-47	-55	4156	1182.31	-3.42	15.34
333	SLE RA 8	-46	-63	4111	1170.91	-3.36	15.08
333	SLE RA 9	-47	-55	4139	1177.32	-3.4	15.27
333	SLE RA 10	-47	-53	4450	1263.62	-3.74	15.37
333	SLE RA 11	-47	-67	4448	1266.29	-3.73	15.31
333	SLE RA 12	-48	-59	4476	1272.7	-3.76	15.5
333	SLE RA 13	-48	-53	4478	1271.99	-3.77	15.56
333	SLE RA 14	-48	-67	4476	1274.66	-3.76	15.49
333	SLE RA 15	-48	-59	4504	1281.07	-3.79	15.69
333	SLE RA 16	-47	-67	4459	1269.67	-3.74	15.42
333	SLE RA 17	-48	-59	4487	1276.08	-3.78	15.61
333	SLE RA 18	-47	-68	4552	1295.27	-3.85	15.19
333	SLE RA 19	-47	-60	4580	1301.68	-3.88	15.39
333	SLE RA 20	-47	-69	4580	1303.63	-3.88	15.38
333	SLE RA 21	-48	-61	4608	1310.04	-3.91	15.57
333	SLE FR 1	-45	-62	4055	1154.18	-3.31	14.71
333	SLE FR 2	-45	-59	4064	1156.31	-3.32	14.77
333	SLE FR 3	-45	-62	4066	1157.52	-3.32	14.78
333	SLE FR 4	-46	-61	4213	1198.64	-3.48	14.92
333	SLE FR 5	-46	-64	4215	1199.85	-3.48	14.93
333	SLE FR 6	-46	-65	4303	1224.72	-3.58	14.95
333	SLE QP 1	-45	-62	4055	1154.18	-3.31	14.71
333	SLE QP 2	-46	-64	4204	1196.5	-3.47	14.85
333	SLD 1	334	44	4704	1307.95	-3.05	-103.85
333	SLD 2	405	26	4687	1303.62	-3.12	-125.82
333	SLD 3	375	-193	3822	1104.71	-2.12	-116.74
333	SLD 4	445	-211	3805	1100.38	-2.19	-138.72
333	SLD 5	-5	332	5695	1538.96	-4.74	2.77
333	SLD 6	41	320	5683	1536.11	-4.79	-11.75
333	SLD 7	129	-459	2755	861.5	-1.65	-40.23
333	SLD 8	175	-471	2744	858.64	-1.69	-54.74
333	SLD 9	-267	344	5664	1534.36	-5.25	84.45
333	SLD 10	-220	332	5653	1531.51	-5.3	69.94
333	SLD 11	-133	-447	2725	856.9	-2.16	41.45
333	SLD 12	-86	-459	2713	854.05	-2.2	26.94
333	SLD 13	-537	84	4603	1292.62	-4.75	168.43
333	SLD 14	-466	66	4586	1288.3	-4.82	146.45
333	SLD 15	-496	-153	3721	1089.39	-3.82	155.53
333	SLD 16	-426	-172	3704	1085.06	-3.89	133.55
333	SLV 1	548	111	5010	1376.22	-2.84	-170.72
333	SLV 2	659	82	4982	1369.45	-2.95	-205.16
333	SLV 3	613	-272	3584	1047.65	-1.34	-191.41
333	SLV 4	724	-301	3557	1040.87	-1.45	-225.85
333	SLV 5	14	576	6613	1750.02	-5.54	-3.01
333	SLV 6	89	556	6595	1745.46	-5.61	-26.19
333	SLV 7	229	-702	1861	654.77	-0.54	-71.99
333	SLV 8	304	-722	1843	650.21	-0.61	-95.17
333	SLV 9	-395	594	6566	1742.8	-6.33	124.88
333	SLV 10	-320	575	6547	1738.24	-6.41	101.69
333	SLV 11	-180	-684	1813	647.54	-1.33	55.9
333	SLV 12	-105	-703	1795	642.98	-1.41	32.71
333	SLV 13	-815	174	4851	1352.13	-5.5	255.56
333	SLV 14	-704	145	4824	1345.36	-5.6	221.12
333	SLV 15	-751	-210	3426	1023.56	-4	234.86
333	SLV 16	-640	-238	3399	1016.78	-4.1	200.43
333	SLV FO 1	608	129	5090	1394.2	-2.78	-189.28
333	SLV FO 2	730	97	5060	1386.74	-2.9	-227.16
333	SLV FO 3	679	-293	3522	1032.76	-1.13	-212.04
333	SLV FO 4	801	-325	3492	1025.31	-1.25	-249.92



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
333	SLV FO 5	20	640	6854	1805.38	-5.74	-4.79
333	SLV FO 6	102	618	6834	1800.36	-5.82	-30.29
333	SLV FO 7	256	-766	1627	600.6	-0.24	-80.67
333	SLV FO 8	339	-788	1606	595.58	-0.33	-106.17
333	SLV FO 9	-430	660	6802	1797.43	-6.62	135.88
333	SLV FO 10	-348	639	6782	1792.41	-6.7	110.38
333	SLV FO 11	-194	-746	1574	592.65	-1.12	60
333	SLV FO 12	-111	-767	1554	587.63	-1.2	34.5
333	SLV FO 13	-892	197	4916	1367.7	-5.7	279.63
333	SLV FO 14	-770	166	4886	1360.24	-5.82	241.75
333	SLV FO 15	-821	-224	3348	1006.26	-4.05	256.86
333	SLV FO 16	-699	-256	3318	998.81	-4.17	218.98
333	CRTFP Ux+	0	0	0	0	0	0
333	CRTFP Ux-	0	0	0	0	0	0
333	CRTFP Uy+	0	0	0	0	0	0
333	CRTFP Uy-	0	0	0	0	0	0
334	SLU 1	-125	-139	11393	3896.04	-882.33	38.09
334	SLU 2	-129	-81	11597	3959.83	-898.49	43.74
334	SLU 3	-129	-142	11592	3965.53	-898.02	39.19
334	SLU 4	-131	-107	11715	4003.8	-907.72	42.58
334	SLU 5	-132	-83	11722	4003.26	-908.28	44.53
334	SLU 6	-131	-144	11717	4008.96	-907.81	39.98
334	SLU 7	-133	-109	11839	4047.24	-917.51	43.37
334	SLU 8	-130	-143	11642	3982.9	-901.91	39.66
334	SLU 9	-133	-108	11764	4021.18	-911.6	43.05
334	SLU 10	-134	-98	13139	4486.43	-1020.57	44.57
334	SLU 11	-133	-158	13134	4492.12	-1020.11	40.02
334	SLU 12	-136	-123	13256	4530.4	-1029.81	43.41
334	SLU 13	-136	-99	13263	4529.86	-1030.36	45.36
334	SLU 14	-136	-160	13258	4535.56	-1029.9	40.81
334	SLU 15	-138	-125	13381	4573.83	-1039.6	44.2
334	SLU 16	-135	-159	13183	4509.5	-1023.99	40.5
334	SLU 17	-137	-124	13306	4547.78	-1033.69	43.89
334	SLU 18	-132	-162	13595	4648.32	-1056.74	39.28
334	SLU 19	-134	-128	13718	4686.6	-1066.43	42.67
334	SLU 20	-134	-164	13719	4691.75	-1066.53	40.07
334	SLU 21	-137	-129	13842	4730.03	-1076.22	43.46
334	SLU 22	-143	-154	12958	4434.16	-1004.49	43.78
334	SLU 23	-147	-96	13163	4497.95	-1020.65	49.44
334	SLU 24	-146	-157	13158	4503.64	-1020.18	44.89
334	SLU 25	-149	-122	13280	4541.92	-1029.88	48.28
334	SLU 26	-149	-98	13287	4541.38	-1030.44	50.22
334	SLU 27	-149	-158	13282	4547.08	-1029.97	45.67
334	SLU 28	-151	-124	13405	4585.35	-1039.67	49.07
334	SLU 29	-148	-158	13207	4521.02	-1024.07	45.36
334	SLU 30	-150	-123	13329	4559.3	-1033.76	48.75
334	SLU 31	-152	-112	14704	5024.55	-1142.73	50.27
334	SLU 32	-151	-173	14699	5030.24	-1142.27	45.72
334	SLU 33	-153	-138	14822	5068.52	-1151.97	49.11
334	SLU 34	-154	-114	14828	5067.98	-1152.52	51.06
334	SLU 35	-153	-175	14823	5073.67	-1152.06	46.51
334	SLU 36	-156	-140	14946	5111.95	-1161.76	49.9
334	SLU 37	-152	-174	14748	5047.62	-1146.15	46.19
334	SLU 38	-155	-139	14871	5085.89	-1155.85	49.59
334	SLU 39	-149	-177	15160	5186.44	-1178.9	44.98
334	SLU 40	-152	-143	15283	5224.71	-1188.59	48.37
334	SLU 41	-152	-179	15284	5229.87	-1188.69	45.76
334	SLU 42	-154	-144	15407	5268.15	-1198.38	49.15
334	SLU 43	-157	-176	14274	4880.35	-1105.14	47.56
334	SLU 44	-161	-118	14479	4944.15	-1121.3	53.21
334	SLU 45	-160	-178	14474	4949.84	-1120.84	48.66
334	SLU 46	-162	-144	14596	4988.12	-1130.54	52.05
334	SLU 47	-163	-120	14603	4987.58	-1131.09	54
334	SLU 48	-162	-180	14598	4993.27	-1130.63	49.45
334	SLU 49	-165	-145	14721	5031.55	-1140.33	52.84
334	SLU 50	-161	-179	14523	4967.22	-1124.72	49.14
334	SLU 51	-164	-145	14645	5005.49	-1134.42	52.53
334	SLU 52	-165	-134	16020	5470.74	-1243.39	54.04
334	SLU 53	-165	-195	16015	5476.44	-1242.93	49.5
334	SLU 54	-167	-160	16138	5514.71	-1252.62	52.89
334	SLU 55	-168	-136	16144	5514.18	-1253.18	54.83
334	SLU 56	-167	-196	16139	5519.87	-1252.72	50.28
334	SLU 57	-170	-162	16262	5558.15	-1262.41	53.67
334	SLU 58	-166	-196	16064	5493.81	-1246.81	49.97
334	SLU 59	-169	-161	16187	5532.09	-1256.51	53.36
334	SLU 60	-163	-199	16476	5632.63	-1279.55	48.75
334	SLU 61	-166	-164	16599	5670.91	-1289.25	52.14
334	SLU 62	-166	-201	16600	5676.07	-1289.34	49.54
334	SLU 63	-168	-166	16723	5714.34	-1299.04	52.93
334	SLU 64	-174	-191	15839	5418.47	-1227.3	53.26
334	SLU 65	-178	-133	16044	5482.26	-1243.46	58.91
334	SLU 66	-178	-193	16039	5487.96	-1243	54.36
334	SLU 67	-180	-159	16162	5526.23	-1252.69	57.75
334	SLU 68	-181	-135	16168	5525.7	-1253.25	59.7
334	SLU 69	-180	-195	16163	5531.39	-1252.79	55.15
334	SLU 70	-183	-160	16286	5569.67	-1262.48	58.54
334	SLU 71	-179	-194	16088	5505.33	-1246.88	54.83
334	SLU 72	-182	-160	16211	5543.61	-1256.58	58.22
334	SLU 73	-183	-149	17585	6008.86	-1365.55	59.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
334	SLU 74	-182	-210	17580	6014.56	-1365.09	55.19
334	SLU 75	-185	-175	17703	6052.83	-1374.78	58.58
334	SLU 76	-186	-151	17710	6052.29	-1375.34	60.53
334	SLU 77	-185	-211	17704	6057.99	-1374.88	55.98
334	SLU 78	-187	-177	17827	6096.26	-1384.57	59.37
334	SLU 79	-184	-211	17629	6031.93	-1368.97	55.67
334	SLU 80	-186	-176	17752	6070.21	-1378.66	59.06
334	SLU 81	-181	-214	18041	6170.75	-1401.71	54.45
334	SLU 82	-183	-179	18164	6209.03	-1411.41	57.84
334	SLU 83	-183	-216	18166	6214.18	-1411.5	55.24
334	SLU 84	-186	-181	18288	6252.46	-1421.2	58.63
334	SLE RA 1	-130	-143	11840	4049.79	-917.23	39.72
334	SLE RA 2	-133	-105	11976	4092.32	-928	43.48
334	SLE RA 3	-132	-145	11973	4096.11	-927.69	40.45
334	SLE RA 4	-134	-122	12055	4121.63	-934.16	42.71
334	SLE RA 5	-135	-106	12059	4121.27	-934.53	44.01
334	SLE RA 6	-134	-146	12056	4125.07	-934.22	40.97
334	SLE RA 7	-136	-123	12138	4150.58	-940.69	43.24
334	SLE RA 8	-133	-146	12006	4107.7	-930.28	40.77
334	SLE RA 9	-135	-123	12088	4133.21	-936.75	43.03
334	SLE RA 10	-136	-116	13004	4443.38	-1009.39	44.04
334	SLE RA 11	-136	-156	13001	4447.18	-1009.09	41.01
334	SLE RA 12	-137	-133	13082	4472.69	-1015.55	43.27
334	SLE RA 13	-138	-117	13087	4472.34	-1015.92	44.56
334	SLE RA 14	-137	-157	13084	4476.13	-1015.61	41.53
334	SLE RA 15	-139	-134	13165	4501.65	-1022.08	43.79
334	SLE RA 16	-137	-157	13033	4458.76	-1011.67	41.32
334	SLE RA 17	-138	-133	13115	4484.28	-1018.14	43.58
334	SLE RA 18	-135	-159	13308	4551.31	-1033.5	40.51
334	SLE RA 19	-136	-136	13390	4576.83	-1039.97	42.77
334	SLE RA 20	-136	-160	13391	4580.26	-1040.03	41.03
334	SLE RA 21	-138	-137	13473	4605.78	-1046.49	43.3
334	SLE FR 1	-130	-143	11840	4049.79	-917.23	39.72
334	SLE FR 2	-131	-136	11867	4058.29	-919.38	40.47
334	SLE FR 3	-131	-144	11873	4061.37	-919.84	39.93
334	SLE FR 4	-132	-140	12308	4208.75	-954.27	40.71
334	SLE FR 5	-132	-149	12314	4211.82	-954.72	40.16
334	SLE FR 6	-132	-151	12574	4300.55	-975.37	40.11
334	SLE QP 1	-130	-143	11840	4049.79	-917.23	39.72
334	SLE QP 2	-132	-148	12280	4200.24	-952.11	39.95
334	SLD 1	938	181	13632	4619.4	-1039.53	-318.22
334	SLD 2	1136	144	13591	4606.63	-1037.72	-390.04
334	SLD 3	1050	-507	11067	3818.57	-839.06	-407.23
334	SLD 4	1248	-544	11026	3805.8	-837.25	-479.05
334	SLD 5	-16	1001	16584	5542.89	-1282.71	80.43
334	SLD 6	115	976	16557	5534.45	-1281.52	33.01
334	SLD 7	357	-1292	8033	2873.45	-614.48	-216.26
334	SLD 8	487	-1317	8006	2865.01	-613.28	-263.68
334	SLD 9	-750	1021	16555	5535.47	-1290.94	343.59
334	SLD 10	-620	996	16528	5527.04	-1289.75	296.16
334	SLD 11	-378	-1272	8004	2866.03	-622.71	46.9
334	SLD 12	-247	-1297	7977	2857.6	-621.51	-0.53
334	SLD 13	-1511	248	13535	4594.69	-1066.97	558.95
334	SLD 14	-1313	210	13494	4581.91	-1065.16	487.13
334	SLD 15	-1399	-440	10970	3793.86	-866.5	469.95
334	SLD 16	-1201	-478	10929	3781.08	-864.69	398.13
334	SLV 1	1541	384	14463	4877.45	-1094.13	-518.77
334	SLV 2	1850	326	14399	4857.43	-1091.3	-631.29
334	SLV 3	1721	-727	10316	3582.79	-770.04	-662.02
334	SLV 4	2030	-786	10252	3562.77	-767.21	-774.54
334	SLV 5	41	1708	19236	6370.71	-1486.78	110.6
334	SLV 6	249	1669	19193	6357.24	-1484.87	34.84
334	SLV 7	639	-1997	5414	2055.17	-406.48	-366.9
334	SLV 8	847	-2036	5371	2041.69	-404.58	-442.66
334	SLV 9	-1110	1740	19190	6358.79	-1499.65	522.57
334	SLV 10	-902	1700	19147	6345.32	-1497.74	446.81
334	SLV 11	-512	-1965	5368	2043.25	-419.35	45.07
334	SLV 12	-304	-2004	5325	2029.77	-417.44	-30.69
334	SLV 13	-2293	489	14309	4837.72	-1137.02	854.45
334	SLV 14	-1984	431	14245	4817.7	-1134.18	741.93
334	SLV 15	-2113	-622	10162	3543.05	-812.93	711.2
334	SLV 16	-1804	-680	10098	3523.04	-810.09	598.68
334	SLV FO 1	1709	437	14681	4945.17	-1108.33	-574.64
334	SLV FO 2	2049	373	14611	4923.15	-1105.21	-698.42
334	SLV FO 3	1906	-785	10120	3521.04	-751.83	-732.22
334	SLV FO 4	2246	-849	10050	3499.02	-748.72	-855.99
334	SLV FO 5	58	1894	19932	6587.76	-1540.25	117.66
334	SLV FO 6	287	1851	19885	6572.94	-1538.15	34.33
334	SLV FO 7	716	-2182	4727	1840.66	-351.92	-407.59
334	SLV FO 8	944	-2225	4680	1825.84	-349.82	-490.92
334	SLV FO 9	-1207	1928	19881	6574.65	-1554.4	570.83
334	SLV FO 10	-979	1885	19834	6559.83	-1552.3	487.49
334	SLV FO 11	-550	-2147	4676	1827.55	-366.07	45.58
334	SLV FO 12	-321	-2190	4629	1812.72	-363.97	-37.76
334	SLV FO 13	-2509	553	14511	4901.46	-1155.51	935.9
334	SLV FO 14	-2169	489	14441	4879.45	-1152.39	812.12
334	SLV FO 15	-2312	-669	9950	3477.33	-799.01	778.32
334	SLV FO 16	-1972	-734	9880	3455.32	-795.89	654.55
334	CRTFP Ux+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
334	CRTFP Ux-	0	0	0	0	0	0
334	CRTFP Uy+	0	0	0	-0.01	0	0
334	CRTFP Uy-	0	0	0	0.01	0	0
336	SLU 1	-30	-29	2873	836.9	345.69	13.31
336	SLU 2	-31	-14	2925	849.61	351.92	11.92
336	SLU 3	-31	-29	2923	852.14	351.77	13.65
336	SLU 4	-31	-21	2955	859.76	355.51	12.81
336	SLU 5	-31	-15	2957	859.15	355.71	12.16
336	SLU 6	-31	-29	2955	861.68	355.56	13.88
336	SLU 7	-32	-21	2986	869.3	359.3	13.05
336	SLU 8	-31	-29	2936	855.99	353.27	13.79
336	SLU 9	-32	-21	2967	863.61	357.01	12.96
336	SLU 10	-32	-18	3317	963.59	398.99	12.69
336	SLU 11	-32	-32	3315	966.12	398.84	14.42
336	SLU 12	-32	-24	3347	973.74	402.58	13.58
336	SLU 13	-32	-18	3349	973.13	402.78	12.93
336	SLU 14	-32	-33	3346	975.66	402.63	14.66
336	SLU 15	-33	-24	3378	983.28	406.37	13.82
336	SLU 16	-32	-33	3327	969.97	400.33	14.56
336	SLU 17	-33	-24	3359	977.59	404.08	13.73
336	SLU 18	-31	-33	3433	999.73	412.93	14.42
336	SLU 19	-32	-25	3464	1007.36	416.67	13.58
336	SLU 20	-32	-34	3464	1009.28	416.72	14.66
336	SLU 21	-32	-25	3495	1016.9	420.46	13.82
336	SLU 22	-34	-31	3269	953.33	393.3	15.07
336	SLU 23	-35	-17	3321	966.03	399.54	13.67
336	SLU 24	-35	-32	3319	968.56	399.38	15.4
336	SLU 25	-35	-23	3350	976.18	403.12	14.56
336	SLU 26	-36	-18	3352	975.58	403.33	13.91
336	SLU 27	-35	-32	3350	978.1	403.17	15.64
336	SLU 28	-36	-24	3382	985.73	406.91	14.8
336	SLU 29	-35	-32	3331	972.42	400.88	15.54
336	SLU 30	-36	-24	3363	980.04	404.62	14.71
336	SLU 31	-36	-21	3713	1080.01	446.61	14.45
336	SLU 32	-36	-35	3711	1082.54	446.45	16.17
336	SLU 33	-37	-27	3742	1090.16	450.19	15.34
336	SLU 34	-37	-21	3744	1089.56	450.4	14.69
336	SLU 35	-37	-36	3742	1092.08	450.24	16.41
336	SLU 36	-37	-27	3774	1099.71	453.98	15.57
336	SLU 37	-36	-35	3723	1086.4	447.95	16.32
336	SLU 38	-37	-27	3755	1094.02	451.69	15.48
336	SLU 39	-36	-36	3828	1116.16	460.54	16.17
336	SLU 40	-36	-28	3860	1123.78	464.28	15.34
336	SLU 41	-36	-37	3860	1125.7	464.33	16.41
336	SLU 42	-37	-28	3891	1133.32	468.07	15.58
336	SLU 43	-37	-36	3599	1048.06	433.07	16.71
336	SLU 44	-38	-22	3651	1060.76	439.31	15.31
336	SLU 45	-38	-37	3649	1063.29	439.15	17.04
336	SLU 46	-39	-28	3681	1070.91	442.89	16.2
336	SLU 47	-39	-22	3683	1070.3	443.09	15.55
336	SLU 48	-39	-37	3681	1072.83	442.94	17.28
336	SLU 49	-39	-29	3712	1080.45	446.68	16.44
336	SLU 50	-38	-37	3662	1067.14	440.65	17.18
336	SLU 51	-39	-28	3693	1074.76	444.39	16.35
336	SLU 52	-39	-25	4043	1174.74	486.37	16.09
336	SLU 53	-39	-40	4041	1177.27	486.22	17.81
336	SLU 54	-40	-31	4073	1184.89	489.96	16.98
336	SLU 55	-40	-26	4075	1184.28	490.16	16.33
336	SLU 56	-40	-40	4073	1186.81	490.01	18.05
336	SLU 57	-40	-32	4104	1194.43	493.75	17.21
336	SLU 58	-39	-40	4054	1181.12	487.72	17.96
336	SLU 59	-40	-32	4085	1188.74	491.46	17.12
336	SLU 60	-39	-41	4159	1210.89	500.31	17.81
336	SLU 61	-39	-32	4190	1218.51	504.05	16.98
336	SLU 62	-39	-41	4190	1220.43	504.1	18.05
336	SLU 63	-40	-33	4222	1228.05	507.84	17.21
336	SLU 64	-42	-39	3995	1164.49	480.68	18.46
336	SLU 65	-43	-25	4047	1177.19	486.92	17.07
336	SLU 66	-42	-40	4045	1179.72	486.76	18.79
336	SLU 67	-43	-31	4077	1187.34	490.5	17.96
336	SLU 68	-43	-25	4079	1186.73	490.71	17.31
336	SLU 69	-43	-40	4077	1189.26	490.55	19.03
336	SLU 70	-44	-31	4108	1196.88	494.29	18.19
336	SLU 71	-43	-40	4058	1183.57	488.26	18.94
336	SLU 72	-43	-31	4089	1191.19	492	18.1
336	SLU 73	-44	-28	4439	1291.17	533.99	17.84
336	SLU 74	-43	-43	4437	1293.7	533.83	19.57
336	SLU 75	-44	-34	4468	1301.32	537.57	18.73
336	SLU 76	-44	-28	4470	1300.71	537.78	18.08
336	SLU 77	-44	-43	4468	1303.24	537.62	19.8
336	SLU 78	-45	-35	4500	1310.86	541.36	18.97
336	SLU 79	-44	-43	4449	1297.55	535.33	19.71
336	SLU 80	-44	-35	4481	1305.17	539.07	18.88
336	SLU 81	-43	-44	4554	1327.31	547.92	19.57
336	SLU 82	-44	-35	4586	1334.94	551.67	18.73
336	SLU 83	-44	-44	4586	1336.86	551.71	19.8
336	SLU 84	-44	-36	4617	1344.48	555.46	18.97
336	SLE RA 1	-31	-29	2986	870.17	359.29	13.81
336	SLE RA 2	-32	-20	3021	878.64	363.45	12.89



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
336	SLE RA 3	-32	-30	3020	880.32	363.35	14.04
336	SLE RA 4	-32	-24	3040	885.4	365.84	13.48
336	SLE RA 5	-32	-20	3042	885	365.98	13.05
336	SLE RA 6	-32	-30	3040	886.68	365.87	14.19
336	SLE RA 7	-32	-24	3061	891.77	368.37	13.64
336	SLE RA 8	-32	-30	3028	882.89	364.34	14.13
336	SLE RA 9	-32	-24	3049	887.97	366.84	13.58
336	SLE RA 10	-32	-22	3282	954.62	394.83	13.4
336	SLE RA 11	-32	-32	3281	956.31	394.72	14.55
336	SLE RA 12	-33	-26	3302	961.39	397.22	13.99
336	SLE RA 13	-33	-22	3303	960.99	397.35	13.56
336	SLE RA 14	-33	-32	3302	962.67	397.25	14.71
336	SLE RA 15	-33	-26	3323	967.75	399.74	14.15
336	SLE RA 16	-32	-32	3289	958.88	395.72	14.65
336	SLE RA 17	-33	-26	3310	963.96	398.22	14.09
336	SLE RA 18	-32	-33	3359	978.72	404.12	14.55
336	SLE RA 19	-32	-27	3380	983.8	406.61	13.99
336	SLE RA 20	-32	-33	3380	985.08	406.65	14.71
336	SLE RA 21	-33	-27	3401	990.16	409.14	14.15
336	SLE FR 1	-31	-29	2986	870.17	359.29	13.81
336	SLE FR 2	-31	-27	2993	871.86	360.12	13.63
336	SLE FR 3	-31	-29	2994	872.71	360.3	13.88
336	SLE FR 4	-31	-28	3105	904.43	373.57	13.85
336	SLE FR 5	-31	-30	3106	905.28	373.75	14.1
336	SLE FR 6	-31	-31	3172	924.45	381.71	14.18
336	SLE QP 1	-31	-29	2986	870.17	359.29	13.81
336	SLE QP 2	-31	-30	3098	902.74	372.74	14.04
336	SLD 1	228	51	3418	976.15	410.96	-79.41
336	SLD 2	276	45	3409	974.01	409.85	-93.89
336	SLD 3	255	-117	2762	817.21	332.96	-67.29
336	SLD 4	303	-124	2753	815.08	331.85	-81.78
336	SLD 5	-4	252	4190	1166.2	502.71	-29.76
336	SLD 6	28	247	4184	1164.79	501.98	-39.32
336	SLD 7	88	-311	2004	636.4	242.7	10.62
336	SLD 8	119	-316	1998	635	241.97	1.06
336	SLD 9	-182	255	4197	1170.47	503.51	27.02
336	SLD 10	-150	251	4191	1169.07	502.78	17.45
336	SLD 11	-91	-308	2012	640.68	243.5	67.4
336	SLD 12	-59	-312	2006	639.27	242.77	57.83
336	SLD 13	-366	64	3443	990.4	413.63	109.85
336	SLD 14	-318	57	3433	988.26	412.53	95.36
336	SLD 15	-339	-105	2787	831.46	335.63	121.96
336	SLD 16	-290	-112	2778	829.32	334.52	107.48
336	SLV 1	374	102	3615	1021.72	434.52	-132.65
336	SLV 2	449	91	3601	1018.38	432.79	-155.34
336	SLV 3	418	-171	2555	764.76	308.42	-112.93
336	SLV 4	493	-182	2541	761.42	306.69	-135.62
336	SLV 5	9	425	4864	1328.78	582.85	-55.65
336	SLV 6	60	418	4854	1326.53	581.68	-70.93
336	SLV 7	156	-485	1330	472.24	162.52	10.1
336	SLV 8	207	-492	1320	469.99	161.35	-5.18
336	SLV 9	-270	431	4875	1335.48	584.13	33.25
336	SLV 10	-219	424	4866	1333.23	582.96	17.97
336	SLV 11	-123	-479	1342	478.94	163.8	99
336	SLV 12	-72	-486	1332	476.69	162.63	83.72
336	SLV 13	-556	121	3655	1044.05	438.79	163.69
336	SLV 14	-480	111	3640	1040.71	437.06	141
336	SLV 15	-512	-152	2594	787.09	312.69	183.41
336	SLV 16	-436	-162	2580	783.75	310.96	160.72
336	SLV FO 1	414	115	3667	1033.62	440.7	-147.32
336	SLV FO 2	497	103	3652	1029.95	438.8	-172.28
336	SLV FO 3	463	-185	2501	750.96	301.99	-125.62
336	SLV FO 4	546	-197	2485	747.29	300.09	-150.58
336	SLV FO 5	13	471	5040	1371.38	603.86	-62.62
336	SLV FO 6	69	463	5030	1368.91	602.58	-79.42
336	SLV FO 7	175	-530	1153	429.19	141.49	9.7
336	SLV FO 8	231	-538	1143	426.72	140.21	-7.1
336	SLV FO 9	-293	477	5053	1378.75	605.27	35.17
336	SLV FO 10	-237	469	5043	1376.28	603.99	18.37
336	SLV FO 11	-132	-523	1166	436.56	142.9	107.5
336	SLV FO 12	-76	-531	1155	434.09	141.62	90.69
336	SLV FO 13	-608	137	3710	1058.18	445.4	178.65
336	SLV FO 14	-525	125	3695	1054.51	443.49	153.69
336	SLV FO 15	-560	-164	2544	775.52	306.69	200.35
336	SLV FO 16	-477	-176	2528	771.85	304.78	175.39
336	CRTFP Ux+	0	0	0	0	0	0
336	CRTFP Ux-	0	0	0	0	0	0
336	CRTFP Uy+	0	0	0	0	0	0
336	CRTFP Uy-	0	0	0	0	0	0
337	SLU 1	11	-46	2156	631.25	-34.96	-4.04
337	SLU 2	12	-36	2195	640.78	-35.59	-4.17
337	SLU 3	11	-47	2193	642.66	-35.57	-4.05
337	SLU 4	11	-41	2217	648.37	-35.95	-4.12
337	SLU 5	11	-36	2219	647.92	-35.97	-4.14
337	SLU 6	11	-48	2217	649.8	-35.95	-4.02
337	SLU 7	11	-41	2240	655.52	-36.33	-4.09
337	SLU 8	10	-47	2202	645.53	-35.72	-3.99
337	SLU 9	11	-41	2226	651.24	-36.1	-4.06
337	SLU 10	12	-40	2488	727	-40.33	-4.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLU 11	11	-52	2486	728.88	-40.31	-4.11
337	SLU 12	11	-46	2510	734.59	-40.68	-4.19
337	SLU 13	11	-41	2511	734.14	-40.71	-4.21
337	SLU 14	10	-53	2509	736.02	-40.69	-4.08
337	SLU 15	11	-46	2533	741.73	-41.06	-4.16
337	SLU 16	10	-52	2495	731.75	-40.46	-4.05
337	SLU 17	11	-46	2519	737.46	-40.83	-4.13
337	SLU 18	11	-53	2574	754.42	-41.73	-4.14
337	SLU 19	11	-47	2597	760.13	-42.1	-4.21
337	SLU 20	11	-54	2597	761.56	-42.11	-4.11
337	SLU 21	11	-47	2621	767.27	-42.48	-4.19
337	SLU 22	12	-52	2450	718.71	-39.75	-4.51
337	SLU 23	13	-41	2490	728.24	-40.37	-4.64
337	SLU 24	12	-53	2488	730.12	-40.36	-4.51
337	SLU 25	12	-47	2512	735.84	-40.73	-4.59
337	SLU 26	13	-42	2513	735.38	-40.75	-4.61
337	SLU 27	12	-54	2511	737.26	-40.74	-4.49
337	SLU 28	12	-47	2535	742.98	-41.11	-4.56
337	SLU 29	12	-53	2497	732.99	-40.51	-4.46
337	SLU 30	12	-47	2521	738.71	-40.88	-4.53
337	SLU 31	13	-46	2782	814.46	-45.11	-4.7
337	SLU 32	12	-58	2781	816.34	-45.09	-4.58
337	SLU 33	12	-51	2804	822.06	-45.47	-4.66
337	SLU 34	13	-47	2806	821.6	-45.49	-4.68
337	SLU 35	12	-58	2804	823.48	-45.47	-4.55
337	SLU 36	12	-52	2828	829.2	-45.85	-4.63
337	SLU 37	12	-58	2790	819.21	-45.24	-4.52
337	SLU 38	12	-52	2813	824.93	-45.62	-4.6
337	SLU 39	12	-59	2868	841.88	-46.51	-4.61
337	SLU 40	12	-53	2892	847.6	-46.89	-4.68
337	SLU 41	12	-60	2892	849.02	-46.89	-4.58
337	SLU 42	12	-53	2915	854.74	-47.27	-4.65
337	SLU 43	13	-58	2701	790.63	-43.81	-5.09
337	SLU 44	14	-48	2741	800.16	-44.44	-5.22
337	SLU 45	13	-59	2739	802.04	-44.42	-5.1
337	SLU 46	14	-53	2763	807.76	-44.8	-5.17
337	SLU 47	14	-48	2764	807.3	-44.82	-5.19
337	SLU 48	13	-60	2762	809.18	-44.8	-5.07
337	SLU 49	14	-53	2786	814.9	-45.18	-5.14
337	SLU 50	13	-59	2748	804.91	-44.57	-5.04
337	SLU 51	14	-53	2772	810.63	-44.95	-5.11
337	SLU 52	14	-52	3034	886.38	-49.17	-5.29
337	SLU 53	13	-64	3032	888.26	-49.16	-5.16
337	SLU 54	14	-58	3055	893.98	-49.53	-5.24
337	SLU 55	14	-53	3057	893.52	-49.55	-5.26
337	SLU 56	13	-65	3055	895.4	-49.54	-5.14
337	SLU 57	14	-58	3079	901.12	-49.91	-5.21
337	SLU 58	13	-64	3041	891.13	-49.31	-5.11
337	SLU 59	14	-58	3064	896.85	-49.68	-5.18
337	SLU 60	13	-65	3119	913.8	-50.58	-5.19
337	SLU 61	14	-59	3143	919.52	-50.95	-5.26
337	SLU 62	13	-66	3143	920.94	-50.96	-5.16
337	SLU 63	14	-59	3166	926.66	-51.33	-5.24
337	SLU 64	15	-64	2996	878.1	-48.59	-5.56
337	SLU 65	16	-53	3036	887.63	-49.22	-5.69
337	SLU 66	15	-65	3034	889.51	-49.2	-5.57
337	SLU 67	15	-59	3057	895.23	-49.58	-5.64
337	SLU 68	16	-54	3059	894.77	-49.6	-5.66
337	SLU 69	15	-66	3057	896.65	-49.58	-5.54
337	SLU 70	15	-59	3081	902.37	-49.96	-5.61
337	SLU 71	14	-65	3043	892.38	-49.35	-5.51
337	SLU 72	15	-59	3066	898.1	-49.73	-5.58
337	SLU 73	16	-58	3328	973.85	-53.96	-5.75
337	SLU 74	15	-70	3326	975.73	-53.94	-5.63
337	SLU 75	15	-63	3350	981.45	-54.32	-5.71
337	SLU 76	15	-59	3352	980.99	-54.34	-5.73
337	SLU 77	14	-70	3350	982.87	-54.32	-5.61
337	SLU 78	15	-64	3373	988.59	-54.7	-5.68
337	SLU 79	14	-70	3335	978.6	-54.09	-5.57
337	SLU 80	15	-64	3359	984.32	-54.47	-5.65
337	SLU 81	15	-71	3414	1001.27	-55.36	-5.66
337	SLU 82	15	-65	3438	1006.99	-55.74	-5.73
337	SLU 83	15	-72	3437	1008.41	-55.74	-5.63
337	SLU 84	15	-65	3461	1014.13	-56.12	-5.71
337	SLE RA 1	11	-48	2240	656.24	-36.33	-4.18
337	SLE RA 2	12	-41	2266	662.59	-36.75	-4.26
337	SLE RA 3	11	-49	2265	663.84	-36.74	-4.18
337	SLE RA 4	11	-44	2281	667.66	-36.99	-4.23
337	SLE RA 5	12	-41	2282	667.35	-37	-4.24
337	SLE RA 6	11	-49	2281	668.6	-36.99	-4.16
337	SLE RA 7	11	-45	2296	672.42	-37.24	-4.21
337	SLE RA 8	11	-49	2271	665.76	-36.84	-4.14
337	SLE RA 9	11	-44	2287	669.57	-37.09	-4.19
337	SLE RA 10	12	-44	2461	720.07	-39.9	-4.3
337	SLE RA 11	11	-52	2460	721.32	-39.89	-4.22
337	SLE RA 12	11	-48	2476	725.14	-40.14	-4.27
337	SLE RA 13	12	-44	2477	724.83	-40.16	-4.29
337	SLE RA 14	11	-52	2476	726.08	-40.15	-4.2
337	SLE RA 15	11	-48	2491	729.9	-40.4	-4.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
337	SLE RA 16	11	-52	2466	723.24	-39.99	-4.18
337	SLE RA 17	11	-48	2482	727.05	-40.24	-4.23
337	SLE RA 18	11	-53	2519	738.35	-40.84	-4.24
337	SLE RA 19	11	-48	2534	742.16	-41.09	-4.29
337	SLE RA 20	11	-53	2534	743.11	-41.09	-4.22
337	SLE RA 21	11	-49	2550	746.92	-41.34	-4.27
337	SLE FR 1	11	-48	2240	656.24	-36.33	-4.18
337	SLE FR 2	11	-47	2245	657.51	-36.41	-4.19
337	SLE FR 3	11	-48	2246	658.14	-36.43	-4.17
337	SLE FR 4	11	-48	2329	682.14	-37.77	-4.21
337	SLE FR 5	11	-50	2330	682.78	-37.78	-4.19
337	SLE FR 6	11	-50	2379	697.29	-38.58	-4.21
337	SLE QP 1	11	-48	2240	656.24	-36.33	-4.18
337	SLE QP 2	11	-49	2324	680.87	-37.68	-4.2
337	SLD 1	226	25	2550	736.69	-41.2	-69.18
337	SLD 2	263	31	2558	739.01	-41.36	-80.37
337	SLD 3	213	-99	2058	618.12	-33.37	-66.92
337	SLD 4	250	-93	2067	620.44	-33.53	-78.11
337	SLD 5	88	159	3136	877.03	-50.58	-25.11
337	SLD 6	112	163	3141	878.56	-50.68	-32.5
337	SLD 7	46	-253	1496	481.8	-24.49	-17.56
337	SLD 8	70	-249	1502	483.33	-24.59	-24.95
337	SLD 9	-48	150	3145	878.41	-50.77	16.56
337	SLD 10	-24	154	3151	879.94	-50.87	9.17
337	SLD 11	-90	-262	1506	483.18	-24.68	24.11
337	SLD 12	-66	-258	1512	484.71	-24.78	16.72
337	SLD 13	-228	-6	2580	741.3	-41.83	69.72
337	SLD 14	-191	0	2589	743.62	-41.99	58.53
337	SLD 15	-241	-129	2089	622.73	-34.01	71.98
337	SLD 16	-204	-123	2098	625.05	-34.16	60.79
337	SLV 1	348	70	2690	771.17	-43.39	-106.05
337	SLV 2	405	79	2704	774.81	-43.64	-123.57
337	SLV 3	327	-130	1895	579.46	-30.74	-102.28
337	SLV 4	385	-121	1909	583.1	-30.98	-119.81
337	SLV 5	133	288	3637	998.05	-58.54	-37.19
337	SLV 6	172	294	3646	1000.5	-58.71	-49
337	SLV 7	63	-379	986	359	-16.36	-24.63
337	SLV 8	102	-372	996	361.45	-16.52	-36.44
337	SLV 9	-80	273	3651	1000.29	-58.84	28.04
337	SLV 10	-41	280	3661	1002.74	-59.01	16.24
337	SLV 11	-150	-393	1001	361.24	-16.66	40.6
337	SLV 12	-111	-386	1010	363.69	-16.82	28.8
337	SLV 13	-363	22	2738	778.65	-44.38	111.42
337	SLV 14	-305	31	2752	782.28	-44.63	93.89
337	SLV 15	-383	-178	1943	586.93	-31.73	115.18
337	SLV 16	-325	-168	1957	590.57	-31.97	97.66
337	SLV FO 1	381	82	2726	780.2	-43.96	-116.23
337	SLV FO 2	445	92	2742	784.21	-44.23	-135.51
337	SLV FO 3	358	-138	1852	569.32	-30.04	-112.09
337	SLV FO 4	422	-128	1867	573.32	-30.31	-131.37
337	SLV FO 5	145	321	3768	1029.77	-60.63	-40.49
337	SLV FO 6	188	328	3778	1032.46	-60.81	-53.48
337	SLV FO 7	69	-411	853	326.81	-14.23	-26.68
337	SLV FO 8	112	-404	863	329.51	-14.41	-39.66
337	SLV FO 9	-90	306	3784	1032.23	-60.96	31.27
337	SLV FO 10	-47	313	3794	1034.93	-61.14	18.29
337	SLV FO 11	-166	-427	869	329.28	-14.55	45.08
337	SLV FO 12	-123	-420	879	331.97	-14.73	32.1
337	SLV FO 13	-400	29	2780	788.42	-45.05	122.98
337	SLV FO 14	-336	39	2795	792.43	-45.32	103.7
337	SLV FO 15	-423	-191	1905	577.54	-31.13	127.12
337	SLV FO 16	-359	-180	1921	581.54	-31.4	107.84
337	CRTFP Ux+	0	0	0	0	0	0
337	CRTFP Ux-	0	0	0	0	0	0
337	CRTFP Uy+	0	0	0	0	0	0
337	CRTFP Uy-	0	0	0	0	0	0
338	SLU 1	17	-72	3287	995.1	-112.32	-7.8
338	SLU 2	18	-55	3347	1009.99	-114.32	-7.71
338	SLU 3	17	-73	3344	1013.07	-114.28	-7.83
338	SLU 4	18	-63	3380	1022.01	-115.48	-7.78
338	SLU 5	18	-56	3382	1021.24	-115.54	-7.68
338	SLU 6	16	-74	3380	1024.32	-115.5	-7.8
338	SLU 7	17	-64	3416	1033.26	-116.7	-7.75
338	SLU 8	16	-73	3358	1017.6	-114.76	-7.74
338	SLU 9	17	-63	3394	1026.53	-115.96	-7.69
338	SLU 10	18	-62	3791	1145.33	-129.46	-7.95
338	SLU 11	17	-80	3789	1148.42	-129.42	-8.07
338	SLU 12	18	-70	3824	1157.35	-130.61	-8.02
338	SLU 13	18	-63	3827	1156.58	-130.68	-7.92
338	SLU 14	16	-81	3824	1159.67	-130.63	-8.04
338	SLU 15	17	-71	3860	1168.6	-131.83	-7.99
338	SLU 16	16	-80	3803	1152.94	-129.9	-7.98
338	SLU 17	17	-71	3838	1161.88	-131.1	-7.93
338	SLU 18	17	-82	3922	1188.45	-133.94	-8.14
338	SLU 19	18	-72	3958	1197.38	-135.14	-8.09
338	SLU 20	16	-83	3958	1199.7	-135.16	-8.11
338	SLU 21	17	-73	3993	1208.63	-136.36	-8.06
338	SLU 22	19	-80	3736	1132.96	-127.69	-8.71
338	SLU 23	20	-64	3796	1147.85	-129.68	-8.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
338	SLU 24	19	-82	3794	1150.93	-129.64	-8.74
338	SLU 25	19	-72	3829	1159.86	-130.84	-8.69
338	SLU 26	20	-65	3832	1159.1	-130.9	-8.6
338	SLU 27	18	-83	3829	1162.18	-130.86	-8.71
338	SLU 28	19	-73	3865	1171.11	-132.06	-8.66
338	SLU 29	18	-82	3808	1155.46	-130.12	-8.65
338	SLU 30	19	-72	3843	1164.39	-131.32	-8.6
338	SLU 31	20	-71	4240	1283.19	-144.82	-8.87
338	SLU 32	19	-89	4238	1286.27	-144.78	-8.98
338	SLU 33	19	-79	4274	1295.21	-145.98	-8.93
338	SLU 34	20	-72	4276	1294.44	-146.04	-8.84
338	SLU 35	18	-90	4274	1297.52	-146	-8.95
338	SLU 36	19	-80	4309	1306.46	-147.2	-8.9
338	SLU 37	18	-89	4252	1290.8	-145.26	-8.89
338	SLU 38	19	-79	4288	1299.73	-146.46	-8.84
338	SLU 39	19	-91	4371	1326.3	-149.31	-9.05
338	SLU 40	19	-81	4407	1335.24	-150.51	-9
338	SLU 41	18	-92	4407	1337.55	-150.53	-9.02
338	SLU 42	19	-82	4443	1346.49	-151.73	-8.97
338	SLU 43	21	-90	4119	1246.37	-140.75	-9.82
338	SLU 44	23	-74	4179	1261.26	-142.75	-9.74
338	SLU 45	21	-91	4176	1264.34	-142.71	-9.86
338	SLU 46	22	-82	4212	1273.27	-143.91	-9.8
338	SLU 47	22	-74	4214	1272.51	-143.97	-9.71
338	SLU 48	21	-92	4212	1275.59	-143.93	-9.83
338	SLU 49	22	-82	4248	1284.52	-145.13	-9.78
338	SLU 50	21	-92	4190	1268.86	-143.19	-9.77
338	SLU 51	22	-82	4226	1277.8	-144.39	-9.72
338	SLU 52	22	-81	4623	1396.6	-157.89	-9.98
338	SLU 53	21	-99	4621	1399.68	-157.84	-10.1
338	SLU 54	22	-89	4657	1408.62	-159.04	-10.04
338	SLU 55	22	-82	4659	1407.85	-159.11	-9.95
338	SLU 56	21	-99	4656	1410.93	-159.06	-10.07
338	SLU 57	22	-90	4692	1419.86	-160.26	-10.02
338	SLU 58	21	-99	4635	1404.21	-158.33	-10.01
338	SLU 59	22	-89	4671	1413.14	-159.52	-9.96
338	SLU 60	21	-100	4754	1439.71	-162.37	-10.17
338	SLU 61	22	-91	4790	1448.65	-163.57	-10.12
338	SLU 62	21	-101	4790	1450.96	-163.59	-10.14
338	SLU 63	22	-91	4825	1459.9	-164.79	-10.09
338	SLU 64	23	-99	4568	1384.22	-156.11	-10.74
338	SLU 65	24	-82	4628	1399.11	-158.11	-10.65
338	SLU 66	23	-100	4626	1402.2	-158.07	-10.77
338	SLU 67	24	-90	4661	1411.13	-159.27	-10.72
338	SLU 68	24	-83	4664	1410.36	-159.33	-10.62
338	SLU 69	23	-101	4661	1413.44	-159.29	-10.74
338	SLU 70	24	-91	4697	1422.38	-160.49	-10.69
338	SLU 71	23	-100	4640	1406.72	-158.55	-10.68
338	SLU 72	23	-91	4675	1415.65	-159.75	-10.63
338	SLU 73	24	-90	5072	1534.46	-173.25	-10.89
338	SLU 74	23	-107	5070	1537.54	-173.21	-11.01
338	SLU 75	24	-98	5106	1546.47	-174.41	-10.96
338	SLU 76	24	-91	5108	1545.7	-174.47	-10.86
338	SLU 77	23	-108	5106	1548.79	-174.43	-10.98
338	SLU 78	24	-98	5141	1557.72	-175.63	-10.93
338	SLU 79	23	-108	5084	1542.06	-173.69	-10.92
338	SLU 80	23	-98	5120	1551	-174.89	-10.87
338	SLU 81	23	-109	5203	1577.57	-177.74	-11.08
338	SLU 82	24	-99	5239	1586.5	-178.94	-11.03
338	SLU 83	23	-110	5239	1588.82	-178.96	-11.05
338	SLU 84	24	-100	5275	1597.75	-180.15	-11
338	SLE RA 1	17	-74	3415	1034.49	-116.71	-8.06
338	SLE RA 2	18	-63	3455	1044.42	-118.04	-8
338	SLE RA 3	17	-75	3454	1046.47	-118.02	-8.08
338	SLE RA 4	18	-68	3477	1052.43	-118.82	-8.05
338	SLE RA 5	18	-64	3479	1051.91	-118.86	-7.98
338	SLE RA 6	17	-76	3477	1053.97	-118.83	-8.06
338	SLE RA 7	18	-69	3501	1059.93	-119.63	-8.03
338	SLE RA 8	17	-75	3463	1049.49	-118.34	-8.02
338	SLE RA 9	18	-69	3487	1055.44	-119.14	-7.99
338	SLE RA 10	18	-68	3751	1134.64	-128.13	-8.16
338	SLE RA 11	17	-80	3750	1136.7	-128.11	-8.24
338	SLE RA 12	18	-73	3774	1142.65	-128.91	-8.21
338	SLE RA 13	18	-69	3775	1142.14	-128.95	-8.14
338	SLE RA 14	17	-80	3774	1144.2	-128.92	-8.22
338	SLE RA 15	18	-74	3797	1150.15	-129.72	-8.19
338	SLE RA 16	17	-80	3759	1139.72	-128.43	-8.18
338	SLE RA 17	18	-73	3783	1145.67	-129.23	-8.15
338	SLE RA 18	17	-81	3839	1163.39	-131.13	-8.29
338	SLE RA 19	18	-74	3863	1169.34	-131.93	-8.25
338	SLE RA 20	17	-82	3862	1170.89	-131.94	-8.27
338	SLE RA 21	18	-75	3886	1176.84	-132.74	-8.23
338	SLE FR 1	17	-74	3415	1034.49	-116.71	-8.06
338	SLE FR 2	17	-72	3423	1036.47	-116.98	-8.05
338	SLE FR 3	17	-74	3425	1037.49	-117.04	-8.05
338	SLE FR 4	17	-74	3550	1075.14	-121.3	-8.12
338	SLE FR 5	17	-76	3552	1076.16	-121.36	-8.12
338	SLE FR 6	17	-78	3627	1098.94	-123.92	-8.17
338	SLE QP 1	17	-74	3415	1034.49	-116.71	-8.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
338	SLE QP 2	17	-76	3542	1073.16	-121.04	-8.13
338	SLD 1	349	39	3872	1157.86	-131.76	-110.84
338	SLD 2	406	51	3887	1162.05	-132.33	-128.43
338	SLD 3	329	-148	3128	972.06	-106.76	-108.39
338	SLD 4	386	-137	3143	976.25	-107.33	-125.98
338	SLD 5	136	241	4767	1379.61	-162.07	-39.5
338	SLD 6	174	248	4777	1382.37	-162.44	-51.11
338	SLD 7	71	-384	2287	760.28	-78.73	-31.31
338	SLD 8	108	-377	2297	763.05	-79.11	-42.93
338	SLD 9	-74	224	4787	1383.27	-162.97	26.67
338	SLD 10	-36	232	4798	1386.04	-163.34	15.06
338	SLD 11	-139	-400	2308	763.94	-79.63	34.86
338	SLD 12	-102	-393	2318	766.71	-80	23.24
338	SLD 13	-351	-15	3941	1170.07	-134.75	109.72
338	SLD 14	-294	-4	3957	1174.26	-135.32	92.13
338	SLD 15	-371	-203	3198	984.27	-109.75	112.18
338	SLD 16	-314	-191	3213	988.46	-110.32	94.59
338	SLV 1	537	109	4077	1210.42	-138.46	-169.06
338	SLV 2	626	127	4101	1216.98	-139.36	-196.62
338	SLV 3	504	-194	2875	910	-98.04	-164.95
338	SLV 4	594	-176	2899	916.56	-98.93	-192.51
338	SLV 5	205	436	5522	1568.75	-187.41	-57.5
338	SLV 6	265	448	5539	1573.17	-188.01	-76.05
338	SLV 7	98	-574	1514	567.34	-52.66	-43.8
338	SLV 8	158	-562	1530	571.76	-53.26	-62.35
338	SLV 9	-123	410	5555	1574.55	-188.81	46.1
338	SLV 10	-63	422	5571	1578.97	-189.41	27.54
338	SLV 11	-231	-600	1546	573.14	-54.07	59.8
338	SLV 12	-171	-588	1562	577.56	-54.67	41.24
338	SLV 13	-559	24	4186	1229.76	-143.14	176.26
338	SLV 14	-470	42	4210	1236.32	-144.03	148.7
338	SLV 15	-591	-279	2984	929.33	-102.72	180.37
338	SLV 16	-502	-261	3008	935.9	-103.61	152.81
338	SLV FO 1	589	127	4131	1224.15	-140.21	-185.16
338	SLV FO 2	687	147	4157	1231.37	-141.19	-215.47
338	SLV FO 3	553	-206	2808	893.68	-95.74	-180.64
338	SLV FO 4	651	-186	2834	900.9	-96.72	-210.95
338	SLV FO 5	224	487	5720	1618.31	-194.04	-62.43
338	SLV FO 6	290	500	5738	1623.18	-194.7	-82.84
338	SLV FO 7	106	-624	1311	516.76	-45.82	-47.37
338	SLV FO 8	172	-611	1329	521.62	-46.49	-67.78
338	SLV FO 9	-138	459	5756	1624.69	-195.59	51.52
338	SLV FO 10	-71	472	5774	1629.56	-196.25	31.11
338	SLV FO 11	-256	-652	1347	523.14	-47.37	66.59
338	SLV FO 12	-190	-639	1364	528	-48.03	46.18
338	SLV FO 13	-617	34	4251	1245.41	-145.35	194.7
338	SLV FO 14	-519	54	4277	1252.64	-146.33	164.38
338	SLV FO 15	-652	-299	2928	914.95	-100.88	199.22
338	SLV FO 16	-554	-280	2954	922.17	-101.87	168.9
338	CRTFP Ux+	0	0	0	0	0	0
338	CRTFP Ux-	0	0	0	0	0	0
338	CRTFP Uy+	0	0	0	0	0	0
338	CRTFP Uy-	0	0	0	0	0	0
339	SLU 1	25	-85	4103	1239.62	2.38	-7.86
339	SLU 2	27	-67	4176	1257.41	2.4	-8.48
339	SLU 3	25	-87	4175	1262.17	2.41	-7.87
339	SLU 4	26	-76	4218	1272.84	2.43	-8.25
339	SLU 5	27	-68	4220	1271.52	2.42	-8.43
339	SLU 6	25	-88	4219	1276.28	2.44	-7.82
339	SLU 7	26	-77	4263	1286.95	2.45	-8.19
339	SLU 8	25	-87	4192	1267.85	2.42	-7.75
339	SLU 9	26	-76	4236	1278.52	2.44	-8.12
339	SLU 10	27	-75	4712	1419.83	2.74	-8.55
339	SLU 11	26	-95	4711	1424.6	2.75	-7.94
339	SLU 12	27	-84	4755	1435.27	2.76	-8.31
339	SLU 13	27	-76	4756	1433.95	2.76	-8.49
339	SLU 14	26	-96	4756	1438.71	2.77	-7.88
339	SLU 15	27	-85	4799	1449.38	2.79	-8.25
339	SLU 16	25	-95	4729	1430.28	2.76	-7.81
339	SLU 17	26	-84	4772	1440.95	2.77	-8.18
339	SLU 18	26	-96	4869	1471.66	2.86	-7.95
339	SLU 19	27	-85	4913	1482.33	2.87	-8.32
339	SLU 20	26	-97	4914	1485.77	2.88	-7.89
339	SLU 21	27	-86	4957	1496.44	2.9	-8.27
339	SLU 22	28	-95	4673	1414.76	2.62	-8.79
339	SLU 23	30	-77	4746	1432.54	2.65	-9.42
339	SLU 24	28	-97	4745	1437.31	2.66	-8.81
339	SLU 25	30	-85	4788	1447.98	2.67	-9.18
339	SLU 26	30	-77	4790	1446.66	2.67	-9.36
339	SLU 27	28	-98	4790	1451.42	2.68	-8.75
339	SLU 28	29	-86	4833	1462.09	2.69	-9.13
339	SLU 29	28	-97	4763	1442.99	2.67	-8.68
339	SLU 30	29	-86	4806	1453.66	2.68	-9.06
339	SLU 31	31	-84	5282	1594.97	2.98	-9.48
339	SLU 32	29	-104	5281	1599.73	2.99	-8.87
339	SLU 33	30	-93	5325	1610.4	3.01	-9.25
339	SLU 34	30	-85	5327	1609.08	3	-9.43
339	SLU 35	29	-105	5326	1613.85	3.02	-8.82
339	SLU 36	30	-94	5369	1624.52	3.03	-9.19



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
339	SLU 37	28	-105	5299	1605.41	3	-8.75
339	SLU 38	29	-94	5342	1616.08	3.02	-9.12
339	SLU 39	29	-106	5440	1646.8	3.1	-8.89
339	SLU 40	30	-95	5483	1657.47	3.12	-9.26
339	SLU 41	29	-107	5484	1660.91	3.13	-8.83
339	SLU 42	30	-96	5528	1671.58	3.14	-9.21
339	SLU 43	32	-108	5139	1551.46	3.01	-9.89
339	SLU 44	34	-89	5211	1569.25	3.03	-10.52
339	SLU 45	32	-109	5210	1574.01	3.04	-9.91
339	SLU 46	33	-98	5254	1584.68	3.06	-10.28
339	SLU 47	34	-90	5256	1583.36	3.05	-10.46
339	SLU 48	32	-110	5255	1588.12	3.07	-9.85
339	SLU 49	33	-99	5298	1598.79	3.08	-10.23
339	SLU 50	32	-110	5228	1579.69	3.05	-9.78
339	SLU 51	33	-98	5271	1590.36	3.07	-10.15
339	SLU 52	34	-97	5747	1731.67	3.37	-10.58
339	SLU 53	32	-117	5747	1736.44	3.38	-9.97
339	SLU 54	33	-106	5790	1747.11	3.39	-10.35
339	SLU 55	34	-98	5792	1745.79	3.39	-10.52
339	SLU 56	32	-118	5791	1750.55	3.4	-9.92
339	SLU 57	33	-107	5835	1761.22	3.42	-10.29
339	SLU 58	32	-117	5764	1742.12	3.39	-9.84
339	SLU 59	33	-106	5808	1752.79	3.4	-10.22
339	SLU 60	32	-119	5905	1783.5	3.49	-9.98
339	SLU 61	33	-108	5948	1794.17	3.5	-10.36
339	SLU 62	32	-120	5949	1797.61	3.51	-9.93
339	SLU 63	33	-109	5993	1808.28	3.53	-10.3
339	SLU 64	35	-117	5709	1726.6	3.25	-10.83
339	SLU 65	37	-99	5781	1744.38	3.28	-11.45
339	SLU 66	35	-119	5780	1749.15	3.29	-10.85
339	SLU 67	36	-108	5824	1759.82	3.3	-11.22
339	SLU 68	37	-100	5826	1758.5	3.3	-11.4
339	SLU 69	35	-120	5825	1763.26	3.31	-10.79
339	SLU 70	36	-109	5868	1773.93	3.32	-11.16
339	SLU 71	35	-119	5798	1754.83	3.3	-10.72
339	SLU 72	36	-108	5841	1765.5	3.31	-11.09
339	SLU 73	37	-107	6318	1906.81	3.61	-11.52
339	SLU 74	35	-127	6317	1911.57	3.63	-10.91
339	SLU 75	36	-116	6360	1922.24	3.64	-11.28
339	SLU 76	37	-108	6362	1920.92	3.63	-11.46
339	SLU 77	35	-128	6361	1925.69	3.65	-10.85
339	SLU 78	36	-117	6405	1936.36	3.66	-11.23
339	SLU 79	35	-127	6334	1917.25	3.63	-10.78
339	SLU 80	36	-116	6378	1927.92	3.65	-11.16
339	SLU 81	35	-128	6475	1958.64	3.74	-10.92
339	SLU 82	36	-117	6519	1969.31	3.75	-11.3
339	SLU 83	35	-129	6520	1972.75	3.76	-10.87
339	SLU 84	36	-118	6563	1983.42	3.77	-11.24
339	SLE RA 1	26	-88	4266	1289.66	2.45	-8.12
339	SLE RA 2	27	-76	4314	1301.52	2.46	-8.54
339	SLE RA 3	26	-89	4314	1304.69	2.47	-8.13
339	SLE RA 4	27	-82	4343	1311.81	2.48	-8.38
339	SLE RA 5	27	-76	4344	1310.93	2.48	-8.5
339	SLE RA 6	26	-90	4344	1314.1	2.49	-8.1
339	SLE RA 7	27	-82	4372	1321.22	2.5	-8.35
339	SLE RA 8	26	-89	4326	1308.48	2.48	-8.05
339	SLE RA 9	27	-82	4354	1315.59	2.49	-8.3
339	SLE RA 10	28	-81	4672	1409.8	2.69	-8.58
339	SLE RA 11	26	-94	4671	1412.98	2.7	-8.18
339	SLE RA 12	27	-87	4700	1420.09	2.71	-8.43
339	SLE RA 13	28	-82	4702	1419.21	2.7	-8.55
339	SLE RA 14	26	-95	4701	1422.39	2.71	-8.14
339	SLE RA 15	27	-88	4730	1429.5	2.72	-8.39
339	SLE RA 16	26	-95	4683	1416.76	2.7	-8.09
339	SLE RA 17	27	-87	4712	1423.88	2.71	-8.34
339	SLE RA 18	26	-96	4777	1444.35	2.77	-8.19
339	SLE RA 19	27	-88	4806	1451.47	2.78	-8.44
339	SLE RA 20	26	-96	4807	1453.76	2.78	-8.15
339	SLE RA 21	27	-89	4836	1460.88	2.79	-8.4
339	SLE FR 1	26	-88	4266	1289.66	2.45	-8.12
339	SLE FR 2	26	-86	4276	1292.03	2.45	-8.21
339	SLE FR 3	26	-88	4278	1293.43	2.46	-8.11
339	SLE FR 4	27	-88	4429	1338.44	2.55	-8.23
339	SLE FR 5	26	-91	4431	1339.83	2.55	-8.13
339	SLE FR 6	26	-92	4522	1367.01	2.61	-8.16
339	SLE QP 1	26	-88	4266	1289.66	2.45	-8.12
339	SLE QP 2	26	-90	4419	1336.07	2.55	-8.14
339	SLD 1	440	54	4638	1386.17	3.62	-141.13
339	SLD 2	511	91	4678	1398.17	3.54	-163.83
339	SLD 3	414	-148	3708	1154.87	3.46	-132.6
339	SLD 4	486	-111	3748	1166.87	3.38	-155.3
339	SLD 5	176	253	5888	1699.74	3.13	-56.88
339	SLD 6	223	277	5915	1707.67	3.08	-71.88
339	SLD 7	92	-420	2788	928.74	2.59	-28.45
339	SLD 8	139	-396	2815	936.67	2.53	-43.45
339	SLD 9	-86	216	6024	1735.47	2.56	27.16
339	SLD 10	-39	240	6051	1743.4	2.51	12.17
339	SLD 11	-170	-457	2924	964.47	2.01	55.59
339	SLD 12	-123	-433	2950	972.4	1.96	40.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
339	SLD 13	-433	-69	5091	1505.27	1.71	139.02
339	SLD 14	-362	-33	5131	1517.27	1.63	116.31
339	SLD 15	-458	-271	4161	1273.97	1.55	147.55
339	SLD 16	-387	-235	4201	1285.97	1.47	124.84
339	SLV 1	674	141	4787	1420.73	4.23	-216.63
339	SLV 2	786	198	4849	1439.53	4.11	-252.2
339	SLV 3	633	-186	3283	1046.68	3.97	-202.66
339	SLV 4	744	-128	3345	1065.48	3.84	-238.23
339	SLV 5	263	464	6799	1925.26	3.48	-85.23
339	SLV 6	338	502	6841	1937.92	3.39	-109.18
339	SLV 7	125	-625	1786	678.44	2.59	-38.68
339	SLV 8	200	-586	1828	691.1	2.51	-62.63
339	SLV 9	-147	406	7011	1981.04	2.58	46.34
339	SLV 10	-72	444	7053	1993.7	2.5	22.39
339	SLV 11	-285	-683	1998	734.22	1.7	92.89
339	SLV 12	-210	-644	2040	746.88	1.61	68.94
339	SLV 13	-692	-52	5493	1606.66	1.25	221.95
339	SLV 14	-580	5	5556	1625.46	1.12	186.38
339	SLV 15	-733	-379	3990	1232.61	0.99	235.91
339	SLV 16	-622	-322	4052	1251.41	0.86	200.34
339	SLV FO 1	739	164	4823	1429.19	4.4	-237.48
339	SLV FO 2	862	227	4892	1449.87	4.26	-276.6
339	SLV FO 3	694	-195	3169	1017.74	4.11	-222.11
339	SLV FO 4	816	-132	3238	1038.42	3.97	-261.24
339	SLV FO 5	286	519	7037	1984.18	3.57	-92.94
339	SLV FO 6	369	562	7083	1998.1	3.48	-119.28
339	SLV FO 7	134	-678	1523	612.68	2.6	-41.73
339	SLV FO 8	217	-636	1569	626.6	2.5	-68.08
339	SLV FO 9	-164	455	7270	2045.54	2.59	51.79
339	SLV FO 10	-82	498	7316	2059.46	2.49	25.45
339	SLV FO 11	-316	-742	1756	674.04	1.61	103
339	SLV FO 12	-234	-700	1802	687.96	1.52	76.65
339	SLV FO 13	-764	-48	5601	1633.72	1.12	244.96
339	SLV FO 14	-641	15	5670	1654.4	0.98	205.83
339	SLV FO 15	-809	-408	3947	1222.27	0.83	260.32
339	SLV FO 16	-687	-345	4015	1242.95	0.69	221.19
339	CRTFP Ux+	0	0	0	0	0	0
339	CRTFP Ux-	0	0	0	0	0	0
339	CRTFP Uy+	0	0	0	0	0	0
339	CRTFP Uy-	0	0	0	0	0	0
340	SLU 1	22	-70	3615	1071.77	130.84	-4.14
340	SLU 2	24	-54	3679	1087.42	133.23	-5.22
340	SLU 3	22	-71	3678	1091.32	133.11	-4.11
340	SLU 4	23	-62	3717	1100.72	134.54	-4.76
340	SLU 5	24	-55	3719	1099.66	134.64	-5.14
340	SLU 6	22	-72	3717	1103.56	134.52	-4.03
340	SLU 7	23	-63	3756	1112.95	135.95	-4.68
340	SLU 8	22	-72	3694	1096.24	133.66	-3.99
340	SLU 9	23	-62	3732	1105.64	135.09	-4.64
340	SLU 10	24	-60	4151	1227.63	150.32	-5.03
340	SLU 11	22	-78	4150	1231.53	150.2	-3.93
340	SLU 12	23	-68	4189	1240.92	151.63	-4.57
340	SLU 13	24	-61	4191	1239.87	151.73	-4.96
340	SLU 14	22	-78	4189	1243.77	151.61	-3.85
340	SLU 15	23	-69	4228	1253.16	153.04	-4.5
340	SLU 16	22	-78	4166	1236.45	150.75	-3.81
340	SLU 17	23	-68	4204	1245.84	152.18	-4.45
340	SLU 18	22	-79	4289	1272.06	155.26	-3.88
340	SLU 19	23	-69	4328	1281.46	156.69	-4.52
340	SLU 20	22	-80	4328	1284.3	156.66	-3.8
340	SLU 21	23	-70	4367	1293.69	158.1	-4.45
340	SLU 22	25	-78	4119	1223.92	149.01	-4.66
340	SLU 23	26	-62	4184	1239.58	151.39	-5.74
340	SLU 24	25	-79	4183	1243.48	151.27	-4.63
340	SLU 25	26	-70	4221	1252.87	152.7	-5.28
340	SLU 26	26	-63	4223	1251.82	152.8	-5.67
340	SLU 27	25	-80	4222	1255.72	152.68	-4.56
340	SLU 28	26	-70	4261	1265.11	154.11	-5.2
340	SLU 29	25	-79	4198	1248.4	151.82	-4.51
340	SLU 30	26	-70	4237	1257.79	153.26	-5.16
340	SLU 31	27	-68	4656	1379.78	168.48	-5.56
340	SLU 32	25	-85	4655	1383.69	168.36	-4.45
340	SLU 33	26	-76	4693	1393.08	169.79	-5.09
340	SLU 34	27	-69	4695	1392.02	169.89	-5.48
340	SLU 35	25	-86	4694	1395.93	169.77	-4.37
340	SLU 36	26	-77	4733	1405.32	171.2	-5.02
340	SLU 37	25	-86	4670	1388.61	168.91	-4.33
340	SLU 38	26	-76	4709	1398	170.34	-4.98
340	SLU 39	25	-87	4794	1424.22	173.42	-4.4
340	SLU 40	26	-77	4832	1433.61	174.85	-5.05
340	SLU 41	25	-88	4833	1436.46	174.83	-4.33
340	SLU 42	26	-78	4872	1445.85	176.26	-4.97
340	SLU 43	28	-88	4526	1341.13	163.87	-5.2
340	SLU 44	29	-73	4591	1356.78	166.25	-6.28
340	SLU 45	28	-90	4590	1360.68	166.14	-5.17
340	SLU 46	29	-80	4628	1370.08	167.57	-5.82
340	SLU 47	29	-73	4630	1369.02	167.66	-6.21
340	SLU 48	28	-90	4629	1372.92	167.54	-5.1
340	SLU 49	29	-81	4668	1382.32	168.98	-5.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLU 50	28	-90	4605	1365.61	166.69	-5.05
340	SLU 51	29	-80	4644	1375	168.12	-5.7
340	SLU 52	30	-79	5063	1496.99	183.34	-6.1
340	SLU 53	28	-96	5062	1500.89	183.22	-4.99
340	SLU 54	29	-86	5100	1510.29	184.66	-5.63
340	SLU 55	30	-80	5102	1509.23	184.75	-6.02
340	SLU 56	28	-97	5101	1513.13	184.63	-4.91
340	SLU 57	29	-87	5140	1522.52	186.07	-5.56
340	SLU 58	28	-96	5077	1505.81	183.78	-4.87
340	SLU 59	29	-87	5116	1515.21	185.21	-5.52
340	SLU 60	28	-97	5201	1541.42	188.28	-4.94
340	SLU 61	29	-88	5239	1550.82	189.71	-5.59
340	SLU 62	28	-98	5240	1553.66	189.69	-4.87
340	SLU 63	29	-89	5279	1563.06	191.12	-5.51
340	SLU 64	31	-96	5031	1493.28	182.03	-5.73
340	SLU 65	32	-80	5095	1508.94	184.42	-6.8
340	SLU 66	31	-97	5094	1512.84	184.3	-5.7
340	SLU 67	32	-88	5133	1522.23	185.73	-6.34
340	SLU 68	32	-81	5135	1521.18	185.83	-6.73
340	SLU 69	30	-98	5134	1525.08	185.71	-5.62
340	SLU 70	31	-89	5172	1534.47	187.14	-6.27
340	SLU 71	30	-98	5110	1517.76	184.85	-5.58
340	SLU 72	31	-88	5148	1527.15	186.28	-6.22
340	SLU 73	32	-87	5567	1649.15	201.51	-6.62
340	SLU 74	31	-104	5566	1653.05	201.39	-5.51
340	SLU 75	32	-94	5605	1662.44	202.82	-6.16
340	SLU 76	32	-87	5607	1661.39	202.91	-6.54
340	SLU 77	31	-104	5606	1665.29	202.8	-5.44
340	SLU 78	32	-95	5644	1674.68	204.23	-6.08
340	SLU 79	31	-104	5582	1657.97	201.94	-5.39
340	SLU 80	31	-95	5620	1667.36	203.37	-6.04
340	SLU 81	31	-105	5705	1693.58	206.44	-5.46
340	SLU 82	32	-96	5744	1702.97	207.87	-6.11
340	SLU 83	31	-106	5745	1705.82	207.85	-5.39
340	SLU 84	32	-96	5783	1715.21	209.28	-6.03
340	SLE RA 1	23	-72	3759	1115.24	136.03	-4.29
340	SLE RA 2	24	-62	3802	1125.67	137.62	-5.01
340	SLE RA 3	23	-73	3801	1128.28	137.54	-4.27
340	SLE RA 4	24	-67	3827	1134.54	138.5	-4.7
340	SLE RA 5	24	-62	3828	1133.83	138.56	-4.96
340	SLE RA 6	23	-74	3827	1136.44	138.48	-4.22
340	SLE RA 7	23	-67	3853	1142.7	139.44	-4.65
340	SLE RA 8	23	-73	3811	1131.56	137.91	-4.19
340	SLE RA 9	23	-67	3837	1137.82	138.86	-4.62
340	SLE RA 10	24	-66	4117	1219.15	149.01	-4.89
340	SLE RA 11	23	-77	4116	1221.75	148.94	-4.15
340	SLE RA 12	24	-71	4142	1228.01	149.89	-4.58
340	SLE RA 13	24	-66	4143	1227.31	149.95	-4.84
340	SLE RA 14	23	-78	4142	1229.91	149.88	-4.1
340	SLE RA 15	24	-71	4168	1236.17	150.83	-4.53
340	SLE RA 16	23	-77	4126	1225.03	149.3	-4.07
340	SLE RA 17	24	-71	4152	1231.29	150.26	-4.5
340	SLE RA 18	23	-78	4209	1248.77	152.31	-4.11
340	SLE RA 19	24	-72	4234	1255.03	153.26	-4.55
340	SLE RA 20	23	-79	4235	1256.93	153.25	-4.06
340	SLE RA 21	24	-72	4261	1263.19	154.2	-4.5
340	SLE FR 1	23	-72	3759	1115.24	136.03	-4.29
340	SLE FR 2	23	-70	3768	1117.33	136.35	-4.43
340	SLE FR 3	23	-72	3770	1118.5	136.41	-4.27
340	SLE FR 4	23	-72	3903	1157.39	141.23	-4.38
340	SLE FR 5	23	-74	3904	1158.56	141.29	-4.22
340	SLE FR 6	23	-75	3984	1182	144.17	-4.2
340	SLE QP 1	23	-72	3759	1115.24	136.03	-4.29
340	SLE QP 2	23	-74	3894	1155.3	140.91	-4.24
340	SLD 1	379	48	4061	1190.71	147.85	-121.01
340	SLD 2	441	82	4099	1202.12	149.16	-141.46
340	SLD 3	357	-123	3228	986.02	117.18	-108.03
340	SLD 4	419	-90	3266	997.42	118.49	-128.48
340	SLD 5	152	217	5200	1474.32	189.27	-55.27
340	SLD 6	193	239	5225	1481.85	190.13	-68.77
340	SLD 7	79	-355	2424	792	87.05	-12.01
340	SLD 8	120	-333	2449	799.53	87.91	-25.51
340	SLD 9	-74	185	5338	1511.06	193.91	17.04
340	SLD 10	-33	207	5364	1518.59	194.78	3.53
340	SLD 11	-147	-387	2563	828.74	91.7	60.3
340	SLD 12	-106	-365	2588	836.27	92.56	46.79
340	SLD 13	-373	-58	4522	1313.18	163.34	120.01
340	SLD 14	-311	-25	4560	1324.58	164.64	99.56
340	SLD 15	-395	-230	3689	1108.48	132.67	132.99
340	SLD 16	-333	-196	3727	1119.88	133.98	112.54
340	SLV 1	582	121	4177	1216.31	152.6	-187.42
340	SLV 2	678	174	4237	1234.17	154.65	-219.46
340	SLV 3	546	-156	2831	885.29	103.01	-166.31
340	SLV 4	642	-103	2891	903.16	105.06	-198.35
340	SLV 5	227	395	6010	1672.31	219.24	-85.23
340	SLV 6	292	431	6050	1684.34	220.62	-106.81
340	SLV 7	107	-529	1522	568.92	53.96	-14.86
340	SLV 8	172	-494	1562	580.94	53.34	-36.43
340	SLV 9	-126	346	6226	1729.65	226.49	27.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
340	SLV 10	-61	381	6266	1741.68	227.87	6.38
340	SLV 11	-246	-579	1738	626.26	61.21	98.33
340	SLV 12	-181	-544	1778	638.28	62.59	76.76
340	SLV 13	-596	-45	4897	1407.44	176.77	189.87
340	SLV 14	-500	8	4957	1425.3	178.81	157.83
340	SLV 15	-632	-322	3551	1076.42	127.18	210.99
340	SLV 16	-536	-270	3610	1094.28	129.23	178.95
340	SLV FO 1	638	141	4206	1222.41	153.77	-205.74
340	SLV FO 2	743	199	4271	1242.06	156.02	-240.98
340	SLV FO 3	598	-164	2725	858.29	99.22	-182.51
340	SLV FO 4	704	-106	2790	877.94	101.48	-217.76
340	SLV FO 5	247	442	6222	1724.01	227.07	-93.33
340	SLV FO 6	319	482	6266	1737.24	228.59	-117.06
340	SLV FO 7	116	-575	1284	510.28	45.27	-15.92
340	SLV FO 8	187	-536	1329	523.51	46.78	-39.65
340	SLV FO 9	-141	387	6459	1787.09	235.05	31.17
340	SLV FO 10	-70	427	6503	1800.32	236.56	7.44
340	SLV FO 11	-273	-630	1522	573.35	53.24	108.59
340	SLV FO 12	-202	-590	1566	586.58	54.76	84.86
340	SLV FO 13	-658	-42	4998	1432.65	180.35	209.28
340	SLV FO 14	-552	16	5063	1452.3	182.6	174.04
340	SLV FO 15	-697	-347	3516	1068.53	125.81	232.51
340	SLV FO 16	-592	-289	3582	1088.18	128.06	197.26
340	CRTFP Ux+	0	0	0	0	0	0
340	CRTFP Ux-	0	0	0	0	0	0
340	CRTFP Uy+	0	0	0	0	0	0
340	CRTFP Uy-	0	0	0	0	0	0
342	SLU 1	29	-82	4899	1549	125.48	-6.9
342	SLU 2	31	-61	4987	1572.12	127.77	-8.16
342	SLU 3	29	-84	4985	1577.38	127.65	-6.88
342	SLU 4	31	-71	5038	1591.25	129.02	-7.64
342	SLU 5	31	-62	5041	1589.88	129.12	-8.07
342	SLU 6	29	-85	5039	1595.13	129	-6.79
342	SLU 7	31	-72	5092	1609.01	130.37	-7.54
342	SLU 8	29	-84	5006	1584.51	128.18	-6.72
342	SLU 9	30	-72	5059	1598.39	129.55	-7.47
342	SLU 10	32	-68	5626	1774.5	144.16	-7.97
342	SLU 11	30	-91	5625	1779.75	144.04	-6.69
342	SLU 12	31	-78	5677	1793.63	145.41	-7.45
342	SLU 13	32	-69	5680	1792.25	145.51	-7.88
342	SLU 14	30	-92	5678	1797.51	145.39	-6.6
342	SLU 15	31	-79	5731	1811.38	146.76	-7.35
342	SLU 16	29	-91	5646	1786.88	144.57	-6.53
342	SLU 17	31	-79	5698	1800.76	145.94	-7.28
342	SLU 18	30	-92	5812	1838.1	148.9	-6.63
342	SLU 19	31	-80	5865	1851.98	150.27	-7.38
342	SLU 20	30	-93	5866	1855.86	150.25	-6.54
342	SLU 21	31	-81	5919	1869.74	151.62	-7.29
342	SLU 22	33	-91	5587	1769.92	142.89	-7.77
342	SLU 23	35	-70	5675	1793.05	145.17	-9.03
342	SLU 24	33	-93	5673	1798.31	145.06	-7.75
342	SLU 25	34	-80	5726	1812.18	146.43	-8.5
342	SLU 26	35	-71	5728	1810.81	146.52	-8.93
342	SLU 27	33	-94	5726	1816.06	146.4	-7.65
342	SLU 28	34	-81	5779	1829.94	147.78	-8.41
342	SLU 29	33	-93	5694	1805.44	145.58	-7.58
342	SLU 30	34	-80	5747	1819.31	146.95	-8.34
342	SLU 31	35	-77	6314	1995.43	161.56	-8.83
342	SLU 32	33	-100	6312	2000.68	161.45	-7.55
342	SLU 33	35	-87	6365	2014.56	162.82	-8.31
342	SLU 34	35	-78	6368	2013.18	162.91	-8.74
342	SLU 35	33	-101	6366	2018.44	162.8	-7.46
342	SLU 36	34	-88	6418	2032.31	164.17	-8.22
342	SLU 37	33	-100	6333	2007.81	161.98	-7.39
342	SLU 38	34	-87	6386	2021.69	163.35	-8.14
342	SLU 39	33	-101	6500	2059.03	166.3	-7.49
342	SLU 40	35	-89	6553	2072.91	167.68	-8.25
342	SLU 41	33	-102	6553	2076.79	167.65	-7.4
342	SLU 42	34	-90	6606	2090.66	169.02	-8.15
342	SLU 43	37	-104	6133	1937.95	157.16	-8.68
342	SLU 44	39	-83	6221	1961.08	159.44	-9.94
342	SLU 45	37	-105	6219	1966.33	159.33	-8.66
342	SLU 46	38	-93	6272	1980.21	160.7	-9.41
342	SLU 47	39	-84	6275	1978.83	160.79	-9.84
342	SLU 48	37	-106	6273	1984.09	160.68	-8.56
342	SLU 49	38	-94	6326	1997.96	162.05	-9.32
342	SLU 50	37	-106	6241	1973.46	159.86	-8.49
342	SLU 51	38	-93	6293	1987.34	161.23	-9.25
342	SLU 52	39	-90	6861	2163.45	175.84	-9.75
342	SLU 53	37	-112	6859	2168.71	175.72	-8.47
342	SLU 54	39	-100	6911	2182.58	177.09	-9.22
342	SLU 55	39	-91	6914	2181.21	177.18	-9.65
342	SLU 56	37	-113	6912	2186.46	177.07	-8.37
342	SLU 57	38	-101	6965	2200.34	178.44	-9.13
342	SLU 58	37	-113	6880	2175.84	176.25	-8.3
342	SLU 59	38	-100	6933	2189.71	177.62	-9.06
342	SLU 60	37	-114	7046	2227.06	180.58	-8.4
342	SLU 61	39	-101	7099	2240.93	181.95	-9.16
342	SLU 62	37	-115	7100	2244.81	181.92	-8.31



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
342	SLU 63	38	-102	7153	2258.69	183.3	-9.07
342	SLU 64	40	-113	6821	2158.88	174.56	-9.54
342	SLU 65	43	-92	6909	2182	176.85	-10.8
342	SLU 66	41	-114	6907	2187.26	176.73	-9.52
342	SLU 67	42	-102	6960	2201.13	178.11	-10.28
342	SLU 68	42	-93	6962	2199.76	178.2	-10.71
342	SLU 69	40	-115	6961	2205.01	178.08	-9.43
342	SLU 70	42	-103	7013	2218.89	179.45	-10.18
342	SLU 71	40	-115	6928	2194.39	177.26	-9.35
342	SLU 72	41	-102	6981	2208.27	178.63	-10.11
342	SLU 73	43	-99	7548	2384.38	193.24	-10.61
342	SLU 74	41	-121	7546	2389.63	193.13	-9.33
342	SLU 75	42	-109	7599	2403.51	194.5	-10.08
342	SLU 76	43	-100	7602	2402.13	194.59	-10.52
342	SLU 77	41	-122	7600	2407.39	194.47	-9.24
342	SLU 78	42	-110	7653	2421.26	195.85	-9.99
342	SLU 79	40	-122	7567	2396.76	193.65	-9.16
342	SLU 80	42	-109	7620	2410.64	195.02	-9.92
342	SLU 81	41	-123	7734	2447.98	197.98	-9.27
342	SLU 82	42	-110	7787	2461.86	199.35	-10.02
342	SLU 83	41	-124	7787	2465.74	199.33	-9.17
342	SLU 84	42	-111	7840	2479.62	200.7	-9.93
342	SLE RA 1	30	-85	5096	1612.12	130.46	-7.15
342	SLE RA 2	32	-71	5154	1627.54	131.98	-7.99
342	SLE RA 3	30	-86	5153	1631.04	131.9	-7.14
342	SLE RA 4	31	-77	5188	1640.29	132.82	-7.64
342	SLE RA 5	32	-71	5190	1639.37	132.88	-7.93
342	SLE RA 6	30	-86	5189	1642.88	132.8	-7.07
342	SLE RA 7	31	-78	5224	1652.13	133.71	-7.58
342	SLE RA 8	30	-86	5167	1635.79	132.25	-7.03
342	SLE RA 9	31	-78	5202	1645.04	133.17	-7.53
342	SLE RA 10	32	-76	5580	1762.45	142.91	-7.86
342	SLE RA 11	31	-91	5579	1765.96	142.83	-7.01
342	SLE RA 12	31	-82	5614	1775.21	143.74	-7.51
342	SLE RA 13	32	-76	5616	1774.29	143.81	-7.8
342	SLE RA 14	30	-91	5615	1777.79	143.73	-6.95
342	SLE RA 15	31	-83	5650	1787.04	144.64	-7.45
342	SLE RA 16	30	-91	5593	1770.71	143.18	-6.9
342	SLE RA 17	31	-82	5628	1779.96	144.09	-7.4
342	SLE RA 18	31	-92	5704	1804.86	146.07	-6.97
342	SLE RA 19	31	-83	5740	1814.11	146.98	-7.47
342	SLE RA 20	30	-92	5740	1816.69	146.97	-6.9
342	SLE RA 21	31	-84	5775	1825.94	147.88	-7.41
342	SLE FR 1	30	-85	5096	1612.12	130.46	-7.15
342	SLE FR 2	31	-82	5107	1615.2	130.76	-7.32
342	SLE FR 3	30	-85	5110	1616.85	130.81	-7.12
342	SLE FR 4	31	-84	5290	1673.02	135.44	-7.26
342	SLE FR 5	30	-87	5293	1674.68	135.5	-7.07
342	SLE FR 6	30	-88	5400	1708.49	138.26	-7.06
342	SLE QP 1	30	-85	5096	1612.12	130.46	-7.15
342	SLE QP 2	30	-87	5278	1669.94	135.14	-7.09
342	SLD 1	506	69	5462	1708.26	142.04	-170.84
342	SLD 2	587	117	5518	1726.43	143.25	-199.32
342	SLD 3	476	-158	4319	1404.3	112.71	-155.27
342	SLD 4	558	-110	4376	1422.47	113.92	-183.76
342	SLD 5	203	296	7056	2139.16	181.48	-74.69
342	SLD 6	257	327	7093	2151.16	182.27	-93.5
342	SLD 7	105	-461	3247	1125.97	83.71	-22.81
342	SLD 8	159	-430	3285	1137.97	84.51	-41.62
342	SLD 9	-98	256	7272	2201.91	185.77	27.43
342	SLD 10	-44	287	7309	2213.91	186.57	8.62
342	SLD 11	-196	-501	3463	1188.72	88	79.31
342	SLD 12	-142	-469	3500	1200.72	88.8	60.5
342	SLD 13	-497	-63	6181	1917.41	156.36	169.57
342	SLD 14	-415	-16	6237	1935.58	157.57	141.09
342	SLD 15	-526	-290	5038	1613.45	127.03	185.13
342	SLD 16	-445	-243	5095	1631.62	128.24	156.65
342	SLV 1	775	163	5597	1738.29	146.73	-263.9
342	SLV 2	903	238	5685	1766.75	148.63	-308.52
342	SLV 3	727	-204	3749	1246.77	99.31	-238.55
342	SLV 4	855	-130	3838	1275.23	101.2	-283.17
342	SLV 5	303	531	8159	2430.6	210.19	-114.26
342	SLV 6	390	582	8219	2449.77	211.47	-144.3
342	SLV 7	142	-693	2001	792.2	52.11	-29.75
342	SLV 8	228	-643	2061	811.37	53.38	-59.79
342	SLV 9	-167	469	8496	2528.51	216.89	45.6
342	SLV 10	-81	520	8556	2547.68	218.17	15.56
342	SLV 11	-329	-755	2338	890.11	58.81	130.11
342	SLV 12	-243	-705	2397	909.28	60.09	100.07
342	SLV 13	-794	-44	6719	2064.65	169.07	268.98
342	SLV 14	-666	31	6807	2093.11	170.97	224.36
342	SLV 15	-842	-411	4871	1573.13	121.65	294.33
342	SLV 16	-714	-337	4960	1601.59	123.54	249.71
342	SLV FO 1	850	188	5629	1745.12	147.89	-289.58
342	SLV FO 2	990	270	5726	1776.44	149.98	-338.66
342	SLV FO 3	797	-216	3596	1204.45	95.73	-261.69
342	SLV FO 4	937	-134	3694	1235.76	97.81	-310.77
342	SLV FO 5	331	593	8447	2506.67	217.7	-124.98
342	SLV FO 6	425	648	8513	2527.75	219.1	-158.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
342	SLV FO 7	153	-754	1673	704.43	43.81	-32.01
342	SLV FO 8	248	-699	1739	725.51	45.21	-65.06
342	SLV FO 9	-187	525	8818	2614.37	225.07	50.87
342	SLV FO 10	-92	580	8883	2635.45	226.47	17.83
342	SLV FO 11	-365	-822	2043	812.13	51.18	143.83
342	SLV FO 12	-270	-767	2109	833.21	52.58	110.79
342	SLV FO 13	-876	-40	6863	2104.12	172.47	296.59
342	SLV FO 14	-736	43	6960	2135.43	174.55	247.5
342	SLV FO 15	-930	-444	4830	1563.44	120.3	324.47
342	SLV FO 16	-789	-362	4928	1594.76	122.38	275.39
342	CRTFP Ux+	0	0	0	0	0	0
342	CRTFP Ux-	0	0	0	0	0	0
342	CRTFP Uy+	0	0	0	0	0	0
342	CRTFP Uy-	0	0	0	0	0	0
343	SLU 1	16	-37	2625	865.16	-73.6	-6.45
343	SLU 2	17	-25	2673	878.52	-74.95	-6.54
343	SLU 3	16	-37	2671	881.04	-74.9	-6.49
343	SLU 4	17	-30	2700	889.06	-75.71	-6.54
343	SLU 5	17	-26	2702	888.46	-75.76	-6.52
343	SLU 6	16	-38	2700	890.98	-75.71	-6.47
343	SLU 7	17	-31	2729	899	-76.52	-6.52
343	SLU 8	16	-37	2683	885.03	-75.22	-6.41
343	SLU 9	16	-31	2711	893.05	-76.03	-6.46
343	SLU 10	17	-28	3015	991.23	-84.54	-6.65
343	SLU 11	16	-40	3013	993.75	-84.49	-6.6
343	SLU 12	17	-33	3042	1001.77	-85.3	-6.66
343	SLU 13	17	-29	3044	1001.17	-85.35	-6.63
343	SLU 14	16	-40	3042	1003.69	-85.3	-6.58
343	SLU 15	17	-34	3071	1011.71	-86.11	-6.63
343	SLU 16	16	-40	3025	997.74	-84.81	-6.52
343	SLU 17	16	-33	3053	1005.76	-85.62	-6.57
343	SLU 18	16	-41	3114	1026.17	-87.3	-6.61
343	SLU 19	17	-34	3142	1034.19	-88.11	-6.66
343	SLU 20	16	-41	3143	1036.11	-88.11	-6.59
343	SLU 21	17	-34	3171	1044.13	-88.92	-6.64
343	SLU 22	18	-40	2995	988.76	-83.98	-7.22
343	SLU 23	19	-29	3042	1002.13	-85.33	-7.31
343	SLU 24	18	-41	3041	1004.65	-85.28	-7.26
343	SLU 25	19	-34	3070	1012.66	-86.09	-7.31
343	SLU 26	19	-30	3071	1012.06	-86.14	-7.29
343	SLU 27	18	-41	3070	1014.59	-86.09	-7.24
343	SLU 28	18	-35	3099	1022.6	-86.9	-7.29
343	SLU 29	18	-41	3052	1008.64	-85.6	-7.18
343	SLU 30	18	-34	3081	1016.66	-86.41	-7.23
343	SLU 31	19	-32	3385	1114.83	-94.92	-7.42
343	SLU 32	18	-44	3383	1117.35	-94.87	-7.37
343	SLU 33	19	-37	3412	1125.37	-95.68	-7.42
343	SLU 34	19	-32	3413	1124.77	-95.73	-7.4
343	SLU 35	18	-44	3412	1127.29	-95.68	-7.35
343	SLU 36	19	-38	3441	1135.31	-96.49	-7.4
343	SLU 37	18	-44	3395	1121.35	-95.19	-7.29
343	SLU 38	18	-37	3423	1129.37	-96	-7.34
343	SLU 39	18	-44	3483	1149.77	-97.68	-7.38
343	SLU 40	19	-38	3512	1157.79	-98.49	-7.43
343	SLU 41	18	-45	3512	1159.71	-98.49	-7.36
343	SLU 42	19	-38	3541	1167.73	-99.3	-7.41
343	SLU 43	20	-46	3286	1082.32	-92.12	-8.12
343	SLU 44	21	-35	3333	1095.69	-93.47	-8.21
343	SLU 45	20	-47	3332	1098.21	-93.42	-8.16
343	SLU 46	21	-40	3361	1106.23	-94.24	-8.21
343	SLU 47	21	-35	3362	1105.63	-94.28	-8.19
343	SLU 48	20	-47	3361	1108.15	-94.23	-8.14
343	SLU 49	21	-41	3390	1116.17	-95.04	-8.19
343	SLU 50	20	-47	3343	1102.2	-93.74	-8.08
343	SLU 51	20	-40	3372	1110.22	-94.55	-8.13
343	SLU 52	21	-38	3676	1208.4	-103.06	-8.32
343	SLU 53	20	-50	3674	1210.92	-103.01	-8.27
343	SLU 54	21	-43	3703	1218.94	-103.82	-8.33
343	SLU 55	21	-38	3704	1218.34	-103.87	-8.3
343	SLU 56	20	-50	3703	1220.86	-103.82	-8.25
343	SLU 57	21	-43	3732	1228.88	-104.63	-8.31
343	SLU 58	20	-50	3686	1214.91	-103.33	-8.19
343	SLU 59	21	-43	3714	1222.93	-104.14	-8.25
343	SLU 60	20	-50	3774	1243.34	-105.82	-8.28
343	SLU 61	21	-44	3803	1251.36	-106.63	-8.34
343	SLU 62	20	-51	3803	1253.28	-106.63	-8.26
343	SLU 63	21	-44	3832	1261.29	-107.44	-8.31
343	SLU 64	22	-50	3655	1205.93	-102.5	-8.89
343	SLU 65	23	-39	3703	1219.29	-103.85	-8.98
343	SLU 66	22	-51	3702	1221.81	-103.81	-8.93
343	SLU 67	23	-44	3731	1229.83	-104.62	-8.98
343	SLU 68	23	-39	3732	1229.23	-104.66	-8.96
343	SLU 69	22	-51	3731	1231.75	-104.62	-8.91
343	SLU 70	23	-44	3759	1239.77	-105.43	-8.96
343	SLU 71	22	-51	3713	1225.81	-104.12	-8.85
343	SLU 72	22	-44	3742	1233.83	-104.93	-8.9
343	SLU 73	23	-42	4045	1332	-113.44	-9.09
343	SLU 74	22	-54	4044	1334.52	-113.39	-9.04
343	SLU 75	23	-47	4073	1342.54	-114.2	-9.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
343	SLU 76	23	-42	4074	1341.94	-114.25	-9.07
343	SLU 77	22	-54	4073	1344.46	-114.2	-9.02
343	SLU 78	23	-47	4101	1352.48	-115.01	-9.08
343	SLU 79	22	-54	4055	1338.52	-113.71	-8.96
343	SLU 80	22	-47	4084	1346.54	-114.52	-9.02
343	SLU 81	22	-54	4144	1366.94	-116.2	-9.05
343	SLU 82	23	-47	4173	1374.96	-117.01	-9.1
343	SLU 83	22	-55	4173	1376.88	-117.01	-9.03
343	SLU 84	23	-48	4202	1384.9	-117.82	-9.08
343	SLE RA 1	16	-38	2731	900.47	-76.57	-6.67
343	SLE RA 2	17	-30	2762	909.38	-77.47	-6.73
343	SLE RA 3	16	-38	2762	911.06	-77.44	-6.7
343	SLE RA 4	17	-34	2781	916.41	-77.98	-6.73
343	SLE RA 5	17	-30	2782	916.01	-78.01	-6.72
343	SLE RA 6	16	-38	2781	917.69	-77.98	-6.68
343	SLE RA 7	17	-34	2800	923.03	-78.52	-6.72
343	SLE RA 8	16	-38	2769	913.72	-77.65	-6.64
343	SLE RA 9	17	-34	2788	919.07	-78.19	-6.68
343	SLE RA 10	17	-32	2991	984.52	-83.86	-6.8
343	SLE RA 11	17	-40	2990	986.2	-83.83	-6.77
343	SLE RA 12	17	-36	3009	991.55	-84.37	-6.81
343	SLE RA 13	17	-32	3010	991.15	-84.4	-6.79
343	SLE RA 14	16	-40	3009	992.83	-84.37	-6.76
343	SLE RA 15	17	-36	3028	998.17	-84.91	-6.79
343	SLE RA 16	16	-40	2997	988.86	-84.04	-6.72
343	SLE RA 17	17	-36	3016	994.21	-84.58	-6.75
343	SLE RA 18	17	-40	3056	1007.81	-85.7	-6.78
343	SLE RA 19	17	-36	3076	1013.16	-86.24	-6.81
343	SLE RA 20	16	-41	3076	1014.44	-86.24	-6.76
343	SLE RA 21	17	-36	3095	1019.79	-86.78	-6.8
343	SLE FR 1	16	-38	2731	900.47	-76.57	-6.67
343	SLE FR 2	17	-36	2737	902.25	-76.75	-6.68
343	SLE FR 3	16	-38	2738	903.12	-76.78	-6.66
343	SLE FR 4	17	-37	2835	934.46	-79.49	-6.71
343	SLE FR 5	16	-39	2836	935.32	-79.52	-6.7
343	SLE FR 6	16	-39	2894	954.14	-81.13	-6.72
343	SLE QP 1	16	-38	2731	900.47	-76.57	-6.67
343	SLE QP 2	16	-38	2828	932.67	-79.31	-6.7
343	SLD 1	268	40	2907	946.93	-81.27	-92.91
343	SLD 2	311	67	2940	957.52	-82.23	-107.26
343	SLD 3	252	-80	2286	771.33	-63.65	-90.2
343	SLD 4	295	-54	2318	781.92	-64.6	-104.55
343	SLD 5	108	163	3789	1201.37	-106.46	-34.09
343	SLD 6	137	180	3811	1208.36	-107.09	-43.57
343	SLD 7	55	-238	1717	616.04	-47.71	-25.05
343	SLD 8	84	-221	1738	623.03	-48.34	-34.53
343	SLD 9	-51	144	3918	1242.32	-110.28	21.12
343	SLD 10	-22	162	3940	1249.31	-110.91	11.65
343	SLD 11	-104	-257	1846	656.98	-51.53	30.16
343	SLD 12	-75	-240	1868	663.98	-52.16	20.69
343	SLD 13	-262	-23	3338	1083.43	-94.01	91.14
343	SLD 14	-219	3	3371	1094.01	-94.96	76.8
343	SLD 15	-278	-143	2717	907.82	-76.38	93.86
343	SLD 16	-235	-117	2750	918.41	-77.34	79.51
343	SLV 1	411	88	2969	959.88	-82.87	-141.81
343	SLV 2	478	129	3020	976.47	-84.37	-164.29
343	SLV 3	385	-107	1964	675.94	-54.38	-137.27
343	SLV 4	452	-66	2015	692.53	-55.87	-159.76
343	SLV 5	162	287	4385	1368.4	-123.32	-49.92
343	SLV 6	207	315	4420	1379.57	-124.33	-65.05
343	SLV 7	75	-362	1035	421.9	-28.33	-34.8
343	SLV 8	120	-334	1070	433.07	-29.34	-49.94
343	SLV 9	-87	258	4587	1432.28	-129.28	36.53
343	SLV 10	-42	285	4622	1443.45	-130.29	21.4
343	SLV 11	-174	-392	1237	485.78	-34.29	51.65
343	SLV 12	-129	-364	1271	496.95	-35.29	36.51
343	SLV 13	-419	-11	3642	1172.82	-102.74	146.35
343	SLV 14	-352	30	3693	1189.41	-104.24	123.87
343	SLV 15	-446	-206	2636	888.87	-74.24	150.89
343	SLV 16	-378	-165	2688	905.46	-75.74	128.41
343	SLV FO 1	450	100	2983	962.61	-83.23	-155.32
343	SLV FO 2	525	146	3040	980.85	-84.88	-180.05
343	SLV FO 3	422	-114	1877	650.26	-51.88	-150.33
343	SLV FO 4	496	-69	1934	668.51	-53.53	-175.06
343	SLV FO 5	176	320	4541	1411.97	-127.72	-54.24
343	SLV FO 6	226	350	4579	1424.26	-128.83	-70.89
343	SLV FO 7	81	-395	856	370.82	-23.23	-37.61
343	SLV FO 8	131	-364	894	383.11	-24.34	-54.26
343	SLV FO 9	-98	287	4763	1482.24	-134.27	40.85
343	SLV FO 10	-48	318	4801	1494.53	-135.38	24.21
343	SLV FO 11	-193	-427	1078	441.09	-29.78	57.48
343	SLV FO 12	-143	-397	1116	453.38	-30.89	40.83
343	SLV FO 13	-463	-8	3723	1196.84	-105.08	161.66
343	SLV FO 14	-389	37	3779	1215.09	-106.73	136.93
343	SLV FO 15	-492	-223	2617	884.49	-73.73	166.65
343	SLV FO 16	-417	-177	2674	902.74	-75.38	141.92
343	CRTFP Ux+	0	0	0	0	0	0
343	CRTFP Ux-	0	0	0	0	0	0
343	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
343	CRTFP Uy-	0	0	0	0	0	0
344	SLU 1	20	-36	3129	1033.24	13.72	-6.62
344	SLU 2	21	-23	3187	1049.69	13.95	-7.16
344	SLU 3	20	-37	3184	1052.22	13.96	-6.65
344	SLU 4	21	-29	3219	1062.09	14.1	-6.98
344	SLU 5	21	-23	3221	1061.56	14.1	-7.13
344	SLU 6	20	-37	3219	1064.09	14.12	-6.62
344	SLU 7	21	-29	3253	1073.96	14.25	-6.94
344	SLU 8	20	-37	3198	1056.99	14.02	-6.55
344	SLU 9	21	-29	3232	1066.86	14.16	-6.88
344	SLU 10	21	-26	3594	1184.06	15.76	-7.21
344	SLU 11	20	-40	3592	1186.59	15.77	-6.69
344	SLU 12	21	-32	3626	1196.46	15.91	-7.02
344	SLU 13	21	-26	3628	1195.94	15.91	-7.17
344	SLU 14	20	-40	3626	1198.47	15.92	-6.66
344	SLU 15	21	-32	3661	1208.34	16.06	-6.99
344	SLU 16	20	-40	3605	1191.36	15.83	-6.59
344	SLU 17	21	-32	3640	1201.23	15.97	-6.92
344	SLU 18	20	-40	3711	1225.2	16.3	-6.68
344	SLU 19	21	-32	3745	1235.07	16.44	-7.01
344	SLU 20	20	-41	3745	1237.08	16.45	-6.65
344	SLU 21	21	-33	3780	1246.95	16.59	-6.97
344	SLU 22	22	-40	3570	1180.94	15.65	-7.43
344	SLU 23	24	-27	3628	1197.39	15.88	-7.97
344	SLU 24	22	-41	3626	1199.92	15.89	-7.46
344	SLU 25	23	-33	3660	1209.79	16.03	-7.79
344	SLU 26	24	-27	3662	1209.26	16.03	-7.94
344	SLU 27	22	-41	3660	1211.8	16.04	-7.43
344	SLU 28	23	-33	3695	1221.66	16.18	-7.75
344	SLU 29	22	-41	3639	1204.69	15.95	-7.36
344	SLU 30	23	-33	3674	1214.56	16.09	-7.69
344	SLU 31	24	-29	4035	1331.76	17.68	-8.02
344	SLU 32	23	-43	4033	1334.29	17.69	-7.51
344	SLU 33	23	-35	4068	1344.16	17.83	-7.83
344	SLU 34	24	-30	4070	1343.64	17.83	-7.98
344	SLU 35	23	-44	4067	1346.17	17.85	-7.47
344	SLU 36	23	-36	4102	1356.04	17.98	-7.8
344	SLU 37	22	-43	4046	1339.07	17.75	-7.41
344	SLU 38	23	-35	4081	1348.94	17.89	-7.73
344	SLU 39	23	-44	4152	1372.9	18.23	-7.49
344	SLU 40	23	-36	4187	1382.77	18.36	-7.82
344	SLU 41	23	-44	4187	1384.78	18.38	-7.46
344	SLU 42	23	-36	4221	1394.65	18.51	-7.79
344	SLU 43	25	-46	3916	1292.57	17.18	-8.32
344	SLU 44	26	-33	3974	1309.02	17.41	-8.87
344	SLU 45	25	-47	3972	1311.55	17.42	-8.36
344	SLU 46	26	-39	4006	1321.42	17.56	-8.68
344	SLU 47	26	-33	4009	1320.89	17.56	-8.83
344	SLU 48	25	-47	4006	1323.42	17.57	-8.32
344	SLU 49	26	-39	4041	1333.29	17.71	-8.65
344	SLU 50	25	-47	3985	1316.32	17.48	-8.26
344	SLU 51	26	-39	4020	1326.19	17.62	-8.58
344	SLU 52	27	-35	4381	1443.39	19.21	-8.91
344	SLU 53	25	-49	4379	1445.92	19.22	-8.4
344	SLU 54	26	-41	4414	1455.79	19.36	-8.73
344	SLU 55	27	-36	4416	1455.27	19.36	-8.88
344	SLU 56	25	-50	4413	1457.8	19.38	-8.37
344	SLU 57	26	-42	4448	1467.67	19.51	-8.69
344	SLU 58	25	-49	4392	1450.69	19.28	-8.3
344	SLU 59	26	-41	4427	1460.56	19.42	-8.63
344	SLU 60	25	-50	4498	1484.53	19.76	-8.39
344	SLU 61	26	-42	4533	1494.4	19.89	-8.71
344	SLU 62	25	-50	4533	1496.41	19.91	-8.35
344	SLU 63	26	-42	4567	1506.28	20.04	-8.68
344	SLU 64	27	-50	4358	1440.27	19.11	-9.13
344	SLU 65	29	-36	4415	1456.72	19.34	-9.68
344	SLU 66	28	-50	4413	1459.25	19.35	-9.17
344	SLU 67	28	-42	4448	1469.12	19.49	-9.49
344	SLU 68	29	-37	4450	1468.59	19.49	-9.65
344	SLU 69	27	-51	4447	1471.12	19.5	-9.13
344	SLU 70	28	-43	4482	1480.99	19.64	-9.46
344	SLU 71	27	-50	4427	1464.02	19.41	-9.07
344	SLU 72	28	-42	4461	1473.89	19.55	-9.39
344	SLU 73	29	-39	4823	1591.09	21.14	-9.72
344	SLU 74	28	-53	4820	1593.62	21.15	-9.21
344	SLU 75	29	-45	4855	1603.49	21.29	-9.54
344	SLU 76	29	-39	4857	1602.97	21.29	-9.69
344	SLU 77	28	-53	4855	1605.5	21.3	-9.18
344	SLU 78	29	-45	4889	1615.37	21.44	-9.51
344	SLU 79	27	-53	4834	1598.4	21.21	-9.11
344	SLU 80	28	-45	4868	1608.27	21.35	-9.44
344	SLU 81	28	-54	4940	1632.23	21.68	-9.2
344	SLU 82	29	-46	4974	1642.1	21.82	-9.52
344	SLU 83	28	-54	4974	1644.11	21.83	-9.16
344	SLU 84	28	-46	5009	1653.98	21.97	-9.49
344	SLE RA 1	21	-37	3255	1075.44	14.27	-6.85
344	SLE RA 2	21	-29	3294	1086.4	14.43	-7.21
344	SLE RA 3	21	-38	3292	1088.09	14.43	-6.87
344	SLE RA 4	21	-33	3315	1094.67	14.53	-7.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
344	SLE RA 5	21	-29	3317	1094.32	14.53	-7.19
344	SLE RA 6	21	-38	3315	1096.01	14.53	-6.85
344	SLE RA 7	21	-33	3338	1102.59	14.63	-7.07
344	SLE RA 8	20	-38	3301	1091.27	14.47	-6.8
344	SLE RA 9	21	-33	3324	1097.85	14.57	-7.02
344	SLE RA 10	22	-30	3565	1175.99	15.63	-7.24
344	SLE RA 11	21	-40	3563	1177.67	15.64	-6.9
344	SLE RA 12	21	-34	3587	1184.25	15.73	-7.12
344	SLE RA 13	22	-31	3588	1183.9	15.73	-7.22
344	SLE RA 14	21	-40	3586	1185.59	15.74	-6.88
344	SLE RA 15	21	-35	3610	1192.17	15.83	-7.1
344	SLE RA 16	21	-40	3572	1180.86	15.68	-6.83
344	SLE RA 17	21	-34	3596	1187.44	15.77	-7.05
344	SLE RA 18	21	-40	3643	1203.41	15.99	-6.89
344	SLE RA 19	21	-35	3666	1209.99	16.08	-7.11
344	SLE RA 20	21	-40	3666	1211.33	16.09	-6.87
344	SLE RA 21	21	-35	3689	1217.91	16.18	-7.09
344	SLE FR 1	21	-37	3255	1075.44	14.27	-6.85
344	SLE FR 2	21	-36	3263	1077.63	14.3	-6.92
344	SLE FR 3	21	-38	3264	1078.6	14.31	-6.84
344	SLE FR 4	21	-36	3379	1116.02	14.82	-6.93
344	SLE FR 5	21	-38	3381	1117	14.83	-6.85
344	SLE FR 6	21	-39	3449	1139.43	15.13	-6.87
344	SLE QP 1	21	-37	3255	1075.44	14.27	-6.85
344	SLE QP 2	21	-38	3371	1113.83	14.79	-6.86
344	SLD 1	319	52	3451	1126.4	15.48	-111.88
344	SLD 2	371	85	3493	1139.35	15.6	-129.93
344	SLD 3	300	-92	2697	910.71	12.52	-104.56
344	SLD 4	351	-60	2739	923.66	12.64	-122.61
344	SLD 5	130	202	4531	1442.39	19.46	-46.21
344	SLD 6	164	223	4559	1450.94	19.54	-58.13
344	SLD 7	66	-279	2018	723.44	9.6	-21.82
344	SLD 8	100	-257	2046	731.99	9.68	-33.74
344	SLD 9	-59	181	4697	1495.67	19.89	20.02
344	SLD 10	-25	202	4725	1504.22	19.97	8.1
344	SLD 11	-123	-300	2184	776.72	10.04	44.41
344	SLD 12	-89	-278	2211	785.27	10.12	32.49
344	SLD 13	-310	-17	4004	1304	16.93	108.89
344	SLD 14	-259	16	4046	1316.95	17.05	90.84
344	SLD 15	-329	-161	3250	1088.31	13.98	116.21
344	SLD 16	-278	-129	3292	1101.26	14.1	98.16
344	SLV 1	489	107	3517	1139.53	15.95	-171.52
344	SLV 2	569	158	3582	1159.82	16.14	-199.79
344	SLV 3	457	-126	2298	790.78	11.17	-159.55
344	SLV 4	538	-75	2363	811.07	11.36	-187.83
344	SLV 5	194	350	5252	1646.7	22.35	-69.13
344	SLV 6	248	384	5296	1660.36	22.48	-88.16
344	SLV 7	89	-428	1188	484.19	6.42	-29.25
344	SLV 8	143	-394	1232	497.85	6.55	-48.28
344	SLV 9	-102	317	5511	1729.81	23.03	34.56
344	SLV 10	-47	352	5554	1743.47	23.16	15.52
344	SLV 11	-207	-460	1447	567.3	7.1	74.44
344	SLV 12	-153	-426	1491	580.96	7.23	55.4
344	SLV 13	-496	-1	4380	1416.59	18.22	174.11
344	SLV 14	-416	50	4445	1436.88	18.41	145.83
344	SLV 15	-528	-234	3161	1067.84	13.44	186.07
344	SLV 16	-448	-183	3226	1088.13	13.63	157.8
344	SLV FO 1	536	121	3532	1142.1	16.06	-187.98
344	SLV FO 2	624	177	3603	1164.42	16.27	-219.09
344	SLV FO 3	501	-135	2191	758.48	10.81	-174.82
344	SLV FO 4	589	-79	2262	780.8	11.02	-205.93
344	SLV FO 5	211	388	5440	1699.98	23.1	-75.35
344	SLV FO 6	271	426	5488	1715.01	23.25	-96.29
344	SLV FO 7	96	-467	970	421.22	5.58	-31.48
344	SLV FO 8	155	-429	1018	436.25	5.72	-52.43
344	SLV FO 9	-114	353	5725	1791.41	23.85	38.7
344	SLV FO 10	-54	391	5773	1806.44	24	17.76
344	SLV FO 11	-230	-502	1255	512.65	6.33	82.57
344	SLV FO 12	-170	-465	1303	527.68	6.47	61.63
344	SLV FO 13	-548	3	4481	1446.86	18.56	192.21
344	SLV FO 14	-460	59	4552	1469.18	18.77	161.1
344	SLV FO 15	-583	-254	3140	1063.24	13.3	205.37
344	SLV FO 16	-495	-198	3211	1085.56	13.51	174.26
344	CRTFP Ux+	0	0	0	0	0	0
344	CRTFP Ux-	0	0	0	0	0	0
344	CRTFP Uy+	0	0	0	0	0	0
344	CRTFP Uy-	0	0	0	0	0	0
347	SLU 1	58	-61	7604	1594.48	622.87	-3.57
347	SLU 2	61	-28	7753	1622.98	633.65	-6.84
347	SLU 3	58	-62	7736	1623.14	633.99	-3.52
347	SLU 4	60	-42	7826	1640.24	640.46	-5.48
347	SLU 5	61	-29	7835	1640.84	640.58	-6.73
347	SLU 6	58	-63	7818	1641	640.93	-3.41
347	SLU 7	60	-43	7908	1658.1	647.4	-5.38
347	SLU 8	58	-62	7768	1630.21	636.74	-3.35
347	SLU 9	60	-43	7858	1647.31	643.21	-5.32
347	SLU 10	63	-32	8738	1829.65	715.61	-6.43
347	SLU 11	60	-66	8722	1829.81	715.95	-3.11
347	SLU 12	62	-46	8811	1846.91	722.42	-5.07



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLU 13	63	-33	8821	1847.51	722.54	-6.32
347	SLU 14	60	-66	8804	1847.67	722.89	-3
347	SLU 15	62	-47	8893	1864.77	729.35	-4.96
347	SLU 16	59	-66	8753	1836.88	718.7	-2.94
347	SLU 17	61	-46	8843	1853.97	725.17	-4.91
347	SLU 18	60	-66	9011	1889.72	739.95	-2.98
347	SLU 19	62	-47	9101	1906.82	746.42	-4.95
347	SLU 20	60	-67	9093	1907.59	746.89	-2.88
347	SLU 21	62	-47	9183	1924.68	753.36	-4.84
347	SLU 22	65	-67	8671	1820.65	711.08	-4.16
347	SLU 23	68	-34	8821	1849.15	721.86	-7.43
347	SLU 24	65	-68	8804	1849.31	722.2	-4.11
347	SLU 25	67	-48	8894	1866.41	728.67	-6.07
347	SLU 26	68	-35	8903	1867.01	728.79	-7.32
347	SLU 27	65	-68	8886	1867.17	729.13	-4
347	SLU 28	67	-49	8976	1884.27	735.6	-5.97
347	SLU 29	65	-68	8836	1856.38	724.94	-3.94
347	SLU 30	67	-48	8925	1873.47	731.41	-5.91
347	SLU 31	70	-38	9806	2055.82	803.81	-7.02
347	SLU 32	67	-71	9789	2055.97	804.16	-3.7
347	SLU 33	69	-52	9879	2073.07	810.63	-5.66
347	SLU 34	70	-38	9888	2073.68	810.75	-6.91
347	SLU 35	67	-72	9871	2073.84	811.09	-3.59
347	SLU 36	69	-52	9961	2090.94	817.56	-5.55
347	SLU 37	66	-72	9821	2063.04	806.9	-3.53
347	SLU 38	68	-52	9911	2080.14	813.37	-5.5
347	SLU 39	67	-72	10079	2115.89	828.16	-3.57
347	SLU 40	69	-52	10169	2132.99	834.63	-5.54
347	SLU 41	67	-73	10161	2133.75	835.09	-3.47
347	SLU 42	69	-53	10251	2150.85	841.56	-5.43
347	SLU 43	73	-77	9519	1995.29	779.49	-4.44
347	SLU 44	76	-45	9668	2023.79	790.27	-7.71
347	SLU 45	73	-78	9651	2023.94	790.61	-4.39
347	SLU 46	75	-59	9741	2041.04	797.08	-6.35
347	SLU 47	76	-45	9750	2041.65	797.2	-7.6
347	SLU 48	73	-79	9734	2041.8	797.55	-4.28
347	SLU 49	75	-59	9823	2058.9	804.02	-6.24
347	SLU 50	73	-78	9683	2031.01	793.36	-4.22
347	SLU 51	75	-59	9773	2048.11	799.83	-6.19
347	SLU 52	78	-49	10654	2230.45	872.23	-7.3
347	SLU 53	75	-82	10637	2230.61	872.57	-3.98
347	SLU 54	77	-63	10726	2247.71	879.04	-5.94
347	SLU 55	77	-49	10736	2248.31	879.16	-7.19
347	SLU 56	74	-83	10719	2248.47	879.51	-3.87
347	SLU 57	77	-63	10808	2265.57	885.97	-5.83
347	SLU 58	74	-82	10668	2237.68	875.32	-3.81
347	SLU 59	76	-63	10758	2254.78	881.78	-5.77
347	SLU 60	75	-83	10926	2290.53	896.57	-3.85
347	SLU 61	77	-63	11016	2307.62	903.04	-5.82
347	SLU 62	75	-83	11008	2308.39	903.51	-3.74
347	SLU 63	77	-64	11098	2325.49	909.97	-5.71
347	SLU 64	80	-83	10586	2221.45	867.7	-5.03
347	SLU 65	83	-50	10736	2249.95	878.48	-8.3
347	SLU 66	80	-84	10719	2250.11	878.82	-4.98
347	SLU 67	82	-64	10809	2267.21	885.29	-6.94
347	SLU 68	83	-51	10818	2267.81	885.41	-8.19
347	SLU 69	80	-85	10801	2267.97	885.75	-4.87
347	SLU 70	82	-65	10891	2285.07	892.22	-6.83
347	SLU 71	80	-84	10751	2257.18	881.56	-4.81
347	SLU 72	82	-65	10840	2274.28	888.03	-6.78
347	SLU 73	85	-54	11721	2456.62	960.43	-7.89
347	SLU 74	82	-88	11704	2456.78	960.78	-4.57
347	SLU 75	84	-68	11794	2473.88	967.24	-6.53
347	SLU 76	84	-55	11803	2474.48	967.37	-7.78
347	SLU 77	81	-88	11786	2474.64	967.71	-4.46
347	SLU 78	84	-69	11876	2491.74	974.18	-6.42
347	SLU 79	81	-88	11736	2463.85	963.52	-4.4
347	SLU 80	83	-68	11826	2480.94	969.99	-6.36
347	SLU 81	82	-88	11994	2516.69	984.78	-4.44
347	SLU 82	84	-69	12084	2533.79	991.25	-6.41
347	SLU 83	82	-89	12076	2534.56	991.71	-4.33
347	SLU 84	84	-69	12166	2551.65	998.18	-6.3
347	SLE RA 1	60	-63	7909	1659.1	648.07	-3.74
347	SLE RA 2	62	-41	8008	1678.1	655.26	-5.92
347	SLE RA 3	60	-63	7997	1678.21	655.49	-3.71
347	SLE RA 4	61	-50	8057	1689.61	659.8	-5.01
347	SLE RA 5	62	-41	8063	1690.01	659.88	-5.85
347	SLE RA 6	60	-64	8052	1690.12	660.11	-3.63
347	SLE RA 7	61	-51	8112	1701.51	664.42	-4.94
347	SLE RA 8	60	-63	8018	1682.92	657.32	-3.59
347	SLE RA 9	61	-50	8078	1694.32	661.63	-4.9
347	SLE RA 10	63	-43	8665	1815.88	709.9	-5.65
347	SLE RA 11	61	-66	8654	1815.99	710.13	-3.43
347	SLE RA 12	62	-53	8714	1827.38	714.44	-4.74
347	SLE RA 13	63	-44	8720	1827.79	714.52	-5.57
347	SLE RA 14	61	-66	8709	1827.89	714.75	-3.36
347	SLE RA 15	62	-53	8769	1839.29	719.06	-4.67
347	SLE RA 16	61	-66	8675	1820.7	711.96	-3.32
347	SLE RA 17	62	-53	8735	1832.1	716.27	-4.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
347	SLE RA 18	61	-66	8847	1855.93	726.13	-3.35
347	SLE RA 19	62	-53	8907	1867.33	730.44	-4.66
347	SLE RA 20	61	-67	8902	1867.84	730.75	-3.28
347	SLE RA 21	62	-54	8962	1879.24	735.06	-4.58
347	SLE FR 1	60	-63	7909	1659.1	648.07	-3.74
347	SLE FR 2	60	-58	7929	1662.9	649.51	-4.18
347	SLE FR 3	60	-63	7931	1663.87	649.92	-3.71
347	SLE FR 4	61	-59	8210	1721.95	672.93	-4.06
347	SLE FR 5	60	-64	8212	1722.92	673.34	-3.59
347	SLE FR 6	60	-64	8378	1757.52	687.1	-3.54
347	SLE QP 1	60	-63	7909	1659.1	648.07	-3.74
347	SLE QP 2	60	-64	8190	1718.15	671.49	-3.62
347	SLD 1	786	150	8359	1741.06	694.81	-178.56
347	SLD 2	913	237	8474	1762.85	701.48	-211.43
347	SLD 3	737	-205	6393	1368.21	555.66	-141.66
347	SLD 4	864	-119	6508	1390	562.33	-174.53
347	SLD 5	329	524	11202	2286.59	888.32	-106.15
347	SLD 6	413	581	11278	2300.98	892.72	-127.85
347	SLD 7	166	-661	4649	1043.75	424.5	16.85
347	SLD 8	250	-604	4724	1058.14	428.91	-4.85
347	SLD 9	-130	476	11656	2378.16	914.07	-2.39
347	SLD 10	-46	534	11732	2392.55	918.47	-24.1
347	SLD 11	-293	-709	5103	1135.33	450.26	120.61
347	SLD 12	-209	-651	5178	1149.72	454.66	98.91
347	SLD 13	-743	-9	9873	2046.31	780.64	167.29
347	SLD 14	-617	78	9987	2068.1	787.32	134.42
347	SLD 15	-792	-364	7907	1673.46	641.5	204.19
347	SLD 16	-665	-277	8021	1695.25	648.17	171.32
347	SLV 1	1198	280	8509	1764.42	711.81	-278.47
347	SLV 2	1396	416	8688	1798.56	722.26	-329.96
347	SLV 3	1118	-295	5331	1161.57	486.82	-218.63
347	SLV 4	1316	-159	5510	1195.71	497.27	-270.12
347	SLV 5	486	887	13073	2639.98	1022.87	-167.23
347	SLV 6	620	978	13194	2662.97	1029.91	-201.89
347	SLV 7	219	-1031	2478	630.48	272.9	32.24
347	SLV 8	353	-939	2599	653.47	279.94	-2.42
347	SLV 9	-232	812	13782	2782.83	1063.04	-4.82
347	SLV 10	-99	904	13902	2805.82	1070.08	-39.49
347	SLV 11	-499	-1105	3186	773.34	313.07	194.65
347	SLV 12	-365	-1014	3307	796.32	320.11	159.98
347	SLV 13	-1196	32	10871	2240.59	845.71	262.88
347	SLV 14	-998	168	11050	2274.73	856.16	211.39
347	SLV 15	-1276	-543	7692	1637.74	620.72	322.72
347	SLV 16	-1078	-407	7871	1671.88	631.17	271.23
347	SLV FO 1	1312	314	8541	1769.05	715.84	-305.96
347	SLV FO 2	1530	464	8738	1806.6	727.34	-362.6
347	SLV FO 3	1224	-318	5045	1105.91	468.35	-240.13
347	SLV FO 4	1442	-169	5242	1143.47	479.85	-296.77
347	SLV FO 5	528	982	13562	2732.16	1058.01	-183.59
347	SLV FO 6	675	1082	13694	2757.45	1065.75	-221.72
347	SLV FO 7	235	-1127	1907	521.72	233.04	35.83
347	SLV FO 8	382	-1027	2040	547	240.78	-2.3
347	SLV FO 9	-262	900	14341	2889.3	1102.2	-4.94
347	SLV FO 10	-115	1000	14474	2914.59	1109.94	-43.08
347	SLV FO 11	-555	-1209	2686	678.85	277.23	214.48
347	SLV FO 12	-408	-1109	2819	704.14	284.97	176.34
347	SLV FO 13	-1322	41	11139	2292.84	863.13	289.53
347	SLV FO 14	-1103	191	11336	2330.39	874.63	232.89
347	SLV FO 15	-1410	-591	7642	1629.7	615.64	355.35
347	SLV FO 16	-1191	-442	7839	1667.26	627.14	298.71
347	CRTFP Ux+	0	0	0	0	0	0
347	CRTFP Ux-	0	0	0	0	0	0
347	CRTFP Uy+	0	0	0	-0.01	0	0
347	CRTFP Uy-	0	0	0	0.01	0	0
349	SLU 1	21	-14	2843	871.13	-174.88	-8.18
349	SLU 2	23	-2	2899	886.86	-178.31	-7.89
349	SLU 3	21	-15	2893	886.89	-177.95	-8.25
349	SLU 4	22	-7	2927	896.33	-180.01	-8.08
349	SLU 5	22	-2	2930	896.71	-180.21	-7.88
349	SLU 6	21	-15	2924	896.73	-179.85	-8.24
349	SLU 7	22	-7	2958	906.17	-181.91	-8.07
349	SLU 8	21	-15	2905	890.83	-178.69	-8.16
349	SLU 9	22	-7	2939	900.26	-180.74	-7.99
349	SLU 10	23	-2	3265	998.32	-200.82	-8.05
349	SLU 11	22	-15	3260	998.35	-200.46	-8.41
349	SLU 12	23	-8	3293	1007.79	-202.51	-8.24
349	SLU 13	23	-2	3296	1008.17	-202.72	-8.04
349	SLU 14	22	-15	3291	1008.2	-202.36	-8.4
349	SLU 15	22	-8	3324	1017.64	-204.42	-8.23
349	SLU 16	21	-15	3272	1002.29	-201.2	-8.32
349	SLU 17	22	-8	3305	1011.73	-203.25	-8.15
349	SLU 18	22	-15	3367	1030.36	-207.04	-8.4
349	SLU 19	22	-8	3400	1039.8	-209.09	-8.23
349	SLU 20	22	-15	3398	1040.21	-208.94	-8.39
349	SLU 21	22	-8	3431	1049.65	-210.99	-8.22
349	SLU 22	24	-15	3243	994.34	-199.47	-9.14
349	SLU 23	25	-3	3299	1010.07	-202.89	-8.85
349	SLU 24	24	-16	3293	1010.09	-202.54	-9.21
349	SLU 25	25	-8	3327	1019.53	-204.59	-9.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLU 26	25	-3	3330	1019.92	-204.8	-8.84
349	SLU 27	24	-16	3324	1019.94	-204.44	-9.2
349	SLU 28	25	-8	3358	1029.38	-206.49	-9.03
349	SLU 29	24	-16	3305	1014.03	-203.27	-9.12
349	SLU 30	24	-8	3339	1023.47	-205.33	-8.95
349	SLU 31	25	-3	3665	1121.53	-225.4	-9.01
349	SLU 32	24	-16	3660	1121.56	-225.04	-9.37
349	SLU 33	25	-9	3693	1130.99	-227.1	-9.2
349	SLU 34	25	-4	3696	1131.38	-227.3	-9
349	SLU 35	24	-16	3691	1131.4	-226.95	-9.36
349	SLU 36	25	-9	3724	1140.84	-229	-9.19
349	SLU 37	24	-16	3672	1125.5	-225.78	-9.28
349	SLU 38	25	-9	3705	1134.93	-227.84	-9.11
349	SLU 39	24	-16	3767	1153.57	-231.62	-9.36
349	SLU 40	25	-9	3800	1163.01	-233.68	-9.19
349	SLU 41	24	-16	3798	1163.42	-233.52	-9.35
349	SLU 42	25	-9	3831	1172.86	-235.58	-9.18
349	SLU 43	27	-18	3559	1090.23	-218.92	-10.3
349	SLU 44	28	-6	3615	1105.96	-222.35	-10.01
349	SLU 45	27	-18	3609	1105.98	-221.99	-10.37
349	SLU 46	28	-11	3642	1115.42	-224.04	-10.2
349	SLU 47	28	-6	3646	1115.81	-224.25	-10.01
349	SLU 48	27	-19	3640	1115.83	-223.89	-10.36
349	SLU 49	28	-11	3673	1125.27	-225.95	-10.19
349	SLU 50	26	-19	3621	1109.92	-222.73	-10.28
349	SLU 51	27	-11	3654	1119.36	-224.78	-10.11
349	SLU 52	28	-6	3981	1217.42	-244.85	-10.17
349	SLU 53	27	-19	3976	1217.44	-244.5	-10.53
349	SLU 54	28	-12	4009	1226.88	-246.55	-10.36
349	SLU 55	28	-6	4012	1227.27	-246.76	-10.16
349	SLU 56	27	-19	4007	1227.29	-246.4	-10.52
349	SLU 57	28	-12	4040	1236.73	-248.45	-10.35
349	SLU 58	27	-19	3988	1221.38	-245.23	-10.44
349	SLU 59	28	-12	4021	1230.82	-247.29	-10.27
349	SLU 60	27	-19	4083	1249.46	-251.07	-10.52
349	SLU 61	28	-12	4116	1258.9	-253.13	-10.35
349	SLU 62	27	-19	4114	1259.31	-252.98	-10.52
349	SLU 63	28	-12	4147	1268.74	-255.03	-10.35
349	SLU 64	29	-19	3959	1213.43	-243.5	-11.26
349	SLU 65	31	-7	4015	1229.16	-246.93	-10.97
349	SLU 66	29	-20	4009	1229.19	-246.57	-11.33
349	SLU 67	30	-12	4042	1238.63	-248.63	-11.16
349	SLU 68	31	-7	4046	1239.01	-248.83	-10.97
349	SLU 69	29	-20	4040	1239.04	-248.47	-11.33
349	SLU 70	30	-12	4073	1248.48	-250.53	-11.15
349	SLU 71	29	-20	4021	1233.13	-247.31	-11.25
349	SLU 72	30	-12	4054	1242.57	-249.37	-11.07
349	SLU 73	31	-7	4381	1340.63	-269.44	-11.13
349	SLU 74	30	-20	4376	1340.65	-269.08	-11.49
349	SLU 75	31	-13	4409	1350.09	-271.13	-11.32
349	SLU 76	31	-7	4412	1350.48	-271.34	-11.13
349	SLU 77	30	-20	4407	1350.5	-270.98	-11.48
349	SLU 78	30	-13	4440	1359.94	-273.04	-11.31
349	SLU 79	29	-20	4388	1344.59	-269.82	-11.4
349	SLU 80	30	-13	4421	1354.03	-271.87	-11.23
349	SLU 81	30	-20	4483	1372.66	-275.66	-11.49
349	SLU 82	31	-13	4516	1382.1	-277.71	-11.31
349	SLU 83	30	-20	4514	1382.51	-277.56	-11.48
349	SLU 84	30	-13	4547	1391.95	-279.62	-11.31
349	SLE RA 1	22	-15	2958	906.33	-181.91	-8.45
349	SLE RA 2	23	-6	2995	916.82	-184.19	-8.26
349	SLE RA 3	22	-15	2991	916.84	-183.95	-8.5
349	SLE RA 4	23	-10	3013	923.13	-185.32	-8.38
349	SLE RA 5	23	-6	3015	923.38	-185.46	-8.26
349	SLE RA 6	22	-15	3012	923.4	-185.22	-8.49
349	SLE RA 7	23	-10	3034	929.69	-186.59	-8.38
349	SLE RA 8	22	-15	2999	919.46	-184.44	-8.44
349	SLE RA 9	22	-10	3021	925.76	-185.82	-8.33
349	SLE RA 10	23	-7	3239	991.13	-199.2	-8.37
349	SLE RA 11	22	-15	3235	991.14	-198.96	-8.6
349	SLE RA 12	23	-10	3257	997.44	-200.33	-8.49
349	SLE RA 13	23	-7	3260	997.69	-200.46	-8.36
349	SLE RA 14	22	-15	3256	997.71	-200.23	-8.6
349	SLE RA 15	23	-10	3278	1004	-201.6	-8.49
349	SLE RA 16	22	-15	3243	993.77	-199.45	-8.55
349	SLE RA 17	23	-10	3265	1000.06	-200.82	-8.43
349	SLE RA 18	22	-15	3307	1012.49	-203.34	-8.6
349	SLE RA 19	23	-10	3329	1018.78	-204.71	-8.49
349	SLE RA 20	22	-15	3327	1019.05	-204.61	-8.6
349	SLE RA 21	23	-10	3349	1025.34	-205.98	-8.48
349	SLE FR 1	22	-15	2958	906.33	-181.91	-8.45
349	SLE FR 2	22	-13	2965	908.43	-182.36	-8.41
349	SLE FR 3	22	-15	2966	908.96	-182.42	-8.45
349	SLE FR 4	22	-13	3070	940.28	-188.8	-8.46
349	SLE FR 5	22	-15	3071	940.8	-188.85	-8.49
349	SLE FR 6	22	-15	3132	959.41	-192.63	-8.53
349	SLE QP 1	22	-15	2958	906.33	-181.91	-8.45
349	SLE QP 2	22	-15	3062	938.18	-188.34	-8.5
349	SID 1	306	67	3098	948.73	-190.26	-105.78



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
349	SLD 2	355	104	3143	960.74	-193.05	-120.54
349	SLD 3	287	-72	2365	747.81	-144.99	-102.51
349	SLD 4	336	-35	2410	759.82	-147.78	-117.27
349	SLD 5	127	215	4175	1243.91	-257.07	-39.99
349	SLD 6	160	240	4205	1251.84	-258.92	-49.73
349	SLD 7	64	-251	1735	574.18	-106.17	-29.08
349	SLD 8	96	-226	1764	582.11	-108.02	-38.82
349	SLD 9	-52	197	4360	1294.25	-268.66	21.83
349	SLD 10	-20	221	4390	1302.18	-270.51	12.08
349	SLD 11	-116	-269	1920	624.52	-117.76	32.74
349	SLD 12	-84	-245	1949	632.45	-119.6	22.99
349	SLD 13	-292	6	3714	1116.53	-228.89	100.28
349	SLD 14	-243	43	3759	1128.54	-231.69	85.52
349	SLD 15	-311	-134	2982	915.61	-183.62	103.55
349	SLD 16	-262	-97	3027	927.63	-186.42	88.79
349	SLV 1	468	117	3138	960.31	-192.61	-160.92
349	SLV 2	544	175	3208	979.13	-196.99	-184.05
349	SLV 3	436	-109	1954	635.44	-119.42	-155.57
349	SLV 4	513	-51	2025	654.26	-123.8	-178.7
349	SLV 5	189	357	4868	1434.02	-299.81	-58.01
349	SLV 6	240	396	4915	1446.69	-302.76	-73.59
349	SLV 7	85	-397	921	351.13	-55.84	-40.19
349	SLV 8	136	-358	969	363.8	-58.78	-55.77
349	SLV 9	-92	328	5156	1512.55	-317.89	38.77
349	SLV 10	-41	367	5203	1525.22	-320.84	23.2
349	SLV 11	-196	-426	1210	429.67	-73.92	56.59
349	SLV 12	-145	-387	1257	442.34	-76.86	41.02
349	SLV 13	-469	21	4100	1222.09	-252.88	161.71
349	SLV 14	-392	79	4170	1240.91	-257.26	138.58
349	SLV 15	-500	-205	2916	897.23	-179.69	167.06
349	SLV 16	-424	-147	2987	916.04	-184.06	143.93
349	SLV FO 1	512	130	3146	962.52	-193.04	-176.16
349	SLV FO 2	596	194	3223	983.23	-197.86	-201.6
349	SLV FO 3	478	-118	1844	605.17	-112.53	-170.28
349	SLV FO 4	562	-54	1921	625.87	-117.35	-195.72
349	SLV FO 5	206	394	5048	1483.6	-310.96	-62.97
349	SLV FO 6	262	437	5100	1497.54	-314.2	-80.09
349	SLV FO 7	91	-435	707	292.43	-42.59	-43.36
349	SLV FO 8	147	-392	759	306.37	-45.83	-60.49
349	SLV FO 9	-104	363	5365	1569.99	-330.85	43.5
349	SLV FO 10	-47	406	5417	1583.93	-334.09	26.37
349	SLV FO 11	-218	-467	1025	378.82	-62.47	63.1
349	SLV FO 12	-162	-424	1077	392.75	-65.72	45.98
349	SLV FO 13	-518	25	4204	1250.48	-259.33	178.73
349	SLV FO 14	-434	89	4281	1271.18	-264.15	153.29
349	SLV FO 15	-552	-224	2902	893.13	-178.82	184.61
349	SLV FO 16	-468	-160	2979	913.83	-183.64	159.17
349	CRTFP Ux+	0	0	0	0	0	0
349	CRTFP Ux-	0	0	0	0	0	0
349	CRTFP Uy+	0	0	0	0	0	0
349	CRTFP Uy-	0	0	0	0	0	0
350	SLU 1	32	-14	3951	1114.81	6.28	-10.98
350	SLU 2	34	4	4029	1135.89	6.38	-11.74
350	SLU 3	32	-14	4021	1134.73	6.4	-11.08
350	SLU 4	34	-3	4067	1147.38	6.47	-11.54
350	SLU 5	34	4	4072	1148.34	6.46	-11.73
350	SLU 6	32	-14	4063	1147.17	6.48	-11.06
350	SLU 7	34	-4	4110	1159.82	6.54	-11.52
350	SLU 8	32	-14	4037	1139.7	6.44	-10.95
350	SLU 9	33	-3	4084	1152.35	6.5	-11.41
350	SLU 10	35	4	4536	1276.63	7.3	-11.95
350	SLU 11	33	-14	4527	1275.47	7.32	-11.29
350	SLU 12	34	-4	4574	1288.12	7.38	-11.75
350	SLU 13	35	3	4579	1289.08	7.38	-11.94
350	SLU 14	33	-14	4570	1287.91	7.4	-11.27
350	SLU 15	34	-4	4617	1300.57	7.46	-11.73
350	SLU 16	33	-14	4544	1280.44	7.35	-11.16
350	SLU 17	34	-4	4590	1293.09	7.42	-11.62
350	SLU 18	33	-14	4675	1315.87	7.59	-11.28
350	SLU 19	34	-4	4722	1328.52	7.65	-11.74
350	SLU 20	33	-14	4718	1328.31	7.67	-11.26
350	SLU 21	34	-4	4765	1340.96	7.73	-11.72
350	SLU 22	36	-15	4505	1270.67	7.25	-12.33
350	SLU 23	38	3	4583	1291.76	7.35	-13.09
350	SLU 24	36	-15	4575	1290.59	7.37	-12.43
350	SLU 25	38	-4	4621	1303.24	7.44	-12.88
350	SLU 26	38	3	4626	1304.2	7.43	-13.08
350	SLU 27	36	-15	4617	1303.04	7.45	-12.41
350	SLU 28	37	-4	4664	1315.69	7.51	-12.87
350	SLU 29	36	-15	4591	1295.56	7.41	-12.3
350	SLU 30	37	-4	4638	1308.21	7.47	-12.76
350	SLU 31	39	3	5090	1432.5	8.27	-13.3
350	SLU 32	37	-15	5081	1431.34	8.29	-12.63
350	SLU 33	38	-5	5128	1443.99	8.35	-13.09
350	SLU 34	39	3	5133	1444.94	8.35	-13.28
350	SLU 35	37	-15	5124	1443.78	8.37	-12.62
350	SLU 36	38	-5	5171	1456.43	8.43	-13.08
350	SLU 37	37	-15	5098	1436.31	8.32	-12.51
350	SLU 38	38	-5	5144	1448.96	8.39	-12.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLU 39	37	-15	5229	1471.73	8.56	-12.62
350	SLU 40	38	-4	5276	1484.38	8.62	-13.08
350	SLU 41	37	-15	5272	1484.18	8.64	-12.61
350	SLU 42	38	-5	5319	1496.83	8.7	-13.07
350	SLU 43	40	-18	4947	1395.81	7.83	-13.81
350	SLU 44	42	0	5025	1416.89	7.93	-14.58
350	SLU 45	41	-18	5016	1415.73	7.95	-13.91
350	SLU 46	42	-7	5063	1428.38	8.02	-14.37
350	SLU 47	42	0	5068	1429.34	8.01	-14.56
350	SLU 48	41	-18	5059	1428.17	8.03	-13.9
350	SLU 49	42	-7	5105	1440.82	8.1	-14.36
350	SLU 50	40	-18	5033	1420.7	7.99	-13.78
350	SLU 51	41	-7	5079	1433.35	8.05	-14.24
350	SLU 52	43	0	5531	1557.63	8.85	-14.79
350	SLU 53	41	-18	5523	1556.47	8.87	-14.12
350	SLU 54	43	-8	5569	1569.12	8.93	-14.58
350	SLU 55	43	0	5574	1570.08	8.93	-14.77
350	SLU 56	41	-18	5565	1568.92	8.95	-14.11
350	SLU 57	42	-8	5612	1581.57	9.01	-14.56
350	SLU 58	41	-18	5539	1561.44	8.9	-13.99
350	SLU 59	42	-8	5586	1574.09	8.97	-14.45
350	SLU 60	41	-18	5671	1596.87	9.14	-14.11
350	SLU 61	43	-7	5717	1609.52	9.2	-14.57
350	SLU 62	41	-18	5714	1609.31	9.22	-14.1
350	SLU 63	42	-8	5760	1621.96	9.28	-14.55
350	SLU 64	44	-18	5501	1551.68	8.8	-15.16
350	SLU 65	46	-1	5579	1572.76	8.9	-15.92
350	SLU 66	45	-19	5570	1571.6	8.92	-15.26
350	SLU 67	46	-8	5617	1584.25	8.99	-15.72
350	SLU 68	46	-1	5622	1585.2	8.98	-15.91
350	SLU 69	44	-19	5613	1584.04	9	-15.24
350	SLU 70	46	-8	5660	1596.69	9.07	-15.7
350	SLU 71	44	-19	5587	1576.57	8.96	-15.13
350	SLU 72	45	-8	5633	1589.22	9.02	-15.59
350	SLU 73	47	-1	6085	1713.5	9.82	-16.13
350	SLU 74	45	-19	6077	1712.34	9.84	-15.47
350	SLU 75	46	-8	6123	1724.99	9.9	-15.92
350	SLU 76	47	-1	6128	1725.95	9.9	-16.12
350	SLU 77	45	-19	6119	1724.78	9.92	-15.45
350	SLU 78	46	-9	6166	1737.43	9.98	-15.91
350	SLU 79	45	-19	6093	1717.31	9.87	-15.34
350	SLU 80	46	-8	6140	1729.96	9.94	-15.8
350	SLU 81	45	-19	6225	1752.74	10.11	-15.46
350	SLU 82	46	-8	6271	1765.39	10.17	-15.92
350	SLU 83	45	-19	6268	1765.18	10.19	-15.44
350	SLU 84	46	-8	6314	1777.83	10.25	-15.9
350	SLE RA 1	33	-14	4110	1159.34	6.56	-11.37
350	SLE RA 2	35	-2	4162	1173.4	6.63	-11.87
350	SLE RA 3	33	-14	4156	1172.62	6.64	-11.43
350	SLE RA 4	34	-7	4187	1181.05	6.68	-11.74
350	SLE RA 5	35	-2	4190	1181.69	6.68	-11.86
350	SLE RA 6	33	-14	4184	1180.92	6.69	-11.42
350	SLE RA 7	34	-7	4215	1189.35	6.73	-11.73
350	SLE RA 8	33	-14	4167	1175.93	6.66	-11.35
350	SLE RA 9	34	-7	4198	1184.37	6.7	-11.65
350	SLE RA 10	35	-2	4499	1267.22	7.24	-12.01
350	SLE RA 11	34	-14	4494	1266.45	7.25	-11.57
350	SLE RA 12	35	-7	4525	1274.88	7.29	-11.88
350	SLE RA 13	35	-3	4528	1275.52	7.29	-12
350	SLE RA 14	34	-14	4522	1274.75	7.3	-11.56
350	SLE RA 15	35	-7	4553	1283.18	7.34	-11.87
350	SLE RA 16	34	-14	4505	1269.76	7.27	-11.48
350	SLE RA 17	34	-7	4536	1278.2	7.31	-11.79
350	SLE RA 18	34	-14	4592	1293.38	7.43	-11.56
350	SLE RA 19	35	-7	4623	1301.81	7.47	-11.87
350	SLE RA 20	34	-14	4621	1301.68	7.48	-11.55
350	SLE RA 21	35	-7	4652	1310.11	7.52	-11.86
350	SLE FR 1	33	-14	4110	1159.34	6.56	-11.37
350	SLE FR 2	33	-12	4120	1162.15	6.57	-11.47
350	SLE FR 3	33	-14	4121	1162.66	6.58	-11.36
350	SLE FR 4	34	-12	4265	1202.36	6.83	-11.53
350	SLE FR 5	33	-14	4266	1202.87	6.84	-11.42
350	SLE FR 6	33	-14	4351	1226.36	6.99	-11.46
350	SLE QP 1	33	-14	4110	1159.34	6.56	-11.37
350	SLE QP 2	33	-14	4254	1199.55	6.82	-11.42
350	SLD 1	443	101	4283	1218.11	7.77	-154.83
350	SLD 2	513	156	4348	1234.01	7.79	-179.41
350	SLD 3	414	-98	3251	954.37	6.6	-144.82
350	SLD 4	485	-43	3316	970.27	6.61	-169.4
350	SLD 5	186	312	5816	1602.25	8.88	-65.2
350	SLD 6	233	349	5859	1612.75	8.89	-81.43
350	SLD 7	92	-351	2377	723.14	4.97	-31.84
350	SLD 8	139	-315	2420	733.64	4.98	-48.07
350	SLD 9	-72	287	6089	1665.47	8.66	25.22
350	SLD 10	-25	323	6132	1675.96	8.67	8.99
350	SLD 11	-166	-377	2650	786.36	4.75	58.58
350	SLD 12	-120	-341	2693	796.85	4.75	42.35
350	SLD 13	-418	15	5193	1428.83	7.02	146.55
350	SLD 14	-348	70	5258	1444.73	7.03	121.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
350	SLD 15	-446	-184	4161	1165.1	5.85	156.56
350	SLD 16	-376	-129	4226	1181	5.86	131.98
350	SLV 1	675	171	4328	1235.94	8.34	-236.29
350	SLV 2	785	258	4429	1260.85	8.36	-274.79
350	SLV 3	629	-151	2660	809.5	6.45	-219.91
350	SLV 4	739	-64	2761	834.41	6.46	-258.42
350	SLV 5	275	514	6788	1852.58	10.15	-96.53
350	SLV 6	350	572	6856	1869.35	10.16	-122.45
350	SLV 7	121	-560	1227	431.13	3.82	-41.96
350	SLV 8	196	-501	1295	447.9	3.84	-67.88
350	SLV 9	-129	473	7214	1951.21	9.8	45.03
350	SLV 10	-55	532	7282	1967.98	9.81	19.11
350	SLV 11	-283	-600	1653	529.75	3.47	99.6
350	SLV 12	-209	-542	1721	546.52	3.48	73.68
350	SLV 13	-672	36	5748	1564.69	7.17	235.57
350	SLV 14	-562	123	5849	1589.6	7.19	197.07
350	SLV 15	-719	-286	4080	1138.25	5.27	251.94
350	SLV 16	-608	-199	4181	1163.16	5.29	213.44
350	SLV FO 1	739	190	4335	1239.58	8.5	-258.77
350	SLV FO 2	861	285	4447	1266.98	8.52	-301.13
350	SLV FO 3	688	-165	2500	770.5	6.41	-240.76
350	SLV FO 4	810	-69	2612	797.9	6.43	-283.12
350	SLV FO 5	300	566	7041	1917.88	10.48	-105.04
350	SLV FO 6	381	631	7116	1936.33	10.5	-133.55
350	SLV FO 7	130	-614	924	354.28	3.52	-45.01
350	SLV FO 8	212	-550	999	372.73	3.54	-73.53
350	SLV FO 9	-145	522	7510	2026.37	10.1	50.68
350	SLV FO 10	-63	586	7585	2044.82	10.11	22.16
350	SLV FO 11	-315	-659	1393	462.77	3.14	110.7
350	SLV FO 12	-233	-595	1468	481.22	3.15	82.19
350	SLV FO 13	-743	41	5897	1601.21	7.21	260.27
350	SLV FO 14	-622	136	6009	1628.61	7.23	217.91
350	SLV FO 15	-794	-313	4062	1132.12	5.12	278.28
350	SLV FO 16	-673	-218	4174	1159.52	5.14	235.92
350	CRTFP Ux+	0	0	0	0	0	0
350	CRTFP Ux-	0	0	0	0	0	0
350	CRTFP Uy+	0	0	0	0	0	0
350	CRTFP Uy-	0	0	0	0	0	0
351	SLU 1	34	-8	3750	944.33	6.98	-11.64
351	SLU 2	36	9	3824	962.95	7.11	-12.46
351	SLU 3	34	-8	3815	960.9	7.12	-11.76
351	SLU 4	35	2	3860	972.07	7.2	-12.25
351	SLU 5	36	8	3864	973.29	7.2	-12.45
351	SLU 6	34	-9	3855	971.24	7.2	-11.76
351	SLU 7	35	1	3900	982.41	7.28	-12.25
351	SLU 8	34	-8	3831	965.02	7.15	-11.63
351	SLU 9	35	2	3875	976.19	7.23	-12.12
351	SLU 10	37	9	4301	1079.63	8.13	-12.71
351	SLU 11	35	-8	4292	1077.58	8.13	-12.01
351	SLU 12	36	2	4337	1088.75	8.21	-12.5
351	SLU 13	37	9	4342	1089.98	8.21	-12.71
351	SLU 14	35	-8	4333	1087.93	8.22	-12.01
351	SLU 15	36	2	4377	1099.1	8.3	-12.5
351	SLU 16	34	-8	4308	1081.7	8.17	-11.89
351	SLU 17	36	2	4352	1092.87	8.25	-12.38
351	SLU 18	35	-8	4432	1111.02	8.43	-12
351	SLU 19	36	2	4476	1122.19	8.51	-12.49
351	SLU 20	35	-8	4472	1121.37	8.52	-12
351	SLU 21	36	2	4517	1132.54	8.6	-12.49
351	SLU 22	38	-9	4273	1073.85	8.06	-13.06
351	SLU 23	40	8	4347	1092.47	8.2	-13.88
351	SLU 24	38	-9	4338	1090.42	8.2	-13.18
351	SLU 25	39	1	4382	1101.59	8.28	-13.67
351	SLU 26	40	8	4387	1102.81	8.29	-13.88
351	SLU 27	38	-9	4378	1100.76	8.29	-13.18
351	SLU 28	39	1	4423	1111.93	8.37	-13.67
351	SLU 29	38	-9	4353	1094.54	8.24	-13.06
351	SLU 30	39	1	4398	1105.71	8.32	-13.55
351	SLU 31	41	8	4824	1209.15	9.21	-14.13
351	SLU 32	39	-9	4815	1207.1	9.22	-13.44
351	SLU 33	40	1	4860	1218.27	9.3	-13.93
351	SLU 34	41	8	4865	1219.5	9.3	-14.13
351	SLU 35	39	-9	4856	1217.44	9.3	-13.43
351	SLU 36	40	1	4900	1228.62	9.38	-13.92
351	SLU 37	38	-9	4831	1211.22	9.25	-13.31
351	SLU 38	40	1	4875	1222.39	9.33	-13.8
351	SLU 39	39	-8	4955	1240.54	9.51	-13.43
351	SLU 40	40	2	4999	1251.71	9.59	-13.92
351	SLU 41	39	-8	4995	1250.88	9.6	-13.42
351	SLU 42	40	2	5039	1262.06	9.68	-13.91
351	SLU 43	42	-11	4696	1183.22	8.7	-14.65
351	SLU 44	45	6	4770	1201.84	8.84	-15.46
351	SLU 45	43	-11	4761	1199.79	8.84	-14.76
351	SLU 46	44	-1	4805	1210.96	8.92	-15.25
351	SLU 47	45	6	4810	1212.19	8.92	-15.46
351	SLU 48	43	-11	4801	1210.13	8.93	-14.76
351	SLU 49	44	-1	4846	1221.31	9.01	-15.25
351	SLU 50	42	-11	4776	1203.91	8.87	-14.64
351	SLU 51	44	-1	4821	1215.08	8.96	-15.13



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
351	SLU 52	45	6	5247	1318.53	9.85	-15.72
351	SLU 53	43	-11	5238	1316.47	9.85	-15.02
351	SLU 54	45	-1	5283	1327.64	9.93	-15.51
351	SLU 55	45	6	5288	1328.87	9.94	-15.71
351	SLU 56	43	-11	5278	1326.82	9.94	-15.01
351	SLU 57	45	-1	5323	1337.99	10.02	-15.5
351	SLU 58	43	-11	5254	1320.6	9.89	-14.89
351	SLU 59	44	-1	5298	1331.77	9.97	-15.38
351	SLU 60	43	-10	5378	1349.91	10.15	-15.01
351	SLU 61	45	0	5422	1361.09	10.23	-15.5
351	SLU 62	43	-10	5418	1360.26	10.24	-15
351	SLU 63	45	0	5462	1371.43	10.32	-15.49
351	SLU 64	46	-11	5219	1312.74	9.79	-16.07
351	SLU 65	49	6	5293	1331.36	9.92	-16.88
351	SLU 66	47	-11	5284	1329.31	9.92	-16.19
351	SLU 67	48	-1	5328	1340.48	10	-16.68
351	SLU 68	49	6	5333	1341.7	10.01	-16.88
351	SLU 69	47	-11	5324	1339.65	10.01	-16.18
351	SLU 70	48	-1	5368	1350.82	10.09	-16.67
351	SLU 71	46	-11	5299	1333.43	9.96	-16.06
351	SLU 72	48	-1	5344	1344.6	10.04	-16.55
351	SLU 73	49	6	5770	1448.04	10.93	-17.14
351	SLU 74	48	-11	5761	1445.99	10.94	-16.44
351	SLU 75	49	-1	5805	1457.16	11.02	-16.93
351	SLU 76	49	6	5810	1458.39	11.02	-17.13
351	SLU 77	48	-11	5801	1456.34	11.02	-16.44
351	SLU 78	49	-1	5846	1467.51	11.11	-16.93
351	SLU 79	47	-11	5776	1450.11	10.97	-16.32
351	SLU 80	49	-1	5821	1461.29	11.05	-16.8
351	SLU 81	48	-11	5900	1479.43	11.24	-16.43
351	SLU 82	49	-1	5945	1490.6	11.32	-16.92
351	SLU 83	48	-11	5941	1489.78	11.32	-16.43
351	SLU 84	49	-1	5985	1500.95	11.4	-16.92
351	SLE RA 1	35	-8	3899	981.34	7.29	-12.05
351	SLE RA 2	36	3	3949	993.75	7.38	-12.59
351	SLE RA 3	35	-9	3943	992.38	7.38	-12.13
351	SLE RA 4	36	-2	3972	999.83	7.43	-12.45
351	SLE RA 5	36	3	3976	1000.64	7.44	-12.59
351	SLE RA 6	35	-9	3970	999.28	7.44	-12.12
351	SLE RA 7	36	-2	3999	1006.72	7.49	-12.45
351	SLE RA 8	35	-9	3953	995.13	7.4	-12.04
351	SLE RA 9	36	-2	3983	1002.58	7.46	-12.37
351	SLE RA 10	37	3	4267	1071.54	8.06	-12.76
351	SLE RA 11	36	-8	4261	1070.17	8.06	-12.3
351	SLE RA 12	36	-2	4291	1077.62	8.11	-12.62
351	SLE RA 13	37	3	4294	1078.43	8.11	-12.76
351	SLE RA 14	36	-8	4288	1077.07	8.12	-12.29
351	SLE RA 15	36	-2	4318	1084.51	8.17	-12.62
351	SLE RA 16	35	-8	4271	1072.92	8.08	-12.21
351	SLE RA 17	36	-2	4301	1080.36	8.14	-12.54
351	SLE RA 18	36	-8	4354	1092.46	8.26	-12.29
351	SLE RA 19	36	-1	4384	1099.91	8.31	-12.62
351	SLE RA 20	36	-8	4381	1099.36	8.31	-12.29
351	SLE RA 21	36	-2	4410	1106.81	8.37	-12.61
351	SLE FR 1	35	-8	3899	981.34	7.29	-12.05
351	SLE FR 2	35	-6	3909	983.82	7.31	-12.16
351	SLE FR 3	35	-8	3910	984.09	7.31	-12.05
351	SLE FR 4	35	-6	4046	1017.16	7.6	-12.23
351	SLE FR 5	35	-8	4046	1017.43	7.6	-12.12
351	SLE FR 6	35	-8	4127	1036.9	7.77	-12.17
351	SLE QP 1	35	-8	3899	981.34	7.29	-12.05
351	SLE QP 2	35	-8	4036	1014.67	7.58	-12.12
351	SLD 1	444	102	4033	1034.5	8.67	-155.6
351	SLD 2	515	159	4097	1048.32	8.71	-180.24
351	SLD 3	415	-93	3044	807.64	7.1	-145.24
351	SLD 4	486	-35	3107	821.47	7.15	-169.88
351	SLD 5	189	309	5525	1362.2	10.27	-66.43
351	SLD 6	236	347	5567	1371.33	10.29	-82.7
351	SLD 7	92	-339	2225	606	5.06	-31.91
351	SLD 8	139	-301	2267	615.13	5.09	-48.18
351	SLD 9	-69	285	5804	1414.22	10.07	23.94
351	SLD 10	-22	322	5846	1423.34	10.1	7.67
351	SLD 11	-166	-364	2504	658.02	4.86	58.46
351	SLD 12	-119	-326	2546	667.14	4.89	42.19
351	SLD 13	-416	19	4964	1207.88	8.01	145.64
351	SLD 14	-345	76	5028	1221.71	8.05	121
351	SLD 15	-445	-176	3974	981.02	6.45	156
351	SLD 16	-374	-119	4038	994.85	6.49	131.36
351	SLV 1	677	169	4060	1052	9.32	-237.1
351	SLV 2	787	259	4160	1073.66	9.39	-275.71
351	SLV 3	629	-146	2460	685.18	6.79	-220.17
351	SLV 4	740	-56	2560	706.84	6.86	-258.78
351	SLV 5	279	505	6452	1578.18	11.92	-98.09
351	SLV 6	354	566	6519	1592.76	11.96	-124.08
351	SLV 7	121	-543	1117	355.43	3.5	-41.65
351	SLV 8	195	-483	1184	370.01	3.55	-67.65
351	SLV 9	-125	466	6887	1659.33	11.61	43.41
351	SLV 10	-50	527	6955	1673.92	11.66	17.41
351	SLV 11	-283	-582	1552	436.58	3.19	99.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
351	SLV 12	-209	-522	1620	451.17	3.24	73.85
351	SLV 13	-670	39	5512	1322.51	8.3	234.54
351	SLV 14	-559	129	5612	1344.17	8.36	195.93
351	SLV 15	-717	-275	3911	955.68	5.77	251.47
351	SLV 16	-607	-186	4011	977.34	5.84	212.86
351	SLV FO 1	741	187	4063	1055.74	9.49	-259.6
351	SLV FO 2	863	285	4173	1079.56	9.57	-302.07
351	SLV FO 3	689	-159	2302	652.23	6.72	-240.98
351	SLV FO 4	810	-61	2412	676.05	6.79	-283.45
351	SLV FO 5	304	557	6693	1634.53	12.35	-106.68
351	SLV FO 6	385	623	6768	1650.57	12.4	-135.28
351	SLV FO 7	129	-597	825	289.51	3.09	-44.61
351	SLV FO 8	211	-530	899	305.55	3.14	-73.2
351	SLV FO 9	-141	514	7173	1723.8	12.01	48.96
351	SLV FO 10	-59	580	7247	1739.84	12.06	20.37
351	SLV FO 11	-315	-640	1304	378.77	2.76	111.04
351	SLV FO 12	-233	-573	1378	394.81	2.81	82.44
351	SLV FO 13	-740	44	5659	1353.29	8.37	259.21
351	SLV FO 14	-619	143	5769	1377.12	8.44	216.74
351	SLV FO 15	-793	-302	3899	949.78	5.59	277.83
351	SLV FO 16	-671	-203	4009	973.61	5.66	235.36
351	CRTFP Ux+	0	0	0	0	0	0
351	CRTFP Ux-	0	0	0	0	0	0
351	CRTFP Uy+	0	0	0	0	0	0
351	CRTFP Uy-	0	0	0	0	0	0
352	SLU 1	35	-5	3544	778.74	6.62	-12.22
352	SLU 2	37	11	3614	794.63	6.76	-13.08
352	SLU 3	35	-6	3605	792.06	6.75	-12.35
352	SLU 4	37	4	3647	801.59	6.83	-12.87
352	SLU 5	37	11	3652	802.94	6.84	-13.09
352	SLU 6	35	-6	3643	800.38	6.84	-12.36
352	SLU 7	37	4	3685	809.91	6.92	-12.88
352	SLU 8	35	-5	3620	795.37	6.79	-12.23
352	SLU 9	37	4	3662	804.9	6.87	-12.75
352	SLU 10	38	11	4062	887.98	7.72	-13.37
352	SLU 11	36	-5	4053	885.42	7.72	-12.64
352	SLU 12	38	4	4095	894.95	7.8	-13.16
352	SLU 13	38	11	4100	896.29	7.81	-13.38
352	SLU 14	36	-5	4091	893.73	7.8	-12.65
352	SLU 15	38	4	4133	903.26	7.88	-13.17
352	SLU 16	36	-5	4067	888.72	7.75	-12.52
352	SLU 17	37	4	4109	898.25	7.83	-13.04
352	SLU 18	36	-5	4183	912.11	8	-12.63
352	SLU 19	38	5	4225	921.64	8.08	-13.15
352	SLU 20	36	-5	4221	920.42	8.09	-12.64
352	SLU 21	38	5	4263	929.95	8.17	-13.16
352	SLU 22	39	-6	4035	882.62	7.66	-13.7
352	SLU 23	42	10	4105	898.5	7.79	-14.57
352	SLU 24	40	-6	4096	895.94	7.79	-13.84
352	SLU 25	41	4	4138	905.47	7.87	-14.36
352	SLU 26	42	10	4143	906.81	7.88	-14.58
352	SLU 27	40	-6	4134	904.25	7.87	-13.85
352	SLU 28	41	4	4176	913.78	7.95	-14.37
352	SLU 29	39	-6	4111	899.24	7.82	-13.72
352	SLU 30	41	4	4153	908.77	7.9	-14.24
352	SLU 31	43	11	4553	991.86	8.76	-14.86
352	SLU 32	41	-6	4544	989.29	8.75	-14.13
352	SLU 33	42	4	4586	998.82	8.84	-14.65
352	SLU 34	43	11	4590	1000.17	8.84	-14.87
352	SLU 35	41	-6	4581	997.61	8.84	-14.14
352	SLU 36	42	4	4623	1007.14	8.92	-14.66
352	SLU 37	40	-6	4558	992.6	8.79	-14.01
352	SLU 38	42	4	4600	1002.13	8.87	-14.53
352	SLU 39	41	-5	4674	1015.98	9.04	-14.12
352	SLU 40	42	4	4716	1025.51	9.12	-14.64
352	SLU 41	41	-5	4712	1024.29	9.12	-14.13
352	SLU 42	42	4	4754	1033.82	9.2	-14.64
352	SLU 43	44	-7	4439	976.75	8.26	-15.37
352	SLU 44	47	9	4509	992.64	8.39	-16.24
352	SLU 45	45	-7	4500	990.07	8.39	-15.51
352	SLU 46	46	3	4542	999.6	8.47	-16.03
352	SLU 47	47	9	4547	1000.95	8.47	-16.24
352	SLU 48	45	-7	4538	998.38	8.47	-15.52
352	SLU 49	46	3	4580	1007.92	8.55	-16.03
352	SLU 50	44	-7	4515	993.38	8.42	-15.39
352	SLU 51	46	3	4557	1002.91	8.5	-15.9
352	SLU 52	47	10	4957	1085.99	9.36	-16.53
352	SLU 53	45	-7	4948	1083.43	9.35	-15.8
352	SLU 54	47	3	4990	1092.96	9.43	-16.32
352	SLU 55	47	9	4995	1094.3	9.44	-16.53
352	SLU 56	45	-7	4986	1091.74	9.43	-15.81
352	SLU 57	47	3	5028	1101.27	9.51	-16.32
352	SLU 58	45	-7	4962	1086.73	9.39	-15.68
352	SLU 59	46	3	5004	1096.26	9.47	-16.19
352	SLU 60	45	-6	5078	1110.12	9.64	-15.79
352	SLU 61	47	3	5121	1119.65	9.72	-16.31
352	SLU 62	45	-6	5116	1118.43	9.72	-15.79
352	SLU 63	47	3	5158	1127.96	9.8	-16.31
352	SLU 64	48	-7	4930	1080.63	9.29	-16.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
352	SLU 65	51	9	5000	1096.51	9.43	-17.72
352	SLU 66	49	-7	4991	1093.95	9.42	-17
352	SLU 67	50	2	5033	1103.48	9.5	-17.52
352	SLU 68	51	9	5038	1104.82	9.51	-17.73
352	SLU 69	49	-7	5029	1102.26	9.5	-17
352	SLU 70	50	2	5071	1111.79	9.58	-17.52
352	SLU 71	48	-7	5006	1097.25	9.45	-16.87
352	SLU 72	50	2	5048	1106.78	9.54	-17.39
352	SLU 73	52	9	5448	1189.87	10.39	-18.01
352	SLU 74	50	-7	5439	1187.3	10.39	-17.29
352	SLU 75	51	3	5481	1196.83	10.47	-17.81
352	SLU 76	52	9	5485	1198.18	10.47	-18.02
352	SLU 77	50	-7	5476	1195.61	10.47	-17.29
352	SLU 78	51	2	5518	1205.14	10.55	-17.81
352	SLU 79	49	-7	5453	1190.6	10.42	-17.16
352	SLU 80	51	3	5495	1200.14	10.5	-17.68
352	SLU 81	50	-7	5569	1213.99	10.67	-17.27
352	SLU 82	51	3	5611	1223.52	10.75	-17.79
352	SLU 83	50	-7	5607	1222.3	10.75	-17.28
352	SLU 84	51	3	5649	1231.83	10.83	-17.8
352	SLE RA 1	36	-5	3685	808.42	6.92	-12.64
352	SLE RA 2	38	5	3731	819.01	7.01	-13.22
352	SLE RA 3	37	-6	3725	817.3	7.01	-12.73
352	SLE RA 4	38	1	3753	823.66	7.06	-13.08
352	SLE RA 5	38	5	3756	824.55	7.06	-13.22
352	SLE RA 6	37	-6	3750	822.84	7.06	-12.74
352	SLE RA 7	38	1	3778	829.2	7.11	-13.08
352	SLE RA 8	36	-5	3735	819.5	7.03	-12.65
352	SLE RA 9	37	1	3763	825.86	7.08	-13
352	SLE RA 10	38	5	4030	881.25	7.65	-13.41
352	SLE RA 11	37	-5	4024	879.54	7.65	-12.93
352	SLE RA 12	38	1	4052	885.89	7.7	-13.27
352	SLE RA 13	38	5	4055	886.79	7.71	-13.42
352	SLE RA 14	37	-5	4049	885.08	7.7	-12.93
352	SLE RA 15	38	1	4077	891.43	7.76	-13.28
352	SLE RA 16	37	-5	4033	881.74	7.67	-12.84
352	SLE RA 17	38	1	4061	888.09	7.73	-13.19
352	SLE RA 18	37	-5	4111	897.33	7.84	-12.92
352	SLE RA 19	38	1	4139	903.68	7.89	-13.26
352	SLE RA 20	37	-5	4136	902.87	7.89	-12.92
352	SLE RA 21	38	1	4164	909.23	7.95	-13.27
352	SLE FR 1	36	-5	3685	808.42	6.92	-12.64
352	SLE FR 2	37	-3	3694	810.54	6.94	-12.76
352	SLE FR 3	36	-5	3695	810.64	6.94	-12.64
352	SLE FR 4	37	-3	3822	837.21	7.21	-12.84
352	SLE FR 5	37	-5	3822	837.31	7.22	-12.73
352	SLE FR 6	37	-5	3898	852.88	7.38	-12.78
352	SLE QP 1	36	-5	3685	808.42	6.92	-12.64
352	SLE QP 2	37	-5	3812	835.09	7.2	-12.73
352	SLD 1	446	99	3776	854.24	8.38	-156.21
352	SLD 2	517	158	3839	865.79	8.43	-180.89
352	SLD 3	416	-90	2834	666.68	6.79	-145.57
352	SLD 4	487	-31	2897	678.23	6.84	-170.25
352	SLD 5	192	302	5219	1123.23	9.95	-67.47
352	SLD 6	239	341	5260	1130.85	9.99	-83.76
352	SLD 7	92	-328	2079	498.02	4.65	-31.99
352	SLD 8	139	-289	2120	505.65	4.69	-48.29
352	SLD 9	-66	278	5505	1164.54	9.71	22.84
352	SLD 10	-19	317	5546	1172.17	9.74	6.54
352	SLD 11	-166	-352	2364	539.34	4.4	58.31
352	SLD 12	-119	-313	2406	546.96	4.44	42.02
352	SLD 13	-414	20	4728	991.96	7.55	144.8
352	SLD 14	-343	79	4791	1003.51	7.6	120.12
352	SLD 15	-443	-169	3786	804.4	5.96	155.44
352	SLD 16	-373	-110	3849	815.95	6.01	130.76
352	SLV 1	678	163	3783	870.25	9.09	-237.74
352	SLV 2	789	255	3880	888.35	9.17	-276.41
352	SLV 3	630	-142	2259	566.97	6.52	-220.34
352	SLV 4	740	-50	2357	585.06	6.6	-259.01
352	SLV 5	283	492	6095	1302.25	11.65	-99.4
352	SLV 6	357	554	6161	1314.43	11.7	-125.43
352	SLV 7	120	-527	1018	291.3	3.08	-41.41
352	SLV 8	194	-465	1084	303.48	3.13	-67.44
352	SLV 9	-121	455	6541	1366.71	11.26	41.99
352	SLV 10	-47	517	6607	1378.89	11.31	15.96
352	SLV 11	-284	-564	1463	355.76	2.69	99.98
352	SLV 12	-210	-502	1529	367.94	2.74	73.95
352	SLV 13	-667	40	5268	1085.13	7.8	233.56
352	SLV 14	-556	132	5365	1103.22	7.87	194.89
352	SLV 15	-716	-266	3744	781.84	5.22	250.96
352	SLV 16	-605	-174	3842	799.93	5.3	212.29
352	SLV FO 1	743	180	3780	873.77	9.28	-260.24
352	SLV FO 2	864	281	3887	893.67	9.36	-302.77
352	SLV FO 3	689	-156	2104	540.16	6.45	-241.1
352	SLV FO 4	811	-55	2212	560.06	6.54	-283.64
352	SLV FO 5	307	541	6324	1348.96	12.1	-108.06
352	SLV FO 6	389	610	6396	1362.36	12.15	-136.7
352	SLV FO 7	128	-579	739	236.92	2.67	-44.28
352	SLV FO 8	210	-511	811	250.32	2.72	-72.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
352	SLV FO 9	-137	501	6814	1419.87	11.67	47.46
352	SLV FO 10	-55	569	6886	1433.27	11.72	18.83
352	SLV FO 11	-316	-620	1229	307.83	2.24	111.25
352	SLV FO 12	-234	-552	1301	321.22	2.3	82.61
352	SLV FO 13	-738	44	5413	1110.13	7.86	258.19
352	SLV FO 14	-616	145	5521	1130.03	7.94	215.65
352	SLV FO 15	-791	-292	3738	776.52	5.03	277.32
352	SLV FO 16	-670	-191	3845	796.42	5.11	234.79
352	CRTFP Ux+	0	0	0	0	0	0
352	CRTFP Ux-	0	0	0	0	0	0
352	CRTFP Uy+	0	0	0	0	0	0
352	CRTFP Uy-	0	0	0	0	0	0
353	SLU 1	36	-4	3360	632.2	5.59	-12.73
353	SLU 2	39	11	3426	645.45	5.71	-13.64
353	SLU 3	37	-4	3418	642.66	5.7	-12.88
353	SLU 4	38	5	3457	650.61	5.77	-13.43
353	SLU 5	39	11	3462	651.97	5.78	-13.66
353	SLU 6	37	-5	3453	649.17	5.77	-12.9
353	SLU 7	38	5	3493	657.13	5.84	-13.45
353	SLU 8	37	-4	3431	645.24	5.73	-12.76
353	SLU 9	38	5	3471	653.19	5.8	-13.31
353	SLU 10	40	11	3847	718.17	6.53	-13.96
353	SLU 11	38	-4	3838	715.37	6.53	-13.21
353	SLU 12	39	5	3878	723.32	6.6	-13.75
353	SLU 13	40	11	3882	724.68	6.6	-13.98
353	SLU 14	38	-4	3873	721.89	6.59	-13.22
353	SLU 15	39	5	3913	729.84	6.66	-13.77
353	SLU 16	37	-4	3851	717.95	6.56	-13.08
353	SLU 17	39	5	3891	725.9	6.62	-13.63
353	SLU 18	38	-4	3961	736.08	6.77	-13.19
353	SLU 19	39	5	4000	744.03	6.84	-13.74
353	SLU 20	38	-4	3996	742.59	6.84	-13.2
353	SLU 21	39	5	4036	750.55	6.91	-13.75
353	SLU 22	41	-5	3822	713.34	6.47	-14.27
353	SLU 23	43	11	3888	726.59	6.59	-15.18
353	SLU 24	41	-5	3879	723.79	6.58	-14.43
353	SLU 25	43	4	3919	731.74	6.65	-14.97
353	SLU 26	43	10	3924	733.11	6.66	-15.2
353	SLU 27	41	-5	3915	730.31	6.65	-14.44
353	SLU 28	43	4	3955	738.26	6.72	-14.99
353	SLU 29	41	-5	3893	726.37	6.61	-14.31
353	SLU 30	42	4	3933	734.32	6.68	-14.85
353	SLU 31	44	11	4309	799.3	7.41	-15.51
353	SLU 32	42	-5	4300	796.51	7.41	-14.75
353	SLU 33	44	4	4340	804.46	7.48	-15.29
353	SLU 34	44	11	4344	805.82	7.48	-15.52
353	SLU 35	42	-5	4335	803.02	7.48	-14.76
353	SLU 36	44	4	4375	810.97	7.55	-15.31
353	SLU 37	42	-5	4313	799.08	7.44	-14.63
353	SLU 38	43	4	4353	807.04	7.51	-15.17
353	SLU 39	42	-4	4422	817.21	7.65	-14.73
353	SLU 40	44	5	4462	825.16	7.72	-15.28
353	SLU 41	42	-5	4458	823.73	7.72	-14.75
353	SLU 42	44	5	4498	831.68	7.79	-15.29
353	SLU 43	46	-5	4210	794.04	6.97	-16.02
353	SLU 44	48	10	4276	807.3	7.09	-16.93
353	SLU 45	46	-5	4267	804.5	7.08	-16.17
353	SLU 46	48	4	4307	812.45	7.15	-16.72
353	SLU 47	48	10	4311	813.81	7.15	-16.95
353	SLU 48	46	-6	4303	811.02	7.15	-16.19
353	SLU 49	48	4	4342	818.97	7.22	-16.74
353	SLU 50	46	-5	4281	807.08	7.11	-16.05
353	SLU 51	47	4	4320	815.03	7.18	-16.6
353	SLU 52	49	10	4696	880.01	7.91	-17.25
353	SLU 53	47	-5	4688	877.21	7.9	-16.5
353	SLU 54	49	4	4727	885.16	7.97	-17.04
353	SLU 55	49	10	4732	886.53	7.98	-17.27
353	SLU 56	47	-5	4723	883.73	7.97	-16.51
353	SLU 57	49	4	4763	891.68	8.04	-17.06
353	SLU 58	47	-5	4701	879.79	7.93	-16.37
353	SLU 59	48	4	4741	887.74	8	-16.92
353	SLU 60	47	-5	4810	897.92	8.15	-16.48
353	SLU 61	49	4	4850	905.87	8.22	-17.03
353	SLU 62	47	-5	4846	904.44	8.22	-16.49
353	SLU 63	49	4	4886	912.39	8.29	-17.04
353	SLU 64	50	-6	4672	875.18	7.85	-17.56
353	SLU 65	53	9	4738	888.43	7.97	-18.47
353	SLU 66	51	-6	4729	885.64	7.96	-17.72
353	SLU 67	52	3	4769	893.59	8.03	-18.26
353	SLU 68	53	9	4773	894.95	8.04	-18.49
353	SLU 69	51	-6	4764	892.15	8.03	-17.73
353	SLU 70	52	3	4804	900.1	8.1	-18.28
353	SLU 71	50	-6	4742	888.21	7.99	-17.6
353	SLU 72	52	3	4782	896.17	8.06	-18.14
353	SLU 73	54	10	5158	961.14	8.79	-18.8
353	SLU 74	52	-6	5149	958.35	8.78	-18.04
353	SLU 75	53	3	5189	966.3	8.85	-18.58
353	SLU 76	54	10	5194	967.66	8.86	-18.81
353	SLU 77	52	-6	5185	964.87	8.85	-18.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
353	SLU 78	53	3	5225	972.82	8.92	-18.6
353	SLU 79	51	-6	5163	960.93	8.81	-17.92
353	SLU 80	53	3	5203	968.88	8.88	-18.46
353	SLU 81	52	-5	5272	979.06	9.03	-18.02
353	SLU 82	53	4	5312	987.01	9.1	-18.57
353	SLU 83	52	-6	5308	985.57	9.1	-18.04
353	SLU 84	53	4	5347	993.52	9.17	-18.58
353	SLE RA 1	38	-4	3492	655.38	5.85	-13.17
353	SLE RA 2	39	6	3536	664.22	5.92	-13.78
353	SLE RA 3	38	-4	3530	662.35	5.92	-13.27
353	SLE RA 4	39	2	3557	667.65	5.96	-13.64
353	SLE RA 5	39	6	3560	668.56	5.97	-13.79
353	SLE RA 6	38	-5	3554	666.7	5.96	-13.28
353	SLE RA 7	39	2	3580	672	6.01	-13.65
353	SLE RA 8	38	-4	3539	664.07	5.94	-13.19
353	SLE RA 9	39	2	3566	669.37	5.98	-13.56
353	SLE RA 10	40	6	3816	712.69	6.47	-13.99
353	SLE RA 11	39	-4	3811	710.83	6.47	-13.49
353	SLE RA 12	40	2	3837	716.13	6.51	-13.85
353	SLE RA 13	40	6	3840	717.04	6.52	-14
353	SLE RA 14	39	-4	3834	715.17	6.51	-13.5
353	SLE RA 15	40	2	3861	720.47	6.56	-13.86
353	SLE RA 16	38	-4	3820	712.55	6.49	-13.41
353	SLE RA 17	39	2	3846	717.85	6.53	-13.77
353	SLE RA 18	39	-4	3892	724.63	6.63	-13.48
353	SLE RA 19	40	2	3919	729.93	6.68	-13.84
353	SLE RA 20	39	-4	3916	728.98	6.68	-13.49
353	SLE RA 21	40	2	3943	734.28	6.72	-13.85
353	SLE FR 1	38	-4	3492	655.38	5.85	-13.17
353	SLE FR 2	38	-2	3501	657.15	5.86	-13.29
353	SLE FR 3	38	-4	3501	657.12	5.86	-13.18
353	SLE FR 4	38	-2	3621	677.93	6.1	-13.38
353	SLE FR 5	38	-4	3622	677.9	6.1	-13.27
353	SLE FR 6	38	-4	3692	690.01	6.24	-13.32
353	SLE QP 1	38	-4	3492	655.38	5.85	-13.17
353	SLE QP 2	38	-4	3612	676.16	6.08	-13.26
353	SLD 1	447	95	3539	692.85	7.36	-156.71
353	SLD 2	518	156	3600	702.24	7.39	-181.4
353	SLD 3	416	-89	2642	542.06	5.98	-145.82
353	SLD 4	487	-28	2703	551.45	6.01	-170.52
353	SLD 5	194	294	4940	908.17	8.55	-68.36
353	SLD 6	241	334	4981	914.37	8.57	-84.66
353	SLD 7	92	-320	1949	405.54	3.96	-32.07
353	SLD 8	139	-280	1990	411.74	3.98	-48.38
353	SLD 9	-63	271	5235	940.58	8.18	21.85
353	SLD 10	-16	311	5275	946.78	8.21	5.55
353	SLD 11	-165	-342	2244	437.94	3.59	58.14
353	SLD 12	-119	-302	2284	444.15	3.62	41.83
353	SLD 13	-411	20	4521	800.87	6.15	143.99
353	SLD 14	-341	80	4582	810.26	6.18	119.29
353	SLD 15	-442	-164	3624	650.08	4.77	154.88
353	SLD 16	-371	-104	3685	659.47	4.81	130.18
353	SLV 1	680	156	3524	706.44	8.11	-238.22
353	SLV 2	791	251	3620	721.15	8.16	-276.91
353	SLV 3	630	-142	2073	462.62	5.88	-220.43
353	SLV 4	740	-47	2169	477.33	5.94	-259.13
353	SLV 5	286	477	5768	1052.29	10.06	-100.51
353	SLV 6	360	541	5833	1062.2	10.09	-126.56
353	SLV 7	119	-514	932	239.56	2.64	-41.21
353	SLV 8	193	-450	997	249.46	2.67	-67.26
353	SLV 9	-117	442	6227	1102.85	9.49	40.74
353	SLV 10	-43	506	6292	1112.76	9.53	14.68
353	SLV 11	-285	-550	1392	290.12	2.07	100.04
353	SLV 12	-210	-486	1456	300.02	2.11	73.98
353	SLV 13	-665	38	5055	874.98	6.23	232.6
353	SLV 14	-554	133	5151	889.7	6.28	193.9
353	SLV 15	-715	-259	3605	631.16	4	250.39
353	SLV 16	-604	-164	3701	645.87	4.05	211.69
353	SLV FO 1	744	172	3515	709.47	8.31	-260.71
353	SLV FO 2	866	276	3620	725.65	8.37	-303.28
353	SLV FO 3	689	-155	1919	441.27	5.87	-241.14
353	SLV FO 4	811	-51	2025	457.45	5.92	-283.71
353	SLV FO 5	311	525	5984	1089.91	10.45	-109.23
353	SLV FO 6	393	596	6055	1100.8	10.49	-137.89
353	SLV FO 7	127	-565	664	195.9	2.29	-44
353	SLV FO 8	209	-495	735	206.79	2.33	-72.66
353	SLV FO 9	-133	487	6489	1145.52	9.83	46.14
353	SLV FO 10	-51	557	6560	1156.42	9.87	17.48
353	SLV FO 11	-317	-604	1170	251.51	1.67	111.37
353	SLV FO 12	-235	-534	1241	262.41	1.71	82.71
353	SLV FO 13	-735	42	5200	894.86	6.24	257.19
353	SLV FO 14	-613	147	5305	911.05	6.3	214.62
353	SLV FO 15	-790	-285	3604	626.66	3.79	276.75
353	SLV FO 16	-668	-180	3709	642.85	3.85	234.19
353	CRTFP Ux+	0	0	0	0	0	0
353	CRTFP Ux-	0	0	0	0	0	0
353	CRTFP Uy+	0	0	0	0	0	0
353	CRTFP Uy-	0	0	0	0	0	0
354	SLU 1	38	-4	3214	515.07	4.13	-13.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLU 2	40	11	3277	526.07	4.21	-14.14
354	SLU 3	38	-4	3268	523.24	4.21	-13.36
354	SLU 4	40	5	3306	529.84	4.26	-13.93
354	SLU 5	40	11	3311	531.15	4.26	-14.17
354	SLU 6	38	-4	3302	528.33	4.26	-13.38
354	SLU 7	40	4	3340	534.93	4.31	-13.96
354	SLU 8	38	-4	3281	525.24	4.23	-13.24
354	SLU 9	39	5	3319	531.84	4.28	-13.81
354	SLU 10	41	11	3675	582.25	4.84	-14.49
354	SLU 11	39	-4	3667	579.43	4.83	-13.71
354	SLU 12	41	5	3705	586.03	4.88	-14.28
354	SLU 13	41	11	3709	587.34	4.89	-14.52
354	SLU 14	39	-4	3701	584.51	4.88	-13.73
354	SLU 15	41	4	3738	591.11	4.93	-14.3
354	SLU 16	39	-4	3680	581.43	4.85	-13.59
354	SLU 17	40	5	3718	588.03	4.9	-14.16
354	SLU 18	39	-4	3783	595.33	5.02	-13.69
354	SLU 19	41	5	3821	601.93	5.07	-14.26
354	SLU 20	39	-4	3817	600.42	5.07	-13.71
354	SLU 21	41	5	3855	607.02	5.12	-14.28
354	SLU 22	42	-5	3652	577.99	4.79	-14.78
354	SLU 23	45	10	3715	588.99	4.87	-15.74
354	SLU 24	43	-5	3707	586.16	4.87	-14.95
354	SLU 25	44	3	3745	592.76	4.92	-15.52
354	SLU 26	45	10	3749	594.07	4.92	-15.76
354	SLU 27	43	-5	3741	591.25	4.92	-14.98
354	SLU 28	44	3	3779	597.85	4.97	-15.55
354	SLU 29	42	-5	3720	588.16	4.89	-14.83
354	SLU 30	44	4	3758	594.76	4.94	-15.4
354	SLU 31	46	10	4114	645.17	5.49	-16.08
354	SLU 32	44	-5	4105	642.35	5.49	-15.3
354	SLU 33	45	3	4143	648.94	5.54	-15.87
354	SLU 34	46	10	4148	650.26	5.54	-16.11
354	SLU 35	44	-5	4139	647.43	5.54	-15.32
354	SLU 36	45	3	4177	654.03	5.59	-15.9
354	SLU 37	43	-5	4118	644.35	5.51	-15.18
354	SLU 38	45	4	4156	650.95	5.56	-15.75
354	SLU 39	44	-5	4222	658.25	5.68	-15.28
354	SLU 40	45	4	4260	664.85	5.73	-15.85
354	SLU 41	44	-5	4255	663.34	5.73	-15.3
354	SLU 42	45	4	4293	669.94	5.78	-15.88
354	SLU 43	47	-5	4027	648.02	5.14	-16.6
354	SLU 44	50	10	4091	659.02	5.23	-17.55
354	SLU 45	48	-5	4082	656.19	5.22	-16.77
354	SLU 46	50	4	4120	662.79	5.27	-17.34
354	SLU 47	50	10	4124	664.1	5.28	-17.58
354	SLU 48	48	-5	4116	661.28	5.27	-16.79
354	SLU 49	50	4	4154	667.88	5.32	-17.37
354	SLU 50	48	-5	4095	658.19	5.24	-16.65
354	SLU 51	49	4	4133	664.79	5.29	-17.22
354	SLU 52	51	10	4489	715.2	5.85	-17.9
354	SLU 53	49	-5	4481	712.38	5.84	-17.12
354	SLU 54	51	4	4518	718.97	5.89	-17.69
354	SLU 55	51	10	4523	720.29	5.9	-17.93
354	SLU 56	49	-5	4514	717.46	5.89	-17.14
354	SLU 57	51	4	4552	724.06	5.94	-17.72
354	SLU 58	49	-5	4493	714.38	5.86	-17
354	SLU 59	50	4	4531	720.98	5.91	-17.57
354	SLU 60	49	-5	4597	728.28	6.03	-17.1
354	SLU 61	50	4	4635	734.88	6.08	-17.67
354	SLU 62	49	-5	4630	733.37	6.08	-17.12
354	SLU 63	51	4	4668	739.97	6.13	-17.7
354	SLU 64	52	-6	4466	710.94	5.8	-18.19
354	SLU 65	55	9	4529	721.93	5.88	-19.15
354	SLU 66	52	-6	4521	719.11	5.88	-18.36
354	SLU 67	54	3	4558	725.71	5.93	-18.93
354	SLU 68	55	9	4563	727.02	5.93	-19.17
354	SLU 69	52	-6	4554	724.2	5.93	-18.39
354	SLU 70	54	3	4592	730.8	5.98	-18.96
354	SLU 71	52	-6	4533	721.11	5.9	-18.24
354	SLU 72	54	3	4571	727.71	5.95	-18.81
354	SLU 73	56	9	4928	778.12	6.51	-19.49
354	SLU 74	53	-6	4919	775.29	6.5	-18.71
354	SLU 75	55	3	4957	781.89	6.55	-19.28
354	SLU 76	56	9	4961	783.21	6.56	-19.52
354	SLU 77	53	-6	4953	780.38	6.55	-18.73
354	SLU 78	55	3	4991	786.98	6.6	-19.31
354	SLU 79	53	-6	4932	777.3	6.52	-18.59
354	SLU 80	55	3	4970	783.89	6.57	-19.16
354	SLU 81	53	-6	5035	791.2	6.69	-18.69
354	SLU 82	55	3	5073	797.8	6.74	-19.26
354	SLU 83	53	-6	5069	796.29	6.74	-18.71
354	SLU 84	55	3	5107	802.89	6.79	-19.29
354	SLE RA 1	39	-4	3339	533.05	4.32	-13.64
354	SLE RA 2	41	6	3381	540.38	4.37	-14.28
354	SLE RA 3	39	-4	3375	538.49	4.37	-13.76
354	SLE RA 4	40	1	3401	542.89	4.4	-14.14
354	SLE RA 5	41	5	3404	543.77	4.41	-14.3
354	SLE RA 6	39	-5	3398	541.89	4.4	-13.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLE RA 7	40	1	3423	546.29	4.44	-14.16
354	SLE RA 8	39	-4	3384	539.83	4.38	-13.68
354	SLE RA 9	40	2	3409	544.23	4.42	-14.06
354	SLE RA 10	41	6	3647	577.83	4.79	-14.51
354	SLE RA 11	40	-4	3641	575.95	4.78	-13.99
354	SLE RA 12	41	1	3666	580.35	4.82	-14.37
354	SLE RA 13	41	5	3669	581.23	4.82	-14.53
354	SLE RA 14	40	-5	3664	579.34	4.82	-14.01
354	SLE RA 15	41	1	3689	583.74	4.85	-14.39
354	SLE RA 16	40	-4	3650	577.28	4.8	-13.91
354	SLE RA 17	41	1	3675	581.68	4.83	-14.29
354	SLE RA 18	40	-4	3719	586.56	4.91	-13.98
354	SLE RA 19	41	2	3744	590.95	4.94	-14.36
354	SLE RA 20	40	-4	3741	589.95	4.94	-13.99
354	SLE RA 21	41	2	3766	594.35	4.98	-14.37
354	SLE FR 1	39	-4	3339	533.05	4.32	-13.64
354	SLE FR 2	39	-2	3347	534.51	4.33	-13.77
354	SLE FR 3	39	-4	3348	534.4	4.33	-13.65
354	SLE FR 4	40	-2	3461	550.57	4.51	-13.87
354	SLE FR 5	39	-4	3462	550.46	4.51	-13.75
354	SLE FR 6	39	-4	3529	559.8	4.61	-13.81
354	SLE QP 1	39	-4	3339	533.05	4.32	-13.64
354	SLE QP 2	39	-4	3453	549.1	4.5	-13.74
354	SLD 1	448	91	3340	561.13	5.87	-157.09
354	SLD 2	519	154	3401	568.75	5.88	-181.79
354	SLD 3	417	-90	2479	440.84	4.88	-146
354	SLD 4	488	-27	2539	448.47	4.88	-170.7
354	SLD 5	197	287	4715	733.76	6.42	-69.12
354	SLD 6	244	328	4755	738.8	6.43	-85.43
354	SLD 7	92	-315	1843	332.82	3.09	-32.15
354	SLD 8	139	-273	1883	337.86	3.1	-48.46
354	SLD 9	-60	265	5022	760.34	5.89	20.97
354	SLD 10	-14	307	5062	765.38	5.9	4.66
354	SLD 11	-165	-337	2151	359.4	2.56	57.94
354	SLD 12	-118	-295	2191	364.44	2.57	41.63
354	SLD 13	-409	18	4366	649.73	4.11	143.21
354	SLD 14	-338	81	4427	657.35	4.12	118.52
354	SLD 15	-441	-162	3505	529.44	3.11	154.31
354	SLD 16	-370	-99	3565	537.07	3.12	129.61
354	SLV 1	681	149	3302	571.24	6.68	-238.56
354	SLV 2	792	248	3397	583.19	6.68	-277.26
354	SLV 3	629	-143	1909	376.77	5.06	-220.44
354	SLV 4	740	-44	2004	388.72	5.07	-259.14
354	SLV 5	289	466	5502	848.46	7.6	-101.45
354	SLV 6	364	533	5566	856.5	7.6	-127.5
354	SLV 7	118	-507	859	200.22	2.21	-41.04
354	SLV 8	192	-441	923	208.27	2.22	-67.1
354	SLV 9	-114	432	5982	889.93	6.77	39.61
354	SLV 10	-39	499	6046	897.97	6.78	13.56
354	SLV 11	-285	-541	1340	241.69	1.39	100.02
354	SLV 12	-210	-475	1403	249.74	1.39	73.97
354	SLV 13	-662	36	4902	709.48	3.93	231.65
354	SLV 14	-551	135	4997	721.43	3.93	192.95
354	SLV 15	-713	-256	3509	515.01	2.31	249.77
354	SLV 16	-602	-157	3604	526.96	2.32	211.08
354	SLV FO 1	745	164	3286	573.46	6.89	-261.04
354	SLV FO 2	867	273	3391	586.6	6.9	-303.61
354	SLV FO 3	688	-157	1754	359.54	5.12	-241.11
354	SLV FO 4	810	-48	1859	372.68	5.12	-283.68
354	SLV FO 5	314	513	5707	878.39	7.91	-110.22
354	SLV FO 6	396	586	5777	887.24	7.91	-138.88
354	SLV FO 7	125	-557	600	165.34	1.99	-43.77
354	SLV FO 8	208	-484	670	174.19	1.99	-72.43
354	SLV FO 9	-129	476	6235	924.01	7	44.95
354	SLV FO 10	-47	549	6305	932.86	7	16.29
354	SLV FO 11	-318	-595	1128	210.95	1.08	111.4
354	SLV FO 12	-235	-522	1199	219.8	1.08	82.74
354	SLV FO 13	-732	40	5047	725.52	3.87	256.19
354	SLV FO 14	-610	148	5151	738.66	3.87	213.62
354	SLV FO 15	-788	-282	3515	511.6	2.09	276.12
354	SLV FO 16	-666	-173	3619	524.74	2.1	233.56
354	CRTFP Ux+	0	0	0	0	0	0
354	CRTFP Ux-	0	0	0	0	0	0
354	CRTFP Uy+	0	0	0	0	0	0
354	CRTFP Uy-	0	0	0	0	0	0
355	SLU 1	39	-4	3115	433.37	2.41	-13.59
355	SLU 2	42	11	3176	442.68	2.45	-14.59
355	SLU 3	39	-4	3168	439.96	2.46	-13.77
355	SLU 4	41	4	3205	445.54	2.48	-14.37
355	SLU 5	42	10	3209	446.77	2.48	-14.62
355	SLU 6	39	-5	3200	444.06	2.48	-13.81
355	SLU 7	41	4	3237	449.64	2.51	-14.41
355	SLU 8	39	-4	3180	441.56	2.47	-13.66
355	SLU 9	41	4	3217	447.14	2.49	-14.26
355	SLU 10	43	10	3560	487.26	2.84	-14.96
355	SLU 11	40	-5	3551	484.55	2.84	-14.15
355	SLU 12	42	4	3588	490.13	2.87	-14.74
355	SLU 13	43	10	3592	491.35	2.87	-14.99
355	SLU 14	40	-5	3584	488.64	2.87	-14.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
355	SLU 15	42	4	3621	494.22	2.9	-14.78
355	SLU 16	40	-4	3564	486.14	2.85	-14.03
355	SLU 17	42	4	3600	491.73	2.88	-14.63
355	SLU 18	40	-4	3663	497.06	2.96	-14.12
355	SLU 19	42	4	3700	502.65	2.99	-14.72
355	SLU 20	40	-4	3695	501.16	2.99	-14.15
355	SLU 21	42	4	3732	506.74	3.02	-14.75
355	SLU 22	43	-6	3538	483.53	2.81	-15.22
355	SLU 23	46	9	3599	492.83	2.85	-16.22
355	SLU 24	44	-6	3591	490.11	2.85	-15.41
355	SLU 25	46	3	3627	495.69	2.88	-16.01
355	SLU 26	46	9	3632	496.92	2.88	-16.25
355	SLU 27	44	-6	3623	494.21	2.88	-15.44
355	SLU 28	46	3	3660	499.79	2.91	-16.04
355	SLU 29	44	-6	3603	491.71	2.86	-15.29
355	SLU 30	45	3	3640	497.29	2.89	-15.89
355	SLU 31	47	9	3983	537.41	3.24	-16.59
355	SLU 32	45	-6	3974	534.7	3.24	-15.78
355	SLU 33	47	3	4011	540.28	3.26	-16.38
355	SLU 34	47	9	4015	541.5	3.27	-16.63
355	SLU 35	45	-6	4007	538.79	3.27	-15.81
355	SLU 36	47	2	4043	544.37	3.29	-16.41
355	SLU 37	45	-6	3986	536.3	3.25	-15.66
355	SLU 38	46	3	4023	541.88	3.28	-16.26
355	SLU 39	45	-6	4086	547.22	3.36	-15.75
355	SLU 40	47	3	4122	552.8	3.39	-16.35
355	SLU 41	45	-6	4118	551.31	3.39	-15.79
355	SLU 42	47	3	4155	556.89	3.41	-16.39
355	SLU 43	49	-5	3905	546.19	3	-17.11
355	SLU 44	52	10	3966	555.49	3.04	-18.1
355	SLU 45	49	-5	3957	552.78	3.04	-17.29
355	SLU 46	51	4	3994	558.36	3.07	-17.89
355	SLU 47	52	10	3999	559.59	3.07	-18.14
355	SLU 48	50	-5	3990	556.87	3.07	-17.32
355	SLU 49	51	4	4027	562.45	3.1	-17.92
355	SLU 50	49	-5	3970	554.38	3.06	-17.17
355	SLU 51	51	4	4006	559.96	3.08	-17.77
355	SLU 52	53	10	4349	600.08	3.43	-18.47
355	SLU 53	50	-5	4341	597.36	3.43	-17.66
355	SLU 54	52	3	4378	602.94	3.46	-18.26
355	SLU 55	53	9	4382	604.17	3.46	-18.51
355	SLU 56	51	-5	4373	601.46	3.46	-17.7
355	SLU 57	52	3	4410	607.04	3.48	-18.29
355	SLU 58	50	-5	4353	598.96	3.44	-17.54
355	SLU 59	52	4	4390	604.54	3.47	-18.14
355	SLU 60	50	-5	4452	609.88	3.55	-17.64
355	SLU 61	52	4	4489	615.46	3.58	-18.24
355	SLU 62	50	-5	4485	613.98	3.58	-17.67
355	SLU 63	52	4	4522	619.56	3.61	-18.27
355	SLU 64	54	-6	4327	596.34	3.4	-18.74
355	SLU 65	56	8	4389	605.64	3.44	-19.74
355	SLU 66	54	-7	4380	602.93	3.44	-18.92
355	SLU 67	56	2	4417	608.51	3.46	-19.52
355	SLU 68	56	8	4421	609.74	3.47	-19.77
355	SLU 69	54	-7	4413	607.03	3.47	-18.96
355	SLU 70	56	2	4450	612.61	3.49	-19.56
355	SLU 71	54	-6	4392	604.53	3.45	-18.81
355	SLU 72	55	2	4429	610.11	3.48	-19.41
355	SLU 73	57	8	4772	650.23	3.82	-20.11
355	SLU 74	55	-7	4764	647.51	3.83	-19.3
355	SLU 75	57	2	4800	653.1	3.85	-19.89
355	SLU 76	58	8	4805	654.32	3.85	-20.14
355	SLU 77	55	-7	4796	651.61	3.85	-19.33
355	SLU 78	57	2	4833	657.19	3.88	-19.93
355	SLU 79	55	-7	4776	649.11	3.84	-19.18
355	SLU 80	56	2	4813	654.69	3.86	-19.78
355	SLU 81	55	-7	4875	660.03	3.95	-19.27
355	SLU 82	57	2	4912	665.61	3.97	-19.87
355	SLU 83	55	-7	4908	664.13	3.98	-19.3
355	SLU 84	57	2	4945	669.71	4	-19.9
355	SLE RA 1	40	-4	3236	447.7	2.53	-14.06
355	SLE RA 2	42	5	3277	453.9	2.55	-14.72
355	SLE RA 3	40	-5	3271	452.1	2.55	-14.18
355	SLE RA 4	42	1	3296	455.82	2.57	-14.58
355	SLE RA 5	42	5	3298	456.63	2.57	-14.74
355	SLE RA 6	41	-5	3293	454.82	2.57	-14.2
355	SLE RA 7	42	1	3317	458.55	2.59	-14.6
355	SLE RA 8	40	-5	3279	453.16	2.56	-14.1
355	SLE RA 9	41	1	3304	456.88	2.58	-14.5
355	SLE RA 10	43	5	3532	483.63	2.81	-14.97
355	SLE RA 11	41	-5	3527	481.82	2.81	-14.43
355	SLE RA 12	42	1	3551	485.54	2.83	-14.83
355	SLE RA 13	43	5	3554	486.36	2.83	-14.99
355	SLE RA 14	41	-5	3548	484.55	2.83	-14.45
355	SLE RA 15	42	1	3573	488.27	2.85	-14.85
355	SLE RA 16	41	-5	3535	482.88	2.82	-14.35
355	SLE RA 17	42	1	3559	486.6	2.84	-14.75
355	SLE RA 18	41	-5	3601	490.16	2.89	-14.41
355	SLE RA 19	42	1	3626	493.88	2.91	-14.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
355	SLE RA 20	41	-5	3623	492.89	2.91	-14.43
355	SLE RA 21	42	1	3647	496.61	2.93	-14.83
355	SLE FR 1	40	-4	3236	447.7	2.53	-14.06
355	SLE FR 2	41	-3	3244	448.94	2.53	-14.19
355	SLE FR 3	40	-5	3245	448.8	2.53	-14.06
355	SLE FR 4	41	-3	3354	461.68	2.64	-14.3
355	SLE FR 5	40	-5	3354	461.53	2.64	-14.17
355	SLE FR 6	41	-5	3418	468.93	2.71	-14.23
355	SLE QP 1	40	-4	3236	447.7	2.53	-14.06
355	SLE QP 2	40	-5	3345	460.44	2.64	-14.16
355	SLD 1	449	87	3190	464.94	4.14	-157.37
355	SLD 2	520	154	3251	471.37	4.11	-182.05
355	SLD 3	417	-92	2351	366.61	3.63	-146.11
355	SLD 4	488	-26	2412	373.05	3.59	-170.79
355	SLD 5	199	284	4560	609.76	3.88	-69.76
355	SLD 6	246	327	4600	614.01	3.86	-86.06
355	SLD 7	92	-315	1764	282	2.15	-32.22
355	SLD 8	139	-271	1805	286.25	2.13	-48.51
355	SLD 9	-58	262	4886	634.63	3.14	20.19
355	SLD 10	-11	306	4927	638.88	3.12	3.89
355	SLD 11	-165	-336	2091	306.87	1.41	57.74
355	SLD 12	-118	-293	2131	311.12	1.39	41.44
355	SLD 13	-407	17	4279	547.84	1.68	142.47
355	SLD 14	-336	83	4340	554.27	1.65	117.78
355	SLD 15	-439	-163	3440	449.51	1.16	153.73
355	SLD 16	-368	-97	3501	455.94	1.13	129.05
355	SLV 1	682	144	3126	470.21	5	-238.77
355	SLV 2	793	248	3222	480.29	4.95	-277.44
355	SLV 3	629	-147	1771	311.27	4.16	-220.37
355	SLV 4	740	-42	1866	321.35	4.11	-259.04
355	SLV 5	292	461	5318	702.55	4.63	-102.24
355	SLV 6	367	531	5383	709.33	4.59	-128.27
355	SLV 7	116	-507	799	172.76	1.83	-40.9
355	SLV 8	191	-437	863	179.54	1.79	-66.93
355	SLV 9	-110	428	5828	741.34	3.48	38.61
355	SLV 10	-36	498	5892	748.13	3.44	12.57
355	SLV 11	-286	-540	1308	211.55	0.68	99.95
355	SLV 12	-211	-470	1373	218.34	0.64	73.91
355	SLV 13	-659	33	4825	599.53	1.16	230.71
355	SLV 14	-548	137	4920	609.61	1.11	192.04
355	SLV 15	-712	-257	3469	440.59	0.32	249.12
355	SLV 16	-601	-153	3564	450.67	0.27	210.45
355	SLV FO 1	746	159	3104	471.19	5.24	-261.23
355	SLV FO 2	868	273	3210	482.27	5.18	-303.77
355	SLV FO 3	688	-161	1613	296.36	4.32	-240.99
355	SLV FO 4	810	-46	1718	307.44	4.25	-283.53
355	SLV FO 5	317	508	5515	726.76	4.83	-111.04
355	SLV FO 6	399	585	5586	734.22	4.79	-139.68
355	SLV FO 7	124	-557	544	143.99	1.75	-43.57
355	SLV FO 8	206	-480	615	151.45	1.71	-72.21
355	SLV FO 9	-125	471	6076	769.43	3.56	43.89
355	SLV FO 10	-43	548	6147	776.9	3.52	15.25
355	SLV FO 11	-318	-594	1105	186.66	0.48	111.36
355	SLV FO 12	-236	-517	1175	194.13	0.44	82.72
355	SLV FO 13	-729	37	4972	613.44	1.02	255.2
355	SLV FO 14	-607	152	5078	624.53	0.95	212.66
355	SLV FO 15	-787	-282	3481	438.61	0.09	275.44
355	SLV FO 16	-665	-168	3586	449.7	0.03	232.91
355	CRTFP Ux+	0	0	0	0	0	0
355	CRTFP Ux-	0	0	0	0	0	0
355	CRTFP Uy+	0	0	0	0	0	0
355	CRTFP Uy-	0	0	0	0	0	0
356	SLU 1	40	-4	3071	390.54	0.52	-13.93
356	SLU 2	43	11	3131	398.84	0.52	-14.97
356	SLU 3	40	-4	3123	396.31	0.53	-14.13
356	SLU 4	42	5	3159	401.29	0.53	-14.75
356	SLU 5	43	11	3164	402.42	0.52	-15.01
356	SLU 6	41	-4	3155	399.89	0.53	-14.17
356	SLU 7	42	5	3191	404.87	0.53	-14.79
356	SLU 8	40	-4	3135	397.7	0.53	-14.01
356	SLU 9	42	5	3171	402.68	0.53	-14.64
356	SLU 10	44	11	3507	437.17	0.65	-15.36
356	SLU 11	42	-5	3498	434.64	0.66	-14.52
356	SLU 12	43	4	3535	439.62	0.65	-15.14
356	SLU 13	44	11	3539	440.75	0.65	-15.4
356	SLU 14	42	-5	3530	438.22	0.66	-14.56
356	SLU 15	43	4	3567	443.2	0.66	-15.18
356	SLU 16	41	-4	3510	436.03	0.66	-14.4
356	SLU 17	43	5	3547	441.01	0.66	-15.03
356	SLU 18	41	-4	3607	445.3	0.71	-14.49
356	SLU 19	43	5	3644	450.28	0.7	-15.11
356	SLU 20	42	-4	3639	448.88	0.71	-14.53
356	SLU 21	43	4	3676	453.86	0.71	-15.15
356	SLU 22	45	-6	3486	433.88	0.63	-15.6
356	SLU 23	48	9	3547	442.18	0.63	-16.64
356	SLU 24	45	-6	3538	439.65	0.63	-15.8
356	SLU 25	47	3	3574	444.63	0.63	-16.42
356	SLU 26	48	9	3579	445.76	0.63	-16.68
356	SLU 27	45	-6	3570	443.23	0.64	-15.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
356	SLU 28	47	3	3606	448.21	0.64	-16.46
356	SLU 29	45	-6	3550	441.04	0.64	-15.68
356	SLU 30	47	3	3586	446.02	0.64	-16.3
356	SLU 31	49	9	3922	480.51	0.75	-17.03
356	SLU 32	46	-7	3914	477.98	0.76	-16.19
356	SLU 33	48	2	3950	482.96	0.76	-16.81
356	SLU 34	49	9	3954	484.09	0.76	-17.07
356	SLU 35	46	-7	3946	481.56	0.77	-16.23
356	SLU 36	48	2	3982	486.54	0.76	-16.85
356	SLU 37	46	-6	3926	479.37	0.77	-16.07
356	SLU 38	48	3	3962	484.35	0.76	-16.7
356	SLU 39	46	-6	4023	488.64	0.81	-16.16
356	SLU 40	48	3	4059	493.62	0.81	-16.78
356	SLU 41	46	-6	4055	492.22	0.82	-16.2
356	SLU 42	48	2	4091	497.2	0.81	-16.82
356	SLU 43	50	-4	3850	492.84	0.64	-17.54
356	SLU 44	53	11	3910	501.14	0.64	-18.57
356	SLU 45	51	-5	3902	498.61	0.65	-17.73
356	SLU 46	53	4	3938	503.59	0.65	-18.36
356	SLU 47	53	11	3942	504.72	0.64	-18.62
356	SLU 48	51	-5	3934	502.19	0.65	-17.78
356	SLU 49	53	4	3970	507.17	0.65	-18.4
356	SLU 50	50	-4	3914	500	0.65	-17.62
356	SLU 51	52	4	3950	504.98	0.65	-18.24
356	SLU 52	54	10	4286	539.47	0.77	-18.97
356	SLU 53	52	-5	4277	536.95	0.78	-18.13
356	SLU 54	54	4	4314	541.92	0.77	-18.75
356	SLU 55	54	10	4318	543.05	0.77	-19.01
356	SLU 56	52	-5	4309	540.53	0.78	-18.17
356	SLU 57	54	4	4346	545.5	0.78	-18.79
356	SLU 58	52	-5	4289	538.33	0.78	-18.01
356	SLU 59	53	4	4326	543.31	0.78	-18.63
356	SLU 60	52	-5	4386	547.6	0.83	-18.1
356	SLU 61	54	4	4423	552.58	0.82	-18.72
356	SLU 62	52	-5	4418	551.18	0.83	-18.14
356	SLU 63	54	4	4455	556.16	0.83	-18.76
356	SLU 64	55	-6	4265	536.18	0.75	-19.21
356	SLU 65	58	9	4326	544.48	0.75	-20.24
356	SLU 66	55	-7	4317	541.95	0.76	-19.4
356	SLU 67	57	2	4353	546.93	0.75	-20.03
356	SLU 68	58	9	4358	548.06	0.75	-20.28
356	SLU 69	56	-7	4349	545.53	0.76	-19.45
356	SLU 70	57	2	4385	550.51	0.76	-20.07
356	SLU 71	55	-6	4329	543.34	0.76	-19.29
356	SLU 72	57	3	4365	548.32	0.76	-19.91
356	SLU 73	59	8	4701	582.81	0.87	-20.63
356	SLU 74	57	-7	4693	580.29	0.88	-19.79
356	SLU 75	58	2	4729	585.26	0.88	-20.42
356	SLU 76	59	8	4733	586.39	0.88	-20.68
356	SLU 77	57	-7	4725	583.87	0.89	-19.84
356	SLU 78	59	2	4761	588.84	0.88	-20.46
356	SLU 79	56	-7	4705	581.68	0.89	-19.68
356	SLU 80	58	2	4741	586.65	0.88	-20.3
356	SLU 81	57	-7	4801	590.94	0.93	-19.76
356	SLU 82	58	2	4838	595.92	0.93	-20.39
356	SLU 83	57	-7	4833	594.52	0.94	-19.81
356	SLU 84	58	2	4870	599.5	0.93	-20.43
356	SLE RA 1	41	-4	3189	402.92	0.55	-14.41
356	SLE RA 2	43	6	3230	408.45	0.55	-15.1
356	SLE RA 3	42	-5	3224	406.77	0.56	-14.54
356	SLE RA 4	43	1	3248	410.09	0.56	-14.95
356	SLE RA 5	43	5	3251	410.84	0.55	-15.13
356	SLE RA 6	42	-5	3245	409.16	0.56	-14.57
356	SLE RA 7	43	1	3270	412.48	0.56	-14.98
356	SLE RA 8	41	-4	3232	407.7	0.56	-14.46
356	SLE RA 9	43	1	3256	411.01	0.56	-14.88
356	SLE RA 10	44	5	3480	434.01	0.64	-15.36
356	SLE RA 11	42	-5	3474	432.33	0.64	-14.8
356	SLE RA 12	44	1	3499	435.64	0.64	-15.21
356	SLE RA 13	44	5	3502	436.4	0.64	-15.39
356	SLE RA 14	42	-5	3496	434.71	0.64	-14.83
356	SLE RA 15	44	1	3520	438.03	0.64	-15.24
356	SLE RA 16	42	-5	3483	433.25	0.64	-14.72
356	SLE RA 17	43	1	3507	436.57	0.64	-15.14
356	SLE RA 18	42	-5	3547	439.43	0.68	-14.78
356	SLE RA 19	43	1	3571	442.75	0.67	-15.19
356	SLE RA 20	42	-5	3568	441.82	0.68	-14.81
356	SLE RA 21	44	1	3593	445.14	0.68	-15.22
356	SLE FR 1	41	-4	3189	402.92	0.55	-14.41
356	SLE FR 2	42	-2	3197	404.03	0.55	-14.55
356	SLE FR 3	41	-4	3198	403.88	0.55	-14.42
356	SLE FR 4	42	-2	3305	414.98	0.59	-14.66
356	SLE FR 5	42	-4	3305	414.83	0.59	-14.53
356	SLE FR 6	42	-5	3368	421.18	0.61	-14.59
356	SLE QP 1	41	-4	3189	402.92	0.55	-14.41
356	SLE QP 2	42	-4	3297	413.88	0.59	-14.52
356	SLD 1	450	86	3093	407.36	2.27	-157.54
356	SLD 2	521	157	3156	413.32	2.18	-182.19
356	SLD 3	417	-95	2262	321.09	2.3	-146.13



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
356	SLD 4	488	-25	2325	327.06	2.22	-170.78
356	SLD 5	201	285	541.69	541.69	1.06	-70.29
356	SLD 6	248	332	4526	545.63	1	-86.57
356	SLD 7	91	-320	1715	254.12	1.17	-32.25
356	SLD 8	138	-273	1756	258.06	1.11	-48.53
356	SLD 9	-55	264	4837	569.69	0.07	19.5
356	SLD 10	-8	311	4879	573.63	0.01	3.22
356	SLD 11	-165	-341	2067	282.13	0.18	57.53
356	SLD 12	-118	-294	2108	286.06	0.12	41.25
356	SLD 13	-405	16	4268	500.69	-1.04	141.75
356	SLD 14	-334	86	4331	506.66	-1.12	117.09
356	SLD 15	-438	-166	3437	414.43	-1	153.16
356	SLD 16	-367	-95	3500	420.39	-1.09	128.5
356	SLV 1	682	142	3003	406.11	3.2	-238.84
356	SLV 2	793	253	3102	415.46	3.07	-277.47
356	SLV 3	628	-152	1659	266.7	3.26	-220.2
356	SLV 4	739	-41	1758	276.05	3.13	-258.83
356	SLV 5	295	464	5228	621.25	1.32	-102.88
356	SLV 6	369	539	5294	627.54	1.23	-128.88
356	SLV 7	115	-515	749	156.53	1.5	-40.74
356	SLV 8	190	-440	816	162.83	1.41	-66.75
356	SLV 9	-107	431	5778	664.92	-0.23	37.71
356	SLV 10	-32	506	5844	671.22	-0.32	11.7
356	SLV 11	-286	-548	1299	200.21	-0.05	99.85
356	SLV 12	-211	-473	1365	206.5	-0.14	73.84
356	SLV 13	-656	32	4835	551.7	-1.95	229.79
356	SLV 14	-545	143	4934	561.05	-2.08	191.16
356	SLV 15	-710	-262	3492	412.29	-1.89	248.43
356	SLV 16	-599	-151	3590	421.64	-2.03	209.8
356	SLV FO 1	746	157	2974	405.34	3.47	-261.27
356	SLV FO 2	868	279	3082	415.62	3.32	-303.76
356	SLV FO 3	687	-166	1496	251.98	3.53	-240.77
356	SLV FO 4	809	-44	1604	262.26	3.38	-283.26
356	SLV FO 5	320	511	5421	641.98	1.39	-111.71
356	SLV FO 6	402	593	5494	648.91	1.29	-140.32
356	SLV FO 7	123	-566	494	130.8	1.59	-43.36
356	SLV FO 8	205	-484	567	137.72	1.49	-71.97
356	SLV FO 9	-122	475	6026	690.03	-0.31	42.93
356	SLV FO 10	-40	557	6099	696.95	-0.41	14.33
356	SLV FO 11	-319	-602	1099	178.84	-0.11	111.28
356	SLV FO 12	-237	-520	1172	185.77	-0.21	82.68
356	SLV FO 13	-726	35	4989	565.49	-2.2	254.22
356	SLV FO 14	-604	157	5098	575.77	-2.35	211.73
356	SLV FO 15	-785	-288	3511	412.13	-2.14	274.72
356	SLV FO 16	-663	-166	3620	422.41	-2.29	232.24
356	CRTFP Ux+	0	0	0	0	0	0
356	CRTFP Ux-	0	0	0	0	0	0
356	CRTFP Uy+	0	0	0	0	0	0
356	CRTFP Uy-	0	0	0	0	0	0
357	SLU 1	41	-3	3085	389.66	-1.53	-14.2
357	SLU 2	44	13	3147	397.75	-1.58	-15.28
357	SLU 3	41	-3	3138	395.45	-1.56	-14.41
357	SLU 4	43	6	3175	400.3	-1.6	-15.06
357	SLU 5	44	13	3179	401.33	-1.6	-15.33
357	SLU 6	41	-3	3170	399.04	-1.59	-14.46
357	SLU 7	43	6	3207	403.89	-1.62	-15.11
357	SLU 8	41	-3	3150	396.84	-1.57	-14.3
357	SLU 9	43	7	3187	401.69	-1.6	-14.94
357	SLU 10	45	12	3523	435.57	-1.73	-15.68
357	SLU 11	42	-4	3514	433.27	-1.72	-14.82
357	SLU 12	44	6	3551	438.13	-1.75	-15.46
357	SLU 13	45	12	3555	439.16	-1.76	-15.73
357	SLU 14	43	-4	3546	436.86	-1.74	-14.87
357	SLU 15	45	6	3583	441.71	-1.77	-15.51
357	SLU 16	42	-3	3526	434.66	-1.72	-14.71
357	SLU 17	44	6	3563	439.51	-1.76	-15.35
357	SLU 18	42	-3	3623	443.7	-1.74	-14.78
357	SLU 19	44	6	3660	448.55	-1.78	-15.43
357	SLU 20	43	-3	3655	447.29	-1.77	-14.83
357	SLU 21	44	6	3692	452.14	-1.8	-15.47
357	SLU 22	46	-5	3502	432.62	-1.73	-15.9
357	SLU 23	49	11	3564	440.71	-1.79	-16.97
357	SLU 24	46	-5	3555	438.41	-1.77	-16.11
357	SLU 25	48	4	3592	443.26	-1.8	-16.75
357	SLU 26	49	10	3596	444.29	-1.81	-17.02
357	SLU 27	46	-5	3587	441.99	-1.79	-16.16
357	SLU 28	48	4	3624	446.84	-1.83	-16.8
357	SLU 29	46	-5	3567	439.79	-1.78	-16
357	SLU 30	48	4	3604	444.64	-1.81	-16.64
357	SLU 31	50	10	3940	478.53	-1.94	-17.38
357	SLU 32	47	-6	3931	476.23	-1.92	-16.51
357	SLU 33	49	3	3968	481.08	-1.96	-17.16
357	SLU 34	50	10	3972	482.12	-1.96	-17.43
357	SLU 35	47	-6	3963	479.82	-1.95	-16.56
357	SLU 36	49	3	4000	484.67	-1.98	-17.21
357	SLU 37	47	-6	3943	477.62	-1.93	-16.4
357	SLU 38	49	4	3980	482.47	-1.96	-17.05
357	SLU 39	47	-6	4039	486.66	-1.95	-16.48
357	SLU 40	49	4	4076	491.51	-1.98	-17.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
357	SLU 41	47	-6	4072	490.24	-1.97	-16.53
357	SLU 42	49	4	4108	495.09	-2.01	-17.17
357	SLU 43	51	-3	3868	491.84	-1.92	-17.88
357	SLU 44	54	13	3930	499.92	-1.97	-18.96
357	SLU 45	52	-3	3921	497.62	-1.95	-18.09
357	SLU 46	54	6	3958	502.47	-1.98	-18.74
357	SLU 47	55	13	3962	503.51	-1.99	-19.01
357	SLU 48	52	-3	3953	501.21	-1.97	-18.14
357	SLU 49	54	6	3990	506.06	-2.01	-18.79
357	SLU 50	52	-3	3933	499.01	-1.96	-17.98
357	SLU 51	53	6	3970	503.86	-1.99	-18.62
357	SLU 52	56	12	4306	537.74	-2.12	-19.36
357	SLU 53	53	-4	4297	535.45	-2.1	-18.5
357	SLU 54	55	6	4334	540.3	-2.14	-19.14
357	SLU 55	56	12	4338	541.33	-2.14	-19.41
357	SLU 56	53	-4	4329	539.03	-2.13	-18.55
357	SLU 57	55	6	4366	543.88	-2.16	-19.19
357	SLU 58	53	-3	4309	536.83	-2.11	-18.38
357	SLU 59	55	6	4346	541.68	-2.14	-19.03
357	SLU 60	53	-3	4405	545.87	-2.13	-18.46
357	SLU 61	55	6	4442	550.72	-2.16	-19.11
357	SLU 62	53	-3	4438	549.46	-2.15	-18.51
357	SLU 63	55	6	4475	554.31	-2.19	-19.15
357	SLU 64	56	-5	4285	534.79	-2.12	-19.58
357	SLU 65	59	10	4346	542.88	-2.18	-20.65
357	SLU 66	57	-5	4337	540.58	-2.16	-19.79
357	SLU 67	59	4	4374	545.43	-2.19	-20.43
357	SLU 68	59	10	4379	546.46	-2.2	-20.7
357	SLU 69	57	-5	4370	544.16	-2.18	-19.84
357	SLU 70	59	4	4407	549.02	-2.21	-20.48
357	SLU 71	56	-5	4349	541.96	-2.17	-19.67
357	SLU 72	58	4	4386	546.81	-2.2	-20.32
357	SLU 73	60	10	4722	580.7	-2.33	-21.06
357	SLU 74	58	-6	4713	578.4	-2.31	-20.19
357	SLU 75	60	3	4750	583.25	-2.34	-20.84
357	SLU 76	61	10	4755	584.29	-2.35	-21.11
357	SLU 77	58	-6	4746	581.99	-2.33	-20.24
357	SLU 78	60	3	4783	586.84	-2.36	-20.89
357	SLU 79	58	-6	4725	579.79	-2.32	-20.08
357	SLU 80	59	4	4762	584.64	-2.35	-20.72
357	SLU 81	58	-6	4822	588.83	-2.34	-20.16
357	SLU 82	60	4	4859	593.68	-2.37	-20.8
357	SLU 83	58	-6	4854	592.41	-2.36	-20.2
357	SLU 84	60	4	4891	597.26	-2.39	-20.85
357	SLE RA 1	42	-3	3204	401.94	-1.59	-14.69
357	SLE RA 2	44	7	3246	407.33	-1.62	-15.4
357	SLE RA 3	43	-4	3240	405.8	-1.61	-14.83
357	SLE RA 4	44	3	3264	409.03	-1.63	-15.26
357	SLE RA 5	44	7	3267	409.72	-1.64	-15.44
357	SLE RA 6	43	-4	3261	408.19	-1.63	-14.86
357	SLE RA 7	44	3	3286	411.42	-1.65	-15.29
357	SLE RA 8	42	-3	3248	406.72	-1.62	-14.75
357	SLE RA 9	44	3	3272	409.95	-1.64	-15.18
357	SLE RA 10	45	7	3496	432.54	-1.72	-15.67
357	SLE RA 11	43	-4	3490	431.01	-1.71	-15.1
357	SLE RA 12	45	2	3515	434.25	-1.73	-15.53
357	SLE RA 13	45	7	3518	434.93	-1.74	-15.71
357	SLE RA 14	43	-4	3512	433.4	-1.73	-15.13
357	SLE RA 15	45	2	3536	436.64	-1.75	-15.56
357	SLE RA 16	43	-4	3498	431.94	-1.72	-15.02
357	SLE RA 17	44	2	3523	435.17	-1.74	-15.45
357	SLE RA 18	43	-4	3563	437.96	-1.73	-15.07
357	SLE RA 19	44	2	3587	441.19	-1.75	-15.5
357	SLE RA 20	43	-4	3584	440.35	-1.75	-15.11
357	SLE RA 21	45	2	3609	443.59	-1.77	-15.54
357	SLE FR 1	42	-3	3204	401.94	-1.59	-14.69
357	SLE FR 2	43	-1	3213	403.02	-1.59	-14.83
357	SLE FR 3	42	-3	3213	402.89	-1.59	-14.7
357	SLE FR 4	43	-1	3320	413.82	-1.64	-14.95
357	SLE FR 5	42	-4	3321	413.7	-1.64	-14.82
357	SLE FR 6	43	-4	3384	419.95	-1.66	-14.88
357	SLE QP 1	42	-3	3204	401.94	-1.59	-14.69
357	SLE QP 2	42	-4	3312	412.74	-1.63	-14.8
357	SLD 1	450	88	3055	390.68	0.28	-157.6
357	SLD 2	521	164	3121	397.07	0.14	-182.21
357	SLD 3	417	-99	2214	305.51	0.91	-146.06
357	SLD 4	488	-23	2280	311.9	0.77	-170.68
357	SLD 5	203	294	4498	534.16	-1.99	-70.7
357	SLD 6	250	344	4542	538.38	-2.08	-86.96
357	SLD 7	91	-329	1695	250.24	0.11	-32.25
357	SLD 8	138	-279	1739	254.46	0.02	-48.5
357	SLD 9	-53	272	4885	571.03	-3.28	18.9
357	SLD 10	-6	322	4928	575.25	-3.37	2.64
357	SLD 11	-165	-351	2082	287.11	-1.18	57.35
357	SLD 12	-118	-301	2126	291.33	-1.27	41.1
357	SLD 13	-403	16	4343	513.59	-4.03	141.07
357	SLD 14	-332	92	4410	519.98	-4.17	116.45
357	SLD 15	-436	-171	3503	428.42	-3.4	152.61
357	SLD 16	-365	-95	3569	434.81	-3.54	127.99



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
357	SLV 1	682	144	2935	380.71	1.33	-238.77
357	SLV 2	793	264	3039	390.72	1.12	-277.34
357	SLV 3	627	-158	1576	243.06	2.35	-219.93
357	SLV 4	738	-39	1679	253.07	2.14	-258.5
357	SLV 5	297	477	5241	610.04	-2.25	-103.38
357	SLV 6	372	558	5311	616.78	-2.4	-129.34
357	SLV 7	114	-531	710	151.2	1.15	-40.56
357	SLV 8	189	-450	780	157.94	1.01	-66.53
357	SLV 9	-104	443	5844	667.55	-4.27	36.92
357	SLV 10	-29	524	5914	674.29	-4.41	10.96
357	SLV 11	-287	-565	1313	208.71	-0.87	99.74
357	SLV 12	-212	-484	1383	215.45	-1.01	73.77
357	SLV 13	-654	31	4945	572.42	-5.4	228.89
357	SLV 14	-542	151	5048	582.43	-5.61	190.33
357	SLV 15	-708	-271	3585	434.77	-4.38	247.74
357	SLV 16	-597	-151	3689	444.78	-4.59	209.17
357	SLV FO 1	746	159	2897	377.51	1.63	-261.17
357	SLV FO 2	868	291	3011	388.51	1.39	-303.6
357	SLV FO 3	686	-174	1402	226.09	2.75	-240.44
357	SLV FO 4	808	-42	1516	237.1	2.51	-282.87
357	SLV FO 5	322	525	5434	629.77	-2.31	-112.23
357	SLV FO 6	405	614	5511	637.18	-2.47	-140.8
357	SLV FO 7	121	-584	450	125.05	1.43	-43.14
357	SLV FO 8	203	-495	526	132.46	1.27	-71.7
357	SLV FO 9	-119	488	6097	693.03	-4.53	42.1
357	SLV FO 10	-36	577	6174	700.44	-4.69	13.53
357	SLV FO 11	-320	-621	1113	188.31	-0.79	111.19
357	SLV FO 12	-237	-532	1190	195.72	-0.95	82.63
357	SLV FO 13	-723	35	5108	588.39	-5.77	253.26
357	SLV FO 14	-601	167	5222	599.4	-6.01	210.84
357	SLV FO 15	-783	-298	3613	436.97	-4.65	273.99
357	SLV FO 16	-661	-166	3727	447.98	-4.89	231.57
357	CRTFP Ux+	0	0	0	0	0	0
357	CRTFP Ux-	0	0	0	0	0	0
357	CRTFP Uy+	0	0	0	0	0	0
357	CRTFP Uy-	0	0	0	0	0	0
358	SLU 1	41	-1	3164	434.65	-3.74	-14.39
358	SLU 2	45	16	3228	443.44	-3.85	-15.5
358	SLU 3	42	-1	3218	441.37	-3.82	-14.61
358	SLU 4	44	9	3257	446.64	-3.89	-15.27
358	SLU 5	45	16	3262	447.6	-3.9	-15.55
358	SLU 6	42	-1	3252	445.53	-3.87	-14.66
358	SLU 7	44	9	3290	450.8	-3.94	-15.33
358	SLU 8	42	-1	3231	442.98	-3.84	-14.5
358	SLU 9	44	9	3269	448.25	-3.91	-15.16
358	SLU 10	46	15	3613	486.99	-4.3	-15.91
358	SLU 11	43	-2	3603	484.91	-4.28	-15.02
358	SLU 12	45	8	3642	490.19	-4.34	-15.68
358	SLU 13	46	16	3647	491.15	-4.35	-15.96
358	SLU 14	43	-1	3637	489.08	-4.33	-15.07
358	SLU 15	45	9	3675	494.35	-4.39	-15.74
358	SLU 16	43	-1	3616	486.52	-4.3	-14.91
358	SLU 17	45	9	3654	491.79	-4.36	-15.57
358	SLU 18	43	-1	3714	496.86	-4.39	-14.98
358	SLU 19	45	9	3753	502.13	-4.45	-15.64
358	SLU 20	43	-1	3747	501.02	-4.44	-15.03
358	SLU 21	45	9	3786	506.3	-4.5	-15.7
358	SLU 22	46	-3	3592	484.23	-4.29	-16.1
358	SLU 23	50	13	3656	493.02	-4.39	-17.21
358	SLU 24	47	-4	3646	490.95	-4.37	-16.32
358	SLU 25	49	6	3685	496.22	-4.43	-16.98
358	SLU 26	50	13	3689	497.19	-4.45	-17.26
358	SLU 27	47	-4	3680	495.11	-4.42	-16.37
358	SLU 28	49	6	3718	500.39	-4.48	-17.04
358	SLU 29	47	-3	3659	492.56	-4.39	-16.21
358	SLU 30	49	7	3697	497.83	-4.45	-16.87
358	SLU 31	51	13	4041	536.57	-4.85	-17.62
358	SLU 32	48	-4	4031	534.5	-4.82	-16.73
358	SLU 33	50	6	4070	539.77	-4.89	-17.39
358	SLU 34	51	13	4074	540.73	-4.9	-17.67
358	SLU 35	48	-4	4065	538.66	-4.87	-16.78
358	SLU 36	50	6	4103	543.93	-4.94	-17.45
358	SLU 37	48	-4	4044	536.1	-4.84	-16.62
358	SLU 38	50	6	4082	541.38	-4.91	-17.28
358	SLU 39	48	-4	4142	546.44	-4.93	-16.69
358	SLU 40	50	6	4180	551.72	-5	-17.35
358	SLU 41	48	-4	4175	550.61	-4.98	-16.74
358	SLU 42	50	6	4214	555.88	-5.05	-17.41
358	SLU 43	52	0	3967	548.05	-4.68	-18.12
358	SLU 44	55	16	4031	556.84	-4.78	-19.23
358	SLU 45	53	-1	4021	554.76	-4.76	-18.34
358	SLU 46	55	9	4059	560.04	-4.82	-19
358	SLU 47	56	17	4064	561	-4.84	-19.28
358	SLU 48	53	0	4054	558.93	-4.81	-18.39
358	SLU 49	55	10	4093	564.2	-4.87	-19.06
358	SLU 50	52	0	4033	556.37	-4.78	-18.23
358	SLU 51	54	10	4072	561.64	-4.84	-18.89
358	SLU 52	57	16	4416	600.38	-5.24	-19.64
358	SLU 53	54	-1	4406	598.31	-5.21	-18.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
358	SLU 54	56	9	4444	603.58	-5.28	-19.41
358	SLU 55	57	16	4449	604.54	-5.29	-19.69
358	SLU 56	54	-1	4439	602.47	-5.26	-18.8
358	SLU 57	56	9	4478	607.75	-5.33	-19.47
358	SLU 58	54	0	4418	599.92	-5.23	-18.64
358	SLU 59	56	10	4457	605.19	-5.3	-19.3
358	SLU 60	54	-1	4517	610.26	-5.32	-18.71
358	SLU 61	56	9	4555	615.53	-5.39	-19.37
358	SLU 62	54	-1	4550	614.42	-5.37	-18.76
358	SLU 63	56	9	4588	619.69	-5.44	-19.43
358	SLU 64	57	-3	4394	597.63	-5.22	-19.83
358	SLU 65	60	14	4459	606.42	-5.33	-20.94
358	SLU 66	58	-3	4449	604.35	-5.31	-20.05
358	SLU 67	60	7	4487	609.62	-5.37	-20.71
358	SLU 68	60	14	4492	610.58	-5.38	-20.99
358	SLU 69	58	-3	4482	608.51	-5.36	-20.1
358	SLU 70	60	7	4521	613.78	-5.42	-20.77
358	SLU 71	57	-3	4461	605.95	-5.32	-19.94
358	SLU 72	59	7	4500	611.23	-5.39	-20.6
358	SLU 73	61	14	4844	649.97	-5.78	-21.35
358	SLU 74	59	-3	4834	647.89	-5.76	-20.46
358	SLU 75	61	7	4872	653.17	-5.82	-21.12
358	SLU 76	62	14	4877	654.13	-5.83	-21.4
358	SLU 77	59	-3	4867	652.06	-5.81	-20.51
358	SLU 78	61	7	4906	657.33	-5.87	-21.18
358	SLU 79	58	-3	4846	649.5	-5.78	-20.35
358	SLU 80	60	7	4885	654.77	-5.84	-21.01
358	SLU 81	59	-3	4944	659.84	-5.87	-20.42
358	SLU 82	61	7	4983	665.11	-5.93	-21.08
358	SLU 83	59	-3	4978	664	-5.92	-20.47
358	SLU 84	61	7	5016	669.27	-5.98	-21.14
358	SLE RA 1	43	-2	3286	448.82	-3.9	-14.88
358	SLE RA 2	45	10	3329	454.68	-3.97	-15.62
358	SLE RA 3	43	-2	3323	453.3	-3.95	-15.02
358	SLE RA 4	44	5	3348	456.81	-4	-15.47
358	SLE RA 5	45	10	3351	457.45	-4	-15.65
358	SLE RA 6	43	-2	3345	456.07	-3.99	-15.06
358	SLE RA 7	45	5	3370	459.59	-4.03	-15.5
358	SLE RA 8	43	-1	3331	454.37	-3.97	-14.95
358	SLE RA 9	44	5	3356	457.88	-4.01	-15.39
358	SLE RA 10	46	9	3586	483.71	-4.27	-15.89
358	SLE RA 11	44	-2	3579	482.33	-4.25	-15.3
358	SLE RA 12	45	5	3605	485.84	-4.3	-15.74
358	SLE RA 13	46	9	3608	486.48	-4.3	-15.93
358	SLE RA 14	44	-2	3601	485.1	-4.29	-15.33
358	SLE RA 15	45	5	3627	488.62	-4.33	-15.78
358	SLE RA 16	44	-2	3588	483.4	-4.27	-15.22
358	SLE RA 17	45	5	3613	486.91	-4.31	-15.67
358	SLE RA 18	44	-2	3653	490.29	-4.33	-15.27
358	SLE RA 19	45	5	3679	493.81	-4.37	-15.71
358	SLE RA 20	44	-2	3675	493.07	-4.36	-15.31
358	SLE RA 21	45	5	3701	496.58	-4.41	-15.75
358	SLE FR 1	43	-2	3286	448.82	-3.9	-14.88
358	SLE FR 2	43	1	3295	449.99	-3.91	-15.03
358	SLE FR 3	43	-1	3295	449.93	-3.91	-14.89
358	SLE FR 4	44	1	3405	462.43	-4.04	-15.14
358	SLE FR 5	43	-2	3405	462.37	-4.04	-15.01
358	SLE FR 6	43	-2	3470	469.55	-4.11	-15.07
358	SLE QP 1	43	-2	3286	448.82	-3.9	-14.88
358	SLE QP 2	43	-2	3396	461.26	-4.03	-14.99
358	SLD 1	450	92	3078	418.11	-1.82	-157.53
358	SLD 2	521	175	3149	426.01	-2.02	-182.1
358	SLD 3	416	-103	2209	321.64	-0.54	-145.88
358	SLD 4	487	-20	2280	329.54	-0.74	-170.46
358	SLD 5	204	308	4607	593.2	-5.28	-70.98
358	SLD 6	251	363	4654	598.42	-5.4	-87.21
358	SLD 7	90	-343	1709	271.64	-1	-32.18
358	SLD 8	137	-288	1756	276.86	-1.13	-48.41
358	SLD 9	-51	285	5037	645.66	-6.92	18.42
358	SLD 10	-4	340	5084	650.88	-7.05	2.19
358	SLD 11	-165	-366	2139	324.1	-2.65	57.22
358	SLD 12	-118	-311	2186	329.31	-2.78	40.99
358	SLD 13	-401	17	4513	592.98	-7.32	140.47
358	SLD 14	-330	100	4584	600.88	-7.51	115.9
358	SLD 15	-435	-178	3644	496.51	-6.04	152.11
358	SLD 16	-364	-95	3715	504.41	-6.23	127.54
358	SLV 1	682	150	2924	396.67	-0.63	-238.56
358	SLV 2	793	280	3036	409.05	-0.93	-277.06
358	SLV 3	626	-166	1519	240.73	1.45	-219.55
358	SLV 4	737	-36	1630	253.11	1.14	-258.05
358	SLV 5	299	499	5366	676.09	-6.09	-103.72
358	SLV 6	373	587	5441	684.42	-6.3	-129.64
358	SLV 7	113	-554	680	156.27	0.82	-40.34
358	SLV 8	187	-467	755	164.61	0.61	-66.26
358	SLV 9	-101	464	6037	757.91	-8.66	36.27
358	SLV 10	-26	551	6112	766.25	-8.87	10.35
358	SLV 11	-287	-590	1352	238.1	-1.75	99.65
358	SLV 12	-212	-502	1427	246.43	-1.96	73.73
358	SLV 13	-651	32	5163	669.41	-9.2	228.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
358	SLV 14	-540	163	5274	681.79	-9.5	189.56
358	SLV 15	-707	-284	3757	513.47	-7.12	247.07
358	SLV 16	-596	-153	3868	525.85	-7.43	208.57
358	SLV FO 1	746	165	2877	390.21	-0.29	-260.92
358	SLV FO 2	868	309	3000	403.83	-0.62	-303.27
358	SLV FO 3	684	-182	1331	218.67	2	-240
358	SLV FO 4	807	-39	1454	232.29	1.66	-282.35
358	SLV FO 5	324	549	5563	697.57	-6.3	-112.59
358	SLV FO 6	406	645	5645	706.74	-6.53	-141.1
358	SLV FO 7	120	-610	409	125.78	1.3	-42.87
358	SLV FO 8	202	-513	491	134.94	1.07	-71.39
358	SLV FO 9	-116	510	6301	787.58	-9.13	41.4
358	SLV FO 10	-33	607	6384	796.74	-9.36	12.88
358	SLV FO 11	-320	-649	1147	215.78	-1.53	111.11
358	SLV FO 12	-238	-552	1230	224.95	-1.75	82.6
358	SLV FO 13	-720	36	5339	690.23	-9.71	252.36
358	SLV FO 14	-598	179	5462	703.85	-10.05	210.01
358	SLV FO 15	-782	-312	3793	518.69	-7.43	273.28
358	SLV FO 16	-660	-168	3916	532.31	-7.77	230.93
358	CRTFP Ux+	0	0	0	0	0	0
358	CRTFP Ux-	0	0	0	0	0	0
358	CRTFP Uy+	0	0	0	0	0	0
358	CRTFP Uy-	0	0	0	0	0	0
359	SLU 1	42	2	3312	530.29	-6.15	-14.49
359	SLU 2	45	20	3380	540.81	-6.31	-15.63
359	SLU 3	42	2	3370	538.96	-6.28	-14.72
359	SLU 4	44	13	3410	545.27	-6.38	-15.4
359	SLU 5	45	20	3416	546.17	-6.4	-15.69
359	SLU 6	43	2	3405	544.33	-6.36	-14.78
359	SLU 7	45	13	3446	550.63	-6.46	-15.46
359	SLU 8	42	2	3383	541.03	-6.31	-14.61
359	SLU 9	44	13	3424	547.34	-6.41	-15.29
359	SLU 10	46	20	3784	596.92	-7.09	-16.04
359	SLU 11	44	1	3773	595.08	-7.06	-15.13
359	SLU 12	46	12	3814	601.38	-7.16	-15.81
359	SLU 13	46	20	3819	602.29	-7.17	-16.1
359	SLU 14	44	2	3808	600.45	-7.14	-15.19
359	SLU 15	46	13	3849	606.75	-7.24	-15.87
359	SLU 16	43	2	3786	597.15	-7.09	-15.02
359	SLU 17	45	13	3827	603.46	-7.19	-15.7
359	SLU 18	43	2	3888	610.46	-7.26	-15.08
359	SLU 19	45	13	3929	616.77	-7.36	-15.76
359	SLU 20	44	2	3924	615.83	-7.35	-15.14
359	SLU 21	46	13	3965	622.14	-7.44	-15.82
359	SLU 22	47	-1	3762	594.24	-7.07	-16.21
359	SLU 23	50	18	3830	604.75	-7.23	-17.34
359	SLU 24	47	-1	3819	602.9	-7.2	-16.43
359	SLU 25	49	10	3860	609.21	-7.3	-17.11
359	SLU 26	50	18	3865	610.12	-7.31	-17.4
359	SLU 27	47	-1	3855	608.27	-7.28	-16.49
359	SLU 28	49	10	3895	614.58	-7.38	-17.17
359	SLU 29	47	0	3832	604.98	-7.23	-16.32
359	SLU 30	49	11	3873	611.28	-7.33	-17.01
359	SLU 31	51	17	4233	660.87	-8.01	-17.75
359	SLU 32	48	-1	4223	659.02	-7.98	-16.84
359	SLU 33	51	10	4264	665.33	-8.07	-17.53
359	SLU 34	51	18	4269	666.24	-8.09	-17.81
359	SLU 35	49	-1	4258	664.39	-8.06	-16.9
359	SLU 36	51	10	4299	670.7	-8.16	-17.59
359	SLU 37	48	0	4236	661.1	-8.01	-16.73
359	SLU 38	50	10	4277	667.4	-8.1	-17.42
359	SLU 39	48	-1	4338	674.41	-8.18	-16.79
359	SLU 40	50	10	4379	680.72	-8.28	-17.48
359	SLU 41	48	-1	4373	679.78	-8.26	-16.85
359	SLU 42	51	10	4414	686.08	-8.36	-17.53
359	SLU 43	53	3	4152	667.46	-7.68	-18.25
359	SLU 44	56	22	4220	677.97	-7.85	-19.39
359	SLU 45	53	3	4209	676.12	-7.82	-18.48
359	SLU 46	55	14	4250	682.43	-7.91	-19.16
359	SLU 47	56	22	4255	683.34	-7.93	-19.45
359	SLU 48	53	3	4244	681.49	-7.9	-18.54
359	SLU 49	55	14	4285	687.8	-7.99	-19.22
359	SLU 50	53	4	4222	678.2	-7.85	-18.37
359	SLU 51	55	15	4263	684.5	-7.94	-19.05
359	SLU 52	57	21	4623	734.09	-8.63	-19.8
359	SLU 53	54	3	4612	732.24	-8.59	-18.89
359	SLU 54	56	14	4653	738.55	-8.69	-19.57
359	SLU 55	57	22	4658	739.46	-8.71	-19.86
359	SLU 56	55	3	4648	737.61	-8.67	-18.95
359	SLU 57	57	14	4689	743.92	-8.77	-19.63
359	SLU 58	54	3	4626	734.32	-8.62	-18.78
359	SLU 59	56	14	4667	740.62	-8.72	-19.46
359	SLU 60	54	3	4728	747.63	-8.8	-18.84
359	SLU 61	56	14	4769	753.93	-8.89	-19.52
359	SLU 62	54	3	4763	753	-8.88	-18.9
359	SLU 63	56	14	4804	759.3	-8.98	-19.58
359	SLU 64	57	1	4601	731.4	-8.6	-19.97
359	SLU 65	61	19	4669	741.91	-8.76	-21.1
359	SLU 66	58	1	4659	740.07	-8.73	-20.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
359	SLU 67	60	12	4700	746.37	-8.83	-20.87
359	SLU 68	61	19	4705	747.28	-8.84	-21.16
359	SLU 69	58	1	4694	745.44	-8.81	-20.25
359	SLU 70	60	12	4735	751.74	-8.91	-20.93
359	SLU 71	58	1	4672	742.14	-8.76	-20.08
359	SLU 72	60	12	4713	748.45	-8.86	-20.77
359	SLU 73	62	19	5073	798.03	-9.54	-21.51
359	SLU 74	59	0	5062	796.19	-9.51	-20.6
359	SLU 75	61	11	5103	802.49	-9.61	-21.29
359	SLU 76	62	19	5108	803.4	-9.62	-21.57
359	SLU 77	59	1	5098	801.56	-9.59	-20.66
359	SLU 78	62	12	5138	807.86	-9.69	-21.35
359	SLU 79	59	1	5075	798.26	-9.54	-20.49
359	SLU 80	61	12	5116	804.57	-9.64	-21.18
359	SLU 81	59	1	5178	811.57	-9.71	-20.55
359	SLU 82	61	12	5218	817.88	-9.81	-21.24
359	SLU 83	59	1	5213	816.94	-9.79	-20.61
359	SLU 84	61	12	5254	823.25	-9.89	-21.29
359	SLE RA 1	43	1	3441	548.56	-6.41	-14.98
359	SLE RA 2	45	13	3486	555.57	-6.52	-15.74
359	SLE RA 3	44	1	3479	554.34	-6.5	-15.13
359	SLE RA 4	45	8	3506	558.54	-6.57	-15.59
359	SLE RA 5	45	13	3510	559.15	-6.58	-15.78
359	SLE RA 6	44	1	3502	557.92	-6.55	-15.17
359	SLE RA 7	45	8	3530	562.12	-6.62	-15.63
359	SLE RA 8	43	1	3488	555.72	-6.52	-15.06
359	SLE RA 9	45	9	3515	559.93	-6.59	-15.52
359	SLE RA 10	46	13	3755	592.98	-7.04	-16.01
359	SLE RA 11	44	1	3748	591.75	-7.02	-15.41
359	SLE RA 12	46	8	3775	595.96	-7.08	-15.86
359	SLE RA 13	46	13	3778	596.56	-7.09	-16.05
359	SLE RA 14	44	1	3771	595.33	-7.07	-15.45
359	SLE RA 15	46	8	3799	599.54	-7.14	-15.9
359	SLE RA 16	44	1	3757	593.14	-7.04	-15.33
359	SLE RA 17	46	9	3784	597.34	-7.11	-15.79
359	SLE RA 18	44	1	3825	602.01	-7.15	-15.37
359	SLE RA 19	46	8	3852	606.21	-7.22	-15.83
359	SLE RA 20	44	1	3848	605.59	-7.21	-15.41
359	SLE RA 21	46	8	3876	609.79	-7.27	-15.87
359	SLE FR 1	43	1	3441	548.56	-6.41	-14.98
359	SLE FR 2	44	4	3450	549.97	-6.43	-15.13
359	SLE FR 3	43	1	3450	550	-6.43	-15
359	SLE FR 4	44	4	3565	566	-6.66	-15.25
359	SLE FR 5	43	1	3565	566.03	-6.66	-15.11
359	SLE FR 6	44	1	3633	575.29	-6.78	-15.18
359	SLE QP 1	43	1	3441	548.56	-6.41	-14.98
359	SLE QP 2	43	1	3556	564.6	-6.64	-15.1
359	SLD 1	450	99	3166	493.62	-4.07	-157.34
359	SLD 2	521	190	3244	504.28	-4.33	-181.87
359	SLD 3	415	-107	2248	371.96	-2.09	-145.6
359	SLD 4	486	-16	2326	382.61	-2.35	-170.14
359	SLD 5	205	327	4817	725.91	-8.82	-71.15
359	SLD 6	252	387	4869	732.95	-9	-87.35
359	SLD 7	90	-361	1757	320.36	-2.22	-32.03
359	SLD 8	136	-301	1808	327.4	-2.39	-48.23
359	SLD 9	-50	303	5303	801.8	-10.88	18.03
359	SLD 10	-3	363	5355	808.83	-11.05	1.83
359	SLD 11	-165	-385	2243	396.25	-4.28	57.15
359	SLD 12	-118	-325	2294	403.29	-4.45	40.96
359	SLD 13	-399	19	4786	746.58	-10.92	139.94
359	SLD 14	-328	110	4864	757.24	-11.18	115.41
359	SLD 15	-434	-188	3868	624.92	-8.94	151.68
359	SLD 16	-363	-97	3946	635.57	-9.2	127.14
359	SLV 1	681	160	2974	457.33	-2.69	-238.22
359	SLV 2	792	302	3096	474.03	-3.09	-276.65
359	SLV 3	625	-174	1489	260.62	0.52	-219.05
359	SLV 4	736	-32	1611	277.31	0.11	-257.48
359	SLV 5	300	529	5610	827.65	-10.23	-103.93
359	SLV 6	375	625	5692	838.89	-10.51	-129.81
359	SLV 7	111	-585	662	171.94	0.45	-40.04
359	SLV 8	186	-489	744	183.18	0.17	-65.92
359	SLV 9	-99	491	6368	946.02	-13.44	35.72
359	SLV 10	-24	587	6450	957.26	-13.72	9.84
359	SLV 11	-288	-622	1419	290.3	-2.76	99.61
359	SLV 12	-213	-526	1502	301.54	-3.04	73.73
359	SLV 13	-649	34	5500	851.88	-13.38	227.29
359	SLV 14	-538	177	5622	868.58	-13.79	188.85
359	SLV 15	-705	-300	4016	655.17	-10.18	246.46
359	SLV 16	-594	-157	4138	671.86	-10.58	208.02
359	SLV FO 1	745	175	2916	446.61	-2.29	-260.53
359	SLV FO 2	867	332	3050	464.97	-2.74	-302.81
359	SLV FO 3	683	-192	1283	230.22	1.23	-239.44
359	SLV FO 4	805	-35	1417	248.58	0.78	-281.72
359	SLV FO 5	326	581	5815	853.96	-10.59	-112.82
359	SLV FO 6	408	687	5906	866.32	-10.9	-141.28
359	SLV FO 7	118	-643	372	132.67	1.15	-42.53
359	SLV FO 8	200	-538	463	145.04	0.85	-71
359	SLV FO 9	-113	540	6649	984.16	-14.12	40.8
359	SLV FO 10	-31	646	6740	996.52	-14.42	12.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
359	SLV FO 11	-321	-685	1206	262.87	-2.38	111.08
359	SLV FO 12	-239	-579	1296	275.24	-2.68	82.62
359	SLV FO 13	-718	38	5695	880.61	-14.06	251.53
359	SLV FO 14	-596	194	5829	898.97	-14.5	209.25
359	SLV FO 15	-780	-330	4062	664.22	-10.53	272.61
359	SLV FO 16	-658	-173	4196	682.59	-10.98	230.33
359	CRTFP Ux+	0	0	0	0	0	0
359	CRTFP Ux-	0	0	0	0	0	0
359	CRTFP Uy+	0	0	0	0	0	0
359	CRTFP Uy-	0	0	0	0	0	0
360	SLU 1	42	5	3535	682.48	-8.7	-14.51
360	SLU 2	45	25	3608	695.84	-8.92	-15.68
360	SLU 3	42	5	3597	694.23	-8.89	-14.74
360	SLU 4	45	17	3641	702.25	-9.02	-15.44
360	SLU 5	46	26	3647	703.13	-9.04	-15.74
360	SLU 6	43	5	3635	701.51	-9	-14.8
360	SLU 7	45	17	3679	709.53	-9.13	-15.5
360	SLU 8	42	6	3611	697.05	-8.93	-14.63
360	SLU 9	44	18	3655	705.07	-9.06	-15.34
360	SLU 10	46	25	4040	772.17	-10.05	-16.08
360	SLU 11	44	5	4029	770.55	-10.01	-15.14
360	SLU 12	46	17	4073	778.57	-10.14	-15.84
360	SLU 13	47	26	4079	779.45	-10.16	-16.14
360	SLU 14	44	6	4067	777.84	-10.12	-15.2
360	SLU 15	46	18	4111	785.86	-10.26	-15.91
360	SLU 16	43	6	4043	773.37	-10.05	-15.04
360	SLU 17	45	18	4087	781.39	-10.19	-15.74
360	SLU 18	43	5	4152	791.51	-10.31	-15.08
360	SLU 19	46	17	4196	799.53	-10.44	-15.78
360	SLU 20	44	6	4190	798.8	-10.42	-15.15
360	SLU 21	46	18	4234	806.82	-10.55	-15.85
360	SLU 22	47	3	4018	769.43	-10.01	-16.21
360	SLU 23	50	23	4091	782.79	-10.23	-17.38
360	SLU 24	47	3	4080	781.18	-10.19	-16.45
360	SLU 25	49	15	4124	789.2	-10.32	-17.15
360	SLU 26	50	23	4130	790.08	-10.34	-17.44
360	SLU 27	48	3	4118	788.46	-10.31	-16.51
360	SLU 28	50	15	4162	796.48	-10.44	-17.21
360	SLU 29	47	3	4094	784	-10.23	-16.34
360	SLU 30	49	15	4138	792.02	-10.37	-17.04
360	SLU 31	51	23	4523	859.12	-11.35	-17.78
360	SLU 32	49	3	4512	857.5	-11.31	-16.85
360	SLU 33	51	15	4556	865.52	-11.45	-17.55
360	SLU 34	52	23	4562	866.41	-11.47	-17.85
360	SLU 35	49	3	4550	864.79	-11.43	-16.91
360	SLU 36	51	15	4594	872.81	-11.56	-17.61
360	SLU 37	48	4	4526	860.32	-11.36	-16.74
360	SLU 38	50	16	4570	868.34	-11.49	-17.44
360	SLU 39	48	3	4635	878.46	-11.61	-16.79
360	SLU 40	50	15	4679	886.48	-11.75	-17.49
360	SLU 41	49	3	4673	885.75	-11.73	-16.85
360	SLU 42	51	15	4717	893.77	-11.86	-17.55
360	SLU 43	53	8	4429	857.41	-10.87	-18.28
360	SLU 44	56	28	4503	870.77	-11.09	-19.44
360	SLU 45	53	8	4492	869.16	-11.05	-18.51
360	SLU 46	55	20	4536	877.18	-11.18	-19.21
360	SLU 47	56	28	4542	878.06	-11.2	-19.51
360	SLU 48	54	8	4530	876.44	-11.16	-18.57
360	SLU 49	56	20	4574	884.46	-11.3	-19.27
360	SLU 50	53	8	4506	871.98	-11.09	-18.4
360	SLU 51	55	20	4550	880	-11.23	-19.1
360	SLU 52	57	28	4935	947.1	-12.21	-19.85
360	SLU 53	55	8	4924	945.48	-12.17	-18.91
360	SLU 54	57	20	4968	953.5	-12.31	-19.61
360	SLU 55	58	28	4973	954.38	-12.32	-19.91
360	SLU 56	55	8	4962	952.77	-12.29	-18.97
360	SLU 57	57	20	5006	960.79	-12.42	-19.67
360	SLU 58	54	8	4938	948.3	-12.22	-18.8
360	SLU 59	56	20	4982	956.32	-12.35	-19.51
360	SLU 60	54	8	5046	966.44	-12.47	-18.85
360	SLU 61	56	20	5091	974.46	-12.6	-19.55
360	SLU 62	55	8	5085	973.73	-12.58	-18.91
360	SLU 63	57	20	5129	981.75	-12.72	-19.61
360	SLU 64	58	5	4912	944.36	-12.17	-19.98
360	SLU 65	61	25	4986	957.73	-12.39	-21.15
360	SLU 66	58	5	4975	956.11	-12.35	-20.21
360	SLU 67	60	17	5019	964.13	-12.49	-20.91
360	SLU 68	61	26	5024	965.01	-12.51	-21.21
360	SLU 69	58	5	5013	963.39	-12.47	-20.28
360	SLU 70	61	17	5057	971.42	-12.6	-20.98
360	SLU 71	58	6	4989	958.93	-12.4	-20.11
360	SLU 72	60	18	5033	966.95	-12.53	-20.81
360	SLU 73	62	25	5418	1034.05	-13.52	-21.55
360	SLU 74	59	5	5407	1032.43	-13.48	-20.62
360	SLU 75	62	17	5451	1040.46	-13.61	-21.32
360	SLU 76	62	26	5456	1041.34	-13.63	-21.61
360	SLU 77	60	6	5445	1039.72	-13.59	-20.68
360	SLU 78	62	18	5489	1047.74	-13.72	-21.38
360	SLU 79	59	6	5421	1035.25	-13.52	-20.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
360	SLU 80	61	18	5465	1043.27	-13.65	-21.21
360	SLU 81	59	5	5529	1053.39	-13.78	-20.56
360	SLU 82	61	17	5574	1061.41	-13.91	-21.26
360	SLU 83	59	6	5568	1060.68	-13.89	-20.62
360	SLU 84	62	18	5612	1068.7	-14.02	-21.32
360	SLE RA 1	43	5	3673	707.32	-9.08	-15
360	SLE RA 2	46	18	3722	716.23	-9.22	-15.77
360	SLE RA 3	44	5	3714	715.15	-9.2	-15.15
360	SLE RA 4	45	13	3744	720.5	-9.29	-15.62
360	SLE RA 5	46	18	3747	721.09	-9.3	-15.82
360	SLE RA 6	44	5	3740	720.01	-9.27	-15.19
360	SLE RA 7	45	13	3769	725.36	-9.36	-15.66
360	SLE RA 8	43	5	3724	717.03	-9.23	-15.08
360	SLE RA 9	45	13	3753	722.38	-9.32	-15.55
360	SLE RA 10	46	18	4010	767.11	-9.97	-16.04
360	SLE RA 11	44	5	4002	766.04	-9.95	-15.42
360	SLE RA 12	46	13	4032	771.38	-10.04	-15.89
360	SLE RA 13	46	18	4035	771.97	-10.05	-16.08
360	SLE RA 14	45	5	4028	770.89	-10.02	-15.46
360	SLE RA 15	46	13	4057	776.24	-10.11	-15.93
360	SLE RA 16	44	5	4012	767.92	-9.98	-15.35
360	SLE RA 17	46	13	4041	773.26	-10.06	-15.81
360	SLE RA 18	44	5	4084	780.01	-10.15	-15.38
360	SLE RA 19	46	13	4114	785.36	-10.23	-15.85
360	SLE RA 20	44	5	4109	784.87	-10.22	-15.42
360	SLE RA 21	46	13	4139	790.21	-10.31	-15.89
360	SLE FR 1	43	5	3673	707.32	-9.08	-15
360	SLE FR 2	44	7	3682	709.1	-9.11	-15.15
360	SLE FR 3	43	5	3683	709.26	-9.11	-15.01
360	SLE FR 4	44	7	3806	730.91	-9.43	-15.27
360	SLE FR 5	44	5	3806	731.07	-9.43	-15.13
360	SLE FR 6	44	5	3878	743.66	-9.61	-15.19
360	SLE QP 1	43	5	3673	707.32	-9.08	-15
360	SLE QP 2	44	5	3796	729.13	-9.4	-15.11
360	SLD 1	449	108	3323	622.14	-6.41	-157.04
360	SLD 2	520	208	3410	636.96	-6.73	-181.54
360	SLD 3	414	-112	2335	459.67	-3.7	-145.21
360	SLD 4	485	-12	2421	474.49	-4.02	-169.71
360	SLD 5	206	351	5138	940.77	-12.55	-71.22
360	SLD 6	253	416	5195	950.56	-12.77	-87.4
360	SLD 7	89	-381	1843	399.21	-3.52	-31.78
360	SLD 8	136	-315	1900	408.99	-3.73	-47.96
360	SLD 9	-49	325	5692	1049.26	-15.06	17.74
360	SLD 10	-2	390	5749	1059.05	-15.28	1.56
360	SLD 11	-165	-407	2397	507.69	-6.03	57.17
360	SLD 12	-119	-341	2454	517.48	-6.24	41
360	SLD 13	-398	21	5171	983.76	-14.77	139.49
360	SLD 14	-327	121	5257	998.58	-15.1	114.99
360	SLD 15	-433	-198	4182	821.29	-12.06	151.32
360	SLD 16	-362	-98	4269	836.11	-12.39	126.82
360	SLV 1	680	172	3086	566.86	-4.81	-237.74
360	SLV 2	791	328	3222	590.07	-5.32	-276.12
360	SLV 3	623	-183	1488	304.14	-0.43	-218.42
360	SLV 4	734	-27	1624	327.36	-0.94	-256.8
360	SLV 5	301	565	5982	1074.56	-14.57	-104.04
360	SLV 6	375	670	6073	1090.19	-14.92	-129.88
360	SLV 7	110	-620	654	198.85	0.04	-39.64
360	SLV 8	185	-515	746	214.48	-0.31	-65.48
360	SLV 9	-97	524	6846	1243.77	-18.49	35.26
360	SLV 10	-23	629	6938	1259.4	-18.83	9.42
360	SLV 11	-288	-661	1519	368.06	-3.88	99.66
360	SLV 12	-214	-555	1610	383.69	-4.22	73.82
360	SLV 13	-647	37	5968	1130.89	-17.86	226.58
360	SLV 14	-536	193	6104	1154.11	-18.37	188.2
360	SLV 15	-704	-319	4370	868.18	-13.47	245.9
360	SLV 16	-593	-163	4506	891.4	-13.98	207.52
360	SLV FO 1	744	189	3015	550.63	-4.35	-260.01
360	SLV FO 2	866	361	3165	576.17	-4.91	-302.23
360	SLV FO 3	681	-202	1257	261.64	0.47	-238.76
360	SLV FO 4	803	-30	1407	287.18	-0.09	-280.97
360	SLV FO 5	326	621	6200	1109.1	-15.09	-112.93
360	SLV FO 6	409	736	6301	1126.3	-15.47	-141.36
360	SLV FO 7	116	-682	340	145.82	0.98	-42.09
360	SLV FO 8	199	-567	441	163.01	0.6	-70.52
360	SLV FO 9	-112	576	7151	1295.24	-19.4	40.3
360	SLV FO 10	-29	692	7252	1312.43	-19.77	11.87
360	SLV FO 11	-322	-727	1291	331.95	-3.32	111.14
360	SLV FO 12	-239	-611	1392	349.15	-3.7	82.71
360	SLV FO 13	-716	40	6185	1171.07	-18.7	250.75
360	SLV FO 14	-594	212	6335	1196.61	-19.26	208.53
360	SLV FO 15	-779	-351	4427	882.09	-13.88	272
360	SLV FO 16	-657	-179	4577	907.62	-14.44	229.79
360	CRTFP Ux+	0	0	0	0	0	0
360	CRTFP Ux-	0	0	0	0	0	0
360	CRTFP Uy+	0	0	0	0	0	0
360	CRTFP Uy-	0	0	0	0	0	0
361	SLU 1	42	9	3834	896.08	-11.28	-14.45
361	SLU 2	45	31	3916	913.56	-11.56	-15.64
361	SLU 3	42	9	3903	912.17	-11.52	-14.68



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
361	SLU 4	44	22	3952	922.65	-11.69	-15.4
361	SLU 5	45	31	3958	923.53	-11.71	-15.71
361	SLU 6	43	9	3945	922.14	-11.67	-14.75
361	SLU 7	45	23	3994	932.63	-11.83	-15.46
361	SLU 8	42	10	3919	916.03	-11.58	-14.58
361	SLU 9	44	23	3968	926.51	-11.74	-15.29
361	SLU 10	46	31	4387	1018.36	-13.03	-16.03
361	SLU 11	43	10	4374	1016.97	-12.99	-15.07
361	SLU 12	46	23	4423	1027.46	-13.16	-15.78
361	SLU 13	47	32	4429	1028.34	-13.18	-16.09
361	SLU 14	44	10	4416	1026.95	-13.14	-15.13
361	SLU 15	46	23	4465	1037.43	-13.3	-15.85
361	SLU 16	43	10	4390	1020.84	-13.05	-14.96
361	SLU 17	45	23	4438	1031.32	-13.21	-15.68
361	SLU 18	43	10	4507	1045.8	-13.38	-15
361	SLU 19	45	23	4556	1056.29	-13.55	-15.72
361	SLU 20	43	10	4549	1055.78	-13.53	-15.06
361	SLU 21	46	23	4598	1066.26	-13.7	-15.78
361	SLU 22	46	7	4362	1015.42	-12.98	-16.13
361	SLU 23	50	29	4444	1032.9	-13.26	-17.33
361	SLU 24	47	7	4431	1031.51	-13.22	-16.37
361	SLU 25	49	20	4480	1042	-13.39	-17.08
361	SLU 26	50	29	4486	1042.87	-13.41	-17.39
361	SLU 27	47	7	4473	1041.48	-13.37	-16.43
361	SLU 28	50	20	4522	1051.97	-13.53	-17.15
361	SLU 29	47	8	4447	1035.37	-13.28	-16.26
361	SLU 30	49	21	4496	1045.86	-13.44	-16.98
361	SLU 31	51	29	4915	1137.71	-14.73	-17.71
361	SLU 32	48	7	4902	1136.32	-14.69	-16.75
361	SLU 33	50	20	4951	1146.8	-14.86	-17.47
361	SLU 34	51	30	4957	1147.68	-14.88	-17.78
361	SLU 35	49	8	4944	1146.29	-14.84	-16.82
361	SLU 36	51	21	4993	1156.78	-15	-17.54
361	SLU 37	48	8	4918	1140.18	-14.75	-16.65
361	SLU 38	50	21	4966	1150.66	-14.91	-17.37
361	SLU 39	48	8	5035	1165.15	-15.08	-16.69
361	SLU 40	50	21	5084	1175.63	-15.25	-17.4
361	SLU 41	48	8	5077	1175.12	-15.23	-16.75
361	SLU 42	50	21	5126	1185.61	-15.4	-17.47
361	SLU 43	52	13	4804	1123.99	-14.09	-18.2
361	SLU 44	56	35	4885	1141.46	-14.36	-19.4
361	SLU 45	53	13	4872	1140.07	-14.32	-18.44
361	SLU 46	55	26	4921	1150.56	-14.49	-19.15
361	SLU 47	56	35	4927	1151.44	-14.51	-19.46
361	SLU 48	53	13	4914	1150.05	-14.47	-18.5
361	SLU 49	56	26	4963	1160.53	-14.63	-19.22
361	SLU 50	53	13	4888	1143.93	-14.38	-18.33
361	SLU 51	55	26	4937	1154.42	-14.54	-19.05
361	SLU 52	57	35	5356	1246.27	-15.83	-19.78
361	SLU 53	54	13	5343	1244.88	-15.79	-18.82
361	SLU 54	56	26	5392	1255.36	-15.96	-19.54
361	SLU 55	57	35	5398	1256.24	-15.98	-19.85
361	SLU 56	54	13	5385	1254.85	-15.94	-18.89
361	SLU 57	57	27	5434	1265.34	-16.11	-19.6
361	SLU 58	54	14	5359	1248.74	-15.85	-18.72
361	SLU 59	56	27	5408	1259.23	-16.02	-19.44
361	SLU 60	54	13	5476	1273.71	-16.19	-18.76
361	SLU 61	56	26	5525	1284.19	-16.35	-19.47
361	SLU 62	54	14	5519	1283.68	-16.33	-18.82
361	SLU 63	56	27	5567	1294.17	-16.5	-19.54
361	SLU 64	57	10	5332	1243.33	-15.78	-19.89
361	SLU 65	61	32	5413	1260.81	-16.06	-21.08
361	SLU 66	58	10	5400	1259.42	-16.02	-20.12
361	SLU 67	60	24	5449	1269.9	-16.19	-20.84
361	SLU 68	61	33	5455	1270.78	-16.21	-21.15
361	SLU 69	58	11	5442	1269.39	-16.17	-20.19
361	SLU 70	60	24	5491	1279.88	-16.33	-20.9
361	SLU 71	58	11	5416	1263.28	-16.08	-20.02
361	SLU 72	60	24	5465	1273.76	-16.24	-20.74
361	SLU 73	62	33	5884	1365.61	-17.53	-21.47
361	SLU 74	59	11	5871	1364.22	-17.49	-20.51
361	SLU 75	61	24	5920	1374.71	-17.66	-21.23
361	SLU 76	62	33	5926	1375.59	-17.68	-21.54
361	SLU 77	59	11	5913	1374.2	-17.64	-20.58
361	SLU 78	62	24	5962	1384.68	-17.81	-21.29
361	SLU 79	59	12	5887	1368.09	-17.55	-20.41
361	SLU 80	61	25	5936	1378.57	-17.72	-21.12
361	SLU 81	59	11	6004	1393.05	-17.89	-20.44
361	SLU 82	61	24	6053	1403.54	-18.05	-21.16
361	SLU 83	59	11	6047	1403.03	-18.03	-20.51
361	SLU 84	61	25	6095	1413.51	-18.2	-21.22
361	SLE RA 1	43	9	3985	930.18	-11.77	-14.93
361	SLE RA 2	45	23	4039	941.83	-11.95	-15.72
361	SLE RA 3	43	8	4031	940.9	-11.93	-15.08
361	SLE RA 4	45	17	4064	947.89	-12.04	-15.56
361	SLE RA 5	46	23	4068	948.48	-12.05	-15.77
361	SLE RA 6	44	9	4059	947.55	-12.02	-15.13
361	SLE RA 7	45	17	4092	954.54	-12.14	-15.61
361	SLE RA 8	43	9	4042	943.48	-11.96	-15.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
361	SLE RA 9	45	18	4074	950.47	-12.07	-15.49
361	SLE RA 10	46	23	4353	1011.7	-12.93	-15.98
361	SLE RA 11	44	9	4345	1010.77	-12.91	-15.34
361	SLE RA 12	46	18	4377	1017.76	-13.02	-15.82
361	SLE RA 13	46	24	4382	1018.35	-13.03	-16.03
361	SLE RA 14	44	9	4373	1017.42	-13.01	-15.39
361	SLE RA 15	46	18	4406	1024.41	-13.12	-15.86
361	SLE RA 16	44	9	4355	1013.35	-12.94	-15.27
361	SLE RA 17	45	18	4388	1020.34	-13.06	-15.75
361	SLE RA 18	44	9	4434	1029.99	-13.17	-15.3
361	SLE RA 19	46	18	4466	1036.98	-13.28	-15.77
361	SLE RA 20	44	9	4462	1036.64	-13.27	-15.34
361	SLE RA 21	46	18	4494	1043.63	-13.38	-15.82
361	SLE FR 1	43	9	3985	930.18	-11.77	-14.93
361	SLE FR 2	44	11	3996	932.51	-11.81	-15.09
361	SLE FR 3	43	9	3997	932.84	-11.81	-14.95
361	SLE FR 4	44	12	4131	962.45	-12.23	-15.2
361	SLE FR 5	43	9	4131	962.78	-12.23	-15.06
361	SLE FR 6	44	9	4209	980.09	-12.47	-15.11
361	SLE QP 1	43	9	3985	930.18	-11.77	-14.93
361	SLE QP 2	43	9	4120	960.12	-12.19	-15.04
361	SLD 1	449	118	3550	807.25	-8.74	-156.66
361	SLD 2	519	228	3648	827.73	-9.13	-181.13
361	SLD 3	413	-115	2470	587.05	-5.31	-144.72
361	SLD 4	484	-6	2567	607.53	-5.7	-169.2
361	SLD 5	206	376	5570	1244.53	-16.29	-71.21
361	SLD 6	253	448	5635	1258.06	-16.55	-87.37
361	SLD 7	88	-403	1968	510.55	-4.84	-31.44
361	SLD 8	135	-330	2033	524.07	-5.1	-47.6
361	SLD 9	-48	348	6207	1396.17	-19.27	17.52
361	SLD 10	-1	420	6271	1409.7	-19.53	1.36
361	SLD 11	-166	-431	2605	662.19	-7.83	57.29
361	SLD 12	-119	-359	2669	675.71	-8.09	41.13
361	SLD 13	-397	23	5672	1312.71	-18.68	139.12
361	SLD 14	-326	133	5770	1333.2	-19.07	114.64
361	SLD 15	-433	-210	4592	1092.52	-15.24	151.05
361	SLD 16	-362	-101	4689	1113	-15.64	126.58
361	SLV 1	679	186	3262	727.9	-6.91	-237.18
361	SLV 2	790	358	3415	759.99	-7.52	-275.53
361	SLV 3	621	-192	1515	371.85	-1.35	-217.7
361	SLV 4	732	-21	1668	403.94	-1.97	-256.04
361	SLV 5	301	604	6484	1424.48	-18.91	-104.08
361	SLV 6	376	719	6587	1446.08	-19.33	-129.89
361	SLV 7	108	-657	660	237.64	-0.4	-39.13
361	SLV 8	183	-542	763	259.25	-0.82	-64.95
361	SLV 9	-96	559	7477	1661	-23.56	34.87
361	SLV 10	-22	675	7580	1682.6	-23.98	9.05
361	SLV 11	-289	-702	1653	474.16	-5.05	99.81
361	SLV 12	-214	-587	1756	495.77	-5.47	74
361	SLV 13	-645	38	6572	1516.3	-22.41	225.96
361	SLV 14	-534	209	6725	1548.39	-23.02	187.62
361	SLV 15	-703	-340	4825	1160.25	-16.86	245.45
361	SLV 16	-592	-169	4977	1192.34	-17.47	207.1
361	SLV FO 1	743	204	3176	704.68	-6.38	-259.4
361	SLV FO 2	865	392	3344	739.98	-7.06	-301.57
361	SLV FO 3	679	-212	1255	313.03	-0.27	-237.97
361	SLV FO 4	801	-24	1423	348.32	-0.95	-280.14
361	SLV FO 5	327	663	6720	1470.91	-19.58	-112.98
361	SLV FO 6	409	790	6833	1494.68	-20.04	-141.38
361	SLV FO 7	115	-724	314	165.39	0.78	-41.54
361	SLV FO 8	197	-597	427	189.16	0.32	-69.94
361	SLV FO 9	-110	614	7812	1731.09	-24.7	39.86
361	SLV FO 10	-28	741	7926	1754.85	-25.16	11.46
361	SLV FO 11	-322	-773	1406	425.56	-4.34	111.3
361	SLV FO 12	-240	-646	1519	449.33	-4.79	82.9
361	SLV FO 13	-714	41	6817	1571.92	-23.43	250.06
361	SLV FO 14	-592	229	6985	1607.22	-24.11	207.89
361	SLV FO 15	-778	-375	4895	1180.26	-17.32	271.5
361	SLV FO 16	-656	-187	5063	1215.56	-18	229.32
361	CRTFP Ux+	0	0	0	0	0	0
361	CRTFP Ux-	0	0	0	0	0	0
361	CRTFP Uy+	0	0	0	0	0	0
361	CRTFP Uy-	0	0	0	0	0	0
362	SLU 1	36	11	3607	998.27	91.99	-12.7
362	SLU 2	39	31	3684	1017.73	93.95	-14.33
362	SLU 3	36	11	3672	1016.73	93.64	-12.9
362	SLU 4	38	23	3719	1028.4	94.81	-13.88
362	SLU 5	39	32	3725	1029.18	94.96	-14.4
362	SLU 6	36	12	3713	1028.18	94.65	-12.97
362	SLU 7	38	24	3759	1039.85	95.82	-13.95
362	SLU 8	36	12	3687	1021.17	94.02	-12.84
362	SLU 9	38	24	3734	1032.85	95.19	-13.82
362	SLU 10	40	32	4130	1138.24	105.24	-14.67
362	SLU 11	37	12	4118	1137.25	104.93	-13.24
362	SLU 12	39	24	4164	1148.92	106.1	-14.22
362	SLU 13	40	32	4170	1149.69	106.25	-14.74
362	SLU 14	37	12	4158	1148.7	105.94	-13.31
362	SLU 15	39	24	4204	1160.37	107.11	-14.29
362	SLU 16	37	12	4133	1141.69	105.31	-13.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
362	SLU 17	39	25	4179	1153.36	106.48	-14.15
362	SLU 18	37	12	4243	1170.44	108.12	-13.18
362	SLU 19	39	24	4289	1182.11	109.3	-14.16
362	SLU 20	37	12	4283	1181.89	109.14	-13.25
362	SLU 21	39	25	4330	1193.56	110.31	-14.23
362	SLU 22	40	9	4107	1135.47	104.66	-14.09
362	SLU 23	43	30	4185	1154.92	106.61	-15.72
362	SLU 24	40	9	4173	1153.92	106.3	-14.29
362	SLU 25	42	22	4219	1165.6	107.47	-15.27
362	SLU 26	43	30	4225	1166.37	107.62	-15.79
362	SLU 27	41	10	4213	1165.37	107.31	-14.36
362	SLU 28	42	22	4260	1177.05	108.48	-15.34
362	SLU 29	40	10	4188	1158.37	106.68	-14.22
362	SLU 30	42	22	4234	1170.04	107.85	-15.2
362	SLU 31	44	30	4630	1275.43	117.9	-16.06
362	SLU 32	41	10	4618	1274.44	117.59	-14.63
362	SLU 33	43	22	4665	1286.11	118.76	-15.61
362	SLU 34	44	31	4670	1286.88	118.91	-16.13
362	SLU 35	41	11	4658	1285.89	118.6	-14.7
362	SLU 36	43	23	4705	1297.56	119.77	-15.68
362	SLU 37	41	11	4633	1278.88	117.97	-14.56
362	SLU 38	43	23	4680	1290.55	119.14	-15.54
362	SLU 39	41	10	4744	1307.63	120.79	-14.57
362	SLU 40	43	23	4790	1319.3	121.96	-15.55
362	SLU 41	41	11	4784	1319.08	121.8	-14.64
362	SLU 42	43	23	4830	1330.75	122.97	-15.62
362	SLU 43	45	15	4517	1250.72	115.25	-16.03
362	SLU 44	48	35	4595	1270.17	117.2	-17.67
362	SLU 45	46	15	4583	1269.18	116.9	-16.24
362	SLU 46	47	27	4629	1280.85	118.07	-17.22
362	SLU 47	48	36	4635	1281.62	118.22	-17.73
362	SLU 48	46	15	4623	1280.63	117.91	-16.31
362	SLU 49	48	28	4669	1292.3	119.08	-17.29
362	SLU 50	45	16	4598	1273.62	117.27	-16.17
362	SLU 51	47	28	4644	1285.29	118.45	-17.15
362	SLU 52	49	36	5040	1390.69	128.5	-18
362	SLU 53	46	16	5028	1389.69	128.19	-16.57
362	SLU 54	48	28	5074	1401.36	129.36	-17.55
362	SLU 55	49	36	5080	1402.14	129.51	-18.07
362	SLU 56	47	16	5068	1401.14	129.2	-16.64
362	SLU 57	49	28	5115	1412.81	130.37	-17.62
362	SLU 58	46	16	5043	1394.13	128.57	-16.51
362	SLU 59	48	29	5090	1405.81	129.74	-17.49
362	SLU 60	46	16	5153	1422.88	131.38	-16.51
362	SLU 61	48	28	5200	1434.56	132.55	-17.49
362	SLU 62	46	16	5194	1434.33	132.39	-16.58
362	SLU 63	48	28	5240	1446.01	133.56	-17.56
362	SLU 64	49	13	5018	1387.91	127.91	-17.42
362	SLU 65	52	34	5095	1407.36	129.87	-19.05
362	SLU 66	50	13	5083	1406.37	129.56	-17.63
362	SLU 67	52	26	5130	1418.04	130.73	-18.61
362	SLU 68	52	34	5136	1418.81	130.88	-19.12
362	SLU 69	50	14	5124	1417.82	130.57	-17.69
362	SLU 70	52	26	5170	1429.49	131.74	-18.67
362	SLU 71	49	14	5098	1410.81	129.94	-17.56
362	SLU 72	51	26	5145	1422.48	131.11	-18.54
362	SLU 73	53	34	5541	1527.88	141.16	-19.39
362	SLU 74	51	14	5529	1526.88	140.85	-17.96
362	SLU 75	52	26	5575	1538.56	142.02	-18.94
362	SLU 76	53	35	5581	1539.33	142.17	-19.46
362	SLU 77	51	14	5569	1538.33	141.86	-18.03
362	SLU 78	53	27	5615	1550.01	143.03	-19.01
362	SLU 79	50	15	5544	1531.33	141.23	-17.9
362	SLU 80	52	27	5590	1543	142.4	-18.88
362	SLU 81	50	14	5654	1560.08	144.04	-17.9
362	SLU 82	52	26	5700	1571.75	145.21	-18.88
362	SLU 83	51	15	5694	1571.53	145.05	-17.97
362	SLU 84	52	27	5741	1583.2	146.23	-18.95
362	SLE RA 1	37	11	3750	1037.47	95.61	-13.1
362	SLE RA 2	39	24	3801	1050.44	96.91	-14.18
362	SLE RA 3	37	11	3793	1049.78	96.71	-13.23
362	SLE RA 4	38	19	3824	1057.56	97.49	-13.89
362	SLE RA 5	39	24	3828	1058.07	97.59	-14.23
362	SLE RA 6	37	11	3820	1057.41	97.38	-13.28
362	SLE RA 7	39	19	3851	1065.19	98.16	-13.93
362	SLE RA 8	37	11	3804	1052.74	96.96	-13.19
362	SLE RA 9	38	19	3835	1060.52	97.74	-13.84
362	SLE RA 10	40	25	4098	1130.78	104.44	-14.41
362	SLE RA 11	38	11	4090	1130.12	104.24	-13.46
362	SLE RA 12	39	19	4121	1137.9	105.02	-14.11
362	SLE RA 13	40	25	4125	1138.42	105.12	-14.45
362	SLE RA 14	38	11	4117	1137.75	104.91	-13.5
362	SLE RA 15	39	19	4148	1145.53	105.69	-14.16
362	SLE RA 16	38	11	4100	1133.08	104.49	-13.41
362	SLE RA 17	39	20	4131	1140.86	105.27	-14.07
362	SLE RA 18	38	11	4174	1152.25	106.37	-13.42
362	SLE RA 19	39	19	4205	1160.03	107.15	-14.07
362	SLE RA 20	38	11	4201	1159.88	107.04	-13.46
362	SLE RA 21	39	20	4232	1167.66	107.82	-14.12



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
362	SLE FR 1	37	11	3750	1037.47	95.61	-13.1
362	SLE FR 2	37	13	3760	1040.07	95.87	-13.31
362	SLE FR 3	37	11	3761	1040.53	95.88	-13.11
362	SLE FR 4	38	13	3887	1074.5	99.1	-13.41
362	SLE FR 5	37	11	3888	1074.96	99.11	-13.21
362	SLE FR 6	37	11	3962	1094.86	100.99	-13.26
362	SLE QP 1	37	11	3750	1037.47	95.61	-13.1
362	SLE QP 2	37	11	3877	1071.91	98.84	-13.19
362	SLD 1	386	111	3298	893.72	85.15	-137.26
362	SLD 2	447	213	3392	917.18	87.49	-161.29
362	SLD 3	355	-102	2275	643.08	59.21	-121
362	SLD 4	416	1	2370	666.54	61.56	-145.02
362	SLD 5	177	345	5237	1394.35	133.65	-70.75
362	SLD 6	218	413	5299	1409.84	135.2	-86.62
362	SLD 7	75	-364	1829	558.9	47.19	-16.54
362	SLD 8	115	-297	1891	574.39	48.73	-32.4
362	SLD 9	-41	318	5863	1569.42	148.94	6.02
362	SLD 10	-1	385	5925	1584.91	150.49	-9.85
362	SLD 11	-144	-391	2455	733.97	62.48	60.23
362	SLD 12	-103	-324	2517	749.46	64.03	44.37
362	SLD 13	-342	21	5385	1477.27	136.12	118.64
362	SLD 14	-281	123	5479	1500.73	138.46	94.61
362	SLD 15	-373	-192	4362	1226.63	110.18	134.9
362	SLD 16	-312	-90	4456	1250.09	112.53	110.88
362	SLV 1	585	174	3002	801.06	78.22	-207.95
362	SLV 2	680	334	3150	837.81	81.89	-245.59
362	SLV 3	534	-171	1349	395.8	36.28	-181.49
362	SLV 4	630	-11	1497	432.56	39.95	-219.13
362	SLV 5	260	552	6094	1598.43	155.58	-104.72
362	SLV 6	324	660	6194	1623.17	158.05	-130.07
362	SLV 7	92	-596	584	247.58	15.78	-16.53
362	SLV 8	157	-489	684	272.32	18.25	-41.87
362	SLV 9	-83	510	7071	1871.49	179.43	15.49
362	SLV 10	-18	618	7170	1896.23	181.9	-9.86
362	SLV 11	-250	-639	1561	520.64	39.63	103.68
362	SLV 12	-185	-531	1660	545.38	42.1	78.34
362	SLV 13	-556	33	6257	1711.25	157.72	192.75
362	SLV 14	-460	192	6405	1748.01	161.39	155.1
362	SLV 15	-606	-312	4604	1306	115.78	219.21
362	SLV 16	-510	-152	4752	1342.75	119.46	181.56
362	SLV FO 1	639	190	2915	773.97	76.16	-227.42
362	SLV FO 2	745	366	3077	814.4	80.2	-268.83
362	SLV FO 3	584	-189	1097	328.19	30.03	-198.32
362	SLV FO 4	689	-13	1259	368.62	34.07	-239.73
362	SLV FO 5	282	607	6316	1651.08	161.25	-113.87
362	SLV FO 6	353	725	6425	1678.3	163.97	-141.75
362	SLV FO 7	98	-657	255	165.14	7.47	-16.86
362	SLV FO 8	169	-538	364	192.36	10.19	-44.74
362	SLV FO 9	-95	560	7390	1951.45	187.48	18.36
362	SLV FO 10	-24	678	7499	1978.67	190.2	-9.52
362	SLV FO 11	-279	-704	1329	465.51	33.71	115.37
362	SLV FO 12	-208	-585	1438	492.73	36.43	87.49
362	SLV FO 13	-615	35	6495	1775.19	163.61	213.34
362	SLV FO 14	-510	211	6658	1815.62	167.65	171.93
362	SLV FO 15	-671	-344	4677	1329.41	117.48	242.45
362	SLV FO 16	-565	-168	4839	1369.84	121.52	201.04
362	CRTFP Ux+	0	0	0	0	0	0
362	CRTFP Ux-	0	0	0	0	0	0
362	CRTFP Uy+	0	0	0	0	0	0
362	CRTFP Uy-	0	0	0	0	0	0
364	SLU 1	53	18	5609	1260.02	1218.18	-16.68
364	SLU 2	58	49	5733	1285.59	1245.37	-25.13
364	SLU 3	54	19	5710	1283.47	1239.79	-16.94
364	SLU 4	57	37	5785	1298.81	1256.11	-22.01
364	SLU 5	58	50	5795	1300.1	1258.62	-25.33
364	SLU 6	54	19	5773	1297.98	1253.05	-17.15
364	SLU 7	57	38	5847	1313.32	1269.36	-22.21
364	SLU 8	53	20	5734	1289.04	1244.68	-17.09
364	SLU 9	56	38	5808	1304.38	1261	-22.16
364	SLU 10	59	50	6428	1441.13	1395.43	-25.71
364	SLU 11	55	20	6405	1439	1389.86	-17.52
364	SLU 12	58	38	6480	1454.34	1406.17	-22.59
364	SLU 13	60	51	6491	1455.64	1408.68	-25.92
364	SLU 14	55	20	6468	1453.51	1403.11	-17.73
364	SLU 15	58	39	6542	1468.85	1419.42	-22.79
364	SLU 16	55	21	6429	1444.57	1394.75	-17.68
364	SLU 17	58	39	6503	1459.91	1411.06	-22.74
364	SLU 18	55	20	6602	1482.21	1432.55	-17.52
364	SLU 19	58	39	6676	1497.55	1448.87	-22.58
364	SLU 20	55	21	6664	1496.72	1445.81	-17.72
364	SLU 21	58	39	6739	1512.06	1462.12	-22.79
364	SLU 22	59	16	6389	1436.25	1385.92	-17.58
364	SLU 23	64	47	6513	1461.82	1413.11	-26.02
364	SLU 24	60	16	6491	1459.7	1407.54	-17.83
364	SLU 25	63	35	6565	1475.04	1423.85	-22.9
364	SLU 26	64	48	6576	1476.33	1426.37	-26.23
364	SLU 27	60	17	6553	1474.21	1420.79	-18.04
364	SLU 28	63	36	6628	1489.55	1437.11	-23.1
364	SLU 29	59	17	6514	1465.27	1412.43	-17.99



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
364	SLU 30	63	36	6589	1480.61	1428.74	-23.05
364	SLU 31	65	48	7208	1617.36	1563.18	-26.6
364	SLU 32	61	18	7186	1615.23	1557.6	-18.41
364	SLU 33	64	36	7260	1630.57	1573.91	-23.48
364	SLU 34	66	49	7271	1631.87	1576.43	-26.81
364	SLU 35	61	18	7248	1629.74	1570.85	-18.62
364	SLU 36	65	37	7323	1645.08	1587.17	-23.69
364	SLU 37	61	19	7209	1620.8	1562.49	-18.57
364	SLU 38	64	37	7284	1636.14	1578.81	-23.63
364	SLU 39	61	18	7382	1658.44	1600.3	-18.41
364	SLU 40	64	36	7457	1673.78	1616.61	-23.47
364	SLU 41	61	18	7445	1672.95	1613.55	-18.61
364	SLU 42	64	37	7519	1688.29	1629.87	-23.68
364	SLU 43	67	25	7024	1577.6	1526.12	-21.38
364	SLU 44	72	56	7148	1603.18	1553.31	-29.83
364	SLU 45	67	25	7125	1601.05	1547.73	-21.64
364	SLU 46	71	43	7200	1616.4	1564.05	-26.71
364	SLU 47	72	56	7210	1617.69	1566.56	-30.03
364	SLU 48	68	26	7188	1615.56	1560.99	-21.85
364	SLU 49	71	44	7262	1630.91	1577.3	-26.91
364	SLU 50	67	26	7149	1606.62	1552.62	-21.79
364	SLU 51	70	44	7223	1621.97	1568.94	-26.86
364	SLU 52	73	57	7843	1758.71	1703.37	-30.41
364	SLU 53	69	26	7821	1756.58	1697.8	-22.22
364	SLU 54	72	45	7895	1771.93	1714.11	-27.29
364	SLU 55	73	57	7906	1773.22	1716.62	-30.62
364	SLU 56	69	27	7883	1771.09	1711.05	-22.43
364	SLU 57	72	45	7958	1786.44	1727.36	-27.49
364	SLU 58	69	27	7844	1762.15	1702.69	-22.38
364	SLU 59	72	46	7918	1777.5	1719	-27.44
364	SLU 60	69	26	8017	1799.79	1740.49	-22.22
364	SLU 61	72	45	8091	1815.14	1756.81	-27.28
364	SLU 62	69	27	8079	1814.3	1753.75	-22.42
364	SLU 63	72	45	8154	1829.65	1770.06	-27.49
364	SLU 64	73	23	7804	1753.83	1693.86	-22.28
364	SLU 65	78	53	7928	1779.41	1721.05	-30.72
364	SLU 66	74	23	7906	1777.28	1715.48	-22.53
364	SLU 67	77	41	7980	1792.63	1731.79	-27.6
364	SLU 68	78	54	7991	1793.92	1734.31	-30.93
364	SLU 69	74	23	7968	1791.79	1728.73	-22.74
364	SLU 70	77	42	8043	1807.14	1745.05	-27.8
364	SLU 71	73	24	7929	1782.85	1720.37	-22.69
364	SLU 72	76	42	8004	1798.2	1736.68	-27.75
364	SLU 73	79	54	8624	1934.94	1871.12	-31.3
364	SLU 74	75	24	8601	1932.81	1865.54	-23.11
364	SLU 75	78	42	8675	1948.16	1881.86	-28.18
364	SLU 76	79	55	8686	1949.45	1884.37	-31.51
364	SLU 77	75	24	8663	1947.32	1878.79	-23.32
364	SLU 78	78	43	8738	1962.67	1895.11	-28.39
364	SLU 79	75	25	8624	1938.38	1870.43	-23.27
364	SLU 80	78	43	8699	1953.73	1886.75	-28.33
364	SLU 81	75	24	8797	1976.02	1908.24	-23.11
364	SLU 82	78	43	8872	1991.37	1924.55	-28.17
364	SLU 83	75	25	8860	1990.53	1921.49	-23.31
364	SLU 84	78	43	8934	2005.88	1937.81	-28.38
364	SLE RA 1	55	18	5832	1310.37	1266.1	-16.94
364	SLE RA 2	58	38	5914	1327.42	1284.23	-22.57
364	SLE RA 3	55	18	5899	1326	1280.51	-17.11
364	SLE RA 4	57	30	5949	1336.23	1291.39	-20.49
364	SLE RA 5	58	39	5956	1337.09	1293.07	-22.71
364	SLE RA 6	55	18	5941	1335.68	1289.35	-17.25
364	SLE RA 7	57	31	5991	1345.91	1300.23	-20.62
364	SLE RA 8	55	19	5915	1329.72	1283.78	-17.21
364	SLE RA 9	57	31	5965	1339.95	1294.65	-20.59
364	SLE RA 10	59	39	6378	1431.11	1384.27	-22.96
364	SLE RA 11	56	19	6363	1429.69	1380.56	-17.5
364	SLE RA 12	58	31	6413	1439.92	1391.43	-20.88
364	SLE RA 13	59	40	6420	1440.78	1393.11	-23.09
364	SLE RA 14	56	19	6404	1439.36	1389.39	-17.63
364	SLE RA 15	58	31	6454	1449.59	1400.27	-21.01
364	SLE RA 16	56	19	6378	1433.41	1383.82	-17.6
364	SLE RA 17	58	32	6428	1443.63	1394.69	-20.98
364	SLE RA 18	56	19	6494	1458.5	1409.02	-17.49
364	SLE RA 19	58	31	6543	1468.73	1419.9	-20.87
364	SLE RA 20	56	19	6535	1468.17	1417.86	-17.63
364	SLE RA 21	58	32	6585	1478.4	1428.73	-21.01
364	SLE FR 1	55	18	5832	1310.37	1266.1	-16.94
364	SLE FR 2	55	22	5848	1313.78	1269.73	-18.07
364	SLE FR 3	55	18	5848	1314.24	1269.64	-16.99
364	SLE FR 4	56	22	6047	1358.22	1312.61	-18.23
364	SLE FR 5	55	18	6047	1358.68	1312.51	-17.16
364	SLE FR 6	55	18	6163	1384.43	1337.56	-17.22
364	SLE QP 1	55	18	5832	1310.37	1266.1	-16.94
364	SLE QP 2	55	18	6030	1354.81	1308.98	-17.11
364	SLD 1	566	169	5115	1133.48	1125.7	-167.33
364	SLD 2	658	324	5268	1164.73	1158.84	-225.37
364	SLD 3	517	-148	3477	798.46	764.84	-81.33
364	SLD 4	609	6	3630	829.71	797.98	-139.38
364	SLD 5	266	517	8212	1790.89	1795.33	-182.14



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
364	SLD 6	326	619	8313	1811.52	1817.21	-220.47
364	SLD 7	103	-541	2753	674.17	592.46	104.51
364	SLD 8	164	-439	2854	694.81	614.35	66.18
364	SLD 9	-54	476	9207	2014.81	2003.61	-100.39
364	SLD 10	7	578	9308	2035.45	2025.49	-138.72
364	SLD 11	-216	-583	3747	898.1	800.75	186.26
364	SLD 12	-156	-481	3848	918.73	822.63	147.93
364	SLD 13	-499	30	8431	1879.91	1819.98	105.17
364	SLD 14	-407	185	8583	1911.15	1853.12	47.12
364	SLD 15	-548	-287	6793	1544.89	1459.12	191.16
364	SLD 16	-456	-133	6945	1576.14	1492.26	133.11
364	SLV 1	856	263	4649	1019.05	1033.29	-254.59
364	SLV 2	1001	505	4888	1068	1085.21	-345.54
364	SLV 3	777	-252	2001	477.37	449.84	-115.2
364	SLV 4	921	-10	2240	526.33	501.76	-206.15
364	SLV 5	389	827	9588	2066.48	2101.48	-282.79
364	SLV 6	486	990	9749	2099.44	2136.44	-344.02
364	SLV 7	124	-888	760	260.9	156.65	181.85
364	SLV 8	221	-725	921	293.87	191.61	120.62
364	SLV 9	-111	762	11139	2415.75	2426.35	-154.83
364	SLV 10	-14	924	11300	2448.72	2461.31	-216.06
364	SLV 11	-376	-953	2312	610.18	481.52	309.81
364	SLV 12	-279	-790	2473	643.14	516.48	248.58
364	SLV 13	-811	46	9820	2183.29	2116.2	171.94
364	SLV 14	-667	288	10059	2232.25	2168.12	80.99
364	SLV 15	-891	-469	7172	1641.61	1532.75	311.33
364	SLV 16	-746	-227	7411	1690.57	1584.67	220.38
364	SLV FO 1	936	287	4511	985.47	1005.72	-278.34
364	SLV FO 2	1095	554	4774	1039.32	1062.83	-378.38
364	SLV FO 3	849	-279	1598	389.63	363.93	-125.01
364	SLV FO 4	1008	-12	1861	443.48	421.04	-225.05
364	SLV FO 5	422	908	9944	2137.65	2180.73	-309.35
364	SLV FO 6	529	1087	10121	2173.91	2219.18	-376.71
364	SLV FO 7	131	-979	233	151.51	41.42	201.74
364	SLV FO 8	238	-800	411	187.77	79.87	134.39
364	SLV FO 9	-128	836	11650	2521.85	2538.09	-168.6
364	SLV FO 10	-21	1015	11827	2558.11	2576.54	-235.96
364	SLV FO 11	-419	-1051	1940	535.71	398.78	342.5
364	SLV FO 12	-313	-871	2117	571.97	437.23	275.14
364	SLV FO 13	-898	49	10199	2266.14	2196.92	190.84
364	SLV FO 14	-739	315	10462	2319.99	2254.03	90.8
364	SLV FO 15	-985	-517	7286	1670.3	1555.13	344.17
364	SLV FO 16	-827	-251	7549	1724.15	1612.24	244.13
364	CRTFP Ux+	0	0	0	0	0	0
364	CRTFP Ux-	0	0	0	0	0	0
364	CRTFP Uy+	0	0	0	-0.01	-0.01	0
364	CRTFP Uy-	0	0	0	0.01	0.01	0
366	SLU 1	30	-132	6254	579.21	1497.57	28.29
366	SLU 2	33	-101	6378	587.92	1528.6	20.65
366	SLU 3	30	-134	6362	589.71	1523.02	28.89
366	SLU 4	32	-116	6436	594.93	1541.64	24.31
366	SLU 5	32	-102	6445	594.48	1544.37	21.04
366	SLU 6	30	-136	6428	596.28	1538.79	29.28
366	SLU 7	31	-117	6503	601.5	1557.4	24.7
366	SLU 8	30	-135	6387	592.35	1529.1	29.07
366	SLU 9	31	-116	6462	597.57	1547.72	24.48
366	SLU 10	33	-115	7231	667.3	1733.67	24.03
366	SLU 11	30	-148	7214	669.09	1728.09	32.27
366	SLU 12	32	-130	7288	674.32	1746.71	27.69
366	SLU 13	32	-116	7297	673.87	1749.44	24.42
366	SLU 14	30	-150	7280	675.66	1743.86	32.66
366	SLU 15	31	-131	7355	680.88	1762.47	28.08
366	SLU 16	30	-149	7239	671.73	1734.17	32.45
366	SLU 17	31	-130	7314	676.96	1752.79	27.86
366	SLU 18	31	-152	7472	692.62	1790.53	33.12
366	SLU 19	32	-133	7546	697.84	1809.15	28.53
366	SLU 20	30	-153	7538	699.19	1806.3	33.51
366	SLU 21	32	-135	7613	704.41	1824.91	28.92
366	SLU 22	34	-148	7105	659.52	1700.37	31.87
366	SLU 23	36	-117	7229	668.23	1731.39	24.24
366	SLU 24	34	-151	7212	670.02	1725.81	32.48
366	SLU 25	35	-132	7286	675.24	1744.43	27.9
366	SLU 26	36	-119	7295	674.79	1747.16	24.63
366	SLU 27	33	-152	7278	676.59	1741.58	32.87
366	SLU 28	35	-134	7353	681.81	1760.19	28.29
366	SLU 29	33	-151	7238	672.66	1731.89	32.65
366	SLU 30	35	-133	7312	677.88	1750.51	28.07
366	SLU 31	36	-131	8081	747.61	1936.47	27.62
366	SLU 32	34	-165	8064	749.41	1930.89	35.86
366	SLU 33	35	-146	8138	754.63	1949.5	31.28
366	SLU 34	36	-133	8147	754.18	1952.23	28.01
366	SLU 35	34	-166	8130	755.97	1946.65	36.25
366	SLU 36	35	-148	8205	761.2	1965.27	31.67
366	SLU 37	33	-165	8090	752.05	1936.96	36.04
366	SLU 38	35	-147	8164	757.27	1955.58	31.45
366	SLU 39	34	-168	8322	772.93	1993.33	36.7
366	SLU 40	36	-150	8396	778.15	2011.94	32.12
366	SLU 41	34	-170	8388	779.5	2009.09	37.09
366	SLU 42	35	-151	8463	784.72	2027.71	32.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
366	SLU 43	38	-165	7839	725.44	1877.32	35.54
366	SLU 44	41	-135	7963	734.14	1908.35	27.9
366	SLU 45	38	-168	7946	735.94	1902.77	36.15
366	SLU 46	39	-149	8021	741.16	1921.38	31.57
366	SLU 47	40	-136	8030	740.71	1924.11	28.29
366	SLU 48	38	-169	8013	742.5	1918.53	36.54
366	SLU 49	39	-151	8087	747.73	1937.15	31.96
366	SLU 50	37	-168	7972	738.58	1908.84	36.32
366	SLU 51	39	-150	8047	743.8	1927.46	31.74
366	SLU 52	41	-149	8815	813.53	2113.42	31.28
366	SLU 53	38	-182	8798	815.32	2107.84	39.53
366	SLU 54	40	-163	8873	820.54	2126.46	34.95
366	SLU 55	40	-150	8882	820.1	2129.18	31.67
366	SLU 56	38	-183	8865	821.89	2123.6	39.92
366	SLU 57	39	-165	8939	827.11	2142.22	35.34
366	SLU 58	38	-182	8824	817.96	2113.92	39.7
366	SLU 59	39	-164	8899	823.18	2132.53	35.12
366	SLU 60	38	-185	9056	838.85	2170.28	40.37
366	SLU 61	40	-167	9131	844.07	2188.89	35.79
366	SLU 62	38	-187	9123	845.42	2186.04	40.76
366	SLU 63	39	-168	9197	850.64	2204.66	36.18
366	SLU 64	42	-182	8689	805.75	2080.11	39.13
366	SLU 65	44	-151	8814	814.45	2111.14	31.49
366	SLU 66	42	-184	8797	816.25	2105.56	39.74
366	SLU 67	43	-166	8871	821.47	2124.18	35.15
366	SLU 68	44	-152	8880	821.02	2126.9	31.88
366	SLU 69	41	-186	8863	822.81	2121.32	40.13
366	SLU 70	43	-167	8938	828.04	2139.94	35.54
366	SLU 71	41	-185	8822	818.89	2111.64	39.91
366	SLU 72	42	-166	8897	824.11	2130.25	35.33
366	SLU 73	44	-165	9666	893.84	2316.21	34.87
366	SLU 74	42	-198	9649	895.63	2310.63	43.12
366	SLU 75	43	-180	9723	900.86	2329.25	38.54
366	SLU 76	44	-167	9732	900.41	2331.97	35.26
366	SLU 77	41	-200	9715	902.2	2326.39	43.51
366	SLU 78	43	-181	9790	907.42	2345.01	38.93
366	SLU 79	41	-199	9674	898.27	2316.71	43.29
366	SLU 80	43	-180	9749	903.5	2335.32	38.71
366	SLU 81	42	-202	9907	919.16	2373.07	43.96
366	SLU 82	43	-183	9981	924.38	2391.69	39.38
366	SLU 83	42	-203	9973	925.73	2388.83	44.35
366	SLU 84	43	-185	10048	930.95	2407.45	39.77
366	SLE RA 1	31	-136	6497	602.16	1555.51	29.31
366	SLE RA 2	33	-116	6580	607.96	1576.2	24.22
366	SLE RA 3	31	-138	6569	609.16	1572.48	29.72
366	SLE RA 4	32	-126	6618	612.64	1584.89	26.66
366	SLE RA 5	33	-117	6624	612.34	1586.71	24.48
366	SLE RA 6	31	-139	6613	613.53	1582.99	29.98
366	SLE RA 7	32	-127	6663	617.01	1595.4	26.92
366	SLE RA 8	31	-138	6586	610.92	1576.53	29.83
366	SLE RA 9	32	-126	6636	614.4	1588.94	26.78
366	SLE RA 10	33	-125	7148	660.88	1712.91	26.47
366	SLE RA 11	31	-147	7137	662.08	1709.19	31.97
366	SLE RA 12	32	-135	7186	665.56	1721.61	28.91
366	SLE RA 13	33	-126	7192	665.26	1723.42	26.73
366	SLE RA 14	31	-148	7181	666.46	1719.7	32.23
366	SLE RA 15	32	-136	7231	669.94	1732.11	29.17
366	SLE RA 16	31	-148	7154	663.84	1713.25	32.09
366	SLE RA 17	32	-135	7204	667.32	1725.66	29.03
366	SLE RA 18	31	-150	7309	677.76	1750.82	32.53
366	SLE RA 19	32	-137	7358	681.25	1763.23	29.48
366	SLE RA 20	31	-151	7353	682.14	1761.33	32.79
366	SLE RA 21	32	-138	7403	685.62	1773.74	29.74
366	SLE FR 1	31	-136	6497	602.16	1555.51	29.31
366	SLE FR 2	32	-132	6514	603.32	1559.65	28.29
366	SLE FR 3	31	-137	6515	603.91	1559.72	29.42
366	SLE FR 4	32	-136	6757	626	1618.24	29.26
366	SLE FR 5	31	-141	6758	626.59	1618.31	30.38
366	SLE FR 6	31	-143	6903	639.96	1653.17	30.92
366	SLE QP 1	31	-136	6497	602.16	1555.51	29.31
366	SLE QP 2	31	-140	6741	624.84	1614.11	30.28
366	SLD 1	637	63	7477	680.26	1816.43	-77
366	SLD 2	745	71	7498	682.08	1819.67	-88.66
366	SLD 3	606	-296	5934	572.22	1431.9	12.22
366	SLD 4	713	-287	5955	574.04	1435.14	0.56
366	SLD 5	241	463	9298	805.01	2257.43	-135.12
366	SLD 6	312	469	9312	806.21	2259.57	-142.82
366	SLD 7	137	-732	4155	444.86	975.65	162.27
366	SLD 8	208	-726	4168	446.06	977.79	154.57
366	SLD 9	-145	446	9313	803.62	2250.42	-94.02
366	SLD 10	-74	452	9327	804.82	2252.56	-101.72
366	SLD 11	-250	-749	4169	443.47	968.64	203.37
366	SLD 12	-179	-743	4183	444.67	970.78	195.67
366	SLD 13	-651	7	7526	675.64	1793.07	59.99
366	SLD 14	-543	15	7547	677.47	1796.31	48.34
366	SLD 15	-682	-352	5983	567.6	1408.54	149.21
366	SLD 16	-575	-343	6004	569.42	1411.78	137.55
366	SLV 1	981	7933	714.47	1940.74	-139.86	
366	SLV 2	1149	200	7965	717.33	1945.82	-158.12



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
366	SLV 3	929	-393	5438	539.78	1319.08	4.39
366	SLV 4	1098	-379	5471	542.63	1324.16	-13.87
366	SLV 5	363	834	10876	916.15	2654.01	-236.13
366	SLV 6	477	843	10898	918.08	2657.43	-248.43
366	SLV 7	191	-1097	2560	333.83	581.79	244.7
366	SLV 8	304	-1088	2582	335.75	585.21	232.4
366	SLV 9	-241	808	10899	913.93	2643	-171.85
366	SLV 10	-128	817	10921	915.85	2646.42	-184.14
366	SLV 11	-414	-1124	2584	331.6	570.78	308.98
366	SLV 12	-301	-1115	2606	333.53	574.2	296.69
366	SLV 13	-1035	98	8011	707.05	1904.05	74.43
366	SLV 14	-867	112	8043	709.9	1909.13	56.16
366	SLV 15	-1087	-481	5516	532.35	1282.39	218.68
366	SLV 16	-919	-467	5549	535.21	1287.47	200.41
366	SLV FO 1	1076	219	8052	723.44	1973.41	-156.87
366	SLV FO 2	1261	235	8088	726.58	1979	-176.96
366	SLV FO 3	1019	-418	5308	531.27	1289.58	1.8
366	SLV FO 4	1204	-403	5344	534.41	1295.16	-18.29
366	SLV FO 5	397	932	11289	945.29	2758	-262.77
366	SLV FO 6	521	942	11313	947.4	2761.76	-276.3
366	SLV FO 7	207	-1193	2142	304.73	478.56	266.14
366	SLV FO 8	331	-1183	2166	306.84	482.32	252.61
366	SLV FO 9	-269	902	11315	942.84	2745.89	-192.06
366	SLV FO 10	-144	913	11339	944.95	2749.65	-205.58
366	SLV FO 11	-458	-1222	2168	302.28	466.45	336.85
366	SLV FO 12	-334	-1212	2192	304.39	470.21	323.33
366	SLV FO 13	-1142	122	8138	715.27	1933.05	78.84
366	SLV FO 14	-957	137	8174	718.41	1938.64	58.75
366	SLV FO 15	-1199	-515	5394	523.1	1249.22	237.52
366	SLV FO 16	-1014	-500	5429	526.24	1254.8	217.43
366	CRTFP Ux+	0	0	0	0	0	0
366	CRTFP Ux-	0	0	0	0	0	0
366	CRTFP Uy+	0	0	0	0	-0.01	0
366	CRTFP Uy-	0	0	0	0	0.01	0
367	SLU 1	21	-89	4017	1219.59	2.01	-6.86
367	SLU 2	23	-69	4089	1237.49	2.07	-7.47
367	SLU 3	21	-91	4087	1241.6	2.04	-6.85
367	SLU 4	23	-79	4130	1252.35	2.08	-7.21
367	SLU 5	23	-70	4133	1251.28	2.09	-7.4
367	SLU 6	21	-92	4130	1255.39	2.07	-6.78
367	SLU 7	22	-80	4174	1266.13	2.1	-7.14
367	SLU 8	21	-91	4104	1247.16	2.05	-6.72
367	SLU 9	22	-79	4147	1257.9	2.09	-7.09
367	SLU 10	23	-78	4629	1402.24	2.45	-7.47
367	SLU 11	21	-99	4626	1406.34	2.43	-6.85
367	SLU 12	23	-87	4670	1417.09	2.47	-7.21
367	SLU 13	23	-79	4672	1416.02	2.48	-7.4
367	SLU 14	21	-100	4670	1420.13	2.46	-6.78
367	SLU 15	22	-88	4713	1430.87	2.49	-7.14
367	SLU 16	21	-100	4644	1411.9	2.44	-6.72
367	SLU 17	22	-88	4687	1422.64	2.48	-7.09
367	SLU 18	22	-102	4788	1454.93	2.56	-6.87
367	SLU 19	23	-90	4831	1465.68	2.6	-7.23
367	SLU 20	21	-103	4831	1468.72	2.59	-6.8
367	SLU 21	22	-91	4874	1479.46	2.62	-7.16
367	SLU 22	24	-100	4566	1388.59	2.28	-7.65
367	SLU 23	26	-80	4638	1406.5	2.34	-8.25
367	SLU 24	24	-101	4636	1410.6	2.32	-7.63
367	SLU 25	25	-89	4679	1421.35	2.35	-8
367	SLU 26	26	-81	4682	1420.28	2.36	-8.18
367	SLU 27	24	-102	4679	1424.39	2.34	-7.56
367	SLU 28	25	-90	4723	1435.13	2.38	-7.93
367	SLU 29	23	-102	4653	1416.16	2.33	-7.51
367	SLU 30	25	-90	4696	1426.9	2.36	-7.87
367	SLU 31	26	-89	5178	1571.24	2.73	-8.26
367	SLU 32	24	-110	5175	1575.35	2.71	-7.64
367	SLU 33	25	-98	5219	1586.09	2.74	-8
367	SLU 34	26	-90	5221	1585.02	2.75	-8.19
367	SLU 35	24	-111	5219	1589.13	2.73	-7.56
367	SLU 36	25	-99	5262	1599.88	2.77	-7.93
367	SLU 37	24	-111	5192	1580.9	2.72	-7.51
367	SLU 38	25	-99	5236	1591.65	2.75	-7.87
367	SLU 39	24	-112	5337	1623.94	2.84	-7.65
367	SLU 40	25	-100	5380	1634.68	2.87	-8.02
367	SLU 41	24	-113	5380	1637.72	2.86	-7.58
367	SLU 42	25	-101	5423	1648.47	2.9	-7.95
367	SLU 43	27	-112	5034	1527.52	2.51	-8.65
367	SLU 44	29	-92	5106	1545.43	2.57	-9.26
367	SLU 45	27	-113	5104	1549.53	2.55	-8.64
367	SLU 46	28	-101	5147	1560.28	2.59	-9
367	SLU 47	29	-93	5150	1559.21	2.6	-9.19
367	SLU 48	27	-114	5147	1563.32	2.58	-8.57
367	SLU 49	28	-102	5191	1574.06	2.61	-8.93
367	SLU 50	27	-114	5121	1555.09	2.56	-8.51
367	SLU 51	28	-102	5164	1565.83	2.6	-8.87
367	SLU 52	29	-101	5646	1710.17	2.96	-9.26
367	SLU 53	27	-122	5643	1714.28	2.94	-8.64
367	SLU 54	28	-110	5687	1725.02	2.98	-9
367	SLU 55	29	-102	5689	1723.95	2.99	-9.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
367	SLU 56	27	-123	5687	1728.06	2.97	-8.57
367	SLU 57	28	-111	5730	1738.81	3	-8.93
367	SLU 58	27	-123	5660	1719.83	2.95	-8.51
367	SLU 59	28	-111	5704	1730.58	2.99	-8.88
367	SLU 60	27	-124	5805	1762.86	3.07	-8.66
367	SLU 61	28	-112	5848	1773.61	3.11	-9.02
367	SLU 62	27	-126	5848	1776.65	3.09	-8.59
367	SLU 63	28	-113	5891	1787.4	3.13	-8.95
367	SLU 64	30	-123	5583	1696.52	2.79	-9.44
367	SLU 65	31	-103	5655	1714.43	2.85	-10.04
367	SLU 66	29	-124	5653	1718.54	2.83	-9.42
367	SLU 67	31	-112	5696	1729.28	2.86	-9.78
367	SLU 68	31	-104	5699	1728.21	2.87	-9.97
367	SLU 69	29	-125	5696	1732.32	2.85	-9.35
367	SLU 70	30	-113	5739	1743.07	2.89	-9.71
367	SLU 71	29	-125	5670	1724.09	2.83	-9.3
367	SLU 72	30	-113	5713	1734.84	2.87	-9.66
367	SLU 73	31	-111	6195	1879.17	3.24	-10.05
367	SLU 74	30	-133	6192	1883.28	3.22	-9.42
367	SLU 75	31	-121	6236	1894.02	3.25	-9.79
367	SLU 76	31	-112	6238	1892.96	3.26	-9.98
367	SLU 77	29	-134	6236	1897.06	3.24	-9.35
367	SLU 78	30	-122	6279	1907.81	3.28	-9.72
367	SLU 79	29	-134	6209	1888.83	3.22	-9.3
367	SLU 80	30	-122	6253	1899.58	3.26	-9.66
367	SLU 81	30	-135	6354	1931.87	3.34	-9.44
367	SLU 82	31	-123	6397	1942.61	3.38	-9.8
367	SLU 83	29	-136	6397	1945.65	3.37	-9.37
367	SLU 84	30	-124	6440	1956.4	3.4	-9.73
367	SLE RA 1	22	-92	4174	1267.87	2.08	-7.09
367	SLE RA 2	23	-79	4222	1279.81	2.12	-7.49
367	SLE RA 3	22	-93	4221	1282.55	2.11	-7.08
367	SLE RA 4	23	-85	4249	1289.71	2.13	-7.32
367	SLE RA 5	23	-79	4251	1289	2.14	-7.44
367	SLE RA 6	22	-94	4249	1291.74	2.13	-7.03
367	SLE RA 7	23	-86	4278	1298.9	2.15	-7.27
367	SLE RA 8	22	-93	4232	1286.25	2.12	-6.99
367	SLE RA 9	23	-85	4261	1293.42	2.14	-7.24
367	SLE RA 10	23	-85	4582	1389.64	2.38	-7.49
367	SLE RA 11	22	-99	4580	1392.38	2.37	-7.08
367	SLE RA 12	23	-91	4609	1399.54	2.39	-7.32
367	SLE RA 13	23	-85	4611	1398.83	2.4	-7.45
367	SLE RA 14	22	-100	4609	1401.57	2.39	-7.03
367	SLE RA 15	23	-92	4638	1408.73	2.41	-7.27
367	SLE RA 16	22	-99	4592	1396.08	2.38	-6.99
367	SLE RA 17	23	-91	4620	1403.24	2.4	-7.24
367	SLE RA 18	22	-100	4688	1424.77	2.45	-7.09
367	SLE RA 19	23	-92	4717	1431.93	2.48	-7.33
367	SLE RA 20	22	-101	4717	1433.96	2.47	-7.04
367	SLE RA 21	23	-93	4746	1441.12	2.49	-7.28
367	SLE FR 1	22	-92	4174	1267.87	2.08	-7.09
367	SLE FR 2	22	-89	4184	1270.26	2.09	-7.17
367	SLE FR 3	22	-92	4186	1271.55	2.09	-7.07
367	SLE FR 4	22	-92	4338	1317.33	2.2	-7.17
367	SLE FR 5	22	-95	4340	1318.62	2.2	-7.07
367	SLE FR 6	22	-96	4431	1346.32	2.27	-7.09
367	SLE QP 1	22	-92	4174	1267.87	2.08	-7.09
367	SLE QP 2	22	-94	4328	1314.94	2.19	-7.09
367	SLD 1	435	50	4705	1411.28	3.24	-139.12
367	SLD 2	506	68	4726	1417.3	3.16	-161.62
367	SLD 3	410	-178	3802	1186.73	2.6	-130.98
367	SLD 4	481	-160	3824	1192.75	2.52	-153.48
367	SLD 5	170	291	5806	1683.32	3.5	-55
367	SLD 6	217	303	5820	1687.3	3.44	-69.85
367	SLD 7	88	-468	2798	934.83	1.36	-27.85
367	SLD 8	135	-456	2812	938.8	1.3	-42.71
367	SLD 9	-91	267	5844	1691.08	3.09	28.53
367	SLD 10	-44	279	5858	1695.05	3.03	13.68
367	SLD 11	-173	-492	2836	942.59	0.94	55.68
367	SLD 12	-126	-480	2851	946.56	0.89	40.82
367	SLD 13	-437	-29	4832	1437.14	1.87	139.31
367	SLD 14	-366	-11	4854	1443.15	1.79	116.81
367	SLD 15	-461	-257	3930	1212.59	1.23	147.45
367	SLD 16	-390	-239	3952	1218.6	1.15	124.95
367	SLV 1	669	137	4941	1471.49	3.85	-214.08
367	SLV 2	780	165	4975	1480.91	3.72	-249.33
367	SLV 3	629	-231	3482	1108.39	2.81	-200.74
367	SLV 4	740	-203	3516	1117.82	2.68	-235.99
367	SLV 5	257	528	6718	1910.84	4.29	-82.84
367	SLV 6	331	547	6741	1917.18	4.2	-106.58
367	SLV 7	122	-699	1855	700.53	0.83	-38.37
367	SLV 8	197	-680	1878	706.87	0.74	-62.1
367	SLV 9	-153	491	6778	1923.01	3.65	47.92
367	SLV 10	-78	510	6801	1929.36	3.56	24.19
367	SLV 11	-287	-736	1915	712.7	0.19	92.4
367	SLV 12	-212	-717	1938	719.05	0.1	68.67
367	SLV 13	-695	14	5140	1512.07	1.71	221.81
367	SLV 14	-584	42	5174	1521.49	1.58	186.56
367	SLV 15	-736	-354	3681	1148.97	0.67	235.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
367	SLV 16	-625	-326	3716	1158.4	0.54	199.91
367	SLV FO 1	734	160	5002	1487.14	4.01	-234.78
367	SLV FO 2	856	191	5039	1497.51	3.87	-273.56
367	SLV FO 3	689	-244	3397	1087.74	2.87	-220.1
367	SLV FO 4	811	-213	3435	1098.1	2.73	-258.88
367	SLV FO 5	280	590	6957	1970.43	4.5	-90.42
367	SLV FO 6	362	611	6983	1977.41	4.4	-116.53
367	SLV FO 7	132	-759	1608	639.09	0.69	-41.49
367	SLV FO 8	215	-738	1633	646.06	0.59	-67.6
367	SLV FO 9	-170	549	7023	1983.82	3.79	53.43
367	SLV FO 10	-88	570	7048	1990.8	3.7	27.32
367	SLV FO 11	-318	-800	1674	652.48	-0.01	102.35
367	SLV FO 12	-236	-779	1699	659.46	-0.11	76.25
367	SLV FO 13	-767	24	5222	1531.78	1.66	244.7
367	SLV FO 14	-645	55	5259	1542.15	1.52	205.93
367	SLV FO 15	-811	-380	3617	1132.38	0.52	259.38
367	SLV FO 16	-689	-349	3654	1142.74	0.38	220.61
367	CRTFP Ux+	0	0	0	0	0	0
367	CRTFP Ux-	0	0	0	0	0	0
367	CRTFP Uy+	0	0	0	0	0	0
367	CRTFP Uy-	0	0	0	0	0	0
368	SLU 1	22	-89	3968	1197.2	1.2	-7.12
368	SLU 2	24	-69	4038	1214.4	1.24	-7.73
368	SLU 3	22	-90	4037	1218.81	1.22	-7.11
368	SLU 4	23	-79	4079	1229.13	1.24	-7.47
368	SLU 5	24	-70	4081	1227.93	1.25	-7.66
368	SLU 6	22	-92	4080	1232.35	1.23	-7.04
368	SLU 7	23	-80	4122	1242.67	1.26	-7.41
368	SLU 8	22	-91	4054	1224.27	1.22	-6.99
368	SLU 9	23	-79	4096	1234.59	1.25	-7.35
368	SLU 10	24	-78	4567	1374.77	1.51	-7.75
368	SLU 11	22	-99	4566	1379.19	1.49	-7.14
368	SLU 12	23	-87	4608	1389.5	1.52	-7.5
368	SLU 13	24	-79	4610	1388.31	1.53	-7.69
368	SLU 14	22	-100	4608	1392.72	1.51	-7.07
368	SLU 15	23	-88	4651	1403.04	1.53	-7.44
368	SLU 16	22	-100	4583	1384.65	1.5	-7.01
368	SLU 17	23	-88	4625	1394.96	1.52	-7.38
368	SLU 18	22	-101	4723	1426.31	1.59	-7.16
368	SLU 19	24	-89	4766	1436.63	1.61	-7.52
368	SLU 20	22	-102	4766	1439.84	1.6	-7.09
368	SLU 21	23	-90	4808	1450.16	1.63	-7.46
368	SLU 22	25	-99	4511	1363.33	1.34	-7.94
368	SLU 23	27	-80	4581	1380.52	1.38	-8.55
368	SLU 24	25	-101	4579	1384.94	1.36	-7.93
368	SLU 25	26	-89	4622	1395.25	1.39	-8.29
368	SLU 26	27	-81	4624	1394.06	1.4	-8.48
368	SLU 27	25	-102	4622	1398.47	1.38	-7.86
368	SLU 28	26	-90	4665	1408.79	1.4	-8.23
368	SLU 29	24	-102	4596	1390.4	1.37	-7.81
368	SLU 30	26	-90	4639	1400.71	1.39	-8.17
368	SLU 31	27	-89	5110	1540.9	1.66	-8.57
368	SLU 32	25	-110	5108	1545.31	1.64	-7.96
368	SLU 33	26	-98	5150	1555.63	1.66	-8.32
368	SLU 34	27	-90	5153	1554.43	1.67	-8.51
368	SLU 35	25	-111	5151	1558.84	1.65	-7.89
368	SLU 36	26	-99	5193	1569.16	1.68	-8.25
368	SLU 37	25	-110	5125	1550.77	1.64	-7.83
368	SLU 38	26	-98	5167	1561.09	1.67	-8.2
368	SLU 39	25	-112	5266	1592.43	1.73	-7.98
368	SLU 40	26	-100	5308	1602.75	1.76	-8.34
368	SLU 41	25	-113	5309	1605.97	1.75	-7.91
368	SLU 42	26	-101	5351	1616.28	1.77	-8.28
368	SLU 43	28	-112	4973	1499.41	1.51	-8.98
368	SLU 44	30	-92	5043	1516.6	1.55	-9.58
368	SLU 45	28	-113	5041	1521.02	1.53	-8.97
368	SLU 46	29	-102	5084	1531.33	1.55	-9.33
368	SLU 47	30	-93	5086	1530.14	1.56	-9.51
368	SLU 48	28	-115	5084	1534.55	1.54	-8.9
368	SLU 49	29	-103	5126	1544.87	1.57	-9.26
368	SLU 50	28	-114	5058	1526.48	1.53	-8.84
368	SLU 51	29	-102	5100	1536.8	1.56	-9.2
368	SLU 52	30	-101	5572	1676.98	1.82	-9.61
368	SLU 53	28	-122	5570	1681.39	1.8	-8.99
368	SLU 54	29	-110	5612	1691.71	1.83	-9.36
368	SLU 55	30	-102	5614	1690.51	1.84	-9.54
368	SLU 56	28	-123	5613	1694.93	1.82	-8.93
368	SLU 57	29	-111	5655	1705.24	1.84	-9.29
368	SLU 58	28	-123	5587	1686.85	1.81	-8.87
368	SLU 59	29	-111	5629	1697.17	1.83	-9.23
368	SLU 60	28	-124	5728	1728.51	1.9	-9.02
368	SLU 61	29	-112	5770	1738.83	1.92	-9.38
368	SLU 62	28	-125	5771	1742.05	1.91	-8.95
368	SLU 63	29	-113	5813	1752.37	1.94	-9.31
368	SLU 64	31	-122	5515	1665.53	1.65	-9.79
368	SLU 65	33	-103	5585	1682.73	1.69	-10.4
368	SLU 66	31	-124	5584	1687.14	1.67	-9.79
368	SLU 67	32	-112	5626	1697.46	1.7	-10.15
368	SLU 68	32	-104	5628	1696.26	1.71	-10.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
368	SLU 69	30	-125	5627	1700.68	1.69	-9.72
368	SLU 70	32	-113	5669	1710.99	1.71	-10.08
368	SLU 71	30	-125	5601	1692.6	1.68	-9.66
368	SLU 72	31	-113	5643	1702.92	1.7	-10.02
368	SLU 73	33	-111	6114	1843.1	1.97	-10.43
368	SLU 74	31	-133	6113	1847.51	1.95	-9.81
368	SLU 75	32	-121	6155	1857.83	1.97	-10.18
368	SLU 76	32	-113	6157	1856.64	1.98	-10.36
368	SLU 77	31	-134	6155	1861.05	1.96	-9.75
368	SLU 78	32	-122	6198	1871.37	1.99	-10.11
368	SLU 79	30	-133	6129	1852.98	1.95	-9.69
368	SLU 80	32	-121	6172	1863.29	1.98	-10.05
368	SLU 81	31	-135	6270	1894.64	2.04	-9.83
368	SLU 82	32	-123	6313	1904.95	2.07	-10.2
368	SLU 83	31	-136	6313	1908.17	2.06	-9.77
368	SLU 84	32	-124	6355	1918.49	2.08	-10.13
368	SLE RA 1	23	-92	4123	1244.67	1.24	-7.35
368	SLE RA 2	24	-79	4170	1256.13	1.26	-7.76
368	SLE RA 3	23	-93	4169	1259.07	1.25	-7.35
368	SLE RA 4	24	-85	4197	1265.95	1.27	-7.59
368	SLE RA 5	24	-79	4199	1265.15	1.27	-7.71
368	SLE RA 6	23	-94	4198	1268.1	1.26	-7.3
368	SLE RA 7	24	-86	4226	1274.98	1.28	-7.55
368	SLE RA 8	23	-93	4180	1262.71	1.26	-7.26
368	SLE RA 9	24	-85	4208	1269.59	1.27	-7.51
368	SLE RA 10	24	-85	4523	1363.05	1.45	-7.78
368	SLE RA 11	23	-99	4521	1365.99	1.44	-7.37
368	SLE RA 12	24	-91	4550	1372.87	1.45	-7.61
368	SLE RA 13	24	-85	4551	1372.07	1.46	-7.73
368	SLE RA 14	23	-99	4550	1375.01	1.45	-7.32
368	SLE RA 15	24	-92	4578	1381.89	1.46	-7.56
368	SLE RA 16	23	-99	4533	1369.63	1.44	-7.28
368	SLE RA 17	24	-91	4561	1376.51	1.46	-7.53
368	SLE RA 18	23	-100	4627	1397.4	1.5	-7.38
368	SLE RA 19	24	-92	4655	1404.28	1.52	-7.62
368	SLE RA 20	23	-101	4655	1406.43	1.51	-7.34
368	SLE RA 21	24	-93	4683	1413.31	1.53	-7.58
368	SLE FR 1	23	-92	4123	1244.67	1.24	-7.35
368	SLE FR 2	23	-89	4133	1246.96	1.24	-7.44
368	SLE FR 3	23	-92	4135	1248.28	1.24	-7.34
368	SLE FR 4	23	-92	4284	1292.78	1.32	-7.44
368	SLE FR 5	23	-95	4286	1294.1	1.32	-7.34
368	SLE FR 6	23	-96	4375	1321.04	1.37	-7.37
368	SLE QP 1	23	-92	4123	1244.67	1.24	-7.35
368	SLE QP 2	23	-94	4274	1290.49	1.32	-7.36
368	SLD 1	437	51	4616	1376.14	2.32	-139.73
368	SLD 2	509	73	4641	1383.06	2.23	-162.3
368	SLD 3	413	-171	3730	1159.1	1.91	-131.56
368	SLD 4	484	-149	3755	1166.02	1.82	-154.12
368	SLD 5	172	283	5716	1644.12	2.24	-55.4
368	SLD 6	219	298	5732	1648.68	2.19	-70.3
368	SLD 7	90	-459	2763	920.65	0.9	-28.16
368	SLD 8	137	-445	2779	925.22	0.84	-43.06
368	SLD 9	-90	256	5769	1655.76	1.79	28.33
368	SLD 10	-43	270	5785	1660.33	1.73	13.44
368	SLD 11	-173	-486	2816	932.29	0.45	55.58
368	SLD 12	-126	-472	2833	936.86	0.39	40.68
368	SLD 13	-438	-39	4794	1414.96	0.81	139.4
368	SLD 14	-366	-17	4818	1421.88	0.72	116.84
368	SLD 15	-463	-262	3908	1197.91	0.4	147.57
368	SLD 16	-391	-240	3932	1204.84	0.32	125.01
368	SLV 1	673	139	4832	1430.17	2.89	-214.88
368	SLV 2	784	174	4871	1441.01	2.75	-250.23
368	SLV 3	632	-221	3400	1079.2	2.23	-201.49
368	SLV 4	744	-186	3439	1090.05	2.1	-236.84
368	SLV 5	259	515	6607	1862.67	2.8	-83.33
368	SLV 6	334	539	6633	1869.97	2.71	-107.13
368	SLV 7	123	-685	1832	692.78	0.63	-38.69
368	SLV 8	199	-662	1858	700.08	0.53	-62.49
368	SLV 9	-152	473	6690	1880.9	2.1	47.77
368	SLV 10	-77	496	6716	1888.2	2	23.97
368	SLV 11	-288	-727	1916	711.01	-0.08	92.4
368	SLV 12	-213	-704	1942	718.31	-0.17	68.61
368	SLV 13	-697	-3	5110	1490.93	0.53	222.11
368	SLV 14	-586	32	5148	1501.77	0.4	186.76
368	SLV 15	-738	-363	3677	1139.96	-0.12	235.5
368	SLV 16	-626	-328	3716	1150.81	-0.26	200.15
368	SLV FO 1	738	163	4888	1444.14	3.04	-235.63
368	SLV FO 2	860	201	4931	1456.07	2.89	-274.51
368	SLV FO 3	693	-233	3312	1058.08	2.33	-220.9
368	SLV FO 4	816	-195	3355	1070	2.17	-259.78
368	SLV FO 5	282	576	6840	1919.89	2.95	-90.93
368	SLV FO 6	365	602	6869	1927.92	2.85	-117.11
368	SLV FO 7	133	-744	1588	633.01	0.56	-41.83
368	SLV FO 8	216	-718	1617	641.04	0.46	-68
368	SLV FO 9	-170	530	6931	1939.94	2.17	53.28
368	SLV FO 10	-87	555	6960	1947.97	2.07	27.1
368	SLV FO 11	-319	-791	1680	653.06	-0.22	102.38
368	SLV FO 12	-236	-765	1708	661.09	-0.32	76.2



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
368	SLV FO 13	-770	7	5193	1510.97	0.46	245.06
368	SLV FO 14	-647	45	5236	1522.9	0.3	206.17
368	SLV FO 15	-814	-389	3618	1124.91	-0.26	259.79
368	SLV FO 16	-691	-352	3660	1136.84	-0.41	220.9
368	CRTFP Ux+	0	0	0	0	0	0
368	CRTFP Ux-	0	0	0	0	0	0
368	CRTFP Uy+	0	0	0	0	0	0
368	CRTFP Uy-	0	0	0	0	0	0
369	SLU 1	23	-89	3951	1187.95	-0.09	-7.4
369	SLU 2	25	-69	4020	1204.74	-0.08	-8.01
369	SLU 3	23	-90	4019	1209.4	-0.09	-7.4
369	SLU 4	24	-79	4061	1219.48	-0.08	-7.76
369	SLU 5	25	-70	4063	1218.18	-0.08	-7.94
369	SLU 6	23	-91	4062	1222.84	-0.09	-7.34
369	SLU 7	24	-80	4104	1232.92	-0.08	-7.7
369	SLU 8	23	-91	4036	1214.83	-0.09	-7.27
369	SLU 9	24	-79	4078	1224.9	-0.08	-7.64
369	SLU 10	25	-78	4543	1362.61	0.01	-8.06
369	SLU 11	23	-99	4542	1367.27	0	-7.45
369	SLU 12	24	-87	4584	1377.35	0	-7.81
369	SLU 13	25	-79	4586	1376.05	0.01	-7.99
369	SLU 14	23	-100	4585	1380.71	0	-7.39
369	SLU 15	24	-88	4626	1390.79	0	-7.75
369	SLU 16	23	-99	4559	1372.7	0	-7.32
369	SLU 17	24	-88	4601	1382.77	0	-7.69
369	SLU 18	23	-101	4698	1413.48	0.03	-7.47
369	SLU 19	25	-89	4739	1423.55	0.04	-7.84
369	SLU 20	23	-102	4740	1426.91	0.03	-7.41
369	SLU 21	24	-90	4782	1436.99	0.04	-7.77
369	SLU 22	26	-99	4492	1353.25	-0.15	-8.26
369	SLU 23	28	-80	4562	1370.04	-0.13	-8.86
369	SLU 24	26	-101	4561	1374.7	-0.15	-8.26
369	SLU 25	27	-89	4602	1384.78	-0.14	-8.62
369	SLU 26	28	-81	4604	1383.48	-0.14	-8.8
369	SLU 27	26	-102	4603	1388.14	-0.15	-8.19
369	SLU 28	27	-90	4645	1398.22	-0.14	-8.55
369	SLU 29	26	-101	4578	1380.13	-0.15	-8.13
369	SLU 30	27	-90	4619	1390.2	-0.14	-8.49
369	SLU 31	28	-88	5084	1527.91	-0.05	-8.91
369	SLU 32	26	-109	5083	1532.57	-0.06	-8.31
369	SLU 33	27	-98	5125	1542.65	-0.05	-8.67
369	SLU 34	28	-89	5127	1541.35	-0.05	-8.85
369	SLU 35	26	-110	5126	1546.01	-0.06	-8.24
369	SLU 36	27	-99	5168	1556.09	-0.06	-8.61
369	SLU 37	26	-110	5100	1538	-0.06	-8.18
369	SLU 38	27	-98	5142	1548.07	-0.05	-8.54
369	SLU 39	26	-111	5239	1578.78	-0.02	-8.33
369	SLU 40	27	-100	5281	1588.85	-0.02	-8.69
369	SLU 41	26	-112	5282	1592.22	-0.02	-8.27
369	SLU 42	27	-101	5323	1602.29	-0.02	-8.63
369	SLU 43	29	-112	4951	1487.66	-0.09	-9.33
369	SLU 44	31	-92	5020	1504.45	-0.08	-9.93
369	SLU 45	29	-113	5019	1509.11	-0.1	-9.33
369	SLU 46	30	-102	5061	1519.19	-0.09	-9.69
369	SLU 47	31	-93	5063	1517.89	-0.08	-9.87
369	SLU 48	29	-114	5062	1522.55	-0.1	-9.26
369	SLU 49	30	-103	5103	1532.63	-0.09	-9.63
369	SLU 50	29	-114	5036	1514.54	-0.1	-9.2
369	SLU 51	30	-102	5078	1524.61	-0.09	-9.56
369	SLU 52	31	-101	5543	1662.32	0	-9.98
369	SLU 53	29	-122	5542	1666.98	-0.01	-9.38
369	SLU 54	31	-110	5583	1677.06	0	-9.74
369	SLU 55	31	-102	5585	1675.76	0	-9.92
369	SLU 56	29	-123	5584	1680.42	-0.01	-9.31
369	SLU 57	30	-111	5626	1690.49	0	-9.68
369	SLU 58	29	-122	5559	1672.4	-0.01	-9.25
369	SLU 59	30	-111	5600	1682.48	0	-9.61
369	SLU 60	29	-124	5697	1713.18	0.03	-9.4
369	SLU 61	31	-112	5739	1723.26	0.04	-9.76
369	SLU 62	29	-125	5740	1726.62	0.03	-9.34
369	SLU 63	30	-113	5782	1736.7	0.03	-9.7
369	SLU 64	32	-122	5492	1652.96	-0.15	-10.18
369	SLU 65	34	-103	5561	1669.75	-0.14	-10.79
369	SLU 66	32	-124	5560	1674.41	-0.15	-10.18
369	SLU 67	33	-112	5602	1684.49	-0.15	-10.55
369	SLU 68	34	-104	5604	1683.19	-0.14	-10.73
369	SLU 69	32	-125	5603	1687.85	-0.16	-10.12
369	SLU 70	33	-113	5645	1697.93	-0.15	-10.48
369	SLU 71	32	-124	5577	1679.84	-0.15	-10.06
369	SLU 72	33	-113	5619	1689.91	-0.15	-10.42
369	SLU 73	34	-111	6084	1827.62	-0.05	-10.84
369	SLU 74	32	-132	6083	1832.28	-0.07	-10.23
369	SLU 75	33	-121	6125	1842.36	-0.06	-10.6
369	SLU 76	34	-112	6127	1841.06	-0.06	-10.78
369	SLU 77	32	-133	6126	1845.72	-0.07	-10.17
369	SLU 78	33	-122	6167	1855.8	-0.06	-10.53
369	SLU 79	32	-133	6100	1837.71	-0.07	-10.11
369	SLU 80	33	-121	6142	1847.78	-0.06	-10.47
369	SLU 81	32	-134	6239	1878.49	-0.03	-10.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
369	SLU 82	33	-123	6280	1888.56	-0.02	-10.62
369	SLU 83	32	-135	6281	1891.93	-0.03	-10.19
369	SLU 84	33	-124	6323	1902	-0.02	-10.56
369	SLE RA 1	24	-92	4106	1235.18	-0.1	-7.65
369	SLE RA 2	25	-79	4152	1246.37	-0.1	-8.05
369	SLE RA 3	24	-93	4151	1249.48	-0.11	-7.64
369	SLE RA 4	25	-85	4179	1256.2	-0.1	-7.89
369	SLE RA 5	25	-79	4180	1255.33	-0.1	-8.01
369	SLE RA 6	24	-93	4180	1258.44	-0.11	-7.6
369	SLE RA 7	25	-86	4207	1265.16	-0.1	-7.84
369	SLE RA 8	24	-93	4162	1253.1	-0.11	-7.56
369	SLE RA 9	24	-85	4190	1259.81	-0.1	-7.8
369	SLE RA 10	25	-84	4500	1351.62	-0.04	-8.08
369	SLE RA 11	24	-99	4500	1354.73	-0.05	-7.68
369	SLE RA 12	25	-91	4528	1361.44	-0.04	-7.92
369	SLE RA 13	25	-85	4529	1360.58	-0.04	-8.04
369	SLE RA 14	24	-99	4528	1363.68	-0.05	-7.64
369	SLE RA 15	25	-91	4556	1370.4	-0.04	-7.88
369	SLE RA 16	24	-99	4511	1358.34	-0.05	-7.59
369	SLE RA 17	25	-91	4539	1365.06	-0.04	-7.84
369	SLE RA 18	24	-100	4603	1385.53	-0.02	-7.69
369	SLE RA 19	25	-92	4631	1392.25	-0.02	-7.94
369	SLE RA 20	24	-101	4632	1394.49	-0.02	-7.65
369	SLE RA 21	25	-93	4660	1401.2	-0.02	-7.89
369	SLE FR 1	24	-92	4106	1235.18	-0.1	-7.65
369	SLE FR 2	24	-89	4115	1237.42	-0.1	-7.73
369	SLE FR 3	24	-92	4117	1238.76	-0.1	-7.63
369	SLE FR 4	24	-92	4264	1282.52	-0.08	-7.74
369	SLE FR 5	24	-94	4266	1283.87	-0.08	-7.64
369	SLE FR 6	24	-96	4355	1310.35	-0.06	-7.67
369	SLE QP 1	24	-92	4106	1235.18	-0.1	-7.65
369	SLE QP 2	24	-94	4255	1280.28	-0.08	-7.66
369	SLD 1	440	53	4563	1356.09	0.81	-140.34
369	SLD 2	511	78	4591	1364.04	0.71	-162.95
369	SLD 3	415	-165	3684	1142.52	0.85	-132.13
369	SLD 4	486	-139	3712	1150.47	0.75	-154.75
369	SLD 5	174	275	5676	1625.52	0.15	-55.84
369	SLD 6	221	292	5694	1630.77	0.09	-70.77
369	SLD 7	91	-450	2745	913.6	0.27	-28.48
369	SLD 8	138	-433	2764	918.85	0.21	-43.41
369	SLD 9	-90	245	5746	1641.72	-0.37	28.09
369	SLD 10	-42	262	5765	1646.97	-0.43	13.16
369	SLD 11	-173	-481	2816	929.8	-0.25	55.45
369	SLD 12	-126	-464	2834	935.05	-0.31	40.52
369	SLD 13	-438	-49	4798	1410.1	-0.91	139.43
369	SLD 14	-367	-23	4826	1418.05	-1.01	116.81
369	SLD 15	-463	-267	3918	1196.52	-0.87	147.63
369	SLD 16	-391	-241	3947	1204.47	-0.97	125.02
369	SLV 1	675	141	4761	1404.52	1.31	-215.66
369	SLV 2	787	181	4805	1416.98	1.16	-251.09
369	SLV 3	634	-211	3340	1059.14	1.37	-202.21
369	SLV 4	746	-171	3383	1071.6	1.22	-237.64
369	SLV 5	261	503	6554	1839.05	0.28	-83.84
369	SLV 6	336	530	6584	1847.44	0.17	-107.7
369	SLV 7	124	-671	1816	687.79	0.47	-39.02
369	SLV 8	200	-643	1846	696.18	0.37	-62.87
369	SLV 9	-152	455	6664	1864.38	-0.53	47.55
369	SLV 10	-76	482	6694	1872.77	-0.63	23.7
369	SLV 11	-288	-718	1926	713.13	-0.33	92.38
369	SLV 12	-212	-691	1956	721.51	-0.44	68.52
369	SLV 13	-698	-18	5127	1488.96	-1.38	222.32
369	SLV 14	-586	23	5170	1501.42	-1.53	186.89
369	SLV 15	-739	-370	3705	1143.58	-1.32	235.77
369	SLV 16	-627	-329	3749	1156.04	-1.47	200.34
369	SLV FO 1	740	164	4812	1416.95	1.45	-236.46
369	SLV FO 2	864	209	4860	1430.65	1.28	-275.43
369	SLV FO 3	696	-223	3248	1037.03	1.52	-221.67
369	SLV FO 4	819	-178	3296	1050.74	1.35	-260.64
369	SLV FO 5	284	562	6784	1894.93	0.31	-91.46
369	SLV FO 6	367	592	6817	1904.15	0.2	-117.7
369	SLV FO 7	134	-728	1572	628.55	0.53	-42.15
369	SLV FO 8	217	-698	1605	637.77	0.42	-68.4
369	SLV FO 9	-169	510	6905	1922.79	-0.58	53.07
369	SLV FO 10	-86	540	6938	1932.02	-0.69	26.83
369	SLV FO 11	-319	-781	1693	656.41	-0.36	102.38
369	SLV FO 12	-236	-751	1726	665.64	-0.47	76.14
369	SLV FO 13	-771	-10	5214	1509.83	-1.51	245.32
369	SLV FO 14	-647	34	5262	1523.53	-1.68	206.34
369	SLV FO 15	-816	-397	3650	1129.91	-1.44	260.11
369	SLV FO 16	-692	-353	3698	1143.62	-1.61	221.14
369	CRTFP Ux+	0	0	0	0	0	0
369	CRTFP Ux-	0	0	0	0	0	0
369	CRTFP Uy+	0	0	0	0	0	0
369	CRTFP Uy-	0	0	0	0	0	0
370	SLU 1	24	-89	3983	1195.32	-1.47	-7.68
370	SLU 2	26	-69	4053	1212.11	-1.5	-8.29
370	SLU 3	24	-90	4052	1216.94	-1.5	-7.69
370	SLU 4	25	-79	4094	1227.02	-1.52	-8.05
370	SLU 5	26	-70	4096	1225.66	-1.51	-8.23



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
370	SLU 6	24	-91	4095	1230.48	-1.52	-7.63
370	SLU 7	25	-80	4137	1240.56	-1.53	-7.99
370	SLU 8	24	-91	4069	1222.4	-1.51	-7.56
370	SLU 9	25	-79	4111	1232.48	-1.52	-7.92
370	SLU 10	26	-78	4577	1369.92	-1.62	-8.36
370	SLU 11	24	-99	4576	1374.75	-1.62	-7.76
370	SLU 12	25	-87	4618	1384.82	-1.64	-8.12
370	SLU 13	26	-79	4620	1383.47	-1.63	-8.3
370	SLU 14	24	-100	4619	1388.29	-1.64	-7.7
370	SLU 15	25	-88	4661	1398.37	-1.65	-8.06
370	SLU 16	24	-99	4593	1380.21	-1.63	-7.63
370	SLU 17	25	-88	4635	1390.29	-1.64	-7.99
370	SLU 18	24	-101	4731	1420.76	-1.65	-7.78
370	SLU 19	26	-89	4773	1430.84	-1.66	-8.14
370	SLU 20	24	-102	4774	1434.3	-1.66	-7.72
370	SLU 21	25	-90	4816	1444.38	-1.68	-8.08
370	SLU 22	27	-99	4531	1362.36	-1.75	-8.58
370	SLU 23	29	-80	4600	1379.16	-1.77	-9.18
370	SLU 24	27	-101	4600	1383.98	-1.77	-8.58
370	SLU 25	28	-89	4642	1394.06	-1.79	-8.95
370	SLU 26	29	-81	4643	1392.7	-1.79	-9.12
370	SLU 27	27	-102	4643	1397.53	-1.79	-8.52
370	SLU 28	28	-90	4685	1407.6	-1.81	-8.89
370	SLU 29	27	-101	4617	1389.45	-1.78	-8.46
370	SLU 30	28	-90	4658	1399.53	-1.79	-8.82
370	SLU 31	29	-88	5124	1536.97	-1.89	-9.25
370	SLU 32	27	-109	5124	1541.79	-1.9	-8.65
370	SLU 33	28	-98	5165	1551.87	-1.91	-9.02
370	SLU 34	29	-89	5167	1550.51	-1.91	-9.19
370	SLU 35	27	-110	5167	1555.33	-1.91	-8.59
370	SLU 36	28	-99	5208	1565.41	-1.93	-8.96
370	SLU 37	27	-109	5141	1547.26	-1.9	-8.53
370	SLU 38	28	-98	5182	1557.33	-1.92	-8.89
370	SLU 39	27	-111	5279	1587.81	-1.92	-8.68
370	SLU 40	28	-99	5321	1597.88	-1.93	-9.04
370	SLU 41	27	-112	5322	1601.35	-1.94	-8.62
370	SLU 42	28	-101	5364	1611.43	-1.95	-8.98
370	SLU 43	30	-112	4990	1496.64	-1.82	-9.68
370	SLU 44	32	-92	5060	1513.44	-1.84	-10.28
370	SLU 45	30	-113	5059	1518.26	-1.85	-9.68
370	SLU 46	31	-102	5101	1528.34	-1.86	-10.05
370	SLU 47	32	-93	5103	1526.98	-1.86	-10.22
370	SLU 48	30	-114	5102	1531.8	-1.87	-9.62
370	SLU 49	31	-103	5144	1541.88	-1.88	-9.99
370	SLU 50	30	-114	5076	1523.72	-1.86	-9.56
370	SLU 51	31	-102	5118	1533.8	-1.87	-9.92
370	SLU 52	32	-101	5584	1671.25	-1.97	-10.35
370	SLU 53	31	-122	5583	1676.07	-1.97	-9.75
370	SLU 54	32	-110	5625	1686.15	-1.98	-10.12
370	SLU 55	32	-102	5627	1684.79	-1.98	-10.29
370	SLU 56	30	-123	5626	1689.61	-1.99	-9.69
370	SLU 57	32	-111	5668	1699.69	-2	-10.06
370	SLU 58	30	-122	5600	1681.53	-1.98	-9.63
370	SLU 59	31	-111	5642	1691.61	-1.99	-9.99
370	SLU 60	31	-124	5738	1722.08	-1.99	-9.78
370	SLU 61	32	-112	5780	1732.16	-2.01	-10.14
370	SLU 62	31	-125	5781	1735.62	-2.01	-9.72
370	SLU 63	32	-113	5823	1745.7	-2.03	-10.08
370	SLU 64	33	-122	5538	1663.69	-2.09	-10.57
370	SLU 65	35	-103	5607	1680.48	-2.12	-11.18
370	SLU 66	33	-124	5607	1685.31	-2.12	-10.58
370	SLU 67	34	-112	5649	1695.38	-2.14	-10.94
370	SLU 68	35	-104	5650	1694.02	-2.13	-11.12
370	SLU 69	33	-125	5650	1698.85	-2.14	-10.52
370	SLU 70	34	-113	5692	1708.93	-2.15	-10.88
370	SLU 71	33	-124	5624	1690.77	-2.13	-10.45
370	SLU 72	34	-113	5666	1700.85	-2.14	-10.82
370	SLU 73	35	-111	6131	1838.29	-2.24	-11.25
370	SLU 74	33	-132	6131	1843.12	-2.24	-10.65
370	SLU 75	35	-121	6173	1853.19	-2.26	-11.01
370	SLU 76	35	-112	6174	1851.83	-2.26	-11.19
370	SLU 77	33	-133	6174	1856.66	-2.26	-10.59
370	SLU 78	34	-122	6216	1866.73	-2.28	-10.95
370	SLU 79	33	-132	6148	1848.58	-2.25	-10.52
370	SLU 80	34	-121	6189	1858.66	-2.26	-10.89
370	SLU 81	34	-134	6286	1889.13	-2.27	-10.67
370	SLU 82	35	-123	6328	1899.21	-2.28	-11.04
370	SLU 83	33	-135	6329	1902.67	-2.29	-10.61
370	SLU 84	34	-124	6371	1912.75	-2.3	-10.98
370	SLE RA 1	25	-92	4139	1243.05	-1.55	-7.94
370	SLE RA 2	26	-79	4186	1254.24	-1.57	-8.34
370	SLE RA 3	25	-93	4185	1257.46	-1.57	-7.94
370	SLE RA 4	26	-85	4213	1264.18	-1.58	-8.18
370	SLE RA 5	26	-79	4215	1263.27	-1.58	-8.3
370	SLE RA 6	25	-93	4214	1266.49	-1.58	-7.9
370	SLE RA 7	26	-86	4242	1273.2	-1.59	-8.14
370	SLE RA 8	25	-93	4197	1261.1	-1.57	-7.86
370	SLE RA 9	25	-85	4225	1267.82	-1.58	-8.1
370	SLE RA 10	26	-84	4535	1359.45	-1.65	-8.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
370	SLE RA 11	25	-98	4535	1362.66	-1.65	-7.99
370	SLE RA 12	26	-91	4563	1369.38	-1.66	-8.23
370	SLE RA 13	26	-85	4564	1368.48	-1.66	-8.35
370	SLE RA 14	25	-99	4563	1371.69	-1.66	-7.95
370	SLE RA 15	26	-91	4591	1378.41	-1.67	-8.19
370	SLE RA 16	25	-99	4546	1366.31	-1.66	-7.9
370	SLE RA 17	26	-91	4574	1373.03	-1.66	-8.15
370	SLE RA 18	25	-100	4638	1393.34	-1.67	-8
370	SLE RA 19	26	-92	4666	1400.06	-1.68	-8.25
370	SLE RA 20	25	-100	4667	1402.37	-1.68	-7.96
370	SLE RA 21	26	-93	4695	1409.09	-1.69	-8.21
370	SLE FR 1	25	-92	4139	1243.05	-1.55	-7.94
370	SLE FR 2	25	-89	4149	1245.29	-1.55	-8.02
370	SLE FR 3	25	-92	4151	1246.66	-1.56	-7.92
370	SLE FR 4	25	-91	4298	1290.37	-1.59	-8.04
370	SLE FR 5	25	-94	4301	1291.74	-1.59	-7.94
370	SLE FR 6	25	-96	4389	1318.19	-1.61	-7.97
370	SLE QP 1	25	-92	4139	1243.05	-1.55	-7.94
370	SLE QP 2	25	-94	4289	1288.13	-1.59	-7.96
370	SLD 1	442	53	4567	1355.1	-0.75	-140.94
370	SLD 2	513	83	4599	1364.25	-0.86	-163.61
370	SLD 3	417	-160	3680	1139.74	-0.32	-132.69
370	SLD 4	488	-130	3711	1148.89	-0.44	-155.36
370	SLD 5	175	268	5713	1633.19	-1.96	-56.28
370	SLD 6	223	288	5734	1639.24	-2.03	-71.25
370	SLD 7	91	-442	2755	915.35	-0.54	-28.78
370	SLD 8	139	-422	2776	921.39	-0.62	-43.75
370	SLD 9	-89	235	5802	1654.88	-2.55	27.83
370	SLD 10	-41	254	5823	1660.92	-2.63	12.86
370	SLD 11	-173	-476	2845	937.03	-1.14	55.34
370	SLD 12	-125	-456	2865	943.07	-1.21	40.37
370	SLD 13	-438	-58	4867	1427.37	-2.74	139.44
370	SLD 14	-367	-28	4898	1436.53	-2.85	116.77
370	SLD 15	-463	-271	3979	1212.02	-2.31	147.7
370	SLD 16	-392	-241	4011	1221.17	-2.42	125.03
370	SLV 1	678	142	4748	1398.62	-0.29	-216.43
370	SLV 2	791	189	4798	1412.97	-0.47	-251.95
370	SLV 3	637	-202	3313	1050.37	0.4	-202.91
370	SLV 4	749	-156	3363	1064.71	0.22	-238.43
370	SLV 5	262	491	6594	1846.8	-2.21	-84.38
370	SLV 6	338	522	6627	1856.45	-2.32	-108.29
370	SLV 7	125	-658	1811	685.93	0.08	-39.31
370	SLV 8	201	-626	1844	695.59	-0.03	-63.22
370	SLV 9	-151	438	6734	1880.68	-3.14	47.31
370	SLV 10	-75	470	6767	1890.33	-3.26	23.4
370	SLV 11	-288	-710	1951	719.81	-0.85	92.37
370	SLV 12	-213	-679	1985	729.47	-0.96	68.46
370	SLV 13	-699	-32	5215	1511.56	-3.39	222.52
370	SLV 14	-587	15	5265	1525.9	-3.57	187
370	SLV 15	-741	-377	3781	1163.3	-2.71	236.04
370	SLV 16	-628	-330	3830	1177.64	-2.88	200.52
370	SLV FO 1	744	166	4794	1409.67	-0.16	-237.28
370	SLV FO 2	867	217	4848	1425.45	-0.35	-276.35
370	SLV FO 3	698	-213	3215	1026.59	0.59	-222.41
370	SLV FO 4	822	-162	3270	1042.36	0.4	-261.48
370	SLV FO 5	286	549	6824	1902.66	-2.27	-92.02
370	SLV FO 6	369	584	6861	1913.29	-2.4	-118.32
370	SLV FO 7	135	-714	1563	625.71	0.25	-42.45
370	SLV FO 8	218	-680	1600	636.33	0.12	-68.75
370	SLV FO 9	-168	492	6978	1939.93	-3.29	52.84
370	SLV FO 10	-85	526	7015	1950.56	-3.42	26.53
370	SLV FO 11	-319	-772	1717	662.98	-0.77	102.41
370	SLV FO 12	-236	-737	1754	673.6	-0.9	76.1
370	SLV FO 13	-772	-26	5308	1533.9	-3.57	245.57
370	SLV FO 14	-648	25	5363	1549.68	-3.77	206.5
370	SLV FO 15	-817	-405	3730	1150.82	-2.82	260.44
370	SLV FO 16	-694	-354	3784	1166.59	-3.01	221.37
370	CRTFP Ux+	0	0	0	0	0	0
370	CRTFP Ux-	0	0	0	0	0	0
370	CRTFP Uy+	0	0	0	0	0	0
370	CRTFP Uy-	0	0	0	0	0	0
371	SLU 1	25	-88	4068	1217.65	-2.6	-7.91
371	SLU 2	27	-69	4139	1234.86	-2.65	-8.52
371	SLU 3	25	-90	4139	1239.73	-2.65	-7.93
371	SLU 4	26	-79	4181	1250.05	-2.68	-8.29
371	SLU 5	27	-70	4183	1248.68	-2.68	-8.46
371	SLU 6	25	-91	4183	1253.55	-2.68	-7.87
371	SLU 7	26	-80	4225	1263.88	-2.71	-8.23
371	SLU 8	25	-90	4156	1245.3	-2.66	-7.8
371	SLU 9	26	-79	4199	1255.62	-2.69	-8.16
371	SLU 10	27	-78	4672	1394.87	-2.95	-8.6
371	SLU 11	25	-98	4672	1399.74	-2.94	-8.01
371	SLU 12	26	-87	4714	1410.06	-2.98	-8.37
371	SLU 13	27	-79	4716	1408.69	-2.98	-8.54
371	SLU 14	25	-99	4716	1413.56	-2.98	-7.95
371	SLU 15	26	-88	4758	1423.89	-3.01	-8.31
371	SLU 16	25	-99	4689	1405.31	-2.96	-7.88
371	SLU 17	26	-87	4732	1415.63	-2.99	-8.24
371	SLU 18	25	-100	4829	1446.24	-3.02	-8.03



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
371	SLU 19	27	-89	4872	1456.56	-3.05	-8.39
371	SLU 20	25	-101	4873	1460.06	-3.05	-7.97
371	SLU 21	26	-90	4916	1470.39	-3.08	-8.34
371	SLU 22	28	-99	4630	1388.73	-3.05	-8.85
371	SLU 23	30	-80	4701	1405.94	-3.1	-9.45
371	SLU 24	28	-100	4701	1410.81	-3.1	-8.86
371	SLU 25	29	-89	4744	1421.13	-3.13	-9.22
371	SLU 26	30	-81	4745	1419.76	-3.13	-9.39
371	SLU 27	28	-101	4745	1424.64	-3.13	-8.8
371	SLU 28	29	-90	4788	1434.96	-3.16	-9.16
371	SLU 29	28	-101	4718	1416.38	-3.11	-8.73
371	SLU 30	29	-89	4761	1426.71	-3.14	-9.1
371	SLU 31	30	-88	5234	1565.95	-3.39	-9.53
371	SLU 32	28	-109	5234	1570.82	-3.39	-8.94
371	SLU 33	29	-97	5277	1581.14	-3.42	-9.3
371	SLU 34	30	-89	5278	1579.77	-3.42	-9.48
371	SLU 35	28	-110	5278	1584.65	-3.42	-8.88
371	SLU 36	29	-98	5321	1594.97	-3.45	-9.25
371	SLU 37	28	-109	5251	1576.39	-3.4	-8.81
371	SLU 38	29	-98	5294	1586.72	-3.43	-9.18
371	SLU 39	28	-110	5391	1617.32	-3.47	-8.96
371	SLU 40	30	-99	5434	1627.64	-3.5	-9.33
371	SLU 41	28	-111	5435	1631.15	-3.5	-8.91
371	SLU 42	29	-100	5478	1641.47	-3.53	-9.27
371	SLU 43	31	-111	5095	1524.29	-3.23	-9.97
371	SLU 44	33	-92	5167	1541.5	-3.28	-10.57
371	SLU 45	32	-113	5166	1546.37	-3.28	-9.98
371	SLU 46	33	-102	5209	1556.69	-3.31	-10.34
371	SLU 47	33	-93	5211	1555.32	-3.31	-10.52
371	SLU 48	31	-114	5210	1560.19	-3.31	-9.92
371	SLU 49	32	-103	5253	1570.52	-3.34	-10.29
371	SLU 50	31	-113	5183	1551.94	-3.29	-9.85
371	SLU 51	32	-102	5226	1562.26	-3.32	-10.22
371	SLU 52	34	-101	5700	1701.51	-3.57	-10.65
371	SLU 53	32	-121	5699	1706.38	-3.57	-10.06
371	SLU 54	33	-110	5742	1716.7	-3.6	-10.42
371	SLU 55	33	-102	5744	1715.33	-3.61	-10.6
371	SLU 56	32	-122	5743	1720.2	-3.6	-10
371	SLU 57	33	-111	5786	1730.53	-3.64	-10.37
371	SLU 58	31	-122	5716	1711.95	-3.58	-9.94
371	SLU 59	33	-110	5759	1722.27	-3.62	-10.3
371	SLU 60	32	-123	5857	1752.88	-3.65	-10.08
371	SLU 61	33	-112	5900	1763.2	-3.68	-10.45
371	SLU 62	32	-124	5901	1766.7	-3.68	-10.03
371	SLU 63	33	-113	5944	1777.03	-3.71	-10.39
371	SLU 64	34	-122	5658	1695.37	-3.67	-10.9
371	SLU 65	36	-103	5729	1712.58	-3.73	-11.51
371	SLU 66	35	-123	5728	1717.45	-3.72	-10.91
371	SLU 67	36	-112	5771	1727.77	-3.76	-11.28
371	SLU 68	36	-104	5773	1726.4	-3.76	-11.45
371	SLU 69	34	-124	5772	1731.27	-3.75	-10.86
371	SLU 70	35	-113	5815	1741.6	-3.79	-11.22
371	SLU 71	34	-124	5746	1723.02	-3.74	-10.79
371	SLU 72	35	-112	5788	1733.34	-3.77	-11.15
371	SLU 73	37	-111	6262	1872.59	-4.02	-11.59
371	SLU 74	35	-132	6261	1877.46	-4.02	-10.99
371	SLU 75	36	-120	6304	1887.78	-4.05	-11.36
371	SLU 76	36	-112	6306	1886.41	-4.05	-11.53
371	SLU 77	35	-133	6305	1891.29	-4.05	-10.94
371	SLU 78	36	-121	6348	1901.61	-4.08	-11.3
371	SLU 79	34	-132	6279	1883.03	-4.03	-10.87
371	SLU 80	36	-121	6321	1893.36	-4.06	-11.23
371	SLU 81	35	-133	6419	1923.96	-4.09	-11.02
371	SLU 82	36	-122	6462	1934.28	-4.12	-11.38
371	SLU 83	35	-134	6463	1937.78	-4.12	-10.96
371	SLU 84	36	-123	6506	1948.11	-4.16	-11.32
371	SLE RA 1	26	-91	4228	1266.53	-2.73	-8.18
371	SLE RA 2	27	-79	4276	1278	-2.76	-8.58
371	SLE RA 3	26	-92	4276	1281.25	-2.76	-8.19
371	SLE RA 4	27	-85	4304	1288.13	-2.78	-8.43
371	SLE RA 5	27	-79	4305	1287.22	-2.78	-8.55
371	SLE RA 6	26	-93	4305	1290.47	-2.78	-8.15
371	SLE RA 7	27	-86	4333	1297.35	-2.8	-8.39
371	SLE RA 8	26	-93	4287	1284.97	-2.77	-8.1
371	SLE RA 9	26	-85	4316	1291.85	-2.79	-8.35
371	SLE RA 10	27	-84	4631	1384.68	-2.96	-8.64
371	SLE RA 11	26	-98	4631	1387.92	-2.96	-8.24
371	SLE RA 12	27	-90	4659	1394.81	-2.98	-8.48
371	SLE RA 13	27	-85	4661	1393.89	-2.98	-8.6
371	SLE RA 14	26	-99	4660	1397.14	-2.98	-8.2
371	SLE RA 15	27	-91	4689	1404.02	-3	-8.45
371	SLE RA 16	26	-98	4642	1391.64	-2.96	-8.16
371	SLE RA 17	27	-91	4671	1398.52	-2.99	-8.4
371	SLE RA 18	26	-99	4736	1418.92	-3.01	-8.26
371	SLE RA 19	27	-92	4765	1425.81	-3.03	-8.5
371	SLE RA 20	26	-100	4765	1428.14	-3.03	-8.22
371	SLE RA 21	27	-92	4794	1435.02	-3.05	-8.46
371	SLE FR 1	26	-91	4228	1266.53	-2.73	-8.18
371	SLE FR 2	26	-89	4238	1268.83	-2.73	-8.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
371	SLE FR 3	26	-92	4240	1270.22	-2.74	-8.17
371	SLE FR 4	26	-91	4390	1314.54	-2.82	-8.28
371	SLE FR 5	26	-94	4393	1315.94	-2.82	-8.19
371	SLE FR 6	26	-95	4482	1342.73	-2.87	-8.22
371	SLE QP 1	26	-91	4228	1266.53	-2.73	-8.18
371	SLE QP 2	26	-94	4381	1312.25	-2.81	-8.2
371	SLD 1	445	54	4631	1371	-2.02	-141.53
371	SLD 2	517	88	4667	1381.55	-2.14	-164.27
371	SLD 3	419	-155	3719	1148.74	-1.2	-133.23
371	SLD 4	492	-121	3755	1159.28	-1.32	-155.96
371	SLD 5	177	262	5833	1665.08	-3.79	-56.7
371	SLD 6	225	284	5857	1672.04	-3.88	-71.71
371	SLD 7	93	-435	2792	924.19	-1.06	-29.03
371	SLD 8	140	-413	2815	931.15	-1.15	-44.04
371	SLD 9	-88	226	5946	1693.35	-4.48	27.63
371	SLD 10	-41	248	5970	1700.31	-4.56	12.62
371	SLD 11	-173	-471	2904	952.46	-1.75	55.3
371	SLD 12	-125	-449	2928	959.42	-1.83	40.29
371	SLD 13	-440	-66	5007	1465.22	-4.3	139.56
371	SLD 14	-368	-32	5043	1475.76	-4.42	116.82
371	SLD 15	-465	-275	4094	1242.95	-3.48	147.86
371	SLD 16	-393	-242	4130	1253.5	-3.6	125.12
371	SLV 1	683	143	4797	1410.14	-1.6	-217.22
371	SLV 2	796	196	4854	1426.66	-1.79	-252.84
371	SLV 3	641	-195	3322	1050.7	-0.27	-203.62
371	SLV 4	754	-143	3378	1067.21	-0.47	-239.24
371	SLV 5	265	480	6733	1883.69	-4.42	-84.89
371	SLV 6	341	516	6771	1894.81	-4.55	-108.87
371	SLV 7	126	-647	1815	685.55	0	-39.56
371	SLV 8	202	-611	1853	696.67	-0.14	-63.54
371	SLV 9	-150	424	6909	1927.83	-5.49	47.13
371	SLV 10	-74	460	6947	1938.95	-5.62	23.15
371	SLV 11	-289	-703	1991	729.69	-1.07	92.46
371	SLV 12	-213	-668	2029	740.81	-1.2	68.48
371	SLV 13	-702	-45	5384	1557.29	-5.15	222.83
371	SLV 14	-589	8	5440	1573.8	-5.35	187.21
371	SLV 15	-744	-383	3908	1197.84	-3.83	236.43
371	SLV 16	-631	-330	3964	1214.36	-4.02	200.81
371	SLV FO 1	748	167	4839	1419.93	-1.48	-238.12
371	SLV FO 2	873	224	4901	1438.1	-1.69	-277.3
371	SLV FO 3	703	-205	3216	1024.54	-0.2	-223.16
371	SLV FO 4	827	-148	3278	1042.71	-0.24	-262.34
371	SLV FO 5	289	538	6968	1940.83	-4.58	-92.56
371	SLV FO 6	373	577	7010	1953.06	-4.73	-118.93
371	SLV FO 7	136	-702	1558	622.88	0.28	-42.69
371	SLV FO 8	220	-663	1600	635.11	0.13	-69.07
371	SLV FO 9	-168	476	7162	1989.39	-5.75	52.66
371	SLV FO 10	-84	515	7204	2001.62	-5.9	26.28
371	SLV FO 11	-321	-764	1752	671.44	-0.9	102.53
371	SLV FO 12	-237	-725	1793	683.67	-1.04	76.15
371	SLV FO 13	-775	-40	5484	1581.79	-5.39	245.94
371	SLV FO 14	-651	18	5546	1599.96	-5.6	206.76
371	SLV FO 15	-821	-412	3861	1186.4	-3.93	260.9
371	SLV FO 16	-696	-354	3923	1204.57	-4.15	221.72
371	CRTFP Ux+	0	0	0	0	0	0
371	CRTFP Ux-	0	0	0	0	0	0
371	CRTFP Uy+	0	0	0	0	0	0
371	CRTFP Uy-	0	0	0	0	0	0
434	SLU 1	-55	-63	5309	144.92	-30.73	-0.44
434	SLU 2	-57	-40	5408	147.41	-30.75	-0.38
434	SLU 3	-57	-64	5403	147.54	-31.41	-0.43
434	SLU 4	-58	-50	5462	149.04	-31.42	-0.4
434	SLU 5	-58	-41	5466	149.04	-31.19	-0.37
434	SLU 6	-58	-65	5461	149.17	-31.85	-0.43
434	SLU 7	-59	-51	5520	150.67	-31.86	-0.39
434	SLU 8	-57	-65	5426	148.19	-31.62	-0.42
434	SLU 9	-59	-51	5485	149.68	-31.63	-0.39
434	SLU 10	-58	-46	6099	166.31	-35.91	-0.54
434	SLU 11	-58	-71	6095	166.44	-36.56	-0.59
434	SLU 12	-59	-57	6154	167.93	-36.57	-0.55
434	SLU 13	-59	-47	6158	167.94	-36.35	-0.53
434	SLU 14	-59	-72	6153	168.07	-37.01	-0.58
434	SLU 15	-60	-58	6212	169.57	-37.02	-0.55
434	SLU 16	-59	-71	6117	167.08	-36.78	-0.58
434	SLU 17	-60	-57	6176	168.58	-36.79	-0.55
434	SLU 18	-57	-72	6298	171.91	-38.1	-0.66
434	SLU 19	-58	-58	6357	173.41	-38.11	-0.62
434	SLU 20	-58	-73	6356	173.55	-38.54	-0.65
434	SLU 21	-59	-59	6415	175.04	-38.55	-0.62
434	SLU 22	-63	-71	6064	165.71	-35.65	-0.49
434	SLU 23	-65	-48	6162	168.2	-35.66	-0.43
434	SLU 24	-64	-72	6158	168.33	-36.32	-0.48
434	SLU 25	-65	-58	6217	169.83	-36.33	-0.45
434	SLU 26	-66	-49	6220	169.84	-36.1	-0.43
434	SLU 27	-65	-73	6216	169.97	-36.76	-0.48
434	SLU 28	-67	-59	6275	171.46	-36.77	-0.44
434	SLU 29	-65	-73	6180	168.98	-36.53	-0.48
434	SLU 30	-66	-59	6239	170.47	-36.54	-0.44
434	SLU 31	-66	-54	6854	187.1	-40.82	-0.59



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
434	SLU 32	-65	-79	6849	187.23	-41.47	-0.64
434	SLU 33	-67	-65	6908	188.73	-41.48	-0.6
434	SLU 34	-67	-55	6912	188.74	-41.26	-0.58
434	SLU 35	-67	-80	6908	188.87	-41.92	-0.63
434	SLU 36	-68	-66	6967	190.36	-41.93	-0.6
434	SLU 37	-66	-79	6872	187.88	-41.69	-0.63
434	SLU 38	-67	-65	6931	189.37	-41.7	-0.6
434	SLU 39	-64	-80	7052	192.71	-43.01	-0.71
434	SLU 40	-65	-66	7111	194.2	-43.02	-0.68
434	SLU 41	-65	-81	7110	194.34	-43.45	-0.7
434	SLU 42	-67	-67	7169	195.84	-43.46	-0.67
434	SLU 43	-69	-79	6643	181.26	-38.27	-0.55
434	SLU 44	-71	-56	6742	183.76	-38.29	-0.49
434	SLU 45	-71	-80	6737	183.89	-38.95	-0.54
434	SLU 46	-72	-67	6796	185.38	-38.96	-0.51
434	SLU 47	-72	-57	6800	185.39	-38.73	-0.49
434	SLU 48	-72	-81	6795	185.52	-39.39	-0.54
434	SLU 49	-73	-67	6854	187.02	-39.4	-0.51
434	SLU 50	-71	-81	6760	184.53	-39.16	-0.54
434	SLU 51	-73	-67	6819	186.03	-39.17	-0.5
434	SLU 52	-72	-63	7433	202.65	-43.44	-0.65
434	SLU 53	-72	-87	7429	202.78	-44.1	-0.7
434	SLU 54	-73	-73	7488	204.28	-44.11	-0.67
434	SLU 55	-73	-63	7492	204.29	-43.89	-0.64
434	SLU 56	-73	-88	7487	204.42	-44.54	-0.69
434	SLU 57	-74	-74	7546	205.91	-44.55	-0.66
434	SLU 58	-73	-87	7451	203.43	-44.31	-0.69
434	SLU 59	-74	-74	7510	204.93	-44.32	-0.66
434	SLU 60	-71	-89	7632	208.26	-45.64	-0.77
434	SLU 61	-72	-75	7691	209.76	-45.65	-0.74
434	SLU 62	-72	-89	7690	209.89	-46.08	-0.76
434	SLU 63	-73	-75	7749	211.39	-46.09	-0.73
434	SLU 64	-77	-87	7398	202.06	-43.18	-0.6
434	SLU 65	-79	-64	7496	204.55	-43.2	-0.55
434	SLU 66	-78	-88	7492	204.68	-43.86	-0.6
434	SLU 67	-79	-74	7551	206.18	-43.87	-0.56
434	SLU 68	-80	-65	7555	206.18	-43.64	-0.54
434	SLU 69	-79	-89	7550	206.31	-44.3	-0.59
434	SLU 70	-81	-75	7609	207.81	-44.31	-0.56
434	SLU 71	-79	-89	7514	205.32	-44.07	-0.59
434	SLU 72	-80	-75	7573	206.82	-44.08	-0.56
434	SLU 73	-80	-70	8188	223.45	-48.35	-0.7
434	SLU 74	-79	-95	8183	223.58	-49.01	-0.75
434	SLU 75	-81	-81	8242	225.07	-49.02	-0.72
434	SLU 76	-81	-71	8246	225.08	-48.8	-0.69
434	SLU 77	-81	-96	8242	225.21	-49.45	-0.74
434	SLU 78	-82	-82	8301	226.71	-49.46	-0.71
434	SLU 79	-80	-95	8206	224.22	-49.22	-0.74
434	SLU 80	-81	-81	8265	225.72	-49.23	-0.71
434	SLU 81	-78	-96	8386	229.05	-50.55	-0.82
434	SLU 82	-79	-83	8445	230.55	-50.56	-0.79
434	SLU 83	-79	-97	8444	230.69	-50.99	-0.82
434	SLU 84	-81	-83	8503	232.18	-51	-0.78
434	SLE RA 1	-57	-65	5525	150.86	-32.14	-0.45
434	SLE RA 2	-59	-50	5590	152.52	-32.15	-0.41
434	SLE RA 3	-58	-66	5587	152.61	-32.59	-0.45
434	SLE RA 4	-59	-57	5627	153.6	-32.59	-0.43
434	SLE RA 5	-59	-50	5629	153.61	-32.44	-0.41
434	SLE RA 6	-59	-67	5626	153.7	-32.88	-0.44
434	SLE RA 7	-60	-57	5665	154.69	-32.89	-0.42
434	SLE RA 8	-59	-66	5602	153.04	-32.73	-0.44
434	SLE RA 9	-60	-57	5642	154.03	-32.74	-0.42
434	SLE RA 10	-59	-54	6052	165.12	-35.59	-0.52
434	SLE RA 11	-59	-70	6049	165.21	-36.02	-0.55
434	SLE RA 12	-60	-61	6088	166.2	-36.03	-0.53
434	SLE RA 13	-60	-55	6090	166.21	-35.88	-0.51
434	SLE RA 14	-60	-71	6087	166.29	-36.32	-0.55
434	SLE RA 15	-61	-62	6127	167.29	-36.33	-0.52
434	SLE RA 16	-60	-71	6064	165.64	-36.17	-0.55
434	SLE RA 17	-60	-61	6103	166.63	-36.17	-0.52
434	SLE RA 18	-58	-71	6184	168.86	-37.05	-0.6
434	SLE RA 19	-59	-62	6223	169.85	-37.05	-0.58
434	SLE RA 20	-59	-72	6222	169.95	-37.34	-0.59
434	SLE RA 21	-60	-63	6262	170.94	-37.35	-0.57
434	SLE FR 1	-57	-65	5525	150.86	-32.14	-0.45
434	SLE FR 2	-58	-62	5538	151.19	-32.14	-0.44
434	SLE FR 3	-58	-65	5540	151.29	-32.26	-0.45
434	SLE FR 4	-58	-64	5736	156.59	-33.61	-0.49
434	SLE FR 5	-58	-67	5738	156.69	-33.73	-0.49
434	SLE FR 6	-58	-68	5854	159.86	-34.59	-0.52
434	SLE QP 1	-57	-65	5525	150.86	-32.14	-0.45
434	SLE QP 2	-58	-67	5723	156.26	-33.61	-0.5
434	SLD 1	401	53	6966	188.67	-17.43	-13.19
434	SLD 2	486	-9	6894	186.83	-18.58	-14.45
434	SLD 3	452	-216	5654	155.53	-19.46	-13.85
434	SLD 4	537	-277	5581	153.69	-20.61	-15.11
434	SLD 5	-13	387	8100	216.57	-25.47	-3.07
434	SLD 6	43	346	8052	215.35	-26.23	-3.91
434	SLD 7	158	-508	3724	106.12	-32.24	-5.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
434	SLD 8	214	-548	3676	104.9	-33	-6.11
434	SLD 9	-330	414	7769	207.62	-34.22	5.12
434	SLD 10	-273	373	7721	206.4	-34.98	4.28
434	SLD 11	-158	-481	3393	97.16	-40.99	2.92
434	SLD 12	-102	-521	3345	95.94	-41.75	2.08
434	SLD 13	-653	143	5864	158.82	-46.61	14.12
434	SLD 14	-568	81	5791	156.98	-47.76	12.86
434	SLD 15	-601	-125	4551	125.68	-48.64	13.46
434	SLD 16	-516	-187	4479	123.84	-49.79	12.2
434	SLV 1	659	127	7700	207.76	-8.32	-20.35
434	SLV 2	793	31	7587	204.87	-10.12	-22.33
434	SLV 3	742	-306	5578	154.21	-11.6	-21.41
434	SLV 4	875	-402	5465	151.33	-13.4	-23.39
434	SLV 5	7	667	9554	253.46	-20.71	-4.47
434	SLV 6	97	602	9478	251.52	-21.92	-5.81
434	SLV 7	283	-778	2483	74.97	-31.65	-8.01
434	SLV 8	372	-843	2407	73.02	-32.86	-9.34
434	SLV 9	-488	709	9038	239.49	-34.36	8.35
434	SLV 10	-398	644	8962	237.55	-35.57	7.02
434	SLV 11	-212	-736	1967	60.99	-45.3	4.82
434	SLV 12	-123	-801	1891	59.05	-46.51	3.48
434	SLV 13	-991	268	5980	161.19	-53.82	22.4
434	SLV 14	-857	172	5867	158.31	-55.62	20.42
434	SLV 15	-908	-165	3858	107.64	-57.11	21.34
434	SLV 16	-775	-262	3745	104.76	-58.9	19.36
434	SLV FO 1	731	147	7898	212.91	-5.79	-22.33
434	SLV FO 2	878	41	7773	209.74	-7.77	-24.51
434	SLV FO 3	822	-330	5564	154	-9.4	-23.5
434	SLV FO 4	968	-436	5440	150.83	-11.38	-25.68
434	SLV FO 5	14	740	9938	263.18	-19.42	-4.87
434	SLV FO 6	113	669	9854	261.05	-20.75	-6.34
434	SLV FO 7	317	-849	2159	66.84	-31.45	-8.76
434	SLV FO 8	415	-921	2075	64.7	-32.78	-10.23
434	SLV FO 9	-531	786	9370	247.81	-34.44	9.24
434	SLV FO 10	-432	715	9286	245.68	-35.77	7.77
434	SLV FO 11	-228	-803	1591	51.47	-46.47	5.35
434	SLV FO 12	-129	-874	1507	49.33	-47.8	3.88
434	SLV FO 13	-1084	302	6005	161.68	-55.85	24.69
434	SLV FO 14	-937	196	5881	158.51	-57.82	22.51
434	SLV FO 15	-993	-175	3672	102.78	-59.46	23.52
434	SLV FO 16	-846	-281	3547	99.61	-61.43	21.34
434	CRTFP Ux+	0	0	0	0	0	0
434	CRTFP Ux-	0	0	0	0	0	0
434	CRTFP Uy+	0	0	0	0	0	0
434	CRTFP Uy-	0	0	0	0	0	0
438	SLU 1	14	-68	3140	85.29	985.57	23.58
438	SLU 2	15	-52	3197	86.65	1003.22	17.92
438	SLU 3	14	-70	3195	86.82	1002.5	24.04
438	SLU 4	15	-60	3229	87.64	1013.09	20.65
438	SLU 5	15	-53	3231	87.61	1013.73	18.2
438	SLU 6	14	-70	3230	87.78	1013.01	24.32
438	SLU 7	15	-61	3264	88.6	1023.6	20.93
438	SLU 8	14	-70	3209	87.21	1006.59	24.14
438	SLU 9	15	-60	3243	88.02	1017.18	20.74
438	SLU 10	15	-60	3626	98.36	1137.81	20.53
438	SLU 11	14	-77	3625	98.53	1137.08	26.65
438	SLU 12	15	-67	3659	99.34	1147.68	23.26
438	SLU 13	15	-60	3661	99.31	1148.32	20.81
438	SLU 14	14	-78	3660	99.48	1147.59	26.93
438	SLU 15	15	-68	3693	100.3	1158.19	23.54
438	SLU 16	14	-77	3639	98.91	1141.17	26.75
438	SLU 17	14	-68	3673	99.73	1151.77	23.35
438	SLU 18	14	-79	3754	102.01	1177.84	27.31
438	SLU 19	15	-69	3788	102.83	1188.43	23.91
438	SLU 20	14	-80	3789	102.97	1188.34	27.59
438	SLU 21	15	-70	3822	103.78	1198.94	24.19
438	SLU 22	16	-77	3571	97.08	1118.46	26.55
438	SLU 23	17	-61	3627	98.44	1136.12	20.89
438	SLU 24	16	-78	3626	98.61	1135.39	27.02
438	SLU 25	16	-69	3660	99.43	1145.99	23.62
438	SLU 26	17	-62	3661	99.4	1146.63	21.17
438	SLU 27	15	-79	3660	99.57	1145.9	27.3
438	SLU 28	16	-69	3694	100.39	1156.49	23.9
438	SLU 29	15	-78	3639	98.99	1139.48	27.11
438	SLU 30	16	-69	3673	99.81	1150.08	23.72
438	SLU 31	17	-68	4057	110.14	1270.71	23.5
438	SLU 32	15	-86	4056	110.32	1269.98	29.63
438	SLU 33	16	-76	4090	111.13	1280.57	26.23
438	SLU 34	17	-69	4091	111.1	1281.22	23.78
438	SLU 35	15	-86	4090	111.27	1280.49	29.91
438	SLU 36	16	-77	4124	112.09	1291.08	26.51
438	SLU 37	15	-86	4069	110.7	1274.07	29.72
438	SLU 38	16	-76	4103	111.51	1284.66	26.33
438	SLU 39	15	-87	4185	113.8	1310.73	30.28
438	SLU 40	16	-78	4219	114.62	1321.32	26.89
438	SLU 41	15	-88	4219	114.76	1321.24	30.56
438	SLU 42	16	-79	4253	115.57	1331.83	27.17
438	SLU 43	18	-86	3935	106.84	1235.67	29.64
438	SLU 44	19	-70	3991	108.2	1253.33	23.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
438	SLU 45	18	-87	3990	108.37	1252.6	30.1
438	SLU 46	19	-78	4024	109.19	1263.2	26.7
438	SLU 47	19	-71	4025	109.15	1263.84	24.25
438	SLU 48	18	-88	4024	109.33	1263.11	30.38
438	SLU 49	18	-78	4058	110.14	1273.71	26.98
438	SLU 50	17	-87	4004	108.75	1256.69	30.2
438	SLU 51	18	-78	4037	109.57	1267.29	26.8
438	SLU 52	19	-77	4421	119.9	1387.92	26.59
438	SLU 53	18	-95	4420	120.07	1387.19	32.71
438	SLU 54	18	-85	4454	120.89	1397.78	29.31
438	SLU 55	19	-78	4455	120.86	1398.43	26.86
438	SLU 56	17	-95	4454	121.03	1397.7	32.99
438	SLU 57	18	-86	4488	121.85	1408.29	29.59
438	SLU 58	17	-95	4433	120.46	1391.28	32.81
438	SLU 59	18	-85	4467	121.27	1401.87	29.41
438	SLU 60	18	-96	4549	123.56	1427.94	33.37
438	SLU 61	18	-87	4583	124.37	1438.54	29.97
438	SLU 62	17	-97	4583	124.51	1438.45	33.65
438	SLU 63	18	-88	4617	125.33	1449.05	30.25
438	SLU 64	19	-94	4365	118.62	1368.57	32.61
438	SLU 65	21	-78	4422	119.99	1386.23	26.95
438	SLU 66	19	-96	4420	120.16	1385.5	33.07
438	SLU 67	20	-86	4454	120.97	1396.09	29.67
438	SLU 68	21	-79	4456	120.94	1396.74	27.23
438	SLU 69	19	-97	4455	121.11	1396.01	33.35
438	SLU 70	20	-87	4489	121.93	1406.6	29.95
438	SLU 71	19	-96	4434	120.54	1389.59	33.17
438	SLU 72	20	-86	4468	121.36	1400.18	29.77
438	SLU 73	21	-86	4851	131.69	1520.81	29.56
438	SLU 74	19	-103	4850	131.86	1520.08	35.68
438	SLU 75	20	-94	4884	132.68	1530.68	32.28
438	SLU 76	20	-87	4886	132.65	1531.32	29.84
438	SLU 77	19	-104	4885	132.82	1530.59	35.96
438	SLU 78	20	-94	4918	133.63	1541.19	32.56
438	SLU 79	19	-103	4864	132.24	1524.17	35.78
438	SLU 80	20	-94	4898	133.06	1534.77	32.38
438	SLU 81	19	-105	4979	135.34	1560.84	36.34
438	SLU 82	20	-95	5013	136.16	1571.43	32.94
438	SLU 83	19	-106	5014	136.3	1571.35	36.62
438	SLU 84	20	-96	5047	137.12	1581.94	33.22
438	SLE RA 1	15	-71	3263	88.66	1023.54	24.43
438	SLE RA 2	15	-60	3301	89.57	1035.31	20.66
438	SLE RA 3	14	-72	3300	89.68	1034.82	24.74
438	SLE RA 4	15	-65	3323	90.22	1041.89	22.47
438	SLE RA 5	15	-61	3324	90.2	1042.32	20.84
438	SLE RA 6	14	-72	3323	90.32	1041.83	24.93
438	SLE RA 7	15	-66	3345	90.86	1048.89	22.66
438	SLE RA 8	14	-72	3309	89.94	1037.55	24.8
438	SLE RA 9	15	-65	3332	90.48	1044.61	22.54
438	SLE RA 10	15	-65	3587	97.37	1125.03	22.4
438	SLE RA 11	14	-77	3587	97.48	1124.55	26.48
438	SLE RA 12	15	-70	3609	98.03	1131.61	24.21
438	SLE RA 13	15	-66	3610	98.01	1132.04	22.58
438	SLE RA 14	14	-77	3610	98.12	1131.55	26.67
438	SLE RA 15	15	-71	3632	98.67	1138.62	24.4
438	SLE RA 16	14	-77	3596	97.74	1127.27	26.54
438	SLE RA 17	15	-70	3618	98.28	1134.34	24.28
438	SLE RA 18	14	-78	3673	99.81	1151.72	26.92
438	SLE RA 19	15	-71	3695	100.35	1158.78	24.65
438	SLE RA 20	14	-78	3696	100.44	1158.72	27.1
438	SLE RA 21	15	-72	3718	100.99	1165.79	24.84
438	SLE FR 1	15	-71	3263	88.66	1023.54	24.43
438	SLE FR 2	15	-69	3271	88.84	1025.89	23.68
438	SLE FR 3	14	-71	3272	88.91	1026.34	24.51
438	SLE FR 4	15	-71	3394	92.18	1064.35	24.42
438	SLE FR 5	14	-73	3395	92.26	1064.79	25.25
438	SLE FR 6	14	-74	3468	94.23	1087.63	25.67
438	SLE QP 1	15	-71	3263	88.66	1023.54	24.43
438	SLE QP 2	14	-73	3386	92	1061.99	25.18
438	SLD 1	323	32	3747	100.9	1179.15	-19.64
438	SLD 2	376	35	3756	101.11	1180.67	-22.26
438	SLD 3	305	-155	3049	84.05	960.54	46.33
438	SLD 4	357	-152	3057	84.26	962.06	43.72
438	SLD 5	126	241	4552	120.19	1428.42	-87.86
438	SLD 6	160	244	4558	120.34	1429.43	-89.59
438	SLD 7	64	-382	2224	64.02	699.72	132.06
438	SLD 8	99	-379	2230	64.16	700.73	130.33
438	SLD 9	-70	234	4542	119.85	1423.25	-79.98
438	SLD 10	-35	236	4548	119.99	1424.26	-81.7
438	SLD 11	-131	-390	2215	63.67	694.55	139.94
438	SLD 12	-97	-387	2220	63.81	695.56	138.21
438	SLD 13	-328	6	3715	99.75	1161.92	6.63
438	SLD 14	-276	9	3724	99.96	1163.44	4.02
438	SLD 15	-347	-181	3017	82.89	943.31	72.61
438	SLD 16	-294	-178	3025	83.1	944.83	70
438	SLV 1	499	96	3969	106.37	1251.04	-46.63
438	SLV 2	581	102	3983	106.7	1253.43	-50.73
438	SLV 3	468	-206	2840	79.12	897.61	60.01
438	SLV 4	550	-201	2854	79.46	900	55.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
438	SLV 5	191	435	5271	137.58	1654.3	-157.34
438	SLV 6	246	439	5280	137.8	1655.9	-160.09
438	SLV 7	89	-572	1508	46.75	476.2	198.13
438	SLV 8	144	-569	1517	46.97	477.8	195.37
438	SLV 9	-115	423	5255	137.03	1646.18	-145.01
438	SLV 10	-60	427	5265	137.26	1647.79	-147.77
438	SLV 11	-217	-585	1492	46.2	468.08	210.45
438	SLV 12	-162	-581	1502	46.43	469.69	207.69
438	SLV 13	-521	55	3918	104.55	1223.99	-5.56
438	SLV 14	-439	61	3932	104.88	1226.37	-9.65
438	SLV 15	-552	-247	2790	77.3	870.56	101.08
438	SLV 16	-470	-242	2803	77.63	872.94	96.98
438	SLV FO 1	547	113	4027	107.81	1269.95	-53.81
438	SLV FO 2	637	119	4042	108.18	1272.57	-58.32
438	SLV FO 3	514	-220	2786	77.83	881.17	63.49
438	SLV FO 4	604	-213	2801	78.2	883.8	58.99
438	SLV FO 5	208	486	5459	142.14	1713.53	-175.59
438	SLV FO 6	269	490	5469	142.38	1715.29	-178.62
438	SLV FO 7	97	-622	1320	42.22	417.62	215.42
438	SLV FO 8	157	-618	1330	42.47	419.38	212.39
438	SLV FO 9	-128	472	5442	141.53	1704.6	-162.03
438	SLV FO 10	-68	476	5453	141.78	1706.36	-165.07
438	SLV FO 11	-240	-636	1303	41.62	408.69	228.97
438	SLV FO 12	-179	-632	1313	41.87	410.46	225.94
438	SLV FO 13	-575	68	3972	105.8	1240.18	-8.63
438	SLV FO 14	-485	74	3987	106.17	1242.81	-13.14
438	SLV FO 15	-608	-265	2730	75.83	851.41	108.67
438	SLV FO 16	-518	-259	2745	76.2	854.04	104.16
438	CRTFP Ux+	0	0	0	0	0	0
438	CRTFP Ux-	0	0	0	0	0	0
438	CRTFP Uy+	0	0	0	0	0	0
438	CRTFP Uy-	0	0	0	0	0	0
439	SLU 1	-34	42	3066	81.04	-581.81	11.51
439	SLU 2	-36	61	3127	82.51	-593.32	16.14
439	SLU 3	-35	43	3120	82.5	-591.66	11.67
439	SLU 4	-37	54	3157	83.38	-598.56	14.45
439	SLU 5	-37	61	3160	83.41	-599.36	16.25
439	SLU 6	-36	43	3153	83.39	-597.69	11.78
439	SLU 7	-37	54	3190	84.28	-604.6	14.56
439	SLU 8	-36	43	3132	82.83	-593.89	11.73
439	SLU 9	-37	54	3169	83.72	-600.79	14.51
439	SLU 10	-37	67	3503	92.43	-663.42	17.61
439	SLU 11	-36	49	3496	92.41	-661.76	13.14
439	SLU 12	-37	60	3533	93.29	-668.66	15.93
439	SLU 13	-38	67	3536	93.32	-669.46	17.72
439	SLU 14	-37	49	3529	93.31	-667.8	13.26
439	SLU 15	-38	60	3566	94.19	-674.7	16.04
439	SLU 16	-36	49	3509	92.75	-663.99	13.2
439	SLU 17	-37	60	3545	93.63	-670.89	15.98
439	SLU 18	-35	51	3604	95.21	-681.96	13.61
439	SLU 19	-36	62	3640	96.09	-688.86	16.39
439	SLU 20	-36	51	3637	96.1	-688	13.72
439	SLU 21	-37	62	3673	96.98	-694.9	16.5
439	SLU 22	-39	47	3494	92.4	-660.94	12.73
439	SLU 23	-41	65	3554	93.87	-672.44	17.36
439	SLU 24	-40	47	3548	93.86	-670.78	12.9
439	SLU 25	-41	58	3584	94.74	-677.69	15.68
439	SLU 26	-41	66	3587	94.77	-678.48	17.47
439	SLU 27	-40	48	3581	94.75	-676.82	13.01
439	SLU 28	-41	59	3617	95.63	-683.72	15.79
439	SLU 29	-40	48	3560	94.19	-673.01	12.95
439	SLU 30	-41	59	3596	95.08	-679.92	15.73
439	SLU 31	-41	71	3930	103.78	-742.55	18.84
439	SLU 32	-40	53	3924	103.77	-740.89	14.37
439	SLU 33	-41	64	3960	104.65	-747.79	17.15
439	SLU 34	-42	71	3963	104.68	-748.59	18.95
439	SLU 35	-41	54	3957	104.67	-746.92	14.48
439	SLU 36	-42	65	3993	105.55	-753.83	17.26
439	SLU 37	-40	53	3936	104.11	-743.11	14.42
439	SLU 38	-42	64	3972	104.99	-750.02	17.2
439	SLU 39	-39	55	4031	106.57	-761.08	14.83
439	SLU 40	-40	66	4067	107.45	-767.99	17.61
439	SLU 41	-40	56	4064	107.46	-767.12	14.94
439	SLU 42	-41	67	4100	108.34	-774.03	17.72
439	SLU 43	-43	54	3840	101.46	-729.22	14.54
439	SLU 44	-45	72	3900	102.93	-740.73	19.17
439	SLU 45	-44	54	3894	102.92	-739.07	14.7
439	SLU 46	-46	65	3930	103.8	-745.97	17.49
439	SLU 47	-46	72	3933	103.83	-746.77	19.28
439	SLU 48	-45	55	3927	103.81	-745.11	14.82
439	SLU 49	-46	66	3963	104.69	-752.01	17.6
439	SLU 50	-45	54	3906	103.25	-741.3	14.76
439	SLU 51	-46	65	3942	104.13	-748.2	17.54
439	SLU 52	-46	78	4276	112.84	-810.84	20.64
439	SLU 53	-45	60	4270	112.83	-809.17	16.18
439	SLU 54	-46	71	4306	113.71	-816.08	18.96
439	SLU 55	-47	78	4309	113.74	-816.87	20.75
439	SLU 56	-46	60	4303	113.73	-815.21	16.29
439	SLU 57	-47	71	4339	114.61	-822.12	19.07



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
439	SLU 58	-45	60	4282	113.17	-811.4	16.23
439	SLU 59	-46	71	4318	114.05	-818.31	19.01
439	SLU 60	-44	62	4377	115.62	-829.37	16.64
439	SLU 61	-45	73	4413	116.51	-836.28	19.42
439	SLU 62	-45	62	4410	116.52	-835.41	16.75
439	SLU 63	-46	73	4446	117.4	-842.31	19.53
439	SLU 64	-47	58	4267	112.82	-808.35	15.76
439	SLU 65	-49	76	4328	114.29	-819.86	20.4
439	SLU 66	-49	59	4321	114.28	-818.2	15.93
439	SLU 67	-50	70	4357	115.16	-825.1	18.71
439	SLU 68	-50	77	4361	115.18	-825.9	20.51
439	SLU 69	-49	59	4354	115.17	-824.23	16.04
439	SLU 70	-50	70	4390	116.05	-831.14	18.82
439	SLU 71	-49	59	4333	114.61	-820.43	15.98
439	SLU 72	-50	70	4370	115.49	-827.33	18.76
439	SLU 73	-50	82	4704	124.2	-889.96	21.87
439	SLU 74	-49	64	4697	124.19	-888.3	17.4
439	SLU 75	-50	76	4733	125.07	-895.2	20.18
439	SLU 76	-51	83	4737	125.1	-896	21.98
439	SLU 77	-50	65	4730	125.09	-894.34	17.51
439	SLU 78	-51	76	4766	125.97	-901.24	20.29
439	SLU 79	-49	65	4709	124.53	-890.53	17.45
439	SLU 80	-51	76	4746	125.41	-897.43	20.24
439	SLU 81	-48	66	4804	126.98	-908.5	17.86
439	SLU 82	-49	77	4841	127.86	-915.4	20.65
439	SLU 83	-49	67	4837	127.88	-914.54	17.98
439	SLU 84	-50	78	4874	128.76	-921.44	20.76
439	SLE RA 1	-36	44	3188	84.29	-604.42	11.85
439	SLE RA 2	-37	56	3229	85.27	-612.09	14.94
439	SLE RA 3	-36	44	3224	85.26	-610.98	11.97
439	SLE RA 4	-37	51	3249	85.85	-615.58	13.82
439	SLE RA 5	-37	56	3251	85.86	-616.11	15.02
439	SLE RA 6	-37	44	3246	85.86	-615.01	12.04
439	SLE RA 7	-38	52	3271	86.44	-619.61	13.89
439	SLE RA 8	-37	44	3233	85.48	-612.47	12
439	SLE RA 9	-37	52	3257	86.07	-617.07	13.86
439	SLE RA 10	-37	60	3480	91.88	-658.83	15.93
439	SLE RA 11	-37	48	3475	91.87	-657.72	12.95
439	SLE RA 12	-37	55	3499	92.46	-662.32	14.8
439	SLE RA 13	-38	60	3502	92.47	-662.85	16
439	SLE RA 14	-37	48	3497	92.47	-661.74	13.02
439	SLE RA 15	-38	56	3521	93.05	-666.35	14.88
439	SLE RA 16	-37	48	3483	92.09	-659.2	12.98
439	SLE RA 17	-38	55	3507	92.68	-663.81	14.84
439	SLE RA 18	-36	49	3547	93.73	-671.18	13.26
439	SLE RA 19	-37	57	3571	94.32	-675.79	15.11
439	SLE RA 20	-37	49	3569	94.33	-675.21	13.33
439	SLE RA 21	-37	57	3593	94.92	-679.81	15.18
439	SLE FR 1	-36	44	3188	84.29	-604.42	11.85
439	SLE FR 2	-36	46	3196	84.48	-605.95	12.47
439	SLE FR 3	-36	44	3197	84.53	-606.03	11.88
439	SLE FR 4	-36	48	3304	87.32	-625.98	12.89
439	SLE FR 5	-36	45	3305	87.36	-626.06	12.31
439	SLE FR 6	-36	46	3367	89.01	-637.8	12.56
439	SLE QP 1	-36	44	3188	84.29	-604.42	11.85
439	SLE QP 2	-36	45	3296	87.12	-624.45	12.28
439	SLD 1	212	157	4648	121.71	-872.72	35.5
439	SLD 2	259	68	4572	119.89	-858.39	12.03
439	SLD 3	245	-49	3810	101.53	-711.02	-16.87
439	SLD 4	292	-139	3734	99.71	-696.69	-40.34
439	SLD 5	-20	408	4986	128.43	-946.76	102.9
439	SLD 6	11	350	4936	127.23	-937.29	87.4
439	SLD 7	90	-281	2193	61.17	-407.76	-71.66
439	SLD 8	121	-339	2143	59.97	-398.3	-87.17
439	SLD 9	-192	430	4449	114.27	-850.6	111.72
439	SLD 10	-161	371	4399	113.07	-841.14	96.21
439	SLD 11	-83	-259	1656	47.01	-311.6	-62.85
439	SLD 12	-52	-318	1606	45.81	-302.14	-78.35
439	SLD 13	-363	229	2857	74.53	-552.2	64.89
439	SLD 14	-316	140	2782	72.71	-537.87	41.42
439	SLD 15	-331	23	2019	54.35	-390.5	12.53
439	SLD 16	-283	-67	1944	52.53	-376.17	-10.95
439	SLV 1	351	226	5428	141.64	-1016.26	49.98
439	SLV 2	425	86	5310	138.8	-993.81	13.2
439	SLV 3	404	-108	4075	109.04	-755.03	-34.6
439	SLV 4	478	-248	3956	106.19	-732.58	-71.38
439	SLV 5	-14	632	6011	153.45	-1142.38	158.73
439	SLV 6	36	538	5931	151.54	-1127.26	133.97
439	SLV 7	163	-481	1499	44.78	-271.62	-123.2
439	SLV 8	212	-575	1419	42.87	-256.5	-147.97
439	SLV 9	-284	666	5173	131.38	-992.39	172.52
439	SLV 10	-234	572	5093	129.46	-977.28	147.75
439	SLV 11	-108	-447	661	22.7	-121.63	-109.42
439	SLV 12	-58	-541	581	20.79	-106.52	-134.18
439	SLV 13	-550	339	2636	68.05	-516.31	95.93
439	SLV 14	-476	199	2517	65.2	-493.86	59.15
439	SLV 15	-497	5	1282	35.45	-255.08	11.35
439	SLV 16	-423	-135	1163	32.6	-232.64	-25.43
439	SLV FO 1	390	244	5641	147.1	-1055.44	53.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
439	SLV FO 2	471	90	5511	143.96	-1030.75	13.29
439	SLV FO 3	448	-123	4152	111.23	-768.09	-39.29
439	SLV FO 4	529	-277	4022	108.1	-743.39	-79.75
439	SLV FO 5	-11	691	6282	160.09	-1194.17	173.38
439	SLV FO 6	43	587	6194	157.98	-1177.54	146.14
439	SLV FO 7	182	-534	1319	40.55	-236.33	-136.75
439	SLV FO 8	237	-637	1231	38.44	-219.71	-163.99
439	SLV FO 9	-309	728	5361	135.8	-1029.19	188.54
439	SLV FO 10	-254	624	5273	133.69	-1012.56	161.3
439	SLV FO 11	-115	-496	397	16.26	-71.35	-121.58
439	SLV FO 12	-60	-600	310	14.15	-54.72	-148.82
439	SLV FO 13	-601	368	2570	66.14	-505.5	104.3
439	SLV FO 14	-520	214	2439	63.01	-480.81	63.84
439	SLV FO 15	-543	1	1081	30.28	-218.15	11.26
439	SLV FO 16	-462	-153	950	27.15	-193.45	-29.2
439	CRTFP Ux+	0	0	0	0	0	0
439	CRTFP Ux-	0	0	0	0	0	0
439	CRTFP Uy+	0	0	0	0	0	0
439	CRTFP Uy-	0	0	0	0	0	0
442	SLU 1	40	-43	5836	158.28	41.63	0.7
442	SLU 2	43	-18	5945	160.97	41.45	0.63
442	SLU 3	40	-44	5940	161.18	42.5	0.71
442	SLU 4	42	-28	6005	162.79	42.39	0.67
442	SLU 5	43	-18	6010	162.78	42.01	0.64
442	SLU 6	40	-44	6004	163	43.06	0.73
442	SLU 7	42	-29	6070	164.61	42.95	0.68
442	SLU 8	40	-44	5965	161.91	42.76	0.73
442	SLU 9	41	-29	6030	163.52	42.64	0.68
442	SLU 10	43	-20	6701	181.5	47.96	0.77
442	SLU 11	41	-46	6696	181.71	49.02	0.86
442	SLU 12	43	-31	6761	183.32	48.91	0.81
442	SLU 13	43	-20	6766	183.31	48.53	0.78
442	SLU 14	41	-47	6760	183.53	49.58	0.87
442	SLU 15	42	-31	6826	185.14	49.47	0.83
442	SLU 16	40	-46	6721	182.44	49.27	0.87
442	SLU 17	42	-31	6787	184.05	49.16	0.83
442	SLU 18	41	-47	6916	187.61	50.94	0.9
442	SLU 19	42	-31	6982	189.22	50.83	0.86
442	SLU 20	41	-47	6981	189.42	51.51	0.92
442	SLU 21	42	-32	7046	191.04	51.39	0.87
442	SLU 22	45	-47	6661	180.91	47.87	0.77
442	SLU 23	48	-21	6770	183.6	47.69	0.7
442	SLU 24	45	-48	6764	183.81	48.74	0.79
442	SLU 25	47	-32	6830	185.42	48.63	0.75
442	SLU 26	48	-22	6835	185.41	48.25	0.72
442	SLU 27	45	-48	6829	185.63	49.3	0.8
442	SLU 28	47	-33	6894	187.24	49.19	0.76
442	SLU 29	45	-48	6790	184.54	49	0.8
442	SLU 30	46	-32	6855	186.15	48.89	0.76
442	SLU 31	48	-24	7526	204.13	54.21	0.84
442	SLU 32	46	-50	7521	204.34	55.26	0.93
442	SLU 33	47	-35	7586	205.95	55.15	0.89
442	SLU 34	48	-24	7591	205.94	54.77	0.86
442	SLU 35	46	-51	7585	206.16	55.82	0.95
442	SLU 36	47	-35	7651	207.77	55.71	0.9
442	SLU 37	45	-50	7546	205.07	55.52	0.95
442	SLU 38	47	-35	7611	206.68	55.41	0.9
442	SLU 39	46	-50	7741	210.24	57.19	0.98
442	SLU 40	47	-35	7807	211.85	57.08	0.93
442	SLU 41	46	-51	7805	212.05	57.75	0.99
442	SLU 42	47	-36	7871	213.67	57.64	0.95
442	SLU 43	50	-55	7304	198.01	51.98	0.88
442	SLU 44	53	-29	7413	200.69	51.79	0.81
442	SLU 45	51	-55	7408	200.91	52.85	0.9
442	SLU 46	52	-40	7473	202.52	52.74	0.85
442	SLU 47	53	-30	7478	202.51	52.36	0.82
442	SLU 48	51	-56	7472	202.72	53.41	0.91
442	SLU 49	52	-40	7538	204.34	53.3	0.87
442	SLU 50	50	-55	7433	201.64	53.1	0.91
442	SLU 51	52	-40	7499	203.25	52.99	0.87
442	SLU 52	54	-32	8169	221.22	58.31	0.95
442	SLU 53	51	-58	8164	221.44	59.37	1.04
442	SLU 54	53	-43	8229	223.05	59.25	1
442	SLU 55	54	-32	8234	223.04	58.88	0.97
442	SLU 56	51	-58	8228	223.25	59.93	1.05
442	SLU 57	53	-43	8294	224.87	59.82	1.01
442	SLU 58	51	-58	8189	222.17	59.62	1.05
442	SLU 59	52	-43	8255	223.78	59.51	1.01
442	SLU 60	51	-58	8384	227.33	61.29	1.08
442	SLU 61	53	-43	8450	228.95	61.18	1.04
442	SLU 62	51	-59	8449	229.15	61.86	1.1
442	SLU 63	53	-43	8514	230.76	61.74	1.06
442	SLU 64	55	-58	8129	220.64	58.22	0.96
442	SLU 65	58	-33	8238	223.32	58.04	0.88
442	SLU 66	56	-59	8233	223.54	59.09	0.97
442	SLU 67	57	-44	8298	225.15	58.98	0.93
442	SLU 68	58	-33	8303	225.14	58.6	0.9
442	SLU 69	55	-60	8297	225.35	59.65	0.99
442	SLU 70	57	-44	8363	226.97	59.54	0.94



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
442	SLU 71	55	-59	8258	224.27	59.35	0.99
442	SLU 72	57	-44	8323	225.88	59.54	0.94
442	SLU 73	59	-35	8994	243.85	64.56	1.03
442	SLU 74	56	-62	8989	244.07	65.61	1.12
442	SLU 75	58	-46	9054	245.68	65.5	1.07
442	SLU 76	58	-36	9059	245.67	65.12	1.04
442	SLU 77	56	-62	9053	245.88	66.17	1.13
442	SLU 78	58	-47	9119	247.49	66.06	1.09
442	SLU 79	56	-62	9014	244.8	65.87	1.13
442	SLU 80	57	-47	9079	246.41	65.76	1.09
442	SLU 81	56	-62	9209	249.96	67.54	1.16
442	SLU 82	58	-47	9275	251.58	67.42	1.12
442	SLU 83	56	-62	9273	251.78	68.1	1.18
442	SLU 84	58	-47	9339	253.39	67.99	1.13
442	SLE RA 1	41	-44	6072	164.75	43.42	0.72
442	SLE RA 2	43	-27	6145	166.54	43.29	0.67
442	SLE RA 3	42	-45	6141	166.68	43.99	0.73
442	SLE RA 4	43	-34	6184	167.76	43.92	0.7
442	SLE RA 5	43	-27	6187	167.75	43.67	0.68
442	SLE RA 6	42	-45	6184	167.89	44.37	0.74
442	SLE RA 7	43	-35	6227	168.97	44.29	0.71
442	SLE RA 8	41	-45	6158	167.17	44.16	0.74
442	SLE RA 9	42	-34	6201	168.24	44.09	0.71
442	SLE RA 10	44	-29	6649	180.22	47.64	0.77
442	SLE RA 11	42	-46	6645	180.37	48.34	0.82
442	SLE RA 12	43	-36	6689	181.44	48.26	0.8
442	SLE RA 13	44	-29	6692	181.43	48.01	0.78
442	SLE RA 14	42	-47	6688	181.58	48.71	0.83
442	SLE RA 15	43	-36	6732	182.65	48.64	0.81
442	SLE RA 16	42	-46	6662	180.85	48.51	0.83
442	SLE RA 17	43	-36	6705	181.93	48.44	0.8
442	SLE RA 18	42	-47	6792	184.3	49.62	0.86
442	SLE RA 19	43	-36	6835	185.37	49.55	0.83
442	SLE RA 20	42	-47	6835	185.51	50	0.87
442	SLE RA 21	43	-37	6878	186.58	49.92	0.84
442	SLE FR 1	41	-44	6072	164.75	43.42	0.72
442	SLE FR 2	42	-41	6086	165.1	43.39	0.71
442	SLE FR 3	41	-44	6089	165.23	43.56	0.72
442	SLE FR 4	42	-41	6302	170.97	45.25	0.75
442	SLE FR 5	42	-45	6305	171.1	45.43	0.76
442	SLE FR 6	42	-45	6432	174.52	46.52	0.79
442	SLE QP 1	41	-44	6072	164.75	43.42	0.72
442	SLE QP 2	42	-45	6288	170.61	45.28	0.76
442	SLD 1	609	122	6381	171.69	55.78	-14.46
442	SLD 2	705	190	6466	173.78	54.27	-15.95
442	SLD 3	572	-158	4947	136.6	60.31	-13.89
442	SLD 4	668	-90	5032	138.68	58.8	-15.38
442	SLD 5	251	417	8475	223.78	41.83	-4.39
442	SLD 6	314	463	8531	225.16	40.84	-5.38
442	SLD 7	127	-516	3696	106.81	56.92	-2.51
442	SLD 8	191	-471	3751	108.19	55.93	-3.49
442	SLD 9	-108	381	8824	233.04	34.63	5.01
442	SLD 10	-44	426	8880	234.42	33.63	4.03
442	SLD 11	-231	-553	4044	116.06	49.71	6.9
442	SLD 12	-167	-507	4100	117.44	48.72	5.91
442	SLD 13	-585	0	7544	202.54	31.75	16.9
442	SLD 14	-489	69	7628	204.63	30.25	15.41
442	SLD 15	-622	-280	6110	167.45	36.28	17.47
442	SLD 16	-526	-211	6194	169.54	34.78	15.98
442	SLV 1	931	223	6474	173.28	61.54	-23.08
442	SLV 2	1081	331	6606	176.55	59.18	-25.41
442	SLV 3	870	-230	4156	116.54	68.86	-22.15
442	SLV 4	1021	-122	4288	119.81	66.5	-24.48
442	SLV 5	372	702	9835	256.86	39.5	-7.36
442	SLV 6	473	775	9924	259.06	37.91	-8.93
442	SLV 7	170	-808	2107	67.72	63.89	-4.27
442	SLV 8	272	-735	2196	69.93	62.3	-5.84
442	SLV 9	-188	645	10379	271.3	28.26	7.36
442	SLV 10	-87	718	10468	273.5	26.67	5.79
442	SLV 11	-390	-865	2651	82.16	52.64	10.45
442	SLV 12	-289	-792	2740	84.36	51.05	8.88
442	SLV 13	-938	33	8287	221.41	24.06	26
442	SLV 14	-787	140	8420	224.68	21.7	23.67
442	SLV 15	-998	-420	5969	164.67	31.37	26.93
442	SLV 16	-848	-313	6101	167.94	29.02	24.6
442	SLV FO 1	1020	250	6493	173.55	63.17	-25.46
442	SLV FO 2	1185	368	6638	177.15	60.57	-28.03
442	SLV FO 3	953	-249	3942	111.14	71.21	-24.44
442	SLV FO 4	1119	-130	4088	114.73	68.62	-27.01
442	SLV FO 5	405	777	10190	265.48	38.92	-8.17
442	SLV FO 6	517	857	10288	267.91	37.18	-9.9
442	SLV FO 7	183	-884	1689	57.44	65.75	-4.77
442	SLV FO 8	295	-804	1787	59.86	64	-6.5
442	SLV FO 9	-211	714	10788	281.37	26.55	8.02
442	SLV FO 10	-100	794	10886	283.79	24.81	6.29
442	SLV FO 11	-433	-947	2288	73.32	53.38	11.42
442	SLV FO 12	-322	-867	2385	75.74	51.63	9.69
442	SLV FO 13	-1036	40	8487	226.49	21.93	28.53
442	SLV FO 14	-870	159	8633	230.09	19.34	25.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
442	SLV FO 15	-1102	-458	5937	164.08	29.98	29.55
442	SLV FO 16	-937	-339	6083	167.67	27.39	26.98
442	CRTFP Ux+	0	0	0	0	0	0
442	CRTFP Ux-	0	0	0	0	0	0
442	CRTFP Uy+	0	0	0	0	0	0
442	CRTFP Uy-	0	0	0	0	0	0
445	SLU 1	33	11	3477	92.05	955.51	-4.65
445	SLU 2	36	31	3551	93.81	975.56	-11.67
445	SLU 3	34	11	3541	93.78	972.23	-4.7
445	SLU 4	35	23	3585	94.84	984.26	-8.91
445	SLU 5	36	31	3590	94.89	985.83	-11.81
445	SLU 6	34	11	3580	94.85	982.5	-4.84
445	SLU 7	36	23	3624	95.91	994.53	-9.05
445	SLU 8	33	12	3556	94.2	976.05	-4.92
445	SLU 9	35	24	3600	95.25	988.08	-9.14
445	SLU 10	37	31	3980	105.15	1091.44	-11.91
445	SLU 11	34	12	3970	105.12	1088.1	-4.94
445	SLU 12	36	24	4014	106.18	1100.13	-9.15
445	SLU 13	37	32	4019	106.23	1101.71	-12.04
445	SLU 14	35	12	4010	106.19	1098.38	-5.07
445	SLU 15	36	24	4054	107.25	1110.41	-9.29
445	SLU 16	34	12	3985	105.54	1091.93	-5.16
445	SLU 17	36	24	4029	106.6	1103.96	-9.37
445	SLU 18	34	12	4091	108.25	1121.05	-4.99
445	SLU 19	36	24	4135	109.31	1133.08	-9.2
445	SLU 20	34	12	4130	109.32	1131.32	-5.12
445	SLU 21	36	24	4174	110.38	1143.35	-9.34
445	SLU 22	37	9	3961	104.94	1085.21	-4.18
445	SLU 23	40	29	4035	106.71	1105.26	-11.21
445	SLU 24	37	9	4025	106.67	1101.93	-4.24
445	SLU 25	39	21	4069	107.73	1113.96	-8.45
445	SLU 26	40	30	4074	107.78	1115.54	-11.34
445	SLU 27	38	10	4064	107.75	1112.2	-4.37
445	SLU 28	39	22	4108	108.81	1124.23	-8.59
445	SLU 29	37	10	4040	107.09	1105.76	-4.46
445	SLU 30	39	22	4084	108.15	1117.79	-8.67
445	SLU 31	41	30	4464	118.05	1221.14	-11.44
445	SLU 32	38	10	4454	118.02	1217.81	-4.47
445	SLU 33	40	22	4499	119.07	1229.84	-8.69
445	SLU 34	41	30	4504	119.12	1231.41	-11.58
445	SLU 35	38	10	4494	119.09	1228.08	-4.61
445	SLU 36	40	22	4538	120.15	1240.11	-8.82
445	SLU 37	38	11	4469	118.43	1221.64	-4.7
445	SLU 38	40	23	4513	119.49	1233.67	-8.91
445	SLU 39	38	10	4575	121.15	1250.75	-4.52
445	SLU 40	40	22	4619	122.21	1262.78	-8.74
445	SLU 41	38	11	4614	122.22	1261.03	-4.66
445	SLU 42	40	22	4658	123.28	1273.06	-8.87
445	SLU 43	42	15	4354	115.24	1197.69	-6.2
445	SLU 44	45	35	4428	117	1217.74	-13.22
445	SLU 45	42	15	4418	116.97	1214.41	-6.25
445	SLU 46	44	27	4462	118.03	1226.44	-10.47
445	SLU 47	45	35	4467	118.08	1228.01	-13.36
445	SLU 48	43	15	4457	118.04	1224.68	-6.39
445	SLU 49	44	27	4501	119.1	1236.71	-10.6
445	SLU 50	42	15	4433	117.39	1218.23	-6.48
445	SLU 51	44	27	4477	118.45	1230.26	-10.69
445	SLU 52	45	35	4857	128.35	1333.62	-13.46
445	SLU 53	43	15	4848	128.31	1330.29	-6.49
445	SLU 54	45	27	4892	129.37	1342.32	-10.7
445	SLU 55	46	36	4897	129.42	1343.89	-13.6
445	SLU 56	43	16	4887	129.39	1340.56	-6.63
445	SLU 57	45	28	4931	130.44	1352.59	-10.84
445	SLU 58	43	16	4862	128.73	1334.11	-6.71
445	SLU 59	45	28	4906	129.79	1346.14	-10.92
445	SLU 60	43	16	4968	131.44	1363.23	-6.54
445	SLU 61	45	27	5012	132.5	1375.26	-10.75
445	SLU 62	43	16	5007	132.52	1373.5	-6.68
445	SLU 63	45	28	5051	133.58	1385.53	-10.89
445	SLU 64	46	13	4838	128.14	1327.4	-5.74
445	SLU 65	48	33	4912	129.9	1347.45	-12.76
445	SLU 66	46	13	4902	129.87	1344.11	-5.79
445	SLU 67	48	25	4946	130.93	1356.14	-10
445	SLU 68	49	33	4951	130.97	1357.72	-12.9
445	SLU 69	46	14	4941	130.94	1354.39	-5.93
445	SLU 70	48	25	4985	132	1366.42	-10.14
445	SLU 71	46	14	4917	130.29	1347.94	-6.01
445	SLU 72	48	26	4961	131.34	1359.97	-10.23
445	SLU 73	49	34	5341	141.24	1463.32	-13
445	SLU 74	47	14	5332	141.21	1459.99	-6.03
445	SLU 75	49	26	5376	142.27	1472.02	-10.24
445	SLU 76	49	34	5381	142.32	1473.6	-13.13
445	SLU 77	47	14	5371	142.28	1470.26	-6.16
445	SLU 78	49	26	5415	143.34	1482.29	-10.38
445	SLU 79	47	14	5346	141.63	1463.82	-6.25
445	SLU 80	48	26	5391	142.68	1475.85	-10.46
445	SLU 81	47	14	5452	144.34	1492.94	-6.08
445	SLU 82	48	26	5496	145.4	1504.97	-10.29
445	SLU 83	47	14	5491	145.41	1503.21	-6.21



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
445	SLU 84	49	26	5535	146.47	1515.24	-10.43
445	SLE RA 1	34	10	3615	992.57		-4.52
445	SLE RA 2	36	24	3664	96.91	1005.93	-9.2
445	SLE RA 3	35	10	3658	96.89	1003.71	-4.55
445	SLE RA 4	36	18	3687	97.59	1011.73	-7.36
445	SLE RA 5	36	24	3691	97.62	1012.78	-9.29
445	SLE RA 6	35	11	3684	97.6	1010.56	-4.64
445	SLE RA 7	36	19	3713	98.31	1018.58	-7.45
445	SLE RA 8	34	11	3668	97.16	1006.26	-4.7
445	SLE RA 9	36	19	3697	97.87	1014.28	-7.51
445	SLE RA 10	37	24	3951	104.47	1083.19	-9.35
445	SLE RA 11	35	11	3944	104.45	1080.96	-4.71
445	SLE RA 12	36	19	3974	105.15	1088.98	-7.52
445	SLE RA 13	37	24	3977	105.19	1090.03	-9.45
445	SLE RA 14	35	11	3970	105.16	1087.81	-4.8
445	SLE RA 15	36	19	4000	105.87	1095.83	-7.61
445	SLE RA 16	35	11	3954	104.73	1083.51	-4.86
445	SLE RA 17	36	19	3984	105.43	1091.53	-7.66
445	SLE RA 18	35	11	4025	106.53	1102.93	-4.74
445	SLE RA 19	36	19	4054	107.24	1110.95	-7.55
445	SLE RA 20	35	11	4051	107.25	1109.77	-4.83
445	SLE RA 21	36	19	4080	107.96	1117.79	-7.64
445	SLE FR 1	34	10	3615	95.73	992.57	-4.52
445	SLE FR 2	35	13	3625	95.97	995.24	-5.45
445	SLE FR 3	34	10	3626	96.02	995.31	-4.55
445	SLE FR 4	35	13	3748	99.21	1028.35	-5.52
445	SLE FR 5	35	11	3749	99.26	1028.41	-4.62
445	SLE FR 6	35	11	3820	101.13	1047.75	-4.63
445	SLE QP 1	34	10	3615	95.73	992.57	-4.52
445	SLE QP 2	34	11	3738	98.97	1025.67	-4.58
445	SLD 1	365	108	3164	82.79	885.22	-44.43
445	SLD 2	422	207	3253	84.92	909.81	-80.63
445	SLD 3	336	-98	2196	59.65	616.28	28.29
445	SLD 4	393	1	2285	61.78	640.87	-7.91
445	SLD 5	167	334	5018	128.83	1387.01	-120.3
445	SLD 6	204	400	5077	130.24	1403.24	-144.2
445	SLD 7	71	-352	1791	51.69	490.53	122.09
445	SLD 8	109	-287	1851	53.1	506.76	98.18
445	SLD 9	-40	308	5626	144.85	1544.59	-107.35
445	SLD 10	-3	374	5685	146.25	1560.82	-131.25
445	SLD 11	-135	-379	2400	67.71	648.11	135.04
445	SLD 12	-98	-313	2459	69.11	664.34	111.14
445	SLD 13	-325	20	5191	136.17	1410.48	-1.25
445	SLD 14	-267	119	5281	138.3	1435.07	-37.45
445	SLD 15	-353	-186	4223	113.02	1141.54	71.46
445	SLD 16	-296	-87	4313	115.16	1166.13	35.26
445	SLV 1	553	168	2869	74.39	814.19	-68.85
445	SLV 2	642	324	3010	77.73	852.72	-125.56
445	SLV 3	506	-166	1304	36.97	379.36	48.95
445	SLV 4	596	-10	1445	40.31	417.89	-7.76
445	SLV 5	244	535	5825	147.72	1614.53	-191.94
445	SLV 6	304	640	5919	149.97	1640.47	-230.12
445	SLV 7	89	-578	608	23	165.1	200.72
445	SLV 8	149	-473	703	25.25	191.04	162.54
445	SLV 9	-80	494	6774	172.7	1860.31	-171.71
445	SLV 10	-20	599	6868	174.95	1886.25	-209.89
445	SLV 11	-235	-619	1557	47.98	410.88	220.96
445	SLV 12	-175	-514	1652	50.22	436.82	182.78
445	SLV 13	-527	31	6032	157.64	1633.46	-1.4
445	SLV 14	-437	187	6172	160.98	1671.99	-58.11
445	SLV 15	-573	-303	4467	120.22	1198.63	116.4
445	SLV 16	-484	-147	4607	123.56	1237.16	59.68
445	SLV FO 1	605	184	2783	71.93	793.04	-75.28
445	SLV FO 2	703	355	2937	75.6	835.42	-137.66
445	SLV FO 3	553	-183	1061	30.77	314.73	54.3
445	SLV FO 4	652	-12	1215	34.44	357.11	-8.08
445	SLV FO 5	265	588	6033	152.6	1673.42	-210.68
445	SLV FO 6	331	703	6137	155.07	1701.95	-252.68
445	SLV FO 7	94	-636	296	15.4	79.04	221.26
445	SLV FO 8	160	-521	399	17.88	107.57	179.25
445	SLV FO 9	-91	542	7077	180.07	1943.78	-188.42
445	SLV FO 10	-25	658	7181	182.54	1972.31	-230.42
445	SLV FO 11	-262	-682	1339	42.88	349.4	243.51
445	SLV FO 12	-196	-566	1443	45.35	377.93	201.51
445	SLV FO 13	-583	33	6261	163.5	1694.24	-1.08
445	SLV FO 14	-485	204	6415	167.18	1736.62	-63.47
445	SLV FO 15	-634	-334	4540	122.34	1215.93	128.5
445	SLV FO 16	-536	-163	4694	126.02	1258.31	66.11
445	CRTFP Ux+	0	0	0	0	0	0
445	CRTFP Ux-	0	0	0	0	0	0
445	CRTFP Uy+	0	0	0	0	0	0
445	CRTFP Uy-	0	0	0	0	0	0
448	SLU 1	-56	-72	6148	-3.71	-34.05	-1.75
448	SLU 2	-58	-45	6252	-4.1	-34.01	-1.76
448	SLU 3	-58	-74	6260	-3.66	-34.82	-1.79
448	SLU 4	-59	-57	6322	-3.89	-34.8	-1.79
448	SLU 5	-59	-46	6322	-4.06	-34.52	-1.79
448	SLU 6	-59	-75	6330	-3.63	-35.33	-1.81
448	SLU 7	-60	-58	6392	-3.86	-35.31	-1.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
448	SLU 8	-58	-74	6287	-3.64	-35.07	-1.8
448	SLU 9	-60	-58	6350	-3.87	-35.05	-1.81
448	SLU 10	-59	-52	7054	-4.53	-39.81	-1.91
448	SLU 11	-58	-81	7062	-4.1	-40.62	-1.94
448	SLU 12	-60	-65	7124	-4.33	-40.59	-1.95
448	SLU 13	-60	-53	7124	-4.5	-40.32	-1.94
448	SLU 14	-59	-82	7132	-4.06	-41.13	-1.97
448	SLU 15	-61	-66	7194	-4.29	-41.1	-1.98
448	SLU 16	-59	-82	7090	-4.07	-40.86	-1.95
448	SLU 17	-60	-65	7152	-4.3	-40.84	-1.96
448	SLU 18	-57	-83	7294	-4.33	-42.33	-1.97
448	SLU 19	-58	-66	7356	-4.57	-42.31	-1.97
448	SLU 20	-58	-84	7364	-4.3	-42.84	-1.99
448	SLU 21	-59	-67	7426	-4.53	-42.82	-2
448	SLU 22	-64	-81	7032	-3.89	-39.55	-2
448	SLU 23	-66	-54	7136	-4.28	-39.52	-2.01
448	SLU 24	-65	-83	7144	-3.84	-40.33	-2.04
448	SLU 25	-67	-66	7207	-4.08	-40.3	-2.05
448	SLU 26	-67	-55	7206	-4.24	-40.03	-2.04
448	SLU 27	-66	-84	7214	-3.81	-40.83	-2.07
448	SLU 28	-68	-67	7276	-4.04	-40.81	-2.08
448	SLU 29	-66	-83	7172	-3.82	-40.57	-2.05
448	SLU 30	-67	-67	7234	-4.05	-40.55	-2.06
448	SLU 31	-66	-61	7938	-4.72	-45.31	-2.17
448	SLU 32	-66	-90	7946	-4.28	-46.12	-2.19
448	SLU 33	-67	-74	8009	-4.51	-46.1	-2.2
448	SLU 34	-68	-62	8008	-4.68	-45.82	-2.19
448	SLU 35	-67	-91	8016	-4.25	-46.63	-2.22
448	SLU 36	-68	-75	8079	-4.48	-46.61	-2.23
448	SLU 37	-67	-91	7974	-4.25	-46.37	-2.21
448	SLU 38	-68	-74	8036	-4.49	-46.35	-2.22
448	SLU 39	-64	-92	8178	-4.52	-47.83	-2.22
448	SLU 40	-66	-75	8241	-4.75	-47.81	-2.23
448	SLU 41	-66	-93	8248	-4.48	-48.34	-2.25
448	SLU 42	-67	-76	8310	-4.71	-48.32	-2.25
448	SLU 43	-70	-91	7689	-4.76	-42.38	-2.18
448	SLU 44	-73	-63	7793	-5.15	-42.34	-2.2
448	SLU 45	-72	-92	7801	-4.71	-43.15	-2.22
448	SLU 46	-73	-76	7863	-4.94	-43.13	-2.23
448	SLU 47	-74	-64	7863	-5.11	-42.85	-2.22
448	SLU 48	-73	-93	7871	-4.68	-43.66	-2.25
448	SLU 49	-74	-77	7933	-4.91	-43.64	-2.26
448	SLU 50	-73	-93	7829	-4.69	-43.4	-2.24
448	SLU 51	-74	-76	7891	-4.92	-43.37	-2.25
448	SLU 52	-73	-71	8595	-5.58	-48.13	-2.35
448	SLU 53	-72	-100	8603	5.15	-48.94	-2.38
448	SLU 54	-74	-83	8665	-5.38	-48.92	-2.39
448	SLU 55	-74	-72	8665	-5.55	-48.64	-2.38
448	SLU 56	-74	-101	8673	-5.11	-49.45	-2.4
448	SLU 57	-75	-84	8735	-5.34	-49.43	-2.41
448	SLU 58	-73	-100	8631	-5.12	-49.19	-2.39
448	SLU 59	-75	-84	8693	-5.35	-49.17	-2.4
448	SLU 60	-71	-101	8835	-5.38	-50.66	-2.4
448	SLU 61	-72	-85	8897	-5.62	-50.63	-2.41
448	SLU 62	-72	-102	8905	-5.35	-51.17	-2.43
448	SLU 63	-74	-86	8967	-5.58	-51.14	-2.44
448	SLU 64	-78	-100	8573	-4.94	-47.88	-2.44
448	SLU 65	-80	-72	8677	-5.33	-47.84	-2.45
448	SLU 66	-79	-101	8685	-4.89	-48.65	-2.48
448	SLU 67	-81	-85	8748	-5.13	-48.63	-2.49
448	SLU 68	-81	-73	8747	-5.29	-48.35	-2.48
448	SLU 69	-81	-102	8755	-4.86	-49.16	-2.5
448	SLU 70	-82	-86	8817	-5.09	-49.14	-2.51
448	SLU 71	-80	-102	8713	-4.87	-48.9	-2.49
448	SLU 72	-82	-85	8775	-5.1	-48.88	-2.5
448	SLU 73	-81	-80	9479	-5.77	-53.64	-2.6
448	SLU 74	-80	-109	9488	-5.33	-54.45	-2.63
448	SLU 75	-81	-92	9550	-5.56	-54.43	-2.64
448	SLU 76	-82	-81	9549	-5.73	-54.15	-2.63
448	SLU 77	-81	-110	9557	-5.3	-54.96	-2.66
448	SLU 78	-83	-93	9620	-5.53	-54.94	-2.67
448	SLU 79	-81	-109	9515	-5.3	-54.7	-2.65
448	SLU 80	-82	-93	9577	-5.54	-54.67	-2.65
448	SLU 81	-79	-110	9719	-5.57	-56.16	-2.66
448	SLU 82	-80	-94	9782	-5.8	-56.14	-2.66
448	SLU 83	-80	-111	9789	-5.53	-56.67	-2.68
448	SLU 84	-81	-95	9851	-5.76	-56.65	-2.69
448	SLE RA 1	-58	-75	6401	-3.76	-35.62	-1.82
448	SLE RA 2	-60	-56	6470	-4.02	-35.6	-1.83
448	SLE RA 3	-59	-76	6475	-3.73	-36.14	-1.85
448	SLE RA 4	-60	-65	6517	-3.88	-36.12	-1.85
448	SLE RA 5	-61	-57	6516	-3.99	-35.94	-1.85
448	SLE RA 6	-60	-76	6522	-3.71	-36.48	-1.86
448	SLE RA 7	-61	-65	6563	-3.86	-36.46	-1.87
448	SLE RA 8	-60	-76	6494	-3.71	-36.3	-1.86
448	SLE RA 9	-61	-65	6535	-3.87	-36.29	-1.86
448	SLE RA 10	-60	-61	7005	-4.31	-39.46	-1.93
448	SLE RA 11	-60	-81	7010	-4.02	-40	-1.95
448	SLE RA 12	-61	-70	7052	-4.18	-39.98	-1.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
448	SLE RA 13	-61	-62	7051	-4.29	-39.8	-1.95
448	SLE RA 14	-60	-81	7056	-4	-40.34	-1.97
448	SLE RA 15	-61	-70	7098	-4.15	-40.32	-1.97
448	SLE RA 16	-60	-81	7028	-4	-40.16	-1.96
448	SLE RA 17	-61	-70	7070	-4.16	-40.15	-1.96
448	SLE RA 18	-59	-82	7164	-4.18	-41.14	-1.97
448	SLE RA 19	-60	-71	7206	-4.33	-41.13	-1.97
448	SLE RA 20	-60	-83	7211	-4.15	-41.48	-1.98
448	SLE RA 21	-60	-71	7253	-4.31	-41.47	-1.99
448	SLE FR 1	-58	-75	6401	-3.76	-35.62	-1.82
448	SLE FR 2	-59	-71	6414	-3.81	-35.62	-1.82
448	SLE FR 3	-59	-75	6419	-3.75	-35.76	-1.83
448	SLE FR 4	-59	-73	6644	-3.94	-37.27	-1.86
448	SLE FR 5	-59	-77	6648	-3.88	-37.41	-1.87
448	SLE FR 6	-58	-78	6783	-3.97	-38.38	-1.89
448	SLE QP 1	-58	-75	6401	-3.76	-35.62	-1.82
448	SLE QP 2	-58	-77	6630	-3.89	-37.28	-1.86
448	SLD 1	482	67	7991	-7.23	-17.83	-1.07
448	SLD 2	576	-6	7914	-6.96	-19.14	0.59
448	SLD 3	539	-252	6611	-1.87	-20.7	0.05
448	SLD 4	632	-325	6534	-1.6	-22.02	1.72
448	SLD 5	2	463	9145	-13.06	-26.85	-3.63
448	SLD 6	64	415	9095	-12.89	-27.72	-2.53
448	SLD 7	189	-600	4545	4.8	-36.42	0.12
448	SLD 8	251	-648	4494	4.98	-37.29	1.22
448	SLD 9	-367	494	8765	-12.75	-37.26	-4.94
448	SLD 10	-306	446	8715	-12.57	-38.13	-3.85
448	SLD 11	-181	-569	4165	5.12	-46.84	-1.19
448	SLD 12	-119	-617	4114	5.29	-47.71	-0.1
448	SLD 13	-749	171	6725	-6.17	-52.54	-5.44
448	SLD 14	-655	98	6648	-5.91	-53.86	-3.78
448	SLD 15	-693	-148	5345	-0.81	-55.41	-4.32
448	SLD 16	-599	-221	5268	-0.55	-56.73	-2.66
448	SLV 1	787	156	8793	-9.25	-6.85	-0.64
448	SLV 2	934	42	8672	-8.83	-8.92	1.96
448	SLV 3	877	-359	6562	-0.59	-11.49	1.16
448	SLV 4	1024	-473	6442	-0.17	-13.55	3.76
448	SLV 5	31	796	10684	-18.7	-20.73	-4.72
448	SLV 6	130	719	10603	-18.42	-22.12	-2.97
448	SLV 7	331	-921	3249	10.16	-36.19	1.3
448	SLV 8	430	-998	3168	10.44	-37.58	3.05
448	SLV 9	-547	844	10091	-18.21	-36.98	-6.77
448	SLV 10	-448	768	10010	-17.93	-38.37	-5.02
448	SLV 11	-247	-873	2657	10.65	-52.43	-0.76
448	SLV 12	-148	-949	2576	10.93	-53.82	0.99
448	SLV 13	-1141	319	6817	-7.6	-61	-7.49
448	SLV 14	-994	205	6697	-7.18	-63.07	-4.89
448	SLV 15	-1051	-196	4587	1.06	-65.64	-5.69
448	SLV 16	-904	-310	4467	1.47	-67.7	-3.08
448	SLV FO 1	872	180	9009	-9.78	-3.81	-0.52
448	SLV FO 2	1033	54	8877	-9.33	-6.08	2.34
448	SLV FO 3	971	-387	6556	-0.26	-8.91	1.46
448	SLV FO 4	1132	-512	6423	0.2	-11.18	4.33
448	SLV FO 5	40	883	11089	-20.18	-19.08	-5.01
448	SLV FO 6	149	799	11000	-19.88	-20.61	-3.08
448	SLV FO 7	370	-1006	2911	11.56	-36.08	1.61
448	SLV FO 8	479	-1090	2822	11.87	-37.61	3.54
448	SLV FO 9	-596	937	10437	-19.64	-36.95	-7.27
448	SLV FO 10	-487	852	10348	-19.33	-38.48	-5.34
448	SLV FO 11	-266	-952	2259	12.11	-53.95	-0.65
448	SLV FO 12	-157	-1037	2170	12.41	-55.48	1.28
448	SLV FO 13	-1249	359	6836	-7.97	-63.37	-8.05
448	SLV FO 14	-1088	233	6704	-7.51	-65.64	-5.19
448	SLV FO 15	-1150	-208	4383	1.55	-68.47	-6.07
448	SLV FO 16	-989	-333	4250	2.01	-70.74	-3.2
448	CRTFP Ux+	0	0	0	0	0	0
448	CRTFP Ux-	0	0	0	0	0	0
448	CRTFP Uy+	0	0	0	0	0	0
448	CRTFP Uy-	0	0	0	0	0	0
452	SLU 1	12	-81	3596	-2.73	1062.2	28.56
452	SLU 2	14	-62	3652	-3.04	1078.42	21.92
452	SLU 3	12	-83	3661	-2.72	1080.68	29.11
452	SLU 4	13	-71	3695	-2.91	1090.42	25.13
452	SLU 5	14	-63	3693	-3.03	1089.92	22.25
452	SLU 6	12	-84	3701	-2.71	1092.18	29.44
452	SLU 7	13	-72	3735	-2.9	1101.91	25.45
452	SLU 8	12	-83	3677	-2.71	1085.19	29.21
452	SLU 9	13	-72	3711	-2.9	1094.92	25.23
452	SLU 10	14	-71	4146	-3.39	1223.52	25.07
452	SLU 11	12	-92	4154	-3.07	1225.79	32.26
452	SLU 12	13	-80	4188	-3.25	1235.52	28.28
452	SLU 13	13	-72	4186	-3.38	1235.02	25.4
452	SLU 14	11	-93	4195	-3.06	1237.28	32.59
452	SLU 15	12	-81	4228	-3.25	1247.01	28.61
452	SLU 16	11	-92	4170	-3.06	1230.3	32.37
452	SLU 17	12	-81	4204	-3.24	1240.03	28.38
452	SLU 18	12	-94	4301	-3.23	1269.49	33.06
452	SLU 19	13	-83	4334	-3.41	1279.22	29.08
452	SLU 20	11	-95	4341	-3.22	1280.99	33.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
452	SLU 21	12	-84	4375	-3.4	1290.72	29.41
452	SLU 22	14	-91	4094	-2.95	1205.49	32.16
452	SLU 23	15	-72	4150	-3.26	1221.71	25.53
452	SLU 24	13	-93	4158	-2.94	1223.97	32.71
452	SLU 25	14	-82	4192	-3.12	1233.71	28.73
452	SLU 26	15	-73	4190	-3.25	1233.21	25.86
452	SLU 27	13	-94	4199	-2.93	1235.47	33.04
452	SLU 28	14	-83	4233	-3.12	1245.2	29.06
452	SLU 29	13	-93	4175	-2.93	1228.48	32.82
452	SLU 30	14	-82	4208	-3.11	1238.21	28.84
452	SLU 31	15	-81	4643	-3.6	1366.81	28.68
452	SLU 32	13	-102	4652	-3.28	1369.08	35.86
452	SLU 33	14	-91	4686	-3.47	1378.81	31.88
452	SLU 34	15	-82	4684	-3.59	1378.31	29.01
452	SLU 35	13	-103	4692	-3.28	1380.57	36.19
452	SLU 36	14	-91	4726	-3.46	1390.3	32.21
452	SLU 37	13	-102	4668	-3.27	1373.59	35.97
452	SLU 38	14	-91	4702	-3.46	1383.32	31.99
452	SLU 39	13	-104	4798	-3.44	1412.78	36.67
452	SLU 40	14	-93	4832	-3.63	1422.51	32.68
452	SLU 41	13	-105	4839	-3.43	1424.28	36.99
452	SLU 42	14	-94	4873	-3.62	1434.01	33.01
452	SLU 43	16	-102	4504	-3.48	1331.73	35.89
452	SLU 44	17	-83	4560	-3.79	1347.95	29.25
452	SLU 45	15	-104	4569	-3.47	1350.21	36.44
452	SLU 46	17	-92	4603	-3.65	1359.95	32.46
452	SLU 47	17	-84	4601	-3.78	1359.45	29.58
452	SLU 48	15	-104	4609	-3.46	1361.71	36.77
452	SLU 49	16	-93	4643	-3.64	1371.44	32.78
452	SLU 50	15	-104	4585	-3.46	1354.72	36.54
452	SLU 51	16	-92	4619	-3.64	1364.46	32.56
452	SLU 52	17	-92	5054	-4.13	1493.06	32.4
452	SLU 53	15	-113	5062	-3.81	1495.32	39.59
452	SLU 54	16	-101	5096	-4	1505.05	35.61
452	SLU 55	17	-93	5094	-4.12	1504.55	32.73
452	SLU 56	15	-113	5103	-3.8	1506.81	39.92
452	SLU 57	16	-102	5137	-3.99	1516.55	35.94
452	SLU 58	15	-113	5078	-3.8	1499.83	39.7
452	SLU 59	16	-101	5112	-3.99	1509.56	35.71
452	SLU 60	15	-115	5209	-3.97	1539.02	40.39
452	SLU 61	16	-103	5243	-4.16	1548.76	36.41
452	SLU 62	15	-116	5249	-3.96	1550.52	40.72
452	SLU 63	16	-104	5283	-4.15	1560.25	36.74
452	SLU 64	17	-112	5002	-3.69	1475.02	39.49
452	SLU 65	19	-93	5058	-4	1491.24	32.86
452	SLU 66	17	-114	5067	-3.68	1493.5	40.04
452	SLU 67	18	-102	5100	-3.87	1503.24	36.06
452	SLU 68	18	-94	5099	-3.99	1502.74	33.19
452	SLU 69	16	-115	5107	-3.68	1505	40.37
452	SLU 70	18	-103	5141	-3.86	1514.73	36.39
452	SLU 71	16	-114	5083	-3.67	1498.01	40.15
452	SLU 72	17	-103	5117	-3.86	1507.75	36.17
452	SLU 73	18	-102	5551	-4.35	1636.35	36.01
452	SLU 74	16	-123	5560	-4.03	1638.61	43.2
452	SLU 75	17	-111	5594	-4.22	1648.34	39.21
452	SLU 76	18	-103	5592	-4.34	1647.84	36.34
452	SLU 77	16	-124	5600	-4.02	1650.1	43.52
452	SLU 78	17	-112	5634	-4.21	1659.84	39.54
452	SLU 79	16	-123	5576	-4.02	1643.12	43.3
452	SLU 80	17	-112	5610	-4.21	1652.85	39.32
452	SLU 81	16	-125	5706	-4.19	1682.31	44
452	SLU 82	17	-114	5740	-4.37	1692.05	40.01
452	SLU 83	16	-126	5747	-4.18	1693.81	44.32
452	SLU 84	17	-115	5781	-4.36	1703.54	40.34
452	SLE RA 1	13	-84	3738	-2.79	1103.14	29.59
452	SLE RA 2	14	-71	3776	-3	1113.95	25.16
452	SLE RA 3	13	-85	3781	-2.79	1115.46	29.95
452	SLE RA 4	13	-78	3804	-2.91	1121.95	27.3
452	SLE RA 5	14	-72	3803	-2.99	1121.62	25.38
452	SLE RA 6	12	-86	3808	-2.78	1123.13	30.17
452	SLE RA 7	13	-78	3831	-2.9	1129.61	27.52
452	SLE RA 8	12	-85	3792	-2.78	1118.47	30.02
452	SLE RA 9	13	-78	3815	-2.9	1124.96	27.37
452	SLE RA 10	13	-77	4105	-3.23	1210.69	27.26
452	SLE RA 11	12	-91	4110	-3.02	1212.2	32.05
452	SLE RA 12	13	-84	4133	-3.14	1218.69	29.4
452	SLE RA 13	13	-78	4132	-3.22	1218.35	27.48
452	SLE RA 14	12	-92	4137	-3.01	1219.86	32.27
452	SLE RA 15	13	-84	4160	-3.14	1226.35	29.62
452	SLE RA 16	12	-91	4121	-3.01	1215.2	32.13
452	SLE RA 17	13	-84	4144	-3.13	1221.69	29.47
452	SLE RA 18	12	-93	4208	-3.12	1241.33	32.59
452	SLE RA 19	13	-85	4230	-3.25	1247.82	29.93
452	SLE RA 20	12	-93	4235	-3.12	1249	32.81
452	SLE RA 21	13	-86	4257	-3.24	1255.49	30.15
452	SLE FR 1	13	-84	3738	-2.79	1103.14	29.59
452	SLE FR 2	13	-82	3746	-2.83	1105.3	28.7
452	SLE FR 3	13	-84	3749	-2.79	1106.21	29.67
452	SLE FR 4	13	-84	3887	-2.93	1146.76	29.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
452	SLE FR 5	12	-87	3890	-2.89	1147.66	30.57
452	SLE FR 6	12	-88	3973	-2.96	1172.24	31.09
452	SLE QP 1	13	-84	3738	-2.79	1103.14	29.59
452	SLE QP 2	13	-87	3879	-2.89	1144.6	30.49
452	SLD 1	366	37	4248	-4.57	1255.6	-12.54
452	SLD 2	422	42	4257	-4.61	1256.77	-13.85
452	SLD 3	343	-183	3550	-0.71	1055.07	64.73
452	SLD 4	399	-179	3559	-0.74	1056.24	63.42
452	SLD 5	144	284	5047	-9.25	1481.82	-99.38
452	SLD 6	181	287	5053	-9.27	1482.6	-100.25
452	SLD 7	66	-451	2720	3.63	813.39	158.19
452	SLD 8	103	-448	2726	3.61	814.17	157.33
452	SLD 9	-78	275	5032	-9.39	1475.03	-96.35
452	SLD 10	-41	278	5038	-9.41	1475.81	-97.22
452	SLD 11	-156	-461	2705	3.49	806.6	161.22
452	SLD 12	-119	-458	2711	3.47	807.37	160.36
452	SLD 13	-374	6	4199	-5.04	1232.95	-2.45
452	SLD 14	-318	10	4208	-5.08	1234.13	-3.75
452	SLD 15	-397	-215	3501	-1.17	1032.42	74.83
452	SLD 16	-341	-211	3510	-1.21	1033.6	73.52
452	SLV 1	567	113	4475	-5.62	1323.54	-38.93
452	SLV 2	655	120	4489	-5.68	1325.38	-40.98
452	SLV 3	529	-244	3346	0.63	999.33	85.96
452	SLV 4	617	-237	3360	0.57	1001.17	83.91
452	SLV 5	220	5767	5767	-13.17	1689.65	-179.37
452	SLV 6	280	518	5776	-13.21	1690.89	-180.75
452	SLV 7	93	-676	2005	7.65	608.96	236.93
452	SLV 8	152	-671	2014	7.61	610.2	235.55
452	SLV 9	-127	498	5744	-13.39	1679	-174.57
452	SLV 10	-68	503	5753	-13.43	1680.24	-175.95
452	SLV 11	-255	-691	1982	7.43	598.31	241.72
452	SLV 12	-195	-686	1991	7.39	599.54	240.34
452	SLV 13	-592	64	4398	-6.35	1288.03	-22.94
452	SLV 14	-504	70	4412	-6.41	1289.86	-24.99
452	SLV 15	-630	-293	3269	-0.1	963.82	101.95
452	SLV 16	-542	-286	3283	-0.16	965.66	99.9
452	SLV FO 1	622	133	4534	-5.89	1341.44	-45.87
452	SLV FO 2	719	140	4550	-5.96	1343.46	-48.12
452	SLV FO 3	580	-259	3293	0.98	984.81	91.51
452	SLV FO 4	677	-252	3308	0.91	986.83	89.26
452	SLV FO 5	241	573	5956	-14.2	1744.16	-200.36
452	SLV FO 6	306	578	5966	-14.25	1745.52	-201.87
452	SLV FO 7	101	-735	1817	8.7	555.4	257.57
452	SLV FO 8	166	-730	1828	8.66	556.76	256.05
452	SLV FO 9	-141	557	5930	-14.44	1732.44	-195.08
452	SLV FO 10	-76	562	5941	-14.49	1733.8	-196.6
452	SLV FO 11	-281	-751	1792	8.46	543.68	262.85
452	SLV FO 12	-216	-746	1803	8.42	545.04	261.33
452	SLV FO 13	-652	79	4450	-6.7	1302.37	-28.28
452	SLV FO 14	-555	86	4465	-6.76	1304.39	-30.54
452	SLV FO 15	-694	-314	3208	0.18	945.74	109.1
452	SLV FO 16	-597	-306	3224	0.11	947.76	106.84
452	CRTFP Ux+	0	0	0	0	0	0
452	CRTFP Ux-	0	0	0	0	0	0
452	CRTFP Uy+	0	0	0	0	0	0
452	CRTFP Uy-	0	0	0	0	0	0
453	SLU 1	-39	49	3399	-5.13	-556.11	12.26
453	SLU 2	-40	71	3460	-5.45	-565.83	17.61
453	SLU 3	-40	50	3460	-5.16	-565.64	12.42
453	SLU 4	-40	63	3497	-5.35	-571.47	15.63
453	SLU 5	-41	71	3498	-5.46	-571.68	17.72
453	SLU 6	-40	50	3498	-5.18	-571.5	12.52
453	SLU 7	-41	63	3535	-5.37	-577.32	15.73
453	SLU 8	-40	50	3474	-5.16	-567.83	12.47
453	SLU 9	-41	63	3511	-5.35	-573.66	15.68
453	SLU 10	-40	77	3876	-6.09	-631.92	19.32
453	SLU 11	-40	57	3876	-5.81	-631.73	14.12
453	SLU 12	-41	70	3913	-6	-637.56	17.34
453	SLU 13	-41	78	3914	-6.11	-637.78	19.42
453	SLU 14	-41	57	3914	-5.82	-637.59	14.23
453	SLU 15	-42	70	3951	-6.02	-643.42	17.44
453	SLU 16	-41	57	3890	-5.81	-633.92	14.18
453	SLU 17	-41	70	3927	-6	-639.75	17.39
453	SLU 18	-39	59	3993	-6.05	-650.53	14.7
453	SLU 19	-40	72	4030	-6.24	-656.36	17.91
453	SLU 20	-40	59	4031	-6.06	-656.39	14.8
453	SLU 21	-41	72	4068	-6.26	-662.22	18.01
453	SLU 22	-43	54	3876	-5.71	-631.35	13.54
453	SLU 23	-45	76	3937	-6.03	-641.06	18.9
453	SLU 24	-44	55	3937	-5.75	-640.87	13.7
453	SLU 25	-45	68	3974	-5.94	-646.7	16.91
453	SLU 26	-45	76	3975	-6.05	-646.92	19
453	SLU 27	-45	55	3975	-5.76	-646.73	13.81
453	SLU 28	-46	68	4012	-5.96	-652.56	17.02
453	SLU 29	-45	55	3951	-5.75	-643.06	13.75
453	SLU 30	-46	68	3988	-5.94	-648.89	16.97
453	SLU 31	-45	83	4353	-6.67	-707.15	20.6
453	SLU 32	-45	62	4353	-6.39	-706.96	15.41
453	SLU 33	-46	75	4390	-6.58	-712.79	18.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
453	SLU 34	-46	83	4391	-6.69	-713.01	20.71
453	SLU 35	-46	62	4391	-6.41	-712.82	15.52
453	SLU 36	-46	75	4428	-6.6	-718.65	18.73
453	SLU 37	-45	62	4368	-6.39	-709.15	15.46
453	SLU 38	-46	75	4404	-6.58	-714.98	18.67
453	SLU 39	-44	64	4470	-6.63	-725.76	15.98
453	SLU 40	-45	77	4507	-6.82	-731.59	19.19
453	SLU 41	-45	64	4508	-6.65	-731.62	16.09
453	SLU 42	-46	77	4545	-6.84	-737.45	19.3
453	SLU 43	-48	62	4255	-6.47	-697.15	15.49
453	SLU 44	-50	84	4316	-6.78	-706.87	20.85
453	SLU 45	-50	63	4316	-6.5	-706.68	15.65
453	SLU 46	-50	76	4353	-6.69	-712.51	18.87
453	SLU 47	-51	84	4354	-6.8	-712.73	20.95
453	SLU 48	-50	63	4354	-6.52	-712.54	15.76
453	SLU 49	-51	76	4391	-6.71	-718.36	18.97
453	SLU 50	-50	63	4330	-6.5	-708.87	15.7
453	SLU 51	-51	76	4367	-6.69	-714.7	18.92
453	SLU 52	-50	90	4732	-7.43	-772.96	22.55
453	SLU 53	-50	70	4732	-7.14	-772.77	17.36
453	SLU 54	-51	83	4769	-7.34	-778.6	20.57
453	SLU 55	-51	91	4770	-7.45	-778.82	22.66
453	SLU 56	-51	70	4770	-7.16	-778.63	17.47
453	SLU 57	-52	83	4807	-7.35	-784.46	20.68
453	SLU 58	-51	70	4747	-7.14	-774.96	17.41
453	SLU 59	-51	83	4783	-7.34	-780.79	20.62
453	SLU 60	-49	72	4849	-7.39	-791.57	17.93
453	SLU 61	-50	85	4886	-7.58	-797.4	21.15
453	SLU 62	-50	72	4887	-7.4	-797.43	18.04
453	SLU 63	-51	85	4924	-7.59	-803.26	21.25
453	SLU 64	-53	67	4732	-7.05	-772.39	16.78
453	SLU 65	-55	89	4793	-7.37	-782.1	22.13
453	SLU 66	-54	68	4793	-7.08	-781.91	16.94
453	SLU 67	-55	81	4830	-7.28	-787.74	20.15
453	SLU 68	-55	89	4831	-7.39	-787.96	22.24
453	SLU 69	-55	68	4831	-7.1	-787.77	17.04
453	SLU 70	-56	81	4868	-7.29	-793.6	20.26
453	SLU 71	-55	68	4808	-7.08	-784.1	16.99
453	SLU 72	-55	81	4844	-7.28	-789.93	20.2
453	SLU 73	-55	96	5209	-8.01	-848.19	23.84
453	SLU 74	-55	75	5209	-7.73	-848	18.65
453	SLU 75	-56	88	5246	-7.92	-853.83	21.86
453	SLU 76	-56	96	5247	-8.03	-854.05	23.95
453	SLU 77	-56	75	5247	-7.75	-853.86	18.75
453	SLU 78	-56	88	5284	-7.94	-859.69	21.96
453	SLU 79	-55	75	5224	-7.73	-850.19	18.7
453	SLU 80	-56	88	5260	-7.92	-856.02	21.91
453	SLU 81	-54	77	5327	-7.97	-866.8	19.22
453	SLU 82	-55	90	5363	-8.16	-872.63	22.43
453	SLU 83	-55	77	5364	-7.99	-872.66	19.32
453	SLU 84	-56	90	5401	-8.18	-878.49	22.54
453	SLE RA 1	-40	51	3535	-5.29	-577.61	12.63
453	SLE RA 2	-41	65	3576	-5.51	-584.08	16.19
453	SLE RA 3	-41	51	3576	-5.32	-583.96	12.73
453	SLE RA 4	-41	60	3600	-5.45	-587.84	14.87
453	SLE RA 5	-41	65	3601	-5.52	-587.99	16.26
453	SLE RA 6	-41	51	3601	-5.33	-587.86	12.8
453	SLE RA 7	-42	60	3626	-5.46	-591.75	14.94
453	SLE RA 8	-41	51	3586	-5.32	-585.42	12.76
453	SLE RA 9	-41	60	3610	-5.45	-589.3	14.91
453	SLE RA 10	-41	70	3853	-5.94	-628.15	17.33
453	SLE RA 11	-41	56	3853	-5.75	-628.02	13.87
453	SLE RA 12	-42	64	3878	-5.87	-631.9	16.01
453	SLE RA 13	-42	70	3878	-5.95	-632.05	17.4
453	SLE RA 14	-41	56	3879	-5.76	-631.92	13.94
453	SLE RA 15	-42	64	3903	-5.89	-635.81	16.08
453	SLE RA 16	-41	56	3863	-5.75	-629.48	13.9
453	SLE RA 17	-42	64	3887	-5.87	-633.37	16.04
453	SLE RA 18	-40	57	3932	-5.91	-640.55	14.25
453	SLE RA 19	-41	66	3956	-6.03	-644.44	16.39
453	SLE RA 20	-41	57	3957	-5.92	-644.46	14.32
453	SLE RA 21	-41	66	3981	-6.05	-648.34	16.46
453	SLE FR 1	-40	51	3535	-5.29	-577.61	12.63
453	SLE FR 2	-40	53	3543	-5.34	-578.9	13.34
453	SLE FR 3	-40	51	3545	-5.3	-579.17	12.65
453	SLE FR 4	-40	55	3662	-5.52	-597.79	13.83
453	SLE FR 5	-40	53	3664	-5.48	-598.05	13.14
453	SLE FR 6	-40	54	3733	-5.6	-609.08	13.44
453	SLE QP 1	-40	51	3535	-5.29	-577.61	12.63
453	SLE QP 2	-40	53	3654	-5.48	-596.49	13.11
453	SLD 1	245	183	5100	-9.57	-821.36	45.86
453	SLD 2	293	79	5025	-9.16	-809.23	20.01
453	SLD 3	275	-58	4262	-5.01	-684.16	-14.32
453	SLD 4	323	-162	4187	-4.59	-672.03	-40.17
453	SLD 5	-10	477	5372	-13.71	-874.22	118.87
453	SLD 6	22	408	5322	-13.43	-866.22	101.8
453	SLD 7	92	-328	2580	1.51	-416.89	-81.73
453	SLD 8	124	-397	2530	1.79	-408.88	-98.81
453	SLD 9	-204	502	4778	-12.74	-784.1	125.03



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
453	SLD 10	-172	433	4729	-12.47	-776.09	107.96
453	SLD 11	-102	-303	1986	2.47	-326.77	-75.57
453	SLD 12	-70	-372	1936	2.75	-318.76	-92.65
453	SLD 13	-403	268	3121	-6.37	-520.95	66.4
453	SLD 14	-355	163	3046	-5.95	-508.82	40.54
453	SLD 15	-373	26	2284	-1.8	-383.75	6.22
453	SLD 16	-325	-78	2208	-1.39	-371.63	-19.64
453	SLV 1	405	264	5933	-11.99	-951.11	65.93
453	SLV 2	481	100	5815	-11.34	-932.11	25.42
453	SLV 3	455	-127	4580	-4.62	-729.46	-31.28
453	SLV 4	530	-290	4461	-3.96	-710.46	-71.79
453	SLV 5	5	738	6413	-18.74	-1042.59	183.95
453	SLV 6	56	628	6333	-18.3	-1029.8	156.68
453	SLV 7	169	-563	1901	5.84	-303.76	-140.08
453	SLV 8	219	-673	1821	6.28	-290.97	-167.35
453	SLV 9	-299	778	5487	-17.24	-902.02	193.58
453	SLV 10	-249	668	5407	-16.8	-889.23	166.31
453	SLV 11	-136	-523	975	7.34	-163.18	-130.46
453	SLV 12	-85	-633	896	7.78	-150.39	-157.73
453	SLV 13	-610	395	2847	-6.99	-482.52	98.02
453	SLV 14	-535	232	2729	-6.34	-463.53	57.51
453	SLV 15	-561	5	1493	0.38	-260.87	0.81
453	SLV 16	-485	-158	1375	1.03	-241.88	-39.7
453	SLV FO 1	450	285	6161	-12.64	-986.57	71.21
453	SLV FO 2	533	105	6031	-11.92	-965.67	26.65
453	SLV FO 3	504	-145	4672	-4.53	-742.75	-35.72
453	SLV FO 4	587	-324	4542	-3.81	-721.86	-80.28
453	SLV FO 5	10	807	6688	-20.06	-1087.2	201.04
453	SLV FO 6	65	686	6601	-19.58	-1073.13	171.04
453	SLV FO 7	190	-624	1726	6.98	-274.48	-155.4
453	SLV FO 8	245	-745	1638	7.46	-260.41	-185.4
453	SLV FO 9	-325	850	5670	-18.42	-932.57	211.63
453	SLV FO 10	-270	729	5582	-17.93	-918.5	181.63
453	SLV FO 11	-145	-581	707	8.62	-119.85	-144.81
453	SLV FO 12	-90	-702	620	9.11	-105.78	-174.81
453	SLV FO 13	-667	429	2766	-7.14	-471.13	106.51
453	SLV FO 14	-584	250	2636	-6.43	-450.23	61.95
453	SLV FO 15	-613	0	1277	0.97	-227.31	-0.42
453	SLV FO 16	-530	-180	1147	1.69	-206.41	-44.98
453	CRTFP Ux+	0	0	0	0	0	0
453	CRTFP Ux-	0	0	0	0	0	0
453	CRTFP Uy+	0	0	0	0	0	0
453	CRTFP Uy-	0	0	0	0	0	0
456	SLU 1	39	-47	6633	-4.99	46.32	1.25
456	SLU 2	42	-17	6744	-5.51	45.99	1.27
456	SLU 3	39	-48	6755	-4.93	47.32	1.25
456	SLU 4	41	-30	6822	-5.24	47.12	1.27
456	SLU 5	42	-18	6821	-5.46	46.64	1.27
456	SLU 6	39	-48	6831	-4.87	47.97	1.25
456	SLU 7	41	-30	6898	-5.19	47.77	1.26
456	SLU 8	38	-48	6786	-4.88	47.62	1.24
456	SLU 9	40	-30	6852	-5.2	47.43	1.26
456	SLU 10	42	-20	7605	-6.1	53.3	1.36
456	SLU 11	39	-50	7616	-5.51	54.63	1.34
456	SLU 12	41	-32	7683	-5.83	54.43	1.36
456	SLU 13	42	-20	7681	-6.04	53.95	1.36
456	SLU 14	39	-51	7692	-5.46	55.28	1.34
456	SLU 15	41	-33	7759	-5.77	55.08	1.35
456	SLU 16	38	-50	7646	-5.46	54.93	1.33
456	SLU 17	40	-33	7713	-5.78	54.73	1.34
456	SLU 18	39	-51	7862	-5.82	56.76	1.37
456	SLU 19	41	-33	7929	-6.13	56.57	1.39
456	SLU 20	39	-51	7939	-5.76	57.41	1.37
456	SLU 21	40	-33	8006	-6.08	57.22	1.38
456	SLU 22	43	-51	7583	-5.25	53.31	1.39
456	SLU 23	46	-21	7694	-5.78	52.98	1.42
456	SLU 24	44	-52	7705	-5.19	54.31	1.4
456	SLU 25	46	-34	7772	-5.51	54.11	1.41
456	SLU 26	46	-22	7770	-5.72	53.63	1.41
456	SLU 27	44	-52	7781	-5.14	54.96	1.39
456	SLU 28	45	-34	7848	-5.45	54.76	1.41
456	SLU 29	43	-52	7735	-5.14	54.61	1.39
456	SLU 30	45	-34	7802	-5.46	54.41	1.4
456	SLU 31	47	-24	8555	-6.36	60.29	1.5
456	SLU 32	44	-54	8565	-5.77	61.62	1.48
456	SLU 33	46	-37	8632	-6.09	61.42	1.5
456	SLU 34	46	-24	8631	-6.31	60.94	1.5
456	SLU 35	44	-55	8642	-5.72	62.27	1.48
456	SLU 36	45	-37	8709	-6.04	62.07	1.5
456	SLU 37	43	-55	8596	-5.73	61.92	1.47
456	SLU 38	45	-37	8663	-6.04	61.72	1.49
456	SLU 39	44	-55	8812	-6.08	63.75	1.52
456	SLU 40	45	-37	8879	-6.4	63.55	1.53
456	SLU 41	43	-55	8889	-6.03	64.4	1.51
456	SLU 42	45	-37	8956	-6.34	64.2	1.53
456	SLU 43	49	-60	8297	-6.39	57.83	1.57
456	SLU 44	52	-30	8408	-6.92	57.5	1.6
456	SLU 45	49	-61	8419	-6.33	58.82	1.58
456	SLU 46	51	-43	8486	-6.65	58.63	1.59



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
456	SLU 47	52	-30	8485	-6.87	58.15	1.59
456	SLU 48	49	-61	8495	-6.28	59.47	1.57
456	SLU 49	51	-43	8562	-6.6	59.28	1.59
456	SLU 50	48	-61	8450	-6.29	59.12	1.57
456	SLU 51	50	-43	8517	-6.6	58.93	1.58
456	SLU 52	52	-32	9269	-7.5	64.81	1.68
456	SLU 53	49	-63	9280	-6.91	66.13	1.67
456	SLU 54	51	-45	9347	-7.23	65.94	1.68
456	SLU 55	52	-33	9346	-7.45	65.45	1.68
456	SLU 56	49	-64	9356	-6.86	66.78	1.66
456	SLU 57	51	-46	9423	-7.18	66.59	1.68
456	SLU 58	48	-63	9311	-6.87	66.43	1.65
456	SLU 59	50	-45	9377	-7.18	66.24	1.67
456	SLU 60	49	-63	9527	-7.22	68.27	1.7
456	SLU 61	51	-45	9594	-7.54	68.07	1.71
456	SLU 62	49	-64	9603	-7.17	68.92	1.69
456	SLU 63	50	-46	9670	-7.49	68.72	1.71
456	SLU 64	53	-64	9247	-6.66	64.81	1.72
456	SLU 65	56	-34	9358	-7.18	64.48	1.74
456	SLU 66	54	-65	9369	-6.6	65.81	1.72
456	SLU 67	55	-47	9436	-6.91	65.61	1.74
456	SLU 68	56	-34	9435	-7.13	65.13	1.74
456	SLU 69	54	-65	9445	-6.54	66.46	1.72
456	SLU 70	55	-47	9512	-6.86	66.26	1.73
456	SLU 71	53	-65	9399	-6.55	66.11	1.71
456	SLU 72	55	-47	9466	-6.87	65.91	1.72
456	SLU 73	57	-37	10219	-7.77	71.79	1.83
456	SLU 74	54	-67	10230	-7.18	73.12	1.81
456	SLU 75	56	-49	10297	-7.5	72.92	1.82
456	SLU 76	56	-37	10295	-7.71	72.44	1.83
456	SLU 77	54	-68	10306	-7.13	73.77	1.81
456	SLU 78	55	-50	10373	-7.44	73.57	1.82
456	SLU 79	53	-67	10260	-7.13	73.42	1.8
456	SLU 80	55	-49	10327	-7.45	73.22	1.81
456	SLU 81	53	-67	10476	-7.49	75.25	1.84
456	SLU 82	55	-50	10543	-7.8	75.05	1.86
456	SLU 83	53	-68	10553	-7.43	75.9	1.84
456	SLU 84	55	-50	10620	-7.75	75.7	1.85
456	SLE RA 1	40	-48	6904	-5.06	48.32	1.29
456	SLE RA 2	42	-28	6978	-5.41	48.1	1.3
456	SLE RA 3	40	-49	6985	-5.02	48.99	1.29
456	SLE RA 4	41	-37	7030	-5.23	48.85	1.3
456	SLE RA 5	42	-29	7029	-5.38	48.53	1.3
456	SLE RA 6	40	-49	7036	-4.99	49.42	1.29
456	SLE RA 7	41	-37	7081	-5.2	49.29	1.3
456	SLE RA 8	40	-49	7006	-4.99	49.19	1.28
456	SLE RA 9	41	-37	7051	-5.2	49.05	1.29
456	SLE RA 10	42	-30	7552	-5.8	52.97	1.36
456	SLE RA 11	40	-50	7559	-5.41	53.86	1.35
456	SLE RA 12	41	-38	7604	-5.62	53.73	1.36
456	SLE RA 13	42	-30	7603	-5.77	53.41	1.36
456	SLE RA 14	40	-51	7610	-5.37	54.29	1.35
456	SLE RA 15	41	-39	7655	-5.59	54.16	1.36
456	SLE RA 16	40	-51	7580	-5.38	54.06	1.34
456	SLE RA 17	41	-39	7624	-5.59	53.93	1.35
456	SLE RA 18	40	-51	7724	-5.62	55.28	1.37
456	SLE RA 19	41	-39	7769	-5.83	55.15	1.38
456	SLE RA 20	40	-51	7775	-5.58	55.71	1.37
456	SLE RA 21	41	-39	7819	-5.79	55.58	1.38
456	SLE FR 1	40	-48	6904	-5.06	48.32	1.29
456	SLE FR 2	40	-44	6919	-5.13	48.28	1.29
456	SLE FR 3	40	-48	6924	-5.05	48.49	1.29
456	SLE FR 4	40	-45	7165	-5.3	50.36	1.32
456	SLE FR 5	40	-49	7170	-5.21	50.58	1.31
456	SLE FR 6	40	-49	7314	-5.34	51.8	1.33
456	SLE QP 1	40	-48	6904	-5.06	48.32	1.29
456	SLE QP 2	40	-49	7150	-5.23	50.41	1.31
456	SLD 1	694	144	7188	-7.71	61.01	3.39
456	SLD 2	798	224	7275	-8.09	59.3	5.23
456	SLD 3	654	-184	5731	-0.58	67.43	2.63
456	SLD 4	758	-104	5818	-0.96	65.73	4.47
456	SLD 5	278	492	9355	-16.73	44.15	2.75
456	SLD 6	346	545	9413	-16.98	43.02	3.97
456	SLD 7	145	-601	4499	7.05	65.57	0.23
456	SLD 8	214	-548	4556	6.8	64.44	1.45
456	SLD 9	-134	450	9744	-17.26	36.37	1.18
456	SLD 10	-65	503	9801	-17.51	35.25	2.4
456	SLD 11	-266	-643	4888	6.52	57.79	-1.34
456	SLD 12	-198	-590	4945	6.27	56.67	-0.13
456	SLD 13	-678	6	8482	-9.5	35.09	-1.85
456	SLD 14	-574	86	8569	-9.88	33.38	-0.01
456	SLD 15	-718	-322	7026	-2.36	41.51	-2.6
456	SLD 16	-614	-242	7112	-2.75	39.81	-0.76
456	SLV 1	1065	261	7250	-9.3	66.78	4.59
456	SLV 2	1228	387	7386	-9.9	64.11	7.48
456	SLV 3	1000	-269	4894	2.23	77.16	3.35
456	SLV 4	1163	-143	5030	1.63	74.49	6.24
456	SLV 5	416	825	10727	-23.83	40.07	3.64
456	SLV 6	526	910	10819	-24.23	38.27	5.58



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
456	SLV 7	199	-943	2875	14.61	74.68	-0.49
456	SLV 8	308	-858	2967	14.21	72.88	1.45
456	SLV 9	-228	760	11333	-24.67	27.93	1.18
456	SLV 10	-119	845	11425	-25.07	26.14	3.12
456	SLV 11	-446	-1008	3481	13.77	62.54	-2.95
456	SLV 12	-336	-923	3573	13.37	60.75	-1.01
456	SLV 13	-1083	46	9270	-12.09	26.32	-3.61
456	SLV 14	-920	171	9406	-12.69	23.65	-0.73
456	SLV 15	-1148	-485	6914	-0.56	36.7	-4.85
456	SLV 16	-985	-359	7050	-1.15	34.04	-1.96
456	SLV FO 1	1168	292	7260	-9.71	68.41	4.92
456	SLV FO 2	1347	431	7410	-10.37	65.48	8.09
456	SLV FO 3	1096	-291	4669	2.97	79.84	3.56
456	SLV FO 4	1275	-153	4818	2.32	76.9	6.73
456	SLV FO 5	454	913	11085	-25.69	39.03	3.87
456	SLV FO 6	574	1006	11186	-26.13	37.06	6
456	SLV FO 7	215	-1032	2448	16.59	77.11	-0.67
456	SLV FO 8	335	-939	2549	16.15	75.13	1.46
456	SLV FO 9	-255	841	11751	-26.61	25.68	1.16
456	SLV FO 10	-135	934	11852	-27.05	23.71	3.3
456	SLV FO 11	-494	-1103	3114	15.68	63.76	-3.38
456	SLV FO 12	-374	-1010	3215	15.23	61.78	-1.24
456	SLV FO 13	-1195	55	9482	-12.77	23.91	-4.1
456	SLV FO 14	-1016	193	9631	-13.43	20.98	-0.93
456	SLV FO 15	-1267	-528	6891	-0.09	35.33	-5.47
456	SLV FO 16	-1088	-390	7040	-0.75	32.4	-2.29
456	CRTFP Ux+	0	0	0	0	0	0
456	CRTFP Ux-	0	0	0	0	0	0
456	CRTFP Uy+	0	0	0	0	0	0
456	CRTFP Uy-	0	0	0	0	0	0
459	SLU 1	36	12	3858	-5.8	948.4	-4.09
459	SLU 2	38	35	3931	-6.22	965.65	-12.19
459	SLU 3	36	12	3930	-5.83	965.27	-4.13
459	SLU 4	38	26	3974	-6.08	975.62	-8.99
459	SLU 5	38	36	3976	-6.22	976.1	-12.34
459	SLU 6	36	12	3975	-5.84	975.72	-4.28
459	SLU 7	38	26	4019	-6.09	986.07	-9.14
459	SLU 8	36	13	3948	-5.81	969.3	-4.4
459	SLU 9	38	27	3992	-6.06	979.65	-9.26
459	SLU 10	39	36	4406	-6.96	1079.17	-12.41
459	SLU 11	37	13	4406	-6.57	1078.78	-4.35
459	SLU 12	38	27	4450	-6.82	1089.13	-9.21
459	SLU 13	39	36	4451	-6.96	1089.62	-12.57
459	SLU 14	37	13	4451	-6.58	1089.23	-4.5
459	SLU 15	39	27	4495	-6.82	1099.58	-9.36
459	SLU 16	37	13	4423	-6.55	1082.82	-4.62
459	SLU 17	38	27	4467	-6.8	1093.17	-9.48
459	SLU 18	37	13	4537	-6.86	1110.57	-4.41
459	SLU 19	38	27	4581	-7.11	1120.92	-9.27
459	SLU 20	37	13	4582	-6.86	1121.02	-4.56
459	SLU 21	38	27	4626	-7.11	1131.37	-9.42
459	SLU 22	40	10	4399	-6.45	1076.71	-3.39
459	SLU 23	42	33	4472	-6.86	1093.96	-11.49
459	SLU 24	40	10	4472	-6.48	1093.57	-3.42
459	SLU 25	42	24	4515	-6.73	1103.92	-8.28
459	SLU 26	42	34	4517	-6.87	1104.41	-11.64
459	SLU 27	40	11	4517	-6.48	1104.02	-3.57
459	SLU 28	42	24	4561	-6.73	1114.37	-8.44
459	SLU 29	40	11	4489	-6.46	1097.61	-3.69
459	SLU 30	41	25	4533	-6.71	1107.96	-8.55
459	SLU 31	43	34	4947	-7.6	1207.47	-11.71
459	SLU 32	41	11	4947	-7.22	1207.09	-3.64
459	SLU 33	42	25	4991	-7.46	1217.44	-8.5
459	SLU 34	43	34	4993	-7.61	1217.92	-11.86
459	SLU 35	41	11	4992	-7.22	1217.54	-3.8
459	SLU 36	43	25	5036	-7.47	1227.89	-8.66
459	SLU 37	41	11	4965	-7.2	1211.12	-3.91
459	SLU 38	42	25	5009	-7.45	1221.47	-8.77
459	SLU 39	41	11	5078	-7.51	1238.87	-3.7
459	SLU 40	42	25	5122	-7.75	1249.22	-8.56
459	SLU 41	41	11	5123	-7.51	1249.32	-3.85
459	SLU 42	42	25	5167	-7.76	1259.67	-8.71
459	SLU 43	45	16	4829	-7.32	1188.93	-5.56
459	SLU 44	47	39	4902	-7.74	1206.19	-13.66
459	SLU 45	46	16	4902	-7.35	1205.8	-5.6
459	SLU 46	47	30	4946	-7.6	1216.15	-10.46
459	SLU 47	48	40	4948	-7.74	1216.64	-13.81
459	SLU 48	46	17	4947	-7.36	1216.25	-5.75
459	SLU 49	47	31	4991	-7.6	1226.6	-10.61
459	SLU 50	45	17	4920	-7.33	1209.83	-5.87
459	SLU 51	47	31	4963	-7.58	1220.18	-10.73
459	SLU 52	48	40	5378	-8.48	1319.7	-13.88
459	SLU 53	46	17	5378	-8.09	1319.32	-5.82
459	SLU 54	48	31	5421	-8.34	1329.67	-10.68
459	SLU 55	48	41	5423	-8.48	1330.15	-14.03
459	SLU 56	46	17	5423	-8.1	1329.76	-5.97
459	SLU 57	48	31	5467	-8.34	1340.12	-10.83
459	SLU 58	46	18	5395	-8.07	1323.35	-6.09
459	SLU 59	47	32	5439	-8.32	1333.7	-10.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
459	SLU 60	46	17	5509	-8.38	1351.1	-5.88
459	SLU 61	47	31	5552	-8.63	1361.45	-10.74
459	SLU 62	46	18	5554	-8.38	1361.55	-6.03
459	SLU 63	48	32	5598	-8.63	1371.9	-10.89
459	SLU 64	49	14	5371	-7.97	1317.24	-4.85
459	SLU 65	51	37	5444	-8.38	1334.49	-12.95
459	SLU 66	50	14	5443	-8	1334.1	-4.89
459	SLU 67	51	28	5487	-8.25	1344.45	-9.75
459	SLU 68	52	38	5489	-8.39	1344.94	-13.11
459	SLU 69	50	15	5488	-8	1344.55	-5.04
459	SLU 70	51	29	5532	-8.25	1354.9	-9.9
459	SLU 71	49	15	5461	-7.98	1338.14	-5.16
459	SLU 72	51	29	5505	-8.23	1348.49	-10.02
459	SLU 73	52	38	5919	-9.12	1448	-13.18
459	SLU 74	50	15	5919	-8.74	1447.62	-5.11
459	SLU 75	52	29	5963	-8.98	1457.97	-9.97
459	SLU 76	52	39	5964	-9.13	1458.45	-13.33
459	SLU 77	50	15	5964	-8.74	1458.07	-5.26
459	SLU 78	52	29	6008	-8.99	1468.42	-10.13
459	SLU 79	50	16	5936	-8.72	1451.65	-5.38
459	SLU 80	51	30	5980	-8.97	1462	-10.24
459	SLU 81	50	15	6050	-9.02	1479.4	-5.17
459	SLU 82	51	29	6094	-9.27	1489.75	-10.03
459	SLU 83	50	16	6095	-9.03	1489.85	-5.32
459	SLU 84	52	30	6139	-9.28	1500.2	-10.18
459	SLE RA 1	37	11	4012	-5.99	985.06	-3.89
459	SLE RA 2	38	27	4061	-6.26	996.56	-9.29
459	SLE RA 3	37	11	4061	-6.01	996.31	-3.91
459	SLE RA 4	38	21	4090	-6.17	1003.21	-7.15
459	SLE RA 5	39	27	4091	-6.27	1003.53	-9.39
459	SLE RA 6	37	12	4091	-6.01	1003.27	-4.02
459	SLE RA 7	38	21	4120	-6.18	1010.17	-7.26
459	SLE RA 8	37	12	4072	-6	998.99	-4.09
459	SLE RA 9	38	21	4102	-6.16	1005.89	-7.33
459	SLE RA 10	39	27	4378	-6.76	1072.24	-9.44
459	SLE RA 11	38	12	4378	-6.5	1071.98	-4.06
459	SLE RA 12	39	21	4407	-6.66	1078.88	-7.3
459	SLE RA 13	39	28	4408	-6.76	1079.21	-9.54
459	SLE RA 14	38	12	4408	-6.5	1078.95	-4.16
459	SLE RA 15	39	21	4437	-6.67	1085.85	-7.4
459	SLE RA 16	37	12	4389	-6.49	1074.67	-4.24
459	SLE RA 17	38	22	4419	-6.65	1081.57	-7.48
459	SLE RA 18	37	12	4465	-6.69	1093.17	-4.1
459	SLE RA 19	38	21	4494	-6.86	1100.07	-7.34
459	SLE RA 20	38	12	4495	-6.7	1100.14	-4.2
459	SLE RA 21	39	22	4524	-6.86	1107.04	-7.44
459	SLE FR 1	37	11	4012	-5.99	985.06	-3.89
459	SLE FR 2	37	14	4022	-6.04	987.36	-4.97
459	SLE FR 3	37	11	4024	-5.99	987.85	-3.93
459	SLE FR 4	37	15	4158	-6.25	1019.79	-5.03
459	SLE FR 5	37	12	4160	-6.2	1020.28	-3.99
459	SLE FR 6	37	12	4239	-6.34	1039.12	-3.99
459	SLE QP 1	37	11	4012	-5.99	985.06	-3.89
459	SLE QP 2	37	12	4148	-6.2	1017.49	-3.95
459	SLD 1	411	125	3465	-6.81	868.38	-43.49
459	SLD 2	470	241	3554	-7.34	889.7	-83.85
459	SLD 3	385	-115	2507	-1.21	635.16	40.53
459	SLD 4	444	1	2595	-1.74	656.48	0.17
459	SLD 5	179	390	5382	-14.78	1322.64	-135.97
459	SLD 6	218	466	5440	-15.13	1336.71	-162.62
459	SLD 7	91	-412	2185	3.89	545.24	144.09
459	SLD 8	130	-336	2244	3.53	559.31	117.44
459	SLD 9	-56	359	6053	-15.93	1475.67	-125.34
459	SLD 10	-17	436	6111	-16.28	1489.75	-152
459	SLD 11	-144	-443	2856	2.73	698.28	154.72
459	SLD 12	-105	-367	2914	2.38	712.35	128.06
459	SLD 13	-370	23	5701	-10.65	1378.51	-8.07
459	SLD 14	-311	139	5790	-11.19	1399.83	-48.44
459	SLD 15	-396	-218	4742	-5.06	1145.29	75.94
459	SLD 16	-337	-102	4831	-5.59	1166.61	35.58
459	SLV 1	624	196	3110	-7.31	791.5	-68.04
459	SLV 2	717	378	3249	-8.14	824.89	-131.28
459	SLV 3	581	-194	1560	1.74	414.43	68.06
459	SLV 4	673	-12	1698	0.91	447.83	4.82
459	SLV 5	261	624	6163	-20.11	1515.34	-217.8
459	SLV 6	324	746	6256	-20.67	1537.82	-260.37
459	SLV 7	117	-675	994	10.07	258.46	235.88
459	SLV 8	180	-553	1087	9.51	280.95	193.3
459	SLV 9	-106	576	7209	-21.91	1754.04	-201.2
459	SLV 10	-43	698	7302	-22.47	1776.52	-243.78
459	SLV 11	-250	-723	2040	8.27	497.16	252.47
459	SLV 12	-187	-601	2133	7.71	519.65	209.89
459	SLV 13	-599	35	6598	-13.31	1587.16	-12.73
459	SLV 14	-507	217	6736	-14.14	1620.56	-75.97
459	SLV 15	-642	-354	5047	-4.25	1210.1	123.37
459	SLV 16	-550	-173	5186	-5.09	1243.49	60.13
459	SLV FO 1	683	214	3007	-7.42	768.9	-74.45
459	SLV FO 2	784	414	3159	-8.34	805.63	-144.01
459	SLV FO 3	635	-215	1301	2.54	354.13	75.26



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
459	SLV FO 4	737	-15	1453	1.62	390.86	5.7
459	SLV FO 5	284	685	6364	-21.5	1565.13	-239.18
459	SLV FO 6	352	820	6467	-22.12	1589.86	-286.02
459	SLV FO 7	125	-744	679	11.7	182.56	259.86
459	SLV FO 8	194	-609	781	11.08	207.29	213.02
459	SLV FO 9	-120	632	7515	-23.48	1827.7	-220.93
459	SLV FO 10	-51	767	7617	-24.1	1852.43	-267.76
459	SLV FO 11	-278	-797	1830	9.72	445.13	278.11
459	SLV FO 12	-210	-662	1932	9.1	469.86	231.28
459	SLV FO 13	-663	38	6843	-14.02	1644.13	-13.6
459	SLV FO 14	-561	238	6995	-14.94	1680.86	-83.17
459	SLV FO 15	-710	-391	5137	-4.06	1229.36	136.11
459	SLV FO 16	-609	-191	5289	-4.98	1266.09	66.54
459	CRTFP Ux+	0	0	0	0	0	0
459	CRTFP Ux-	0	0	0	0	0	0
459	CRTFP Uy+	0	0	0	0	0	0
459	CRTFP Uy-	0	0	0	0	0	0
461	SLU 1	-49	-69	6045	-2.38	-31.65	-1.08
461	SLU 2	-51	-42	6137	-2.74	-31.55	-1.11
461	SLU 3	-51	-71	6159	-2.3	-32.39	-1.11
461	SLU 4	-52	-54	6214	-2.52	-32.33	-1.13
461	SLU 5	-52	-43	6208	-2.69	-32.04	-1.13
461	SLU 6	-52	-72	6231	-2.25	-32.89	-1.13
461	SLU 7	-53	-55	6285	-2.47	-32.83	-1.15
461	SLU 8	-51	-71	6188	-2.27	-32.64	-1.13
461	SLU 9	-53	-55	6243	-2.49	-32.58	-1.14
461	SLU 10	-51	-49	6927	-2.99	-37.04	-1.19
461	SLU 11	-51	-78	6950	-2.55	-37.88	-1.19
461	SLU 12	-52	-61	7005	-2.77	-37.82	-1.21
461	SLU 13	-52	-50	6999	-2.93	-37.53	-1.21
461	SLU 14	-52	-79	7022	-2.5	-38.38	-1.21
461	SLU 15	-53	-62	7076	-2.72	-38.32	-1.23
461	SLU 16	-51	-78	6979	-2.52	-38.13	-1.21
461	SLU 17	-53	-62	7034	-2.74	-38.07	-1.22
461	SLU 18	-49	-80	7175	-2.72	-39.49	-1.2
461	SLU 19	-51	-63	7230	-2.94	-39.43	-1.21
461	SLU 20	-50	-81	7246	-2.67	-39.98	-1.22
461	SLU 21	-52	-64	7301	-2.89	-39.92	-1.23
461	SLU 22	-56	-78	6927	-2.35	-36.84	-1.27
461	SLU 23	-58	-50	7018	-2.72	-36.74	-1.29
461	SLU 24	-57	-80	7041	-2.28	-37.59	-1.3
461	SLU 25	-58	-63	7096	-2.5	-37.53	-1.31
461	SLU 26	-59	-51	7090	-2.67	-37.24	-1.32
461	SLU 27	-58	-81	7113	-2.23	-38.08	-1.32
461	SLU 28	-60	-64	7167	-2.45	-38.02	-1.34
461	SLU 29	-58	-80	7070	-2.25	-37.83	-1.31
461	SLU 30	-59	-63	7125	-2.47	-37.77	-1.33
461	SLU 31	-58	-58	7809	-2.96	-42.23	-1.37
461	SLU 32	-57	-87	7832	-2.53	-43.07	-1.38
461	SLU 33	-58	-70	7887	-2.75	-43.01	-1.4
461	SLU 34	-59	-59	7880	-2.91	-42.72	-1.4
461	SLU 35	-58	-88	7903	-2.48	-43.57	-1.4
461	SLU 36	-60	-71	7958	-2.7	-43.51	-1.42
461	SLU 37	-58	-87	7861	-2.49	-43.32	-1.39
461	SLU 38	-59	-71	7915	-2.71	-43.26	-1.41
461	SLU 39	-56	-88	8057	-2.7	-44.68	-1.38
461	SLU 40	-57	-72	8112	-2.92	-44.62	-1.4
461	SLU 41	-57	-89	8128	-2.65	-45.18	-1.41
461	SLU 42	-58	-73	8183	-2.87	-45.11	-1.42
461	SLU 43	-62	-87	7557	-3.1	-39.36	-1.34
461	SLU 44	-64	-59	7648	-3.46	-39.26	-1.37
461	SLU 45	-63	-89	7671	-3.02	-40.11	-1.37
461	SLU 46	-65	-72	7725	-3.24	-40.05	-1.39
461	SLU 47	-65	-60	7719	-3.41	-39.76	-1.39
461	SLU 48	-64	-90	7742	-2.97	-40.6	-1.39
461	SLU 49	-66	-73	7797	-3.19	-40.54	-1.41
461	SLU 50	-64	-89	7699	-2.99	-40.35	-1.38
461	SLU 51	-65	-72	7754	-3.21	-40.29	-1.4
461	SLU 52	-64	-67	8439	-3.71	-44.75	-1.45
461	SLU 53	-63	-96	8462	-3.27	-45.59	-1.45
461	SLU 54	-65	-79	8516	-3.49	-45.53	-1.47
461	SLU 55	-65	-68	8510	-3.65	-45.24	-1.47
461	SLU 56	-64	-97	8533	-3.22	-46.09	-1.47
461	SLU 57	-66	-80	8588	-3.44	-46.03	-1.49
461	SLU 58	-64	-96	8490	-3.24	-45.84	-1.47
461	SLU 59	-65	-80	8545	-3.46	-45.78	-1.48
461	SLU 60	-62	-97	8686	-3.44	-47.2	-1.45
461	SLU 61	-63	-81	8741	-3.66	-47.14	-1.47
461	SLU 62	-63	-98	8758	-3.39	-47.7	-1.48
461	SLU 63	-64	-82	8812	-3.61	-47.64	-1.49
461	SLU 64	-68	-96	8439	-3.07	-44.56	-1.53
461	SLU 65	-70	-68	8530	-3.44	-44.45	-1.55
461	SLU 66	-70	-97	8553	-3	-45.3	-1.56
461	SLU 67	-71	-81	8607	-3.22	-45.24	-1.57
461	SLU 68	-71	-69	8601	-3.39	-44.95	-1.58
461	SLU 69	-71	-98	8624	-2.95	-45.8	-1.58
461	SLU 70	-72	-82	8679	-3.17	-45.74	-1.6
461	SLU 71	-70	-98	8581	-2.97	-45.55	-1.57
461	SLU 72	-72	-81	8636	-3.19	-45.49	-1.59



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
461	SLU 73	-70	-75	9320	-3.68	-49.94	-1.63
461	SLU 74	-70	-104	9343	-3.25	-50.79	-1.64
461	SLU 75	-71	-88	9398	-3.47	-50.73	-1.66
461	SLU 76	-71	-76	9392	-3.63	-50.44	-1.66
461	SLU 77	-71	-105	9415	-3.2	-51.28	-1.66
461	SLU 78	-72	-89	9469	-3.42	-51.22	-1.68
461	SLU 79	-70	-105	9372	-3.21	-51.03	-1.65
461	SLU 80	-72	-88	9427	-3.43	-50.97	-1.67
461	SLU 81	-68	-106	9568	-3.42	-52.39	-1.64
461	SLU 82	-70	-90	9623	-3.64	-52.33	-1.66
461	SLU 83	-69	-107	9640	-3.37	-52.89	-1.66
461	SLU 84	-71	-90	9694	-3.59	-52.83	-1.68
461	SLE RA 1	-51	-72	6297	-2.37	-33.13	-1.13
461	SLE RA 2	-53	-53	6358	-2.61	-33.07	-1.15
461	SLE RA 3	-52	-73	6373	-2.32	-33.63	-1.15
461	SLE RA 4	-53	-62	6410	-2.47	-33.59	-1.16
461	SLE RA 5	-53	-54	6406	-2.58	-33.4	-1.17
461	SLE RA 6	-53	-73	6421	-2.29	-33.96	-1.17
461	SLE RA 7	-54	-62	6457	-2.43	-33.92	-1.18
461	SLE RA 8	-53	-73	6392	-2.3	-33.79	-1.16
461	SLE RA 9	-53	-62	6429	-2.45	-33.75	-1.17
461	SLE RA 10	-53	-58	6885	-2.78	-36.72	-1.2
461	SLE RA 11	-52	-78	6901	-2.49	-37.29	-1.21
461	SLE RA 12	-53	-67	6937	-2.63	-37.25	-1.22
461	SLE RA 13	-53	-59	6933	-2.74	-37.05	-1.22
461	SLE RA 14	-53	-78	6948	-2.45	-37.62	-1.22
461	SLE RA 15	-54	-67	6985	-2.6	-37.58	-1.23
461	SLE RA 16	-53	-78	6920	-2.46	-37.45	-1.22
461	SLE RA 17	-53	-67	6956	-2.61	-37.41	-1.23
461	SLE RA 18	-51	-79	7050	-2.6	-38.36	-1.21
461	SLE RA 19	-52	-68	7087	-2.75	-38.32	-1.22
461	SLE RA 20	-52	-79	7098	-2.57	-38.69	-1.23
461	SLE RA 21	-53	-68	7135	-2.71	-38.65	-1.24
461	SLE FR 1	-51	-72	6297	-2.37	-33.13	-1.13
461	SLE FR 2	-51	-68	6310	-2.42	-33.12	-1.14
461	SLE FR 3	-51	-72	6316	-2.36	-33.26	-1.14
461	SLE FR 4	-51	-70	6535	-2.49	-34.69	-1.16
461	SLE FR 5	-51	-74	6542	-2.43	-34.83	-1.16
461	SLE FR 6	-51	-75	6674	-2.49	-35.74	-1.17
461	SLE QP 1	-51	-72	6297	-2.37	-33.13	-1.13
461	SLE QP 2	-51	-74	6523	-2.44	-34.7	-1.16
461	SLD 1	485	72	7778	-5.41	-14.8	0
461	SLD 2	569	-1	7710	-5.16	-16.08	1.89
461	SLD 3	535	-248	6575	-0.38	-18.22	1.22
461	SLD 4	620	-321	6507	-0.13	-19.5	3.12
461	SLD 5	18	468	8738	-11.01	-23.32	-3.01
461	SLD 6	74	420	8693	-10.85	-24.16	-1.76
461	SLD 7	186	-598	4725	5.77	-34.71	1.07
461	SLD 8	242	-646	4680	5.94	-35.55	2.32
461	SLD 9	-344	498	8366	-10.81	-33.85	-4.63
461	SLD 10	-288	451	8321	-10.65	-34.69	-3.38
461	SLD 11	-176	-568	4354	5.97	-45.24	-0.56
461	SLD 12	-120	-616	4309	6.13	-46.08	0.69
461	SLD 13	-722	173	6540	-4.75	-49.9	-5.43
461	SLD 14	-637	101	6472	-4.5	-51.18	-3.54
461	SLD 15	-672	-147	5336	0.28	-53.32	-4.21
461	SLD 16	-587	-219	5268	0.53	-54.6	-2.31
461	SLV 1	787	162	8515	-7.22	-3.57	0.63
461	SLV 2	920	49	8409	-6.82	-5.57	3.59
461	SLV 3	867	-355	6570	0.92	-9.08	2.59
461	SLV 4	1000	-468	6463	1.31	-11.09	5.56
461	SLV 5	53	802	10091	-16.28	-16.62	-4.15
461	SLV 6	143	725	10019	-16.02	-17.97	-2.16
461	SLV 7	322	-921	3607	10.83	-35	2.39
461	SLV 8	411	-997	3535	11.1	-36.35	4.39
461	SLV 9	-514	849	9512	-15.97	-33.05	-6.7
461	SLV 10	-424	773	9440	-15.71	-34.39	-4.7
461	SLV 11	-245	-873	3027	11.14	-51.43	-0.16
461	SLV 12	-155	-949	2955	11.4	-52.78	1.84
461	SLV 13	-1102	320	6583	-6.19	-58.31	-7.87
461	SLV 14	-970	207	6477	-5.79	-60.32	-4.9
461	SLV 15	-1022	-196	4638	1.95	-63.83	-5.91
461	SLV 16	-889	-310	4531	2.34	-65.83	-2.94
461	SLV FO 1	871	186	8714	-7.7	-0.46	0.81
461	SLV FO 2	1017	61	8597	-7.26	-2.66	4.07
461	SLV FO 3	959	-383	6575	1.25	-6.52	2.97
461	SLV FO 4	1105	-508	6457	1.68	-8.72	6.23
461	SLV FO 5	64	889	10448	-17.67	-14.82	-4.45
461	SLV FO 6	162	805	10369	-17.38	-16.3	-2.26
461	SLV FO 7	359	-1005	3315	12.16	-35.04	2.75
461	SLV FO 8	458	-1089	3236	12.45	-36.52	4.94
461	SLV FO 9	-560	942	9811	-17.33	-32.88	-7.26
461	SLV FO 10	-461	858	9732	-17.04	-34.36	-5.06
461	SLV FO 11	-264	-953	2678	12.5	-53.1	-0.06
461	SLV FO 12	-166	-1037	2599	12.79	-54.58	2.14
461	SLV FO 13	-1208	360	6589	-6.56	-60.68	-8.54
461	SLV FO 14	-1061	235	6472	-6.13	-62.88	-5.28
461	SLV FO 15	-1119	-209	4450	2.38	-66.74	-6.38
461	SLV FO 16	-973	-333	4332	2.82	-68.94	-3.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
461	CRTFP Ux+	0	0	0	0	0	0
461	CRTFP Ux-	0	0	0	0	0	0
461	CRTFP Uy+	0	0	0	0	0	0
461	CRTFP Uy-	0	0	0	0	0	0
466	SLU 1	7	-82	3528	-1.39	1012.95	28.92
466	SLU 2	9	-63	3575	-1.67	1025.5	22.27
466	SLU 3	7	-84	3594	-1.36	1030.96	29.48
466	SLU 4	8	-72	3622	-1.52	1038.5	25.49
466	SLU 5	8	-64	3616	-1.64	1036.74	22.6
466	SLU 6	7	-85	3635	-1.33	1042.2	29.81
466	SLU 7	8	-73	3663	-1.5	1049.73	25.82
466	SLU 8	7	-84	3610	-1.34	1035.42	29.59
466	SLU 9	8	-73	3638	-1.51	1042.95	25.6
466	SLU 10	8	-72	4060	-1.84	1164.15	25.51
466	SLU 11	6	-93	4079	-1.53	1169.61	32.72
466	SLU 12	7	-82	4107	-1.7	1177.14	28.73
466	SLU 13	8	-73	4101	-1.81	1175.39	25.85
466	SLU 14	6	-94	4120	-1.51	1180.85	33.06
466	SLU 15	7	-83	4148	-1.67	1188.38	29.07
466	SLU 16	6	-93	4095	-1.52	1174.07	32.83
466	SLU 17	7	-82	4123	-1.68	1181.6	28.84
466	SLU 18	6	-95	4221	-1.64	1211.02	33.55
466	SLU 19	7	-84	4249	-1.8	1218.55	29.56
466	SLU 20	5	-96	4262	-1.61	1222.25	33.89
466	SLU 21	6	-85	4290	-1.78	1229.79	29.9
466	SLU 22	7	-93	4022	-1.41	1150.48	32.58
466	SLU 23	9	-74	4069	-1.69	1163.03	25.93
466	SLU 24	7	-94	4088	-1.38	1168.49	33.14
466	SLU 25	8	-83	4116	-1.54	1176.02	29.15
466	SLU 26	9	-75	4110	-1.66	1174.27	26.27
466	SLU 27	7	-95	4129	-1.35	1179.73	33.48
466	SLU 28	8	-84	4157	-1.52	1187.26	29.49
466	SLU 29	7	-94	4104	-1.36	1172.95	33.25
466	SLU 30	8	-83	4132	-1.53	1180.48	29.26
466	SLU 31	8	-83	4554	-1.86	1301.68	29.18
466	SLU 32	6	-103	4572	-1.55	1307.14	36.39
466	SLU 33	7	-92	4600	-1.72	1314.67	32.4
466	SLU 34	8	-84	4595	-1.83	1312.92	29.51
466	SLU 35	6	-104	4613	-1.53	1318.38	36.72
466	SLU 36	7	-93	4641	-1.69	1325.91	32.74
466	SLU 37	6	-104	4589	-1.53	1311.6	36.5
466	SLU 38	7	-92	4617	-1.7	1319.13	32.51
466	SLU 39	6	-106	4715	-1.66	1348.55	37.22
466	SLU 40	7	-94	4743	-1.82	1356.08	33.23
466	SLU 41	6	-107	4756	-1.63	1359.78	37.55
466	SLU 42	7	-95	4784	-1.8	1367.32	33.57
466	SLU 43	9	-103	4417	-1.8	1269.68	36.33
466	SLU 44	11	-84	4464	-2.08	1282.23	29.68
466	SLU 45	9	-105	4483	-1.77	1287.69	36.89
466	SLU 46	10	-93	4511	-1.93	1295.23	32.9
466	SLU 47	10	-85	4505	-2.05	1293.47	30.02
466	SLU 48	8	-106	4524	-1.74	1298.93	37.23
466	SLU 49	10	-94	4552	-1.91	1306.46	33.24
466	SLU 50	8	-105	4500	-1.75	1292.15	37
466	SLU 51	10	-94	4528	-1.92	1299.68	33.01
466	SLU 52	10	-93	4949	-2.25	1420.88	32.93
466	SLU 53	8	-114	4968	-1.94	1426.34	40.14
466	SLU 54	9	-103	4996	-2.11	1433.88	36.15
466	SLU 55	9	-94	4990	-2.23	1432.12	33.27
466	SLU 56	8	-115	5009	-1.92	1437.58	40.48
466	SLU 57	9	-104	5037	-2.08	1445.11	36.49
466	SLU 58	8	-114	4984	-1.93	1430.8	40.25
466	SLU 59	9	-103	5012	-2.09	1438.33	36.26
466	SLU 60	8	-116	5110	-2.05	1467.75	40.97
466	SLU 61	9	-105	5138	-2.21	1475.28	36.98
466	SLU 62	7	-117	5151	-2.02	1478.98	41.31
466	SLU 63	8	-106	5179	-2.19	1486.52	37.32
466	SLU 64	9	-114	4911	-1.82	1407.21	40
466	SLU 65	11	-95	4958	-2.1	1419.76	33.35
466	SLU 66	9	-115	4977	-1.79	1425.22	40.56
466	SLU 67	10	-104	5005	-1.95	1432.76	36.57
466	SLU 68	11	-96	4999	-2.07	1431	33.69
466	SLU 69	9	-116	5018	-1.76	1436.46	40.9
466	SLU 70	10	-105	5046	-1.93	1443.99	36.91
466	SLU 71	9	-116	4993	-1.77	1429.68	40.67
466	SLU 72	10	-104	5021	-1.94	1437.21	36.68
466	SLU 73	10	-104	5443	-2.27	1558.41	36.6
466	SLU 74	8	-124	5461	-1.96	1563.87	43.81
466	SLU 75	9	-113	5490	-2.13	1571.41	39.82
466	SLU 76	10	-105	5484	-2.24	1569.65	36.93
466	SLU 77	8	-125	5503	-1.94	1575.11	44.14
466	SLU 78	9	-114	5531	-2.1	1582.64	40.15
466	SLU 79	8	-125	5478	-1.95	1568.33	43.92
466	SLU 80	9	-113	5506	-2.11	1575.86	39.93
466	SLU 81	8	-127	5604	-2.07	1605.28	44.64
466	SLU 82	9	-115	5632	-2.23	1612.81	40.65
466	SLU 83	8	-128	5645	-2.04	1616.51	44.97
466	SLU 84	9	-116	5673	-2.21	1624.05	40.98
466	SLE RA 1	7	-85	3669	-1.4	1052.24	29.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
466	SLE RA 2	8	-72	3701	-1.58	1060.61	25.53
466	SLE RA 3	7	-86	3713	-1.37	1064.25	30.34
466	SLE RA 4	8	-79	3732	-1.48	1069.27	27.68
466	SLE RA 5	8	-73	3728	-1.56	1068.1	25.75
466	SLE RA 6	7	-87	3740	-1.36	1071.74	30.56
466	SLE RA 7	8	-79	3759	-1.47	1076.76	27.9
466	SLE RA 8	7	-86	3724	-1.36	1067.22	30.41
466	SLE RA 9	8	-79	3743	-1.47	1072.25	27.75
466	SLE RA 10	8	-79	4024	-1.7	1153.04	27.69
466	SLE RA 11	6	-92	4036	-1.49	1156.68	32.5
466	SLE RA 12	7	-85	4055	-1.6	1161.71	29.84
466	SLE RA 13	7	-79	4051	-1.68	1160.54	27.92
466	SLE RA 14	6	-93	4064	-1.47	1164.17	32.72
466	SLE RA 15	7	-85	4082	-1.58	1169.2	30.07
466	SLE RA 16	6	-93	4047	-1.48	1159.66	32.57
466	SLE RA 17	7	-85	4066	-1.59	1164.68	29.91
466	SLE RA 18	6	-94	4131	-1.56	1184.29	33.05
466	SLE RA 19	7	-86	4150	-1.67	1189.31	30.4
466	SLE RA 20	6	-95	4158	-1.55	1191.78	33.28
466	SLE RA 21	7	-87	4177	-1.66	1196.8	30.62
466	SLE FR 1	7	-85	3669	-1.4	1052.24	29.96
466	SLE FR 2	7	-83	3676	-1.43	1053.91	29.08
466	SLE FR 3	7	-85	3680	-1.39	1055.24	30.05
466	SLE FR 4	7	-85	3814	-1.48	1093.53	30
466	SLE FR 5	7	-88	3819	-1.44	1094.85	30.98
466	SLE FR 6	7	-90	3900	-1.48	1118.26	31.51
466	SLE QP 1	7	-85	3669	-1.4	1052.24	29.96
466	SLE QP 2	7	-88	3808	-1.45	1091.85	30.89
466	SLD 1	347	37	4123	-2.93	1180.89	-12.35
466	SLD 2	397	41	4131	-2.96	1181.69	-13.67
466	SLD 3	324	-184	3545	0.5	1025.94	65.07
466	SLD 4	374	-180	3553	0.47	1026.73	63.76
466	SLD 5	136	284	4778	-7.09	1353.43	-99.27
466	SLD 6	169	287	4784	-7.11	1353.96	-100.14
466	SLD 7	57	-453	2850	4.34	836.93	158.81
466	SLD 8	90	-450	2855	4.33	837.45	157.94
466	SLD 9	-76	275	4760	-7.22	1346.26	-96.16
466	SLD 10	-43	278	4766	-7.24	1346.78	-97.03
466	SLD 11	-155	-463	2832	4.22	829.75	161.92
466	SLD 12	-122	-460	2837	4.2	830.27	161.05
466	SLD 13	-360	5	4063	-3.36	1156.97	-1.98
466	SLD 14	-310	9	4071	-3.39	1157.77	-3.29
466	SLD 15	-384	-217	3484	0.07	1002.02	75.45
466	SLD 16	-333	-212	3492	0.04	1002.81	74.13
466	SLV 1	540	113	4317	-3.86	1235.25	-38.85
466	SLV 2	619	120	4329	-3.91	1236.49	-40.91
466	SLV 3	502	-244	3381	1.68	984.71	86.29
466	SLV 4	580	-238	3394	1.64	985.96	84.22
466	SLV 5	211	514	5377	-10.57	1514.61	-179.43
466	SLV 6	264	518	5385	-10.6	1515.45	-180.82
466	SLV 7	82	-678	2259	7.91	679.51	237.68
466	SLV 8	135	-674	2267	7.88	680.34	236.29
466	SLV 9	-121	498	5348	-10.77	1503.36	-174.51
466	SLV 10	-69	503	5357	-10.8	1504.2	-175.9
466	SLV 11	-250	-694	2231	7.71	668.26	242.61
466	SLV 12	-197	-689	2239	7.68	669.1	241.22
466	SLV 13	-567	62	4222	-4.53	1197.75	-22.44
466	SLV 14	-488	69	4234	-4.57	1198.99	-24.51
466	SLV 15	-605	-295	3287	1.02	947.22	102.69
466	SLV 16	-527	-289	3299	0.97	948.46	100.63
466	SLV FO 1	594	133	4368	-4.1	1249.58	-45.82
466	SLV FO 2	680	141	4381	-4.15	1250.95	-48.09
466	SLV FO 3	551	-260	3339	2	974	91.83
466	SLV FO 4	638	-253	3352	1.95	975.37	89.56
466	SLV FO 5	231	534	5534	-11.49	1556.89	-200.47
466	SLV FO 6	289	579	5543	-11.52	1557.81	-202
466	SLV FO 7	90	-737	2104	8.85	638.27	258.36
466	SLV FO 8	148	-732	2113	8.81	639.19	256.83
466	SLV FO 9	-134	557	5502	-11.71	1544.51	-195.05
466	SLV FO 10	-76	562	5512	-11.74	1545.44	-196.58
466	SLV FO 11	-276	-754	2073	8.63	625.9	263.78
466	SLV FO 12	-217	-749	2082	8.59	626.82	262.25
466	SLV FO 13	-624	77	4263	-4.84	1208.34	-27.78
466	SLV FO 14	-538	85	4277	-4.89	1209.71	-30.05
466	SLV FO 15	-666	-316	3234	1.26	932.76	109.87
466	SLV FO 16	-580	-309	3248	1.21	934.12	107.6
466	CRTFP Ux+	0	0	0	0	0	0
466	CRTFP Ux-	0	0	0	0	0	0
466	CRTFP Uy+	0	0	0	0	0	0
466	CRTFP Uy-	0	0	0	0	0	0
467	SLU 1	-38	49	3274	-2.87	-474.8	12.23
467	SLU 2	-39	70	3326	-3.15	-481.48	17.6
467	SLU 3	-39	50	3335	-2.86	-483.21	12.38
467	SLU 4	-40	62	3366	-3.03	-487.21	15.6
467	SLU 5	-40	71	3363	-3.14	-486.67	17.7
467	SLU 6	-40	50	3373	-2.85	-488.4	12.49
467	SLU 7	-40	63	3404	-3.02	-492.41	15.71
467	SLU 8	-40	50	3349	-2.85	-485.19	12.43
467	SLU 9	-40	63	3380	-3.02	-489.19	15.66



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
467	SLU 10	-40	77	3727	-3.49	-537.37	19.31
467	SLU 11	-40	56	3736	-3.2	-539.1	14.09
467	SLU 12	-40	69	3767	-3.37	-543.11	17.32
467	SLU 13	-40	78	3764	-3.49	-542.57	19.41
467	SLU 14	-41	57	3773	-3.19	-544.29	14.2
467	SLU 15	-41	70	3804	-3.36	-548.3	17.42
467	SLU 16	-40	57	3750	-3.19	-541.08	14.14
467	SLU 17	-41	69	3781	-3.36	-545.09	17.37
467	SLU 18	-39	59	3847	-3.36	-554.65	14.67
467	SLU 19	-40	72	3878	-3.53	-558.65	17.89
467	SLU 20	-40	59	3884	-3.35	-559.84	14.77
467	SLU 21	-40	72	3915	-3.52	-563.85	17.99
467	SLU 22	-43	54	3738	-3.11	-539.32	13.5
467	SLU 23	-44	76	3790	-3.39	-546	18.87
467	SLU 24	-44	55	3799	-3.1	-547.73	13.66
467	SLU 25	-44	68	3830	-3.27	-551.74	16.88
467	SLU 26	-44	76	3828	-3.38	-551.2	18.98
467	SLU 27	-44	55	3837	-3.09	-552.93	13.77
467	SLU 28	-45	68	3868	-3.26	-556.93	16.99
467	SLU 29	-44	55	3814	-3.09	-549.71	13.71
467	SLU 30	-45	68	3845	-3.26	-553.72	16.93
467	SLU 31	-44	82	4191	-3.73	-601.9	20.58
467	SLU 32	-45	61	4200	-3.44	-603.63	15.37
467	SLU 33	-45	74	4231	-3.61	-607.63	18.59
467	SLU 34	-45	83	4228	-3.72	-607.09	20.69
467	SLU 35	-45	62	4238	-3.43	-608.82	15.48
467	SLU 36	-46	75	4269	-3.6	-612.83	18.7
467	SLU 37	-45	62	4214	-3.43	-605.61	15.42
467	SLU 38	-45	75	4245	-3.6	-609.61	18.64
467	SLU 39	-44	64	4311	-3.59	-619.17	15.95
467	SLU 40	-44	77	4342	-3.76	-623.18	19.17
467	SLU 41	-44	64	4349	-3.59	-624.37	16.05
467	SLU 42	-45	77	4379	-3.75	-628.37	19.27
467	SLU 43	-48	62	4097	-3.65	-595.11	15.45
467	SLU 44	-49	83	4149	-3.93	-601.79	20.82
467	SLU 45	-49	62	4158	-3.64	-603.52	15.61
467	SLU 46	-50	75	4189	-3.81	-607.53	18.83
467	SLU 47	-50	84	4186	-3.92	-606.99	20.93
467	SLU 48	-50	63	4196	-3.63	-608.72	15.72
467	SLU 49	-50	76	4227	-3.8	-612.72	18.94
467	SLU 50	-49	63	4172	-3.63	-605.5	15.66
467	SLU 51	-50	76	4203	-3.8	-609.51	18.88
467	SLU 52	-50	90	4550	-4.28	-657.69	22.53
467	SLU 53	-50	69	4559	-3.98	-659.42	17.32
467	SLU 54	-50	82	4590	-4.15	-663.42	20.54
467	SLU 55	-50	91	4587	-4.27	-662.88	22.64
467	SLU 56	-51	70	4596	-3.97	-664.61	17.43
467	SLU 57	-51	83	4627	-4.14	-668.62	20.65
467	SLU 58	-50	69	4573	-3.97	-661.4	17.37
467	SLU 59	-51	82	4604	-4.14	-665.4	20.59
467	SLU 60	-49	72	4670	-4.14	-674.96	17.9
467	SLU 61	-50	84	4701	-4.31	-678.97	21.12
467	SLU 62	-50	72	4707	-4.13	-680.16	18
467	SLU 63	-50	85	4738	-4.3	-684.16	21.22
467	SLU 64	-53	67	4562	-3.89	-659.64	16.73
467	SLU 65	-53	88	4613	-4.17	-666.32	22.1
467	SLU 66	-54	68	4622	-3.88	-668.05	16.89
467	SLU 67	-54	80	4653	-4.05	-672.06	20.11
467	SLU 68	-54	89	4651	-4.16	-671.51	22.21
467	SLU 69	-54	68	4660	-3.87	-673.24	17
467	SLU 70	-55	81	4691	-4.04	-677.25	20.22
467	SLU 71	-54	68	4637	-3.87	-670.03	16.94
467	SLU 72	-54	81	4668	-4.04	-674.04	20.16
467	SLU 73	-54	95	5014	-4.51	-722.21	23.81
467	SLU 74	-54	74	5023	-4.22	-723.94	18.6
467	SLU 75	-55	87	5054	-4.39	-727.95	21.82
467	SLU 76	-55	96	5051	-4.5	-727.41	23.92
467	SLU 77	-55	75	5061	-4.21	-729.14	18.71
467	SLU 78	-56	88	5092	-4.38	-733.14	21.93
467	SLU 79	-55	75	5037	-4.21	-725.92	18.65
467	SLU 80	-55	87	5068	-4.38	-729.93	21.87
467	SLU 81	-54	77	5134	-4.38	-739.49	19.18
467	SLU 82	-54	90	5165	-4.54	-743.5	22.4
467	SLU 83	-54	77	5172	-4.37	-744.68	19.28
467	SLU 84	-55	90	5203	-4.54	-748.69	22.5
467	SLE RA 1	-39	50	3407	-2.94	-493.23	12.59
467	SLE RA 2	-40	65	3441	-3.13	-497.69	16.17
467	SLE RA 3	-40	51	3447	-2.93	-498.84	12.7
467	SLE RA 4	-40	59	3468	-3.05	-501.51	14.84
467	SLE RA 5	-40	65	3466	-3.12	-501.15	16.24
467	SLE RA 6	-41	51	3472	-2.93	-502.3	12.77
467	SLE RA 7	-41	60	3493	-3.04	-504.97	14.91
467	SLE RA 8	-40	51	3457	-2.93	-500.16	12.73
467	SLE RA 9	-41	60	3478	-3.04	-502.83	14.88
467	SLE RA 10	-41	69	3708	-3.35	-534.95	17.31
467	SLE RA 11	-41	55	3715	-3.16	-536.1	13.84
467	SLE RA 12	-41	64	3735	-3.27	-538.77	15.98
467	SLE RA 13	-41	70	3733	-3.35	-538.41	17.38
467	SLE RA 14	-41	56	3740	-3.15	-539.56	13.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
467	SLE RA 15	-41	64	3760	-3.27	-542.24	16.05
467	SLE RA 16	-41	55	3724	-3.15	-537.42	13.87
467	SLE RA 17	-41	64	3745	-3.27	-540.09	16.02
467	SLE RA 18	-40	57	3788	-3.26	-546.47	14.22
467	SLE RA 19	-41	65	3809	-3.38	-549.14	16.37
467	SLE RA 20	-41	57	3814	-3.26	-549.93	14.29
467	SLE RA 21	-41	66	3834	-3.37	-552.6	16.44
467	SLE FR 1	-39	50	3407	-2.94	-493.23	12.59
467	SLE FR 2	-40	53	3414	-2.98	-494.12	13.31
467	SLE FR 3	-40	50	3417	-2.94	-494.62	12.62
467	SLE FR 4	-40	55	3528	-3.07	-510.09	13.8
467	SLE FR 5	-40	52	3531	-3.03	-510.59	13.11
467	SLE FR 6	-40	54	3598	-3.1	-519.85	13.41
467	SLE QP 1	-39	50	3407	-2.94	-493.23	12.59
467	SLE QP 2	-40	52	3521	-3.04	-509.2	13.08
467	SLD 1	238	183	4855	-6.15	-686.38	45.96
467	SLD 2	279	79	4792	-5.79	-678.13	20.04
467	SLD 3	263	-59	4151	-2.12	-591.86	-14.42
467	SLD 4	304	-163	4088	-1.76	-583.61	-40.34
467	SLD 5	-2	478	5000	-10.15	-707.19	119.19
467	SLD 6	25	409	4958	-9.91	-701.74	102.07
467	SLD 7	82	-329	2654	3.28	-392.14	-82.07
467	SLD 8	109	-398	2613	3.53	-386.69	-99.19
467	SLD 9	-189	503	4430	-9.6	-631.72	125.35
467	SLD 10	-161	434	4388	-9.36	-626.27	108.23
467	SLD 11	-104	-304	2084	3.84	-316.66	-75.91
467	SLD 12	-77	-373	2042	4.08	-311.22	-93.03
467	SLD 13	-383	268	2955	-4.32	-434.8	66.5
467	SLD 14	-342	163	2891	-3.95	-426.55	40.58
467	SLD 15	-358	26	2251	-0.29	-340.28	6.12
467	SLD 16	-317	-79	2188	0.08	-332.03	-19.8
467	SLV 1	394	264	5621	-8.01	-788.25	66.1
467	SLV 2	458	100	5522	-7.44	-775.32	25.49
467	SLV 3	434	-127	4484	-1.5	-635.55	-31.43
467	SLV 4	499	-291	4385	-0.93	-622.62	-72.04
467	SLV 5	17	739	5894	-14.51	-826.93	184.49
467	SLV 6	60	629	5828	-14.12	-818.22	157.14
467	SLV 7	152	-564	2104	7.19	-317.92	-140.61
467	SLV 8	196	-674	2037	7.58	-309.22	-167.96
467	SLV 9	-275	779	5005	-13.65	-709.19	194.11
467	SLV 10	-232	668	4939	-13.26	-700.49	166.77
467	SLV 11	-139	-524	1215	8.05	-200.18	-130.99
467	SLV 12	-96	-635	1148	8.44	-191.48	-158.33
467	SLV 13	-578	395	2657	-5.15	-395.78	98.2
467	SLV 14	-514	232	2558	-4.57	-382.86	57.59
467	SLV 15	-538	4	1520	1.36	-243.08	0.67
467	SLV 16	-473	-159	1421	1.94	-230.16	-39.94
467	SLV FO 1	437	285	5831	-8.51	-816.15	71.4
467	SLV FO 2	508	105	5722	-7.88	-801.94	26.73
467	SLV FO 3	482	-145	4581	-1.35	-648.18	-35.88
467	SLV FO 4	553	-325	4472	-0.72	-633.97	-80.55
467	SLV FO 5	22	808	6132	-15.66	-858.7	201.63
467	SLV FO 6	70	687	6058	-15.23	-849.13	171.55
467	SLV FO 7	171	-625	1962	8.21	-298.79	-155.98
467	SLV FO 8	219	-747	1889	8.64	-289.22	-186.06
467	SLV FO 9	-298	851	5154	-14.71	-729.18	212.22
467	SLV FO 10	-251	730	5080	-14.29	-719.61	182.14
467	SLV FO 11	-149	-582	984	9.16	-169.28	-145.39
467	SLV FO 12	-102	-703	911	9.59	-159.71	-175.47
467	SLV FO 13	-632	430	2571	-5.36	-384.44	106.71
467	SLV FO 14	-561	250	2462	-4.72	-370.23	62.04
467	SLV FO 15	-587	0	1320	1.8	-216.47	-0.57
467	SLV FO 16	-517	-180	1211	2.44	-202.26	-45.25
467	CRTFP Ux+	0	0	0	0	0	0
467	CRTFP Ux-	0	0	0	0	0	0
467	CRTFP Uy+	0	0	0	0	0	0
467	CRTFP Uy-	0	0	0	0	0	0
470	SLU 1	35	-43	6506	-3.23	44.2	0.39
470	SLU 2	38	-13	6602	-3.72	43.74	0.43
470	SLU 3	35	-44	6631	-3.13	45.19	0.37
470	SLU 4	37	-26	6688	-3.43	44.91	0.4
470	SLU 5	38	-14	6680	-3.65	44.39	0.41
470	SLU 6	35	-44	6709	-3.06	45.83	0.35
470	SLU 7	37	-26	6766	-3.36	45.56	0.38
470	SLU 8	35	-44	6663	-3.08	45.49	0.35
470	SLU 9	36	-26	6720	-3.37	45.22	0.38
470	SLU 10	37	-15	7449	-4.05	50.78	0.43
470	SLU 11	35	-46	7477	-3.46	52.22	0.37
470	SLU 12	37	-28	7535	-3.76	51.95	0.39
470	SLU 13	37	-16	7527	-3.97	51.42	0.41
470	SLU 14	35	-47	7556	-3.39	52.87	0.35
470	SLU 15	37	-29	7613	-3.69	52.6	0.38
470	SLU 16	34	-46	7510	-3.41	52.53	0.35
470	SLU 17	36	-28	7567	-3.7	52.25	0.37
470	SLU 18	35	-46	7716	-3.7	54.25	0.38
470	SLU 19	36	-28	7773	-3.99	53.97	0.41
470	SLU 20	34	-47	7794	-3.62	54.89	0.36
470	SLU 21	36	-29	7852	-3.92	54.62	0.39
470	SLU 22	39	-47	7452	-3.22	50.9	0.43



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
470	SLU 23	42	-17	7548	-3.72	50.45	0.47
470	SLU 24	39	-48	7576	-3.13	51.9	0.41
470	SLU 25	41	-30	7634	-3.43	51.62	0.44
470	SLU 26	42	-17	7626	-3.65	51.1	0.45
470	SLU 27	39	-48	7655	-3.06	52.54	0.39
470	SLU 28	41	-30	7712	-3.36	52.27	0.42
470	SLU 29	39	-48	7609	-3.08	52.2	0.39
470	SLU 30	41	-30	7666	-3.37	51.93	0.42
470	SLU 31	42	-19	8394	-4.05	57.48	0.47
470	SLU 32	39	-50	8423	-3.46	58.93	0.41
470	SLU 33	41	-32	8481	-3.76	58.66	0.43
470	SLU 34	42	-19	8473	-3.97	58.13	0.45
470	SLU 35	39	-50	8502	-3.39	59.58	0.39
470	SLU 36	41	-32	8559	-3.68	59.31	0.42
470	SLU 37	39	-50	8456	-3.41	59.23	0.39
470	SLU 38	41	-32	8513	-3.7	58.96	0.41
470	SLU 39	39	-50	8662	-3.69	60.95	0.42
470	SLU 40	41	-32	8719	-3.99	60.68	0.45
470	SLU 41	39	-50	8740	-3.62	61.6	0.4
470	SLU 42	41	-32	8798	-3.92	61.33	0.43
470	SLU 43	44	-55	8134	-4.19	55.15	0.49
470	SLU 44	47	-25	8229	-4.69	54.7	0.53
470	SLU 45	44	-56	8258	-4.1	56.15	0.47
470	SLU 46	46	-38	8315	-4.4	55.87	0.5
470	SLU 47	46	-26	8308	-4.61	55.35	0.51
470	SLU 48	44	-56	8336	-4.03	56.79	0.46
470	SLU 49	46	-38	8394	-4.32	56.52	0.48
470	SLU 50	43	-56	8290	-4.05	56.45	0.45
470	SLU 51	45	-38	8348	-4.34	56.18	0.48
470	SLU 52	46	-27	9076	-5.02	61.73	0.53
470	SLU 53	44	-58	9105	-4.43	63.18	0.47
470	SLU 54	46	-40	9162	-4.73	62.91	0.5
470	SLU 55	46	-28	9154	-4.94	62.38	0.51
470	SLU 56	44	-58	9183	-4.36	63.83	0.45
470	SLU 57	45	-40	9241	-4.65	63.56	0.48
470	SLU 58	43	-58	9137	-4.37	63.49	0.45
470	SLU 59	45	-40	9195	-4.67	63.21	0.48
470	SLU 60	43	-58	9343	-4.66	65.21	0.48
470	SLU 61	45	-40	9401	-4.96	64.93	0.51
470	SLU 62	43	-58	9422	-4.59	65.85	0.47
470	SLU 63	45	-41	9479	-4.89	65.58	0.49
470	SLU 64	48	-59	9080	-4.19	61.86	0.53
470	SLU 65	51	-29	9175	-4.69	61.41	0.57
470	SLU 66	48	-59	9204	-4.1	62.85	0.51
470	SLU 67	50	-41	9261	-4.4	62.58	0.54
470	SLU 68	51	-29	9254	-4.61	62.05	0.55
470	SLU 69	48	-60	9282	-4.03	63.5	0.5
470	SLU 70	50	-42	9340	-4.32	63.23	0.52
470	SLU 71	48	-59	9236	-4.05	63.16	0.49
470	SLU 72	50	-41	9294	-4.34	62.88	0.52
470	SLU 73	51	-31	10022	-5.02	68.44	0.57
470	SLU 74	48	-61	10051	-4.43	69.89	0.51
470	SLU 75	50	-43	10108	-4.73	69.62	0.54
470	SLU 76	51	-31	10100	-4.94	69.09	0.55
470	SLU 77	48	-62	10129	-4.36	70.54	0.49
470	SLU 78	50	-44	10187	-4.65	70.26	0.52
470	SLU 79	48	-62	10083	-4.37	70.19	0.49
470	SLU 80	49	-44	10141	-4.67	69.92	0.52
470	SLU 81	48	-62	10289	-4.66	71.91	0.52
470	SLU 82	50	-44	10347	-4.96	71.64	0.55
470	SLU 83	48	-62	10368	-4.59	72.56	0.51
470	SLU 84	49	-44	10425	-4.89	72.29	0.53
470	SLE RA 1	36	-44	6776	-3.23	46.11	0.4
470	SLE RA 2	38	-24	6840	-3.55	45.81	0.43
470	SLE RA 3	36	-45	6859	-3.16	46.77	0.39
470	SLE RA 4	37	-33	6898	-3.36	46.59	0.41
470	SLE RA 5	38	-25	6892	-3.51	46.24	0.42
470	SLE RA 6	36	-45	6912	-3.12	47.2	0.38
470	SLE RA 7	37	-33	6950	-3.31	47.02	0.39
470	SLE RA 8	36	-45	6881	-3.13	46.98	0.37
470	SLE RA 9	37	-33	6919	-3.32	46.79	0.39
470	SLE RA 10	38	-26	7405	-3.77	50.5	0.42
470	SLE RA 11	36	-46	7424	-3.38	51.46	0.39
470	SLE RA 12	37	-34	7462	-3.58	51.28	0.4
470	SLE RA 13	38	-26	7457	-3.72	50.93	0.41
470	SLE RA 14	36	-46	7476	-3.33	51.9	0.37
470	SLE RA 15	37	-34	7514	-3.53	51.71	0.39
470	SLE RA 16	36	-46	7445	-3.35	51.67	0.37
470	SLE RA 17	37	-34	7484	-3.54	51.48	0.39
470	SLE RA 18	36	-46	7583	-3.54	52.81	0.39
470	SLE RA 19	37	-34	7621	-3.74	52.63	0.41
470	SLE RA 20	36	-47	7635	-3.49	53.24	0.38
470	SLE RA 21	37	-35	7673	-3.69	53.06	0.4
470	SLE FR 1	36	-44	6776	-3.23	46.11	0.4
470	SLE FR 2	36	-40	6789	-3.29	46.05	0.4
470	SLE FR 3	36	-44	6797	-3.21	46.28	0.39
470	SLE FR 4	36	-41	7031	-3.39	48.06	0.4
470	SLE FR 5	36	-45	7039	-3.3	48.29	0.39
470	SLE FR 6	36	-45	7180	-3.38	49.46	0.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
470	SLE QP 1	36	-44	6776	-3.23	46.11	0.4
470	SLE QP 2	36	-45	7018	-3.32	48.12	0.4
470	SLD 1	677	147	6977	-5.87	56.99	3.26
470	SLD 2	770	227	7052	-6.22	55.33	5.4
470	SLD 3	641	-182	5734	0.77	64.72	2.41
470	SLD 4	734	-102	5810	0.42	63.06	4.55
470	SLD 5	265	497	8877	-14.09	39.35	2.16
470	SLD 6	327	550	8927	-14.33	38.26	3.57
470	SLD 7	147	-599	4735	8.04	65.13	-0.67
470	SLD 8	208	-547	4785	7.81	64.03	0.74
470	SLD 9	-136	457	9252	-14.45	32.21	0.05
470	SLD 10	-75	509	9302	-14.68	31.12	1.46
470	SLD 11	-255	-640	5110	7.69	57.99	-2.78
470	SLD 12	-194	-587	5160	7.45	56.89	-1.36
470	SLD 13	-662	12	8227	-7.06	33.18	-3.76
470	SLD 14	-569	92	8302	-7.41	31.53	-1.62
470	SLD 15	-698	-316	6984	-0.42	40.92	-4.61
470	SLD 16	-605	-237	7060	-0.77	39.26	-2.47
470	SLV 1	1040	263	6989	-7.48	61.76	4.91
470	SLV 2	1186	388	7107	-8.04	59.16	8.26
470	SLV 3	982	-269	4980	3.26	74.26	3.52
470	SLV 4	1128	-144	5098	2.7	71.66	6.87
470	SLV 5	398	831	10035	-20.74	33.75	3.23
470	SLV 6	497	915	10114	-21.12	32	5.49
470	SLV 7	204	-942	3337	15.04	75.4	-1.4
470	SLV 8	302	-858	3417	14.66	73.65	0.86
470	SLV 9	-230	768	10620	-21.3	22.59	-0.07
470	SLV 10	-132	853	10699	-21.68	20.84	2.19
470	SLV 11	-425	-1005	3922	14.48	64.25	-4.69
470	SLV 12	-327	-921	4002	14.1	62.5	-2.44
470	SLV 13	-1056	54	8939	-9.34	24.58	-6.08
470	SLV 14	-910	179	9057	-9.89	21.99	-2.73
470	SLV 15	-1114	-478	6930	1.4	37.08	-7.47
470	SLV 16	-968	-353	7048	0.84	34.48	-4.11
470	SLV FO 1	1140	294	6986	-7.89	63.12	5.36
470	SLV FO 2	1301	432	7116	-8.51	60.27	9.05
470	SLV FO 3	1076	-291	4776	3.91	76.87	3.83
470	SLV FO 4	1237	-153	4906	3.3	74.01	7.52
470	SLV FO 5	435	919	10336	-22.49	32.31	3.51
470	SLV FO 6	543	1011	10424	-22.9	30.38	6
470	SLV FO 7	221	-1032	2969	16.87	78.13	-1.58
470	SLV FO 8	329	-939	3057	16.46	76.21	0.91
470	SLV FO 9	-257	850	10980	-23.1	20.04	-0.11
470	SLV FO 10	-149	942	11067	-23.51	18.12	2.37
470	SLV FO 11	-471	-1101	3613	16.26	65.86	-5.2
470	SLV FO 12	-363	-1009	3700	15.85	63.94	-2.72
470	SLV FO 13	-1165	64	9131	-9.94	22.23	-6.73
470	SLV FO 14	-1004	201	9261	-10.55	19.37	-3.04
470	SLV FO 15	-1229	-522	6921	1.87	35.98	-8.25
470	SLV FO 16	-1069	-384	7051	1.26	33.12	-4.56
470	CRTFP Ux+	0	0	0	0	0	0
470	CRTFP Ux-	0	0	0	0	0	0
470	CRTFP Uy+	0	0	0	0	0	0
470	CRTFP Uy-	0	0	0	0	0	0
473	SLU 1	34	11	3715	-3.3	833.83	-3.84
473	SLU 2	35	34	3776	-3.67	845.78	-11.95
473	SLU 3	34	11	3788	-3.27	849.21	-3.87
473	SLU 4	35	25	3824	-3.5	856.38	-8.74
473	SLU 5	36	35	3822	-3.64	855.42	-12.1
473	SLU 6	34	12	3833	-3.25	858.85	-4.02
473	SLU 7	35	26	3870	-3.47	866.02	-8.89
473	SLU 8	34	12	3806	-3.24	853.11	-4.14
473	SLU 9	35	26	3843	-3.47	860.28	-9
473	SLU 10	36	35	4234	-4.06	944.63	-12.14
473	SLU 11	35	12	4246	-3.67	948.05	-4.06
473	SLU 12	36	26	4282	-3.89	955.22	-8.93
473	SLU 13	36	35	4280	-4.04	954.27	-12.29
473	SLU 14	35	12	4291	-3.64	957.69	-4.21
473	SLU 15	36	26	4328	-3.87	964.86	-9.08
473	SLU 16	35	12	4264	-3.64	951.96	-4.33
473	SLU 17	35	26	4301	-3.86	959.13	-9.2
473	SLU 18	34	12	4369	-3.87	975.04	-4.11
473	SLU 19	35	26	4406	-4.09	982.21	-8.98
473	SLU 20	35	12	4415	-3.84	984.68	-4.26
473	SLU 21	36	26	4451	-4.06	991.85	-9.13
473	SLU 22	37	9	4242	-3.55	947.25	-3.09
473	SLU 23	39	32	4303	-3.92	959.2	-11.2
473	SLU 24	38	9	4315	-3.53	962.63	-3.12
473	SLU 25	39	23	4352	-3.75	969.8	-7.99
473	SLU 26	39	33	4349	-3.9	968.84	-11.35
473	SLU 27	38	9	4361	-3.5	972.27	-3.27
473	SLU 28	39	23	4397	-3.72	979.44	-8.14
473	SLU 29	38	10	4334	-3.5	966.53	-3.39
473	SLU 30	39	24	4370	-3.72	973.7	-8.26
473	SLU 31	39	33	4761	-4.32	1058.05	-11.39
473	SLU 32	38	10	4773	-3.93	1061.47	-3.31
473	SLU 33	39	24	4809	-4.15	1068.64	-8.18
473	SLU 34	40	33	4807	-4.29	1067.69	-11.54
473	SLU 35	38	10	4818	-3.9	1071.11	-3.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
473	SLU 36	39	24	4855	-4.12	1078.28	-8.33
473	SLU 37	38	10	4791	-3.9	1065.38	-3.58
473	SLU 38	39	24	4828	-4.12	1072.55	-8.45
473	SLU 39	38	10	4896	-4.12	1088.46	-3.36
473	SLU 40	39	24	4933	-4.34	1095.63	-8.23
473	SLU 41	38	10	4942	-4.09	1098.1	-3.51
473	SLU 42	39	24	4979	-4.32	1105.27	-8.38
473	SLU 43	43	15	4649	-4.2	1045.1	-5.25
473	SLU 44	44	38	4710	-4.57	1057.05	-13.36
473	SLU 45	43	15	4722	-4.18	1060.47	-5.28
473	SLU 46	44	29	4758	-4.4	1067.64	-10.14
473	SLU 47	44	39	4756	-4.54	1066.69	-13.51
473	SLU 48	43	16	4767	-4.15	1070.11	-5.43
473	SLU 49	44	30	4804	-4.37	1077.28	-10.29
473	SLU 50	43	16	4740	-4.15	1064.38	-5.55
473	SLU 51	44	30	4777	-4.37	1071.55	-10.41
473	SLU 52	45	39	5168	-4.97	1155.89	-13.55
473	SLU 53	44	16	5180	-4.57	1159.32	-5.47
473	SLU 54	45	30	5216	-4.79	1166.49	-10.34
473	SLU 55	45	39	5213	-4.94	1165.53	-13.7
473	SLU 56	44	16	5225	-4.55	1168.96	-5.62
473	SLU 57	45	30	5262	-4.77	1176.13	-10.48
473	SLU 58	43	17	5198	-4.54	1163.22	-5.74
473	SLU 59	44	30	5235	-4.76	1170.39	-10.6
473	SLU 60	43	16	5303	-4.77	1186.31	-5.52
473	SLU 61	44	30	5340	-4.99	1193.47	-10.39
473	SLU 62	43	16	5349	-4.74	1195.94	-5.67
473	SLU 63	44	30	5385	-4.96	1203.11	-10.54
473	SLU 64	46	13	5176	-4.46	1158.52	-4.5
473	SLU 65	48	36	5237	-4.83	1170.46	-12.61
473	SLU 66	47	13	5249	-4.43	1173.89	-4.53
473	SLU 67	48	27	5285	-4.65	1181.06	-9.4
473	SLU 68	48	37	5283	-4.8	1180.1	-12.76
473	SLU 69	47	14	5294	-4.4	1183.53	-4.68
473	SLU 70	48	27	5331	-4.63	1190.7	-9.54
473	SLU 71	47	14	5267	-4.4	1177.8	-4.8
473	SLU 72	48	28	5304	-4.62	1184.96	-9.66
473	SLU 73	48	37	5695	-5.22	1269.31	-12.8
473	SLU 74	47	14	5707	-4.83	1272.74	-4.72
473	SLU 75	48	28	5743	-5.05	1279.9	-9.59
473	SLU 76	48	37	5741	-5.2	1278.95	-12.95
473	SLU 77	47	14	5752	-4.8	1282.38	-4.87
473	SLU 78	48	28	5789	-5.02	1289.54	-9.74
473	SLU 79	47	14	5725	-4.8	1276.64	-4.99
473	SLU 80	48	28	5762	-5.02	1283.81	-9.85
473	SLU 81	47	14	5830	-5.02	1299.72	-4.77
473	SLU 82	48	28	5867	-5.24	1306.89	-9.64
473	SLU 83	47	14	5876	-5	1309.36	-4.92
473	SLU 84	48	28	5912	-5.22	1316.53	-9.79
473	SLE RA 1	35	10	3866	-3.37	866.24	-3.63
473	SLE RA 2	36	26	3907	-3.62	874.2	-9.03
473	SLE RA 3	35	11	3914	-3.36	876.49	-3.65
473	SLE RA 4	36	20	3939	-3.5	881.27	-6.89
473	SLE RA 5	36	26	3937	-3.6	880.63	-9.13
473	SLE RA 6	35	11	3945	-3.34	882.92	-3.75
473	SLE RA 7	36	20	3969	-3.48	887.69	-6.99
473	SLE RA 8	35	11	3927	-3.33	879.09	-3.82
473	SLE RA 9	36	20	3951	-3.48	883.87	-7.07
473	SLE RA 10	36	26	4212	-3.88	940.1	-9.16
473	SLE RA 11	35	11	4220	-3.62	942.39	-3.77
473	SLE RA 12	36	20	4244	-3.77	947.16	-7.02
473	SLE RA 13	36	27	4242	-3.86	946.53	-9.26
473	SLE RA 14	36	11	4250	-3.6	948.81	-3.87
473	SLE RA 15	36	20	4274	-3.75	953.59	-7.12
473	SLE RA 16	35	11	4232	-3.6	944.99	-3.95
473	SLE RA 17	36	21	4256	-3.75	949.77	-7.2
473	SLE RA 18	35	11	4302	-3.75	960.38	-3.81
473	SLE RA 19	36	20	4326	-3.9	965.16	-7.05
473	SLE RA 20	35	11	4332	-3.73	966.8	-3.91
473	SLE RA 21	36	21	4357	-3.88	971.58	-7.15
473	SLE FR 1	35	10	3866	-3.37	866.24	-3.63
473	SLE FR 2	35	14	3874	-3.42	867.83	-4.71
473	SLE FR 3	35	11	3878	-3.36	868.81	-3.67
473	SLE FR 4	35	14	4005	-3.53	896.07	-4.76
473	SLE FR 5	35	11	4009	-3.48	897.05	-3.72
473	SLE FR 6	35	11	4084	-3.56	913.31	-3.72
473	SLE QP 1	35	10	3866	-3.37	866.24	-3.63
473	SLE QP 2	35	11	3997	-3.48	894.48	-3.68
473	SLD 1	397	124	3287	-4.57	749.7	-43.26
473	SLD 2	448	241	3360	-5.05	764.47	-83.68
473	SLD 3	376	-116	2494	0.42	586.8	40.88
473	SLD 4	427	0	2566	-0.06	601.57	0.46
473	SLD 5	166	389	4975	-11.29	1095.45	-135.88
473	SLD 6	200	466	5023	-11.61	1105.2	-162.58
473	SLD 7	96	-414	2329	5.34	552.45	144.59
473	SLD 8	130	-337	2377	5.03	562.21	117.89
473	SLD 9	-60	358	5617	-12	1226.76	-125.25
473	SLD 10	-26	435	5665	-12.31	1236.51	-151.95
473	SLD 11	-130	-444	2971	4.64	683.76	155.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
473	SLD 12	-96	-368	3019	4.33	693.51	128.53
473	SLD 13	-357	22	5427	-6.91	1187.39	-7.82
473	SLD 14	-306	138	5500	-7.39	1202.17	-48.24
473	SLD 15	-378	-219	4633	-1.92	1024.49	76.33
473	SLD 16	-327	-103	4706	-2.4	1039.27	35.9
473	SLV 1	603	195	2913	-5.32	673.25	-67.84
473	SLV 2	683	377	3027	-6.07	696.4	-131.18
473	SLV 3	568	-195	1629	2.75	409.88	68.46
473	SLV 4	648	-13	1743	2	433.03	5.12
473	SLV 5	242	624	5597	-16.13	1223.23	-217.83
473	SLV 6	296	746	5674	-16.64	1238.82	-260.48
473	SLV 7	128	-677	1318	10.76	345.34	236.51
473	SLV 8	182	-554	1395	10.26	360.92	193.87
473	SLV 9	-112	575	6598	-17.23	1428.04	-201.23
473	SLV 10	-58	698	6675	-17.73	1443.62	-243.87
473	SLV 11	-226	-725	2320	9.67	550.14	253.12
473	SLV 12	-172	-602	2396	9.17	565.73	210.47
473	SLV 13	-579	34	6251	-8.97	1355.93	-12.48
473	SLV 14	-498	216	6364	-9.71	1379.08	-75.82
473	SLV 15	-613	-356	4967	-0.9	1092.57	123.82
473	SLV 16	-533	-174	5081	-1.65	1115.72	60.48
473	SLV FO 1	659	213	2804	-5.51	651.12	-74.26
473	SLV FO 2	748	414	2930	-6.33	676.59	-143.93
473	SLV FO 3	622	-216	1392	3.37	361.42	75.68
473	SLV FO 4	710	-16	1518	2.55	386.88	6
473	SLV FO 5	263	685	5757	-17.4	1256.11	-239.25
473	SLV FO 6	322	820	5841	-17.95	1273.25	-286.16
473	SLV FO 7	137	-745	1051	12.19	290.42	260.53
473	SLV FO 8	197	-611	1135	11.63	307.57	213.62
473	SLV FO 9	-127	632	6859	-18.6	1481.39	-220.98
473	SLV FO 10	-67	767	6943	-19.16	1498.54	-267.89
473	SLV FO 11	-253	-798	2152	10.98	515.71	278.8
473	SLV FO 12	-193	-664	2236	10.43	532.85	231.89
473	SLV FO 13	-640	37	6476	-9.52	1402.08	-13.36
473	SLV FO 14	-552	237	6601	-10.34	1427.54	-83.04
473	SLV FO 15	-678	-392	5064	-0.64	1112.37	136.57
473	SLV FO 16	-589	-192	5189	-1.46	1137.84	66.9
473	CRTFP Ux+	0	0	0	0	0	0
473	CRTFP Ux-	0	0	0	0	0	0
473	CRTFP Uy+	0	0	0	0	0	0
473	CRTFP Uy-	0	0	0	0	0	0
475	SLU 1	-46	-66	5981	-1.46	-29.28	-0.51
475	SLU 2	-48	-39	6060	-1.82	-29.11	-0.55
475	SLU 3	-47	-68	6098	-1.38	-30	-0.53
475	SLU 4	-48	-51	6145	-1.59	-29.9	-0.55
475	SLU 5	-48	-40	6133	-1.76	-29.59	-0.56
475	SLU 6	-48	-69	6171	-1.31	-30.48	-0.55
475	SLU 7	-49	-52	6218	-1.53	-30.38	-0.57
475	SLU 8	-47	-68	6127	-1.34	-30.24	-0.55
475	SLU 9	-49	-52	6175	-1.55	-30.14	-0.57
475	SLU 10	-47	-46	6845	-1.93	-34.3	-0.57
475	SLU 11	-47	-75	6882	-1.48	-35.18	-0.55
475	SLU 12	-48	-58	6930	-1.7	-35.08	-0.58
475	SLU 13	-48	-47	6918	-1.87	-34.78	-0.59
475	SLU 14	-48	-76	6956	-1.42	-35.66	-0.57
475	SLU 15	-49	-59	7003	-1.64	-35.56	-0.59
475	SLU 16	-47	-75	6912	-1.45	-35.42	-0.57
475	SLU 17	-48	-59	6960	-1.66	-35.32	-0.59
475	SLU 18	-45	-76	7102	-1.62	-36.68	-0.54
475	SLU 19	-46	-60	7149	-1.83	-36.58	-0.56
475	SLU 20	-46	-77	7175	-1.56	-37.16	-0.56
475	SLU 21	-47	-61	7223	-1.77	-37.06	-0.58
475	SLU 22	-51	-75	6866	-1.3	-34.16	-0.64
475	SLU 23	-53	-47	6945	-1.66	-34	-0.67
475	SLU 24	-53	-76	6983	-1.22	-34.88	-0.66
475	SLU 25	-54	-60	7030	-1.43	-34.78	-0.68
475	SLU 26	-54	-48	7018	-1.6	-34.48	-0.69
475	SLU 27	-54	-77	7056	-1.15	-35.36	-0.68
475	SLU 28	-55	-61	7103	-1.37	-35.27	-0.7
475	SLU 29	-53	-77	7012	-1.18	-35.13	-0.67
475	SLU 30	-54	-60	7060	-1.39	-35.03	-0.7
475	SLU 31	-53	-54	7730	-1.77	-39.18	-0.7
475	SLU 32	-52	-83	7768	-1.32	-40.07	-0.68
475	SLU 33	-54	-67	7815	-1.54	-39.97	-0.71
475	SLU 34	-54	-55	7803	-1.71	-39.66	-0.71
475	SLU 35	-53	-84	7841	-1.26	-40.55	-0.7
475	SLU 36	-54	-68	7888	-1.48	-40.45	-0.72
475	SLU 37	-53	-84	7797	-1.29	-40.31	-0.7
475	SLU 38	-54	-67	7845	-1.5	-40.21	-0.72
475	SLU 39	-51	-85	7987	-1.46	-41.57	-0.67
475	SLU 40	-52	-68	8035	-1.67	-41.47	-0.69
475	SLU 41	-52	-86	8060	-1.4	-42.05	-0.69
475	SLU 42	-53	-69	8108	-1.61	-41.95	-0.71
475	SLU 43	-57	-83	7472	-1.96	-36.38	-0.62
475	SLU 44	-59	-56	7551	-2.31	-36.22	-0.65
475	SLU 45	-59	-85	7588	-1.87	-37.1	-0.64
475	SLU 46	-60	-68	7636	-2.08	-37.01	-0.66
475	SLU 47	-60	-57	7624	-2.25	-36.7	-0.67
475	SLU 48	-60	-86	7662	-1.81	-37.58	-0.66



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLU 49	-61	-69	7709	-2.02	-37.49	-0.68
475	SLU 50	-59	-85	7618	-1.83	-37.35	-0.65
475	SLU 51	-60	-69	7666	-2.05	-37.25	-0.68
475	SLU 52	-59	-63	8335	-2.42	-41.4	-0.68
475	SLU 53	-58	-92	8373	-1.98	-42.29	-0.66
475	SLU 54	-60	-75	8421	-2.19	-42.19	-0.68
475	SLU 55	-60	-64	8409	-2.36	-41.89	-0.69
475	SLU 56	-59	-93	8447	-1.92	-42.77	-0.68
475	SLU 57	-60	-76	8494	-2.13	-42.67	-0.7
475	SLU 58	-59	-92	8403	-1.94	-42.53	-0.68
475	SLU 59	-60	-76	8450	-2.16	-42.43	-0.7
475	SLU 60	-57	-93	8593	-2.11	-43.79	-0.65
475	SLU 61	-58	-77	8640	-2.33	-43.69	-0.67
475	SLU 62	-58	-94	8666	-2.05	-44.27	-0.67
475	SLU 63	-59	-78	8714	-2.26	-44.17	-0.69
475	SLU 64	-63	-92	8357	-1.8	-41.27	-0.75
475	SLU 65	-65	-64	8436	-2.15	-41.11	-0.78
475	SLU 66	-64	-93	8474	-1.71	-41.99	-0.77
475	SLU 67	-65	-77	8521	-1.92	-41.89	-0.79
475	SLU 68	-66	-65	8509	-2.09	-41.59	-0.8
475	SLU 69	-65	-94	8547	-1.65	-42.47	-0.79
475	SLU 70	-66	-78	8594	-1.86	-42.37	-0.81
475	SLU 71	-65	-94	8503	-1.67	-42.23	-0.78
475	SLU 72	-66	-77	8551	-1.89	-42.13	-0.81
475	SLU 73	-65	-71	9221	-2.26	-46.29	-0.8
475	SLU 74	-64	-100	9258	-1.82	-47.17	-0.79
475	SLU 75	-65	-84	9306	-2.03	-47.07	-0.81
475	SLU 76	-66	-72	9294	-2.2	-46.77	-0.82
475	SLU 77	-65	-101	9332	-1.76	-47.65	-0.81
475	SLU 78	-66	-85	9379	-1.97	-47.56	-0.83
475	SLU 79	-65	-101	9288	-1.78	-47.42	-0.81
475	SLU 80	-66	-84	9335	-2	-47.32	-0.83
475	SLU 81	-63	-102	9478	-1.95	-48.67	-0.78
475	SLU 82	-64	-85	9525	-2.17	-48.58	-0.8
475	SLU 83	-64	-103	9551	-1.89	-49.16	-0.8
475	SLU 84	-65	-86	9599	-2.1	-49.06	-0.82
475	SLE RA 1	-47	-69	6234	-1.42	-30.67	-0.55
475	SLE RA 2	-48	-50	6286	-1.65	-30.56	-0.57
475	SLE RA 3	-48	-70	6312	-1.36	-31.15	-0.56
475	SLE RA 4	-49	-59	6343	-1.5	-31.09	-0.58
475	SLE RA 5	-49	-51	6335	-1.61	-30.88	-0.58
475	SLE RA 6	-49	-70	6360	-1.32	-31.47	-0.57
475	SLE RA 7	-49	-59	6392	-1.46	-31.41	-0.59
475	SLE RA 8	-48	-70	6331	-1.33	-31.31	-0.57
475	SLE RA 9	-49	-59	6363	-1.48	-31.25	-0.59
475	SLE RA 10	-48	-55	6810	-1.73	-34.02	-0.58
475	SLE RA 11	-48	-74	6835	-1.43	-34.61	-0.58
475	SLE RA 12	-49	-63	6866	-1.57	-34.54	-0.59
475	SLE RA 13	-49	-56	6858	-1.69	-34.34	-0.6
475	SLE RA 14	-49	-75	6884	-1.39	-34.93	-0.59
475	SLE RA 15	-49	-64	6915	-1.53	-34.86	-0.6
475	SLE RA 16	-48	-75	6855	-1.41	-34.77	-0.58
475	SLE RA 17	-49	-64	6886	-1.55	-34.7	-0.6
475	SLE RA 18	-47	-75	6981	-1.52	-35.61	-0.57
475	SLE RA 19	-48	-64	7013	-1.66	-35.54	-0.58
475	SLE RA 20	-48	-76	7030	-1.48	-35.93	-0.58
475	SLE RA 21	-48	-65	7062	-1.62	-35.86	-0.59
475	SLE FR 1	-47	-69	6234	-1.42	-30.67	-0.55
475	SLE FR 2	-47	-65	6244	-1.46	-30.65	-0.55
475	SLE FR 3	-47	-69	6253	-1.4	-30.8	-0.55
475	SLE FR 4	-47	-67	6469	-1.5	-32.13	-0.56
475	SLE FR 5	-47	-71	6478	-1.43	-32.28	-0.56
475	SLE FR 6	-47	-72	6608	-1.47	-33.14	-0.56
475	SLE QP 1	-47	-69	6234	-1.42	-30.67	-0.55
475	SLE QP 2	-47	-71	6458	-1.45	-32.15	-0.55
475	SLD 1	483	76	7617	-4.19	-11.79	0.73
475	SLD 2	558	4	7557	-3.94	-13.03	2.78
475	SLD 3	527	-244	6581	0.66	-15.77	2.01
475	SLD 4	602	-317	6521	0.91	-17.01	4.05
475	SLD 5	32	473	8388	-9.67	-19.79	-2.46
475	SLD 6	81	425	8348	-9.51	-20.61	-1.11
475	SLD 7	178	-596	4935	6.5	-33.04	1.78
475	SLD 8	228	-644	4895	6.66	-33.86	3.12
475	SLD 9	-322	502	8021	-9.56	-30.45	-4.23
475	SLD 10	-272	455	7981	-9.39	-31.26	-2.88
475	SLD 11	-175	-567	4568	6.61	-43.69	0.01
475	SLD 12	-126	-614	4529	6.78	-44.51	1.36
475	SLD 13	-696	175	6395	-3.8	-47.3	-5.15
475	SLD 14	-621	103	6335	-3.56	-48.54	-3.11
475	SLD 15	-652	-146	5359	1.05	-51.27	-3.88
475	SLD 16	-577	-218	5299	1.29	-52.51	-1.84
475	SLV 1	781	168	8295	-5.86	-0.28	1.43
475	SLV 2	899	55	8202	-5.47	-2.23	4.63
475	SLV 3	852	-350	6621	1.97	-6.7	3.47
475	SLV 4	969	-463	6528	2.36	-8.64	6.67
475	SLV 5	72	808	9566	-14.73	-12.5	-3.65
475	SLV 6	151	731	9503	-14.47	-13.81	-1.49
475	SLV 7	308	-919	3985	11.39	-33.88	3.15
475	SLV 8	387	-995	3922	11.65	-35.19	5.31



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
475	SLV 9	-481	854	8994	-14.55	-29.12	-6.41
475	SLV 10	-402	777	8931	-14.29	-30.43	-4.26
475	SLV 11	-246	-873	3413	11.57	-50.49	0.39
475	SLV 12	-167	-949	3350	11.83	-51.8	2.54
475	SLV 13	-1064	322	6388	-5.26	-55.67	-7.78
475	SLV 14	-946	209	6295	-4.87	-57.61	-4.58
475	SLV 15	-993	-196	4714	2.58	-62.08	-5.74
475	SLV 16	-876	-309	4621	2.97	-64.02	-2.54
475	SLV FO 1	864	192	8479	-6.3	2.9	1.63
475	SLV FO 2	993	67	8376	-5.88	0.77	5.15
475	SLV FO 3	942	-378	6638	2.32	-4.15	3.88
475	SLV FO 4	1071	-503	6535	2.74	-6.29	7.4
475	SLV FO 5	84	895	9877	-16.06	-10.54	-3.96
475	SLV FO 6	171	811	9807	-15.77	-11.98	-1.59
475	SLV FO 7	343	-1004	3738	12.68	-34.05	3.52
475	SLV FO 8	430	-1088	3669	12.96	-35.49	5.89
475	SLV FO 9	-524	946	9247	-15.86	-28.82	-7
475	SLV FO 10	-438	862	9178	-15.57	-30.25	-4.63
475	SLV FO 11	-265	-953	3109	12.88	-52.33	0.48
475	SLV FO 12	-179	-1037	3040	13.16	-53.77	2.85
475	SLV FO 13	-1165	361	6381	-5.64	-58.02	-8.5
475	SLV FO 14	-1036	236	6279	-5.21	-60.16	-4.98
475	SLV FO 15	-1087	-209	4540	2.98	-65.07	-6.26
475	SLV FO 16	-958	-333	4437	3.41	-67.21	-2.74
475	CRTFP Ux+	0	0	0	0	0	0
475	CRTFP Ux-	0	0	0	0	0	0
475	CRTFP Uy+	0	0	0	0	0	0
475	CRTFP Uy-	0	0	0	0	0	0
477	SLU 1	-215	-164	10389	31.23	-23.56	13.94
477	SLU 2	-219	-98	10494	18.76	-24.08	13.75
477	SLU 3	-220	-167	10590	35.18	-24.04	14.16
477	SLU 4	-222	-127	10653	27.7	-24.35	14.05
477	SLU 5	-222	-100	10621	21.54	-24.38	13.87
477	SLU 6	-223	-169	10717	37.96	-24.34	14.28
477	SLU 7	-226	-129	10780	30.48	-24.65	14.16
477	SLU 8	-222	-168	10643	36.78	-24.17	14.17
477	SLU 9	-224	-129	10706	29.3	-24.48	14.06
477	SLU 10	-234	-118	11892	22.74	-28.08	15.47
477	SLU 11	-235	-188	11988	39.16	-28.05	15.87
477	SLU 12	-238	-148	12051	31.68	-28.36	15.76
477	SLU 13	-238	-121	12019	25.52	-28.38	15.58
477	SLU 14	-239	-190	12115	41.94	-28.35	15.99
477	SLU 15	-241	-150	12178	34.46	-28.66	15.88
477	SLU 16	-237	-189	12042	40.77	-28.17	15.89
477	SLU 17	-239	-149	12104	33.29	-28.48	15.78
477	SLU 18	-237	-194	12387	36.92	-29.28	16.39
477	SLU 19	-239	-154	12449	29.43	-29.59	16.27
477	SLU 20	-240	-196	12514	39.69	-29.58	16.5
477	SLU 21	-243	-156	12577	32.21	-29.89	16.39
477	SLU 22	-243	-183	11865	45.55	-27.04	15.51
477	SLU 23	-247	-116	11969	33.08	-27.56	15.32
477	SLU 24	-248	-186	12066	49.5	-27.52	15.73
477	SLU 25	-251	-146	12129	42.02	-27.83	15.62
477	SLU 26	-251	-118	12097	35.86	-27.86	15.44
477	SLU 27	-252	-188	12193	52.28	-27.82	15.85
477	SLU 28	-254	-148	12256	44.8	-28.13	15.73
477	SLU 29	-250	-187	12119	51.1	-27.64	15.74
477	SLU 30	-252	-147	12182	43.62	-27.95	15.63
477	SLU 31	-263	-137	13368	37.06	-31.56	17.03
477	SLU 32	-264	-207	13464	53.48	-31.53	17.44
477	SLU 33	-266	-167	13527	46	-31.84	17.33
477	SLU 34	-266	-139	13495	39.84	-31.86	17.15
477	SLU 35	-267	-209	13591	56.26	-31.83	17.56
477	SLU 36	-269	-169	13654	48.78	-32.14	17.45
477	SLU 37	-265	-208	13517	55.09	-31.65	17.46
477	SLU 38	-268	-168	13580	47.6	-31.96	17.34
477	SLU 39	-265	-212	13862	51.23	-32.76	17.96
477	SLU 40	-268	-173	13925	43.75	-33.07	17.84
477	SLU 41	-269	-215	13989	54.01	-33.06	18.07
477	SLU 42	-271	-175	14052	46.53	-33.37	17.96
477	SLU 43	-270	-207	13000	35.69	-29.44	17.58
477	SLU 44	-274	-140	13105	23.22	-29.95	17.4
477	SLU 45	-275	-210	13201	39.64	-29.92	17.8
477	SLU 46	-277	-170	13264	32.16	-30.23	17.69
477	SLU 47	-277	-143	13232	26	-30.26	17.51
477	SLU 48	-278	-212	13328	42.42	-30.22	17.92
477	SLU 49	-280	-172	13391	34.94	-30.53	17.81
477	SLU 50	-276	-211	13254	41.24	-30.04	17.82
477	SLU 51	-279	-171	13317	33.76	-30.35	17.71
477	SLU 52	-289	-161	14503	27.2	-33.96	19.11
477	SLU 53	-290	-231	14599	43.62	-33.92	19.52
477	SLU 54	-292	-191	14662	36.14	-34.23	19.41
477	SLU 55	-292	-163	14630	29.98	-34.26	19.23
477	SLU 56	-293	-233	14726	46.4	-34.22	19.63
477	SLU 57	-296	-193	14789	38.92	-34.53	19.52
477	SLU 58	-292	-232	14652	45.23	-34.04	19.53
477	SLU 59	-294	-192	14715	37.74	-34.35	19.42
477	SLU 60	-292	-236	14997	41.37	-35.16	20.03
477	SLU 61	-294	-197	15060	33.89	-35.47	19.92



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
477	SLU 62	-295	-239	15125	44.15	-35.46	20.15
477	SLU 63	-297	-199	15187	36.67	-35.77	20.04
477	SLU 64	-298	-225	14476	50	-32.92	19.15
477	SLU 65	-302	-159	14580	37.54	-33.43	18.96
477	SLU 66	-303	-228	14676	53.96	-33.4	19.37
477	SLU 67	-305	-189	14739	46.48	-33.71	19.26
477	SLU 68	-305	-161	14707	40.31	-33.74	19.08
477	SLU 69	-306	-231	14804	56.73	-33.7	19.49
477	SLU 70	-309	-191	14866	49.25	-34.01	19.38
477	SLU 71	-305	-230	14730	55.56	-33.52	19.39
477	SLU 72	-307	-190	14793	48.08	-33.83	19.27
477	SLU 73	-318	-180	15979	41.52	-37.44	20.68
477	SLU 74	-318	-249	16075	57.94	-37.4	21.09
477	SLU 75	-321	-210	16138	50.46	-37.71	20.97
477	SLU 76	-321	-182	16106	44.3	-37.74	20.8
477	SLU 77	-322	-251	16202	60.72	-37.7	21.2
477	SLU 78	-324	-212	16265	53.24	-38.01	21.09
477	SLU 79	-320	-251	16128	59.54	-37.52	21.1
477	SLU 80	-322	-211	16191	52.06	-37.83	20.99
477	SLU 81	-320	-255	16473	55.69	-38.64	21.6
477	SLU 82	-322	-215	16536	48.21	-38.95	21.49
477	SLU 83	-323	-257	16600	58.47	-38.94	21.72
477	SLU 84	-326	-218	16663	50.99	-39.25	21.6
477	SLE RA 1	-223	-169	10811	35.32	-24.56	14.39
477	SLE RA 2	-226	-125	10881	27.01	-24.9	14.26
477	SLE RA 3	-226	-171	10945	37.95	-24.88	14.53
477	SLE RA 4	-228	-145	10987	32.97	-25.08	14.46
477	SLE RA 5	-228	-126	10965	28.86	-25.1	14.34
477	SLE RA 6	-229	-173	11029	39.8	-25.08	14.61
477	SLE RA 7	-230	-146	11071	34.82	-25.28	14.54
477	SLE RA 8	-228	-172	10980	39.02	-24.96	14.54
477	SLE RA 9	-229	-146	11022	34.04	-25.17	14.47
477	SLE RA 10	-236	-139	11813	29.66	-27.57	15.4
477	SLE RA 11	-237	-185	11877	40.61	-27.55	15.68
477	SLE RA 12	-238	-159	11919	35.62	-27.75	15.6
477	SLE RA 13	-238	-140	11897	31.51	-27.77	15.48
477	SLE RA 14	-239	-187	11962	42.46	-27.75	15.76
477	SLE RA 15	-240	-160	12003	37.47	-27.95	15.68
477	SLE RA 16	-238	-186	11912	41.68	-27.63	15.69
477	SLE RA 17	-239	-160	11954	36.69	-27.83	15.61
477	SLE RA 18	-238	-189	12142	39.11	-28.37	16.02
477	SLE RA 19	-239	-163	12184	34.12	-28.58	15.94
477	SLE RA 20	-240	-191	12227	40.96	-28.57	16.1
477	SLE RA 21	-242	-164	12269	35.98	-28.78	16.02
477	SLE FR 1	-223	-169	10811	35.32	-24.56	14.39
477	SLE FR 2	-224	-160	10825	33.66	-24.62	14.36
477	SLE FR 3	-224	-170	10845	36.06	-24.64	14.42
477	SLE FR 4	-228	-166	11224	34.79	-25.77	14.85
477	SLE FR 5	-228	-176	11244	37.2	-25.78	14.91
477	SLE FR 6	-230	-179	11477	37.21	-26.46	15.2
477	SLE QP 1	-223	-169	10811	35.32	-24.56	14.39
477	SLE QP 2	-228	-175	11210	36.46	-25.7	14.88
477	SLD 1	919	205	11739	-66.96	-23.78	-8.95
477	SLD 2	1079	164	11716	-65.23	-24.09	-3.05
477	SLD 3	1025	-581	10419	88.73	-17.92	-5.08
477	SLD 4	1184	-622	10395	90.46	-18.23	0.82
477	SLD 5	-72	1139	13376	-231.01	-33.96	0.8
477	SLD 6	33	1112	13360	-229.87	-34.16	4.69
477	SLD 7	280	-1482	8974	287.96	-14.42	13.69
477	SLD 8	385	-1509	8959	289.1	-14.62	17.59
477	SLD 9	-840	1159	13462	-216.19	-36.78	12.16
477	SLD 10	-735	1132	13446	-215.05	-36.98	16.06
477	SLD 11	-488	-1462	9060	302.78	-17.24	25.06
477	SLD 12	-383	-1489	9045	303.92	-17.44	28.96
477	SLD 13	-1639	272	12025	-17.55	-33.17	28.93
477	SLD 14	-1480	231	12002	-15.82	-33.48	34.84
477	SLD 15	-1534	-515	10705	138.14	-27.31	32.8
477	SLD 16	-1374	-556	10681	139.87	-27.62	38.71
477	SLV 1	1566	439	12073	-129.27	-22.87	-22.56
477	SLV 2	1816	375	12036	-126.56	-23.35	-13.3
477	SLV 3	1735	-831	9938	122.38	-13.39	-16.33
477	SLV 4	1985	-895	9901	125.09	-13.88	-7.08
477	SLV 5	7	1948	14714	-395.44	-39.14	-7.52
477	SLV 6	175	1904	14689	-393.61	-39.46	-1.29
477	SLV 7	572	-2286	7597	443.39	-7.54	13.22
477	SLV 8	740	-2330	7573	445.22	-7.87	19.45
477	SLV 9	-1195	1980	14848	-372.31	-43.53	10.3
477	SLV 10	-1027	1936	14823	-370.48	-43.86	16.53
477	SLV 11	-630	-2255	7731	466.52	-11.94	31.04
477	SLV 12	-462	-2298	7707	468.35	-12.26	37.27
477	SLV 13	-2440	545	12519	-52.17	-37.52	36.84
477	SLV 14	-2190	481	12483	-49.47	-38.01	46.09
477	SLV 15	-2271	-725	10385	199.47	-28.05	43.06
477	SLV 16	-2021	-790	10348	202.18	-28.53	52.31
477	SLV FO 1	1745	501	12159	-145.84	-22.59	-26.3
477	SLV FO 2	2020	430	12119	-142.86	-23.12	-16.12
477	SLV FO 3	1932	-897	9811	130.97	-12.16	-19.45
477	SLV FO 4	2206	-968	9770	133.95	-12.69	-9.28
477	SLV FO 5	31	2160	15064	-438.63	-40.48	-9.76



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
477	SLV FO 6	215	2112	15037	-436.62	-40.84	-2.9
477	SLV FO 7	652	-2498	7236	484.09	-5.73	13.06
477	SLV FO 8	836	-2545	7209	486.09	-6.08	19.91
477	SLV FO 9	-1292	2195	15212	-413.18	-45.32	9.84
477	SLV FO 10	-1107	2147	15184	-411.18	-45.67	16.69
477	SLV FO 11	-670	-2463	7383	509.53	-10.56	32.66
477	SLV FO 12	-486	-2510	7356	511.54	-10.92	39.51
477	SLV FO 13	-2661	617	12650	-61.04	-38.71	39.03
477	SLV FO 14	-2387	546	12610	-58.06	-39.24	49.21
477	SLV FO 15	-2475	-780	10302	215.78	-28.28	45.88
477	SLV FO 16	-2200	-851	10261	218.76	-28.81	56.05
477	CRTFP Ux+	0	0	0	0	0	0
477	CRTFP Ux-	0	0	0	0	0	0
477	CRTFP Uy+	0	0	0	0	0	0
477	CRTFP Uy-	0	0	0	0	0	0
481	SLU 1	2	-83	3503	-0.18	1013.19	29.25
481	SLU 2	4	-64	3541	-0.42	1023.09	22.59
481	SLU 3	2	-85	3570	-0.12	1031.79	29.83
481	SLU 4	3	-73	3593	-0.27	1037.73	25.83
481	SLU 5	4	-65	3583	-0.38	1034.74	22.93
481	SLU 6	2	-86	3612	-0.08	1043.44	30.17
481	SLU 7	3	-74	3635	-0.23	1049.38	26.17
481	SLU 8	2	-85	3587	-0.09	1036.49	29.94
481	SLU 9	3	-74	3610	-0.24	1042.43	25.94
481	SLU 10	2	-74	4023	-0.43	1162.24	25.93
481	SLU 11	1	-94	4052	-0.13	1170.93	33.17
481	SLU 12	2	-83	4075	-0.27	1176.87	29.17
481	SLU 13	2	-75	4065	-0.39	1173.89	26.28
481	SLU 14	0	-95	4094	-0.08	1182.58	33.51
481	SLU 15	1	-84	4117	-0.23	1188.52	29.51
481	SLU 16	0	-95	4069	-0.1	1175.64	33.28
481	SLU 17	1	-83	4092	-0.25	1181.58	29.28
481	SLU 18	0	-97	4191	-0.19	1211.97	34.03
481	SLU 19	1	-85	4214	-0.34	1217.91	30.03
481	SLU 20	0	-98	4234	-0.15	1223.62	34.37
481	SLU 21	1	-86	4257	-0.29	1229.56	30.37
481	SLU 22	2	-94	3999	-0.01	1152.63	32.98
481	SLU 23	3	-75	4038	-0.25	1162.53	26.32
481	SLU 24	2	-95	4066	0.05	1171.22	33.55
481	SLU 25	3	-84	4089	-0.1	1177.16	29.55
481	SLU 26	3	-76	4080	-0.21	1174.17	26.66
481	SLU 27	1	-96	4109	0.09	1182.87	33.89
481	SLU 28	2	-85	4132	-0.05	1188.81	29.89
481	SLU 29	1	-96	4084	0.08	1175.92	33.66
481	SLU 30	2	-84	4107	-0.07	1181.86	29.66
481	SLU 31	2	-84	4520	-0.26	1301.67	29.66
481	SLU 32	0	-105	4548	0.05	1310.36	36.89
481	SLU 33	1	-94	4571	-0.1	1316.3	32.89
481	SLU 34	2	-85	4562	-0.22	1313.32	30
481	SLU 35	0	-106	4590	0.09	1322.01	37.23
481	SLU 36	1	-94	4613	-0.06	1327.95	33.24
481	SLU 37	0	-105	4566	0.07	1315.07	37
481	SLU 38	1	-94	4588	-0.08	1321.01	33.01
481	SLU 39	0	-107	4688	-0.02	1351.41	37.75
481	SLU 40	1	-96	4711	-0.16	1357.35	33.76
481	SLU 41	0	-108	4730	0.03	1363.05	38.09
481	SLU 42	1	-97	4753	-0.12	1368.99	34.1
481	SLU 43	3	-105	4384	-0.29	1269.35	36.75
481	SLU 44	4	-85	4422	-0.54	1279.25	30.09
481	SLU 45	2	-106	4451	-0.23	1287.94	37.33
481	SLU 46	3	-95	4474	-0.38	1293.88	33.33
481	SLU 47	4	-86	4464	-0.49	1290.9	30.43
481	SLU 48	2	-107	4493	-0.19	1299.59	37.67
481	SLU 49	3	-96	4516	-0.34	1305.53	33.67
481	SLU 50	2	-106	4468	-0.21	1292.65	37.44
481	SLU 51	3	-95	4491	-0.35	1298.59	33.44
481	SLU 52	3	-95	4904	-0.54	1418.39	33.43
481	SLU 53	1	-116	4933	-0.24	1427.09	40.67
481	SLU 54	2	-104	4956	-0.39	1433.03	36.67
481	SLU 55	3	-96	4946	-0.5	1430.04	33.78
481	SLU 56	1	-117	4975	-0.2	1438.74	41.01
481	SLU 57	2	-105	4998	-0.34	1444.68	37.01
481	SLU 58	1	-116	4950	-0.21	1431.79	40.78
481	SLU 59	2	-105	4973	-0.36	1437.73	36.78
481	SLU 60	1	-118	5072	-0.3	1468.13	41.53
481	SLU 61	2	-107	5095	-0.45	1474.07	37.53
481	SLU 62	1	-119	5114	-0.26	1479.78	41.87
481	SLU 63	2	-108	5137	-0.41	1485.72	37.87
481	SLU 64	3	-115	4880	-0.12	1408.78	40.48
481	SLU 65	4	-96	4918	-0.36	1418.68	33.82
481	SLU 66	2	-117	4947	-0.06	1427.37	41.05
481	SLU 67	3	-105	4970	-0.21	1433.31	37.05
481	SLU 68	4	-97	4961	-0.32	1430.33	34.16
481	SLU 69	2	-118	4989	-0.02	1439.02	41.39
481	SLU 70	3	-106	5012	-0.17	1444.96	37.39
481	SLU 71	2	-117	4964	-0.03	1432.08	41.16
481	SLU 72	3	-106	4987	-0.18	1438.02	37.16
481	SLU 73	3	-106	5400	-0.37	1557.82	37.16
481	SLU 74	1	-126	5429	-0.07	1566.52	44.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
481	SLU 75	2	-115	5452	-0.21	1572.46	40.39
481	SLU 76	3	-107	5442	-0.33	1569.47	37.5
481	SLU 77	1	-127	5471	-0.03	1578.17	44.73
481	SLU 78	2	-116	5494	-0.17	1584.11	40.74
481	SLU 79	1	-127	5446	-0.04	1571.22	44.5
481	SLU 80	2	-115	5469	-0.19	1577.16	40.51
481	SLU 81	1	-129	5569	-0.13	1607.56	45.25
481	SLU 82	2	-117	5591	-0.28	1613.5	41.25
481	SLU 83	1	-130	5611	-0.09	1619.21	45.59
481	SLU 84	1	-118	5634	-0.23	1625.15	41.6
481	SLE RA 1	2	-86	3645	-0.13	1053.03	30.32
481	SLE RA 2	3	-74	3670	-0.29	1059.63	25.88
481	SLE RA 3	2	-87	3690	-0.09	1065.43	30.7
481	SLE RA 4	2	-80	3705	-0.19	1069.39	28.03
481	SLE RA 5	3	-74	3698	-0.26	1067.4	26.11
481	SLE RA 6	2	-88	3718	-0.06	1073.19	30.93
481	SLE RA 7	2	-80	3733	-0.16	1077.15	28.26
481	SLE RA 8	2	-88	3701	-0.07	1068.56	30.77
481	SLE RA 9	2	-80	3716	-0.17	1072.52	28.11
481	SLE RA 10	2	-80	3992	-0.3	1152.4	28.11
481	SLE RA 11	1	-94	4011	-0.09	1158.19	32.93
481	SLE RA 12	2	-86	4026	-0.19	1162.15	30.26
481	SLE RA 13	2	-81	4020	-0.27	1160.16	28.33
481	SLE RA 14	1	-94	4039	-0.07	1165.96	33.15
481	SLE RA 15	1	-87	4054	-0.17	1169.92	30.49
481	SLE RA 16	1	-94	4022	-0.08	1161.33	33
481	SLE RA 17	2	-86	4038	-0.18	1165.29	30.34
481	SLE RA 18	1	-95	4104	-0.13	1185.55	33.5
481	SLE RA 19	1	-88	4119	-0.23	1189.51	30.84
481	SLE RA 20	1	-96	4132	-0.11	1193.32	33.73
481	SLE RA 21	1	-88	4147	-0.21	1197.28	31.06
481	SLE FR 1	2	-86	3645	-0.13	1053.03	30.32
481	SLE FR 2	2	-84	3650	-0.16	1054.35	29.43
481	SLE FR 3	2	-86	3656	-0.12	1056.14	30.41
481	SLE FR 4	2	-86	3788	-0.16	1094.11	30.38
481	SLE FR 5	2	-89	3794	-0.12	1095.89	31.36
481	SLE FR 6	1	-91	3874	-0.13	1119.29	31.91
481	SLE QP 1	2	-86	3645	-0.13	1053.03	30.32
481	SLE QP 2	2	-89	3783	-0.13	1092.79	31.27
481	SLD 1	328	36	4052	-1.4	1166.23	-12.25
481	SLD 2	372	41	4059	-1.42	1166.86	-13.59
481	SLD 3	306	-185	3580	1.68	1044.26	65.32
481	SLD 4	349	-181	3587	1.66	1044.9	63.97
481	SLD 5	127	284	4578	-5.18	1299.69	-99.18
481	SLD 6	155	287	4583	-5.19	1300.11	-100.07
481	SLD 7	50	-455	3005	5.09	893.13	159.36
481	SLD 8	79	-452	3009	5.07	893.55	158.48
481	SLD 9	-76	274	4556	-5.33	1292.02	-95.93
481	SLD 10	-47	277	4560	-5.35	1292.44	-96.82
481	SLD 11	-152	-465	2983	4.93	885.47	162.61
481	SLD 12	-123	-462	2987	4.92	885.89	161.72
481	SLD 13	-346	3	3978	-1.92	1140.68	-1.43
481	SLD 14	-302	7	3985	-1.94	1141.31	-2.77
481	SLD 15	-369	-219	3506	1.16	1018.71	76.14
481	SLD 16	-325	-214	3513	1.14	1019.35	74.79
481	SLV 1	514	113	4217	-2.2	1210.91	-38.89
481	SLV 2	582	120	4228	-2.24	1211.9	-41
481	SLV 3	477	-245	3454	2.78	1013.7	86.47
481	SLV 4	545	-238	3465	2.74	1014.69	84.36
481	SLV 5	199	514	5068	-8.29	1427.14	-179.51
481	SLV 6	245	518	5075	-8.32	1427.81	-180.93
481	SLV 7	75	-681	2524	8.3	769.77	238.35
481	SLV 8	121	-676	2532	8.28	770.44	236.93
481	SLV 9	-117	498	5033	-8.54	1415.13	-174.39
481	SLV 10	-72	503	5041	-8.56	1415.8	-175.81
481	SLV 11	-242	-696	2490	8.06	757.76	243.48
481	SLV 12	-196	-692	2497	8.04	758.43	242.06
481	SLV 13	-542	60	4101	-3	1170.88	-21.81
481	SLV 14	-474	67	4112	-3.04	1171.88	-23.92
481	SLV 15	-579	-298	3338	1.98	973.67	103.55
481	SLV 16	-511	-291	3348	1.94	974.67	101.44
481	SLV FO 1	565	133	4260	-2.41	1222.72	-45.91
481	SLV FO 2	640	141	4272	-2.45	1223.82	-48.23
481	SLV FO 3	524	-261	3421	3.07	1005.79	91.99
481	SLV FO 4	599	-253	3433	3.03	1006.88	89.67
481	SLV FO 5	219	574	5197	-9.11	1460.58	-200.59
481	SLV FO 6	270	579	5205	-9.14	1461.31	-202.15
481	SLV FO 7	82	-740	2399	9.14	737.47	259.06
481	SLV FO 8	133	-735	2407	9.12	738.21	257.5
481	SLV FO 9	-129	557	5158	-9.38	1447.37	-194.95
481	SLV FO 10	-79	562	5166	-9.4	1448.1	-196.52
481	SLV FO 11	-266	-757	2360	8.88	724.26	264.7
481	SLV FO 12	-216	-752	2369	8.85	725	263.14
481	SLV FO 13	-596	75	4132	-3.29	1178.69	-27.12
481	SLV FO 14	-521	83	4144	-3.33	1179.79	-29.44
481	SLV FO 15	-637	-319	3293	2.19	961.76	110.77
481	SLV FO 16	-562	-311	3305	2.15	962.85	108.46
481	CRTFP Ux+	0	0	0	0	0	0
481	CRTFP Ux-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
481	CRTFP Uy+	0	0	0	0	0	0
481	CRTFP Uy-	0	0	0	0	0	0
482	SLU 1	-39	49	3219	-0.71	-439.52	12.18
482	SLU 2	-39	70	3262	-0.96	-443.94	17.56
482	SLU 3	-40	49	3280	-0.66	-447.72	12.34
482	SLU 4	-40	62	3306	-0.81	-450.37	15.57
482	SLU 5	-40	71	3300	-0.93	-449.04	17.67
482	SLU 6	-40	50	3319	-0.62	-452.81	12.44
482	SLU 7	-41	63	3345	-0.77	-455.47	15.67
482	SLU 8	-40	49	3295	-0.64	-449.7	12.39
482	SLU 9	-40	62	3321	-0.79	-452.36	15.62
482	SLU 10	-40	77	3657	-1.01	-495.72	19.27
482	SLU 11	-41	56	3675	-0.71	-499.49	14.05
482	SLU 12	-41	69	3701	-0.86	-502.15	17.28
482	SLU 13	-41	77	3695	-0.98	-500.81	19.37
482	SLU 14	-41	56	3713	-0.67	-504.59	14.15
482	SLU 15	-42	69	3739	-0.82	-507.24	17.38
482	SLU 16	-41	56	3690	-0.69	-501.48	14.1
482	SLU 17	-41	69	3716	-0.84	-504.14	17.33
482	SLU 18	-40	58	3782	-0.78	-513.49	14.62
482	SLU 19	-41	71	3808	-0.93	-516.14	17.85
482	SLU 20	-41	59	3821	-0.75	-518.58	14.73
482	SLU 21	-41	72	3847	-0.9	-521.23	17.96
482	SLU 22	-43	54	3681	-0.61	-500.36	13.45
482	SLU 23	-44	75	3724	-0.86	-504.78	18.83
482	SLU 24	-44	54	3743	-0.56	-508.56	13.61
482	SLU 25	-45	67	3769	-0.71	-511.21	16.84
482	SLU 26	-45	76	3762	-0.83	-509.88	18.94
482	SLU 27	-45	55	3781	-0.52	-513.65	13.71
482	SLU 28	-45	68	3807	-0.68	-516.31	16.94
482	SLU 29	-45	55	3757	-0.54	-510.54	13.66
482	SLU 30	-45	67	3783	-0.69	-513.2	16.89
482	SLU 31	-45	82	4119	-0.91	-556.56	20.54
482	SLU 32	-45	61	4137	-0.61	-560.33	15.32
482	SLU 33	-46	74	4163	-0.76	-562.99	18.55
482	SLU 34	-46	82	4157	-0.88	-561.65	20.65
482	SLU 35	-46	62	4176	-0.57	-565.43	15.42
482	SLU 36	-46	74	4202	-0.72	-568.08	18.65
482	SLU 37	-46	61	4152	-0.59	-562.32	15.37
482	SLU 38	-46	74	4178	-0.74	-564.98	18.6
482	SLU 39	-45	63	4245	-0.68	-574.33	15.9
482	SLU 40	-45	76	4271	-0.83	-576.98	19.12
482	SLU 41	-45	64	4283	-0.65	-579.42	16
482	SLU 42	-46	77	4309	-0.8	-582.07	19.23
482	SLU 43	-49	61	4026	-0.96	-550.51	15.4
482	SLU 44	-50	83	4069	-1.21	-554.94	20.78
482	SLU 45	-50	62	4087	-0.91	-558.71	15.56
482	SLU 46	-50	75	4113	-1.06	-561.37	18.78
482	SLU 47	-50	83	4107	-1.18	-560.03	20.88
482	SLU 48	-51	62	4126	-0.87	-563.81	15.66
482	SLU 49	-51	75	4152	-1.02	-566.46	18.89
482	SLU 50	-50	62	4102	-0.89	-560.7	15.61
482	SLU 51	-51	75	4128	-1.04	-563.35	18.83
482	SLU 52	-51	90	4464	-1.26	-606.72	22.49
482	SLU 53	-51	69	4482	-0.96	-610.49	17.27
482	SLU 54	-51	82	4508	-1.11	-613.15	20.49
482	SLU 55	-51	90	4502	-1.22	-611.81	22.59
482	SLU 56	-52	69	4520	-0.92	-615.58	17.37
482	SLU 57	-52	82	4546	-1.07	-618.24	20.6
482	SLU 58	-51	69	4497	-0.94	-612.48	17.32
482	SLU 59	-52	82	4523	-1.09	-615.13	20.54
482	SLU 60	-50	71	4589	-1.03	-624.48	17.84
482	SLU 61	-51	84	4615	-1.18	-627.14	21.07
482	SLU 62	-51	72	4628	-0.99	-629.57	17.95
482	SLU 63	-51	84	4654	-1.15	-632.23	21.17
482	SLU 64	-53	67	4488	-0.86	-611.35	16.67
482	SLU 65	-54	88	4531	-1.11	-615.78	22.05
482	SLU 66	-54	67	4550	-0.81	-619.55	16.83
482	SLU 67	-55	80	4576	-0.96	-622.21	20.06
482	SLU 68	-55	88	4569	-1.08	-620.87	22.16
482	SLU 69	-55	68	4588	-0.77	-624.65	16.93
482	SLU 70	-55	80	4614	-0.92	-627.3	20.16
482	SLU 71	-55	67	4564	-0.79	-621.54	16.88
482	SLU 72	-55	80	4590	-0.94	-624.19	20.11
482	SLU 73	-55	95	4926	-1.16	-667.56	23.76
482	SLU 74	-55	74	4944	-0.86	-671.33	18.54
482	SLU 75	-56	87	4970	-1.01	-673.99	21.77
482	SLU 76	-56	95	4964	-1.13	-672.65	23.86
482	SLU 77	-56	74	4983	-0.82	-676.42	18.64
482	SLU 78	-56	87	5009	-0.97	-679.08	21.87
482	SLU 79	-56	74	4959	-0.84	-673.32	18.59
482	SLU 80	-56	87	4985	-0.99	-675.97	21.82
482	SLU 81	-55	76	5052	-0.93	-685.32	19.11
482	SLU 82	-55	89	5078	-1.08	-687.98	22.34
482	SLU 83	-56	77	5090	-0.9	-690.41	19.22
482	SLU 84	-56	90	5116	-1.05	-693.07	22.45
482	SLE RA 1	-40	50	3351	-0.68	-456.9	12.55
482	SLE RA 2	-40	64	3379	-0.85	-459.85	16.13
482	SLE RA 3	-41	50	3392	-0.65	-462.37	12.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
482	SLE RA 4	-41	59	3409	-0.75	-464.14	14.8
482	SLE RA 5	-41	65	3405	-0.83	-463.25	16.2
482	SLE RA 6	-41	51	3417	-0.63	-465.76	12.72
482	SLE RA 7	-41	59	3435	-0.73	-467.53	14.87
482	SLE RA 8	-41	51	3402	-0.64	-463.69	12.68
482	SLE RA 9	-41	59	3419	-0.74	-465.46	14.83
482	SLE RA 10	-41	69	3643	-0.88	-494.37	17.27
482	SLE RA 11	-41	55	3655	-0.68	-496.88	13.79
482	SLE RA 12	-42	64	3672	-0.78	-498.66	15.94
482	SLE RA 13	-42	69	3668	-0.86	-497.76	17.34
482	SLE RA 14	-42	55	3680	-0.66	-500.28	13.86
482	SLE RA 15	-42	64	3698	-0.76	-502.05	16.01
482	SLE RA 16	-42	55	3665	-0.67	-498.21	13.82
482	SLE RA 17	-42	64	3682	-0.77	-499.98	15.97
482	SLE RA 18	-41	57	3726	-0.73	-506.21	14.17
482	SLE RA 19	-41	65	3744	-0.83	-507.98	16.33
482	SLE RA 20	-42	57	3752	-0.71	-509.61	14.24
482	SLE RA 21	-42	65	3769	-0.81	-511.38	16.39
482	SLE FR 1	-40	50	3351	-0.68	-456.9	12.55
482	SLE FR 2	-40	53	3356	-0.72	-457.49	13.26
482	SLE FR 3	-40	50	3361	-0.67	-458.26	12.57
482	SLE FR 4	-40	55	3469	-0.73	-472.28	13.75
482	SLE FR 5	-41	52	3474	-0.69	-473.05	13.06
482	SLE FR 6	-41	53	3539	-0.71	-481.56	13.36
482	SLE QP 1	-40	50	3351	-0.68	-456.9	12.55
482	SLE QP 2	-40	52	3463	-0.7	-471.69	13.03
482	SLD 1	228	183	4715	-2.91	-620.61	46
482	SLD 2	264	79	4662	-2.58	-615.32	20.01
482	SLD 3	251	-59	4129	0.66	-558.19	-14.53
482	SLD 4	286	-164	4077	0.98	-552.9	-40.51
482	SLD 5	0	478	4736	-6.82	-611.99	119.41
482	SLD 6	23	409	4702	-6.61	-608.5	102.25
482	SLD 7	75	-330	2784	5.05	-403.93	-82.36
482	SLD 8	98	-399	2750	5.26	-400.43	-99.51
482	SLD 9	-179	503	4177	-6.66	-542.95	125.58
482	SLD 10	-156	434	4142	-6.45	-539.46	108.43
482	SLD 11	-104	-305	2225	5.21	-334.89	-76.18
482	SLD 12	-81	-374	2190	5.42	-331.4	-93.34
482	SLD 13	-367	268	2850	-2.38	-390.49	66.58
482	SLD 14	-332	163	2798	-2.05	-385.19	40.6
482	SLD 15	-344	25	2265	1.18	-328.07	6.05
482	SLD 16	-309	-79	2212	1.51	-322.77	-19.93
482	SLV 1	380	264	5432	-4.24	-705.79	66.19
482	SLV 2	435	100	5349	-3.73	-697.5	25.48
482	SLV 3	416	-127	4486	1.51	-604.93	-31.59
482	SLV 4	471	-291	4403	2.02	-596.64	-72.29
482	SLV 5	21	740	5504	-10.58	-696.44	184.87
482	SLV 6	58	629	5449	-10.24	-690.85	157.46
482	SLV 7	141	-565	2350	8.59	-360.24	-141.04
482	SLV 8	178	-675	2295	8.93	-354.66	-168.45
482	SLV 9	-259	779	4632	-10.33	-588.72	194.52
482	SLV 10	-222	669	4576	-9.99	-583.14	167.11
482	SLV 11	-139	-526	1478	8.84	-252.53	-131.39
482	SLV 12	-102	-636	1423	9.18	-246.95	-158.8
482	SLV 13	-552	395	2523	-3.41	-346.75	98.36
482	SLV 14	-497	231	2441	-2.91	-338.46	57.65
482	SLV 15	-516	4	1577	2.34	-245.89	0.58
482	SLV 16	-461	-160	1495	2.85	-237.6	-40.12
482	SLV FO 1	422	285	5628	-4.6	-729.2	71.5
482	SLV FO 2	483	105	5538	-4.04	-720.08	26.73
482	SLV FO 3	462	-145	4588	1.73	-618.25	-36.05
482	SLV FO 4	522	-326	4497	2.29	-609.13	-80.82
482	SLV FO 5	27	809	5708	-11.57	-718.91	202.05
482	SLV FO 6	68	687	5647	-11.19	-712.77	171.9
482	SLV FO 7	159	-627	2239	9.52	-349.1	-156.45
482	SLV FO 8	200	-748	2178	9.9	-342.96	-186.6
482	SLV FO 9	-281	852	4749	-11.29	-600.43	212.67
482	SLV FO 10	-240	731	4688	-10.92	-594.29	182.52
482	SLV FO 11	-148	-583	1279	9.79	-230.62	-145.84
482	SLV FO 12	-108	-705	1218	10.17	-224.47	-175.98
482	SLV FO 13	-603	430	2429	-3.69	-334.25	106.89
482	SLV FO 14	-543	249	2339	-3.13	-325.13	62.12
482	SLV FO 15	-564	-1	1389	2.64	-223.31	-0.66
482	SLV FO 16	-503	-181	1298	3.2	-214.19	-45.43
482	CRTFP Ux+	0	0	0	0	0	0
482	CRTFP Ux-	0	0	0	0	0	0
482	CRTFP Uy+	0	0	0	0	0	0
482	CRTFP Uy-	0	0	0	0	0	0
485	SLU 1	35	-39	6425	-2.05	42.13	-0.28
485	SLU 2	37	-9	6505	-2.52	41.55	-0.22
485	SLU 3	35	-40	6553	-1.94	43.12	-0.31
485	SLU 4	37	-22	6601	-2.22	42.77	-0.28
485	SLU 5	37	-10	6586	-2.44	42.19	-0.25
485	SLU 6	35	-40	6633	-1.85	43.76	-0.34
485	SLU 7	37	-22	6682	-2.14	43.41	-0.3
485	SLU 8	35	-40	6587	-1.87	43.42	-0.34
485	SLU 9	36	-22	6635	-2.16	43.07	-0.3
485	SLU 10	38	-11	7345	-2.68	48.32	-0.29
485	SLU 11	35	-42	7392	-2.09	49.89	-0.38



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
485	SLU 12	37	-24	7440	-2.38	49.54	-0.35
485	SLU 13	38	-11	7426	-2.59	48.97	-0.32
485	SLU 14	35	-42	7473	-2	50.53	-0.41
485	SLU 15	37	-24	7521	-2.29	50.19	-0.38
485	SLU 16	35	-42	7426	-2.03	50.19	-0.41
485	SLU 17	37	-24	7474	-2.32	49.85	-0.37
485	SLU 18	35	-42	7624	-2.27	51.8	-0.38
485	SLU 19	37	-24	7672	-2.56	51.46	-0.35
485	SLU 20	35	-42	7705	-2.18	52.45	-0.41
485	SLU 21	37	-24	7753	-2.47	52.1	-0.38
485	SLU 22	39	-43	7374	-1.87	48.57	-0.32
485	SLU 23	42	-12	7454	-2.35	47.99	-0.26
485	SLU 24	40	-43	7501	-1.76	49.56	-0.35
485	SLU 25	41	-25	7550	-2.05	49.21	-0.31
485	SLU 26	42	-13	7535	-2.26	48.63	-0.29
485	SLU 27	40	-43	7582	-1.67	50.2	-0.38
485	SLU 28	41	-25	7631	-1.96	49.85	-0.34
485	SLU 29	39	-43	7535	-1.7	49.86	-0.37
485	SLU 30	41	-25	7584	-1.99	49.51	-0.34
485	SLU 31	42	-14	8294	-2.5	54.76	-0.33
485	SLU 32	40	-45	8341	-1.91	56.33	-0.42
485	SLU 33	41	-27	8389	-2.2	55.98	-0.39
485	SLU 34	42	-14	8375	-2.42	55.41	-0.36
485	SLU 35	40	-45	8422	-1.83	56.97	-0.45
485	SLU 36	41	-27	8470	-2.11	56.63	-0.41
485	SLU 37	39	-45	8375	-1.85	56.63	-0.45
485	SLU 38	41	-27	8423	-2.14	56.29	-0.41
485	SLU 39	39	-45	8573	-2.09	58.24	-0.42
485	SLU 40	41	-27	8621	-2.38	57.9	-0.39
485	SLU 41	39	-45	8654	-2.01	58.89	-0.45
485	SLU 42	41	-27	8702	-2.29	58.54	-0.41
485	SLU 43	44	-50	8027	-2.72	52.56	-0.35
485	SLU 44	46	-20	8108	-3.2	51.98	-0.29
485	SLU 45	44	-51	8155	-2.61	53.55	-0.38
485	SLU 46	46	-33	8203	-2.9	53.2	-0.35
485	SLU 47	46	-21	8188	-3.11	52.62	-0.32
485	SLU 48	44	-51	8236	-2.52	54.19	-0.41
485	SLU 49	46	-33	8284	-2.81	53.84	-0.37
485	SLU 50	44	-51	8189	-2.55	53.85	-0.41
485	SLU 51	45	-33	8237	-2.84	53.5	-0.37
485	SLU 52	47	-22	8947	-3.35	58.75	-0.37
485	SLU 53	44	-52	8994	-2.77	60.32	-0.45
485	SLU 54	46	-34	9042	-3.05	59.97	-0.42
485	SLU 55	47	-22	9028	-3.27	59.4	-0.39
485	SLU 56	44	-53	9075	-2.68	60.97	-0.48
485	SLU 57	46	-35	9123	-2.97	60.62	-0.45
485	SLU 58	44	-53	9028	-2.7	60.63	-0.48
485	SLU 59	46	-35	9077	-2.99	60.28	-0.44
485	SLU 60	44	-53	9226	-2.94	62.24	-0.45
485	SLU 61	46	-35	9274	-3.23	61.89	-0.42
485	SLU 62	44	-53	9307	-2.86	62.88	-0.48
485	SLU 63	46	-35	9355	-3.14	62.53	-0.45
485	SLU 64	48	-53	8976	-2.55	59	-0.39
485	SLU 65	51	-23	9056	-3.02	58.42	-0.33
485	SLU 66	49	-54	9103	-2.43	59.99	-0.42
485	SLU 67	50	-36	9152	-2.72	59.64	-0.38
485	SLU 68	51	-24	9137	-2.94	59.06	-0.36
485	SLU 69	49	-54	9184	-2.35	60.63	-0.45
485	SLU 70	50	-36	9233	-2.63	60.28	-0.41
485	SLU 71	48	-54	9138	-2.37	60.29	-0.45
485	SLU 72	50	-36	9186	-2.66	59.94	-0.41
485	SLU 73	51	-25	9896	-3.18	65.19	-0.4
485	SLU 74	49	-56	9943	-2.59	66.76	-0.49
485	SLU 75	50	-38	9991	-2.88	66.41	-0.46
485	SLU 76	51	-25	9977	-3.09	65.84	-0.43
485	SLU 77	49	-56	10024	-2.5	67.41	-0.52
485	SLU 78	50	-38	10072	-2.79	67.06	-0.48
485	SLU 79	48	-56	9977	-2.53	67.07	-0.52
485	SLU 80	50	-38	10025	-2.81	66.72	-0.48
485	SLU 81	48	-56	10175	-2.77	68.68	-0.49
485	SLU 82	50	-38	10223	-3.05	68.33	-0.46
485	SLU 83	48	-56	10256	-2.68	69.32	-0.52
485	SLU 84	50	-38	10304	-2.97	68.97	-0.49
485	SLE RA 1	36	-40	6696	-2	43.97	-0.29
485	SLE RA 2	38	-20	6750	-2.32	43.58	-0.25
485	SLE RA 3	36	-41	6781	-1.92	44.63	-0.31
485	SLE RA 4	37	-29	6813	-2.11	44.39	-0.29
485	SLE RA 5	38	-21	6804	-2.26	44.01	-0.27
485	SLE RA 6	36	-41	6835	-1.87	45.06	-0.33
485	SLE RA 7	37	-29	6867	-2.06	44.82	-0.31
485	SLE RA 8	36	-41	6804	-1.88	44.83	-0.33
485	SLE RA 9	37	-29	6836	-2.07	44.6	-0.31
485	SLE RA 10	38	-21	7309	-2.42	48.1	-0.3
485	SLE RA 11	36	-42	7341	-2.03	49.14	-0.36
485	SLE RA 12	37	-30	7373	-2.22	48.91	-0.34
485	SLE RA 13	38	-22	7363	-2.36	48.53	-0.32
485	SLE RA 14	36	-42	7395	-1.97	49.57	-0.38
485	SLE RA 15	38	-30	7427	-2.16	49.34	-0.35
485	SLE RA 16	36	-42	7363	-1.99	49.35	-0.38



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
485	SLE RA 17	37	-30	7396	-2.18	49.11	-0.35
485	SLE RA 18	36	-42	7495	-2.15	50.42	-0.36
485	SLE RA 19	37	-30	7528	-2.34	50.19	-0.34
485	SLE RA 20	36	-42	7549	-2.09	50.85	-0.38
485	SLE RA 21	37	-30	7582	-2.28	50.62	-0.35
485	SLE FR 1	36	-40	6696	-2	43.97	-0.29
485	SLE FR 2	36	-36	6707	-2.06	43.89	-0.28
485	SLE FR 3	36	-40	6718	-1.97	44.14	-0.3
485	SLE FR 4	36	-37	6947	-2.11	45.83	-0.3
485	SLE FR 5	36	-41	6957	-2.02	46.08	-0.32
485	SLE FR 6	36	-41	7096	-2.07	47.19	-0.32
485	SLE QP 1	36	-40	6696	-2	43.97	-0.29
485	SLE QP 2	36	-41	6936	-2.04	45.9	-0.31
485	SLD 1	660	149	6813	-4.65	53.05	2.9
485	SLD 2	742	229	6877	-5	51.43	5.24
485	SLD 3	629	-180	5773	1.69	62.1	2
485	SLD 4	711	-101	5837	1.35	60.49	4.33
485	SLD 5	256	502	8465	-12.39	34.6	1.6
485	SLD 6	310	555	8508	-12.62	33.54	3.14
485	SLD 7	152	-597	4997	8.77	64.79	-1.41
485	SLD 8	206	-544	5040	8.54	63.72	0.13
485	SLD 9	-134	463	8832	-12.62	28.08	-0.75
485	SLD 10	-80	516	8874	-12.85	27.02	0.79
485	SLD 11	-237	-636	5364	8.53	58.27	-3.77
485	SLD 12	-184	-584	5406	8.3	57.21	-2.22
485	SLD 13	-638	19	8035	-5.43	31.32	-4.95
485	SLD 14	-557	99	8099	-5.78	29.71	-2.62
485	SLD 15	-669	-310	6994	0.92	40.38	-5.86
485	SLD 16	-588	-231	7059	0.57	38.76	-3.52
485	SLV 1	1015	265	6774	-6.29	56.84	4.75
485	SLV 2	1142	390	6875	-6.84	54.31	8.4
485	SLV 3	964	-268	5091	3.97	71.47	3.27
485	SLV 4	1091	-143	5192	3.42	68.94	6.92
485	SLV 5	383	837	9420	-18.78	27.46	2.77
485	SLV 6	469	921	9488	-19.14	25.76	5.23
485	SLV 7	213	-941	3812	15.42	76.24	-2.16
485	SLV 8	299	-857	3880	15.06	74.54	0.3
485	SLV 9	-227	776	9992	-19.14	17.27	-0.92
485	SLV 10	-141	860	10060	-19.51	15.57	1.54
485	SLV 11	-397	-1002	4384	15.06	66.05	-5.85
485	SLV 12	-311	-918	4452	14.69	64.35	-3.39
485	SLV 13	-1019	62	8679	-7.51	22.87	-7.54
485	SLV 14	-891	187	8780	-8.05	20.34	-3.89
485	SLV 15	-1070	-471	6997	2.75	37.5	-9.02
485	SLV 16	-942	-347	7098	2.21	34.97	-5.37
485	SLV FO 1	1112	296	6757	-6.72	57.93	5.25
485	SLV FO 2	1252	433	6868	-7.32	55.15	9.27
485	SLV FO 3	1056	-291	4907	4.57	74.03	3.63
485	SLV FO 4	1196	-154	5018	3.97	71.25	7.65
485	SLV FO 5	418	924	9668	-20.45	25.61	3.07
485	SLV FO 6	512	1017	9743	-20.85	23.74	5.78
485	SLV FO 7	231	-1031	3500	17.17	79.28	-2.35
485	SLV FO 8	325	-939	3574	16.77	77.4	0.36
485	SLV FO 9	-253	857	10297	-20.85	14.41	-0.98
485	SLV FO 10	-159	950	10372	-21.25	12.53	1.72
485	SLV FO 11	-440	-1098	4128	16.77	68.07	-6.4
485	SLV FO 12	-346	-1006	4203	16.37	66.19	-3.7
485	SLV FO 13	-1124	72	8854	-8.05	20.56	-8.27
485	SLV FO 14	-984	209	8965	-8.65	17.78	-4.25
485	SLV FO 15	-1180	-514	7003	3.23	36.66	-9.89
485	SLV FO 16	-1040	-377	7114	2.63	33.88	-5.87
485	CRTFP Ux+	0	0	0	0	0	0
485	CRTFP Ux-	0	0	0	0	0	0
485	CRTFP Uy+	0	0	0	0	0	0
485	CRTFP Uy-	0	0	0	0	0	0
488	SLU 1	33	10	3652	-0.79	782	-3.58
488	SLU 2	34	33	3702	-1.11	789.81	-11.7
488	SLU 3	34	10	3726	-0.71	797.21	-3.61
488	SLU 4	35	24	3756	-0.91	801.9	-8.47
488	SLU 5	35	34	3749	-1.05	799.47	-11.84
488	SLU 6	34	11	3773	-0.65	806.88	-3.75
488	SLU 7	35	25	3803	-0.85	811.56	-8.62
488	SLU 8	34	11	3746	-0.66	801.33	-3.87
488	SLU 9	34	25	3776	-0.86	806.01	-8.74
488	SLU 10	35	34	4153	-1.17	882.44	-11.86
488	SLU 11	34	11	4177	-0.76	889.85	-3.77
488	SLU 12	35	25	4207	-0.96	894.53	-8.63
488	SLU 13	35	34	4199	-1.11	892.1	-12
488	SLU 14	34	11	4224	-0.7	899.51	-3.91
488	SLU 15	35	25	4254	-0.9	904.19	-8.78
488	SLU 16	34	11	4196	-0.72	893.96	-4.03
488	SLU 17	35	25	4226	-0.91	898.64	-8.9
488	SLU 18	34	11	4296	-0.86	914.33	-3.81
488	SLU 19	34	25	4326	-1.06	919.02	-8.68
488	SLU 20	34	11	4343	-0.8	924	-3.96
488	SLU 21	35	25	4373	-1	928.68	-8.82
488	SLU 22	37	8	4177	-0.65	890.25	-2.79
488	SLU 23	38	31	4227	-0.98	898.05	-10.9
488	SLU 24	37	8	4251	-0.57	905.46	-2.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
488	SLU 25	38	22	4281	-0.77	910.14	-7.68
488	SLU 26	38	32	4274	-0.91	907.72	-11.05
488	SLU 27	37	8	4298	-0.51	915.12	-2.96
488	SLU 28	38	22	4328	-0.71	919.81	-7.83
488	SLU 29	37	9	4271	-0.53	909.57	-3.08
488	SLU 30	38	23	4301	-0.72	914.26	-7.95
488	SLU 31	38	32	4678	-1.03	990.69	-11.06
488	SLU 32	38	8	4702	-0.62	998.09	-2.97
488	SLU 33	38	22	4732	-0.82	1002.78	-7.84
488	SLU 34	38	32	4725	-0.97	1000.35	-11.21
488	SLU 35	38	9	4749	-0.56	1007.76	-3.12
488	SLU 36	38	23	4779	-0.76	1012.44	-7.99
488	SLU 37	37	9	4722	-0.58	1002.21	-3.24
488	SLU 38	38	23	4752	-0.78	1006.89	-8.11
488	SLU 39	37	9	4821	-0.72	1022.58	-3.02
488	SLU 40	38	23	4851	-0.92	1027.26	-7.89
488	SLU 41	37	9	4868	-0.66	1032.24	-3.16
488	SLU 42	38	23	4898	-0.86	1036.93	-8.03
488	SLU 43	42	14	4567	-1.07	979.49	-4.93
488	SLU 44	43	37	4617	-1.4	987.29	-13.04
488	SLU 45	43	14	4641	-0.99	994.7	-4.95
488	SLU 46	43	28	4671	-1.19	999.38	-9.82
488	SLU 47	44	38	4664	-1.34	996.96	-13.19
488	SLU 48	43	14	4688	-0.93	1004.36	-5.1
488	SLU 49	44	28	4718	-1.13	1009.05	-9.97
488	SLU 50	43	15	4661	-0.95	998.81	-5.22
488	SLU 51	43	29	4691	-1.15	1003.5	-10.09
488	SLU 52	44	38	5068	-1.45	1079.93	-13.2
488	SLU 53	43	15	5092	-1.05	1087.33	-5.11
488	SLU 54	44	28	5122	-1.24	1092.02	-9.98
488	SLU 55	44	38	5115	-1.39	1089.59	-13.35
488	SLU 56	43	15	5139	-0.98	1097	-5.26
488	SLU 57	44	29	5169	-1.18	1101.68	-10.13
488	SLU 58	43	15	5112	-1	1091.45	-5.38
488	SLU 59	44	29	5142	-1.2	1096.13	-10.25
488	SLU 60	43	15	5211	-1.14	1111.82	-5.16
488	SLU 61	43	29	5241	-1.34	1116.5	-10.03
488	SLU 62	43	15	5258	-1.08	1121.48	-5.3
488	SLU 63	44	29	5288	-1.28	1126.17	-10.17
488	SLU 64	46	12	5093	-0.93	1087.73	-4.14
488	SLU 65	47	35	5143	-1.26	1095.54	-12.25
488	SLU 66	46	12	5167	-0.85	1102.95	-4.16
488	SLU 67	47	26	5197	-1.05	1107.63	-9.03
488	SLU 68	47	35	5189	-1.2	1105.2	-12.4
488	SLU 69	46	12	5214	-0.79	1112.61	-4.3
488	SLU 70	47	26	5244	-0.99	1117.29	-9.17
488	SLU 71	46	13	5186	-0.81	1107.06	-4.43
488	SLU 72	47	27	5216	-1.01	1111.74	-9.29
488	SLU 73	47	35	5593	-1.31	1188.17	-12.41
488	SLU 74	46	12	5618	-0.91	1195.58	-4.32
488	SLU 75	47	26	5648	-1.1	1200.26	-9.19
488	SLU 76	47	36	5640	-1.25	1197.84	-12.56
488	SLU 77	47	13	5664	-0.85	1205.24	-4.46
488	SLU 78	47	27	5694	-1.04	1209.93	-9.33
488	SLU 79	46	13	5637	-0.86	1199.69	-4.59
488	SLU 80	47	27	5667	-1.06	1204.38	-9.45
488	SLU 81	46	12	5736	-1.01	1220.07	-4.36
488	SLU 82	47	26	5766	-1.2	1224.75	-9.23
488	SLU 83	46	13	5783	-0.95	1229.73	-4.51
488	SLU 84	47	27	5813	-1.14	1234.41	-9.38
488	SLE RA 1	34	10	3802	-0.75	812.93	-3.36
488	SLE RA 2	35	25	3835	-0.96	818.13	-8.77
488	SLE RA 3	35	10	3851	-0.69	823.07	-3.37
488	SLE RA 4	35	19	3871	-0.83	826.19	-6.62
488	SLE RA 5	35	25	3866	-0.92	824.57	-8.86
488	SLE RA 6	35	10	3883	-0.65	829.51	-3.47
488	SLE RA 7	35	19	3903	-0.79	832.63	-6.71
488	SLE RA 8	35	10	3864	-0.67	825.81	-3.55
488	SLE RA 9	35	19	3884	-0.8	828.93	-6.8
488	SLE RA 10	35	25	4136	-1	879.89	-8.87
488	SLE RA 11	35	10	4152	-0.73	884.83	-3.48
488	SLE RA 12	35	19	4172	-0.86	887.95	-6.72
488	SLE RA 13	35	26	4167	-0.96	886.33	-8.97
488	SLE RA 14	35	10	4183	-0.69	891.27	-3.57
488	SLE RA 15	35	19	4203	-0.82	894.39	-6.82
488	SLE RA 16	35	10	4165	-0.7	887.57	-3.66
488	SLE RA 17	35	20	4185	-0.83	890.69	-6.9
488	SLE RA 18	35	10	4231	-0.8	901.15	-3.51
488	SLE RA 19	35	19	4251	-0.93	904.27	-6.75
488	SLE RA 20	35	10	4262	-0.76	907.59	-3.6
488	SLE RA 21	35	20	4282	-0.89	910.71	-6.85
488	SLE FR 1	34	10	3802	-0.75	812.93	-3.36
488	SLE FR 2	34	13	3809	-0.79	813.97	-4.44
488	SLE FR 3	34	10	3814	-0.73	815.5	-3.39
488	SLE FR 4	35	13	3937	-0.8	840.44	-4.48
488	SLE FR 5	34	10	3943	-0.74	841.97	-3.44
488	SLE FR 6	34	10	4017	-0.77	857.04	-3.43
488	SLE QP 1	34	10	3802	-0.75	812.93	-3.36
488	SLE QP 2	34	10	3931	-0.76	839.39	-3.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
488	SLD 1	385	123	3179	-2.34	687.13	-43.03
488	SLD 2	429	240	3238	-2.76	696.68	-83.51
488	SLD 3	368	-118	2532	2.08	579.7	41.2
488	SLD 4	412	-1	2590	1.66	589.24	0.72
488	SLD 5	158	388	4676	-7.86	954.94	-135.75
488	SLD 6	187	465	4715	-8.14	961.24	-162.48
488	SLD 7	100	-415	2519	6.87	596.82	145.02
488	SLD 8	129	-338	2557	6.59	603.12	118.29
488	SLD 9	-61	357	5304	-8.11	1075.66	-125.09
488	SLD 10	-32	434	5343	-8.39	1081.97	-151.82
488	SLD 11	-118	-446	3146	6.61	717.55	155.68
488	SLD 12	-89	-369	3185	6.34	723.85	128.94
488	SLD 13	-343	21	5271	-3.18	1089.55	-7.52
488	SLD 14	-299	137	5330	-3.6	1099.09	-48
488	SLD 15	-360	-220	4624	1.24	982.11	76.71
488	SLD 16	-316	-104	4682	0.81	991.65	36.23
488	SLV 1	584	194	2777	-3.34	604.94	-67.64
488	SLV 2	653	376	2868	-4	619.89	-131.07
488	SLV 3	556	-196	1730	3.8	431.24	68.8
488	SLV 4	625	-14	1822	3.14	446.19	5.38
488	SLV 5	229	623	5155	-12.25	1029.7	-217.78
488	SLV 6	275	746	5216	-12.69	1039.77	-260.48
488	SLV 7	135	-678	1666	11.56	450.72	237.04
488	SLV 8	182	-555	1728	11.12	460.79	194.34
488	SLV 9	-113	575	6133	-12.64	1218	-201.14
488	SLV 10	-67	697	6195	-13.09	1228.06	-243.84
488	SLV 11	-207	-726	2645	11.17	639.02	253.68
488	SLV 12	-160	-604	2707	10.72	649.09	210.98
488	SLV 13	-556	33	6040	-4.66	1232.59	-12.18
488	SLV 14	-487	216	6131	-5.32	1247.55	-75.61
488	SLV 15	-584	-357	4993	2.48	1058.9	124.27
488	SLV 16	-515	-175	5085	1.82	1073.85	60.84
488	SLV FO 1	639	212	2661	-3.6	581.49	-74.07
488	SLV FO 2	715	413	2762	-4.33	597.94	-143.84
488	SLV FO 3	608	-217	1510	4.26	390.43	76.02
488	SLV FO 4	684	-16	1611	3.53	406.87	6.25
488	SLV FO 5	249	684	5277	-13.39	1048.73	-239.22
488	SLV FO 6	300	819	5345	-13.88	1059.8	-286.19
488	SLV FO 7	145	-747	1440	12.8	411.86	261.09
488	SLV FO 8	196	-612	1508	12.31	422.93	214.11
488	SLV FO 9	-128	631	6354	-13.83	1255.86	-220.92
488	SLV FO 10	-77	766	6422	-14.32	1266.93	-267.89
488	SLV FO 11	-231	-800	2516	12.36	618.99	279.39
488	SLV FO 12	-180	-665	2584	11.87	630.06	232.42
488	SLV FO 13	-615	36	6250	-5.05	1271.91	-13.06
488	SLV FO 14	-539	236	6351	-5.78	1288.36	-82.83
488	SLV FO 15	-646	-394	5099	2.8	1080.85	137.04
488	SLV FO 16	-570	-193	5200	2.08	1097.3	67.27
488	CRTFP Ux+	0	0	0	0	0	0
488	CRTFP Ux-	0	0	0	0	0	0
488	CRTFP Uy+	0	0	0	0	0	0
488	CRTFP Uy-	0	0	0	0	0	0
490	SLU 1	-44	-64	5942	-0.83	-26.93	-0.04
490	SLU 2	-46	-36	6009	-1.19	-26.7	-0.08
490	SLU 3	-46	-65	6062	-0.73	-27.63	-0.06
490	SLU 4	-47	-48	6102	-0.95	-27.49	-0.08
490	SLU 5	-47	-37	6085	-1.12	-27.17	-0.1
490	SLU 6	-46	-66	6138	-0.67	-28.09	-0.07
490	SLU 7	-48	-49	6178	-0.88	-27.96	-0.1
490	SLU 8	-46	-65	6093	-0.7	-27.87	-0.07
490	SLU 9	-47	-49	6133	-0.91	-27.73	-0.09
490	SLU 10	-46	-42	6792	-1.2	-31.59	-0.06
490	SLU 11	-45	-72	6845	-0.75	-32.51	-0.03
490	SLU 12	-46	-55	6885	-0.96	-32.38	-0.06
490	SLU 13	-47	-43	6868	-1.13	-32.06	-0.07
490	SLU 14	-46	-72	6921	-0.68	-32.98	-0.05
490	SLU 15	-47	-56	6961	-0.89	-32.84	-0.07
490	SLU 16	-46	-72	6876	-0.71	-32.75	-0.04
490	SLU 17	-47	-55	6916	-0.92	-32.62	-0.07
490	SLU 18	-44	-73	7061	-0.85	-33.91	0
490	SLU 19	-45	-56	7101	-1.06	-33.77	-0.03
490	SLU 20	-45	-74	7136	-0.78	-34.38	-0.02
490	SLU 21	-46	-57	7176	-0.99	-34.24	-0.04
490	SLU 22	-50	-72	6835	-0.57	-31.52	-0.12
490	SLU 23	-51	-44	6901	-0.93	-31.29	-0.16
490	SLU 24	-51	-73	6954	-0.48	-32.21	-0.13
490	SLU 25	-52	-56	6995	-0.69	-32.07	-0.16
490	SLU 26	-52	-45	6977	-0.86	-31.76	-0.17
490	SLU 27	-52	-74	7030	-0.41	-32.68	-0.15
490	SLU 28	-53	-57	7070	-0.62	-32.54	-0.17
490	SLU 29	-51	-74	6986	-0.44	-32.45	-0.15
490	SLU 30	-52	-57	7026	-0.65	-32.32	-0.17
490	SLU 31	-51	-51	7684	-0.94	-36.17	-0.14
490	SLU 32	-51	-80	7737	-0.49	-37.1	-0.11
490	SLU 33	-52	-63	7777	-0.7	-36.96	-0.14
490	SLU 34	-52	-51	7760	-0.87	-36.64	-0.15
490	SLU 35	-51	-81	7813	-0.42	-37.56	-0.12
490	SLU 36	-53	-64	7853	-0.63	-37.43	-0.15
490	SLU 37	-51	-80	7768	-0.45	-37.34	-0.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
490	SLU 38	-52	-63	7809	-0.66	-37.2	-0.15
490	SLU 39	-49	-81	7953	-0.59	-38.49	-0.08
490	SLU 40	-50	-64	7993	-0.8	-38.36	-0.11
490	SLU 41	-50	-82	8029	-0.52	-38.96	-0.1
490	SLU 42	-51	-65	8069	-0.73	-38.83	-0.12
490	SLU 43	-56	-80	7419	-1.17	-33.44	-0.02
490	SLU 44	-58	-52	7486	-1.52	-33.21	-0.07
490	SLU 45	-57	-81	7539	-1.07	-34.13	-0.04
490	SLU 46	-58	-65	7579	-1.28	-34	-0.07
490	SLU 47	-59	-53	7561	-1.46	-33.68	-0.08
490	SLU 48	-58	-82	7615	-1	-34.6	-0.06
490	SLU 49	-59	-66	7655	-1.22	-34.47	-0.08
490	SLU 50	-58	-82	7570	-1.03	-34.38	-0.05
490	SLU 51	-59	-65	7610	-1.25	-34.24	-0.08
490	SLU 52	-57	-59	8269	-1.53	-38.1	-0.04
490	SLU 53	-57	-88	8322	-1.08	-39.02	-0.02
490	SLU 54	-58	-71	8362	-1.3	-38.88	-0.04
490	SLU 55	-58	-60	8344	-1.47	-38.57	-0.06
490	SLU 56	-58	-89	8397	-1.02	-39.49	-0.03
490	SLU 57	-59	-72	8437	-1.23	-39.35	-0.06
490	SLU 58	-57	-88	8353	-1.04	-39.26	-0.03
490	SLU 59	-58	-72	8393	-1.26	-39.13	-0.05
490	SLU 60	-56	-89	8538	-1.19	-40.42	0.01
490	SLU 61	-57	-73	8578	-1.4	-40.28	-0.01
490	SLU 62	-56	-90	8613	-1.12	-40.89	0
490	SLU 63	-58	-73	8653	-1.33	-40.75	-0.03
490	SLU 64	-61	-88	8311	-0.91	-38.02	-0.1
490	SLU 65	-63	-60	8378	-1.27	-37.8	-0.15
490	SLU 66	-62	-89	8431	-0.81	-38.72	-0.12
490	SLU 67	-63	-73	8471	-1.03	-38.58	-0.14
490	SLU 68	-64	-61	8454	-1.2	-38.26	-0.16
490	SLU 69	-63	-90	8507	-0.75	-39.19	-0.13
490	SLU 70	-64	-74	8547	-0.96	-39.05	-0.16
490	SLU 71	-63	-90	8462	-0.78	-38.96	-0.13
490	SLU 72	-64	-73	8502	-0.99	-38.82	-0.16
490	SLU 73	-63	-67	9161	-1.28	-42.68	-0.12
490	SLU 74	-62	-96	9214	-0.83	-43.6	-0.09
490	SLU 75	-63	-79	9254	-1.04	-43.47	-0.12
490	SLU 76	-64	-68	9237	-1.21	-43.15	-0.14
490	SLU 77	-63	-97	9290	-0.76	-44.07	-0.11
490	SLU 78	-64	-80	9330	-0.97	-43.94	-0.13
490	SLU 79	-63	-96	9245	-0.79	-43.85	-0.11
490	SLU 80	-64	-80	9285	-1	-43.71	-0.13
490	SLU 81	-61	-97	9430	-0.93	-45	-0.07
490	SLU 82	-62	-81	9470	-1.14	-44.87	-0.09
490	SLU 83	-62	-98	9505	-0.86	-45.47	-0.08
490	SLU 84	-63	-82	9545	-1.07	-45.33	-0.11
490	SLE RA 1	-46	-66	6197	-0.76	-28.24	-0.06
490	SLE RA 2	-47	-47	6242	-0.99	-28.09	-0.09
490	SLE RA 3	-47	-67	6277	-0.69	-28.7	-0.07
490	SLE RA 4	-47	-56	6304	-0.83	-28.61	-0.09
490	SLE RA 5	-48	-48	6292	-0.95	-28.4	-0.1
490	SLE RA 6	-47	-67	6328	-0.65	-29.02	-0.08
490	SLE RA 7	-48	-56	6354	-0.79	-28.93	-0.1
490	SLE RA 8	-47	-67	6298	-0.67	-28.87	-0.08
490	SLE RA 9	-48	-56	6325	-0.81	-28.77	-0.1
490	SLE RA 10	-47	-52	6764	-1	-31.35	-0.07
490	SLE RA 11	-47	-71	6799	-0.7	-31.96	-0.06
490	SLE RA 12	-47	-60	6826	-0.84	-31.87	-0.07
490	SLE RA 13	-47	-52	6814	-0.96	-31.66	-0.08
490	SLE RA 14	-47	-72	6849	-0.66	-32.27	-0.07
490	SLE RA 15	-48	-61	6876	-0.8	-32.18	-0.08
490	SLE RA 16	-47	-71	6820	-0.67	-32.12	-0.06
490	SLE RA 17	-48	-60	6847	-0.82	-32.03	-0.08
490	SLE RA 18	-46	-72	6943	-0.77	-32.89	-0.04
490	SLE RA 19	-46	-61	6970	-0.91	-32.8	-0.06
490	SLE RA 20	-46	-73	6993	-0.72	-33.21	-0.05
490	SLE RA 21	-47	-62	7020	-0.86	-33.12	-0.06
490	SLE FR 1	-46	-66	6197	-0.76	-28.24	-0.06
490	SLE FR 2	-46	-62	6206	-0.81	-28.21	-0.07
490	SLE FR 3	-46	-66	6217	-0.74	-28.37	-0.07
490	SLE FR 4	-46	-64	6430	-0.81	-29.61	-0.06
490	SLE FR 5	-46	-68	6441	-0.74	-29.76	-0.06
490	SLE FR 6	-46	-69	6570	-0.76	-30.57	-0.05
490	SLE QP 1	-46	-66	6197	-0.76	-28.24	-0.06
490	SLE QP 2	-46	-68	6421	-0.76	-29.64	-0.05
490	SLD 1	478	81	7491	-3.38	-8.8	1.18
490	SLD 2	542	9	7439	-3.13	-10	3.3
490	SLD 3	515	-240	6618	1.37	-13.34	2.45
490	SLD 4	580	-312	6567	1.62	-14.54	4.57
490	SLD 5	42	477	8075	-8.8	-16.28	-2
490	SLD 6	85	430	8041	-8.64	-17.08	-0.6
490	SLD 7	168	-594	5166	7.04	-31.41	2.25
490	SLD 8	211	-641	5132	7.21	-32.21	3.64
490	SLD 9	-302	506	7710	-8.73	-27.06	-3.75
490	SLD 10	-260	458	7676	-8.56	-27.86	-2.35
490	SLD 11	-177	-565	4801	7.11	-42.2	0.49
490	SLD 12	-134	-613	4767	7.28	-42.99	1.89
490	SLD 13	-672	177	6275	-3.15	-44.73	-4.68



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
490	SLD 14	-607	105	6224	-2.89	-45.94	-2.56
490	SLD 15	-634	-144	5402	1.61	-49.27	-3.41
490	SLD 16	-569	-217	5351	1.86	-50.48	-1.29
490	SLV 1	773	173	8114	-4.98	3	1.84
490	SLV 2	874	60	8034	-4.59	1.11	5.16
490	SLV 3	834	-346	6704	2.7	-4.33	3.89
490	SLV 4	935	-459	6624	3.09	-6.21	7.21
490	SLV 5	89	813	9083	-13.75	-8.38	-3.2
490	SLV 6	157	737	9029	-13.48	-9.65	-0.97
490	SLV 7	291	-917	4382	11.85	-32.8	3.61
490	SLV 8	359	-993	4328	12.11	-34.07	5.84
490	SLV 9	-451	858	8514	-13.64	-25.2	-5.95
490	SLV 10	-383	782	8460	-13.37	-26.47	-3.71
490	SLV 11	-249	-872	3813	11.96	-49.62	0.86
490	SLV 12	-181	-948	3759	12.23	-50.89	3.09
490	SLV 13	-1026	323	6218	-4.61	-53.06	-7.31
490	SLV 14	-925	210	6138	-4.22	-54.95	-3.99
490	SLV 15	-966	-196	4808	3.07	-60.39	-5.27
490	SLV 16	-865	-309	4728	3.46	-62.27	-1.95
490	SLV FO 1	855	197	8284	-5.4	6.26	2.03
490	SLV FO 2	966	73	8196	-4.97	4.19	5.68
490	SLV FO 3	922	-373	6732	3.04	-1.8	4.28
490	SLV FO 4	1033	-498	6644	3.48	-3.87	7.93
490	SLV FO 5	103	901	9349	-15.05	-6.26	-3.52
490	SLV FO 6	178	817	9290	-14.76	-7.66	-1.06
490	SLV FO 7	325	-1002	4178	13.11	-33.12	3.97
490	SLV FO 8	400	-1086	4118	13.4	-34.51	6.43
490	SLV FO 9	-491	950	8724	-14.93	-24.76	-6.54
490	SLV FO 10	-416	867	8664	-14.63	-26.16	-4.08
490	SLV FO 11	-269	-953	3552	13.23	-51.62	0.95
490	SLV FO 12	-194	-1036	3493	13.52	-53.01	3.41
490	SLV FO 13	-1124	362	6198	-5	-55.4	-8.04
490	SLV FO 14	-1013	238	6110	-4.57	-57.48	-4.39
490	SLV FO 15	-1058	-209	4646	3.45	-63.46	-5.79
490	SLV FO 16	-947	-333	4558	3.88	-65.54	-2.14
490	CRTFP Ux+	0	0	0	0	0	0
490	CRTFP Ux-	0	0	0	0	0	0
490	CRTFP Uy+	0	0	0	0	0	0
490	CRTFP Uy-	0	0	0	0	0	0
495	SLU 1	-2	-84	3512	0.66	1065.1	29.51
495	SLU 2	0	-65	3543	0.43	1073.21	22.84
495	SLU 3	-2	-86	3581	0.73	1085.46	30.1
495	SLU 4	-1	-74	3600	0.6	1090.33	26.09
495	SLU 5	0	-66	3586	0.48	1086.06	23.19
495	SLU 6	-2	-87	3625	0.79	1098.31	30.44
495	SLU 7	-1	-75	3643	0.65	1103.18	26.44
495	SLU 8	-2	-86	3600	0.77	1090.79	30.21
495	SLU 9	-1	-75	3618	0.63	1095.66	26.21
495	SLU 10	-2	-75	4026	0.54	1220.37	26.27
495	SLU 11	-4	-95	4065	0.84	1232.62	33.52
495	SLU 12	-3	-84	4083	0.71	1237.49	29.52
495	SLU 13	-2	-76	4070	0.59	1233.22	26.62
495	SLU 14	-4	-96	4109	0.9	1245.47	33.87
495	SLU 15	-3	-85	4127	0.76	1250.34	29.87
495	SLU 16	-4	-96	4083	0.88	1237.95	33.64
495	SLU 17	-3	-84	4101	0.74	1242.82	29.64
495	SLU 18	-4	-98	4203	0.81	1275.33	34.41
495	SLU 19	-3	-87	4221	0.68	1280.2	30.41
495	SLU 20	-4	-99	4247	0.87	1288.18	34.76
495	SLU 21	-3	-88	4265	0.73	1293.05	30.76
495	SLU 22	-3	-95	4017	0.97	1214.82	33.28
495	SLU 23	-1	-76	4047	0.74	1222.94	26.61
495	SLU 24	-3	-96	4086	1.05	1235.19	33.86
495	SLU 25	-2	-85	4104	0.91	1240.06	29.86
495	SLU 26	-1	-77	4091	0.8	1235.78	26.96
495	SLU 27	-3	-97	4130	1.11	1248.03	34.21
495	SLU 28	-2	-86	4148	0.97	1252.9	30.21
495	SLU 29	-3	-97	4104	1.08	1240.52	33.98
495	SLU 30	-2	-85	4122	0.95	1245.39	29.98
495	SLU 31	-3	-85	4531	0.85	1370.1	30.04
495	SLU 32	-4	-106	4570	1.16	1382.35	37.29
495	SLU 33	-3	-95	4588	1.02	1387.22	33.29
495	SLU 34	-3	-86	4574	0.91	1382.95	30.39
495	SLU 35	-5	-107	4613	1.22	1395.2	37.64
495	SLU 36	-4	-96	4632	1.08	1400.07	33.64
495	SLU 37	-4	-107	4588	1.19	1387.68	37.41
495	SLU 38	-4	-95	4606	1.06	1392.55	33.41
495	SLU 39	-5	-109	4708	1.13	1425.06	38.18
495	SLU 40	-4	-97	4726	0.99	1429.93	34.18
495	SLU 41	-5	-110	4751	1.18	1437.91	38.53
495	SLU 42	-4	-98	4770	1.05	1442.77	34.53
495	SLU 43	-2	-106	4393	0.74	1333.29	37.08
495	SLU 44	-1	-86	4423	0.52	1341.4	30.4
495	SLU 45	-2	-107	4462	0.82	1353.65	37.66
495	SLU 46	-1	-96	4480	0.69	1358.52	33.65
495	SLU 47	-1	-87	4467	0.57	1354.25	30.75
495	SLU 48	-3	-108	4506	0.88	1366.5	38.01
495	SLU 49	-2	-97	4524	0.74	1371.37	34
495	SLU 50	-3	-108	4480	0.85	1358.98	37.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
495	SLU 51	-2	-96	4498	0.72	1363.85	33.77
495	SLU 52	-2	-96	4907	0.63	1488.57	33.83
495	SLU 53	-4	-117	4946	0.93	1500.82	41.09
495	SLU 54	-3	-106	4964	0.8	1505.69	37.08
495	SLU 55	-2	-97	4951	0.68	1501.41	34.18
495	SLU 56	-4	-118	4989	0.99	1513.66	41.43
495	SLU 57	-3	-107	5008	0.85	1518.53	37.43
495	SLU 58	-4	-117	4964	0.96	1506.15	41.2
495	SLU 59	-3	-106	4982	0.83	1511.02	37.2
495	SLU 60	-4	-120	5084	0.9	1543.52	41.98
495	SLU 61	-3	-108	5102	0.76	1548.39	37.97
495	SLU 62	-5	-121	5127	0.96	1556.37	42.32
495	SLU 63	-4	-109	5146	0.82	1561.24	38.32
495	SLU 64	-3	-116	4897	1.06	1483.02	40.85
495	SLU 65	-1	-97	4928	0.83	1491.13	34.17
495	SLU 66	-3	-118	4966	1.14	1503.38	41.43
495	SLU 67	-2	-107	4985	1	1508.25	37.42
495	SLU 68	-1	-98	4971	0.89	1503.98	34.52
495	SLU 69	-3	-119	5010	1.19	1516.23	41.77
495	SLU 70	-2	-108	5028	1.06	1521.1	37.77
495	SLU 71	-3	-118	4985	1.17	1508.71	41.54
495	SLU 72	-2	-107	5003	1.03	1513.58	37.54
495	SLU 73	-3	-107	5411	0.94	1638.3	37.6
495	SLU 74	-5	-128	5450	1.25	1650.55	44.86
495	SLU 75	-4	-116	5468	1.11	1655.41	40.85
495	SLU 76	-3	-108	5455	1	1651.14	37.95
495	SLU 77	-5	-129	5494	1.3	1663.39	45.2
495	SLU 78	-4	-117	5512	1.17	1668.26	41.2
495	SLU 79	-5	-128	5468	1.28	1655.87	44.97
495	SLU 80	-4	-117	5487	1.14	1660.74	40.97
495	SLU 81	-5	-130	5588	1.22	1693.25	45.75
495	SLU 82	-4	-119	5606	1.08	1698.12	41.74
495	SLU 83	-5	-131	5632	1.27	1706.1	46.09
495	SLU 84	-4	-120	5650	1.14	1710.97	42.09
495	SLE RA 1	-2	-87	3656	0.75	1107.87	30.59
495	SLE RA 2	-1	-74	3677	0.59	1113.28	26.14
495	SLE RA 3	-2	-88	3702	0.8	1121.45	30.98
495	SLE RA 4	-2	-81	3715	0.71	1124.7	28.31
495	SLE RA 5	-1	-75	3706	0.63	1121.85	26.38
495	SLE RA 6	-2	-89	3732	0.84	1130.02	31.21
495	SLE RA 7	-2	-81	3744	0.74	1133.26	28.54
495	SLE RA 8	-2	-88	3715	0.82	1125	31.06
495	SLE RA 9	-2	-81	3727	0.73	1128.25	28.39
495	SLE RA 10	-2	-81	3999	0.67	1211.39	28.43
495	SLE RA 11	-3	-95	4025	0.87	1219.56	33.27
495	SLE RA 12	-3	-87	4037	0.78	1222.81	30.6
495	SLE RA 13	-2	-82	4028	0.7	1219.96	28.66
495	SLE RA 14	-3	-95	4054	0.91	1228.13	33.5
495	SLE RA 15	-3	-88	4066	0.82	1231.37	30.83
495	SLE RA 16	-3	-95	4037	0.89	1223.11	33.34
495	SLE RA 17	-3	-87	4049	0.8	1226.36	30.67
495	SLE RA 18	-4	-96	4117	0.85	1248.03	33.86
495	SLE RA 19	-3	-89	4129	0.76	1251.28	31.19
495	SLE RA 20	-4	-97	4146	0.89	1256.6	34.09
495	SLE RA 21	-3	-89	4158	0.8	1259.84	31.42
495	SLE FR 1	-2	-87	3656	0.75	1107.87	30.59
495	SLE FR 2	-2	-85	3660	0.72	1108.96	29.7
495	SLE FR 3	-2	-87	3668	0.76	1111.3	30.68
495	SLE FR 4	-2	-87	3798	0.75	1151	30.68
495	SLE FR 5	-3	-90	3806	0.79	1153.35	31.66
495	SLE FR 6	-3	-92	3887	0.8	1177.95	32.22
495	SLE QP 1	-2	-87	3656	0.75	1107.87	30.59
495	SLE QP 2	-2	-90	3794	0.78	1149.92	31.57
495	SLD 1	313	36	4025	-0.27	1214.28	-12.29
495	SLD 2	350	41	4032	-0.29	1214.92	-13.68
495	SLD 3	291	-186	3650	2.58	1114.38	65.41
495	SLD 4	328	-181	3657	2.56	1115.02	64.02
495	SLD 5	118	284	4431	-3.85	1320.63	-99.18
495	SLD 6	143	287	4436	-3.86	1321.06	-100.09
495	SLD 7	46	-456	3181	5.64	987.62	159.81
495	SLD 8	71	-453	3185	5.62	988.05	158.89
495	SLD 9	-76	274	4403	-4.07	1311.8	-95.75
495	SLD 10	-51	277	4408	-4.08	1312.22	-96.67
495	SLD 11	-148	-467	3153	5.42	978.78	163.23
495	SLD 12	-123	-464	3157	5.4	979.21	162.32
495	SLD 13	-333	2	3932	-1	1184.82	-0.88
495	SLD 14	-296	6	3938	-1.02	1185.47	-2.26
495	SLD 15	-355	-221	3557	1.84	1084.92	76.82
495	SLD 16	-318	-216	3563	1.82	1085.56	75.43
495	SLV 1	492	113	4166	-0.93	1253.25	-39.12
495	SLV 2	550	120	4176	-0.97	1254.26	-41.3
495	SLV 3	457	-246	3559	3.67	1091.69	86.45
495	SLV 4	515	-239	3569	3.63	1092.7	84.28
495	SLV 5	188	514	4824	-6.7	1425.75	-179.69
495	SLV 6	228	519	4830	-6.73	1426.43	-181.15
495	SLV 7	71	-682	2802	8.63	887.24	238.9
495	SLV 8	110	-678	2809	8.6	887.92	237.43
495	SLV 9	-115	498	4780	-7.05	1411.92	-174.29
495	SLV 10	-76	503	4787	-7.07	1412.6	-175.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
495	SLV 11	-233	-699	2758	8.28	873.41	244.29
495	SLV 12	-193	-694	2765	8.26	874.09	242.83
495	SLV 13	-520	59	4020	-2.08	1207.14	-21.13
495	SLV 14	-462	66	4029	-2.11	1208.15	-23.31
495	SLV 15	-555	-300	3413	2.52	1045.59	104.44
495	SLV 16	-497	-293	3423	2.49	1046.6	102.27
495	SLV FO 1	541	134	4203	-1.1	1263.58	-46.19
495	SLV FO 2	605	141	4214	-1.14	1264.69	-48.58
495	SLV FO 3	503	-261	3536	3.96	1085.87	91.94
495	SLV FO 4	566	-253	3547	3.92	1086.98	89.55
495	SLV FO 5	208	575	4927	-7.45	1453.34	-200.81
495	SLV FO 6	251	580	4934	-7.48	1454.08	-202.42
495	SLV FO 7	78	-742	2703	9.41	860.97	259.63
495	SLV FO 8	121	-736	2710	9.39	861.72	258.02
495	SLV FO 9	-126	557	4878	-7.83	1438.12	-194.88
495	SLV FO 10	-83	562	4886	-7.86	1438.87	-196.49
495	SLV FO 11	-256	-760	2655	9.03	845.76	265.57
495	SLV FO 12	-213	-754	2662	9.01	846.51	263.96
495	SLV FO 13	-571	74	4042	-2.36	1212.86	-26.4
495	SLV FO 14	-508	81	4053	-2.4	1213.97	-28.8
495	SLV FO 15	-610	-321	3375	2.7	1035.15	111.73
495	SLV FO 16	-546	-313	3386	2.66	1036.27	109.34
495	CRTFP Ux+	0	0	0	0	0	0
495	CRTFP Ux-	0	0	0	0	0	0
495	CRTFP Uy+	0	0	0	0	0	0
495	CRTFP Uy-	0	0	0	0	0	0
496	SLU 1	-40	48	3227	1.24	-446.09	12.13
496	SLU 2	-41	70	3263	1.02	-448.9	17.52
496	SLU 3	-41	49	3291	1.33	-454.93	12.28
496	SLU 4	-41	62	3313	1.2	-456.61	15.51
496	SLU 5	-41	70	3303	1.08	-454.41	17.62
496	SLU 6	-42	49	3331	1.4	-460.44	12.38
496	SLU 7	-42	62	3353	1.26	-462.12	15.62
496	SLU 8	-41	49	3307	1.36	-457.12	12.33
496	SLU 9	-42	62	3329	1.23	-458.8	15.56
496	SLU 10	-42	77	3661	1.23	-502.1	19.22
496	SLU 11	-42	56	3689	1.55	-508.12	13.99
496	SLU 12	-43	69	3710	1.41	-509.81	17.22
496	SLU 13	-43	77	3700	1.29	-507.61	19.32
496	SLU 14	-43	56	3729	1.61	-513.64	14.09
496	SLU 15	-43	69	3750	1.48	-515.32	17.32
496	SLU 16	-43	56	3704	1.58	-510.32	14.04
496	SLU 17	-43	69	3726	1.44	-512	17.27
496	SLU 18	-42	58	3795	1.55	-522.09	14.57
496	SLU 19	-42	71	3816	1.41	-523.77	17.8
496	SLU 20	-42	58	3835	1.61	-527.6	14.67
496	SLU 21	-43	71	3856	1.48	-529.29	17.9
496	SLU 22	-44	53	3697	1.65	-509.67	13.39
496	SLU 23	-45	75	3733	1.42	-512.48	18.78
496	SLU 24	-45	54	3762	1.74	-518.51	13.55
496	SLU 25	-46	67	3783	1.6	-520.19	16.78
496	SLU 26	-46	75	3773	1.48	-518	18.88
496	SLU 27	-46	54	3801	1.8	-524.02	13.65
496	SLU 28	-46	67	3823	1.67	-525.71	16.88
496	SLU 29	-46	54	3777	1.77	-520.7	13.59
496	SLU 30	-46	67	3799	1.63	-522.39	16.83
496	SLU 31	-46	82	4131	1.64	-565.68	20.48
496	SLU 32	-47	61	4159	1.96	-571.71	15.25
496	SLU 33	-47	74	4180	1.82	-573.39	18.48
496	SLU 34	-47	82	4170	1.7	-571.2	20.58
496	SLU 35	-47	61	4199	2.02	-577.22	15.35
496	SLU 36	-48	74	4220	1.88	-578.91	18.58
496	SLU 37	-47	61	4174	1.99	-573.9	15.3
496	SLU 38	-47	74	4196	1.85	-575.59	18.53
496	SLU 39	-46	63	4265	1.96	-585.67	15.83
496	SLU 40	-47	76	4287	1.82	-587.36	19.06
496	SLU 41	-47	64	4305	2.02	-591.19	15.93
496	SLU 42	-47	76	4326	1.88	-592.87	19.16
496	SLU 43	-51	61	4034	1.48	-558.12	15.34
496	SLU 44	-51	83	4070	1.25	-560.93	20.72
496	SLU 45	-52	62	4098	1.57	-566.95	15.49
496	SLU 46	-52	75	4120	1.43	-568.64	18.72
496	SLU 47	-52	83	4110	1.31	-566.44	20.82
496	SLU 48	-52	62	4138	1.63	-572.47	15.59
496	SLU 49	-52	75	4160	1.49	-574.15	18.82
496	SLU 50	-52	62	4114	1.6	-569.15	15.54
496	SLU 51	-52	75	4136	1.46	-570.83	18.77
496	SLU 52	-52	89	4468	1.47	-614.13	22.43
496	SLU 53	-53	69	4496	1.78	-620.15	17.2
496	SLU 54	-53	81	4517	1.65	-621.84	20.43
496	SLU 55	-53	90	4507	1.53	-619.64	22.53
496	SLU 56	-53	69	4536	1.84	-625.67	17.3
496	SLU 57	-54	82	4557	1.71	-627.35	20.53
496	SLU 58	-53	69	4511	1.81	-622.35	17.25
496	SLU 59	-53	82	4533	1.68	-624.03	20.48
496	SLU 60	-52	71	4602	1.78	-634.12	17.78
496	SLU 61	-53	84	4623	1.65	-635.8	21.01
496	SLU 62	-53	71	4642	1.84	-639.63	17.88
496	SLU 63	-53	84	4663	1.71	-641.32	21.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
496	SLU 64	-55	66	4504	1.88	-621.7	16.6
496	SLU 65	-56	88	4540	1.66	-624.51	21.98
496	SLU 66	-56	67	4569	1.97	-630.53	16.75
496	SLU 67	-56	80	4590	1.84	-632.22	19.98
496	SLU 68	-56	88	4580	1.72	-630.02	22.08
496	SLU 69	-56	67	4608	2.04	-636.05	16.85
496	SLU 70	-57	80	4630	1.9	-637.73	20.08
496	SLU 71	-56	67	4584	2	-632.73	16.8
496	SLU 72	-57	80	4606	1.87	-634.41	20.03
496	SLU 73	-57	95	4938	1.87	-677.71	23.69
496	SLU 74	-57	74	4966	2.19	-683.73	18.46
496	SLU 75	-58	87	4987	2.05	-685.42	21.69
496	SLU 76	-57	95	4978	1.93	-683.22	23.79
496	SLU 77	-58	74	5006	2.25	-689.25	18.56
496	SLU 78	-58	87	5027	2.11	-690.93	21.79
496	SLU 79	-57	74	4981	2.22	-685.93	18.51
496	SLU 80	-58	87	5003	2.08	-687.61	21.74
496	SLU 81	-57	76	5072	2.19	-697.7	19.04
496	SLU 82	-57	89	5094	2.05	-699.38	22.27
496	SLU 83	-57	76	5112	2.25	-703.21	19.14
496	SLU 84	-58	89	5133	2.11	-704.9	22.37
496	SLE RA 1	-41	50	3362	1.36	-464.26	12.49
496	SLE RA 2	-42	64	3386	1.21	-466.13	16.08
496	SLE RA 3	-42	50	3404	1.42	-470.15	12.59
496	SLE RA 4	-42	59	3419	1.33	-471.27	14.75
496	SLE RA 5	-42	64	3412	1.25	-469.81	16.15
496	SLE RA 6	-42	50	3431	1.46	-473.82	12.66
496	SLE RA 7	-43	59	3445	1.37	-474.95	14.81
496	SLE RA 8	-42	50	3415	1.44	-471.61	12.63
496	SLE RA 9	-42	59	3429	1.35	-472.73	14.78
496	SLE RA 10	-43	69	3650	1.35	-501.6	17.22
496	SLE RA 11	-43	55	3669	1.56	-505.61	13.73
496	SLE RA 12	-43	63	3684	1.47	-506.74	15.88
496	SLE RA 13	-43	69	3677	1.39	-505.27	17.29
496	SLE RA 14	-43	55	3696	1.6	-509.29	13.8
496	SLE RA 15	-43	64	3710	1.51	-510.41	15.95
496	SLE RA 16	-43	55	3680	1.58	-507.08	13.76
496	SLE RA 17	-43	63	3694	1.49	-508.2	15.92
496	SLE RA 18	-43	56	3740	1.56	-514.92	14.12
496	SLE RA 19	-43	65	3754	1.47	-516.05	16.27
496	SLE RA 20	-43	57	3767	1.6	-518.6	14.18
496	SLE RA 21	-43	65	3781	1.51	-519.72	16.34
496	SLE FR 1	-41	50	3362	1.36	-464.26	12.49
496	SLE FR 2	-41	53	3366	1.33	-464.63	13.21
496	SLE FR 3	-41	50	3372	1.38	-465.73	12.52
496	SLE FR 4	-42	55	3480	1.39	-479.83	13.7
496	SLE FR 5	-42	52	3486	1.44	-480.93	13.01
496	SLE FR 6	-42	53	3551	1.46	-489.59	13.3
496	SLE QP 1	-41	50	3362	1.36	-464.26	12.49
496	SLE QP 2	-42	52	3475	1.42	-479.46	12.98
496	SLD 1	220	183	4672	0.09	-617.26	45.98
496	SLD 2	250	79	4629	0.38	-614.14	19.95
496	SLD 3	242	-59	4191	3.26	-578.2	-14.65
496	SLD 4	271	-164	4148	3.55	-575.08	-40.68
496	SLD 5	-1	478	4571	-3.84	-580.6	119.53
496	SLD 6	19	409	4543	-3.65	-578.54	102.34
496	SLD 7	70	-331	2968	6.73	-450.4	-82.58
496	SLD 8	90	-400	2940	6.92	-448.34	-99.77
496	SLD 9	-173	503	4010	-4.08	-510.57	125.72
496	SLD 10	-154	434	3982	-3.89	-508.51	108.54
496	SLD 11	-102	-305	2408	6.49	-380.37	-76.38
496	SLD 12	-83	-375	2379	6.68	-378.31	-93.57
496	SLD 13	-355	267	2802	-0.71	-383.83	66.64
496	SLD 14	-325	163	2759	-0.42	-380.72	40.61
496	SLD 15	-333	25	2322	2.46	-344.77	6.01
496	SLD 16	-304	-80	2279	2.75	-341.66	-20.02
496	SLV 1	368	264	5355	-0.74	-695.56	66.19
496	SLV 2	415	100	5288	-0.29	-690.68	25.41
496	SLV 3	402	-128	4578	4.38	-632.43	-31.75
496	SLV 4	449	-292	4511	4.83	-627.55	-72.53
496	SLV 5	21	740	5230	-7.08	-640.95	185.09
496	SLV 6	52	630	5185	-6.78	-637.66	157.64
496	SLV 7	135	-566	2640	9.99	-430.51	-141.37
496	SLV 8	166	-676	2595	10.3	-427.22	-168.82
496	SLV 9	-249	780	4355	-7.46	-531.69	194.78
496	SLV 10	-218	669	4310	-7.15	-528.4	167.33
496	SLV 11	-135	-526	1766	9.62	-321.25	-131.68
496	SLV 12	-104	-637	1720	9.92	-317.96	-159.14
496	SLV 13	-532	395	2439	-1.99	-331.36	98.48
496	SLV 14	-486	231	2372	-1.54	-326.48	57.7
496	SLV 15	-498	4	1663	3.13	-268.23	0.55
496	SLV 16	-451	-161	1595	3.58	-263.35	-40.23
496	SLV FO 1	409	285	5543	-0.96	-717.17	71.51
496	SLV FO 2	460	105	5469	-0.46	-711.81	26.66
496	SLV FO 3	447	-146	4688	4.68	-647.73	-36.22
496	SLV FO 4	498	-326	4614	5.17	-642.36	-81.08
496	SLV FO 5	27	809	5405	-7.93	-657.1	202.31
496	SLV FO 6	62	688	5356	-7.6	-653.48	172.1
496	SLV FO 7	152	-628	2557	10.85	-425.61	-156.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
496	SLV FO 8	187	-749	2507	11.18	-422	-187
496	SLV FO 9	-270	853	4443	-8.34	-536.91	212.96
496	SLV FO 10	-236	731	4393	-8.01	-533.3	182.76
496	SLV FO 11	-145	-584	1595	10.44	-305.43	-146.15
496	SLV FO 12	-110	-706	1545	10.77	-301.81	-176.35
496	SLV FO 13	-581	430	2336	-2.33	-316.55	107.04
496	SLV FO 14	-530	249	2262	-1.84	-311.18	62.18
496	SLV FO 15	-544	-1	1481	3.3	-247.11	-0.7
496	SLV FO 16	-492	-182	1407	3.8	-241.74	-45.56
496	CRTFP Ux+	0	0	0	0	0	0
496	CRTFP Ux-	0	0	0	0	0	0
496	CRTFP Uy+	0	0	0	0	0	0
496	CRTFP Uy-	0	0	0	0	0	0
499	SLU 1	38	-35	6374	-1.26	40.12	-0.75
499	SLU 2	40	-5	6440	-1.73	39.41	-0.68
499	SLU 3	39	-36	6505	-1.14	41.1	-0.79
499	SLU 4	40	-18	6545	-1.42	40.68	-0.75
499	SLU 5	40	-6	6523	-1.64	40.06	-0.72
499	SLU 6	39	-36	6589	-1.04	41.75	-0.82
499	SLU 7	40	-18	6628	-1.33	41.32	-0.78
499	SLU 8	38	-36	6541	-1.07	41.41	-0.82
499	SLU 9	40	-18	6581	-1.36	40.99	-0.78
499	SLU 10	41	-6	7276	-1.77	45.93	-0.8
499	SLU 11	39	-37	7342	-1.17	47.62	-0.9
499	SLU 12	41	-19	7381	-1.45	47.2	-0.86
499	SLU 13	41	-7	7360	-1.67	46.58	-0.83
499	SLU 14	39	-37	7425	-1.08	48.27	-0.94
499	SLU 15	41	-19	7465	-1.36	47.84	-0.9
499	SLU 16	39	-37	7378	-1.11	47.93	-0.93
499	SLU 17	40	-19	7417	-1.39	47.51	-0.89
499	SLU 18	39	-37	7569	-1.31	49.44	-0.91
499	SLU 19	40	-19	7608	-1.59	49.01	-0.87
499	SLU 20	39	-37	7653	-1.22	50.08	-0.95
499	SLU 21	40	-19	7692	-1.5	49.66	-0.91
499	SLU 22	43	-38	7330	-0.97	46.3	-0.84
499	SLU 23	45	-8	7396	-1.44	45.59	-0.78
499	SLU 24	43	-38	7461	-0.85	47.29	-0.88
499	SLU 25	45	-20	7501	-1.13	46.86	-0.84
499	SLU 26	45	-8	7480	-1.35	46.24	-0.81
499	SLU 27	44	-39	7545	-0.75	47.93	-0.92
499	SLU 28	45	-21	7585	-1.03	47.5	-0.88
499	SLU 29	43	-39	7498	-0.78	47.6	-0.91
499	SLU 30	44	-21	7537	-1.06	47.17	-0.87
499	SLU 31	46	-9	8232	-1.47	52.11	-0.89
499	SLU 32	44	-40	8298	-0.88	53.8	-1
499	SLU 33	45	-22	8337	-1.16	53.38	-0.96
499	SLU 34	46	-9	8316	-1.38	52.76	-0.92
499	SLU 35	44	-40	8382	-0.79	54.45	-1.03
499	SLU 36	46	-22	8421	-1.07	54.02	-0.99
499	SLU 37	44	-40	8334	-0.82	54.11	-1.03
499	SLU 38	45	-22	8374	-1.1	53.69	-0.99
499	SLU 39	44	-40	8525	-1.02	55.62	-1.01
499	SLU 40	45	-22	8565	-1.3	55.19	-0.97
499	SLU 41	44	-40	8609	-0.92	56.26	-1.04
499	SLU 42	45	-22	8648	-1.21	55.84	-1
499	SLU 43	48	-45	7958	-1.74	50.04	-0.94
499	SLU 44	50	-15	8024	-2.21	49.33	-0.87
499	SLU 45	48	-46	8089	-1.62	51.02	-0.98
499	SLU 46	50	-28	8129	-1.9	50.6	-0.94
499	SLU 47	50	-15	8108	-2.12	49.97	-0.91
499	SLU 48	48	-46	8173	-1.52	51.67	-1.01
499	SLU 49	50	-28	8213	-1.81	51.24	-0.97
499	SLU 50	48	-46	8126	-1.55	51.33	-1.01
499	SLU 51	49	-28	8165	-1.84	50.91	-0.97
499	SLU 52	51	-16	8860	-2.25	55.85	-0.99
499	SLU 53	49	-47	8926	-1.65	57.54	-1.09
499	SLU 54	50	-29	8965	-1.93	57.11	-1.05
499	SLU 55	51	-17	8944	-2.15	56.49	-1.02
499	SLU 56	49	-47	9010	-1.56	58.19	-1.13
499	SLU 57	51	-29	9049	-1.84	57.76	-1.09
499	SLU 58	49	-47	8962	-1.59	57.85	-1.12
499	SLU 59	50	-29	9002	-1.87	57.42	-1.08
499	SLU 60	49	-47	9153	-1.79	59.35	-1.1
499	SLU 61	50	-29	9193	-2.07	58.93	-1.06
499	SLU 62	49	-47	9237	-1.7	60	-1.14
499	SLU 63	50	-29	9276	-1.98	59.57	-1.1
499	SLU 64	52	-48	8914	-1.45	56.22	-1.03
499	SLU 65	55	-18	8980	-1.92	55.51	-0.97
499	SLU 66	53	-48	9046	-1.32	57.2	-1.07
499	SLU 67	54	-30	9085	-1.61	56.78	-1.03
499	SLU 68	55	-18	9064	-1.83	56.16	-1
499	SLU 69	53	-49	9129	-1.23	57.85	-1.11
499	SLU 70	55	-30	9169	-1.51	57.42	-1.07
499	SLU 71	53	-48	9082	-1.26	57.51	-1.1
499	SLU 72	54	-30	9121	-1.54	57.09	-1.06
499	SLU 73	55	-19	9817	-1.95	62.03	-1.08
499	SLU 74	54	-49	9882	-1.36	63.72	-1.19
499	SLU 75	55	-31	9922	-1.64	63.3	-1.15
499	SLU 76	56	-19	9900	-1.86	62.68	-1.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
499	SLU 77	54	-50	9966	-1.26	64.37	-1.22
499	SLU 78	55	-32	10005	-1.55	63.94	-1.18
499	SLU 79	54	-49	9918	-1.29	64.03	-1.22
499	SLU 80	55	-31	9958	-1.58	63.61	-1.18
499	SLU 81	53	-49	10109	-1.5	65.53	-1.2
499	SLU 82	55	-31	10149	-1.78	65.11	-1.16
499	SLU 83	54	-50	10193	-1.4	66.18	-1.23
499	SLU 84	55	-32	10233	-1.69	65.75	-1.19
499	SLE RA 1	39	-36	6647	-1.18	41.89	-0.77
499	SLE RA 2	41	-16	6691	-1.49	41.41	-0.73
499	SLE RA 3	40	-36	6735	-1.1	42.54	-0.8
499	SLE RA 4	41	-24	6761	-1.28	42.26	-0.77
499	SLE RA 5	41	-16	6747	-1.43	41.85	-0.75
499	SLE RA 6	40	-37	6790	-1.03	42.97	-0.82
499	SLE RA 7	41	-25	6817	-1.22	42.69	-0.8
499	SLE RA 8	40	-37	6759	-1.05	42.75	-0.82
499	SLE RA 9	40	-24	6785	-1.24	42.47	-0.79
499	SLE RA 10	41	-17	7249	-1.52	45.76	-0.81
499	SLE RA 11	40	-37	7292	-1.12	46.89	-0.88
499	SLE RA 12	41	-25	7319	-1.31	46.6	-0.85
499	SLE RA 13	41	-17	7304	-1.45	46.19	-0.83
499	SLE RA 14	40	-37	7348	-1.06	47.32	-0.9
499	SLE RA 15	41	-25	7374	-1.24	47.04	-0.87
499	SLE RA 16	40	-37	7316	-1.08	47.1	-0.9
499	SLE RA 17	41	-25	7343	-1.26	46.81	-0.87
499	SLE RA 18	40	-37	7444	-1.21	48.1	-0.88
499	SLE RA 19	41	-25	7470	-1.4	47.81	-0.86
499	SLE RA 20	40	-37	7500	-1.15	48.53	-0.91
499	SLE RA 21	41	-25	7526	-1.34	48.24	-0.88
499	SLE FR 1	39	-36	6647	-1.18	41.89	-0.77
499	SLE FR 2	40	-32	6656	-1.24	41.79	-0.76
499	SLE FR 3	39	-36	6669	-1.15	42.06	-0.78
499	SLE FR 4	40	-32	6895	-1.25	43.66	-0.8
499	SLE FR 5	40	-37	6908	-1.16	43.92	-0.82
499	SLE FR 6	40	-37	7045	-1.2	44.99	-0.83
499	SLE QP 1	39	-36	6647	-1.18	41.89	-0.77
499	SLE QP 2	39	-36	6886	-1.19	43.75	-0.81
499	SLD 1	647	152	6679	-3.86	49.18	2.39
499	SLD 2	715	231	6733	-4.21	47.61	4.82
499	SLD 3	620	-178	5834	2.34	59.58	1.47
499	SLD 4	689	-99	5888	1.99	58	3.9
499	SLD 5	249	507	8096	-11.32	29.9	1.12
499	SLD 6	295	559	8132	-11.55	28.86	2.72
499	SLD 7	161	-594	5279	9.32	64.55	-1.96
499	SLD 8	207	-542	5314	9.09	63.51	-0.36
499	SLD 9	-128	469	8458	-11.47	23.99	-1.25
499	SLD 10	-83	521	8493	-11.7	22.95	0.35
499	SLD 11	-216	-632	5641	9.17	58.64	-4.33
499	SLD 12	-170	-580	5676	8.94	57.6	-2.73
499	SLD 13	-610	26	7884	-4.36	29.5	-5.51
499	SLD 14	-542	105	7938	-4.71	27.92	-3.08
499	SLD 15	-636	-304	7039	1.83	39.89	-6.44
499	SLD 16	-568	-225	7093	1.48	38.32	-4.01
499	SLV 1	991	267	6587	-5.53	52	4.23
499	SLV 2	1099	391	6671	-6.07	49.53	8.03
499	SLV 3	948	-267	5221	4.49	68.8	2.72
499	SLV 4	1056	-143	5305	3.94	66.33	6.52
499	SLV 5	370	842	8854	-17.57	21.21	2.29
499	SLV 6	443	925	8910	-17.94	19.55	4.85
499	SLV 7	227	-939	4298	15.8	77.2	-2.75
499	SLV 8	299	-856	4354	15.43	75.54	-0.19
499	SLV 9	-220	783	9418	-17.81	11.96	-1.42
499	SLV 10	-148	866	9474	-18.18	10.3	1.14
499	SLV 11	-364	-998	4862	15.56	67.96	-6.46
499	SLV 12	-291	-915	4918	15.19	66.29	-3.9
499	SLV 13	-977	70	8468	-6.32	21.17	-8.14
499	SLV 14	-869	194	8551	-6.86	18.7	-4.33
499	SLV 15	-1020	-464	7101	3.69	37.97	-9.65
499	SLV 16	-912	-340	7185	3.15	35.5	-5.84
499	SLV FO 1	1086	297	6557	-5.96	52.83	4.73
499	SLV FO 2	1205	434	6650	-6.56	50.11	8.92
499	SLV FO 3	1039	-290	5054	5.05	71.3	3.07
499	SLV FO 4	1157	-154	5146	4.45	68.59	7.26
499	SLV FO 5	403	930	9050	-19.21	18.95	2.6
499	SLV FO 6	483	1022	9113	-19.61	17.13	5.41
499	SLV FO 7	245	-1030	4039	17.5	80.55	-2.95
499	SLV FO 8	325	-937	4101	17.09	78.72	-0.13
499	SLV FO 9	-246	865	9671	-19.47	8.78	-1.48
499	SLV FO 10	-166	957	9733	-19.88	6.95	1.33
499	SLV FO 11	-404	-1095	4660	17.24	70.38	-7.03
499	SLV FO 12	-325	-1002	4722	16.83	68.55	-4.21
499	SLV FO 13	-1078	81	8626	-6.83	18.91	-8.87
499	SLV FO 14	-960	218	8718	-7.43	16.2	-4.68
499	SLV FO 15	-1126	-507	7122	4.18	37.39	-10.53
499	SLV FO 16	-1007	-370	7215	3.58	34.68	-6.34
499	CRTFP Ux+	0	0	0	0	0	0
499	CRTFP Ux-	0	0	0	0	0	0
499	CRTFP Uy+	0	0	0	0	0	0
499	CRTFP Uy-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
502	SLU 1	35	9	3664	1.55	789.68	-3.34
502	SLU 2	35	33	3705	1.26	794.36	-11.45
502	SLU 3	35	9	3742	1.68	806.02	-3.35
502	SLU 4	36	23	3766	1.51	808.83	-8.22
502	SLU 5	36	33	3754	1.35	804.86	-11.59
502	SLU 6	36	10	3791	1.77	816.51	-3.49
502	SLU 7	36	24	3815	1.6	819.32	-8.36
502	SLU 8	35	10	3763	1.74	810.67	-3.62
502	SLU 9	36	24	3787	1.56	813.48	-8.49
502	SLU 10	36	33	4159	1.53	888.83	-11.58
502	SLU 11	36	10	4196	1.95	900.48	-3.48
502	SLU 12	36	24	4220	1.77	903.29	-8.35
502	SLU 13	36	33	4208	1.62	899.32	-11.72
502	SLU 14	36	10	4245	2.04	910.97	-3.62
502	SLU 15	36	24	4269	1.87	913.79	-8.49
502	SLU 16	36	10	4217	2.01	905.13	-3.75
502	SLU 17	36	24	4241	1.83	907.94	-8.62
502	SLU 18	35	10	4313	1.94	924.62	-3.52
502	SLU 19	36	24	4337	1.76	927.43	-8.39
502	SLU 20	35	10	4362	2.03	935.12	-3.66
502	SLU 21	36	24	4387	1.85	937.93	-8.53
502	SLU 22	38	7	4200	2.06	902.04	-2.5
502	SLU 23	39	30	4240	1.77	906.72	-10.61
502	SLU 24	39	7	4277	2.19	918.38	-2.51
502	SLU 25	39	21	4301	2.01	921.19	-7.38
502	SLU 26	39	31	4289	1.86	917.22	-10.75
502	SLU 27	39	7	4326	2.28	928.87	-2.66
502	SLU 28	39	21	4351	2.11	931.68	-7.52
502	SLU 29	39	8	4298	2.25	923.03	-2.78
502	SLU 30	39	22	4323	2.07	925.84	-7.65
502	SLU 31	39	31	4694	2.04	1001.19	-10.74
502	SLU 32	39	7	4731	2.46	1012.84	-2.64
502	SLU 33	39	21	4756	2.28	1015.65	-7.51
502	SLU 34	39	31	4744	2.13	1011.68	-10.88
502	SLU 35	39	8	4781	2.55	1023.33	-2.79
502	SLU 36	40	22	4805	2.37	1026.15	-7.65
502	SLU 37	39	8	4753	2.51	1017.49	-2.91
502	SLU 38	39	22	4777	2.34	1020.3	-7.78
502	SLU 39	38	7	4849	2.44	1036.98	-2.69
502	SLU 40	39	21	4873	2.27	1039.79	-7.55
502	SLU 41	39	8	4898	2.54	1047.48	-2.83
502	SLU 42	39	22	4922	2.36	1050.29	-7.69
502	SLU 43	44	13	4580	1.85	988.06	-4.62
502	SLU 44	45	36	4620	1.55	992.74	-12.74
502	SLU 45	44	13	4657	1.97	1004.4	-4.64
502	SLU 46	45	27	4682	1.8	1007.21	-9.51
502	SLU 47	45	37	4670	1.65	1003.24	-12.88
502	SLU 48	45	13	4707	2.06	1014.89	-4.78
502	SLU 49	45	27	4731	1.89	1017.7	-9.65
502	SLU 50	44	14	4678	2.03	1009.05	-4.91
502	SLU 51	45	28	4703	1.85	1011.86	-9.77
502	SLU 52	45	37	5074	1.82	1087.21	-12.87
502	SLU 53	45	13	5112	2.24	1098.86	-4.77
502	SLU 54	45	27	5136	2.07	1101.67	-9.64
502	SLU 55	45	37	5124	1.91	1097.7	-13.01
502	SLU 56	45	14	5161	2.33	1109.35	-4.91
502	SLU 57	46	28	5185	2.16	1112.17	-9.78
502	SLU 58	45	14	5133	2.3	1103.51	-5.04
502	SLU 59	45	28	5157	2.12	1106.32	-9.9
502	SLU 60	44	13	5229	2.23	1123	-4.81
502	SLU 61	45	27	5253	2.05	1125.81	-9.68
502	SLU 62	45	14	5278	2.32	1133.5	-4.95
502	SLU 63	45	28	5302	2.14	1136.31	-9.82
502	SLU 64	47	11	5115	2.35	1100.42	-3.79
502	SLU 65	48	34	5156	2.06	1105.1	-11.9
502	SLU 66	48	11	5193	2.48	1116.76	-3.8
502	SLU 67	48	25	5217	2.31	1119.57	-8.67
502	SLU 68	48	34	5205	2.15	1115.6	-12.04
502	SLU 69	48	11	5242	2.57	1127.25	-3.94
502	SLU 70	49	25	5266	2.4	1130.06	-8.81
502	SLU 71	48	11	5214	2.54	1121.41	-4.07
502	SLU 72	48	25	5238	2.36	1124.22	-8.94
502	SLU 73	48	34	5610	2.33	1199.57	-12.03
502	SLU 74	48	11	5647	2.75	1211.22	-3.93
502	SLU 75	49	25	5671	2.57	1214.03	-8.8
502	SLU 76	49	35	5659	2.42	1210.06	-12.17
502	SLU 77	48	11	5696	2.84	1221.71	-4.07
502	SLU 78	49	25	5721	2.67	1224.53	-8.94
502	SLU 79	48	12	5668	2.81	1215.87	-4.2
502	SLU 80	49	26	5692	2.63	1218.68	-9.07
502	SLU 81	48	11	5764	2.74	1235.36	-3.97
502	SLU 82	48	25	5789	2.56	1238.17	-8.84
502	SLU 83	48	11	5814	2.83	1245.86	-4.11
502	SLU 84	49	25	5838	2.65	1248.67	-8.98
502	SLE RA 1	36	9	3817	1.7	821.78	-3.1
502	SLE RA 2	36	24	3844	1.5	824.9	-8.51
502	SLE RA 3	36	9	3869	1.78	832.67	-3.11
502	SLE RA 4	36	18	3885	1.67	834.55	-6.35
502	SLE RA 5	36	24	3877	1.57	831.9	-8.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
502	SLE RA 6	36	9	3902	1.85	839.67	-3.2
502	SLE RA 7	37	18	3918	1.73	841.54	-6.45
502	SLE RA 8	36	9	3883	1.82	835.77	-3.29
502	SLE RA 9	36	18	3899	1.7	837.65	-6.53
502	SLE RA 10	36	24	4147	1.68	887.88	-8.59
502	SLE RA 11	36	9	4172	1.96	895.65	-3.19
502	SLE RA 12	37	18	4188	1.85	897.52	-6.44
502	SLE RA 13	37	25	4180	1.74	894.88	-8.69
502	SLE RA 14	36	9	4205	2.02	902.64	-3.29
502	SLE RA 15	37	18	4221	1.91	904.52	-6.53
502	SLE RA 16	36	9	4186	2	898.75	-3.37
502	SLE RA 17	37	19	4202	1.88	900.62	-6.62
502	SLE RA 18	36	9	4250	1.95	911.74	-3.22
502	SLE RA 19	36	18	4266	1.84	913.62	-6.47
502	SLE RA 20	36	9	4283	2.02	918.74	-3.32
502	SLE RA 21	36	19	4299	1.9	920.61	-6.56
502	SLE FR 1	36	9	3817	1.7	821.78	-3.1
502	SLE FR 2	36	12	3823	1.66	822.41	-4.18
502	SLE FR 3	36	9	3830	1.72	824.58	-3.14
502	SLE FR 4	36	12	3952	1.74	849.39	-4.22
502	SLE FR 5	36	9	3960	1.8	851.57	-3.17
502	SLE FR 6	36	9	4034	1.83	866.76	-3.16
502	SLE QP 1	36	9	3817	1.7	821.78	-3.1
502	SLE QP 2	36	9	3947	1.78	848.77	-3.13
502	SLD 1	377	123	3137	-0.39	677.34	-42.8
502	SLD 2	414	239	3183	-0.76	682.82	-83.34
502	SLD 3	362	-118	2620	3.52	612.23	41.48
502	SLD 4	399	-2	2666	3.15	617.71	0.95
502	SLD 5	154	387	4481	-4.74	895.1	-135.57
502	SLD 6	178	464	4511	-4.98	898.71	-162.33
502	SLD 7	105	-416	2756	8.3	678.08	145.39
502	SLD 8	129	-339	2786	8.05	681.7	118.62
502	SLD 9	-58	357	5108	-4.5	1015.84	-124.89
502	SLD 10	-33	433	5139	-4.75	1019.46	-151.66
502	SLD 11	-107	-447	3383	8.54	798.82	156.06
502	SLD 12	-82	-370	3413	8.29	802.44	129.3
502	SLD 13	-328	20	5228	0.4	1079.82	-7.22
502	SLD 14	-291	136	5275	0.03	1085.3	-47.75
502	SLD 15	-343	-221	4711	4.31	1014.72	77.07
502	SLD 16	-305	-105	4757	3.94	1020.2	36.53
502	SLV 1	570	193	2698	-1.71	583.21	-67.44
502	SLV 2	628	376	2771	-2.3	591.8	-130.95
502	SLV 3	546	-197	1862	4.61	477.96	69.1
502	SLV 4	604	-15	1934	4.03	486.55	5.59
502	SLV 5	222	622	4828	-8.75	927.14	-217.66
502	SLV 6	261	745	4877	-9.15	932.92	-260.41
502	SLV 7	142	-679	2039	12.33	576.29	237.47
502	SLV 8	181	-556	2087	11.93	582.07	194.72
502	SLV 9	-109	574	5807	-8.38	1115.47	-200.99
502	SLV 10	-70	697	5855	-8.78	1121.25	-243.74
502	SLV 11	-189	-727	3017	12.7	764.62	254.14
502	SLV 12	-150	-605	3066	12.3	770.4	211.39
502	SLV 13	-533	32	5960	-0.48	1210.99	-11.86
502	SLV 14	-475	215	6033	-1.06	1219.58	-75.37
502	SLV 15	-557	-358	5123	5.85	1105.74	124.68
502	SLV 16	-499	-176	5196	5.26	1114.33	61.17
502	SLV FO 1	624	212	2573	-2.06	556.66	-73.87
502	SLV FO 2	688	412	2653	-2.7	566.1	-143.73
502	SLV FO 3	597	-218	1653	4.9	440.88	76.32
502	SLV FO 4	661	-17	1733	4.25	450.32	6.47
502	SLV FO 5	240	683	4916	-9.81	934.97	-239.11
502	SLV FO 6	283	819	4970	-10.24	941.33	-286.14
502	SLV FO 7	152	-748	1848	13.38	549.04	261.53
502	SLV FO 8	195	-613	1901	12.95	555.4	214.5
502	SLV FO 9	-124	630	5993	-9.4	1142.14	-220.77
502	SLV FO 10	-81	765	6046	-9.83	1148.5	-267.8
502	SLV FO 11	-212	-801	2924	13.79	756.21	279.87
502	SLV FO 12	-169	-666	2978	13.36	762.57	232.84
502	SLV FO 13	-590	35	6161	-0.7	1247.22	-12.74
502	SLV FO 14	-526	235	6241	-1.35	1256.66	-82.59
502	SLV FO 15	-616	-395	5241	6.25	1131.44	137.46
502	SLV FO 16	-552	-194	5321	5.61	1140.88	67.6
502	CRTFP Ux+	0	0	0	0	0	0
502	CRTFP Ux-	0	0	0	0	0	0
502	CRTFP Uy+	0	0	0	0	0	0
502	CRTFP Uy-	0	0	0	0	0	0
504	SLU 1	-45	-61	5922	-0.37	-24.61	0.33
504	SLU 2	-47	-33	5977	-0.72	-24.32	0.28
504	SLU 3	-46	-62	6045	-0.27	-25.28	0.32
504	SLU 4	-47	-45	6078	-0.48	-25.11	0.29
504	SLU 5	-48	-34	6055	-0.65	-24.78	0.27
504	SLU 6	-47	-63	6123	-0.19	-25.74	0.3
504	SLU 7	-48	-46	6156	-0.41	-25.57	0.28
504	SLU 8	-47	-63	6078	-0.23	-25.52	0.3
504	SLU 9	-48	-46	6111	-0.44	-25.35	0.28
504	SLU 10	-47	-39	6761	-0.66	-28.91	0.34
504	SLU 11	-46	-68	6829	-0.2	-29.88	0.37
504	SLU 12	-47	-52	6862	-0.42	-29.7	0.35
504	SLU 13	-48	-40	6839	-0.59	-29.37	0.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
504	SLU 14	-47	-69	6907	-0.13	-30.33	0.36
504	SLU 15	-48	-53	6940	-0.34	-30.16	0.33
504	SLU 16	-47	-69	6862	-0.16	-30.12	0.36
504	SLU 17	-48	-52	6895	-0.37	-29.94	0.33
504	SLU 18	-45	-70	7042	-0.28	-31.17	0.41
504	SLU 19	-46	-53	7075	-0.49	-31	0.38
504	SLU 20	-46	-71	7120	-0.21	-31.63	0.4
504	SLU 21	-47	-54	7153	-0.42	-31.45	0.37
504	SLU 22	-50	-69	6824	-0.04	-28.9	0.29
504	SLU 23	-52	-41	6879	-0.39	-28.61	0.24
504	SLU 24	-51	-70	6948	0.06	-29.57	0.28
504	SLU 25	-52	-53	6981	-0.15	-29.4	0.25
504	SLU 26	-53	-42	6957	-0.32	-29.06	0.23
504	SLU 27	-52	-71	7026	0.13	-30.03	0.27
504	SLU 28	-53	-54	7058	-0.08	-29.85	0.24
504	SLU 29	-52	-70	6980	0.1	-29.81	0.27
504	SLU 30	-53	-54	7013	-0.11	-29.64	0.24
504	SLU 31	-52	-47	7663	-0.33	-33.2	0.3
504	SLU 32	-51	-76	7732	0.13	-34.16	0.34
504	SLU 33	-52	-60	7764	-0.09	-33.99	0.31
504	SLU 34	-53	-48	7741	-0.26	-33.66	0.29
504	SLU 35	-52	-77	7809	0.2	-34.62	0.33
504	SLU 36	-53	-61	7842	-0.01	-34.44	0.3
504	SLU 37	-52	-77	7764	0.17	-34.4	0.33
504	SLU 38	-53	-60	7797	-0.05	-34.23	0.3
504	SLU 39	-50	-78	7944	0.05	-35.46	0.37
504	SLU 40	-51	-61	7977	-0.16	-35.28	0.34
504	SLU 41	-51	-78	8022	0.12	-35.91	0.36
504	SLU 42	-52	-62	8055	-0.09	-35.74	0.33
504	SLU 43	-57	-76	7390	-0.6	-30.53	0.44
504	SLU 44	-59	-49	7444	-0.95	-30.24	0.39
504	SLU 45	-58	-78	7513	-0.49	-31.2	0.43
504	SLU 46	-59	-61	7546	-0.7	-31.02	0.4
504	SLU 47	-60	-49	7522	-0.88	-30.69	0.38
504	SLU 48	-59	-79	7591	-0.42	-31.65	0.41
504	SLU 49	-60	-62	7624	-0.63	-31.48	0.39
504	SLU 50	-59	-78	7545	-0.45	-31.44	0.41
504	SLU 51	-60	-61	7578	-0.66	-31.26	0.39
504	SLU 52	-59	-55	8228	-0.88	-34.83	0.45
504	SLU 53	-58	-84	8297	-0.43	-35.79	0.48
504	SLU 54	-59	-67	8329	-0.64	-35.62	0.46
504	SLU 55	-60	-56	8306	-0.81	-35.28	0.44
504	SLU 56	-59	-85	8375	-0.36	-36.25	0.47
504	SLU 57	-60	-68	8407	-0.57	-36.07	0.44
504	SLU 58	-59	-84	8329	-0.39	-36.03	0.47
504	SLU 59	-60	-68	8362	-0.6	-35.86	0.44
504	SLU 60	-57	-85	8509	-0.5	-37.09	0.52
504	SLU 61	-58	-69	8542	-0.72	-36.91	0.49
504	SLU 62	-58	-86	8587	-0.43	-37.54	0.51
504	SLU 63	-59	-69	8620	-0.64	-37.37	0.48
504	SLU 64	-62	-84	8292	-0.27	-34.81	0.4
504	SLU 65	-64	-56	8347	-0.62	-34.52	0.35
504	SLU 66	-63	-86	8415	-0.16	-35.48	0.39
504	SLU 67	-64	-69	8448	-0.37	-35.31	0.36
504	SLU 68	-64	-57	8424	-0.55	-34.98	0.34
504	SLU 69	-64	-86	8493	-0.09	-35.94	0.38
504	SLU 70	-65	-70	8526	-0.3	-35.77	0.35
504	SLU 71	-64	-86	8448	-0.12	-35.73	0.38
504	SLU 72	-65	-69	8480	-0.33	-35.55	0.35
504	SLU 73	-64	-63	9130	-0.56	-39.11	0.41
504	SLU 74	-63	-92	9199	-0.1	-40.08	0.45
504	SLU 75	-64	-75	9232	-0.31	-39.9	0.42
504	SLU 76	-64	-64	9208	-0.48	-39.57	0.4
504	SLU 77	-64	-93	9277	-0.03	-40.53	0.44
504	SLU 78	-65	-76	9310	-0.24	-40.36	0.41
504	SLU 79	-64	-92	9231	-0.06	-40.32	0.44
504	SLU 80	-65	-76	9264	-0.27	-40.14	0.41
504	SLU 81	-62	-93	9412	-0.18	-41.37	0.48
504	SLU 82	-63	-76	9444	-0.39	-41.2	0.45
504	SLU 83	-63	-94	9489	-0.1	-41.83	0.47
504	SLU 84	-64	-77	9522	-0.31	-41.65	0.44
504	SLE RA 1	-47	-63	6180	-0.28	-25.84	0.32
504	SLE RA 2	-48	-44	6216	-0.51	-25.64	0.28
504	SLE RA 3	-47	-64	6262	-0.21	-26.28	0.31
504	SLE RA 4	-48	-53	6284	-0.35	-26.17	0.29
504	SLE RA 5	-48	-45	6268	-0.46	-25.95	0.28
504	SLE RA 6	-48	-65	6314	-0.16	-26.59	0.3
504	SLE RA 7	-49	-53	6336	-0.3	-26.47	0.28
504	SLE RA 8	-48	-64	6284	-0.18	-26.45	0.3
504	SLE RA 9	-48	-53	6306	-0.32	-26.33	0.28
504	SLE RA 10	-48	-49	6739	-0.47	-28.7	0.32
504	SLE RA 11	-47	-68	6785	-0.17	-29.35	0.35
504	SLE RA 12	-48	-57	6807	-0.31	-29.23	0.33
504	SLE RA 13	-48	-49	6791	-0.42	-29.01	0.32
504	SLE RA 14	-48	-69	6837	-0.12	-29.65	0.34
504	SLE RA 15	-49	-58	6859	-0.26	-29.53	0.32
504	SLE RA 16	-48	-68	6806	-0.14	-29.51	0.34
504	SLE RA 17	-48	-57	6828	-0.28	-29.39	0.32
504	SLE RA 18	-47	-69	6926	-0.22	-30.21	0.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
504	SLE RA 19	-47	-58	6948	-0.36	-30.09	0.35
504	SLE RA 20	-47	-70	6978	-0.17	-30.51	0.36
504	SLE RA 21	-48	-58	7000	-0.31	-30.4	0.34
504	SLE FR 1	-47	-63	6180	-0.28	-25.84	0.32
504	SLE FR 2	-47	-59	6187	-0.32	-25.8	0.31
504	SLE FR 3	-47	-63	6201	-0.26	-25.96	0.31
504	SLE FR 4	-47	-61	6411	-0.31	-27.11	0.33
504	SLE FR 5	-47	-65	6425	-0.24	-27.27	0.33
504	SLE FR 6	-47	-66	6553	-0.25	-28.02	0.34
504	SLE QP 1	-47	-63	6180	-0.28	-25.84	0.32
504	SLE QP 2	-47	-65	6404	-0.26	-27.15	0.33
504	SLD 1	471	85	7389	-2.85	-5.82	1.37
504	SLD 2	525	14	7346	-2.59	-6.98	3.5
504	SLD 3	503	-236	6677	1.84	-10.93	2.6
504	SLD 4	557	-308	6634	2.09	-12.1	4.73
504	SLD 5	51	481	7787	-8.19	-12.79	-1.61
504	SLD 6	87	434	7759	-8.03	-13.56	-0.2
504	SLD 7	156	-591	5413	7.44	-29.83	2.5
504	SLD 8	192	-639	5385	7.6	-30.6	3.9
504	SLD 9	-285	509	7423	-8.12	-23.7	-3.24
504	SLD 10	-250	462	7394	-7.96	-24.47	-1.83
504	SLD 11	-180	-563	5049	7.51	-40.74	0.86
504	SLD 12	-145	-611	5021	7.67	-41.51	2.27
504	SLD 13	-650	179	6174	-2.61	-42.2	-4.07
504	SLD 14	-596	107	6131	-2.36	-43.37	-1.94
504	SLD 15	-619	-143	5461	2.08	-47.32	-2.84
504	SLD 16	-565	-215	5419	2.33	-48.48	-0.71
504	SLV 1	764	178	7961	-4.43	6.28	1.93
504	SLV 2	848	66	7894	-4.03	4.45	5.26
504	SLV 3	814	-341	6810	3.15	-1.98	3.9
504	SLV 4	899	-454	6743	3.54	-3.81	7.24
504	SLV 5	104	817	8629	-13.08	-4.27	-2.81
504	SLV 6	161	741	8584	-12.81	-5.5	-0.56
504	SLV 7	273	-915	4792	12.18	-31.77	3.78
504	SLV 8	330	-990	4748	12.45	-33	6.02
504	SLV 9	-423	861	8060	-12.97	-21.3	-5.36
504	SLV 10	-366	785	8015	-12.7	-22.53	-3.11
504	SLV 11	-254	-871	4224	12.29	-48.8	1.23
504	SLV 12	-197	-947	4179	12.56	-50.03	3.47
504	SLV 13	-992	324	6065	-4.06	-50.49	-6.57
504	SLV 14	-908	212	5998	-3.67	-52.32	-3.24
504	SLV 15	-942	-196	4914	3.51	-58.75	-4.6
504	SLV 16	-857	-308	4847	3.91	-60.57	-1.26
504	SLV FO 1	845	203	8117	-4.85	9.62	2.09
504	SLV FO 2	938	79	8043	-4.41	7.61	5.76
504	SLV FO 3	901	-369	6850	3.49	0.54	4.26
504	SLV FO 4	993	-493	6777	3.92	-1.47	7.93
504	SLV FO 5	119	905	8852	-14.36	-1.98	-3.12
504	SLV FO 6	182	822	8802	-14.06	-3.33	-0.65
504	SLV FO 7	305	-1000	4631	13.42	-32.23	4.12
504	SLV FO 8	367	-1083	4582	13.72	-33.59	6.59
504	SLV FO 9	-460	953	8226	-14.24	-20.71	-5.93
504	SLV FO 10	-398	870	8177	-13.94	-22.07	-3.46
504	SLV FO 11	-275	-952	4006	13.54	-50.97	1.31
504	SLV FO 12	-212	-1035	3956	13.84	-52.32	3.79
504	SLV FO 13	-1087	363	6031	-4.44	-52.83	-7.26
504	SLV FO 14	-994	239	5957	-4.01	-54.84	-3.59
504	SLV FO 15	-1031	-209	4765	3.89	-61.9	-5.09
504	SLV FO 16	-938	-332	4691	4.33	-63.92	-1.42
504	CRTFP Ux+	0	0	0	0	0	0
504	CRTFP Ux-	0	0	0	0	0	0
504	CRTFP Uy+	0	0	0	0	0	0
504	CRTFP Uy-	0	0	0	0	0	0
506	SLU 1	-8	-89	3971	-27.8	-711.06	-16.42
506	SLU 2	-7	-68	3999	-30.52	-716.06	-12.63
506	SLU 3	-8	-90	4051	-27.29	-725.38	-16.57
506	SLU 4	-7	-78	4068	-28.93	-728.38	-14.3
506	SLU 5	-7	-69	4050	-30.15	-725.17	-12.73
506	SLU 6	-9	-91	4102	-26.91	-734.49	-16.67
506	SLU 7	-8	-78	4119	-28.55	-737.49	-14.4
506	SLU 8	-8	-90	4073	-27.04	-729.28	-16.61
506	SLU 9	-8	-78	4090	-28.68	-732.28	-14.34
506	SLU 10	-9	-87	4578	-37.85	-819.73	-16.05
506	SLU 11	-11	-109	4630	-34.62	-829.05	-19.99
506	SLU 12	-10	-96	4647	-36.25	-832.05	-17.72
506	SLU 13	-9	-88	4629	-37.47	-828.83	-16.15
506	SLU 14	-11	-109	4681	-34.24	-838.15	-20.08
506	SLU 15	-10	-97	4698	-35.88	-841.15	-17.82
506	SLU 16	-11	-109	4652	-34.37	-832.94	-20.02
506	SLU 17	-10	-96	4669	-36.01	-835.94	-17.76
506	SLU 18	-12	-116	4798	-38.27	-859.15	-21.3
506	SLU 19	-11	-104	4815	-39.9	-862.15	-19.03
506	SLU 20	-12	-117	4849	-37.89	-868.26	-21.39
506	SLU 21	-11	-104	4866	-39.52	-871.26	-19.12
506	SLU 22	-10	-98	4558	-29	-816	-18.02
506	SLU 23	-8	-77	4586	-31.72	-821	-14.24
506	SLU 24	-10	-99	4638	-28.49	-830.32	-18.17
506	SLU 25	-9	-86	4655	-30.13	-833.32	-15.91
506	SLU 26	-8	-77	4637	-31.35	-830.11	-14.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
506	SLU 27	-10	-99	4689	-28.11	-839.43	-18.27
506	SLU 28	-9	-87	4706	-29.75	-842.43	-16
506	SLU 29	-10	-99	4660	-28.24	-834.22	-18.21
506	SLU 30	-9	-86	4677	-29.88	-837.22	-15.94
506	SLU 31	-11	-96	5165	-39.05	-924.67	-17.65
506	SLU 32	-12	-117	5217	-35.82	-933.99	-21.59
506	SLU 33	-12	-105	5234	-37.45	-936.98	-19.32
506	SLU 34	-11	-96	5216	-38.68	-933.77	-17.75
506	SLU 35	-13	-118	5268	-35.44	-943.09	-21.69
506	SLU 36	-12	-105	5285	-37.08	-946.09	-19.42
506	SLU 37	-12	-118	5239	-35.57	-937.88	-21.63
506	SLU 38	-12	-105	5256	-37.21	-940.88	-19.36
506	SLU 39	-13	-125	5385	-39.47	-964.09	-22.9
506	SLU 40	-12	-112	5402	-41.1	-967.09	-20.63
506	SLU 41	-13	-125	5436	-39.09	-973.2	-22.99
506	SLU 42	-13	-113	5453	-40.72	-976.2	-20.73
506	SLU 43	-10	-113	4961	-35.72	-888.4	-20.79
506	SLU 44	-8	-92	4989	-38.45	-893.4	-17.01
506	SLU 45	-10	-114	5041	-35.22	-902.72	-20.95
506	SLU 46	-9	-101	5058	-36.85	-905.72	-18.68
506	SLU 47	-9	-93	5040	-38.07	-902.51	-17.11
506	SLU 48	-10	-115	5092	-34.84	-911.83	-21.04
506	SLU 49	-10	-102	5109	-36.47	-914.83	-18.78
506	SLU 50	-10	-114	5063	-34.97	-906.62	-20.98
506	SLU 51	-9	-102	5080	-36.6	-909.62	-18.72
506	SLU 52	-11	-111	5568	-45.78	-997.07	-20.43
506	SLU 53	-13	-133	5620	-42.54	-1006.39	-24.36
506	SLU 54	-12	-120	5637	-44.18	-1009.39	-22.09
506	SLU 55	-11	-111	5619	-45.4	-1006.17	-20.52
506	SLU 56	-13	-133	5671	-42.17	-1015.49	-24.46
506	SLU 57	-12	-121	5688	-43.8	-1018.49	-22.19
506	SLU 58	-13	-133	5642	-42.3	-1010.28	-24.4
506	SLU 59	-12	-120	5659	-43.93	-1013.28	-22.13
506	SLU 60	-13	-140	5788	-46.19	-1036.49	-25.67
506	SLU 61	-13	-127	5805	-47.83	-1039.49	-23.4
506	SLU 62	-14	-141	5839	-45.81	-1045.6	-25.77
506	SLU 63	-13	-128	5856	-47.45	-1048.6	-23.5
506	SLU 64	-11	-122	5548	-36.92	-993.34	-22.39
506	SLU 65	-10	-101	5576	-39.65	-998.34	-18.61
506	SLU 66	-12	-123	5628	-36.42	-1007.66	-22.55
506	SLU 67	-11	-110	5645	-38.05	-1010.66	-20.28
506	SLU 68	-10	-101	5627	-39.27	-1007.45	-18.71
506	SLU 69	-12	-123	5679	-36.04	-1016.77	-22.65
506	SLU 70	-11	-111	5696	-37.68	-1019.77	-20.38
506	SLU 71	-12	-123	5650	-36.17	-1011.56	-22.59
506	SLU 72	-11	-110	5667	-37.8	-1014.56	-20.32
506	SLU 73	-13	-119	6155	-46.98	-1102.01	-22.03
506	SLU 74	-14	-141	6207	-43.74	-1111.33	-25.97
506	SLU 75	-13	-129	6224	-45.38	-1114.32	-23.7
506	SLU 76	-13	-120	6206	-46.6	-1111.11	-22.12
506	SLU 77	-14	-142	6258	-43.37	-1120.43	-26.06
506	SLU 78	-14	-129	6275	-45	-1123.43	-23.79
506	SLU 79	-14	-142	6229	-43.5	-1115.22	-26
506	SLU 80	-14	-129	6246	-45.13	-1118.22	-23.73
506	SLU 81	-15	-149	6375	-47.39	-1141.43	-27.27
506	SLU 82	-14	-136	6392	-49.03	-1144.43	-25
506	SLU 83	-15	-149	6426	-47.01	-1150.54	-27.37
506	SLU 84	-14	-136	6443	-48.65	-1153.54	-25.1
506	SLE RA 1	-8	-92	4139	-28.14	-741.05	-16.87
506	SLE RA 2	-7	-78	4158	-29.96	-744.38	-14.35
506	SLE RA 3	-9	-92	4192	-27.8	-750.59	-16.98
506	SLE RA 4	-8	-84	4204	-28.89	-752.59	-15.47
506	SLE RA 5	-8	-78	4192	-29.71	-750.45	-14.42
506	SLE RA 6	-9	-93	4226	-27.55	-756.66	-17.04
506	SLE RA 7	-8	-84	4238	-28.64	-758.66	-15.53
506	SLE RA 8	-9	-93	4207	-27.64	-753.19	-17
506	SLE RA 9	-8	-84	4218	-28.73	-755.19	-15.49
506	SLE RA 10	-9	-90	4543	-34.84	-813.49	-16.63
506	SLE RA 11	-10	-105	4578	-32.69	-819.7	-19.26
506	SLE RA 12	-10	-96	4589	-33.78	-821.7	-17.74
506	SLE RA 13	-9	-91	4577	-34.59	-819.56	-16.69
506	SLE RA 14	-10	-105	4612	-32.43	-825.77	-19.32
506	SLE RA 15	-10	-97	4623	-33.53	-827.77	-17.81
506	SLE RA 16	-10	-105	4593	-32.52	-822.3	-19.28
506	SLE RA 17	-10	-97	4604	-33.61	-824.3	-17.77
506	SLE RA 18	-11	-110	4690	-35.12	-839.77	-20.13
506	SLE RA 19	-10	-101	4701	-36.21	-841.77	-18.61
506	SLE RA 20	-11	-110	4724	-34.87	-845.85	-20.19
506	SLE RA 21	-10	-102	4735	-35.96	-847.85	-18.68
506	SLE FR 1	-8	-92	4139	-28.14	-741.05	-16.87
506	SLE FR 2	-8	-89	4143	-28.5	-741.71	-16.37
506	SLE FR 3	-8	-92	4152	-28.04	-743.48	-16.9
506	SLE FR 4	-9	-94	4308	-30.6	-771.33	-17.35
506	SLE FR 5	-9	-97	4318	-30.13	-773.09	-17.88
506	SLE FR 6	-10	-101	4414	-31.63	-790.41	-18.5
506	SLE QP 1	-8	-92	4139	-28.14	-741.05	-16.87
506	SLE QP 2	-9	-97	4304	-30.23	-770.66	-17.85
506	SLD 1	288	-1	4455	-52.65	-797.44	-0.44
506	SLD 2	319	-15	4447	-53.02	-796.05	-2.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
506	SLD 3	269	-252	4105	-18.7	-735.46	-45.29
506	SLD 4	300	-265	4097	-19.07	-734.07	-47.57
506	SLD 5	103	314	4881	-88.37	-872.95	55.81
506	SLD 6	123	305	4876	-88.61	-872.03	54.3
506	SLD 7	40	-521	3716	24.77	-666.35	-93.69
506	SLD 8	60	-530	3710	24.53	-665.43	-95.2
506	SLD 9	-78	335	4898	-84.99	-875.9	59.5
506	SLD 10	-58	327	4893	-85.24	-874.98	57.99
506	SLD 11	-142	-499	3733	28.15	-669.3	-90
506	SLD 12	-122	-508	3727	27.91	-668.38	-91.51
506	SLD 13	-318	71	4511	-41.39	-807.26	11.87
506	SLD 14	-288	57	4503	-41.76	-805.87	9.59
506	SLD 15	-337	-180	4162	-7.45	-745.28	-32.98
506	SLD 16	-307	-193	4154	-7.82	-743.89	-35.26
506	SLV 1	457	59	4548	-66.18	-814.13	10.56
506	SLV 2	505	39	4536	-66.76	-811.95	6.98
506	SLV 3	426	-346	3983	-11.32	-713.91	-61.91
506	SLV 4	474	-366	3971	-11.9	-711.73	-65.49
506	SLV 5	169	567	5237	-124.11	-936.1	101.24
506	SLV 6	201	553	5229	-124.5	-934.63	98.83
506	SLV 7	66	-781	3353	58.75	-602.06	-140.3
506	SLV 8	98	-795	3345	58.36	-600.59	-142.71
506	SLV 9	-116	601	5264	-118.82	-940.74	107.01
506	SLV 10	-84	587	5255	-119.21	-939.27	104.6
506	SLV 11	-219	-748	3380	64.03	-606.7	-134.53
506	SLV 12	-187	-762	3371	63.64	-605.23	-136.94
506	SLV 13	-492	172	4637	-48.56	-829.6	29.79
506	SLV 14	-445	151	4625	-49.14	-827.42	26.21
506	SLV 15	-523	-233	4072	6.29	-729.38	-42.68
506	SLV 16	-476	-253	4060	5.71	-727.2	-46.25
506	SLV FO 1	504	75	4573	-69.77	-818.47	13.4
506	SLV FO 2	556	52	4559	-70.41	-816.07	9.46
506	SLV FO 3	470	-370	3951	-9.43	-708.24	-66.32
506	SLV FO 4	522	-393	3937	-10.07	-705.84	-70.25
506	SLV FO 5	187	634	5330	-133.49	-952.64	113.15
506	SLV FO 6	222	618	5321	-133.92	-951.03	110.5
506	SLV FO 7	73	-850	3258	67.64	-585.2	-152.55
506	SLV FO 8	108	-865	3249	67.21	-583.58	-155.2
506	SLV FO 9	-127	671	5360	-127.68	-957.75	119.5
506	SLV FO 10	-91	656	5351	-128.11	-956.13	116.85
506	SLV FO 11	-240	-813	3287	73.46	-590.3	-146.2
506	SLV FO 12	-205	-828	3278	73.03	-588.69	-148.85
506	SLV FO 13	-540	199	4671	-50.4	-835.49	34.55
506	SLV FO 14	-488	176	4657	-51.03	-833.09	30.62
506	SLV FO 15	-574	-247	4049	9.95	-725.26	-45.16
506	SLV FO 16	-522	-269	4035	9.31	-722.86	-49.1
506	CRTFP Ux+	0	0	0	0	0	0
506	CRTFP Ux-	0	0	0	0	0	0
506	CRTFP Uy+	0	0	0	0	0	0
506	CRTFP Uy-	0	0	0	0	0	0
507	SLU 1	-12	-154	5774	-38.67	69.61	0.66
507	SLU 2	-10	-124	5812	-43.71	70.21	0.29
507	SLU 3	-13	-156	5889	-37.34	71.07	0.64
507	SLU 4	-11	-138	5911	-40.36	71.44	0.42
507	SLU 5	-10	-125	5885	-42.76	71.14	0.28
507	SLU 6	-13	-157	5961	-36.39	72	0.63
507	SLU 7	-12	-139	5984	-39.41	72.36	0.41
507	SLU 8	-13	-157	5920	-36.77	71.47	0.64
507	SLU 9	-11	-138	5943	-39.79	71.83	0.42
507	SLU 10	-14	-154	6654	-55.97	80.52	0.54
507	SLU 11	-16	-187	6730	-49.6	81.38	0.9
507	SLU 12	-15	-168	6753	-52.62	81.74	0.68
507	SLU 13	-14	-155	6726	-55.02	81.45	0.53
507	SLU 14	-17	-188	6803	-48.64	82.31	0.89
507	SLU 15	-16	-169	6826	-51.67	82.67	0.66
507	SLU 16	-17	-187	6761	-49.03	81.77	0.89
507	SLU 17	-15	-169	6784	-52.05	82.13	0.67
507	SLU 18	-18	-198	6976	-56.19	84.34	1.02
507	SLU 19	-16	-179	6999	-59.21	84.7	0.8
507	SLU 20	-18	-199	7049	-55.23	85.26	1.01
507	SLU 21	-17	-181	7072	-58.26	85.62	0.79
507	SLU 22	-14	-172	6617	-38.45	80.29	0.62
507	SLU 23	-12	-141	6655	-43.49	80.89	0.25
507	SLU 24	-15	-174	6731	-37.11	81.75	0.6
507	SLU 25	-14	-155	6754	-40.14	82.11	0.38
507	SLU 26	-13	-142	6728	-42.54	81.82	0.24
507	SLU 27	-15	-175	6804	-36.16	82.68	0.59
507	SLU 28	-14	-156	6827	-39.19	83.04	0.37
507	SLU 29	-15	-174	6763	-36.55	82.14	0.6
507	SLU 30	-14	-155	6786	-39.57	82.5	0.38
507	SLU 31	-16	-171	7496	-55.75	91.2	0.5
507	SLU 32	-19	-204	7573	-49.37	92.06	0.86
507	SLU 33	-18	-185	7596	-52.4	92.42	0.64
507	SLU 34	-17	-172	7569	-54.8	92.12	0.49
507	SLU 35	-19	-205	7646	-48.42	92.98	0.85
507	SLU 36	-18	-187	7669	-51.45	93.35	0.63
507	SLU 37	-19	-204	7604	-48.81	92.45	0.85
507	SLU 38	-18	-186	7627	-51.83	92.81	0.63
507	SLU 39	-20	-215	7819	-55.96	95.01	0.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
507	SLU 40	-19	-197	7842	-58.99	95.37	0.76
507	SLU 41	-20	-216	7892	-55.01	95.94	0.97
507	SLU 42	-19	-198	7915	-58.04	96.3	0.75
507	SLU 43	-15	-195	7217	-50.35	86.84	0.87
507	SLU 44	-13	-164	7255	-55.39	87.44	0.5
507	SLU 45	-15	-197	7332	-49.01	88.3	0.85
507	SLU 46	-14	-178	7355	-52.04	88.66	0.63
507	SLU 47	-13	-165	7328	-54.44	88.36	0.49
507	SLU 48	-16	-198	7405	-48.06	89.23	0.84
507	SLU 49	-14	-179	7427	-51.09	89.59	0.62
507	SLU 50	-15	-197	7363	-48.45	88.69	0.85
507	SLU 51	-14	-179	7386	-51.47	89.05	0.63
507	SLU 52	-17	-194	8097	-67.65	97.74	0.75
507	SLU 53	-19	-227	8173	-61.27	98.6	1.11
507	SLU 54	-18	-209	8196	-64.3	98.96	0.89
507	SLU 55	-17	-196	8170	-66.7	98.67	0.74
507	SLU 56	-20	-228	8246	-60.32	99.53	1.1
507	SLU 57	-18	-210	8269	-63.35	99.89	0.88
507	SLU 58	-19	-228	8205	-60.71	99	1.1
507	SLU 59	-18	-209	8227	-63.73	99.36	0.88
507	SLU 60	-20	-238	8419	-67.86	101.56	1.23
507	SLU 61	-19	-220	8442	-70.89	101.92	1.01
507	SLU 62	-21	-239	8492	-66.91	102.49	1.22
507	SLU 63	-19	-221	8515	-69.94	102.85	1
507	SLU 64	-17	-212	8060	-50.13	97.51	0.83
507	SLU 65	-15	-181	8098	-55.17	98.11	0.46
507	SLU 66	-18	-214	8175	-48.79	98.97	0.81
507	SLU 67	-16	-195	8197	-51.81	99.33	0.59
507	SLU 68	-15	-182	8171	-54.22	99.04	0.45
507	SLU 69	-18	-215	8248	-47.84	99.9	0.8
507	SLU 70	-17	-197	8270	-50.86	100.26	0.58
507	SLU 71	-18	-214	8206	-48.23	99.37	0.81
507	SLU 72	-17	-196	8229	-51.25	99.73	0.59
507	SLU 73	-19	-212	8940	-67.43	108.42	0.72
507	SLU 74	-22	-244	9016	-61.05	109.28	1.07
507	SLU 75	-20	-226	9039	-64.07	109.64	0.85
507	SLU 76	-19	-213	9013	-66.48	109.35	0.7
507	SLU 77	-22	-245	9089	-60.1	110.21	1.06
507	SLU 78	-21	-227	9112	-63.12	110.57	0.84
507	SLU 79	-22	-245	9047	-60.49	109.67	1.06
507	SLU 80	-20	-226	9070	-63.51	110.03	0.84
507	SLU 81	-23	-255	9262	-67.64	112.24	1.19
507	SLU 82	-22	-237	9285	-70.66	112.6	0.97
507	SLU 83	-23	-257	9335	-66.69	113.16	1.18
507	SLU 84	-22	-238	9358	-69.71	113.52	0.96
507	SLE RA 1	-13	-159	6015	-38.61	72.66	0.65
507	SLE RA 2	-11	-139	6040	-41.97	73.06	0.4
507	SLE RA 3	-13	-161	6091	-37.72	73.64	0.64
507	SLE RA 4	-12	-148	6106	-39.73	73.88	0.49
507	SLE RA 5	-12	-140	6089	-41.33	73.68	0.39
507	SLE RA 6	-13	-161	6140	-37.08	74.26	0.63
507	SLE RA 7	-12	-149	6155	-39.1	74.5	0.48
507	SLE RA 8	-13	-161	6112	-37.34	73.9	0.63
507	SLE RA 9	-12	-149	6127	-39.36	74.14	0.48
507	SLE RA 10	-14	-159	6601	-50.14	79.93	0.57
507	SLE RA 11	-16	-181	6652	-45.89	80.51	0.81
507	SLE RA 12	-15	-169	6667	-47.91	80.75	0.66
507	SLE RA 13	-14	-160	6650	-49.51	80.55	0.56
507	SLE RA 14	-16	-182	6701	-45.26	81.13	0.8
507	SLE RA 15	-15	-169	6716	-47.27	81.37	0.65
507	SLE RA 16	-16	-181	6673	-45.51	80.77	0.8
507	SLE RA 17	-15	-169	6688	-47.53	81.01	0.65
507	SLE RA 18	-16	-188	6816	-50.28	82.48	0.89
507	SLE RA 19	-16	-176	6831	-52.3	82.72	0.74
507	SLE RA 20	-17	-189	6865	-49.65	83.1	0.88
507	SLE RA 21	-16	-177	6880	-51.67	83.34	0.73
507	SLE FR 1	-13	-159	6015	-38.61	72.66	0.65
507	SLE FR 2	-12	-155	6020	-39.28	72.74	0.6
507	SLE FR 3	-13	-160	6034	-38.35	72.91	0.64
507	SLE FR 4	-14	-164	6260	-42.78	75.69	0.67
507	SLE FR 5	-14	-168	6275	-41.86	75.85	0.72
507	SLE FR 6	-15	-174	6415	-44.45	77.57	0.77
507	SLE QP 1	-13	-159	6015	-38.61	72.66	0.65
507	SLE QP 2	-14	-168	6255	-42.11	75.61	0.72
507	SLD 1	443	-11	6462	-79.58	78.43	-0.12
507	SLD 2	489	-25	6451	-80	78.25	0.32
507	SLD 3	413	-375	5989	-16.56	71.01	4.33
507	SLD 4	460	-389	5979	-16.97	70.83	4.77
507	SLD 5	159	433	7036	-148.87	87.74	-6.36
507	SLD 6	190	424	7029	-149.14	87.62	-6.07
507	SLD 7	62	-779	5461	61.22	63.01	8.47
507	SLD 8	92	-789	5454	60.94	62.89	8.77
507	SLD 9	-120	453	7057	-145.16	88.32	-7.33
507	SLD 10	-89	443	7050	-145.44	88.21	-7.04
507	SLD 11	-217	-760	5482	64.92	63.59	7.51
507	SLD 12	-187	-769	5475	64.64	63.48	7.8
507	SLD 13	-488	53	6532	-67.25	80.38	-3.33
507	SLD 14	-441	38	6521	-67.66	80.2	-2.89
507	SLD 15	-517	-311	6059	-4.22	72.96	1.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
507	SLD 16	-470	-325	6049	-4.64	72.79	1.56
507	SLV 1	702	87	6591	-102.36	80.15	-0.71
507	SLV 2	775	64	6574	-103.01	79.87	-0.02
507	SLV 3	654	-501	5827	-0.53	68.16	6.48
507	SLV 4	727	-523	5810	-1.17	67.88	7.17
507	SLV 5	259	804	7518	-214.51	95.21	-10.74
507	SLV 6	308	789	7507	-214.95	95.02	-10.28
507	SLV 7	101	-1155	4971	124.93	55.24	13.22
507	SLV 8	150	-1170	4960	124.5	55.05	13.69
507	SLV 9	-178	834	7551	-208.72	96.16	-12.25
507	SLV 10	-129	819	7540	-209.15	95.98	-11.78
507	SLV 11	-336	-1125	5004	130.73	56.19	11.72
507	SLV 12	-287	-1140	4993	130.29	56.01	12.18
507	SLV 13	-755	187	6700	-83.05	83.33	-5.73
507	SLV 14	-682	164	6684	-83.7	83.06	-5.04
507	SLV 15	-802	-400	5936	18.78	71.34	1.46
507	SLV 16	-730	-423	5920	18.14	71.07	2.15
507	SLV FO 1	774	113	6624	-108.38	80.6	-0.86
507	SLV FO 2	854	87	6606	-109.09	80.3	-0.1
507	SLV FO 3	721	-534	5784	3.63	67.41	7.05
507	SLV FO 4	801	-559	5766	2.92	67.11	7.81
507	SLV FO 5	287	901	7644	-231.75	97.17	-11.89
507	SLV FO 6	341	884	7632	-232.23	96.96	-11.38
507	SLV FO 7	112	-1254	4842	141.64	53.2	14.47
507	SLV FO 8	166	-1270	4830	141.16	53	14.98
507	SLV FO 9	-194	934	7680	-225.38	98.22	-13.55
507	SLV FO 10	-140	917	7668	-225.86	98.01	-13.03
507	SLV FO 11	-368	-1220	4879	148.01	54.25	12.82
507	SLV FO 12	-315	-1237	4866	147.53	54.05	13.33
507	SLV FO 13	-829	223	6745	-87.14	84.11	-6.37
507	SLV FO 14	-749	198	6727	-87.85	83.8	-5.61
507	SLV FO 15	-881	-424	5904	24.87	70.92	1.53
507	SLV FO 16	-801	-449	5886	24.16	70.61	2.3
507	CRTFP Ux+	0	0	0	0	0	0
507	CRTFP Ux-	0	0	0	0	0	0
507	CRTFP Uy+	0	0	0	0	0	0
507	CRTFP Uy-	0	0	0	0	0	0
508	SLU 1	-19	-288	10134	178.02	-2138.01	-58.9
508	SLU 2	-15	-234	10197	171.93	-2151.2	-47.29
508	SLU 3	-20	-293	10334	185.51	-2180.55	-59.95
508	SLU 4	-18	-260	10372	181.86	-2188.46	-52.98
508	SLU 5	-16	-236	10324	176.92	-2178.26	-47.93
508	SLU 6	-21	-296	10462	190.5	-2207.61	-60.59
508	SLU 7	-19	-263	10500	186.85	-2215.52	-53.62
508	SLU 8	-21	-294	10389	188	-2192.13	-60.18
508	SLU 9	-18	-261	10427	184.34	-2200.04	-53.21
508	SLU 10	-22	-281	11646	196.76	-2452.48	-55.84
508	SLU 11	-27	-340	11783	210.34	-2481.83	-68.51
508	SLU 12	-25	-308	11821	206.69	-2489.75	-61.54
508	SLU 13	-23	-284	11773	201.75	-2479.54	-56.49
508	SLU 14	-28	-343	11911	215.33	-2508.89	-69.15
508	SLU 15	-25	-310	11949	211.68	-2516.8	-62.18
508	SLU 16	-27	-341	11838	212.83	-2493.41	-68.74
508	SLU 17	-25	-309	11876	209.17	-2501.32	-61.77
508	SLU 18	-29	-356	12204	213.49	-2568.42	-71.12
508	SLU 19	-27	-323	12242	209.83	-2576.33	-64.16
508	SLU 20	-30	-359	12331	218.48	-2595.48	-71.77
508	SLU 21	-27	-326	12369	214.83	-2603.39	-64.8
508	SLU 22	-23	-324	11598	219.16	-2446.65	-66.42
508	SLU 23	-19	-269	11661	213.07	-2459.83	-54.81
508	SLU 24	-24	-329	11799	226.66	-2489.18	-67.47
508	SLU 25	-22	-296	11837	223	-2497.1	-60.5
508	SLU 26	-20	-272	11789	218.06	-2486.89	-55.45
508	SLU 27	-25	-331	11926	231.65	-2516.24	-68.11
508	SLU 28	-22	-299	11964	227.99	-2524.15	-61.14
508	SLU 29	-24	-330	11854	229.14	-2500.76	-67.7
508	SLU 30	-22	-297	11891	225.49	-2508.67	-60.73
508	SLU 31	-26	-317	13110	237.9	-2761.12	-63.37
508	SLU 32	-31	-376	13248	251.49	-2790.47	-76.03
508	SLU 33	-29	-343	13285	247.83	-2798.38	-69.06
508	SLU 34	-27	-320	13238	242.89	-2788.17	-64.01
508	SLU 35	-32	-379	13375	256.48	-2817.52	-76.67
508	SLU 36	-29	-346	13413	252.82	-2825.44	-69.7
508	SLU 37	-31	-377	13302	253.97	-2802.04	-76.26
508	SLU 38	-29	-344	13340	250.32	-2809.96	-69.29
508	SLU 39	-33	-392	13668	254.63	-2877.05	-78.65
508	SLU 40	-31	-359	13706	250.98	-2884.96	-71.68
508	SLU 41	-34	-395	13796	259.62	-2904.11	-79.29
508	SLU 42	-31	-362	13834	255.97	-2912.02	-72.32
508	SLU 43	-24	-362	12672	217.32	-2673.6	-73.99
508	SLU 44	-20	-308	12735	211.22	-2686.79	-62.37
508	SLU 45	-25	-367	12873	224.81	-2716.14	-75.04
508	SLU 46	-22	-334	12910	221.16	-2724.05	-68.07
508	SLU 47	-21	-311	12863	216.22	-2713.84	-63.02
508	SLU 48	-25	-370	13000	229.8	-2743.19	-75.68
508	SLU 49	-23	-337	13038	226.15	-2751.11	-68.71
508	SLU 50	-25	-368	12927	227.3	-2727.71	-75.27
508	SLU 51	-23	-335	12965	223.64	-2735.63	-68.3
508	SLU 52	-27	-355	14184	236.05	-2988.07	-70.93



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
508	SLU 53	-32	-415	14321	249.64	-3017.42	-83.6
508	SLU 54	-29	-382	14359	245.99	-3025.33	-76.63
508	SLU 55	-27	-358	14312	241.05	-3015.13	-71.58
508	SLU 56	-32	-417	14449	254.63	-3044.48	-84.24
508	SLU 57	-30	-385	14487	250.98	-3052.39	-77.27
508	SLU 58	-32	-416	14376	252.13	-3029	-83.83
508	SLU 59	-29	-383	14414	248.47	-3036.91	-76.86
508	SLU 60	-34	-430	14742	252.79	-3104	-86.21
508	SLU 61	-31	-398	14780	249.13	-3111.92	-79.25
508	SLU 62	-34	-433	14870	257.78	-3131.06	-86.86
508	SLU 63	-32	-400	14907	254.12	-3138.97	-79.89
508	SLU 64	-28	-398	14137	258.46	-2982.23	-81.51
508	SLU 65	-24	-343	14199	252.37	-2995.42	-69.9
508	SLU 66	-29	-403	14337	265.96	-3024.77	-82.56
508	SLU 67	-26	-370	14375	262.3	-3032.68	-75.59
508	SLU 68	-24	-346	14327	257.36	-3022.48	-70.54
508	SLU 69	-29	-406	14465	270.95	-3051.83	-83.2
508	SLU 70	-27	-373	14502	267.29	-3059.74	-76.23
508	SLU 71	-29	-404	14392	268.44	-3036.35	-82.79
508	SLU 72	-27	-371	14429	264.79	-3044.26	-75.82
508	SLU 73	-31	-391	15648	277.2	-3296.7	-78.46
508	SLU 74	-36	-450	15786	290.79	-3326.05	-91.12
508	SLU 75	-33	-418	15824	287.13	-3333.97	-84.15
508	SLU 76	-31	-394	15776	282.19	-3323.76	-79.1
508	SLU 77	-36	-453	15913	295.78	-3353.11	-91.76
508	SLU 78	-34	-420	15951	292.12	-3361.02	-84.79
508	SLU 79	-36	-451	15841	293.27	-3337.63	-91.35
508	SLU 80	-33	-419	15878	289.62	-3345.54	-84.38
508	SLU 81	-38	-466	16206	293.93	-3412.64	-93.74
508	SLU 82	-35	-433	16244	290.28	-3420.55	-86.77
508	SLU 83	-38	-469	16334	298.92	-3439.7	-94.38
508	SLU 84	-36	-436	16372	295.27	-3447.61	-87.41
508	SLE RA 1	-21	-298	10552	189.77	-2226.19	-61.05
508	SLE RA 2	-18	-262	10594	185.71	-2234.98	-53.31
508	SLE RA 3	-21	-301	10686	194.77	-2254.55	-61.75
508	SLE RA 4	-20	-280	10711	192.33	-2259.83	-57.1
508	SLE RA 5	-18	-264	10679	189.04	-2253.02	-53.73
508	SLE RA 6	-22	-303	10771	198.1	-2272.59	-62.17
508	SLE RA 7	-20	-282	10796	195.66	-2277.86	-57.53
508	SLE RA 8	-21	-302	10723	196.43	-2262.27	-61.9
508	SLE RA 9	-20	-280	10748	193.99	-2267.54	-57.26
508	SLE RA 10	-22	-294	11560	202.27	-2435.84	-59.01
508	SLE RA 11	-26	-333	11652	211.32	-2455.41	-67.45
508	SLE RA 12	-24	-311	11677	208.89	-2460.68	-62.81
508	SLE RA 13	-23	-296	11645	205.59	-2453.88	-59.44
508	SLE RA 14	-26	-335	11737	214.65	-2473.45	-67.88
508	SLE RA 15	-25	-313	11762	212.21	-2478.72	-63.24
508	SLE RA 16	-26	-334	11688	212.98	-2463.13	-67.61
508	SLE RA 17	-24	-312	11714	210.54	-2468.4	-62.96
508	SLE RA 18	-27	-344	11932	213.42	-2513.13	-69.2
508	SLE RA 19	-26	-322	11957	210.98	-2518.41	-64.55
508	SLE RA 20	-27	-346	12017	216.75	-2531.17	-69.63
508	SLE RA 21	-26	-324	12043	214.31	-2536.44	-64.98
508	SLE FR 1	-21	-298	10552	189.77	-2226.19	-61.05
508	SLE FR 2	-20	-291	10561	188.96	-2227.95	-59.5
508	SLE FR 3	-21	-299	10586	191.1	-2233.41	-61.22
508	SLE FR 4	-22	-305	10975	196.06	-2314.03	-61.94
508	SLE FR 5	-23	-313	11000	198.2	-2319.49	-63.66
508	SLE FR 6	-24	-321	11242	201.6	-2369.66	-65.12
508	SLE QP 1	-21	-298	10552	189.77	-2226.19	-61.05
508	SLE QP 2	-23	-312	10966	196.87	-2312.27	-63.49
508	SLD 1	839	30	11391	149.64	-2409.1	10.98
508	SLD 2	926	19	11383	148.73	-2409.13	10.68
508	SLD 3	783	-610	10612	226.72	-2246.15	-124.58
508	SLD 4	871	-621	10603	225.81	-2246.18	-124.88
508	SLD 5	304	763	12277	65.96	-2588.46	164.51
508	SLD 6	362	756	12272	65.36	-2588.48	164.31
508	SLD 7	119	-1370	9680	322.89	-2045.29	-287.37
508	SLD 8	177	-1377	9674	322.29	-2045.31	-287.57
508	SLD 9	-222	753	12259	71.44	-2579.24	160.58
508	SLD 10	-164	746	12253	70.85	-2579.26	160.39
508	SLD 11	-407	-1380	9661	328.37	-2036.07	-291.29
508	SLD 12	-349	-1387	9655	327.78	-2036.09	-291.49
508	SLD 13	-916	-3	11329	167.92	-2378.37	-2.1
508	SLD 14	-829	-14	11321	167.02	-2378.4	-2.4
508	SLD 15	-972	-643	10550	245	-2215.42	-137.67
508	SLD 16	-884	-654	10542	244.1	-2215.45	-137.96
508	SLV 1	1328	240	11653	120.85	-2468.23	56.68
508	SLV 2	1465	224	11640	119.44	-2468.28	56.22
508	SLV 3	1238	-794	10392	245.42	-2204.69	-162.41
508	SLV 4	1375	-810	10379	244.01	-2204.74	-162.87
508	SLV 5	494	1425	13086	-14.6	-2758.75	304.93
508	SLV 6	587	1415	13077	-15.55	-2758.79	304.62
508	SLV 7	193	-2022	8885	400.62	-1880.29	-425.36
508	SLV 8	285	-2033	8876	399.67	-1880.32	-425.68
508	SLV 9	-330	1409	13056	-5.93	-2744.23	298.69
508	SLV 10	-238	1398	13048	-6.89	-2744.26	298.38
508	SLV 11	-632	-2039	8855	409.28	-1865.76	-431.6
508	SLV 12	-539	-2049	8846	408.33	-1865.8	-431.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
508	SLV 13	-1420	186	11553	149.73	-2419.81	35.89
508	SLV 14	-1283	170	11540	148.32	-2419.86	35.42
508	SLV 15	-1511	-848	10293	274.3	-2156.27	-183.2
508	SLV 16	-1373	-864	10280	272.88	-2156.32	-183.67
508	SLV FO 1	1463	296	11721	113.25	-2483.83	68.7
508	SLV FO 2	1614	278	11707	111.7	-2483.88	68.19
508	SLV FO 3	1364	-842	10335	250.27	-2193.93	-172.3
508	SLV FO 4	1515	-860	10321	248.72	-2193.99	-172.81
508	SLV FO 5	546	1599	13298	-35.74	-2803.4	341.77
508	SLV FO 6	647	1587	13289	-36.79	-2803.44	341.43
508	SLV FO 7	214	-2193	8677	421	-1837.09	-461.55
508	SLV FO 8	316	-2205	8667	419.95	-1837.13	-461.9
508	SLV FO 9	-361	1581	13265	-26.21	-2787.42	334.91
508	SLV FO 10	-259	1569	13256	-27.26	-2787.46	334.57
508	SLV FO 11	-693	-2211	8644	430.53	-1821.11	-468.41
508	SLV FO 12	-591	-2223	8634	429.48	-1821.15	-468.76
508	SLV FO 13	-1560	236	11612	145.02	-2430.56	45.83
508	SLV FO 14	-1409	218	11598	143.46	-2430.62	45.31
508	SLV FO 15	-1659	-902	10226	282.04	-2140.67	-195.17
508	SLV FO 16	-1508	-920	10211	280.48	-2140.72	-195.68
508	CRTFP Ux+	0	0	0	0	0	0
508	CRTFP Ux-	0	0	0	0	0	0
508	CRTFP Uy+	0	0	0	0	0	0
508	CRTFP Uy-	0	0	0	0	0	0
510	SLU 1	-14	-240	9878	-102.03	3679.19	92.16
510	SLU 2	-10	-186	9943	-107.13	3702.79	72.1
510	SLU 3	-15	-244	10078	-102.51	3753.36	93.93
510	SLU 4	-13	-212	10118	-105.57	3767.52	81.9
510	SLU 5	-11	-189	10070	-107.29	3749.89	73.17
510	SLU 6	-16	-247	10206	-102.67	3800.46	95
510	SLU 7	-13	-215	10245	-105.72	3814.62	82.96
510	SLU 8	-15	-245	10132	-102.35	3773.38	94.3
510	SLU 9	-13	-213	10171	-105.41	3787.54	82.26
510	SLU 10	-16	-216	11308	-120.67	4214.17	83.65
510	SLU 11	-21	-274	11443	-116.04	4264.74	105.48
510	SLU 12	-19	-242	11482	-119.1	4278.9	93.45
510	SLU 13	-17	-219	11435	-120.83	4261.26	84.72
510	SLU 14	-22	-276	11570	-116.2	4311.83	106.55
510	SLU 15	-19	-245	11609	-119.26	4325.99	94.52
510	SLU 16	-21	-275	11497	-115.89	4284.76	105.85
510	SLU 17	-19	-243	11536	-118.95	4298.92	93.81
510	SLU 18	-23	-282	11827	-121.37	4409.73	108.66
510	SLU 19	-20	-250	11866	-124.43	4423.89	96.63
510	SLU 20	-23	-284	11954	-121.53	4456.82	109.73
510	SLU 21	-21	-252	11993	-124.59	4470.98	97.7
510	SLU 22	-17	-270	11317	-111.05	4213.15	103.94
510	SLU 23	-13	-217	11382	-116.15	4236.75	83.87
510	SLU 24	-18	-275	11518	-111.52	4287.32	105.71
510	SLU 25	-16	-243	11557	-114.58	4301.49	93.67
510	SLU 26	-14	-220	11509	-116.31	4283.85	84.94
510	SLU 27	-19	-278	11645	-111.68	4334.42	106.77
510	SLU 28	-16	-246	11684	-114.74	4348.58	94.74
510	SLU 29	-18	-276	11571	-111.37	4307.34	106.07
510	SLU 30	-16	-244	11610	-114.43	4321.5	94.04
510	SLU 31	-19	-246	12747	-129.68	4748.13	95.42
510	SLU 32	-24	-304	12882	-125.06	4798.7	117.26
510	SLU 33	-22	-272	12921	-128.12	4812.86	105.22
510	SLU 34	-20	-249	12874	-129.84	4795.22	96.49
510	SLU 35	-25	-307	13009	-125.22	4845.79	118.33
510	SLU 36	-22	-275	13048	-128.27	4859.95	106.29
510	SLU 37	-24	-305	12936	-124.9	4818.72	117.62
510	SLU 38	-22	-273	12975	-127.96	4832.88	105.59
510	SLU 39	-26	-312	13266	-130.38	4943.69	120.44
510	SLU 40	-24	-280	13305	-133.44	4957.85	108.4
510	SLU 41	-26	-315	13393	-130.54	4990.78	121.51
510	SLU 42	-24	-283	13433	-133.6	5004.94	109.47
510	SLU 43	-18	-301	12348	-129.55	4599.88	115.78
510	SLU 44	-14	-248	12413	-134.65	4623.48	95.71
510	SLU 45	-18	-306	12548	-130.03	4674.05	117.55
510	SLU 46	-16	-274	12587	-133.09	4688.21	105.51
510	SLU 47	-14	-251	12540	-134.81	4670.57	96.78
510	SLU 48	-19	-308	12675	-130.18	4721.15	118.61
510	SLU 49	-16	-277	12715	-133.24	4735.31	106.58
510	SLU 50	-19	-307	12602	-129.87	4694.07	117.91
510	SLU 51	-16	-275	12641	-132.93	4708.23	105.88
510	SLU 52	-20	-277	13777	-148.19	5134.85	107.26
510	SLU 53	-24	-335	13913	-143.56	5185.42	129.1
510	SLU 54	-22	-303	13952	-146.62	5199.58	117.06
510	SLU 55	-20	-280	13905	-148.35	5181.95	108.33
510	SLU 56	-25	-338	14040	-143.72	5232.52	130.16
510	SLU 57	-22	-306	14079	-146.78	5246.68	118.13
510	SLU 58	-24	-336	13967	-143.41	5205.44	129.46
510	SLU 59	-22	-304	14006	-146.47	5219.6	117.43
510	SLU 60	-26	-343	14297	-148.89	5330.41	132.28
510	SLU 61	-24	-311	14336	-151.95	5344.57	120.24
510	SLU 62	-27	-346	14424	-149.05	5377.51	133.34
510	SLU 63	-24	-314	14463	-152.11	5391.67	121.31
510	SLU 64	-21	-332	13787	-138.57	5133.84	127.55
510	SLU 65	-17	-278	13852	-143.67	5157.44	107.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
510	SLU 66	-21	-336	13987	-139.04	5208.01	129.32
510	SLU 67	-19	-304	14027	-142.17	5222.17	117.28
510	SLU 68	-17	-281	13979	-143.83	5204.54	108.56
510	SLU 69	-22	-339	14115	-139.2	5255.11	130.39
510	SLU 70	-19	-307	14154	-142.26	5269.27	118.35
510	SLU 71	-22	-337	14041	-138.89	5228.03	129.69
510	SLU 72	-19	-305	14080	-141.95	5242.19	117.65
510	SLU 73	-23	-308	15217	-157.2	5668.81	119.04
510	SLU 74	-27	-366	15352	-152.58	5719.38	140.87
510	SLU 75	-25	-334	15391	-155.63	5733.54	128.83
510	SLU 76	-23	-311	15344	-157.36	5715.91	120.11
510	SLU 77	-28	-369	15479	-152.73	5766.48	141.94
510	SLU 78	-25	-337	15518	-155.79	5780.64	129.9
510	SLU 79	-28	-367	15406	-152.42	5739.4	141.24
510	SLU 80	-25	-335	15445	-155.48	5753.56	129.2
510	SLU 81	-29	-374	15736	-157.9	5864.37	144.05
510	SLU 82	-27	-342	15775	-160.96	5878.53	132.01
510	SLU 83	-30	-376	15863	-158.06	5911.47	145.12
510	SLU 84	-27	-344	15902	-161.12	5925.63	133.08
510	SLE RA 1	-15	-248	10289	-104.61	3831.75	95.53
510	SLE RA 2	-13	-213	10332	-108.01	3847.49	82.15
510	SLE RA 3	-16	-251	10423	-104.92	3881.2	96.71
510	SLE RA 4	-14	-230	10449	-106.96	3890.64	88.68
510	SLE RA 5	-13	-215	10417	-108.11	3878.88	82.86
510	SLE RA 6	-16	-253	10507	-105.03	3912.6	97.42
510	SLE RA 7	-14	-232	10534	-107.07	3922.04	89.39
510	SLE RA 8	-16	-252	10459	-104.82	3894.55	96.95
510	SLE RA 9	-14	-231	10485	-106.86	3903.99	88.93
510	SLE RA 10	-17	-232	11242	-117.03	4188.4	89.85
510	SLE RA 11	-20	-271	11332	-113.95	4222.12	104.41
510	SLE RA 12	-18	-250	11358	-115.99	4231.56	96.38
510	SLE RA 13	-17	-234	11327	-117.14	4219.8	90.56
510	SLE RA 14	-20	-273	11417	-114.05	4253.51	105.12
510	SLE RA 15	-18	-252	11443	-116.09	4262.95	97.09
510	SLE RA 16	-20	-272	11368	-113.84	4235.46	104.65
510	SLE RA 17	-18	-250	11394	-115.88	4244.9	96.63
510	SLE RA 18	-21	-276	11588	-117.5	4318.77	106.53
510	SLE RA 19	-19	-255	11615	-119.54	4328.22	98.5
510	SLE RA 20	-21	-278	11673	-117.61	4350.17	107.24
510	SLE RA 21	-20	-257	11699	-119.65	4359.61	99.21
510	SLE FR 1	-15	-248	10289	-104.61	3831.75	95.53
510	SLE FR 2	-15	-241	10298	-105.29	3834.9	92.85
510	SLE FR 3	-15	-249	10323	-104.65	3844.31	95.81
510	SLE FR 4	-16	-250	10688	-109.16	3981.01	96.15
510	SLE FR 5	-17	-258	10713	-108.52	3990.42	99.11
510	SLE FR 6	-18	-262	10939	-111.05	4075.26	101.03
510	SLE QP 1	-15	-248	10289	-104.61	3831.75	95.53
510	SLE QP 2	-17	-257	10679	-108.48	3977.86	98.83
510	SLD 1	838	96	11229	-134.62	4172.32	-24.11
510	SLD 2	926	109	11243	-135.31	4175.95	-26.53
510	SLD 3	782	-524	10427	-71.23	3881.91	209.62
510	SLD 4	870	-511	10442	-71.92	3885.55	207.2
510	SLD 5	309	787	12057	-212.34	4475.99	-292.11
510	SLD 6	366	795	12067	-212.8	4478.39	-293.71
510	SLD 7	122	-1279	9385	-1.04	3507.97	486.99
510	SLD 8	180	-1271	9394	-1.49	3510.37	485.4
510	SLD 9	-214	757	11963	-215.46	4445.35	-287.74
510	SLD 10	-156	766	11973	-215.92	4447.75	-289.34
510	SLD 11	-400	-1309	9291	-4.16	3477.33	491.36
510	SLD 12	-342	-1300	9301	-4.61	3479.73	489.77
510	SLD 13	-904	-3	10916	-145.03	4070.17	-9.55
510	SLD 14	-816	10	10930	-145.72	4073.81	-11.97
510	SLD 15	-960	-623	10114	-81.64	3779.77	224.18
510	SLD 16	-872	-610	10129	-82.33	3783.4	221.76
510	SLV 1	1324	312	11560	-151	4289.78	-100.31
510	SLV 2	1461	332	11583	-152.08	4295.47	-104.1
510	SLV 3	1233	-690	10264	-48.52	3820.11	277.44
510	SLV 4	1370	-669	10287	-49.6	3825.81	273.66
510	SLV 5	498	1429	12905	-276.45	4782.7	-533.14
510	SLV 6	590	1443	12921	-277.18	4786.53	-535.69
510	SLV 7	195	-1910	8584	65.13	3217.14	726.05
510	SLV 8	287	-1896	8599	64.4	3220.98	723.5
510	SLV 9	-321	1382	12759	-281.36	4734.74	-525.85
510	SLV 10	-228	1396	12774	-282.08	4738.57	-528.4
510	SLV 11	-624	-1956	8437	60.22	3169.18	733.34
510	SLV 12	-532	-1943	8452	59.5	3173.02	730.79
510	SLV 13	-1404	156	11071	-167.35	4129.91	-76.01
510	SLV 14	-1267	176	11094	-168.43	4135.61	-79.79
510	SLV 15	-1495	-846	9774	-64.88	3660.25	301.75
510	SLV 16	-1358	-825	9797	-65.96	3665.94	297.97
510	SLV FO 1	1458	369	11649	-155.25	4320.97	-120.23
510	SLV FO 2	1609	391	11674	-156.44	4327.23	-124.39
510	SLV FO 3	1358	-733	10223	-42.53	3804.34	295.31
510	SLV FO 4	1509	-711	10248	-43.72	3810.6	291.14
510	SLV FO 5	549	1598	13128	-293.25	4863.18	-596.34
510	SLV FO 6	651	1613	13145	-294.05	4867.4	-599.14
510	SLV FO 7	216	-2075	8374	82.49	3141.07	788.77
510	SLV FO 8	317	-2060	8391	81.69	3145.29	785.97
510	SLV FO 9	-351	1546	12966	-298.64	4810.43	-588.31



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
510	SLV FO 10	-250	1561	12983	-299.45	4814.65	-591.12
510	SLV FO 11	-685	-2126	8213	77.09	3088.32	796.79
510	SLV FO 12	-583	-2111	8230	76.29	3092.54	793.99
510	SLV FO 13	-1543	197	11110	-173.24	4145.12	-93.49
510	SLV FO 14	-1392	220	11135	-174.43	4151.38	-97.65
510	SLV FO 15	-1643	-905	9684	-60.52	3628.48	322.04
510	SLV FO 16	-1492	-882	9709	-61.71	3634.75	317.88
510	CRTFP Ux+	0	0	0	0	0	0
510	CRTFP Ux-	0	0	0	0	0	0
510	CRTFP Uy+	0	0	0	0	0	0
510	CRTFP Uy-	0	0	0	0	0	0
511	SLU 1	-42	48	3293	2.91	-489.18	12.07
511	SLU 2	-42	70	3322	2.71	-490.86	17.45
511	SLU 3	-42	49	3360	3.04	-499.39	12.22
511	SLU 4	-43	62	3378	2.92	-500.4	15.45
511	SLU 5	-43	70	3364	2.79	-497.26	17.55
511	SLU 6	-43	49	3403	3.12	-505.79	12.32
511	SLU 7	-44	62	3420	3	-506.8	15.55
511	SLU 8	-43	49	3377	3.08	-501.97	12.27
511	SLU 9	-43	62	3395	2.96	-502.98	15.5
511	SLU 10	-44	76	3730	3.15	-550.31	19.15
511	SLU 11	-44	55	3768	3.48	-558.84	13.92
511	SLU 12	-44	68	3786	3.36	-559.84	17.15
511	SLU 13	-44	77	3772	3.23	-556.7	19.25
511	SLU 14	-44	56	3810	3.56	-565.23	14.02
511	SLU 15	-45	69	3828	3.44	-566.24	17.25
511	SLU 16	-44	56	3785	3.52	-561.42	13.97
511	SLU 17	-45	69	3802	3.4	-562.43	17.2
511	SLU 18	-44	58	3875	3.55	-574.1	14.5
511	SLU 19	-44	71	3893	3.42	-575.11	17.73
511	SLU 20	-44	58	3917	3.63	-580.5	14.6
511	SLU 21	-45	71	3935	3.5	-581.51	17.83
511	SLU 22	-46	53	3780	3.58	-561.14	13.32
511	SLU 23	-47	75	3809	3.38	-562.82	18.7
511	SLU 24	-47	54	3847	3.71	-571.35	13.47
511	SLU 25	-47	67	3865	3.59	-572.36	16.7
511	SLU 26	-47	75	3851	3.46	-569.22	18.8
511	SLU 27	-47	54	3890	3.79	-577.75	13.57
511	SLU 28	-48	67	3907	3.67	-578.76	16.8
511	SLU 29	-47	54	3864	3.75	-573.93	13.52
511	SLU 30	-47	67	3882	3.63	-574.94	16.75
511	SLU 31	-48	81	4217	3.82	-622.27	20.4
511	SLU 32	-48	60	4255	4.15	-630.8	15.17
511	SLU 33	-49	73	4273	4.03	-631.8	18.4
511	SLU 34	-49	82	4259	3.9	-628.66	20.5
511	SLU 35	-49	61	4297	4.23	-637.19	15.27
511	SLU 36	-49	74	4315	4.11	-638.2	18.5
511	SLU 37	-48	61	4272	4.19	-633.38	15.22
511	SLU 38	-49	74	4289	4.07	-634.39	18.45
511	SLU 39	-48	63	4362	4.21	-646.06	15.75
511	SLU 40	-48	76	4380	4.09	-647.07	18.98
511	SLU 41	-48	63	4404	4.3	-652.46	15.85
511	SLU 42	-49	76	4422	4.17	-653.47	19.08
511	SLU 43	-53	61	4114	3.56	-611.26	15.26
511	SLU 44	-53	82	4143	3.35	-612.94	20.64
511	SLU 45	-54	61	4181	3.69	-621.47	15.41
511	SLU 46	-54	74	4199	3.56	-622.48	18.64
511	SLU 47	-54	83	4185	3.44	-619.34	20.74
511	SLU 48	-54	62	4223	3.77	-627.87	15.51
511	SLU 49	-55	75	4241	3.64	-628.88	18.74
511	SLU 50	-54	62	4198	3.72	-624.05	15.46
511	SLU 51	-54	74	4216	3.6	-625.06	18.69
511	SLU 52	-55	89	4551	3.8	-672.39	22.34
511	SLU 53	-55	68	4589	4.13	-680.92	17.11
511	SLU 54	-55	81	4607	4	-681.93	20.34
511	SLU 55	-55	89	4593	3.88	-678.78	22.44
511	SLU 56	-55	69	4631	4.21	-687.31	17.21
511	SLU 57	-56	81	4649	4.09	-688.32	20.44
511	SLU 58	-55	68	4606	4.17	-683.5	17.16
511	SLU 59	-56	81	4623	4.04	-684.51	20.39
511	SLU 60	-55	70	4696	4.19	-696.18	17.69
511	SLU 61	-55	83	4714	4.07	-697.19	20.92
511	SLU 62	-55	71	4738	4.27	-702.58	17.79
511	SLU 63	-56	84	4756	4.15	-703.59	21.02
511	SLU 64	-57	66	4601	4.23	-683.22	16.51
511	SLU 65	-58	87	4630	4.02	-684.9	21.89
511	SLU 66	-58	66	4668	4.35	-693.43	16.66
511	SLU 67	-58	79	4686	4.23	-694.44	19.89
511	SLU 68	-58	88	4672	4.11	-691.3	21.99
511	SLU 69	-58	67	4710	4.44	-699.83	16.76
511	SLU 70	-59	80	4728	4.31	-700.84	19.99
511	SLU 71	-58	67	4685	4.39	-696.01	16.71
511	SLU 72	-58	79	4703	4.27	-697.02	19.94
511	SLU 73	-59	94	5038	4.47	-744.35	23.59
511	SLU 74	-59	73	5076	4.8	-752.88	18.36
511	SLU 75	-60	86	5094	4.67	-753.89	21.59
511	SLU 76	-60	94	5080	4.55	-750.74	23.69
511	SLU 77	-60	74	5118	4.88	-759.27	18.46
511	SLU 78	-60	86	5136	4.76	-760.28	21.69



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
511	SLU 79	-59	73	5093	4.83	-755.46	18.41
511	SLU 80	-60	86	5110	4.71	-756.47	21.64
511	SLU 81	-59	75	5183	4.86	-768.14	18.94
511	SLU 82	-59	88	5201	4.74	-769.15	22.17
511	SLU 83	-59	76	5225	4.94	-774.54	19.04
511	SLU 84	-60	89	5243	4.82	-775.55	22.27
511	SLE RA 1	-43	49	3432	3.11	-509.74	12.42
511	SLE RA 2	-43	64	3452	2.97	-510.86	16.01
511	SLE RA 3	-43	50	3477	3.19	-516.55	12.52
511	SLE RA 4	-44	58	3489	3.11	-517.22	14.68
511	SLE RA 5	-44	64	3480	3.02	-515.12	16.08
511	SLE RA 6	-44	50	3505	3.24	-520.81	12.59
511	SLE RA 7	-44	59	3517	3.16	-521.48	14.74
511	SLE RA 8	-44	50	3488	3.22	-518.27	12.56
511	SLE RA 9	-44	59	3500	3.13	-518.94	14.71
511	SLE RA 10	-44	68	3723	3.26	-550.49	17.15
511	SLE RA 11	-44	54	3749	3.48	-556.18	13.66
511	SLE RA 12	-45	63	3761	3.4	-556.85	15.81
511	SLE RA 13	-45	69	3751	3.32	-554.75	17.21
511	SLE RA 14	-45	55	3777	3.54	-560.44	13.72
511	SLE RA 15	-45	63	3789	3.46	-561.11	15.88
511	SLE RA 16	-44	55	3760	3.51	-557.9	13.69
511	SLE RA 17	-45	63	3772	3.43	-558.57	15.84
511	SLE RA 18	-44	56	3820	3.53	-566.35	14.04
511	SLE RA 19	-44	65	3832	3.44	-567.03	16.2
511	SLE RA 20	-44	56	3848	3.58	-570.62	14.11
511	SLE RA 21	-45	65	3860	3.5	-571.29	16.26
511	SLE FR 1	-43	49	3432	3.11	-509.74	12.42
511	SLE FR 2	-43	52	3436	3.08	-509.96	13.14
511	SLE FR 3	-43	50	3443	3.13	-511.45	12.45
511	SLE FR 4	-43	54	3552	3.2	-526.95	13.63
511	SLE FR 5	-43	52	3560	3.25	-528.43	12.94
511	SLE FR 6	-43	53	3626	3.32	-538.05	13.23
511	SLE QP 1	-43	49	3432	3.11	-509.74	12.42
511	SLE QP 2	-43	51	3549	3.23	-526.72	12.91
511	SLD 1	214	183	4715	2.61	-668.01	45.9
511	SLD 2	240	78	4680	2.87	-666.43	19.84
511	SLD 3	235	-60	4328	5.46	-645.39	-14.78
511	SLD 4	260	-164	4293	5.72	-643.81	-40.84
511	SLD 5	-2	478	4492	-1.33	-603.71	119.54
511	SLD 6	14	409	4469	-1.16	-602.66	102.33
511	SLD 7	68	-331	3201	8.18	-528.3	-82.74
511	SLD 8	84	-400	3179	8.35	-527.25	-99.95
511	SLD 9	-170	503	3918	-1.89	-526.2	125.77
511	SLD 10	-154	434	3896	-1.72	-525.15	108.56
511	SLD 11	-101	-306	2628	7.62	-450.79	-76.51
511	SLD 12	-84	-375	2606	7.79	-449.74	-93.72
511	SLD 13	-347	267	2804	0.75	-409.64	66.67
511	SLD 14	-322	162	2770	1	-408.06	40.6
511	SLD 15	-326	24	2417	3.6	-387.02	5.98
511	SLD 16	-301	-80	2383	3.85	-385.44	-20.08
511	SLV 1	360	264	5378	2.18	-747.8	66.11
511	SLV 2	399	100	5324	2.58	-745.32	25.28
511	SLV 3	393	-128	4753	6.79	-711.22	-31.91
511	SLV 4	433	-292	4699	7.19	-708.74	-72.74
511	SLV 5	20	741	5056	-4.15	-649	185.16
511	SLV 6	46	630	5020	-3.87	-647.33	157.66
511	SLV 7	131	-566	2971	11.21	-527.04	-141.58
511	SLV 8	158	-677	2935	11.48	-525.37	-169.07
511	SLV 9	-244	780	4162	-5.02	-528.07	194.89
511	SLV 10	-218	669	4126	-4.75	-526.4	167.4
511	SLV 11	-132	-527	2077	10.34	-406.12	-131.84
511	SLV 12	-106	-638	2041	10.61	-404.45	-159.34
511	SLV 13	-519	395	2398	-0.73	-344.71	98.56
511	SLV 14	-480	231	2344	-0.32	-342.23	57.73
511	SLV 15	-485	3	1773	3.88	-308.13	0.54
511	SLV 16	-446	-161	1719	4.28	-305.65	-40.29
511	SLV FO 1	400	285	5561	2.08	-769.91	71.43
511	SLV FO 2	443	105	5502	2.52	-767.18	26.52
511	SLV FO 3	437	-146	4873	7.14	-729.67	-36.39
511	SLV FO 4	480	-327	4814	7.59	-726.94	-81.3
511	SLV FO 5	26	809	5207	-4.88	-661.23	202.38
511	SLV FO 6	55	688	5167	-4.59	-659.39	172.14
511	SLV FO 7	149	-628	2914	12.01	-527.08	-157.03
511	SLV FO 8	178	-750	2874	12.31	-525.24	-187.27
511	SLV FO 9	-264	853	4224	-5.84	-528.21	213.09
511	SLV FO 10	-235	731	4184	-5.55	-526.37	182.85
511	SLV FO 11	-141	-585	1930	11.05	-394.06	-146.32
511	SLV FO 12	-112	-707	1890	11.35	-392.22	-176.56
511	SLV FO 13	-567	430	2283	-1.12	-326.51	107.13
511	SLV FO 14	-523	249	2224	-0.68	-323.78	62.21
511	SLV FO 15	-530	-2	1595	3.95	-286.27	-0.7
511	SLV FO 16	-487	-182	1536	4.39	-283.54	-45.61
511	CRTFP Ux+	0	0	0	0	0	0
511	CRTFP Ux-	0	0	0	0	0	0
511	CRTFP Uy+	0	0	0	0	0	0
511	CRTFP Uy-	0	0	0	0	0	0
514	SLU 1	43	-31	6344	-0.69	38.17	-1.01
514	SLU 2	45	-1	6395	-1.16	37.33	-0.94



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
514	SLU 3	44	-32	6479	-0.55	39.15	-1.06
514	SLU 4	45	-14	6510	-0.84	38.65	-1.01
514	SLU 5	45	-1	6482	-1.06	37.98	-0.98
514	SLU 6	44	-32	6566	-0.45	39.8	-1.09
514	SLU 7	45	-14	6597	-0.74	39.29	-1.05
514	SLU 8	44	-32	6517	-0.49	39.46	-1.09
514	SLU 9	45	-14	6548	-0.77	38.96	-1.04
514	SLU 10	46	-2	7232	-1.1	43.61	-1.07
514	SLU 11	45	-32	7316	-0.5	45.42	-1.19
514	SLU 12	46	-14	7347	-0.78	44.92	-1.15
514	SLU 13	47	-2	7319	-1	44.25	-1.11
514	SLU 14	46	-33	7403	-0.4	46.07	-1.23
514	SLU 15	47	-15	7433	-0.68	45.57	-1.18
514	SLU 16	45	-32	7354	-0.43	45.74	-1.22
514	SLU 17	46	-14	7385	-0.71	45.24	-1.18
514	SLU 18	45	-32	7539	-0.6	47.14	-1.2
514	SLU 19	46	-14	7570	-0.89	46.63	-1.16
514	SLU 20	45	-33	7626	-0.5	47.78	-1.24
514	SLU 21	46	-14	7657	-0.79	47.28	-1.2
514	SLU 22	48	-33	7310	-0.31	44.1	-1.14
514	SLU 23	50	-3	7362	-0.78	43.26	-1.06
514	SLU 24	49	-34	7446	-0.18	45.08	-1.18
514	SLU 25	50	-16	7476	-0.46	44.58	-1.14
514	SLU 26	51	-3	7448	-0.68	43.91	-1.1
514	SLU 27	50	-34	7533	-0.07	45.73	-1.22
514	SLU 28	51	-16	7563	-0.36	45.22	-1.17
514	SLU 29	49	-34	7484	-0.11	45.39	-1.21
514	SLU 30	50	-16	7515	-0.39	44.89	-1.17
514	SLU 31	52	-4	8199	-0.72	49.54	-1.2
514	SLU 32	51	-34	8283	-0.12	51.36	-1.31
514	SLU 33	52	-16	8313	-0.4	50.85	-1.27
514	SLU 34	52	-4	8285	-0.62	50.18	-1.24
514	SLU 35	51	-35	8370	-0.02	52	-1.35
514	SLU 36	52	-17	8400	-0.3	51.5	-1.31
514	SLU 37	50	-35	8321	-0.05	51.67	-1.35
514	SLU 38	52	-16	8352	-0.33	51.17	-1.3
514	SLU 39	50	-34	8506	-0.22	53.07	-1.33
514	SLU 40	51	-16	8537	-0.51	52.56	-1.28
514	SLU 41	51	-35	8593	-0.12	53.71	-1.36
514	SLU 42	52	-17	8624	-0.41	53.21	-1.32
514	SLU 43	54	-40	7915	-1.02	47.59	-1.27
514	SLU 44	56	-10	7966	-1.49	46.75	-1.2
514	SLU 45	55	-40	8051	-0.89	48.57	-1.32
514	SLU 46	56	-22	8081	-1.17	48.06	-1.27
514	SLU 47	56	-10	8053	-1.39	47.4	-1.24
514	SLU 48	55	-41	8138	-0.79	49.21	-1.35
514	SLU 49	56	-23	8168	-1.07	48.71	-1.31
514	SLU 50	55	-40	8089	-0.82	48.88	-1.35
514	SLU 51	56	-22	8120	-1.11	48.38	-1.3
514	SLU 52	57	-11	8803	-1.44	53.02	-1.33
514	SLU 53	56	-41	8888	-0.83	54.84	-1.45
514	SLU 54	57	-23	8918	-1.11	54.34	-1.41
514	SLU 55	58	-11	8890	-1.34	53.67	-1.37
514	SLU 56	57	-41	8974	-0.73	55.49	-1.49
514	SLU 57	58	-23	9005	-1.01	54.99	-1.44
514	SLU 58	56	-41	8926	-0.77	55.16	-1.48
514	SLU 59	57	-23	8957	-1.05	54.65	-1.44
514	SLU 60	56	-41	9111	-0.94	56.55	-1.46
514	SLU 61	57	-23	9142	-1.22	56.05	-1.42
514	SLU 62	56	-41	9198	-0.84	57.2	-1.5
514	SLU 63	57	-23	9228	-1.12	56.7	-1.46
514	SLU 64	59	-42	8882	-0.65	53.52	-1.4
514	SLU 65	61	-12	8933	-1.11	52.68	-1.32
514	SLU 66	60	-42	9017	-0.51	54.5	-1.44
514	SLU 67	61	-24	9048	-0.79	54	-1.4
514	SLU 68	62	-12	9020	-1.01	53.33	-1.36
514	SLU 69	61	-43	9104	-0.41	55.15	-1.48
514	SLU 70	62	-25	9135	-0.69	54.64	-1.44
514	SLU 71	60	-42	9056	-0.45	54.81	-1.47
514	SLU 72	61	-24	9086	-0.73	54.31	-1.43
514	SLU 73	63	-13	9770	-1.06	58.96	-1.46
514	SLU 74	62	-43	9854	-0.45	60.77	-1.57
514	SLU 75	63	-25	9885	-0.73	60.27	-1.53
514	SLU 76	63	-13	9857	-0.96	59.6	-1.5
514	SLU 77	62	-43	9941	-0.35	61.42	-1.61
514	SLU 78	63	-25	9972	-0.63	60.92	-1.57
514	SLU 79	62	-43	9893	-0.39	61.09	-1.61
514	SLU 80	63	-25	9923	-0.67	60.58	-1.56
514	SLU 81	61	-43	10078	-0.56	62.48	-1.59
514	SLU 82	62	-25	10108	-0.84	61.98	-1.54
514	SLU 83	62	-43	10165	-0.46	63.13	-1.63
514	SLU 84	63	-25	10195	-0.74	62.63	-1.58
514	SLE RA 1	44	-32	6620	-0.58	39.87	-1.05
514	SLE RA 2	46	-12	6654	-0.89	39.31	-1
514	SLE RA 3	45	-32	6710	-0.49	40.52	-1.08
514	SLE RA 4	46	-20	6731	-0.68	40.18	-1.05
514	SLE RA 5	46	-12	6712	-0.83	39.74	-1.02
514	SLE RA 6	45	-32	6768	-0.42	40.95	-1.1
514	SLE RA 7	46	-20	6788	-0.61	40.61	-1.07



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
514	SLE RA 8	45	-32	6736	-0.45	40.73	-1.1
514	SLE RA 9	46	-20	6756	-0.63	40.39	-1.07
514	SLE RA 10	47	-12	7212	-0.85	43.49	-1.09
514	SLE RA 11	46	-33	7268	-0.45	44.7	-1.17
514	SLE RA 12	47	-21	7289	-0.64	44.37	-1.14
514	SLE RA 13	47	-12	7270	-0.79	43.92	-1.11
514	SLE RA 14	46	-33	7326	-0.38	45.13	-1.19
514	SLE RA 15	47	-21	7346	-0.57	44.8	-1.16
514	SLE RA 16	46	-33	7294	-0.41	44.91	-1.19
514	SLE RA 17	47	-21	7314	-0.59	44.58	-1.16
514	SLE RA 18	46	-33	7417	-0.52	45.84	-1.17
514	SLE RA 19	47	-20	7437	-0.71	45.51	-1.15
514	SLE RA 20	46	-33	7475	-0.46	46.27	-1.2
514	SLE RA 21	47	-21	7495	-0.64	45.94	-1.17
514	SLE FR 1	44	-32	6620	-0.58	39.87	-1.05
514	SLE FR 2	45	-28	6627	-0.64	39.75	-1.04
514	SLE FR 3	45	-32	6643	-0.55	40.04	-1.06
514	SLE FR 4	45	-28	6866	-0.63	41.55	-1.08
514	SLE FR 5	45	-32	6882	-0.54	41.83	-1.09
514	SLE FR 6	45	-32	7018	-0.55	42.85	-1.11
514	SLE QP 1	44	-32	6620	-0.58	39.87	-1.05
514	SLE QP 2	45	-32	6859	-0.56	41.66	-1.08
514	SLD 1	636	155	6565	-3.26	45.39	1.81
514	SLD 2	692	234	6608	-3.62	43.86	4.25
514	SLD 3	615	-176	5912	2.86	57.14	0.9
514	SLD 4	670	-97	5955	2.51	55.61	3.34
514	SLD 5	245	511	7754	-10.6	25.23	0.73
514	SLD 6	282	563	7782	-10.83	24.22	2.34
514	SLD 7	173	-591	5576	9.82	64.4	-2.31
514	SLD 8	210	-539	5605	9.58	63.39	-0.7
514	SLD 9	-120	475	8113	-10.71	19.93	-1.47
514	SLD 10	-83	527	8142	-10.94	18.92	0.14
514	SLD 11	-192	-628	5936	9.71	59.1	-4.51
514	SLD 12	-155	-575	5964	9.47	58.08	-2.9
514	SLD 13	-581	33	7764	-3.63	27.71	-5.51
514	SLD 14	-525	112	7806	-3.99	26.17	-3.07
514	SLD 15	-602	-298	7110	2.49	39.46	-6.42
514	SLD 16	-547	-219	7153	2.14	37.92	-3.98
514	SLV 1	971	269	6419	-4.95	47.26	3.48
514	SLV 2	1059	393	6486	-5.5	44.85	7.3
514	SLV 3	936	-266	5363	4.96	66.25	1.98
514	SLV 4	1023	-142	5430	4.4	63.84	5.81
514	SLV 5	360	846	8317	-16.79	14.98	1.84
514	SLV 6	419	930	8362	-17.17	13.36	4.41
514	SLV 7	242	-937	4795	16.22	78.29	-3.14
514	SLV 8	301	-853	4840	15.84	76.67	-0.57
514	SLV 9	-211	789	8878	-16.97	6.65	-1.6
514	SLV 10	-153	873	8923	-17.34	5.03	0.97
514	SLV 11	-329	-994	5356	16.04	69.95	-6.58
514	SLV 12	-271	-910	5401	15.67	68.33	-4
514	SLV 13	-934	78	8289	-5.53	19.48	-7.97
514	SLV 14	-846	202	8355	-6.08	17.07	-4.15
514	SLV 15	-969	-457	7232	4.38	38.47	-9.47
514	SLV 16	-882	-333	7299	3.82	36.06	-5.65
514	SLV FO 1	1064	299	6375	-5.39	47.82	3.93
514	SLV FO 2	1160	435	6449	-5.99	45.17	8.14
514	SLV FO 3	1025	-289	5213	5.51	68.71	2.29
514	SLV FO 4	1121	-153	5287	4.9	66.06	6.49
514	SLV FO 5	392	934	8463	-18.42	12.32	2.13
514	SLV FO 6	456	1026	8512	-18.83	10.54	4.96
514	SLV FO 7	262	-1027	4589	17.89	81.95	-3.35
514	SLV FO 8	327	-935	4638	17.48	80.17	-0.52
514	SLV FO 9	-237	871	9080	-18.61	3.15	-1.65
514	SLV FO 10	-172	963	9129	-19.02	1.37	1.18
514	SLV FO 11	-367	-1090	5206	17.7	72.78	-7.13
514	SLV FO 12	-302	-998	5255	17.29	71	-4.3
514	SLV FO 13	-1031	89	8432	-6.02	17.26	-8.66
514	SLV FO 14	-936	225	8505	-6.63	14.61	-4.46
514	SLV FO 15	-1070	-499	7269	4.87	38.15	-10.31
514	SLV FO 16	-974	-363	7343	4.26	35.5	-6.1
514	CRTFP Ux+	0	0	0	0	0	0
514	CRTFP Ux-	0	0	0	0	0	0
514	CRTFP Uy+	0	0	0	0	0	0
514	CRTFP Uy-	0	0	0	0	0	0
517	SLU 1	38	9	3745	3.56	850.55	-3.1
517	SLU 2	38	32	3777	3.29	852.97	-11.21
517	SLU 3	38	9	3827	3.73	869.18	-3.11
517	SLU 4	39	22	3846	3.57	870.63	-7.97
517	SLU 5	39	32	3829	3.41	865.03	-11.34
517	SLU 6	39	9	3880	3.85	881.24	-3.24
517	SLU 7	39	23	3899	3.69	882.69	-8.11
517	SLU 8	38	9	3850	3.79	874.67	-3.37
517	SLU 9	39	23	3869	3.64	876.12	-8.24
517	SLU 10	39	32	4244	3.84	956.45	-11.31
517	SLU 11	39	9	4294	4.27	972.65	-3.21
517	SLU 12	39	23	4313	4.11	974.11	-8.07
517	SLU 13	39	32	4296	3.96	968.51	-11.45
517	SLU 14	39	9	4347	4.39	984.71	-3.34
517	SLU 15	40	23	4366	4.23	986.17	-8.21



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
517	SLU 16	39	10	4317	4.34	978.14	-3.47
517	SLU 17	39	23	4336	4.18	979.6	-8.34
517	SLU 18	38	9	4412	4.33	998.37	-3.24
517	SLU 19	39	23	4431	4.17	999.82	-8.11
517	SLU 20	39	9	4465	4.45	1010.43	-3.38
517	SLU 21	39	23	4484	4.29	1011.88	-8.25
517	SLU 22	41	6	4301	4.38	975.35	-2.22
517	SLU 23	42	29	4333	4.12	977.78	-10.33
517	SLU 24	42	6	4383	4.55	993.98	-2.23
517	SLU 25	42	20	4402	4.39	995.44	-7.09
517	SLU 26	42	30	4386	4.24	989.84	-10.47
517	SLU 27	42	6	4436	4.67	1006.04	-2.37
517	SLU 28	43	20	4455	4.51	1007.5	-7.23
517	SLU 29	42	7	4407	4.62	999.47	-2.5
517	SLU 30	42	21	4426	4.46	1000.93	-7.36
517	SLU 31	42	29	4800	4.66	1081.25	-10.43
517	SLU 32	42	6	4850	5.09	1097.46	-2.33
517	SLU 33	43	20	4869	4.94	1098.91	-7.19
517	SLU 34	43	30	4853	4.78	1093.31	-10.57
517	SLU 35	43	7	4903	5.21	1109.52	-2.47
517	SLU 36	43	21	4922	5.06	1110.97	-7.33
517	SLU 37	42	7	4874	5.16	1102.95	-2.6
517	SLU 38	43	21	4893	5.01	1104.4	-7.46
517	SLU 39	42	6	4968	5.16	1123.18	-2.37
517	SLU 40	42	20	4988	5	1124.63	-7.23
517	SLU 41	42	7	5021	5.28	1135.24	-2.5
517	SLU 42	43	21	5040	5.12	1136.69	-7.37
517	SLU 43	48	12	4678	4.34	1062.92	-4.33
517	SLU 44	48	35	4709	4.08	1065.34	-12.44
517	SLU 45	48	12	4760	4.51	1081.55	-4.34
517	SLU 46	49	26	4779	4.35	1083.01	-9.2
517	SLU 47	49	35	4762	4.2	1077.4	-12.58
517	SLU 48	49	12	4812	4.63	1093.61	-4.47
517	SLU 49	49	26	4831	4.47	1095.07	-9.34
517	SLU 50	48	13	4783	4.58	1087.04	-4.6
517	SLU 51	49	27	4802	4.42	1088.5	-9.47
517	SLU 52	49	35	5176	4.62	1168.82	-12.54
517	SLU 53	49	12	5227	5.05	1185.03	-4.44
517	SLU 54	49	26	5246	4.9	1186.48	-9.3
517	SLU 55	49	36	5229	4.74	1180.88	-12.68
517	SLU 56	49	13	5279	5.17	1197.09	-4.57
517	SLU 57	50	26	5298	5.02	1198.54	-9.44
517	SLU 58	49	13	5250	5.12	1190.52	-4.7
517	SLU 59	49	27	5269	4.96	1191.97	-9.57
517	SLU 60	48	12	5345	5.11	1210.74	-4.48
517	SLU 61	49	26	5364	4.96	1212.2	-9.34
517	SLU 62	49	13	5397	5.23	1222.8	-4.61
517	SLU 63	49	27	5416	5.08	1224.26	-9.48
517	SLU 64	51	9	5234	5.16	1187.73	-3.45
517	SLU 65	52	33	5266	4.9	1190.15	-11.56
517	SLU 66	52	9	5316	5.34	1206.36	-3.46
517	SLU 67	52	23	5335	5.18	1207.81	-8.32
517	SLU 68	52	33	5318	5.02	1202.21	-11.7
517	SLU 69	52	10	5369	5.45	1218.42	-3.6
517	SLU 70	53	24	5388	5.3	1219.87	-8.46
517	SLU 71	52	10	5339	5.4	1211.85	-3.73
517	SLU 72	52	24	5358	5.25	1213.3	-8.59
517	SLU 73	52	33	5733	5.45	1293.63	-11.66
517	SLU 74	52	10	5783	5.88	1309.83	-3.56
517	SLU 75	53	24	5802	5.72	1311.29	-8.43
517	SLU 76	53	33	5785	5.57	1305.69	-11.8
517	SLU 77	53	10	5836	6	1321.89	-3.7
517	SLU 78	53	24	5855	5.84	1323.35	-8.56
517	SLU 79	53	10	5806	5.95	1315.32	-3.83
517	SLU 80	53	24	5825	5.79	1316.78	-8.69
517	SLU 81	52	10	5901	5.94	1335.55	-3.6
517	SLU 82	52	24	5920	5.78	1337	-8.46
517	SLU 83	52	10	5954	6.06	1347.61	-3.73
517	SLU 84	53	24	5973	5.9	1349.06	-8.6
517	SLE RA 1	39	8	3904	3.79	886.21	-2.85
517	SLE RA 2	39	23	3925	3.62	887.82	-8.26
517	SLE RA 3	39	8	3959	3.91	898.63	-2.85
517	SLE RA 4	39	17	3971	3.8	899.6	-6.1
517	SLE RA 5	39	23	3960	3.7	895.86	-8.35
517	SLE RA 6	39	8	3994	3.98	906.67	-2.94
517	SLE RA 7	40	17	4006	3.88	907.64	-6.19
517	SLE RA 8	39	8	3974	3.95	902.29	-3.03
517	SLE RA 9	39	18	3987	3.85	903.26	-6.27
517	SLE RA 10	39	23	4236	3.98	956.81	-8.32
517	SLE RA 11	39	8	4270	4.27	967.61	-2.92
517	SLE RA 12	40	17	4283	4.16	968.58	-6.16
517	SLE RA 13	40	24	4271	4.06	964.85	-8.41
517	SLE RA 14	40	8	4305	4.35	975.65	-3.01
517	SLE RA 15	40	17	4318	4.24	976.62	-6.25
517	SLE RA 16	39	8	4285	4.31	971.27	-3.1
517	SLE RA 17	40	18	4298	4.21	972.24	-6.34
517	SLE RA 18	39	8	4349	4.31	984.75	-2.95
517	SLE RA 19	39	17	4361	4.2	985.72	-6.19
517	SLE RA 20	39	8	4384	4.39	992.79	-3.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
517	SLE RA 21	40	18	4396	4.28	993.76	-6.28
517	SLE FR 1	39	8	3904	3.79	886.21	-2.85
517	SLE FR 2	39	11	3908	3.76	886.53	-3.93
517	SLE FR 3	39	8	3918	3.82	889.42	-2.89
517	SLE FR 4	39	11	4042	3.91	916.09	-3.96
517	SLE FR 5	39	8	4051	3.98	918.99	-2.92
517	SLE FR 6	39	8	4126	4.05	935.48	-2.9
517	SLE QP 1	39	8	3904	3.79	886.21	-2.85
517	SLE QP 2	39	8	4037	3.95	915.77	-2.88
517	SLD 1	372	122	3154	1.37	714.35	-42.6
517	SLD 2	403	238	3190	1.04	716.8	-83.17
517	SLD 3	359	-119	2752	4.85	680.38	41.71
517	SLD 4	390	-3	2787	4.52	682.82	1.14
517	SLD 5	153	387	4377	-2.03	906.43	-135.35
517	SLD 6	173	463	4400	-2.25	908.05	-162.14
517	SLD 7	110	-417	3035	9.54	793.19	145.67
517	SLD 8	130	-340	3058	9.33	794.8	118.88
517	SLD 9	-53	356	5017	-1.43	1036.74	-124.64
517	SLD 10	-32	433	5040	-1.65	1038.36	-151.43
517	SLD 11	-96	-448	3675	10.14	923.5	156.38
517	SLD 12	-75	-371	3698	9.93	925.11	129.59
517	SLD 13	-313	19	5288	3.38	1148.72	-6.9
517	SLD 14	-282	135	5323	3.05	1151.16	-47.47
517	SLD 15	-326	-222	4885	6.85	1114.74	77.41
517	SLD 16	-295	-106	4920	6.52	1117.19	36.84
517	SLV 1	561	192	2671	-0.17	602.57	-67.27
517	SLV 2	610	375	2727	-0.68	606.39	-130.83
517	SLV 3	540	-198	2021	5.45	547.64	69.31
517	SLV 4	588	-16	2076	4.94	551.47	5.75
517	SLV 5	219	621	4605	-5.71	904.4	-217.47
517	SLV 6	251	744	4642	-6.06	906.97	-260.26
517	SLV 7	148	-680	2435	13.01	721.32	237.77
517	SLV 8	180	-557	2472	12.67	723.89	194.98
517	SLV 9	-103	573	5603	-4.77	1107.65	-200.74
517	SLV 10	-71	696	5640	-5.12	1110.22	-243.53
517	SLV 11	-174	-728	3433	13.95	924.57	254.5
517	SLV 12	-141	-606	3470	13.6	927.15	211.71
517	SLV 13	-511	31	5999	2.96	1280.07	-11.5
517	SLV 14	-463	214	6054	2.44	1283.9	-75.06
517	SLV 15	-532	-359	5348	8.57	1225.15	125.07
517	SLV 16	-484	-177	5403	8.06	1228.98	61.51
517	SLV FO 1	614	211	2535	-0.58	571.24	-73.7
517	SLV FO 2	667	412	2596	-1.14	575.45	-143.62
517	SLV FO 3	590	-219	1819	5.6	510.83	76.52
517	SLV FO 4	643	-18	1880	5.03	515.04	6.61
517	SLV FO 5	237	683	4661	-6.67	903.26	-238.92
517	SLV FO 6	272	818	4702	-7.06	906.09	-286
517	SLV FO 7	159	-749	2274	13.92	701.87	261.84
517	SLV FO 8	195	-614	2315	13.54	704.71	214.77
517	SLV FO 9	-117	629	5759	-5.64	1126.84	-220.52
517	SLV FO 10	-81	765	5800	-6.03	1129.67	-267.6
517	SLV FO 11	-195	-802	3372	14.95	925.45	280.24
517	SLV FO 12	-159	-667	3413	14.57	928.28	233.17
517	SLV FO 13	-566	34	6195	2.86	1316.5	-12.37
517	SLV FO 14	-513	234	6256	2.29	1320.71	-82.28
517	SLV FO 15	-589	-396	5479	9.04	1256.09	137.86
517	SLV FO 16	-536	-195	5540	8.47	1260.3	67.95
517	CRTFP Ux+	0	0	0	0	0	0
517	CRTFP Ux-	0	0	0	0	0	0
517	CRTFP Uy+	0	0	0	0	0	0
517	CRTFP Uy-	0	0	0	0	0	0
519	SLU 1	-4	-64	2685	50.45	882.3	22.37
519	SLU 2	-3	-49	2699	50.62	886.77	17.29
519	SLU 3	-5	-65	2740	51.53	900.65	22.81
519	SLU 4	-4	-56	2749	51.63	903.33	19.77
519	SLU 5	-4	-50	2734	51.31	898.59	17.56
519	SLU 6	-5	-66	2776	52.22	912.47	23.08
519	SLU 7	-4	-57	2784	52.32	915.15	20.04
519	SLU 8	-5	-65	2755	51.83	905.95	22.9
519	SLU 9	-4	-56	2764	51.93	908.63	19.86
519	SLU 10	-5	-57	3069	57.6	1010.29	19.95
519	SLU 11	-6	-72	3111	58.51	1024.17	25.47
519	SLU 12	-6	-64	3119	58.61	1026.85	22.43
519	SLU 13	-5	-57	3105	58.29	1022.11	20.22
519	SLU 14	-7	-73	3146	59.2	1035.99	25.74
519	SLU 15	-6	-64	3155	59.3	1038.67	22.7
519	SLU 16	-6	-73	3126	58.81	1029.47	25.56
519	SLU 17	-6	-64	3135	58.91	1032.15	22.52
519	SLU 18	-7	-74	3214	60.41	1058.76	26.17
519	SLU 19	-6	-66	3223	60.52	1061.44	23.12
519	SLU 20	-7	-75	3249	61.11	1070.58	26.43
519	SLU 21	-7	-66	3258	61.21	1073.26	23.39
519	SLU 22	-5	-72	3080	57.99	1011.94	25.24
519	SLU 23	-4	-57	3094	58.16	1016.4	20.16
519	SLU 24	-6	-73	3136	59.07	1030.29	25.68
519	SLU 25	-5	-64	3144	59.18	1032.97	22.64
519	SLU 26	-4	-58	3130	58.86	1028.23	20.43
519	SLU 27	-6	-74	3171	59.76	1042.11	25.95
519	SLU 28	-5	-65	3180	59.87	1044.79	22.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
519	SLU 29	-6	-73	3151	59.37	1035.59	25.77
519	SLU 30	-5	-65	3159	59.48	1038.27	22.73
519	SLU 31	-6	-65	3465	65.14	1139.93	22.82
519	SLU 32	-7	-81	3506	66.05	1153.81	28.34
519	SLU 33	-7	-72	3515	66.15	1156.49	25.3
519	SLU 34	-6	-66	3500	65.83	1151.75	23.09
519	SLU 35	-7	-81	3542	66.74	1165.63	28.61
519	SLU 36	-7	-73	3550	66.84	1168.31	25.57
519	SLU 37	-7	-81	3521	66.35	1159.11	28.43
519	SLU 38	-7	-72	3530	66.45	1161.79	25.39
519	SLU 39	-8	-82	3609	67.96	1188.4	29.03
519	SLU 40	-7	-74	3618	68.06	1191.08	25.99
519	SLU 41	-8	-83	3645	68.65	1200.22	29.3
519	SLU 42	-7	-75	3653	68.75	1202.9	26.26
519	SLU 43	-5	-80	3354	63	1102.54	28.09
519	SLU 44	-4	-65	3369	63.17	1107.01	23.02
519	SLU 45	-6	-81	3410	64.08	1120.89	28.54
519	SLU 46	-5	-73	3419	64.18	1123.57	25.5
519	SLU 47	-5	-66	3404	63.86	1118.83	23.29
519	SLU 48	-6	-82	3446	64.77	1132.71	28.81
519	SLU 49	-5	-73	3454	64.87	1135.39	25.76
519	SLU 50	-6	-81	3425	64.38	1126.19	28.63
519	SLU 51	-5	-73	3434	64.48	1128.87	25.59
519	SLU 52	-6	-73	3739	70.14	1230.53	25.68
519	SLU 53	-7	-89	3781	71.05	1244.41	31.2
519	SLU 54	-7	-80	3789	71.16	1247.09	28.16
519	SLU 55	-6	-74	3775	70.83	1242.36	25.95
519	SLU 56	-8	-89	3816	71.74	1256.24	31.47
519	SLU 57	-7	-81	3825	71.85	1258.92	28.42
519	SLU 58	-8	-89	3796	71.35	1249.71	31.29
519	SLU 59	-7	-80	3804	71.46	1252.39	28.24
519	SLU 60	-8	-91	3884	72.96	1279	31.89
519	SLU 61	-7	-82	3892	73.06	1281.68	28.85
519	SLU 62	-8	-91	3919	73.65	1290.83	32.16
519	SLU 63	-8	-83	3928	73.76	1293.51	29.12
519	SLU 64	-6	-88	3750	70.54	1232.18	30.96
519	SLU 65	-5	-74	3764	70.71	1236.65	25.89
519	SLU 66	-7	-89	3805	71.62	1250.53	31.41
519	SLU 67	-6	-81	3814	71.72	1253.21	28.37
519	SLU 68	-5	-74	3799	71.4	1248.47	26.16
519	SLU 69	-7	-90	3841	72.31	1262.35	31.68
519	SLU 70	-6	-81	3849	72.41	1265.03	28.63
519	SLU 71	-7	-90	3821	71.92	1255.83	31.5
519	SLU 72	-6	-81	3829	72.02	1258.51	28.45
519	SLU 73	-7	-81	4135	77.69	1360.17	28.55
519	SLU 74	-8	-97	4176	78.6	1374.05	34.07
519	SLU 75	-8	-88	4185	78.7	1376.73	31.02
519	SLU 76	-7	-82	4170	78.38	1371.99	28.82
519	SLU 77	-8	-98	4211	79.29	1385.87	34.34
519	SLU 78	-8	-89	4220	79.39	1388.55	31.29
519	SLU 79	-8	-97	4191	78.9	1379.35	34.16
519	SLU 80	-8	-88	4200	79	1382.03	31.11
519	SLU 81	-9	-99	4279	80.51	1408.64	34.76
519	SLU 82	-8	-90	4288	80.61	1411.32	31.72
519	SLU 83	-9	-100	4315	81.2	1420.46	35.03
519	SLU 84	-8	-91	4323	81.3	1423.14	31.98
519	SLE RA 1	-5	-66	2797	52.6	919.34	23.19
519	SLE RA 2	-4	-56	2807	52.72	922.32	19.8
519	SLE RA 3	-5	-67	2835	53.32	931.57	23.48
519	SLE RA 4	-4	-61	2840	53.39	933.36	21.46
519	SLE RA 5	-4	-57	2831	53.18	930.2	19.98
519	SLE RA 6	-5	-67	2858	53.78	939.45	23.66
519	SLE RA 7	-4	-62	2864	53.85	941.24	21.63
519	SLE RA 8	-5	-67	2845	53.52	935.1	23.54
519	SLE RA 9	-4	-61	2850	53.59	936.89	21.51
519	SLE RA 10	-5	-61	3054	57.37	1004.66	21.58
519	SLE RA 11	-6	-72	3082	57.98	1013.92	25.26
519	SLE RA 12	-6	-66	3087	58.04	1015.71	23.23
519	SLE RA 13	-5	-62	3078	57.83	1012.55	21.76
519	SLE RA 14	-6	-72	3105	58.44	1021.8	25.44
519	SLE RA 15	-6	-67	3111	58.5	1023.59	23.41
519	SLE RA 16	-6	-72	3092	58.18	1017.45	25.32
519	SLE RA 17	-6	-66	3098	58.24	1019.24	23.29
519	SLE RA 18	-6	-73	3150	59.25	1036.98	25.72
519	SLE RA 19	-6	-67	3156	59.32	1038.77	23.69
519	SLE RA 20	-6	-74	3174	59.71	1044.86	25.9
519	SLE RA 21	-6	-68	3180	59.78	1046.65	23.87
519	SLE FR 1	-5	-66	2797	52.6	919.34	23.19
519	SLE FR 2	-5	-64	2799	52.63	919.93	22.51
519	SLE FR 3	-5	-66	2807	52.79	922.49	23.26
519	SLE FR 4	-5	-66	2905	54.62	955.23	23.27
519	SLE FR 5	-5	-68	2913	54.78	957.78	24.02
519	SLE FR 6	-6	-70	2974	55.93	978.16	24.45
519	SLE QP 1	-5	-66	2797	52.6	919.34	23.19
519	SLE QP 2	-5	-68	2903	54.6	954.63	23.95
519	SLD 1	225	28	3043	56.87	1005.16	-13.77
519	SLD 2	246	31	3047	56.94	1005.97	-15.31
519	SLD 3	211	-140	2868	54.79	949.83	45.34
519	SLD 4	232	-137	2872	54.86	950.64	43.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
519	SLD 5	82	215	3211	58.42	1053.56	-76.74
519	SLD 6	96	218	3213	58.46	1054.1	-77.76
519	SLD 7	34	-346	2626	51.49	869.13	120.29
519	SLD 8	48	-343	2628	51.53	869.66	119.28
519	SLD 9	-59	207	3178	57.66	1039.6	-71.38
519	SLD 10	-45	209	3181	57.7	1040.14	-72.4
519	SLD 11	-106	-354	2593	50.73	855.17	125.65
519	SLD 12	-92	-351	2596	50.77	855.7	124.63
519	SLD 13	-243	1	2935	54.34	958.63	4.09
519	SLD 14	-221	4	2939	54.4	959.44	2.55
519	SLD 15	-257	-168	2760	52.26	903.29	63.2
519	SLD 16	-235	-164	2764	52.32	904.1	61.66
519	SLV 1	356	87	3127	58.21	1035.11	-36.59
519	SLV 2	389	92	3133	58.31	1036.37	-38.99
519	SLV 3	333	-185	2843	54.85	945.59	58.95
519	SLV 4	366	-180	2849	54.94	946.86	56.54
519	SLV 5	132	390	3400	60.77	1114.3	-138.66
519	SLV 6	155	393	3404	60.83	1115.15	-140.28
519	SLV 7	55	-517	2454	49.55	815.92	179.79
519	SLV 8	77	-513	2458	49.61	816.78	178.17
519	SLV 9	-88	377	3349	59.58	1092.49	-130.28
519	SLV 10	-65	380	3353	59.64	1093.34	-131.9
519	SLV 11	-165	-530	2403	48.36	794.11	188.17
519	SLV 12	-143	-526	2407	48.43	794.97	186.55
519	SLV 13	-376	44	2958	54.25	964.2	-8.65
519	SLV 14	-343	49	2964	54.35	963.67	-11.06
519	SLV 15	-400	-228	2674	50.89	872.89	86.89
519	SLV 16	-366	-223	2680	50.98	874.16	84.48
519	SLV FO 1	392	102	3149	58.58	1043.15	-42.64
519	SLV FO 2	429	108	3156	58.68	1044.55	-45.29
519	SLV FO 3	366	-197	2837	54.87	944.69	62.45
519	SLV FO 4	403	-191	2843	54.98	946.08	59.8
519	SLV FO 5	146	436	3449	61.39	1130.26	-154.92
519	SLV FO 6	171	440	3454	61.46	1131.2	-156.71
519	SLV FO 7	61	-562	2409	49.05	802.05	195.38
519	SLV FO 8	85	-558	2413	49.12	802.99	193.6
519	SLV FO 9	-96	421	3394	60.08	1106.27	-145.7
519	SLV FO 10	-71	425	3398	60.15	1107.21	-147.49
519	SLV FO 11	-181	-576	2353	47.74	778.06	204.6
519	SLV FO 12	-156	-572	2357	47.81	779	202.82
519	SLV FO 13	-413	55	2963	54.22	963.18	-11.91
519	SLV FO 14	-377	61	2970	54.32	964.57	-14.56
519	SLV FO 15	-439	-244	2651	50.51	864.71	93.18
519	SLV FO 16	-402	-238	2658	50.62	866.11	90.53
519	CRTFP Ux+	0	0	0	0	0	0
519	CRTFP Ux-	0	0	0	0	0	0
519	CRTFP Uy+	0	0	0	0	0	0
519	CRTFP Uy-	0	0	0	0	0	0
526	SLU 1	-48	-58	5916	-0.02	-22.32	0.58
526	SLU 2	-49	-30	5959	-0.37	-21.96	0.54
526	SLU 3	-49	-59	6043	0.09	-22.97	0.58
526	SLU 4	-50	-43	6068	-0.12	-22.75	0.55
526	SLU 5	-50	-31	6039	-0.29	-22.41	0.53
526	SLU 6	-50	-60	6123	0.16	-23.41	0.57
526	SLU 7	-50	-44	6149	-0.05	-23.2	0.54
526	SLU 8	-49	-60	6076	0.13	-23.21	0.57
526	SLU 9	-50	-43	6102	-0.08	-22.99	0.54
526	SLU 10	-49	-36	6746	-0.25	-26.27	0.61
526	SLU 11	-49	-65	6830	0.21	-27.27	0.65
526	SLU 12	-50	-49	6855	0	-27.06	0.63
526	SLU 13	-50	-37	6826	-0.17	-26.71	0.61
526	SLU 14	-50	-66	6910	0.28	-27.71	0.65
526	SLU 15	-51	-50	6936	0.08	-27.5	0.62
526	SLU 16	-50	-66	6864	0.25	-27.51	0.64
526	SLU 17	-50	-49	6889	0.04	-27.3	0.62
526	SLU 18	-48	-67	7040	0.15	-28.47	0.69
526	SLU 19	-49	-50	7066	-0.06	-28.25	0.67
526	SLU 20	-49	-67	7120	0.23	-28.91	0.69
526	SLU 21	-50	-51	7146	0.02	-28.7	0.66
526	SLU 22	-53	-66	6830	0.36	-26.31	0.58
526	SLU 23	-54	-38	6873	0.01	-25.96	0.53
526	SLU 24	-54	-67	6957	0.47	-26.96	0.57
526	SLU 25	-54	-50	6983	0.26	-26.75	0.55
526	SLU 26	-55	-39	6953	0.09	-26.4	0.52
526	SLU 27	-54	-68	7037	0.55	-27.4	0.57
526	SLU 28	-55	-51	7063	0.34	-27.19	0.54
526	SLU 29	-54	-67	6991	0.51	-27.2	0.56
526	SLU 30	-55	-51	7017	0.3	-26.99	0.54
526	SLU 31	-54	-44	7660	0.14	-30.26	0.61
526	SLU 32	-54	-73	7744	0.59	-31.26	0.65
526	SLU 33	-55	-56	7770	0.38	-31.05	0.62
526	SLU 34	-55	-45	7740	0.21	-30.7	0.6
526	SLU 35	-55	-74	7824	0.67	-31.71	0.64
526	SLU 36	-56	-57	7850	0.46	-31.49	0.62
526	SLU 37	-54	-73	7778	0.63	-31.5	0.64
526	SLU 38	-55	-57	7804	0.42	-31.29	0.61
526	SLU 39	-53	-74	7954	0.54	-32.46	0.69
526	SLU 40	-54	-58	7980	0.33	-32.25	0.66
526	SLU 41	-54	-75	8035	0.61	-32.9	0.68



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
526	SLU 42	-55	-58	8061	0.4	-32.69	0.65
526	SLU 43	-60	-73	7377	-0.16	-27.65	0.76
526	SLU 44	-62	-45	7420	-0.51	-27.29	0.71
526	SLU 45	-62	-74	7504	-0.05	-28.29	0.75
526	SLU 46	-62	-58	7530	-0.26	-28.08	0.72
526	SLU 47	-62	-46	7500	-0.43	-27.73	0.7
526	SLU 48	-62	-75	7584	0.03	-28.74	0.74
526	SLU 49	-63	-58	7610	-0.18	-28.52	0.72
526	SLU 50	-62	-75	7538	-0.01	-28.53	0.74
526	SLU 51	-63	-58	7563	-0.22	-28.32	0.71
526	SLU 52	-62	-51	8207	-0.38	-31.59	0.79
526	SLU 53	-62	-80	8291	0.07	-32.6	0.83
526	SLU 54	-63	-63	8317	-0.14	-32.38	0.8
526	SLU 55	-63	-52	8287	-0.31	-32.04	0.78
526	SLU 56	-63	-81	8371	0.15	-33.04	0.82
526	SLU 57	-63	-64	8397	-0.06	-32.83	0.79
526	SLU 58	-62	-81	8325	0.11	-32.84	0.82
526	SLU 59	-63	-64	8350	-0.1	-32.62	0.79
526	SLU 60	-61	-81	8501	0.02	-33.79	0.87
526	SLU 61	-62	-65	8527	-0.19	-33.58	0.84
526	SLU 62	-62	-82	8582	0.09	-34.24	0.86
526	SLU 63	-62	-66	8607	-0.12	-34.02	0.83
526	SLU 64	-65	-80	8291	0.22	-31.64	0.76
526	SLU 65	-67	-53	8334	-0.12	-31.28	0.71
526	SLU 66	-66	-82	8418	0.33	-32.29	0.75
526	SLU 67	-67	-65	8444	0.12	-32.07	0.72
526	SLU 68	-67	-54	8415	-0.05	-31.73	0.7
526	SLU 69	-67	-83	8499	0.41	-32.73	0.74
526	SLU 70	-68	-66	8524	0.2	-32.52	0.71
526	SLU 71	-67	-82	8452	0.37	-32.53	0.74
526	SLU 72	-68	-66	8478	0.17	-32.31	0.71
526	SLU 73	-67	-59	9121	0	-35.59	0.79
526	SLU 74	-67	-88	9205	0.46	-36.59	0.83
526	SLU 75	-68	-71	9231	0.25	-36.38	0.8
526	SLU 76	-68	-60	9202	0.07	-36.03	0.78
526	SLU 77	-68	-89	9286	0.53	-37.03	0.82
526	SLU 78	-68	-72	9311	0.32	-36.82	0.79
526	SLU 79	-67	-88	9239	0.5	-36.83	0.82
526	SLU 80	-68	-72	9265	0.29	-36.62	0.79
526	SLU 81	-66	-89	9416	0.4	-37.79	0.87
526	SLU 82	-67	-72	9441	0.19	-37.57	0.84
526	SLU 83	-67	-90	9496	0.47	-38.23	0.86
526	SLU 84	-67	-73	9522	0.26	-38.02	0.83
526	SLE RA 1	-49	-60	6177	0.09	-23.46	0.58
526	SLE RA 2	-50	-42	6206	-0.14	-23.22	0.55
526	SLE RA 3	-50	-61	6262	0.16	-23.89	0.58
526	SLE RA 4	-50	-50	6279	0.02	-23.75	0.56
526	SLE RA 5	-50	-42	6259	-0.09	-23.52	0.54
526	SLE RA 6	-50	-62	6315	0.21	-24.19	0.57
526	SLE RA 7	-51	-51	6332	0.07	-24.05	0.55
526	SLE RA 8	-50	-61	6284	0.19	-24.05	0.57
526	SLE RA 9	-51	-50	6301	0.05	-23.91	0.55
526	SLE RA 10	-50	-46	6730	-0.06	-26.09	0.6
526	SLE RA 11	-50	-65	6786	0.24	-26.76	0.63
526	SLE RA 12	-51	-54	6803	0.1	-26.62	0.61
526	SLE RA 13	-51	-46	6784	-0.01	-26.39	0.6
526	SLE RA 14	-51	-66	6840	0.29	-27.06	0.62
526	SLE RA 15	-51	-55	6857	0.15	-26.91	0.61
526	SLE RA 16	-50	-65	6809	0.27	-26.92	0.62
526	SLE RA 17	-51	-54	6826	0.13	-26.78	0.6
526	SLE RA 18	-49	-66	6927	0.21	-27.56	0.66
526	SLE RA 19	-50	-55	6944	0.07	-27.42	0.64
526	SLE RA 20	-50	-66	6980	0.26	-27.85	0.65
526	SLE RA 21	-50	-55	6997	0.12	-27.71	0.63
526	SLE FR 1	-49	-60	6177	0.09	-23.46	0.58
526	SLE FR 2	-49	-56	6183	0.04	-23.41	0.58
526	SLE FR 3	-49	-60	6198	0.11	-23.58	0.58
526	SLE FR 4	-49	-58	6408	0.08	-24.64	0.6
526	SLE FR 5	-49	-62	6423	0.14	-24.81	0.6
526	SLE FR 6	-49	-63	6552	0.15	-25.51	0.62
526	SLE QP 1	-49	-60	6177	0.09	-23.46	0.58
526	SLE QP 2	-49	-62	6402	0.12	-24.69	0.6
526	SLD 1	465	90	7306	-2.15	-2.85	1.36
526	SLD 2	508	18	7272	-1.9	-3.98	3.44
526	SLD 3	490	-232	6752	2.46	-8.54	2.51
526	SLD 4	534	-304	6718	2.71	-9.67	4.59
526	SLD 5	58	485	7519	-7.59	-9.3	-1.28
526	SLD 6	87	437	7497	-7.43	-10.05	0.09
526	SLD 7	144	-588	5673	7.77	-28.27	2.54
526	SLD 8	172	-636	5651	7.94	-29.02	3.91
526	SLD 9	-271	512	7153	-7.69	-20.36	-2.71
526	SLD 10	-242	465	7131	-7.52	-21.1	-1.34
526	SLD 11	-185	-561	5307	7.67	-39.33	1.12
526	SLD 12	-157	-608	5284	7.84	-40.08	2.49
526	SLD 13	-632	180	6085	-2.47	-39.71	-3.38
526	SLD 14	-589	109	6051	-2.21	-40.84	-1.3
526	SLD 15	-607	-142	5531	2.14	-45.4	-2.23
526	SLD 16	-563	-213	5497	2.4	-46.53	-0.15
526	SLV 1	755	183	7828	-3.55	9.55	1.76



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
526	SLV 2	823	71	7775	-3.15	7.77	5.02
526	SLV 3	796	-337	6933	3.9	0.36	3.6
526	SLV 4	864	-449	6880	4.29	-1.42	6.86
526	SLV 5	117	821	8198	-12.35	-0.15	-2.45
526	SLV 6	163	746	8162	-12.08	-1.34	-0.26
526	SLV 7	254	-912	5213	12.47	-30.78	3.69
526	SLV 8	300	-987	5177	12.74	-31.98	5.88
526	SLV 9	-398	864	7626	-12.49	-17.4	-4.68
526	SLV 10	-353	788	7591	-12.23	-18.6	-2.48
526	SLV 11	-261	-869	4642	12.33	-48.03	1.47
526	SLV 12	-215	-945	4606	12.59	-49.23	3.66
526	SLV 13	-963	325	5924	-4.05	-47.96	-5.65
526	SLV 14	-895	213	5871	-3.65	-49.74	-2.4
526	SLV 15	-921	-195	5028	3.4	-57.15	-3.81
526	SLV 16	-853	-307	4975	3.8	-58.93	-0.55
526	SLV FO 1	835	208	7971	-3.92	12.97	1.88
526	SLV FO 2	910	84	7913	-3.48	11.02	5.46
526	SLV FO 3	881	-364	6986	4.27	2.86	3.9
526	SLV FO 4	956	-487	6928	4.71	0.91	7.49
526	SLV FO 5	133	909	8377	-13.59	2.31	-2.76
526	SLV FO 6	184	826	8338	-13.3	0.99	-0.35
526	SLV FO 7	285	-997	5094	13.71	-31.39	4
526	SLV FO 8	335	-1080	5055	14	-32.7	6.41
526	SLV FO 9	-433	956	7749	-13.76	-16.67	-5.2
526	SLV FO 10	-383	873	7709	-13.46	-17.99	-2.79
526	SLV FO 11	-282	-950	4466	13.55	-50.37	1.55
526	SLV FO 12	-232	-1033	4426	13.84	-51.68	3.96
526	SLV FO 13	-1054	364	5876	-4.46	-50.29	-6.28
526	SLV FO 14	-979	240	5818	-4.03	-52.24	-2.7
526	SLV FO 15	-1009	-208	4891	3.73	-60.4	-4.25
526	SLV FO 16	-934	-332	4833	4.17	-62.35	-0.67
526	CRTFP Ux+	0	0	0	0	0	0
526	CRTFP Ux-	0	0	0	0	0	0
526	CRTFP Uy+	0	0	0	0	0	0
526	CRTFP Uy-	0	0	0	0	0	0
532	SLU 1	-4	-55	2340	29.22	888.04	22.01
532	SLU 2	-3	-42	2349	29.27	891.24	16.99
532	SLU 3	-4	-56	2389	29.86	906.97	22.45
532	SLU 4	-4	-48	2395	29.89	908.89	19.44
532	SLU 5	-3	-43	2381	29.68	903.45	17.25
532	SLU 6	-4	-57	2421	30.28	919.18	22.72
532	SLU 7	-4	-49	2427	30.31	921.1	19.7
532	SLU 8	-4	-56	2403	30.05	912.46	22.54
532	SLU 9	-4	-49	2409	30.08	914.38	19.53
532	SLU 10	-5	-49	2672	33.32	1015.3	19.59
532	SLU 11	-6	-62	2713	33.91	1031.04	25.06
532	SLU 12	-5	-55	2718	33.94	1032.95	22.04
532	SLU 13	-5	-49	2704	33.73	1027.51	19.85
532	SLU 14	-6	-63	2745	34.33	1043.24	25.32
532	SLU 15	-6	-56	2750	34.36	1045.16	22.3
532	SLU 16	-6	-63	2727	34.1	1036.53	25.14
532	SLU 17	-6	-55	2732	34.13	1038.44	22.13
532	SLU 18	-7	-64	2802	35.01	1065.28	25.73
532	SLU 19	-6	-57	2807	35.04	1067.2	22.71
532	SLU 20	-7	-65	2834	35.42	1077.49	26
532	SLU 21	-6	-57	2839	35.45	1079.41	22.98
532	SLU 22	-5	-62	2688	33.65	1020.2	24.83
532	SLU 23	-4	-49	2697	33.7	1023.4	19.81
532	SLU 24	-5	-63	2738	34.3	1039.13	25.27
532	SLU 25	-5	-55	2744	34.33	1041.05	22.26
532	SLU 26	-4	-50	2729	34.12	1035.61	20.07
532	SLU 27	-5	-64	2770	34.71	1051.34	25.54
532	SLU 28	-5	-56	2775	34.74	1053.25	22.52
532	SLU 29	-5	-63	2752	34.48	1044.62	25.36
532	SLU 30	-5	-56	2757	34.51	1046.54	22.35
532	SLU 31	-6	-56	3021	37.75	1147.46	22.41
532	SLU 32	-7	-69	3062	38.35	1163.19	27.88
532	SLU 33	-6	-62	3067	38.38	1165.11	24.86
532	SLU 34	-6	-56	3053	38.17	1159.67	22.67
532	SLU 35	-7	-70	3093	38.76	1175.4	28.14
532	SLU 36	-6	-63	3099	38.79	1177.32	25.12
532	SLU 37	-7	-70	3075	38.53	1168.68	27.96
532	SLU 38	-6	-62	3081	38.56	1170.6	24.95
532	SLU 39	-7	-71	3151	39.44	1197.44	28.55
532	SLU 40	-7	-64	3156	39.47	1199.36	25.53
532	SLU 41	-7	-72	3182	39.85	1209.65	28.82
532	SLU 42	-7	-64	3188	39.88	1211.56	25.8
532	SLU 43	-5	-69	2922	36.47	1109.14	27.65
532	SLU 44	-4	-56	2931	36.52	1112.34	22.62
532	SLU 45	-5	-70	2972	37.11	1128.07	28.09
532	SLU 46	-5	-63	2977	37.14	1129.99	25.07
532	SLU 47	-4	-57	2963	36.93	1124.55	22.89
532	SLU 48	-5	-71	3004	37.52	1140.28	28.36
532	SLU 49	-5	-63	3009	37.55	1142.2	25.34
532	SLU 50	-5	-70	2986	37.29	1133.56	28.18
532	SLU 51	-5	-63	2991	37.32	1135.48	25.16
532	SLU 52	-6	-63	3255	40.57	1236.41	25.23
532	SLU 53	-7	-77	3295	41.16	1252.14	30.69
532	SLU 54	-6	-69	3301	41.19	1254.05	27.68



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
532	SLU 55	-6	-64	3286	40.98	1248.61	25.49
532	SLU 56	-7	-77	3327	41.57	1264.34	30.96
532	SLU 57	-7	-70	3333	41.6	1266.26	27.94
532	SLU 58	-7	-77	3309	41.34	1257.63	30.78
532	SLU 59	-6	-69	3315	41.37	1259.54	27.77
532	SLU 60	-8	-78	3384	42.25	1286.38	31.37
532	SLU 61	-7	-71	3390	42.28	1288.3	28.35
532	SLU 62	-8	-79	3416	42.67	1298.59	31.63
532	SLU 63	-7	-71	3421	42.7	1300.51	28.62
532	SLU 64	-6	-76	3271	40.9	1241.3	30.47
532	SLU 65	-5	-63	3280	40.95	1244.5	25.44
532	SLU 66	-6	-77	3321	41.54	1260.23	30.91
532	SLU 67	-6	-70	3326	41.57	1262.15	27.89
532	SLU 68	-5	-64	3312	41.36	1256.71	25.71
532	SLU 69	-6	-78	3352	41.96	1272.44	31.18
532	SLU 70	-6	-70	3358	41.99	1274.36	28.16
532	SLU 71	-6	-77	3334	41.73	1265.72	31
532	SLU 72	-6	-70	3340	41.76	1267.64	27.98
532	SLU 73	-7	-70	3603	45	1368.56	28.05
532	SLU 74	-8	-84	3644	45.59	1384.3	33.51
532	SLU 75	-7	-76	3649	45.62	1386.21	30.5
532	SLU 76	-7	-71	3635	45.41	1380.77	28.31
532	SLU 77	-8	-84	3676	46.01	1396.5	33.78
532	SLU 78	-7	-77	3681	46.04	1398.42	30.76
532	SLU 79	-8	-84	3658	45.78	1389.78	33.6
532	SLU 80	-7	-76	3663	45.81	1391.7	30.59
532	SLU 81	-8	-85	3733	46.69	1418.54	34.19
532	SLU 82	-8	-78	3738	46.72	1420.46	31.17
532	SLU 83	-8	-86	3765	47.1	1430.75	34.45
532	SLU 84	-8	-78	3770	47.13	1432.67	31.44
532	SLE RA 1	-4	-57	2439	30.49	925.8	22.82
532	SLE RA 2	-4	-49	2445	30.52	927.93	19.47
532	SLE RA 3	-4	-58	2473	30.92	938.42	23.11
532	SLE RA 4	-4	-53	2476	30.94	939.7	21.1
532	SLE RA 5	-4	-49	2467	30.8	936.07	19.64
532	SLE RA 6	-5	-58	2494	31.19	946.56	23.29
532	SLE RA 7	-4	-53	2497	31.21	947.84	21.28
532	SLE RA 8	-4	-58	2482	31.04	942.08	23.17
532	SLE RA 9	-4	-53	2485	31.06	943.36	21.16
532	SLE RA 10	-5	-53	2661	33.22	1010.64	21.2
532	SLE RA 11	-6	-62	2688	33.62	1021.13	24.85
532	SLE RA 12	-5	-57	2692	33.64	1022.41	22.84
532	SLE RA 13	-5	-53	2682	33.5	1018.78	21.38
532	SLE RA 14	-6	-62	2709	33.89	1029.27	25.02
532	SLE RA 15	-5	-57	2713	33.91	1030.55	23.01
532	SLE RA 16	-6	-62	2697	33.74	1024.79	24.91
532	SLE RA 17	-5	-57	2701	33.76	1026.07	22.9
532	SLE RA 18	-6	-63	2747	34.34	1043.96	25.3
532	SLE RA 19	-6	-58	2751	34.36	1045.24	23.29
532	SLE RA 20	-6	-63	2769	34.62	1052.1	25.47
532	SLE RA 21	-6	-58	2772	34.64	1053.38	23.46
532	SLE FR 1	-4	-57	2439	30.49	925.8	22.82
532	SLE FR 2	-4	-55	2441	30.49	926.23	22.15
532	SLE FR 3	-4	-57	2448	30.6	929.06	22.89
532	SLE FR 4	-5	-57	2533	31.65	961.67	22.89
532	SLE FR 5	-5	-59	2540	31.75	964.5	23.63
532	SLE FR 6	-5	-60	2593	32.42	984.88	24.06
532	SLE QP 1	-4	-57	2439	30.49	925.8	22.82
532	SLE QP 2	-5	-59	2532	31.64	961.25	23.56
532	SLD 1	194	25	2642	32.81	1008.51	-12.26
532	SLD 2	210	28	2645	32.83	1009.38	-13.61
532	SLD 3	182	-121	2531	32.21	969.04	46.31
532	SLD 4	198	-118	2534	32.23	969.91	44.96
532	SLD 5	69	187	2732	32.9	1035.13	-75.78
532	SLD 6	79	189	2734	32.92	1035.71	-76.67
532	SLD 7	31	-300	2363	30.9	903.57	119.46
532	SLD 8	42	-298	2365	30.92	904.14	118.57
532	SLD 9	-52	180	2698	32.37	1018.36	-71.45
532	SLD 10	-41	182	2700	32.39	1018.93	-72.34
532	SLD 11	-89	-307	2330	30.37	886.79	123.79
532	SLD 12	-79	-305	2332	30.39	887.36	122.9
532	SLD 13	-208	1	2529	31.06	952.59	2.16
532	SLD 14	-192	4	2532	31.08	953.46	0.81
532	SLD 15	-219	-145	2419	30.46	913.12	60.74
532	SLD 16	-203	-142	2422	30.48	913.99	59.39
532	SLV 1	306	76	2707	33.48	1036.19	-34
532	SLV 2	331	81	2711	33.52	1037.55	-36.12
532	SLV 3	288	-160	2528	32.51	972.31	60.66
532	SLV 4	313	-155	2532	32.55	973.67	58.55
532	SLV 5	112	339	2855	33.66	1080.36	-136.89
532	SLV 6	128	342	2858	33.69	1081.27	-138.31
532	SLV 7	51	-448	2258	30.42	867.43	178.67
532	SLV 8	67	-445	2262	30.45	868.35	177.24
532	SLV 9	-77	328	2802	32.84	1054.15	-130.12
532	SLV 10	-60	331	2805	32.87	1055.07	-131.54
532	SLV 11	-138	-460	2206	29.6	841.22	185.44
532	SLV 12	-121	-456	2209	29.63	842.14	184.02
532	SLV 13	-323	38	2531	30.74	948.83	-11.43
532	SLV 14	-298	43	2536	30.78	950.19	-13.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
532	SLV 15	-341	-198	2352	29.77	884.95	83.24
532	SLV 16	-316	-194	2357	29.81	886.31	81.13
532	SLV FO 1	338	89	2724	33.66	1043.68	-39.76
532	SLV FO 2	365	95	2729	33.71	1045.18	-42.08
532	SLV FO 3	317	-170	2527	32.59	973.41	64.37
532	SLV FO 4	345	-165	2532	32.64	974.91	62.05
532	SLV FO 5	123	379	2887	33.86	1092.27	-152.94
532	SLV FO 6	142	382	2890	33.89	1093.28	-154.5
532	SLV FO 7	56	-487	2231	30.3	858.05	194.18
532	SLV FO 8	75	-484	2234	30.33	859.05	192.61
532	SLV FO 9	-84	366	2829	32.96	1063.44	-145.49
532	SLV FO 10	-66	370	2832	32.99	1064.45	-147.05
532	SLV FO 11	-151	-500	2173	29.4	829.22	201.63
532	SLV FO 12	-133	-496	2177	29.43	830.23	200.06
532	SLV FO 13	-355	48	2531	30.65	947.59	-14.92
532	SLV FO 14	-327	53	2536	30.7	949.08	-17.25
532	SLV FO 15	-375	-212	2334	29.58	877.32	89.21
532	SLV FO 16	-347	-207	2339	29.63	878.82	86.88
532	CRTFP Ux+	0	0	0	0	0	0
532	CRTFP Ux-	0	0	0	0	0	0
532	CRTFP Uy+	0	0	0	0	0	0
532	CRTFP Uy-	0	0	0	0	0	0
533	SLU 1	-43	48	3404	4.14	-562.35	11.99
533	SLU 2	-44	69	3427	3.96	-563.3	17.37
533	SLU 3	-44	48	3476	4.29	-574.55	12.14
533	SLU 4	-45	61	3490	4.18	-575.12	15.36
533	SLU 5	-45	70	3472	4.05	-570.96	17.46
533	SLU 6	-45	49	3521	4.39	-582.22	12.24
533	SLU 7	-45	62	3535	4.28	-582.78	15.46
533	SLU 8	-44	49	3494	4.34	-577.67	12.19
533	SLU 9	-45	61	3508	4.23	-578.24	15.41
533	SLU 10	-46	76	3852	4.56	-632.94	19.06
533	SLU 11	-46	55	3900	4.9	-644.2	13.83
533	SLU 12	-46	68	3914	4.79	-644.77	17.06
533	SLU 13	-46	76	3896	4.66	-640.6	19.16
533	SLU 14	-46	55	3945	5	-651.86	13.93
533	SLU 15	-47	68	3959	4.89	-652.43	17.15
533	SLU 16	-46	55	3918	4.95	-647.32	13.88
533	SLU 17	-46	68	3932	4.83	-647.89	17.1
533	SLU 18	-45	57	4010	5.01	-661.85	14.41
533	SLU 19	-46	70	4024	4.9	-662.41	17.63
533	SLU 20	-46	58	4055	5.11	-669.51	14.51
533	SLU 21	-46	71	4069	5	-670.07	17.73
533	SLU 22	-47	53	3915	5	-647.33	13.23
533	SLU 23	-48	74	3938	4.82	-648.27	18.6
533	SLU 24	-48	53	3987	5.16	-659.53	13.38
533	SLU 25	-49	66	4001	5.04	-660.1	16.6
533	SLU 26	-49	75	3983	4.91	-655.94	18.7
533	SLU 27	-49	54	4032	5.25	-667.19	13.47
533	SLU 28	-49	67	4046	5.14	-667.76	16.7
533	SLU 29	-48	54	4005	5.2	-662.65	13.43
533	SLU 30	-49	66	4019	5.09	-663.22	16.65
533	SLU 31	-50	81	4363	5.42	-717.92	20.29
533	SLU 32	-50	60	4411	5.76	-729.18	15.07
533	SLU 33	-50	73	4425	5.65	-729.74	18.29
533	SLU 34	-50	81	4407	5.52	-725.58	20.39
533	SLU 35	-50	60	4456	5.86	-736.84	15.17
533	SLU 36	-51	73	4470	5.75	-737.4	18.39
533	SLU 37	-50	60	4429	5.81	-732.29	15.12
533	SLU 38	-50	73	4443	5.69	-732.86	18.34
533	SLU 39	-49	62	4521	5.87	-746.82	15.65
533	SLU 40	-50	75	4535	5.76	-747.39	18.87
533	SLU 41	-50	63	4566	5.97	-754.48	15.74
533	SLU 42	-50	76	4580	5.86	-755.05	18.97
533	SLU 43	-55	60	4250	5.09	-701.92	15.17
533	SLU 44	-56	82	4273	4.9	-702.87	20.54
533	SLU 45	-56	61	4322	5.24	-714.13	15.31
533	SLU 46	-56	74	4336	5.13	-714.69	18.54
533	SLU 47	-56	82	4318	5	-710.53	20.64
533	SLU 48	-56	61	4367	5.34	-721.79	15.41
533	SLU 49	-57	74	4381	5.23	-722.35	18.64
533	SLU 50	-56	61	4340	5.29	-717.24	15.36
533	SLU 51	-57	74	4354	5.17	-717.81	18.59
533	SLU 52	-57	89	4698	5.51	-772.51	22.23
533	SLU 53	-57	68	4746	5.85	-783.77	17.01
533	SLU 54	-58	81	4760	5.74	-784.34	20.23
533	SLU 55	-58	89	4742	5.61	-780.18	22.33
533	SLU 56	-58	68	4791	5.95	-791.43	17.1
533	SLU 57	-58	81	4805	5.83	-792	20.33
533	SLU 58	-57	68	4764	5.89	-786.89	17.06
533	SLU 59	-58	81	4778	5.78	-787.46	20.28
533	SLU 60	-57	70	4856	5.96	-801.42	17.59
533	SLU 61	-58	83	4870	5.85	-801.98	20.81
533	SLU 62	-58	70	4901	6.06	-809.08	17.68
533	SLU 63	-58	83	4915	5.94	-809.64	20.91
533	SLU 64	-59	65	4761	5.95	-786.9	16.4
533	SLU 65	-60	87	4784	5.76	-787.85	21.78
533	SLU 66	-60	66	4833	6.1	-799.1	16.55
533	SLU 67	-60	79	4847	5.99	-799.67	19.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
533	SLU 68	-60	87	4829	5.86	-795.51	21.87
533	SLU 69	-60	66	4878	6.2	-806.76	16.65
533	SLU 70	-61	79	4892	6.09	-807.33	19.87
533	SLU 71	-60	66	4851	6.15	-802.22	16.6
533	SLU 72	-61	79	4865	6.03	-802.79	19.82
533	SLU 73	-61	94	5209	6.37	-857.49	23.47
533	SLU 74	-61	73	5257	6.71	-868.75	18.24
533	SLU 75	-62	86	5271	6.6	-869.32	21.47
533	SLU 76	-62	94	5254	6.47	-865.15	23.57
533	SLU 77	-62	73	5302	6.81	-876.41	18.34
533	SLU 78	-62	86	5316	6.69	-876.98	21.56
533	SLU 79	-61	73	5275	6.75	-871.87	18.29
533	SLU 80	-62	86	5289	6.64	-872.43	21.52
533	SLU 81	-61	75	5367	6.82	-886.39	18.82
533	SLU 82	-62	88	5381	6.71	-886.96	22.04
533	SLU 83	-61	75	5412	6.92	-894.05	18.92
533	SLU 84	-62	88	5426	6.8	-894.62	22.14
533	SLE RA 1	-44	49	3550	4.39	-586.63	12.35
533	SLE RA 2	-45	63	3566	4.26	-587.26	15.93
533	SLE RA 3	-45	50	3598	4.49	-594.77	12.44
533	SLE RA 4	-45	58	3607	4.41	-595.14	14.59
533	SLE RA 5	-45	64	3596	4.33	-592.37	15.99
533	SLE RA 6	-45	50	3628	4.56	-599.87	12.51
533	SLE RA 7	-46	58	3637	4.48	-600.25	14.66
533	SLE RA 8	-45	50	3610	4.52	-596.85	12.48
533	SLE RA 9	-46	58	3619	4.44	-597.22	14.63
533	SLE RA 10	-46	68	3848	4.67	-633.69	17.06
533	SLE RA 11	-46	54	3881	4.9	-641.2	13.57
533	SLE RA 12	-46	63	3890	4.82	-641.57	15.72
533	SLE RA 13	-46	68	3878	4.73	-638.8	17.12
533	SLE RA 14	-46	54	3911	4.96	-646.3	13.64
533	SLE RA 15	-47	63	3920	4.88	-646.68	15.79
533	SLE RA 16	-46	54	3893	4.92	-643.28	13.61
533	SLE RA 17	-47	63	3902	4.85	-643.65	15.75
533	SLE RA 18	-46	56	3954	4.97	-652.96	13.96
533	SLE RA 19	-46	64	3964	4.89	-653.34	16.11
533	SLE RA 20	-46	56	3984	5.03	-658.07	14.02
533	SLE RA 21	-47	64	3993	4.96	-658.45	16.17
533	SLE FR 1	-44	49	3550	4.39	-586.63	12.35
533	SLE FR 2	-45	52	3553	4.36	-586.76	13.06
533	SLE FR 3	-45	49	3562	4.42	-588.67	12.37
533	SLE FR 4	-45	54	3675	4.54	-606.66	13.55
533	SLE FR 5	-45	51	3683	4.59	-608.57	12.86
533	SLE FR 6	-45	52	3752	4.68	-619.8	13.15
533	SLE QP 1	-44	49	3550	4.39	-586.63	12.35
533	SLE QP 2	-45	51	3671	4.56	-606.53	12.83
533	SLD 1	212	183	4827	4.49	-763.4	45.79
533	SLD 2	233	78	4800	4.72	-762.81	19.71
533	SLD 3	232	-60	4524	7.08	-751.62	-14.9
533	SLD 4	253	-165	4498	7.31	-751.02	-40.98
533	SLD 5	-3	478	4481	0.56	-671.58	119.45
533	SLD 6	11	409	4464	0.72	-671.18	102.23
533	SLD 7	66	-332	3474	9.21	-632.29	-82.82
533	SLD 8	79	-401	3456	9.37	-631.89	-100.04
533	SLD 9	-169	503	3887	-0.24	-581.17	125.7
533	SLD 10	-156	434	3869	-0.09	-580.77	108.48
533	SLD 11	-101	-306	2879	8.41	-541.87	-76.57
533	SLD 12	-87	-376	2862	8.56	-541.48	-93.79
533	SLD 13	-343	267	2845	1.81	-462.03	66.64
533	SLD 14	-322	162	2818	2.04	-461.44	40.56
533	SLD 15	-322	24	2543	4.41	-450.25	5.95
533	SLD 16	-302	-81	2516	4.64	-449.65	-20.13
533	SLV 1	357	264	5482	4.37	-851.6	65.98
533	SLV 2	389	99	5440	4.73	-850.67	25.12
533	SLV 3	390	-128	4994	8.56	-832.51	-32.04
533	SLV 4	422	-293	4951	8.93	-831.58	-72.9
533	SLV 5	20	740	4963	-1.92	-709.17	185.06
533	SLV 6	41	630	4935	-1.68	-708.54	157.55
533	SLV 7	130	-567	3335	12.05	-645.55	-141.67
533	SLV 8	151	-678	3307	12.3	-644.93	-169.18
533	SLV 9	-241	780	4036	-3.17	-568.13	194.84
533	SLV 10	-219	669	4008	-2.93	-567.51	167.33
533	SLV 11	-131	-528	2408	10.8	-504.52	-131.89
533	SLV 12	-109	-638	2380	11.05	-503.89	-159.4
533	SLV 13	-512	395	2392	0.2	-381.48	98.56
533	SLV 14	-480	231	2349	0.56	-380.55	57.7
533	SLV 15	-479	3	1903	4.39	-362.39	0.54
533	SLV 16	-447	-162	1861	4.75	-361.46	-40.32
533	SLV FO 1	397	285	5663	4.35	-876.1	71.29
533	SLV FO 2	433	104	5617	4.75	-875.08	26.35
533	SLV FO 3	433	-146	5126	8.96	-855.11	-36.53
533	SLV FO 4	469	-327	5079	9.36	-854.09	-81.47
533	SLV FO 5	26	809	5093	-2.57	-719.43	202.28
533	SLV FO 6	50	688	5061	-2.3	-718.75	172.02
533	SLV FO 7	147	-629	3301	12.8	-649.45	-157.11
533	SLV FO 8	171	-750	3270	13.07	-648.77	-187.38
533	SLV FO 9	-261	853	4073	-3.94	-564.29	213.04
533	SLV FO 10	-237	731	4042	-3.68	-563.61	182.78
533	SLV FO 11	-140	-585	2282	11.43	-494.31	-146.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
533	SLV FO 12	-116	-707	2250	11.69	-493.63	-176.62
533	SLV FO 13	-559	429	2264	-0.24	-358.97	107.13
533	SLV FO 14	-523	249	2217	0.16	-357.95	62.19
533	SLV FO 15	-522	-2	1726	4.38	-337.98	-0.69
533	SLV FO 16	-487	-183	1680	4.77	-336.96	-45.63
533	CRTFP Ux+	0	0	0	0	0	0
533	CRTFP Ux-	0	0	0	0	0	0
533	CRTFP Uy+	0	0	0	0	0	0
533	CRTFP Uy-	0	0	0	0	0	0
536	SLU 1	49	-27	6330	-0.2	36.27	-1.07
536	SLU 2	50	3	6366	-0.67	35.3	-0.99
536	SLU 3	50	-27	6470	-0.06	37.25	-1.11
536	SLU 4	51	-9	6491	-0.34	36.67	-1.07
536	SLU 5	51	3	6456	-0.57	35.95	-1.03
536	SLU 6	50	-28	6560	0.05	37.9	-1.15
536	SLU 7	51	-10	6581	-0.23	37.32	-1.1
536	SLU 8	50	-27	6510	0.01	37.57	-1.14
536	SLU 9	51	-9	6532	-0.27	36.99	-1.1
536	SLU 10	52	3	7206	-0.53	41.34	-1.12
536	SLU 11	52	-28	7310	0.08	43.29	-1.24
536	SLU 12	53	-10	7332	-0.2	42.71	-1.2
536	SLU 13	53	3	7296	-0.43	41.99	-1.16
536	SLU 14	53	-28	7400	0.19	43.94	-1.28
536	SLU 15	53	-10	7422	-0.09	43.36	-1.23
536	SLU 16	52	-28	7350	0.15	43.61	-1.27
536	SLU 17	53	-10	7372	-0.13	43.03	-1.22
536	SLU 18	52	-27	7530	0	44.9	-1.25
536	SLU 19	53	-9	7552	-0.28	44.32	-1.21
536	SLU 20	52	-28	7620	0.11	45.55	-1.29
536	SLU 21	53	-10	7642	-0.18	44.97	-1.24
536	SLU 22	55	-29	7310	0.26	41.96	-1.2
536	SLU 23	56	1	7346	-0.22	40.99	-1.12
536	SLU 24	56	-29	7449	0.4	42.94	-1.24
536	SLU 25	57	-11	7471	0.12	42.36	-1.2
536	SLU 26	57	1	7436	-0.11	41.64	-1.16
536	SLU 27	57	-29	7539	0.51	43.59	-1.28
536	SLU 28	58	-11	7561	0.22	43.01	-1.23
536	SLU 29	56	-29	7490	0.47	43.26	-1.27
536	SLU 30	57	-11	7511	0.18	42.68	-1.23
536	SLU 31	58	1	8186	-0.08	47.03	-1.25
536	SLU 32	58	-29	8289	0.54	48.98	-1.37
536	SLU 33	59	-11	8311	0.26	48.4	-1.33
536	SLU 34	59	1	8276	0.03	47.68	-1.29
536	SLU 35	59	-29	8379	0.65	49.63	-1.41
536	SLU 36	60	-11	8401	0.36	49.05	-1.36
536	SLU 37	58	-29	8330	0.61	49.3	-1.4
536	SLU 38	59	-11	8352	0.32	48.72	-1.35
536	SLU 39	58	-29	8510	0.46	50.59	-1.38
536	SLU 40	59	-11	8532	0.17	50.01	-1.34
536	SLU 41	58	-29	8600	0.56	51.24	-1.42
536	SLU 42	59	-11	8622	0.28	50.66	-1.37
536	SLU 43	61	-35	7893	-0.41	45.2	-1.34
536	SLU 44	63	-5	7929	-0.89	44.24	-1.27
536	SLU 45	62	-35	8033	-0.27	46.18	-1.38
536	SLU 46	63	-17	8055	-0.56	45.6	-1.34
536	SLU 47	63	-5	8019	-0.78	44.88	-1.3
536	SLU 48	63	-35	8123	-0.17	46.83	-1.42
536	SLU 49	64	-17	8144	-0.45	46.25	-1.38
536	SLU 50	62	-35	8073	-0.2	46.5	-1.41
536	SLU 51	63	-17	8095	-0.49	45.92	-1.37
536	SLU 52	65	-5	8769	-0.75	50.27	-1.4
536	SLU 53	64	-35	8873	-0.13	52.22	-1.51
536	SLU 54	65	-17	8895	-0.42	51.64	-1.47
536	SLU 55	66	-5	8859	-0.64	50.92	-1.43
536	SLU 56	65	-35	8963	-0.03	52.87	-1.55
536	SLU 57	66	-17	8985	-0.31	52.29	-1.51
536	SLU 58	65	-35	8913	-0.06	52.54	-1.54
536	SLU 59	66	-17	8935	-0.35	51.96	-1.5
536	SLU 60	64	-35	9093	-0.21	53.83	-1.53
536	SLU 61	65	-17	9115	-0.5	53.25	-1.48
536	SLU 62	65	-35	9183	-0.11	54.48	-1.56
536	SLU 63	66	-17	9205	-0.39	53.9	-1.52
536	SLU 64	67	-36	8873	0.04	50.89	-1.47
536	SLU 65	69	-6	8909	-0.43	49.92	-1.4
536	SLU 66	68	-37	9012	0.18	51.87	-1.52
536	SLU 67	69	-19	9034	-0.1	51.29	-1.47
536	SLU 68	70	-6	8999	-0.33	50.57	-1.43
536	SLU 69	69	-37	9102	0.29	52.52	-1.55
536	SLU 70	70	-19	9124	0.01	51.94	-1.51
536	SLU 71	69	-37	9053	0.25	52.19	-1.54
536	SLU 72	70	-19	9075	-0.03	51.61	-1.5
536	SLU 73	71	-6	9749	-0.29	55.96	-1.53
536	SLU 74	71	-37	9853	0.32	57.91	-1.64
536	SLU 75	72	-19	9874	0.04	57.33	-1.6
536	SLU 76	72	-7	9839	-0.19	56.61	-1.56
536	SLU 77	71	-37	9942	0.43	58.56	-1.68
536	SLU 78	72	-19	9964	0.15	57.98	-1.64
536	SLU 79	71	-37	9893	0.39	58.23	-1.67
536	SLU 80	72	-19	9915	0.11	57.65	-1.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
536	SLU 81	70	-37	10073	0.24	59.52	-1.66
536	SLU 82	71	-18	10095	-0.04	58.94	-1.61
536	SLU 83	71	-37	10163	0.35	60.17	-1.69
536	SLU 84	72	-19	10185	0.06	59.59	-1.65
536	SLE RA 1	50	-28	6610	-0.07	37.9	-1.1
536	SLE RA 2	52	-7	6634	-0.38	37.25	-1.05
536	SLE RA 3	51	-28	6703	0.03	38.55	-1.13
536	SLE RA 4	52	-16	6718	-0.16	38.16	-1.1
536	SLE RA 5	52	-8	6694	-0.31	37.68	-1.08
536	SLE RA 6	52	-28	6763	0.1	38.98	-1.16
536	SLE RA 7	52	-16	6778	-0.09	38.59	-1.13
536	SLE RA 8	51	-28	6730	0.07	38.76	-1.15
536	SLE RA 9	52	-16	6744	-0.12	38.38	-1.12
536	SLE RA 10	53	-8	7194	-0.29	41.28	-1.14
536	SLE RA 11	53	-28	7263	0.12	42.58	-1.22
536	SLE RA 12	53	-16	7278	-0.07	42.19	-1.19
536	SLE RA 13	53	-8	7254	-0.22	41.71	-1.16
536	SLE RA 14	53	-28	7323	0.19	43.01	-1.24
536	SLE RA 15	54	-16	7338	0	42.62	-1.21
536	SLE RA 16	53	-28	7290	0.17	42.79	-1.24
536	SLE RA 17	53	-16	7304	-0.02	42.4	-1.21
536	SLE RA 18	52	-28	7410	0.06	43.65	-1.23
536	SLE RA 19	53	-16	7424	-0.12	43.26	-1.2
536	SLE RA 20	53	-28	7470	0.14	44.08	-1.25
536	SLE RA 21	54	-16	7484	-0.05	43.69	-1.22
536	SLE FR 1	50	-28	6610	-0.07	37.9	-1.1
536	SLE FR 2	51	-24	6615	-0.13	37.77	-1.09
536	SLE FR 3	51	-28	6634	-0.04	38.07	-1.11
536	SLE FR 4	51	-24	6855	-0.09	39.5	-1.13
536	SLE FR 5	51	-28	6874	0	39.8	-1.15
536	SLE FR 6	51	-28	7010	0	40.77	-1.16
536	SLE QP 1	50	-28	6610	-0.07	37.9	-1.1
536	SLE QP 2	51	-28	6850	-0.03	39.62	-1.14
536	SLD 1	629	158	6465	-3.11	41.68	1.24
536	SLD 2	672	236	6497	-3.47	40.18	3.62
536	SLD 3	612	-173	6003	3	54.8	0.37
536	SLD 4	655	-94	6034	2.64	53.3	2.74
536	SLD 5	243	515	7430	-10.16	20.61	0.47
536	SLD 6	271	567	7451	-10.4	19.62	2.04
536	SLD 7	186	-587	5889	10.22	64.35	-2.44
536	SLD 8	214	-535	5909	9.98	63.36	-0.87
536	SLD 9	-112	480	7790	-10.04	15.89	-1.41
536	SLD 10	-83	532	7811	-10.28	14.9	0.15
536	SLD 11	-169	-623	6249	10.34	59.63	-4.32
536	SLD 12	-140	-571	6269	10.1	58.64	-2.75
536	SLD 13	-553	39	7665	-2.7	25.94	-5.02
536	SLD 14	-510	118	7697	-3.06	24.44	-2.65
536	SLD 15	-570	-292	7203	3.41	39.07	-5.9
536	SLD 16	-527	-213	7234	3.05	37.57	-3.52
536	SLV 1	956	271	6263	-5.01	42.61	2.62
536	SLV 2	1024	394	6313	-5.57	40.26	6.33
536	SLV 3	928	-264	5515	4.87	63.82	1.19
536	SLV 4	996	-141	5565	4.31	61.47	4.9
536	SLV 5	353	850	7799	-16.41	8.79	1.46
536	SLV 6	398	933	7833	-16.79	7.21	3.96
536	SLV 7	259	-933	5306	16.54	79.49	-3.3
536	SLV 8	305	-850	5339	16.16	77.91	-0.8
536	SLV 9	-202	795	8361	-16.22	1.34	-1.48
536	SLV 10	-157	878	8394	-16.6	-0.24	1.02
536	SLV 11	-296	-989	5867	16.73	72.04	-6.24
536	SLV 12	-250	-906	5900	16.35	70.46	-3.74
536	SLV 13	-893	86	8135	-4.37	17.78	-7.18
536	SLV 14	-826	209	8184	-4.93	15.43	-3.47
536	SLV 15	-921	-449	7387	5.52	38.99	-8.61
536	SLV 16	-854	-326	7436	4.95	36.64	-4.9
536	SLV FO 1	1047	300	6205	-5.51	42.91	2.99
536	SLV FO 2	1121	436	6259	-6.13	40.33	7.08
536	SLV FO 3	1016	-288	5382	5.37	66.24	1.42
536	SLV FO 4	1090	-152	5436	4.75	63.66	5.51
536	SLV FO 5	383	938	7894	-18.05	5.71	1.72
536	SLV FO 6	433	1030	7931	-18.47	3.97	4.47
536	SLV FO 7	280	-1024	5151	18.2	83.48	-3.51
536	SLV FO 8	330	-932	5188	17.78	81.74	-0.76
536	SLV FO 9	-228	877	8512	-17.84	-2.49	-1.52
536	SLV FO 10	-178	969	8549	-18.25	-4.23	1.23
536	SLV FO 11	-330	-1085	5769	18.41	75.28	-6.75
536	SLV FO 12	-281	-993	5805	17.99	73.54	-4
536	SLV FO 13	-988	97	8264	-4.8	15.59	-7.79
536	SLV FO 14	-914	233	8318	-5.42	13.01	-3.7
536	SLV FO 15	-1019	-491	7441	6.07	38.92	-9.36
536	SLV FO 16	-945	-356	7495	5.45	36.34	-5.27
536	CRTFP Ux+	0	0	0	0	0	0
536	CRTFP Ux-	0	0	0	0	0	0
536	CRTFP Uy+	0	0	0	0	0	0
536	CRTFP Uy-	0	0	0	0	0	0
539	SLU 1	42	8	3880	5	955.08	-2.89
539	SLU 2	43	31	3904	4.77	955.97	-10.99
539	SLU 3	43	8	3968	5.2	976.96	-2.89
539	SLU 4	43	22	3982	5.06	977.49	-7.74



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
539	SLU 5	43	31	3960	4.9	970.2	-11.12
539	SLU 6	43	8	4024	5.34	991.19	-3.02
539	SLU 7	44	22	4039	5.2	991.72	-7.87
539	SLU 8	43	9	3993	5.28	983.54	-3.15
539	SLU 9	44	22	4008	5.14	984.07	-8.01
539	SLU 10	44	31	4391	5.51	1074.33	-11.06
539	SLU 11	44	8	4455	5.94	1095.32	-2.96
539	SLU 12	44	22	4469	5.8	1095.85	-7.82
539	SLU 13	44	31	4448	5.64	1088.56	-11.19
539	SLU 14	44	8	4512	6.08	1109.55	-3.09
539	SLU 15	45	22	4526	5.94	1110.08	-7.95
539	SLU 16	44	9	4480	6.02	1101.9	-3.22
539	SLU 17	45	23	4495	5.88	1102.43	-8.08
539	SLU 18	43	8	4576	6.06	1124.17	-2.99
539	SLU 19	44	22	4590	5.92	1124.7	-7.85
539	SLU 20	44	8	4632	6.2	1138.4	-3.12
539	SLU 21	44	22	4647	6.05	1138.93	-7.98
539	SLU 22	46	5	4466	6.05	1099.15	-1.97
539	SLU 23	47	28	4490	5.82	1100.04	-10.07
539	SLU 24	47	5	4554	6.25	1121.03	-1.97
539	SLU 25	47	19	4568	6.11	1121.56	-6.83
539	SLU 26	47	29	4546	5.95	1114.27	-10.2
539	SLU 27	47	5	4610	6.39	1135.26	-2.1
539	SLU 28	48	19	4625	6.25	1135.79	-6.96
539	SLU 29	47	6	4579	6.33	1127.61	-2.23
539	SLU 30	47	20	4593	6.19	1128.14	-7.09
539	SLU 31	48	28	4977	6.56	1218.4	-10.14
539	SLU 32	48	5	5041	6.99	1239.39	-2.04
539	SLU 33	48	19	5055	6.85	1239.92	-6.9
539	SLU 34	48	29	5034	6.69	1232.63	-10.27
539	SLU 35	48	6	5098	7.13	1253.62	-2.17
539	SLU 36	49	19	5112	6.99	1254.15	-7.03
539	SLU 37	48	6	5066	7.07	1245.97	-2.31
539	SLU 38	48	20	5081	6.93	1246.5	-7.16
539	SLU 39	47	5	5162	7.11	1268.24	-2.08
539	SLU 40	48	19	5176	6.97	1268.77	-6.93
539	SLU 41	48	6	5218	7.25	1282.47	-2.21
539	SLU 42	48	20	5233	7.11	1283	-7.06
539	SLU 43	53	11	4843	6.14	1192.21	-4.07
539	SLU 44	54	34	4867	5.91	1193.1	-12.17
539	SLU 45	54	11	4931	6.34	1214.09	-4.07
539	SLU 46	55	25	4945	6.2	1214.62	-8.93
539	SLU 47	54	35	4924	6.04	1207.33	-12.3
539	SLU 48	55	11	4987	6.48	1228.32	-4.2
539	SLU 49	55	25	5002	6.34	1228.85	-9.06
539	SLU 50	54	12	4956	6.42	1220.67	-4.33
539	SLU 51	55	26	4971	6.28	1221.21	-9.19
539	SLU 52	55	34	5354	6.65	1311.46	-12.24
539	SLU 53	55	11	5418	7.08	1332.45	-4.14
539	SLU 54	56	25	5432	6.94	1332.98	-9
539	SLU 55	55	35	5411	6.78	1325.69	-12.37
539	SLU 56	56	12	5475	7.22	1346.68	-4.27
539	SLU 57	56	25	5489	7.08	1347.21	-9.13
539	SLU 58	55	12	5443	7.16	1339.03	-4.4
539	SLU 59	56	26	5458	7.02	1339.56	-9.26
539	SLU 60	55	11	5539	7.2	1361.3	-4.17
539	SLU 61	55	25	5553	7.06	1361.83	-9.03
539	SLU 62	55	12	5596	7.34	1375.53	-4.31
539	SLU 63	56	26	5610	7.19	1376.06	-9.16
539	SLU 64	57	8	5429	7.19	1336.28	-3.15
539	SLU 65	58	31	5453	6.96	1337.17	-11.25
539	SLU 66	58	8	5517	7.39	1358.16	-3.15
539	SLU 67	58	22	5531	7.25	1358.69	-8.01
539	SLU 68	58	32	5509	7.09	1351.4	-11.38
539	SLU 69	59	9	5573	7.53	1372.39	-3.28
539	SLU 70	59	23	5588	7.39	1372.92	-8.14
539	SLU 71	58	9	5542	7.47	1364.74	-3.41
539	SLU 72	59	23	5557	7.33	1365.27	-8.27
539	SLU 73	59	32	5940	7.7	1455.53	-11.32
539	SLU 74	59	9	6004	8.13	1476.52	-3.22
539	SLU 75	59	22	6018	7.99	1477.05	-8.08
539	SLU 76	59	32	5997	7.83	1469.76	-11.45
539	SLU 77	60	9	6061	8.27	1490.75	-3.35
539	SLU 78	60	23	6075	8.13	1491.28	-8.21
539	SLU 79	59	9	6029	8.21	1483.1	-3.49
539	SLU 80	60	23	6044	8.07	1483.63	-8.35
539	SLU 81	59	9	6125	8.25	1505.37	-3.26
539	SLU 82	59	22	6139	8.11	1505.9	-8.12
539	SLU 83	59	9	6181	8.39	1519.6	-3.39
539	SLU 84	60	23	6196	8.25	1520.13	-8.25
539	SLE RA 1	43	7	4047	5.3	996.25	-2.63
539	SLE RA 2	44	22	4063	5.14	996.84	-8.02
539	SLE RA 3	44	7	4106	5.43	1010.83	-2.62
539	SLE RA 4	44	16	4115	5.34	1011.19	-5.86
539	SLE RA 5	44	23	4101	5.24	1006.32	-8.11
539	SLE RA 6	44	7	4144	5.53	1020.32	-2.71
539	SLE RA 7	44	16	4153	5.43	1020.67	-5.95
539	SLE RA 8	44	7	4123	5.49	1015.22	-2.8
539	SLE RA 9	44	17	4132	5.39	1015.57	-6.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
539	SLE RA 10	44	23	4388	5.64	1075.74	-8.07
539	SLE RA 11	44	7	4431	5.93	1089.74	-2.67
539	SLE RA 12	45	16	4440	5.83	1090.09	-5.91
539	SLE RA 13	45	23	4426	5.73	1085.23	-8.16
539	SLE RA 14	45	7	4468	6.02	1099.23	-2.76
539	SLE RA 15	45	17	4478	5.93	1099.58	-6
539	SLE RA 16	45	8	4448	5.98	1094.13	-2.85
539	SLE RA 17	45	17	4457	5.88	1094.48	-6.09
539	SLE RA 18	44	7	4511	6	1108.97	-2.7
539	SLE RA 19	44	16	4521	5.91	1109.32	-5.94
539	SLE RA 20	44	7	4549	6.1	1118.46	-2.78
539	SLE RA 21	45	17	4559	6	1118.81	-6.02
539	SLE FR 1	43	7	4047	5.3	996.25	-2.63
539	SLE FR 2	43	10	4050	5.27	996.36	-3.71
539	SLE FR 3	43	7	4062	5.34	1000.04	-2.66
539	SLE FR 4	43	10	4190	5.48	1030.18	-3.73
539	SLE FR 5	44	7	4202	5.55	1033.86	-2.68
539	SLE FR 6	44	7	4279	5.65	1052.61	-2.66
539	SLE QP 1	43	7	4047	5.3	996.25	-2.63
539	SLE QP 2	43	7	4186	5.51	1030.06	-2.65
539	SLD 1	371	121	3219	2.64	789.85	-42.4
539	SLD 2	396	237	3244	2.35	790.15	-82.99
539	SLD 3	360	-120	2919	5.74	777.39	41.89
539	SLD 4	384	-4	2944	5.45	777.69	1.3
539	SLD 5	155	386	4347	0	976.84	-135.1
539	SLD 6	171	463	4364	-0.19	977.05	-161.91
539	SLD 7	116	-417	3346	10.34	935.31	145.87
539	SLD 8	132	-341	3363	10.15	935.51	119.07
539	SLD 9	-46	355	5010	0.88	1124.62	-124.36
539	SLD 10	-29	432	5027	0.69	1124.82	-151.17
539	SLD 11	-85	-448	4009	11.22	1083.08	156.61
539	SLD 12	-68	-372	4026	11.03	1083.28	129.81
539	SLD 13	-298	18	5429	5.57	1282.43	-6.59
539	SLD 14	-273	134	5454	5.28	1282.74	-47.19
539	SLD 15	-309	-223	5129	8.67	1269.97	77.7
539	SLD 16	-285	-107	5154	8.38	1270.28	37.1
539	SLV 1	558	192	2686	0.94	655.73	-67.08
539	SLV 2	596	374	2726	0.49	656.21	-130.68
539	SLV 3	538	-199	2200	5.96	635.59	69.46
539	SLV 4	577	-16	2240	5.5	636.07	5.87
539	SLV 5	219	620	4465	-3.38	948.22	-217.21
539	SLV 6	246	743	4492	-3.69	948.54	-260.03
539	SLV 7	156	-681	2847	13.34	881.09	237.96
539	SLV 8	182	-558	2874	13.03	881.41	195.14
539	SLV 9	-95	572	5499	-2.01	1178.72	-200.43
539	SLV 10	-69	695	5526	-2.32	1179.04	-243.25
539	SLV 11	-159	-729	3881	14.71	1111.58	254.73
539	SLV 12	-133	-606	3908	14.4	1111.91	211.91
539	SLV 13	-490	30	6133	5.52	1424.06	-11.16
539	SLV 14	-452	213	6173	5.06	1424.53	-74.76
539	SLV 15	-510	-360	5647	10.54	1403.92	125.39
539	SLV 16	-471	-177	5687	10.08	1404.39	61.79
539	SLV FO 1	609	210	2535	0.49	618.3	-73.53
539	SLV FO 2	652	411	2580	-0.01	618.83	-143.49
539	SLV FO 3	588	-219	2001	6	596.15	76.68
539	SLV FO 4	631	-19	2046	5.5	596.67	6.72
539	SLV FO 5	237	682	4493	-4.27	940.04	-238.66
539	SLV FO 6	266	817	4523	-4.61	940.39	-285.77
539	SLV FO 7	167	-749	2713	14.12	866.19	262.02
539	SLV FO 8	196	-614	2743	13.78	866.54	214.91
539	SLV FO 9	-109	628	5630	-2.76	1193.58	-220.21
539	SLV FO 10	-80	764	5660	-3.1	1193.94	-267.31
539	SLV FO 11	-179	-803	3850	15.63	1119.74	280.47
539	SLV FO 12	-150	-667	3880	15.29	1120.09	233.37
539	SLV FO 13	-544	33	6327	5.52	1463.45	-12.01
539	SLV FO 14	-501	233	6372	5.02	1463.98	-81.97
539	SLV FO 15	-565	-397	5793	11.04	1441.3	138.19
539	SLV FO 16	-522	-196	5837	10.54	1441.83	68.23
539	CRTFP Ux+	0	0	0	0	0	0
539	CRTFP Ux-	0	0	0	0	0	0
539	CRTFP Uy+	0	0	0	0	0	0
539	CRTFP Uy-	0	0	0	0	0	0
542	SLU 1	-51	-55	5920	0.25	-20.05	0.73
542	SLU 2	-52	-28	5951	-0.09	-19.63	0.68
542	SLU 3	-52	-57	6050	0.36	-20.67	0.72
542	SLU 4	-53	-40	6069	0.15	-20.42	0.7
542	SLU 5	-53	-28	6034	-0.02	-20.06	0.68
542	SLU 6	-53	-58	6133	0.43	-21.1	0.72
542	SLU 7	-54	-41	6152	0.23	-20.85	0.69
542	SLU 8	-53	-57	6086	0.4	-20.91	0.71
542	SLU 9	-53	-40	6104	0.2	-20.66	0.69
542	SLU 10	-53	-33	6743	0.08	-23.65	0.77
542	SLU 11	-53	-62	6842	0.52	-24.69	0.81
542	SLU 12	-54	-46	6861	0.32	-24.44	0.78
542	SLU 13	-54	-34	6826	0.15	-24.08	0.76
542	SLU 14	-54	-63	6925	0.6	-25.12	0.8
542	SLU 15	-54	-47	6944	0.4	-24.87	0.78
542	SLU 16	-53	-63	6878	0.57	-24.93	0.8
542	SLU 17	-54	-46	6896	0.36	-24.68	0.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
542	SLU 18	-52	-64	7051	0.49	-25.79	0.85
542	SLU 19	-53	-47	7070	0.28	-25.54	0.82
542	SLU 20	-53	-64	7134	0.56	-26.22	0.84
542	SLU 21	-54	-48	7153	0.36	-25.97	0.81
542	SLU 22	-56	-63	6848	0.67	-23.75	0.75
542	SLU 23	-57	-35	6879	0.33	-23.33	0.7
542	SLU 24	-57	-64	6978	0.78	-24.37	0.75
542	SLU 25	-58	-47	6997	0.57	-24.12	0.72
542	SLU 26	-58	-36	6962	0.4	-23.76	0.7
542	SLU 27	-58	-65	7061	0.85	-24.81	0.74
542	SLU 28	-59	-48	7080	0.65	-24.56	0.71
542	SLU 29	-58	-64	7014	0.82	-24.61	0.74
542	SLU 30	-58	-48	7032	0.62	-24.36	0.71
542	SLU 31	-58	-41	7671	0.49	-27.35	0.79
542	SLU 32	-58	-70	7770	0.94	-28.39	0.83
542	SLU 33	-59	-53	7789	0.74	-28.14	0.8
542	SLU 34	-59	-42	7754	0.57	-27.78	0.78
542	SLU 35	-59	-71	7853	1.02	-28.82	0.82
542	SLU 36	-59	-54	7872	0.82	-28.57	0.8
542	SLU 37	-58	-70	7806	0.99	-28.63	0.82
542	SLU 38	-59	-54	7824	0.78	-28.38	0.79
542	SLU 39	-57	-71	7979	0.91	-29.49	0.87
542	SLU 40	-58	-54	7998	0.7	-29.24	0.84
542	SLU 41	-58	-72	8062	0.98	-29.92	0.86
542	SLU 42	-59	-55	8081	0.78	-29.67	0.84
542	SLU 43	-65	-69	7377	0.18	-24.79	0.94
542	SLU 44	-66	-42	7409	-0.16	-24.37	0.89
542	SLU 45	-66	-71	7508	0.29	-25.42	0.93
542	SLU 46	-67	-54	7527	0.08	-25.16	0.91
542	SLU 47	-67	-43	7492	-0.09	-24.8	0.89
542	SLU 48	-67	-72	7591	0.36	-25.85	0.93
542	SLU 49	-67	-55	7610	0.16	-25.6	0.9
542	SLU 50	-66	-71	7543	0.33	-25.66	0.92
542	SLU 51	-67	-55	7562	0.13	-25.4	0.9
542	SLU 52	-67	-47	8201	0.01	-28.39	0.98
542	SLU 53	-67	-76	8300	0.45	-29.43	1.02
542	SLU 54	-67	-60	8319	0.25	-29.18	0.99
542	SLU 55	-67	-48	8284	0.08	-28.82	0.97
542	SLU 56	-67	-77	8383	0.53	-29.87	1.01
542	SLU 57	-68	-61	8402	0.33	-29.61	0.99
542	SLU 58	-67	-77	8335	0.5	-29.67	1.01
542	SLU 59	-68	-60	8354	0.29	-29.42	0.98
542	SLU 60	-66	-78	8509	0.42	-30.53	1.06
542	SLU 61	-67	-61	8528	0.21	-30.28	1.03
542	SLU 62	-67	-79	8592	0.49	-30.96	1.05
542	SLU 63	-67	-62	8611	0.29	-30.71	1.02
542	SLU 64	-70	-77	8306	0.6	-28.49	0.96
542	SLU 65	-71	-49	8337	0.26	-28.08	0.91
542	SLU 66	-71	-78	8436	0.71	-29.12	0.96
542	SLU 67	-72	-61	8455	0.5	-28.87	0.93
542	SLU 68	-72	-50	8420	0.33	-28.51	0.91
542	SLU 69	-72	-79	8519	0.78	-29.55	0.95
542	SLU 70	-72	-62	8538	0.58	-29.3	0.92
542	SLU 71	-71	-79	8471	0.75	-29.36	0.95
542	SLU 72	-72	-62	8490	0.55	-29.11	0.92
542	SLU 73	-72	-55	9129	0.43	-32.09	1
542	SLU 74	-72	-84	9228	0.87	-33.14	1.04
542	SLU 75	-72	-67	9247	0.67	-32.89	1.01
542	SLU 76	-72	-56	9212	0.5	-32.53	0.99
542	SLU 77	-72	-85	9311	0.95	-33.57	1.03
542	SLU 78	-73	-68	9330	0.75	-33.32	1.01
542	SLU 79	-72	-84	9263	0.92	-33.38	1.03
542	SLU 80	-73	-68	9282	0.71	-33.12	1
542	SLU 81	-71	-85	9437	0.84	-34.23	1.08
542	SLU 82	-72	-68	9456	0.63	-33.98	1.05
542	SLU 83	-72	-86	9520	0.91	-34.67	1.07
542	SLU 84	-72	-69	9539	0.71	-34.41	1.05
542	SLE RA 1	-53	-57	6185	0.37	-21.11	0.73
542	SLE RA 2	-53	-39	6206	0.14	-20.83	0.7
542	SLE RA 3	-53	-58	6272	0.44	-21.52	0.73
542	SLE RA 4	-54	-47	6284	0.31	-21.35	0.71
542	SLE RA 5	-54	-40	6261	0.19	-21.11	0.7
542	SLE RA 6	-54	-59	6327	0.49	-21.81	0.73
542	SLE RA 7	-54	-48	6340	0.36	-21.64	0.71
542	SLE RA 8	-54	-59	6296	0.47	-21.68	0.72
542	SLE RA 9	-54	-48	6308	0.33	-21.51	0.71
542	SLE RA 10	-54	-43	6734	0.25	-23.5	0.76
542	SLE RA 11	-54	-62	6800	0.55	-24.2	0.79
542	SLE RA 12	-54	-51	6812	0.42	-24.03	0.77
542	SLE RA 13	-54	-43	6789	0.3	-23.79	0.75
542	SLE RA 14	-54	-63	6855	0.6	-24.49	0.78
542	SLE RA 15	-55	-52	6868	0.47	-24.32	0.77
542	SLE RA 16	-54	-62	6824	0.58	-24.36	0.78
542	SLE RA 17	-55	-51	6836	0.44	-24.19	0.76
542	SLE RA 18	-53	-63	6939	0.53	-24.93	0.81
542	SLE RA 19	-54	-52	6952	0.39	-24.76	0.79
542	SLE RA 20	-54	-64	6995	0.58	-25.22	0.81
542	SLE RA 21	-54	-52	7007	0.44	-25.05	0.79
542	SLE FR 1	-53	-57	6185	0.37	-21.11	0.73



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
542	SLE FR 2	-53	-54	6189	0.32	-21.05	0.73
542	SLE FR 3	-53	-58	6207	0.39	-21.22	0.73
542	SLE FR 4	-53	-55	6415	0.37	-22.2	0.75
542	SLE FR 5	-53	-59	6433	0.44	-22.37	0.75
542	SLE FR 6	-53	-60	6562	0.45	-23.02	0.77
542	SLE QP 1	-53	-57	6185	0.37	-21.11	0.73
542	SLE QP 2	-53	-59	6411	0.41	-22.25	0.76
542	SLD 1	459	93	7239	-1.73	0.11	1.2
542	SLD 2	492	22	7214	-1.48	-0.99	3.17
542	SLD 3	479	-229	6840	2.73	-6.17	2.22
542	SLD 4	512	-300	6814	2.97	-7.27	4.19
542	SLD 5	64	488	7270	-7.03	-5.82	-1.03
542	SLD 6	86	441	7254	-6.86	-6.55	0.28
542	SLD 7	132	-585	5938	7.82	-26.75	2.4
542	SLD 8	154	-632	5921	7.98	-27.48	3.7
542	SLD 9	-259	514	6901	-7.15	-17.03	-2.19
542	SLD 10	-237	467	6884	-6.99	-17.75	-0.89
542	SLD 11	-191	-559	5569	7.69	-37.96	1.24
542	SLD 12	-169	-606	5552	7.86	-38.69	2.54
542	SLD 13	-618	182	6008	-2.14	-37.24	-2.68
542	SLD 14	-585	110	5983	-1.9	-38.34	-0.71
542	SLD 15	-597	-140	5609	2.31	-43.52	-1.66
542	SLD 16	-564	-212	5583	2.56	-44.62	0.32
542	SLV 1	748	188	7714	-3.05	12.82	1.42
542	SLV 2	800	76	7675	-2.67	11.1	4.5
542	SLV 3	780	-332	7068	4.14	2.68	3.07
542	SLV 4	833	-444	7028	4.53	0.96	6.15
542	SLV 5	128	824	7790	-11.61	3.97	-2.12
542	SLV 6	163	749	7763	-11.35	2.81	-0.05
542	SLV 7	237	-909	5636	12.38	-29.83	3.37
542	SLV 8	272	-984	5609	12.63	-30.99	5.45
542	SLV 9	-378	866	7214	-11.8	-13.52	-3.94
542	SLV 10	-343	791	7187	-11.55	-14.68	-1.86
542	SLV 11	-269	-867	5060	12.18	-47.32	1.56
542	SLV 12	-234	-943	5033	12.44	-48.48	3.64
542	SLV 13	-938	326	5794	-3.7	-45.46	-4.64
542	SLV 14	-886	214	5754	-3.31	-47.19	-1.56
542	SLV 15	-905	-194	5148	3.5	-55.61	-2.99
542	SLV 16	-853	-306	5108	3.88	-57.33	0.09
542	SLV FO 1	828	212	7845	-3.4	16.33	1.48
542	SLV FO 2	885	90	7801	-2.98	14.43	4.88
542	SLV FO 3	864	-359	7134	4.52	5.17	3.3
542	SLV FO 4	921	-482	7090	4.94	3.28	6.69
542	SLV FO 5	146	913	7927	-12.81	6.59	-2.41
542	SLV FO 6	185	830	7898	-12.53	5.32	-0.13
542	SLV FO 7	266	-994	5558	13.57	-30.59	3.64
542	SLV FO 8	305	-1076	5529	13.86	-31.86	5.92
542	SLV FO 9	-410	958	7294	-13.03	-12.64	-4.41
542	SLV FO 10	-372	876	7264	-12.74	-13.92	-2.13
542	SLV FO 11	-290	-948	4925	13.36	-49.82	1.64
542	SLV FO 12	-252	-1031	4895	13.64	-51.1	3.92
542	SLV FO 13	-1027	364	5732	-4.11	-47.79	-5.18
542	SLV FO 14	-969	241	5688	-3.69	-49.68	-1.79
542	SLV FO 15	-991	-208	5022	3.81	-58.94	-3.37
542	SLV FO 16	-933	-331	4978	4.23	-60.84	0.03
542	CRTFP Ux+	0	0	0	0	0	0
542	CRTFP Ux-	0	0	0	0	0	0
542	CRTFP Uy+	0	0	0	0	0	0
542	CRTFP Uy-	0	0	0	0	0	0
544	SLU 1	-238	-173	10212	-84.98	-2.62	-10.6
544	SLU 2	-239	-107	10219	-92.08	-2.31	-10.94
544	SLU 3	-243	-177	10441	-83.78	-2.7	-10.86
544	SLU 4	-243	-137	10445	-88.04	-2.51	-11.07
544	SLU 5	-242	-109	10367	-91.17	-2.37	-11.12
544	SLU 6	-246	-179	10588	-82.86	-2.76	-11.04
544	SLU 7	-246	-139	10593	-87.12	-2.57	-11.24
544	SLU 8	-244	-178	10506	-83.14	-2.74	-10.96
544	SLU 9	-245	-138	10511	-87.41	-2.55	-11.16
544	SLU 10	-260	-131	11620	-98.32	-2.96	-11.7
544	SLU 11	-264	-201	11841	-90.01	-3.35	-11.62
544	SLU 12	-265	-161	11846	-94.28	-3.16	-11.82
544	SLU 13	-263	-133	11767	-97.4	-3.02	-11.88
544	SLU 14	-267	-203	11989	-89.1	-3.41	-11.8
544	SLU 15	-268	-163	11993	-93.36	-3.22	-12
544	SLU 16	-265	-202	11907	-89.38	-3.39	-11.72
544	SLU 17	-266	-162	11911	-93.64	-3.2	-11.92
544	SLU 18	-268	-207	12213	-93.88	-3.55	-11.68
544	SLU 19	-269	-168	12217	-98.15	-3.36	-11.88
544	SLU 20	-271	-210	12360	-92.97	-3.61	-11.86
544	SLU 21	-272	-170	12364	-97.23	-3.42	-12.06
544	SLU 22	-267	-194	11780	-83.98	-2.8	-12.13
544	SLU 23	-268	-128	11787	-91.09	-2.49	-12.47
544	SLU 24	-272	-198	12009	-82.78	-2.89	-12.39
544	SLU 25	-273	-158	12013	-87.05	-2.7	-12.6
544	SLU 26	-271	-131	11934	-90.17	-2.55	-12.65
544	SLU 27	-275	-200	12156	-81.87	-2.95	-12.57
544	SLU 28	-276	-161	12160	-86.13	-2.76	-12.78
544	SLU 29	-273	-199	12074	-82.15	-2.93	-12.49
544	SLU 30	-274	-160	12078	-86.41	-2.74	-12.69



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
544	SLU 31	-289	-152	13188	-97.32	-3.15	-13.23
544	SLU 32	-293	-222	13409	-89.02	-3.54	-13.15
544	SLU 33	-294	-182	13414	-93.28	-3.35	-13.35
544	SLU 34	-292	-154	13335	-96.41	-3.21	-13.41
544	SLU 35	-296	-224	13556	-88.1	-3.6	-13.33
544	SLU 36	-297	-184	13561	-92.37	-3.41	-13.53
544	SLU 37	-294	-223	13474	-88.39	-3.58	-13.25
544	SLU 38	-295	-183	13479	-92.65	-3.39	-13.45
544	SLU 39	-298	-229	13781	-92.89	-3.74	-13.21
544	SLU 40	-298	-189	13785	-97.15	-3.55	-13.42
544	SLU 41	-300	-231	13928	-91.98	-3.8	-13.39
544	SLU 42	-301	-191	13932	-96.24	-3.61	-13.59
544	SLU 43	-300	-218	12738	-110.81	-3.34	-13.26
544	SLU 44	-300	-152	12745	-117.92	-3.03	-13.6
544	SLU 45	-304	-222	12967	-109.61	-3.42	-13.52
544	SLU 46	-305	-182	12971	-113.87	-3.23	-13.72
544	SLU 47	-303	-154	12893	-117	-3.09	-13.78
544	SLU 48	-307	-224	13114	-108.69	-3.48	-13.7
544	SLU 49	-308	-184	13119	-112.96	-3.29	-13.9
544	SLU 50	-306	-223	13032	-108.98	-3.46	-13.62
544	SLU 51	-306	-183	13037	-113.24	-3.27	-13.82
544	SLU 52	-322	-176	14146	-124.15	-3.68	-14.35
544	SLU 53	-326	-245	14368	-115.85	-4.07	-14.27
544	SLU 54	-326	-206	14372	-120.11	-3.88	-14.48
544	SLU 55	-325	-178	14293	-123.24	-3.74	-14.53
544	SLU 56	-329	-248	14515	-114.93	-4.13	-14.45
544	SLU 57	-329	-208	14519	-119.19	-3.94	-14.66
544	SLU 58	-327	-247	14433	-115.21	-4.11	-14.37
544	SLU 59	-327	-207	14437	-119.48	-3.92	-14.58
544	SLU 60	-330	-252	14739	-119.72	-4.27	-14.34
544	SLU 61	-330	-212	14743	-123.98	-4.08	-14.54
544	SLU 62	-333	-255	14886	-118.8	-4.33	-14.52
544	SLU 63	-333	-215	14890	-123.07	-4.14	-14.72
544	SLU 64	-329	-239	14306	-109.82	-3.52	-14.79
544	SLU 65	-330	-173	14313	-116.92	-3.21	-15.13
544	SLU 66	-333	-243	14535	-108.62	-3.61	-15.05
544	SLU 67	-334	-203	14539	-112.88	-3.42	-15.25
544	SLU 68	-333	-175	14460	-116.01	-3.27	-15.31
544	SLU 69	-336	-245	14682	-107.7	-3.67	-15.23
544	SLU 70	-337	-205	14686	-111.96	-3.48	-15.43
544	SLU 71	-335	-244	14600	-107.98	-3.65	-15.15
544	SLU 72	-335	-204	14604	-112.25	-3.46	-15.35
544	SLU 73	-351	-197	15714	-123.16	-3.87	-15.88
544	SLU 74	-355	-267	15935	-114.85	-4.26	-15.8
544	SLU 75	-355	-227	15940	-119.12	-4.07	-16.01
544	SLU 76	-354	-199	15861	-122.24	-3.93	-16.06
544	SLU 77	-358	-269	16082	-113.94	-4.32	-15.98
544	SLU 78	-358	-229	16087	-118.2	-4.13	-16.19
544	SLU 79	-356	-268	16001	-114.22	-4.3	-15.9
544	SLU 80	-356	-228	16005	-118.48	-4.11	-16.11
544	SLU 81	-359	-273	16307	-118.73	-4.46	-15.87
544	SLU 82	-359	-234	16311	-122.99	-4.27	-16.07
544	SLU 83	-362	-276	16454	-117.81	-4.52	-16.05
544	SLU 84	-362	-236	16458	-122.07	-4.33	-16.25
544	SLE RA 1	-246	-179	10660	-84.69	-2.67	-11.04
544	SLE RA 2	-247	-135	10665	-89.43	-2.46	-11.26
544	SLE RA 3	-250	-182	10813	-83.89	-2.72	-11.21
544	SLE RA 4	-250	-155	10816	-86.73	-2.6	-11.35
544	SLE RA 5	-249	-137	10763	-88.82	-2.5	-11.38
544	SLE RA 6	-252	-183	10911	-83.28	-2.76	-11.33
544	SLE RA 7	-252	-157	10914	-86.12	-2.64	-11.47
544	SLE RA 8	-250	-183	10856	-83.47	-2.75	-11.28
544	SLE RA 9	-251	-156	10859	-86.31	-2.63	-11.41
544	SLE RA 10	-261	-151	11599	-93.59	-2.9	-11.77
544	SLE RA 11	-264	-198	11746	-88.05	-3.16	-11.72
544	SLE RA 12	-264	-171	11749	-90.89	-3.03	-11.85
544	SLE RA 13	-263	-153	11697	-92.98	-2.94	-11.89
544	SLE RA 14	-266	-199	11844	-87.44	-3.2	-11.84
544	SLE RA 15	-266	-173	11847	-90.28	-3.08	-11.97
544	SLE RA 16	-265	-199	11790	-87.63	-3.19	-11.78
544	SLE RA 17	-265	-172	11793	-90.47	-3.06	-11.92
544	SLE RA 18	-267	-202	11994	-90.63	-3.29	-11.76
544	SLE RA 19	-267	-176	11997	-93.47	-3.17	-11.89
544	SLE RA 20	-269	-204	12092	-90.02	-3.33	-11.88
544	SLE RA 21	-269	-177	12095	-92.86	-3.21	-12.01
544	SLE FR 1	-246	-179	10660	-84.69	-2.67	-11.04
544	SLE FR 2	-247	-170	10661	-85.64	-2.63	-11.08
544	SLE FR 3	-247	-180	10699	-84.45	-2.69	-11.09
544	SLE FR 4	-253	-177	11061	-87.42	-2.82	-11.3
544	SLE FR 5	-253	-187	11099	-86.23	-2.87	-11.3
544	SLE FR 6	-257	-191	11327	-87.66	-2.98	-11.4
544	SLE QP 1	-246	-179	10660	-84.69	-2.67	-11.04
544	SLE QP 2	-252	-186	11060	-86.47	-2.86	-11.26
544	SLD 1	872	197	10834	-134.9	2.87	17.01
544	SLD 2	942	155	10822	-134.29	2.76	28.12
544	SLD 3	909	-588	10728	-44.53	-0.82	25.34
544	SLD 4	980	-629	10716	-43.92	-0.93	36.45
544	SLD 5	15	1126	11155	-238.18	4.49	-17.42
544	SLD 6	61	1099	11147	-237.78	4.42	-10.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
544	SLD 7	141	-1489	10802	63.07	-7.83	10.36
544	SLD 8	187	-1517	10794	63.47	-7.9	17.7
544	SLD 9	-692	1144	11326	-236.42	2.19	-40.21
544	SLD 10	-646	1117	11318	-236.02	2.12	-32.87
544	SLD 11	-566	-1471	10973	64.83	-10.13	-12.43
544	SLD 12	-520	-1499	10965	65.23	-10.2	-5.1
544	SLD 13	-1485	257	11404	-129.03	-4.78	-58.96
544	SLD 14	-1414	216	11392	-128.42	-4.89	-47.85
544	SLD 15	-1447	-528	11298	-38.66	-8.48	-50.63
544	SLD 16	-1377	-569	11286	-38.05	-8.58	-39.52
544	SLV 1	1507	432	10712	-164.61	6.2	32.83
544	SLV 2	1618	367	10692	-163.65	6.03	50.23
544	SLV 3	1568	-836	10538	-18.49	0.22	46.21
544	SLV 4	1678	-901	10519	-17.53	0.05	63.61
544	SLV 5	163	1934	11222	-331.71	8.95	-21.58
544	SLV 6	237	1891	11209	-331.06	8.83	-9.86
544	SLV 7	365	-2292	10644	155.36	-10.96	23.03
544	SLV 8	440	-2335	10632	156	-11.07	34.75
544	SLV 9	-944	1963	11488	-328.95	5.36	-57.26
544	SLV 10	-870	1920	11476	-328.31	5.25	-45.54
544	SLV 11	-742	-2263	10911	158.11	-14.55	-12.65
544	SLV 12	-668	-2306	10898	158.76	-14.66	-0.93
544	SLV 13	-2183	529	11601	-155.42	-5.77	-86.12
544	SLV 14	-2073	464	11582	-154.46	-5.94	-68.72
544	SLV 15	-2123	-739	11428	-9.3	-11.74	-72.74
544	SLV 16	-2012	-804	11409	-8.34	-11.91	-55.34
544	SLV FO 1	1683	494	10677	-172.42	7.1	37.23
544	SLV FO 2	1805	422	10656	-171.37	6.91	56.38
544	SLV FO 3	1750	-901	10486	-11.69	0.53	51.96
544	SLV FO 4	1871	-972	10465	-10.63	0.34	71.1
544	SLV FO 5	204	2146	11238	-356.23	10.13	-22.61
544	SLV FO 6	286	2098	11224	-355.52	10	-9.72
544	SLV FO 7	427	-2502	10603	179.54	-11.77	26.46
544	SLV FO 8	509	-2550	10589	180.25	-11.89	39.35
544	SLV FO 9	-1014	2178	11531	-353.2	6.18	-61.86
544	SLV FO 10	-932	2130	11517	-352.49	6.06	-48.97
544	SLV FO 11	-791	-2471	10896	182.57	-15.72	-12.79
544	SLV FO 12	-709	-2518	10882	183.28	-15.84	0.1
544	SLV FO 13	-2376	600	11655	-162.31	-6.06	-93.61
544	SLV FO 14	-2255	529	11634	-161.26	-6.24	-74.47
544	SLV FO 15	-2310	-795	11464	-1.58	-12.63	-78.89
544	SLV FO 16	-2188	-866	11443	-0.53	-12.81	-59.74
544	CRTFP Ux+	0	0	0	0	0	0
544	CRTFP Ux-	0	0	0	0	0	0
544	CRTFP Uy+	0	0	0	0	0	0
544	CRTFP Uy-	0	0	0	0	0	0
548	SLU 1	-4	-60	2589	0.23	986.94	24.03
548	SLU 2	-3	-46	2595	0.15	989.05	18.5
548	SLU 3	-4	-61	2645	0.27	1008.48	24.52
548	SLU 4	-3	-53	2649	0.22	1009.74	21.19
548	SLU 5	-3	-47	2632	0.17	1002.97	18.79
548	SLU 6	-4	-62	2682	0.29	1022.4	24.81
548	SLU 7	-3	-54	2685	0.24	1023.67	21.48
548	SLU 8	-4	-62	2661	0.28	1014.79	24.61
548	SLU 9	-3	-53	2665	0.23	1016.05	21.29
548	SLU 10	-5	-53	2954	0.2	1126.94	21.32
548	SLU 11	-6	-68	3004	0.32	1146.37	27.34
548	SLU 12	-5	-60	3008	0.26	1147.63	24.01
548	SLU 13	-5	-54	2990	0.22	1140.86	21.61
548	SLU 14	-6	-69	3040	0.34	1160.29	27.62
548	SLU 15	-5	-61	3044	0.29	1161.56	24.3
548	SLU 16	-6	-69	3020	0.33	1152.68	27.43
548	SLU 17	-5	-60	3024	0.28	1153.94	24.11
548	SLU 18	-6	-70	3101	0.3	1183.93	28.06
548	SLU 19	-6	-62	3105	0.25	1185.19	24.74
548	SLU 20	-6	-71	3137	0.33	1197.85	28.35
548	SLU 21	-6	-63	3141	0.28	1199.12	25.03
548	SLU 22	-5	-68	2980	0.38	1135.63	27.11
548	SLU 23	-4	-54	2986	0.29	1137.74	21.57
548	SLU 24	-5	-69	3036	0.41	1157.17	27.59
548	SLU 25	-4	-61	3040	0.36	1158.44	24.27
548	SLU 26	-4	-55	3022	0.32	1151.67	21.86
548	SLU 27	-5	-70	3072	0.44	1171.09	27.88
548	SLU 28	-4	-61	3076	0.39	1172.36	24.56
548	SLU 29	-5	-69	3052	0.43	1163.48	27.69
548	SLU 30	-4	-61	3056	0.38	1164.75	24.36
548	SLU 31	-6	-61	3345	0.34	1275.63	24.39
548	SLU 32	-6	-76	3395	0.46	1295.06	30.41
548	SLU 33	-6	-68	3398	0.41	1296.33	27.09
548	SLU 34	-6	-62	3381	0.37	1289.56	24.68
548	SLU 35	-7	-77	3431	0.49	1308.98	30.7
548	SLU 36	-6	-68	3434	0.44	1310.25	27.38
548	SLU 37	-6	-76	3410	0.48	1301.37	30.51
548	SLU 38	-6	-68	3414	0.43	1302.64	27.18
548	SLU 39	-7	-78	3492	0.45	1332.62	31.13
548	SLU 40	-7	-70	3496	0.39	1333.89	27.81
548	SLU 41	-7	-79	3528	0.47	1346.54	31.42
548	SLU 42	-7	-70	3532	0.42	1347.81	28.1
548	SLU 43	-5	-76	3232	0.25	1232.04	30.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
548	SLU 44	-4	-62	3238	0.17	1234.15	24.65
548	SLU 45	-5	-77	3288	0.29	1253.58	30.67
548	SLU 46	-4	-68	3292	0.24	1254.85	27.35
548	SLU 47	-4	-62	3274	0.19	1248.08	24.94
548	SLU 48	-5	-77	3324	0.31	1267.5	30.96
548	SLU 49	-4	-69	3328	0.26	1268.77	27.64
548	SLU 50	-5	-77	3304	0.3	1259.89	30.77
548	SLU 51	-4	-69	3308	0.25	1261.16	27.45
548	SLU 52	-6	-69	3597	0.21	1372.04	27.47
548	SLU 53	-7	-84	3647	0.34	1391.47	33.49
548	SLU 54	-6	-75	3651	0.28	1392.74	30.17
548	SLU 55	-6	-69	3633	0.24	1385.97	27.76
548	SLU 56	-7	-85	3683	0.36	1405.39	33.78
548	SLU 57	-6	-76	3687	0.31	1406.66	30.46
548	SLU 58	-7	-84	3663	0.35	1397.78	33.59
548	SLU 59	-6	-76	3667	0.3	1399.05	30.27
548	SLU 60	-7	-86	3744	0.32	1429.03	34.22
548	SLU 61	-7	-77	3748	0.27	1430.3	30.9
548	SLU 62	-7	-86	3780	0.35	1442.95	34.51
548	SLU 63	-7	-78	3784	0.3	1444.22	31.18
548	SLU 64	-5	-83	3622	0.4	1380.74	33.26
548	SLU 65	-5	-69	3629	0.31	1382.85	27.73
548	SLU 66	-6	-84	3679	0.43	1402.27	33.75
548	SLU 67	-5	-76	3683	0.38	1403.54	30.42
548	SLU 68	-5	-70	3665	0.34	1396.77	28.02
548	SLU 69	-6	-85	3715	0.46	1416.2	34.04
548	SLU 70	-5	-77	3719	0.41	1417.46	30.71
548	SLU 71	-6	-85	3695	0.45	1408.58	33.84
548	SLU 72	-5	-76	3698	0.4	1409.85	30.52
548	SLU 73	-6	-76	3987	0.36	1520.74	30.55
548	SLU 74	-7	-91	4037	0.48	1540.16	36.57
548	SLU 75	-7	-83	4041	0.43	1541.43	33.24
548	SLU 76	-6	-77	4023	0.39	1534.66	30.83
548	SLU 77	-7	-92	4073	0.51	1554.09	36.85
548	SLU 78	-7	-84	4077	0.46	1555.35	33.53
548	SLU 79	-7	-92	4053	0.5	1546.47	36.66
548	SLU 80	-7	-83	4057	0.45	1547.74	33.34
548	SLU 81	-8	-93	4135	0.47	1577.72	37.29
548	SLU 82	-8	-85	4138	0.41	1578.99	33.97
548	SLU 83	-8	-94	4171	0.49	1591.65	37.58
548	SLU 84	-8	-86	4175	0.44	1592.91	34.26
548	SLE RA 1	-4	-62	2701	0.27	1029.42	24.91
548	SLE RA 2	-3	-53	2705	0.22	1030.83	21.22
548	SLE RA 3	-4	-63	2738	0.3	1043.78	25.23
548	SLE RA 4	-4	-58	2741	0.26	1044.63	23.02
548	SLE RA 5	-3	-54	2729	0.23	1040.11	21.41
548	SLE RA 6	-4	-64	2762	0.31	1053.06	25.43
548	SLE RA 7	-4	-58	2765	0.28	1053.91	23.21
548	SLE RA 8	-4	-63	2749	0.31	1047.99	25.3
548	SLE RA 9	-4	-58	2751	0.27	1048.83	23.08
548	SLE RA 10	-5	-58	2944	0.25	1122.76	23.1
548	SLE RA 11	-5	-68	2977	0.33	1135.71	27.11
548	SLE RA 12	-5	-62	2980	0.29	1136.55	24.9
548	SLE RA 13	-5	-58	2968	0.27	1132.04	23.29
548	SLE RA 14	-5	-68	3001	0.35	1144.99	27.31
548	SLE RA 15	-5	-63	3004	0.31	1145.84	25.09
548	SLE RA 16	-5	-68	2988	0.34	1139.92	27.18
548	SLE RA 17	-5	-62	2990	0.31	1140.76	24.96
548	SLE RA 18	-6	-69	3042	0.32	1160.75	27.6
548	SLE RA 19	-5	-64	3045	0.29	1161.59	25.38
548	SLE RA 20	-6	-70	3066	0.34	1170.03	27.79
548	SLE RA 21	-5	-64	3069	0.3	1170.87	25.57
548	SLE FR 1	-4	-62	2701	0.27	1029.42	24.91
548	SLE FR 2	-4	-60	2701	0.26	1029.71	24.17
548	SLE FR 3	-4	-63	2710	0.28	1033.14	24.99
548	SLE FR 4	-4	-62	2804	0.28	1069.1	24.98
548	SLE FR 5	-4	-65	2813	0.29	1072.53	25.79
548	SLE FR 6	-5	-66	2871	0.3	1095.09	26.25
548	SLE QP 1	-4	-62	2701	0.27	1029.42	24.91
548	SLE QP 2	-4	-64	2803	0.29	1068.82	25.72
548	SLD 1	214	28	2913	0.02	1117.74	-11.37
548	SLD 2	229	32	2915	0	1118.6	-12.63
548	SLD 3	203	-133	2836	1.07	1091.73	53.12
548	SLD 4	218	-130	2838	1.05	1092.59	51.86
548	SLD 5	75	207	2952	-1.38	1122.8	-83
548	SLD 6	85	210	2953	-1.39	1123.36	-83.82
548	SLD 7	39	-330	2696	2.12	1036.09	131.97
548	SLD 8	48	-328	2698	2.11	1036.65	131.15
548	SLD 9	-57	199	2908	-1.53	1100.99	-79.71
548	SLD 10	-48	201	2910	-1.54	1101.56	-80.54
548	SLD 11	-94	-338	2653	1.97	1014.28	135.26
548	SLD 12	-84	-336	2654	1.96	1014.85	134.43
548	SLD 13	-227	1	2768	-0.48	1045.05	-0.43
548	SLD 14	-212	4	2770	-0.49	1045.92	-1.68
548	SLD 15	-238	-160	2691	0.57	1019.04	64.06
548	SLD 16	-223	-157	2694	0.56	1019.9	62.81
548	SLV 1	338	85	2976	-0.16	1146	-34.02
548	SLV 2	362	90	2980	-0.19	1147.35	-35.98
548	SLV 3	320	-176	2852	1.54	1103.85	70.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
548	SLV 4	344	-171	2856	1.51	1105.2	68.25
548	SLV 5	121	375	3043	-2.42	1155.65	-149.92
548	SLV 6	137	378	3045	-2.43	1156.56	-151.24
548	SLV 7	62	-494	2629	3.24	1015.15	197.52
548	SLV 8	77	-490	2631	3.22	1016.06	196.2
548	SLV 9	-86	362	2975	-2.65	1121.59	-144.76
548	SLV 10	-71	365	2977	-2.67	1122.5	-146.08
548	SLV 11	-146	-507	2561	3.01	981.08	202.68
548	SLV 12	-130	-503	2564	2.99	981.99	201.36
548	SLV 13	-353	42	2750	-0.94	1032.45	-16.82
548	SLV 14	-329	47	2754	-0.96	1033.8	-18.78
548	SLV 15	-370	-219	2626	0.76	990.3	87.42
548	SLV 16	-347	-214	2630	0.74	991.65	85.45
548	SLV FO 1	372	100	2994	-0.21	1153.71	-39.99
548	SLV FO 2	398	105	2998	-0.23	1155.2	-42.15
548	SLV FO 3	353	-187	2857	1.66	1107.35	74.67
548	SLV FO 4	379	-181	2862	1.63	1108.83	72.5
548	SLV FO 5	133	419	3067	-2.69	1164.33	-167.48
548	SLV FO 6	151	422	3070	-2.71	1165.33	-168.94
548	SLV FO 7	68	-537	2611	3.54	1009.78	214.7
548	SLV FO 8	86	-533	2614	3.52	1010.78	213.24
548	SLV FO 9	-95	404	2992	-2.95	1126.86	-161.81
548	SLV FO 10	-77	408	2995	-2.96	1127.86	-163.26
548	SLV FO 11	-160	-551	2537	3.28	972.31	220.37
548	SLV FO 12	-142	-547	2540	3.26	973.31	218.92
548	SLV FO 13	-388	52	2745	-1.06	1028.81	-21.07
548	SLV FO 14	-362	58	2749	-1.09	1030.3	-23.23
548	SLV FO 15	-407	-234	2608	0.81	982.44	93.59
548	SLV FO 16	-381	-228	2612	0.78	983.93	91.42
548	CRTFP Ux+	0	0	0	0	0	0
548	CRTFP Ux-	0	0	0	0	0	0
548	CRTFP Uy+	0	0	0	0	0	0
548	CRTFP Uy-	0	0	0	0	0	0
550	SLU 1	-45	47	3544	4.71	-656.06	11.91
550	SLU 2	-46	69	3562	4.53	-656.58	17.26
550	SLU 3	-46	48	3621	4.87	-670.66	12.05
550	SLU 4	-47	61	3631	4.76	-670.98	15.26
550	SLU 5	-47	69	3610	4.64	-665.76	17.36
550	SLU 6	-47	48	3669	4.97	-679.84	12.15
550	SLU 7	-47	61	3679	4.87	-680.16	15.36
550	SLU 8	-46	48	3640	4.91	-674.42	12.1
550	SLU 9	-47	61	3651	4.81	-674.73	15.31
550	SLU 10	-48	76	4006	5.21	-739.07	18.94
550	SLU 11	-47	55	4065	5.55	-753.15	13.73
550	SLU 12	-48	68	4076	5.44	-753.46	16.94
550	SLU 13	-48	76	4054	5.32	-748.25	19.04
550	SLU 14	-48	55	4113	5.65	-762.33	13.83
550	SLU 15	-49	68	4124	5.55	-762.64	17.04
550	SLU 16	-48	55	4085	5.59	-756.91	13.78
550	SLU 17	-48	68	4095	5.49	-757.22	16.99
550	SLU 18	-47	57	4179	5.68	-773.9	14.31
550	SLU 19	-48	70	4190	5.57	-774.21	17.52
550	SLU 20	-48	57	4227	5.78	-783.08	14.4
550	SLU 21	-48	70	4238	5.68	-783.39	17.62
550	SLU 22	-49	52	4084	5.65	-757.15	13.13
550	SLU 23	-50	74	4101	5.47	-757.67	18.48
550	SLU 24	-50	53	4160	5.81	-771.75	13.27
550	SLU 25	-50	66	4171	5.7	-772.06	16.48
550	SLU 26	-51	74	4149	5.58	-766.85	18.58
550	SLU 27	-50	53	4208	5.91	-780.93	13.37
550	SLU 28	-51	66	4219	5.81	-781.24	16.58
550	SLU 29	-50	53	4180	5.86	-775.51	13.32
550	SLU 30	-51	66	4190	5.75	-775.82	16.53
550	SLU 31	-51	80	4546	6.16	-840.16	20.16
550	SLU 32	-51	60	4605	6.49	-854.24	14.95
550	SLU 33	-52	72	4615	6.39	-854.55	18.16
550	SLU 34	-52	81	4594	6.26	-849.34	20.26
550	SLU 35	-52	60	4653	6.59	-863.42	15.05
550	SLU 36	-52	73	4663	6.49	-863.73	18.26
550	SLU 37	-51	60	4624	6.54	-858	15
550	SLU 38	-52	73	4635	6.43	-858.31	18.21
550	SLU 39	-51	62	4719	6.62	-874.99	15.53
550	SLU 40	-52	75	4729	6.52	-875.3	18.74
550	SLU 41	-51	62	4767	6.73	-884.17	15.62
550	SLU 42	-52	75	4777	6.62	-884.48	18.84
550	SLU 43	-57	60	4422	5.8	-818.22	15.06
550	SLU 44	-59	81	4440	5.62	-818.74	20.42
550	SLU 45	-58	60	4499	5.96	-832.82	15.2
550	SLU 46	-59	73	4510	5.85	-833.14	18.42
550	SLU 47	-59	82	4488	5.72	-827.92	20.51
550	SLU 48	-59	61	4547	6.06	-842	15.3
550	SLU 49	-60	74	4558	5.95	-842.32	18.51
550	SLU 50	-59	61	4519	6	-836.58	15.25
550	SLU 51	-59	74	4529	5.9	-836.89	18.47
550	SLU 52	-60	88	4884	6.3	-901.23	22.1
550	SLU 53	-60	67	4944	6.64	-915.31	16.88
550	SLU 54	-60	80	4954	6.53	-915.62	20.1
550	SLU 55	-61	88	4932	6.4	-910.41	22.19
550	SLU 56	-60	68	4992	6.74	-924.49	16.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
550	SLU 57	-61	80	5002	6.63	-924.8	20.19
550	SLU 58	-60	67	4963	6.68	-919.07	16.93
550	SLU 59	-61	80	4974	6.58	-919.38	20.15
550	SLU 60	-59	70	5057	6.77	-936.06	17.46
550	SLU 61	-60	82	5068	6.66	-936.37	20.68
550	SLU 62	-60	70	5106	6.87	-945.24	17.56
550	SLU 63	-61	83	5116	6.77	-945.55	20.77
550	SLU 64	-61	65	4962	6.74	-919.31	16.28
550	SLU 65	-62	86	4979	6.56	-919.83	21.64
550	SLU 66	-62	65	5039	6.9	-933.91	16.42
550	SLU 67	-63	78	5049	6.79	-934.22	19.64
550	SLU 68	-63	87	5027	6.67	-929.01	21.73
550	SLU 69	-63	66	5087	7	-943.09	16.52
550	SLU 70	-63	79	5097	6.9	-943.4	19.73
550	SLU 71	-62	66	5058	6.95	-937.67	16.47
550	SLU 72	-63	78	5068	6.84	-937.98	19.69
550	SLU 73	-64	93	5424	7.24	-1002.32	23.32
550	SLU 74	-63	72	5483	7.58	-1016.4	18.1
550	SLU 75	-64	85	5494	7.47	-1016.71	21.32
550	SLU 76	-64	93	5472	7.35	-1011.5	23.41
550	SLU 77	-64	72	5531	7.68	-1025.58	18.2
550	SLU 78	-65	85	5542	7.58	-1025.89	21.41
550	SLU 79	-64	72	5503	7.63	-1020.16	18.15
550	SLU 80	-64	85	5513	7.52	-1020.47	21.37
550	SLU 81	-63	74	5597	7.71	-1037.15	18.68
550	SLU 82	-64	87	5607	7.61	-1037.46	21.9
550	SLU 83	-64	75	5645	7.81	-1046.33	18.78
550	SLU 84	-64	88	5655	7.71	-1046.64	21.99
550	SLE RA 1	-46	49	3698	4.98	-684.94	12.26
550	SLE RA 2	-47	63	3710	4.86	-685.29	15.83
550	SLE RA 3	-47	49	3749	5.08	-694.68	12.35
550	SLE RA 4	-47	58	3756	5.01	-694.89	14.49
550	SLE RA 5	-47	63	3742	4.93	-691.41	15.89
550	SLE RA 6	-47	49	3781	5.15	-700.8	12.41
550	SLE RA 7	-48	58	3788	5.08	-701.01	14.56
550	SLE RA 8	-47	49	3762	5.11	-697.18	12.38
550	SLE RA 9	-47	58	3769	5.04	-697.39	14.53
550	SLE RA 10	-48	68	4006	5.31	-740.28	16.95
550	SLE RA 11	-48	54	4046	5.54	-749.67	13.47
550	SLE RA 12	-48	62	4053	5.47	-749.88	15.61
550	SLE RA 13	-48	68	4038	5.38	-746.4	17.01
550	SLE RA 14	-48	54	4078	5.61	-755.79	13.53
550	SLE RA 15	-49	62	4085	5.54	-756	15.68
550	SLE RA 16	-48	54	4059	5.57	-752.17	13.5
550	SLE RA 17	-48	62	4066	5.5	-752.38	15.65
550	SLE RA 18	-48	55	4122	5.62	-763.5	13.86
550	SLE RA 19	-48	64	4129	5.55	-763.71	16
550	SLE RA 20	-48	55	4154	5.69	-769.62	13.92
550	SLE RA 21	-48	64	4161	5.62	-769.83	16.06
550	SLE FR 1	-46	49	3698	4.98	-684.94	12.26
550	SLE FR 2	-46	52	3701	4.95	-685.01	12.97
550	SLE FR 3	-46	49	3711	5	-687.39	12.28
550	SLE FR 4	-47	54	3828	5.15	-708.58	13.45
550	SLE FR 5	-47	51	3838	5.2	-710.96	12.76
550	SLE FR 6	-47	52	3910	5.3	-724.22	13.06
550	SLE QP 1	-46	49	3698	4.98	-684.94	12.26
550	SLE QP 2	-47	51	3825	5.17	-708.51	12.74
550	SLD 1	213	183	4984	5.42	-889.74	45.63
550	SLD 2	229	78	4964	5.62	-889.67	19.56
550	SLD 3	232	-60	4759	7.79	-884.25	-14.99
550	SLD 4	248	-165	4739	8	-884.18	-41.07
550	SLD 5	-1	477	4517	1.6	-771.22	119.25
550	SLD 6	9	408	4504	1.74	-771.17	102.03
550	SLD 7	64	-332	3768	9.53	-752.92	-82.83
550	SLD 8	74	-401	3755	9.66	-752.87	-100.05
550	SLD 9	-168	502	3896	0.68	-664.15	125.52
550	SLD 10	-157	433	3883	0.81	-664.11	108.3
550	SLD 11	-103	-307	3146	8.61	-645.85	-76.56
550	SLD 12	-92	-376	3133	8.74	-645.8	-93.78
550	SLD 13	-342	266	2912	2.34	-532.85	66.54
550	SLD 14	-325	162	2892	2.55	-532.77	40.46
550	SLD 15	-322	24	2687	4.72	-527.35	5.91
550	SLD 16	-306	-81	2667	4.93	-527.28	-20.16
550	SLV 1	359	263	5639	5.49	-991.37	65.79
550	SLV 2	384	99	5607	5.81	-991.26	24.94
550	SLV 3	390	-129	5275	9.33	-982.46	-32.13
550	SLV 4	416	-293	5244	9.65	-982.35	-72.99
550	SLV 5	23	740	4926	-0.62	-806.89	184.8
550	SLV 6	40	629	4905	-0.41	-806.82	157.29
550	SLV 7	127	-567	3715	12.18	-777.21	-141.62
550	SLV 8	144	-678	3694	12.4	-777.14	-169.13
550	SLV 9	-238	779	3957	-2.06	-639.89	194.6
550	SLV 10	-221	668	3936	-1.84	-639.81	167.09
550	SLV 11	-133	-528	2745	10.75	-610.2	-131.82
550	SLV 12	-116	-638	2724	10.96	-610.13	-159.33
550	SLV 13	-509	394	2407	0.69	-434.67	98.46
550	SLV 14	-484	230	2376	1.01	-434.56	57.61
550	SLV 15	-478	2	2044	4.53	-425.77	0.53
550	SLV 16	-452	-162	2012	4.86	-425.66	-40.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
550	SLV FO 1	399	285	5820	5.52	-1019.65	71.1
550	SLV FO 2	427	104	5785	5.87	-1019.53	26.16
550	SLV FO 3	434	-147	5420	9.74	-1009.86	-36.62
550	SLV FO 4	462	-327	5385	10.1	-1009.73	-81.56
550	SLV FO 5	30	809	5037	-1.2	-816.73	202.01
550	SLV FO 6	48	687	5013	-0.96	-816.65	171.75
550	SLV FO 7	145	-629	3704	12.89	-784.08	-157.06
550	SLV FO 8	163	-751	3680	13.13	-784	-187.32
550	SLV FO 9	-257	852	3970	-2.78	-633.02	212.79
550	SLV FO 10	-238	730	3947	-2.55	-632.94	182.53
550	SLV FO 11	-142	-586	2637	11.3	-600.37	-146.28
550	SLV FO 12	-123	-707	2614	11.54	-600.29	-176.54
550	SLV FO 13	-555	429	2265	0.24	-407.29	107.03
550	SLV FO 14	-527	248	2231	0.6	-407.16	62.09
550	SLV FO 15	-521	-2	1865	4.47	-397.49	-0.69
550	SLV FO 16	-493	-183	1831	4.82	-397.37	-45.63
550	CRTFP Ux+	0	0	0	0	0	0
550	CRTFP Ux-	0	0	0	0	0	0
550	CRTFP Uy+	0	0	0	0	0	0
550	CRTFP Uy-	0	0	0	0	0	0
553	SLU 1	54	-23	6332	0.32	34.43	-0.91
553	SLU 2	55	7	6353	-0.15	33.33	-0.84
553	SLU 3	56	-23	6476	0.48	35.4	-0.94
553	SLU 4	56	-5	6489	0.19	34.74	-0.9
553	SLU 5	56	7	6447	-0.04	33.98	-0.87
553	SLU 6	56	-23	6569	0.59	36.05	-0.98
553	SLU 7	57	-5	6582	0.3	35.39	-0.93
553	SLU 8	56	-23	6518	0.55	35.73	-0.97
553	SLU 9	57	-5	6531	0.26	35.07	-0.93
553	SLU 10	58	7	7199	0.07	39.14	-0.94
553	SLU 11	58	-23	7322	0.7	41.22	-1.04
553	SLU 12	59	-5	7335	0.42	40.56	-1
553	SLU 13	59	7	7292	0.19	39.79	-0.97
553	SLU 14	59	-23	7415	0.82	41.87	-1.08
553	SLU 15	60	-5	7428	0.53	41.21	-1.03
553	SLU 16	59	-23	7364	0.78	41.54	-1.07
553	SLU 17	59	-5	7377	0.49	40.88	-1.03
553	SLU 18	58	-23	7540	0.65	42.73	-1.05
553	SLU 19	59	-5	7553	0.36	42.07	-1.01
553	SLU 20	59	-23	7633	0.76	43.38	-1.08
553	SLU 21	60	-5	7646	0.47	42.72	-1.04
553	SLU 22	61	-24	7327	0.87	39.88	-1.02
553	SLU 23	62	6	7349	0.39	38.78	-0.95
553	SLU 24	62	-24	7471	1.02	40.86	-1.05
553	SLU 25	63	-6	7484	0.73	40.2	-1.01
553	SLU 26	63	6	7442	0.5	39.43	-0.98
553	SLU 27	63	-24	7565	1.13	41.51	-1.09
553	SLU 28	64	-6	7578	0.85	40.85	-1.04
553	SLU 29	63	-24	7514	1.09	41.18	-1.08
553	SLU 30	63	-6	7527	0.81	40.52	-1.04
553	SLU 31	65	6	8194	0.62	44.59	-1.04
553	SLU 32	65	-24	8317	1.25	46.67	-1.15
553	SLU 33	66	-6	8330	0.96	46.01	-1.11
553	SLU 34	66	6	8288	0.73	45.24	-1.08
553	SLU 35	66	-24	8410	1.36	47.32	-1.19
553	SLU 36	67	-6	8423	1.07	46.66	-1.14
553	SLU 37	65	-24	8359	1.32	47	-1.18
553	SLU 38	66	-6	8372	1.03	46.33	-1.14
553	SLU 39	65	-24	8535	1.19	48.19	-1.16
553	SLU 40	66	-6	8548	0.9	47.52	-1.12
553	SLU 41	66	-24	8629	1.3	48.84	-1.19
553	SLU 42	67	-6	8642	1.02	48.18	-1.15
553	SLU 43	68	-29	7890	0.24	42.88	-1.14
553	SLU 44	69	1	7912	-0.24	41.78	-1.07
553	SLU 45	70	-30	8034	0.39	43.86	-1.18
553	SLU 46	70	-12	8047	0.1	43.2	-1.14
553	SLU 47	70	0	8005	-0.13	42.43	-1.1
553	SLU 48	70	-30	8128	0.5	44.51	-1.21
553	SLU 49	71	-12	8141	0.22	43.85	-1.17
553	SLU 50	70	-30	8077	0.46	44.19	-1.21
553	SLU 51	71	-12	8090	0.18	43.52	-1.16
553	SLU 52	72	1	8757	-0.01	47.6	-1.17
553	SLU 53	72	-29	8880	0.62	49.67	-1.28
553	SLU 54	73	-11	8893	0.33	49.01	-1.24
553	SLU 55	73	1	8851	0.1	48.25	-1.2
553	SLU 56	73	-30	8973	0.73	50.32	-1.31
553	SLU 57	74	-12	8986	0.44	49.66	-1.27
553	SLU 58	73	-29	8922	0.69	50	-1.3
553	SLU 59	73	-11	8935	0.4	49.34	-1.26
553	SLU 60	72	-29	9098	0.56	51.19	-1.28
553	SLU 61	73	-11	9111	0.27	50.53	-1.24
553	SLU 62	73	-29	9192	0.67	51.84	-1.32
553	SLU 63	74	-11	9205	0.39	51.18	-1.27
553	SLU 64	75	-30	8885	0.78	48.34	-1.25
553	SLU 65	76	0	8907	0.3	47.24	-1.18
553	SLU 66	76	-31	9030	0.93	49.32	-1.29
553	SLU 67	77	-13	9043	0.65	48.66	-1.25
553	SLU 68	77	-1	9000	0.41	47.89	-1.21
553	SLU 69	77	-31	9123	1.04	49.97	-1.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
553	SLU 70	78	-13	9136	0.76	49.31	-1.28
553	SLU 71	77	-31	9072	1	49.64	-1.31
553	SLU 72	77	-13	9085	0.72	48.98	-1.27
553	SLU 73	79	0	9753	0.53	53.05	-1.28
553	SLU 74	79	-30	9875	1.16	55.13	-1.39
553	SLU 75	80	-12	9888	0.87	54.47	-1.35
553	SLU 76	80	0	9846	0.64	53.7	-1.31
553	SLU 77	80	-31	9969	1.27	55.78	-1.42
553	SLU 78	81	-13	9982	0.98	55.12	-1.38
553	SLU 79	79	-30	9918	1.23	55.45	-1.41
553	SLU 80	80	-12	9931	0.94	54.79	-1.37
553	SLU 81	79	-30	10093	1.1	56.64	-1.39
553	SLU 82	80	-12	10106	0.81	55.98	-1.35
553	SLU 83	80	-30	10187	1.21	57.29	-1.43
553	SLU 84	81	-12	10200	0.93	56.63	-1.38
553	SLE RA 1	56	-23	6616	0.48	35.99	-0.94
553	SLE RA 2	57	-3	6630	0.16	35.25	-0.89
553	SLE RA 3	57	-23	6712	0.58	36.64	-0.96
553	SLE RA 4	58	-11	6721	0.39	36.2	-0.93
553	SLE RA 5	58	-3	6693	0.24	35.69	-0.91
553	SLE RA 6	58	-23	6775	0.66	37.07	-0.98
553	SLE RA 7	58	-11	6783	0.47	36.63	-0.96
553	SLE RA 8	57	-23	6741	0.63	36.85	-0.98
553	SLE RA 9	58	-11	6749	0.44	36.41	-0.95
553	SLE RA 10	59	-3	7194	0.31	39.13	-0.96
553	SLE RA 11	59	-23	7276	0.73	40.51	-1.03
553	SLE RA 12	59	-11	7285	0.54	40.07	-1
553	SLE RA 13	59	-3	7257	0.39	39.56	-0.98
553	SLE RA 14	60	-23	7338	0.81	40.95	-1.05
553	SLE RA 15	60	-11	7347	0.62	40.51	-1.02
553	SLE RA 16	59	-23	7304	0.78	40.73	-1.05
553	SLE RA 17	60	-11	7313	0.59	40.29	-1.02
553	SLE RA 18	59	-23	7422	0.69	41.52	-1.03
553	SLE RA 19	59	-11	7430	0.5	41.08	-1
553	SLE RA 20	59	-23	7484	0.77	41.95	-1.05
553	SLE RA 21	60	-11	7492	0.58	41.51	-1.03
553	SLE FR 1	56	-23	6616	0.48	35.99	-0.94
553	SLE FR 2	56	-19	6619	0.42	35.84	-0.93
553	SLE FR 3	56	-23	6641	0.51	36.16	-0.95
553	SLE FR 4	57	-19	6861	0.48	37.5	-0.96
553	SLE FR 5	57	-23	6883	0.57	37.82	-0.98
553	SLE FR 6	58	-23	7019	0.59	38.75	-0.99
553	SLE QP 1	56	-23	6616	0.48	35.99	-0.94
553	SLE QP 2	57	-23	6858	0.54	37.65	-0.97
553	SLD 1	625	160	6378	-2.64	38.05	0.77
553	SLD 2	655	239	6399	-3.01	36.59	3
553	SLD 3	612	-170	6107	3.49	52.57	-0.04
553	SLD 4	642	-92	6127	3.13	51.1	2.2
553	SLD 5	241	519	7122	-9.65	16.02	0.37
553	SLD 6	262	571	7136	-9.89	15.05	1.84
553	SLD 7	198	-583	6217	10.8	64.4	-2.31
553	SLD 8	219	-531	6230	10.56	63.44	-0.83
553	SLD 9	-104	485	7485	-9.47	11.86	-1.1
553	SLD 10	-84	537	7499	-9.71	10.89	0.37
553	SLD 11	-148	-617	6580	10.98	60.24	-3.78
553	SLD 12	-127	-565	6593	10.74	59.28	-2.3
553	SLD 13	-528	46	7588	-2.04	24.19	-4.13
553	SLD 14	-498	124	7609	-2.4	22.72	-1.9
553	SLD 15	-541	-285	7317	4.1	38.7	-4.93
553	SLD 16	-511	-207	7337	3.73	37.24	-2.7
553	SLV 1	946	272	6118	-4.6	38.08	1.77
553	SLV 2	994	395	6150	-5.18	35.79	5.27
553	SLV 3	925	-262	5678	5.32	61.55	0.46
553	SLV 4	973	-140	5710	4.74	59.25	3.95
553	SLV 5	347	854	7297	-15.94	2.62	1.2
553	SLV 6	379	937	7318	-16.32	1.08	3.55
553	SLV 7	276	-929	5831	17.13	80.83	-3.19
553	SLV 8	309	-846	5852	16.74	79.28	-0.83
553	SLV 9	-195	800	7863	-15.65	-3.99	-1.1
553	SLV 10	-162	883	7884	-16.04	-5.54	1.25
553	SLV 11	-265	-983	6397	17.41	74.22	-5.48
553	SLV 12	-233	-900	6419	17.03	72.67	-3.13
553	SLV 13	-859	93	8006	-3.66	16.04	-5.88
553	SLV 14	-811	216	8037	-4.23	13.75	-2.39
553	SLV 15	-880	-442	7566	6.26	39.51	-7.2
553	SLV 16	-832	-319	7597	5.69	37.21	-3.7
553	SLV FO 1	1035	302	6044	-5.12	38.13	2.04
553	SLV FO 2	1088	437	6079	-5.75	35.6	5.89
553	SLV FO 3	1012	-286	5560	5.79	63.94	0.6
553	SLV FO 4	1065	-151	5595	5.16	61.41	4.44
553	SLV FO 5	376	942	7341	-17.59	-0.88	1.41
553	SLV FO 6	412	1033	7364	-18.01	-2.58	4
553	SLV FO 7	298	-1020	5728	18.79	85.15	-3.41
553	SLV FO 8	334	-929	5752	18.36	83.45	-0.82
553	SLV FO 9	-220	882	7964	-17.27	-8.15	-1.11
553	SLV FO 10	-184	973	7987	-17.7	-9.85	1.47
553	SLV FO 11	-298	-1079	6351	19.1	77.87	-5.93
553	SLV FO 12	-262	-988	6375	18.68	76.17	-3.35
553	SLV FO 13	-951	105	8120	-4.08	13.88	-6.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
553	SLV FO 14	-898	240	8155	-4.71	11.36	-2.53
553	SLV FO 15	-974	-483	7637	6.84	39.69	-7.82
553	SLV FO 16	-921	-348	7671	6.21	37.17	-3.98
553	CRTFP Ux+	0	0	0	0	0	0
553	CRTFP Ux-	0	0	0	0	0	0
553	CRTFP Uy+	0	0	0	0	0	0
553	CRTFP Uy-	0	0	0	0	0	0
556	SLU 1	48	7	4047	5.6	1088.66	-2.71
556	SLU 2	48	30	4065	5.39	1088.61	-10.79
556	SLU 3	49	7	4142	5.81	1114.4	-2.7
556	SLU 4	49	21	4152	5.69	1114.37	-7.54
556	SLU 5	49	31	4126	5.54	1105.39	-10.91
556	SLU 6	50	7	4203	5.96	1131.19	-2.82
556	SLU 7	50	21	4213	5.83	1131.15	-7.67
556	SLU 8	49	8	4170	5.89	1122.23	-2.96
556	SLU 9	49	22	4180	5.77	1122.2	-7.81
556	SLU 10	50	30	4576	6.21	1225.68	-10.84
556	SLU 11	50	7	4654	6.63	1251.48	-2.74
556	SLU 12	51	21	4664	6.51	1251.44	-7.59
556	SLU 13	51	31	4637	6.36	1242.47	-10.96
556	SLU 14	51	8	4715	6.78	1268.26	-2.87
556	SLU 15	51	21	4725	6.65	1268.23	-7.72
556	SLU 16	51	8	4681	6.71	1259.31	-3.01
556	SLU 17	51	22	4692	6.59	1259.27	-7.86
556	SLU 18	50	7	4779	6.77	1284.48	-2.78
556	SLU 19	50	21	4789	6.65	1284.45	-7.62
556	SLU 20	51	8	4840	6.92	1301.27	-2.9
556	SLU 21	51	21	4850	6.79	1301.24	-7.75
556	SLU 22	52	4	4668	6.74	1256.4	-1.75
556	SLU 23	53	27	4685	6.53	1256.35	-9.84
556	SLU 24	53	4	4762	6.95	1282.14	-1.74
556	SLU 25	54	18	4772	6.82	1282.11	-6.59
556	SLU 26	54	28	4746	6.67	1273.13	-9.96
556	SLU 27	54	5	4823	7.09	1298.93	-1.87
556	SLU 28	54	19	4834	6.97	1298.89	-6.72
556	SLU 29	54	5	4790	7.03	1289.97	-2.01
556	SLU 30	54	19	4800	6.9	1289.94	-6.85
556	SLU 31	54	28	5197	7.35	1393.42	-9.88
556	SLU 32	55	4	5274	7.77	1419.22	-1.79
556	SLU 33	55	18	5284	7.64	1419.18	-6.64
556	SLU 34	55	28	5258	7.49	1410.21	-10.01
556	SLU 35	56	5	5335	7.91	1436	-1.92
556	SLU 36	56	19	5345	7.79	1435.97	-6.77
556	SLU 37	55	5	5302	7.85	1427.05	-2.05
556	SLU 38	56	19	5312	7.72	1427.01	-6.9
556	SLU 39	54	4	5399	7.91	1452.22	-1.82
556	SLU 40	55	18	5409	7.78	1452.19	-6.67
556	SLU 41	55	5	5460	8.05	1469.01	-1.95
556	SLU 42	56	19	5470	7.93	1468.98	-6.8
556	SLU 43	60	10	5049	6.9	1357.75	-3.85
556	SLU 44	61	33	5066	6.69	1357.7	-11.93
556	SLU 45	62	10	5143	7.11	1383.49	-3.83
556	SLU 46	62	24	5154	6.98	1383.46	-8.68
556	SLU 47	62	34	5127	6.83	1374.48	-12.05
556	SLU 48	62	11	5204	7.25	1400.27	-3.96
556	SLU 49	63	24	5215	7.12	1400.24	-8.81
556	SLU 50	62	11	5171	7.19	1391.32	-4.1
556	SLU 51	62	25	5181	7.06	1391.29	-8.95
556	SLU 52	63	33	5578	7.5	1494.77	-11.98
556	SLU 53	63	10	5655	7.93	1520.56	-3.88
556	SLU 54	63	24	5665	7.8	1520.53	-8.73
556	SLU 55	63	34	5639	7.65	1511.56	-12.1
556	SLU 56	64	11	5716	8.07	1537.35	-4.01
556	SLU 57	64	25	5726	7.94	1537.32	-8.86
556	SLU 58	63	11	5683	8	1528.39	-4.15
556	SLU 59	64	25	5693	7.88	1528.36	-8.99
556	SLU 60	63	10	5780	8.07	1553.57	-3.91
556	SLU 61	63	24	5790	7.94	1553.54	-8.76
556	SLU 62	63	11	5841	8.21	1570.36	-4.04
556	SLU 63	64	25	5851	8.08	1570.32	-8.89
556	SLU 64	65	7	5669	8.03	1525.49	-2.89
556	SLU 65	66	31	5686	7.82	1525.44	-10.97
556	SLU 66	66	7	5764	8.24	1551.23	-2.88
556	SLU 67	66	21	5774	8.11	1551.2	-7.73
556	SLU 68	66	31	5748	7.96	1542.22	-11.1
556	SLU 69	67	8	5825	8.39	1568.01	-3.01
556	SLU 70	67	22	5835	8.26	1567.98	-7.86
556	SLU 71	66	8	5792	8.32	1559.06	-3.14
556	SLU 72	67	22	5802	8.19	1559.03	-7.99
556	SLU 73	67	31	6198	8.64	1662.51	-11.02
556	SLU 74	68	8	6276	9.06	1688.3	-2.93
556	SLU 75	68	21	6286	8.93	1688.27	-7.78
556	SLU 76	68	31	6259	8.78	1679.3	-11.15
556	SLU 77	68	8	6337	9.2	1705.09	-3.06
556	SLU 78	69	22	6347	9.08	1705.06	-7.9
556	SLU 79	68	8	6303	9.14	1696.13	-3.19
556	SLU 80	68	22	6314	9.01	1696.1	-8.04
556	SLU 81	67	8	6401	9.2	1721.31	-2.96
556	SLU 82	68	21	6411	9.07	1721.28	-7.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
556	SLU 83	68	8	6462	9.35	1738.1	-3.09
556	SLU 84	68	22	6472	9.22	1738.06	-7.94
556	SLE RA 1	49	6	4225	5.93	1136.59	-2.43
556	SLE RA 2	49	22	4236	5.79	1136.55	-7.82
556	SLE RA 3	50	6	4288	6.07	1153.75	-2.43
556	SLE RA 4	50	16	4294	5.98	1153.73	-5.66
556	SLE RA 5	50	22	4277	5.88	1147.74	-7.91
556	SLE RA 6	50	7	4328	6.17	1164.94	-2.51
556	SLE RA 7	50	16	4335	6.08	1164.91	-5.74
556	SLE RA 8	50	7	4306	6.12	1158.97	-2.6
556	SLE RA 9	50	16	4313	6.04	1158.95	-5.83
556	SLE RA 10	50	22	4577	6.33	1227.94	-7.85
556	SLE RA 11	51	6	4629	6.61	1245.13	-2.46
556	SLE RA 12	51	16	4636	6.53	1245.11	-5.69
556	SLE RA 13	51	22	4618	6.43	1239.13	-7.94
556	SLE RA 14	51	7	4670	6.71	1256.32	-2.54
556	SLE RA 15	51	16	4676	6.63	1256.3	-5.78
556	SLE RA 16	51	7	4647	6.67	1250.35	-2.63
556	SLE RA 17	51	16	4654	6.58	1250.33	-5.87
556	SLE RA 18	50	6	4712	6.71	1267.14	-2.48
556	SLE RA 19	51	16	4719	6.62	1267.11	-5.71
556	SLE RA 20	51	7	4753	6.8	1278.33	-2.56
556	SLE RA 21	51	16	4760	6.72	1278.3	-5.8
556	SLE FR 1	49	6	4225	5.93	1136.59	-2.43
556	SLE FR 2	49	9	4227	5.9	1136.58	-3.51
556	SLE FR 3	49	6	4241	5.97	1141.06	-2.47
556	SLE FR 4	49	9	4373	6.13	1175.74	-3.53
556	SLE FR 5	50	6	4387	6.2	1180.23	-2.48
556	SLE FR 6	50	6	4468	6.32	1201.86	-2.46
556	SLE QP 1	49	6	4225	5.93	1136.59	-2.43
556	SLE QP 2	49	6	4371	6.16	1175.75	-2.45
556	SLD 1	374	120	3312	3.21	890.29	-42.2
556	SLD 2	393	237	3329	2.96	889.27	-82.8
556	SLD 3	364	-121	3104	5.99	893.56	42.05
556	SLD 4	383	-4	3121	5.74	892.54	1.45
556	SLD 5	159	385	4367	1.11	1085.35	-134.83
556	SLD 6	172	462	4378	0.94	1084.67	-161.64
556	SLD 7	124	-418	3671	10.37	1096.23	145.98
556	SLD 8	137	-341	3682	10.2	1095.56	119.17
556	SLD 9	-38	354	5060	2.12	1255.95	-124.07
556	SLD 10	-26	431	5071	1.95	1255.27	-150.88
556	SLD 11	-73	-449	4364	11.39	1266.84	156.74
556	SLD 12	-60	-372	4375	11.22	1266.16	129.93
556	SLD 13	-284	17	5621	6.59	1458.97	-6.34
556	SLD 14	-265	133	5638	6.33	1457.94	-46.94
556	SLD 15	-294	-224	5413	9.37	1462.23	77.9
556	SLD 16	-275	-107	5430	9.11	1461.21	37.3
556	SLV 1	558	191	2725	1.48	730.42	-66.88
556	SLV 2	588	373	2752	1.08	728.81	-130.49
556	SLV 3	541	-199	2388	5.98	735.69	69.59
556	SLV 4	571	-17	2415	5.58	734.08	5.98
556	SLV 5	222	619	4384	-1.98	1034.46	-216.88
556	SLV 6	242	742	4402	-2.25	1033.38	-259.71
556	SLV 7	166	-681	3259	13	1052.02	238.01
556	SLV 8	185	-558	3277	12.73	1050.94	195.18
556	SLV 9	-87	571	5465	-0.4	1300.56	-200.08
556	SLV 10	-67	694	5483	-0.67	1299.48	-242.91
556	SLV 11	-143	-729	4340	14.58	1318.13	254.81
556	SLV 12	-124	-607	4358	14.31	1317.04	211.98
556	SLV 13	-472	30	6327	6.75	1617.42	-10.88
556	SLV 14	-442	212	6354	6.35	1615.82	-74.49
556	SLV 15	-489	-361	5990	11.24	1622.69	125.59
556	SLV 16	-460	-178	6016	10.84	1621.09	61.98
556	SLV FO 1	609	209	2561	1.01	685.88	-73.32
556	SLV FO 2	642	410	2590	0.57	684.12	-143.29
556	SLV FO 3	591	-220	2190	5.96	691.68	76.8
556	SLV FO 4	623	-19	2219	5.52	689.91	6.82
556	SLV FO 5	240	681	4385	-2.8	1020.33	-238.32
556	SLV FO 6	262	816	4405	-3.1	1019.14	-285.43
556	SLV FO 7	177	-750	3148	13.68	1039.65	262.06
556	SLV FO 8	199	-615	3168	13.39	1038.46	214.95
556	SLV FO 9	-100	627	5574	-1.06	1313.04	-219.84
556	SLV FO 10	-78	763	5594	-1.36	1311.85	-266.95
556	SLV FO 11	-163	-803	4337	15.42	1332.36	280.54
556	SLV FO 12	-141	-668	4356	15.12	1331.17	233.43
556	SLV FO 13	-524	32	6523	6.81	1661.59	-11.72
556	SLV FO 14	-492	233	6552	6.37	1659.83	-81.69
556	SLV FO 15	-543	-397	6151	11.75	1667.39	138.39
556	SLV FO 16	-510	-196	6181	11.31	1665.62	68.42
556	CRTFP Ux+	0	0	0	0	0	0
556	CRTFP Ux-	0	0	0	0	0	0
556	CRTFP Uy+	0	0	0	0	0	0
556	CRTFP Uy-	0	0	0	0	0	0
559	SLU 1	-55	-53	5931	0.41	-17.8	0.75
559	SLU 2	-56	-25	5951	0.09	-17.31	0.71
559	SLU 3	-56	-54	6066	0.51	-18.4	0.75
559	SLU 4	-57	-37	6077	0.32	-18.11	0.73
559	SLU 5	-57	-26	6037	0.16	-17.73	0.71
559	SLU 6	-57	-55	6151	0.59	-18.82	0.75



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
559	SLU 7	-57	-38	6163	0.4	-18.53	0.72
559	SLU 8	-56	-55	6102	0.55	-18.64	0.74
559	SLU 9	-57	-38	6114	0.36	-18.35	0.72
559	SLU 10	-57	-31	6749	0.28	-21.05	0.79
559	SLU 11	-57	-60	6864	0.71	-22.13	0.83
559	SLU 12	-58	-43	6876	0.51	-21.84	0.81
559	SLU 13	-58	-31	6835	0.35	-21.47	0.79
559	SLU 14	-58	-60	6949	0.78	-22.56	0.83
559	SLU 15	-59	-44	6961	0.59	-22.26	0.8
559	SLU 16	-58	-60	6900	0.74	-22.37	0.82
559	SLU 17	-58	-43	6912	0.55	-22.08	0.8
559	SLU 18	-57	-61	7071	0.68	-23.13	0.86
559	SLU 19	-57	-44	7083	0.49	-22.84	0.84
559	SLU 20	-57	-61	7157	0.75	-23.55	0.86
559	SLU 21	-58	-45	7169	0.56	-23.26	0.84
559	SLU 22	-60	-60	6874	0.84	-21.21	0.79
559	SLU 23	-61	-32	6894	0.52	-20.73	0.75
559	SLU 24	-61	-61	7008	0.95	-21.82	0.79
559	SLU 25	-62	-45	7020	0.76	-21.52	0.76
559	SLU 26	-62	-33	6979	0.6	-21.15	0.74
559	SLU 27	-62	-62	7094	1.02	-22.24	0.78
559	SLU 28	-62	-45	7106	0.83	-21.95	0.76
559	SLU 29	-62	-62	7045	0.99	-22.05	0.78
559	SLU 30	-62	-45	7057	0.8	-21.76	0.76
559	SLU 31	-62	-38	7692	0.71	-24.47	0.82
559	SLU 32	-62	-67	7806	1.14	-25.55	0.87
559	SLU 33	-63	-50	7818	0.95	-25.26	0.84
559	SLU 34	-63	-39	7777	0.79	-24.89	0.82
559	SLU 35	-63	-68	7892	1.21	-25.97	0.86
559	SLU 36	-64	-51	7904	1.02	-25.68	0.84
559	SLU 37	-63	-67	7843	1.18	-25.79	0.86
559	SLU 38	-63	-50	7855	0.99	-25.5	0.83
559	SLU 39	-62	-68	8014	1.11	-26.55	0.9
559	SLU 40	-62	-51	8026	0.92	-26.26	0.87
559	SLU 41	-63	-69	8100	1.18	-26.97	0.89
559	SLU 42	-63	-52	8111	0.99	-26.68	0.87
559	SLU 43	-70	-66	7387	0.38	-21.96	0.96
559	SLU 44	-71	-38	7407	0.07	-21.48	0.92
559	SLU 45	-71	-67	7522	0.49	-22.56	0.96
559	SLU 46	-71	-51	7534	0.3	-22.27	0.94
559	SLU 47	-71	-39	7493	0.14	-21.9	0.92
559	SLU 48	-72	-68	7607	0.56	-22.99	0.96
559	SLU 49	-72	-52	7619	0.37	-22.69	0.94
559	SLU 50	-71	-68	7558	0.53	-22.8	0.96
559	SLU 51	-72	-51	7570	0.34	-22.51	0.93
559	SLU 52	-72	-44	8205	0.26	-25.22	1
559	SLU 53	-72	-73	8320	0.68	-26.3	1.04
559	SLU 54	-73	-56	8332	0.49	-26.01	1.02
559	SLU 55	-73	-45	8291	0.33	-25.64	1
559	SLU 56	-73	-74	8405	0.75	-26.72	1.04
559	SLU 57	-73	-57	8417	0.56	-26.43	1.02
559	SLU 58	-72	-73	8356	0.72	-26.54	1.04
559	SLU 59	-73	-57	8368	0.53	-26.25	1.01
559	SLU 60	-72	-74	8528	0.65	-27.3	1.08
559	SLU 61	-72	-57	8539	0.46	-27.01	1.05
559	SLU 62	-72	-75	8613	0.73	-27.72	1.07
559	SLU 63	-73	-58	8625	0.54	-27.43	1.05
559	SLU 64	-75	-73	8330	0.81	-25.38	1
559	SLU 65	-76	-46	8350	0.5	-24.9	0.96
559	SLU 66	-76	-75	8464	0.92	-25.98	1
559	SLU 67	-77	-58	8476	0.73	-25.69	0.98
559	SLU 68	-76	-46	8435	0.57	-25.32	0.95
559	SLU 69	-77	-75	8550	0.99	-26.4	1
559	SLU 70	-77	-59	8562	0.8	-26.11	0.97
559	SLU 71	-76	-75	8501	0.96	-26.22	0.99
559	SLU 72	-77	-58	8513	0.77	-25.93	0.97
559	SLU 73	-77	-51	9148	0.69	-28.63	1.04
559	SLU 74	-77	-80	9262	1.11	-29.72	1.08
559	SLU 75	-78	-63	9274	0.92	-29.43	1.05
559	SLU 76	-78	-52	9234	0.76	-29.05	1.03
559	SLU 77	-78	-81	9348	1.18	-30.14	1.08
559	SLU 78	-78	-64	9360	0.99	-29.85	1.05
559	SLU 79	-78	-81	9299	1.15	-29.96	1.07
559	SLU 80	-78	-64	9311	0.96	-29.67	1.05
559	SLU 81	-77	-81	9470	1.09	-30.72	1.11
559	SLU 82	-77	-65	9482	0.9	-30.43	1.09
559	SLU 83	-77	-82	9556	1.16	-31.14	1.11
559	SLU 84	-78	-65	9568	0.97	-30.85	1.08
559	SLE RA 1	-56	-55	6201	0.53	-18.77	0.76
559	SLE RA 2	-57	-36	6214	0.32	-18.45	0.73
559	SLE RA 3	-57	-56	6290	0.6	-19.17	0.76
559	SLE RA 4	-58	-45	6298	0.48	-18.98	0.74
559	SLE RA 5	-58	-37	6271	0.37	-18.73	0.73
559	SLE RA 6	-58	-56	6347	0.65	-19.45	0.76
559	SLE RA 7	-58	-45	6355	0.52	-19.26	0.74
559	SLE RA 8	-57	-56	6315	0.63	-19.33	0.76
559	SLE RA 9	-58	-45	6322	0.5	-19.14	0.74
559	SLE RA 10	-58	-40	6746	0.45	-20.94	0.79
559	SLE RA 11	-58	-59	6822	0.73	-21.66	0.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
559	SLE RA 12	-58	-48	6830	0.6	-21.47	0.8
559	SLE RA 13	-58	-41	6803	0.5	-21.22	0.78
559	SLE RA 14	-59	-60	6879	0.78	-21.95	0.81
559	SLE RA 15	-59	-49	6887	0.65	-21.75	0.8
559	SLE RA 16	-58	-60	6847	0.76	-21.82	0.81
559	SLE RA 17	-59	-49	6855	0.63	-21.63	0.79
559	SLE RA 18	-58	-60	6961	0.71	-22.33	0.83
559	SLE RA 19	-58	-49	6969	0.59	-22.14	0.82
559	SLE RA 20	-58	-61	7018	0.76	-22.61	0.83
559	SLE RA 21	-58	-50	7026	0.63	-22.42	0.82
559	SLE FR 1	-56	-55	6201	0.53	-18.77	0.76
559	SLE FR 2	-57	-51	6203	0.49	-18.71	0.75
559	SLE FR 3	-57	-55	6223	0.55	-18.88	0.76
559	SLE FR 4	-57	-53	6431	0.54	-19.78	0.78
559	SLE FR 5	-57	-57	6451	0.6	-19.95	0.78
559	SLE FR 6	-57	-57	6581	0.62	-20.55	0.8
559	SLE QP 1	-56	-55	6201	0.53	-18.77	0.76
559	SLE QP 2	-57	-56	6429	0.59	-19.84	0.78
559	SLD 1	454	97	7186	-1.36	3.07	0.92
559	SLD 2	478	26	7169	-1.13	2	2.73
559	SLD 3	470	-225	6933	2.8	-3.81	1.79
559	SLD 4	493	-296	6916	3.03	-4.88	3.6
559	SLD 5	68	490	7043	-6.35	-2.35	-0.83
559	SLD 6	84	444	7031	-6.2	-3.05	0.37
559	SLD 7	121	-582	6200	7.52	-25.27	2.08
559	SLD 8	137	-629	6188	7.67	-25.97	3.28
559	SLD 9	-250	516	6669	-6.5	-13.71	-1.71
559	SLD 10	-234	469	6658	-6.35	-14.41	-0.52
559	SLD 11	-197	-556	5826	7.37	-36.63	1.19
559	SLD 12	-182	-603	5815	7.52	-37.33	2.39
559	SLD 13	-607	183	5941	-1.86	-34.8	-2.03
559	SLD 14	-583	112	5924	-1.63	-35.87	-0.22
559	SLD 15	-591	-139	5688	2.3	-41.68	-1.16
559	SLD 16	-567	-210	5671	2.53	-42.75	0.65
559	SLV 1	742	192	7618	-2.56	16.1	0.97
559	SLV 2	780	81	7591	-2.21	14.43	3.8
559	SLV 3	768	-328	7209	4.16	5	2.37
559	SLV 4	805	-439	7181	4.51	3.32	5.2
559	SLV 5	137	827	7411	-10.62	8.09	-1.81
559	SLV 6	163	752	7392	-10.39	6.97	0.1
559	SLV 7	222	-905	6047	11.79	-28.92	2.85
559	SLV 8	247	-980	6029	12.03	-30.04	4.76
559	SLV 9	-361	867	6828	-10.86	-9.64	-3.2
559	SLV 10	-336	792	6810	-10.62	-10.76	-1.29
559	SLV 11	-276	-865	5465	11.56	-46.65	1.47
559	SLV 12	-251	-940	5446	11.79	-47.77	3.38
559	SLV 13	-919	326	5676	-3.34	-43	-3.64
559	SLV 14	-881	215	5648	-2.99	-44.67	-0.8
559	SLV 15	-893	-194	5267	3.38	-54.11	-2.24
559	SLV 16	-856	-305	5239	3.73	-55.78	0.6
559	SLV FO 1	822	217	7737	-2.88	19.69	0.98
559	SLV FO 2	863	94	7707	-2.49	17.85	4.11
559	SLV FO 3	850	-355	7287	4.52	7.48	2.52
559	SLV FO 4	891	-477	7257	4.91	5.64	5.65
559	SLV FO 5	157	915	7509	-11.74	10.89	-2.07
559	SLV FO 6	185	833	7489	-11.48	9.65	0.03
559	SLV FO 7	250	-990	6009	12.91	-29.82	3.06
559	SLV FO 8	278	-1072	5989	13.17	-31.06	5.16
559	SLV FO 9	-391	960	6868	-12	-8.62	-3.59
559	SLV FO 10	-364	877	6848	-11.74	-9.85	-1.49
559	SLV FO 11	-298	-946	5368	12.65	-49.33	1.54
559	SLV FO 12	-270	-1028	5348	12.91	-50.57	3.64
559	SLV FO 13	-1005	364	5600	-3.74	-45.32	-4.08
559	SLV FO 14	-964	242	5570	-3.35	-47.16	-0.96
559	SLV FO 15	-977	-207	5150	3.66	-57.53	-2.54
559	SLV FO 16	-936	-330	5120	4.05	-59.37	0.58
559	CRTFP Ux+	0	0	0	0	0	0
559	CRTFP Ux-	0	0	0	0	0	0
559	CRTFP Uy+	0	0	0	0	0	0
559	CRTFP Uy-	0	0	0	0	0	0
563	SLU 1	-2	-60	2600	0.24	995.38	23.87
563	SLU 2	-1	-46	2602	0.15	995.98	18.33
563	SLU 3	-2	-61	2658	0.27	1017.64	24.36
563	SLU 4	-1	-53	2659	0.22	1018	21.03
563	SLU 5	-1	-47	2639	0.18	1010.41	18.62
563	SLU 6	-2	-62	2695	0.3	1032.08	24.64
563	SLU 7	-2	-53	2696	0.25	1032.44	21.32
563	SLU 8	-2	-61	2674	0.29	1024.25	24.45
563	SLU 9	-1	-53	2676	0.24	1024.61	21.13
563	SLU 10	-3	-53	2963	0.2	1135.16	21.13
563	SLU 11	-3	-68	3018	0.32	1156.83	27.15
563	SLU 12	-3	-60	3020	0.27	1157.19	23.82
563	SLU 13	-3	-54	3000	0.23	1149.6	21.41
563	SLU 14	-3	-69	3056	0.35	1171.26	27.44
563	SLU 15	-3	-60	3057	0.3	1171.62	24.11
563	SLU 16	-3	-68	3035	0.34	1163.44	27.25
563	SLU 17	-3	-60	3037	0.29	1163.8	23.92
563	SLU 18	-4	-70	3115	0.31	1194.21	27.87
563	SLU 19	-4	-61	3117	0.26	1194.57	24.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
563	SLU 20	-4	-71	3153	0.34	1208.65	28.16
563	SLU 21	-4	-62	3154	0.29	1209.01	24.83
563	SLU 22	-2	-67	2997	0.38	1147.34	26.93
563	SLU 23	-2	-54	2999	0.3	1147.94	21.38
563	SLU 24	-2	-69	3055	0.42	1169.61	27.41
563	SLU 25	-2	-60	3056	0.37	1169.96	24.08
563	SLU 26	-2	-54	3037	0.33	1162.38	21.67
563	SLU 27	-2	-69	3092	0.45	1184.04	27.7
563	SLU 28	-2	-61	3094	0.4	1184.4	24.37
563	SLU 29	-2	-69	3071	0.44	1176.22	27.5
563	SLU 30	-2	-61	3073	0.39	1176.57	24.18
563	SLU 31	-3	-61	3360	0.35	1287.12	24.18
563	SLU 32	-4	-76	3416	0.47	1308.79	30.2
563	SLU 33	-4	-67	3417	0.42	1309.15	26.88
563	SLU 34	-3	-61	3397	0.38	1301.56	24.47
563	SLU 35	-4	-76	3453	0.5	1323.23	30.49
563	SLU 36	-4	-68	3454	0.45	1323.59	27.17
563	SLU 37	-4	-76	3432	0.49	1315.4	30.3
563	SLU 38	-4	-68	3434	0.44	1315.76	26.97
563	SLU 39	-5	-77	3512	0.46	1346.18	30.92
563	SLU 40	-4	-69	3514	0.41	1346.54	27.59
563	SLU 41	-5	-78	3550	0.49	1360.61	31.21
563	SLU 42	-4	-70	3551	0.44	1360.97	27.88
563	SLU 43	-2	-75	3243	0.26	1241.89	29.99
563	SLU 44	-1	-61	3246	0.17	1242.49	24.45
563	SLU 45	-2	-76	3301	0.29	1264.16	30.47
563	SLU 46	-2	-68	3303	0.24	1264.51	27.15
563	SLU 47	-2	-62	3283	0.2	1256.93	24.73
563	SLU 48	-2	-77	3339	0.32	1278.59	30.76
563	SLU 49	-2	-69	3340	0.27	1278.95	27.43
563	SLU 50	-2	-77	3318	0.31	1270.77	30.57
563	SLU 51	-2	-68	3319	0.26	1271.12	27.24
563	SLU 52	-3	-68	3607	0.22	1381.67	27.24
563	SLU 53	-4	-83	3662	0.34	1403.34	33.27
563	SLU 54	-3	-75	3664	0.29	1403.7	29.94
563	SLU 55	-3	-69	3644	0.25	1396.11	27.53
563	SLU 56	-4	-84	3699	0.37	1417.78	33.56
563	SLU 57	-3	-76	3701	0.32	1418.14	30.23
563	SLU 58	-4	-84	3679	0.36	1409.95	33.36
563	SLU 59	-3	-75	3680	0.31	1410.31	30.04
563	SLU 60	-4	-85	3759	0.33	1440.73	33.98
563	SLU 61	-4	-77	3760	0.28	1441.09	30.66
563	SLU 62	-4	-86	3796	0.36	1455.16	34.27
563	SLU 63	-4	-78	3798	0.31	1455.52	30.95
563	SLU 64	-3	-83	3640	0.4	1393.85	33.04
563	SLU 65	-2	-69	3643	0.32	1394.45	27.5
563	SLU 66	-3	-84	3698	0.44	1416.12	33.52
563	SLU 67	-2	-76	3700	0.39	1416.48	30.2
563	SLU 68	-2	-70	3680	0.35	1408.89	27.79
563	SLU 69	-3	-85	3736	0.47	1430.55	33.81
563	SLU 70	-2	-76	3737	0.42	1430.91	30.49
563	SLU 71	-3	-84	3715	0.46	1422.73	33.62
563	SLU 72	-2	-76	3717	0.41	1423.09	30.29
563	SLU 73	-4	-76	4004	0.37	1533.64	30.29
563	SLU 74	-4	-91	4059	0.49	1555.3	36.32
563	SLU 75	-4	-83	4061	0.44	1555.66	32.99
563	SLU 76	-4	-77	4041	0.4	1548.07	30.58
563	SLU 77	-4	-92	4097	0.52	1569.74	36.61
563	SLU 78	-4	-83	4098	0.47	1570.1	33.28
563	SLU 79	-4	-91	4076	0.51	1561.91	36.42
563	SLU 80	-4	-83	4078	0.46	1562.27	33.09
563	SLU 81	-5	-93	4156	0.48	1592.69	37.04
563	SLU 82	-4	-84	4158	0.43	1593.05	33.71
563	SLU 83	-5	-93	4193	0.51	1607.13	37.32
563	SLU 84	-5	-85	4195	0.46	1607.49	34
563	SLE RA 1	-2	-62	2713	0.28	1038.8	24.75
563	SLE RA 2	-1	-53	2715	0.22	1039.2	21.05
563	SLE RA 3	-2	-63	2752	0.3	1053.64	25.07
563	SLE RA 4	-2	-57	2753	0.27	1053.88	22.85
563	SLE RA 5	-2	-53	2740	0.24	1048.82	21.24
563	SLE RA 6	-2	-63	2777	0.32	1063.26	25.26
563	SLE RA 7	-2	-58	2778	0.29	1063.5	23.04
563	SLE RA 8	-2	-63	2763	0.31	1058.05	25.13
563	SLE RA 9	-2	-57	2764	0.28	1058.29	22.91
563	SLE RA 10	-3	-57	2955	0.26	1131.99	22.91
563	SLE RA 11	-3	-67	2992	0.34	1146.43	26.93
563	SLE RA 12	-3	-62	2993	0.3	1146.67	24.71
563	SLE RA 13	-3	-58	2980	0.27	1141.61	23.11
563	SLE RA 14	-3	-68	3017	0.36	1156.05	27.12
563	SLE RA 15	-3	-62	3018	0.32	1156.29	24.91
563	SLE RA 16	-3	-68	3003	0.35	1150.84	27
563	SLE RA 17	-3	-62	3004	0.32	1151.08	24.78
563	SLE RA 18	-3	-69	3057	0.33	1171.35	27.41
563	SLE RA 19	-3	-63	3058	0.29	1171.59	25.19
563	SLE RA 20	-3	-69	3082	0.35	1180.98	27.6
563	SLE RA 21	-3	-64	3083	0.31	1181.22	25.38
563	SLE FR 1	-2	-62	2713	0.28	1038.8	24.75
563	SLE FR 2	-2	-60	2713	0.27	1038.88	24.01
563	SLE FR 3	-2	-62	2723	0.29	1042.65	24.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
563	SLE FR 4	-2	-62	2816	0.28	1078.64	24.81
563	SLE FR 5	-2	-64	2826	0.3	1082.41	25.62
563	SLE FR 6	-3	-65	2885	0.3	1105.08	26.08
563	SLE QP 1	-2	-62	2713	0.28	1038.8	24.75
563	SLE QP 2	-2	-64	2816	0.29	1078.56	25.55
563	SLD 1	217	29	2914	0.02	1124.24	-11.75
563	SLD 2	229	32	2916	0	1124.91	-13
563	SLD 3	208	-132	2884	1.08	1116.34	52.83
563	SLD 4	220	-129	2886	1.07	1117	51.57
563	SLD 5	75	208	2890	-1.4	1104.13	-83.35
563	SLD 6	83	210	2891	-1.41	1104.57	-84.18
563	SLD 7	45	-330	2792	2.15	1077.79	131.89
563	SLD 8	53	-328	2793	2.13	1078.23	131.06
563	SLD 9	-57	200	2839	-1.55	1078.9	-79.97
563	SLD 10	-49	202	2841	-1.56	1079.34	-80.8
563	SLD 11	-88	-338	2741	2	1052.56	135.27
563	SLD 12	-80	-336	2743	1.98	1053	134.44
563	SLD 13	-225	1	2746	-0.48	1040.12	-0.48
563	SLD 14	-212	4	2748	-0.5	1040.79	-1.74
563	SLD 15	-234	-160	2717	0.58	1032.22	64.09
563	SLD 16	-222	-157	2719	0.57	1032.89	62.84
563	SLV 1	341	86	2970	-0.16	1150.22	-34.5
563	SLV 2	360	91	2972	-0.19	1151.27	-36.46
563	SLV 3	326	-175	2922	1.56	1137.25	69.86
563	SLV 4	345	-170	2925	1.53	1138.3	67.9
563	SLV 5	120	376	2934	-2.44	1119.54	-150.38
563	SLV 6	133	379	2936	-2.46	1120.25	-151.71
563	SLV 7	70	-494	2775	3.28	1076.3	197.49
563	SLV 8	83	-490	2777	3.27	1077	196.17
563	SLV 9	-87	362	2856	-2.68	1080.13	-145.08
563	SLV 10	-75	366	2858	-2.7	1080.83	-146.4
563	SLV 11	-137	-507	2696	3.05	1036.88	202.8
563	SLV 12	-125	-504	2698	3.03	1037.58	201.47
563	SLV 13	-350	42	2708	-0.94	1018.83	-16.81
563	SLV 14	-331	47	2711	-0.97	1019.88	-18.77
563	SLV 15	-365	-219	2660	0.77	1005.86	87.55
563	SLV 16	-346	-214	2663	0.75	1006.9	85.59
563	SLV FO 1	376	101	2985	-0.21	1157.39	-40.5
563	SLV FO 2	397	107	2988	-0.24	1158.54	-42.66
563	SLV FO 3	359	-186	2932	1.68	1143.12	74.29
563	SLV FO 4	380	-180	2935	1.65	1144.27	72.13
563	SLV FO 5	132	420	2946	-2.72	1123.64	-167.98
563	SLV FO 6	146	423	2948	-2.74	1124.42	-169.43
563	SLV FO 7	77	-537	2771	3.58	1076.07	214.68
563	SLV FO 8	91	-533	2773	3.56	1076.85	213.23
563	SLV FO 9	-96	405	2860	-2.98	1080.28	-162.14
563	SLV FO 10	-82	409	2862	-3	1081.06	-163.59
563	SLV FO 11	-151	-551	2684	3.32	1032.71	220.52
563	SLV FO 12	-137	-548	2686	3.3	1033.49	219.07
563	SLV FO 13	-385	52	2697	-1.07	1012.86	-21.04
563	SLV FO 14	-364	58	2700	-1.1	1014.01	-23.2
563	SLV FO 15	-401	-235	2644	0.82	998.59	93.75
563	SLV FO 16	-380	-229	2647	0.79	999.74	91.59
563	CRTFP Ux+	0	0	0	0	0	0
563	CRTFP Ux-	0	0	0	0	0	0
563	CRTFP Uy+	0	0	0	0	0	0
563	CRTFP Uy-	0	0	0	0	0	0
568	SLU 1	1	-60	2611	0.27	1004.58	23.75
568	SLU 2	2	-46	2610	0.18	1003.63	18.2
568	SLU 3	1	-61	2671	0.31	1027.6	24.23
568	SLU 4	2	-52	2670	0.25	1027.03	20.9
568	SLU 5	2	-46	2648	0.21	1018.61	18.49
568	SLU 6	1	-61	2709	0.33	1042.58	24.52
568	SLU 7	2	-53	2708	0.28	1042.01	21.19
568	SLU 8	1	-61	2688	0.32	1034.53	24.33
568	SLU 9	2	-53	2687	0.27	1033.97	21
568	SLU 10	1	-53	2973	0.24	1144.32	20.98
568	SLU 11	0	-68	3034	0.37	1168.29	27.01
568	SLU 12	0	-59	3033	0.31	1167.72	23.68
568	SLU 13	1	-53	3012	0.27	1159.3	21.26
568	SLU 14	0	-68	3073	0.39	1183.26	27.29
568	SLU 15	0	-60	3072	0.34	1182.7	23.96
568	SLU 16	0	-68	3052	0.38	1175.22	27.1
568	SLU 17	0	-60	3051	0.33	1174.65	23.77
568	SLU 18	0	-69	3130	0.35	1205.55	27.72
568	SLU 19	0	-61	3129	0.3	1204.99	24.39
568	SLU 20	0	-70	3169	0.38	1220.53	28
568	SLU 21	0	-62	3168	0.33	1219.97	24.67
568	SLU 22	1	-67	3015	0.42	1160.01	26.78
568	SLU 23	2	-53	3014	0.34	1159.06	21.23
568	SLU 24	1	-68	3075	0.46	1183.03	27.26
568	SLU 25	2	-60	3074	0.41	1182.46	23.93
568	SLU 26	2	-54	3052	0.36	1174.04	21.52
568	SLU 27	1	-69	3113	0.49	1198.01	27.55
568	SLU 28	1	-61	3112	0.44	1197.44	24.22
568	SLU 29	1	-69	3092	0.48	1189.96	27.36
568	SLU 30	1	-60	3091	0.43	1189.4	24.03
568	SLU 31	1	-60	3377	0.4	1299.75	24.01
568	SLU 32	0	-75	3438	0.52	1323.72	30.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
568	SLU 33	0	-67	3437	0.47	1323.15	26.71
568	SLU 34	1	-61	3416	0.43	1314.73	24.3
568	SLU 35	0	-76	3477	0.55	1338.7	30.33
568	SLU 36	0	-68	3476	0.5	1338.13	27
568	SLU 37	0	-76	3456	0.54	1330.65	30.14
568	SLU 38	0	-67	3455	0.49	1330.08	26.81
568	SLU 39	0	-77	3534	0.51	1360.99	30.75
568	SLU 40	0	-69	3533	0.46	1360.42	27.42
568	SLU 41	0	-78	3573	0.54	1375.96	31.04
568	SLU 42	0	-69	3572	0.49	1375.4	27.71
568	SLU 43	2	-75	3256	0.29	1252.66	29.83
568	SLU 44	2	-61	3254	0.21	1251.71	24.28
568	SLU 45	2	-76	3315	0.33	1275.68	30.31
568	SLU 46	2	-68	3314	0.28	1275.11	26.98
568	SLU 47	2	-62	3293	0.24	1266.69	24.57
568	SLU 48	2	-77	3354	0.36	1290.66	30.6
568	SLU 49	2	-68	3353	0.31	1290.09	27.27
568	SLU 50	2	-76	3333	0.35	1282.61	30.41
568	SLU 51	2	-68	3332	0.3	1282.05	27.08
568	SLU 52	1	-68	3618	0.27	1392.4	27.06
568	SLU 53	1	-83	3679	0.39	1416.37	33.09
568	SLU 54	1	-75	3678	0.34	1415.8	29.76
568	SLU 55	1	-69	3656	0.3	1407.38	27.35
568	SLU 56	0	-84	3717	0.42	1431.35	33.38
568	SLU 57	1	-75	3717	0.37	1430.78	30.05
568	SLU 58	0	-83	3696	0.41	1423.3	33.19
568	SLU 59	1	-75	3696	0.36	1422.73	29.86
568	SLU 60	0	-85	3775	0.38	1453.64	33.8
568	SLU 61	0	-76	3774	0.33	1453.07	30.47
568	SLU 62	0	-85	3814	0.41	1468.61	34.09
568	SLU 63	0	-77	3813	0.36	1468.05	30.76
568	SLU 64	2	-82	3660	0.45	1408.09	32.87
568	SLU 65	2	-68	3658	0.36	1407.14	27.32
568	SLU 66	2	-84	3719	0.49	1431.11	33.35
568	SLU 67	2	-75	3719	0.44	1430.55	30.02
568	SLU 68	2	-69	3697	0.39	1422.12	27.61
568	SLU 69	2	-84	3758	0.52	1446.09	33.64
568	SLU 70	2	-76	3757	0.46	1445.52	30.31
568	SLU 71	2	-84	3737	0.51	1438.05	33.44
568	SLU 72	2	-75	3736	0.45	1437.48	30.11
568	SLU 73	1	-75	4022	0.42	1547.83	30.09
568	SLU 74	0	-91	4083	0.55	1571.8	36.13
568	SLU 75	1	-82	4082	0.5	1571.23	32.8
568	SLU 76	1	-76	4060	0.45	1562.81	30.38
568	SLU 77	0	-91	4122	0.58	1586.78	36.41
568	SLU 78	1	-83	4121	0.52	1586.21	33.08
568	SLU 79	0	-91	4101	0.57	1578.73	36.22
568	SLU 80	1	-82	4100	0.52	1578.16	32.89
568	SLU 81	0	-92	4179	0.54	1609.07	36.83
568	SLU 82	0	-84	4178	0.49	1608.5	33.5
568	SLU 83	0	-93	4218	0.57	1624.05	37.12
568	SLU 84	0	-85	4217	0.51	1623.48	33.79
568	SLE RA 1	1	-62	2726	0.31	1048.98	24.62
568	SLE RA 2	2	-52	2725	0.25	1048.35	20.92
568	SLE RA 3	1	-62	2766	0.34	1064.33	24.94
568	SLE RA 4	1	-57	2766	0.3	1063.96	22.72
568	SLE RA 5	2	-53	2751	0.27	1058.34	21.11
568	SLE RA 6	1	-63	2792	0.36	1074.32	25.13
568	SLE RA 7	1	-57	2791	0.32	1073.94	22.91
568	SLE RA 8	1	-63	2778	0.35	1068.96	25
568	SLE RA 9	1	-57	2777	0.31	1068.58	22.78
568	SLE RA 10	1	-57	2968	0.29	1142.15	22.77
568	SLE RA 11	0	-67	3009	0.38	1158.12	26.79
568	SLE RA 12	1	-62	3008	0.34	1157.75	24.57
568	SLE RA 13	1	-58	2994	0.31	1152.13	22.96
568	SLE RA 14	0	-68	3034	0.4	1168.11	26.98
568	SLE RA 15	1	-62	3034	0.36	1167.73	24.76
568	SLE RA 16	0	-67	3020	0.39	1162.75	26.85
568	SLE RA 17	1	-62	3020	0.36	1162.37	24.63
568	SLE RA 18	0	-68	3073	0.37	1182.97	27.26
568	SLE RA 19	0	-63	3072	0.34	1182.59	25.04
568	SLE RA 20	0	-69	3098	0.39	1192.96	27.45
568	SLE RA 21	0	-63	3098	0.35	1192.58	25.23
568	SLE FR 1	1	-62	2726	0.31	1048.98	24.62
568	SLE FR 2	1	-60	2726	0.3	1048.86	23.88
568	SLE FR 3	1	-62	2737	0.32	1052.98	24.69
568	SLE FR 4	1	-62	2830	0.32	1089.05	24.67
568	SLE FR 5	1	-64	2841	0.34	1093.17	25.49
568	SLE FR 6	1	-65	2900	0.34	1115.98	25.94
568	SLE QP 1	1	-62	2726	0.31	1048.98	24.62
568	SLE QP 2	1	-64	2830	0.33	1089.18	25.41
568	SLD 1	222	30	2914	0.05	1130.29	-12.05
568	SLD 2	231	33	2915	0.03	1130.69	-13.3
568	SLD 3	214	-132	2936	1.13	1143.03	52.59
568	SLD 4	224	-128	2937	1.11	1143.43	51.33
568	SLD 5	77	209	2822	-1.38	1082.11	-83.63
568	SLD 6	83	211	2822	-1.39	1082.38	-84.46
568	SLD 7	52	-330	2895	2.2	1124.59	131.82
568	SLD 8	58	-328	2896	2.19	1124.86	130.99



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
568	SLD 9	-56	200	2765	-1.53	1053.5	-80.17
568	SLD 10	-50	202	2765	-1.54	1053.77	-81
568	SLD 11	-81	-338	2838	2.05	1095.98	135.28
568	SLD 12	-75	-336	2839	2.04	1096.25	134.45
568	SLD 13	-222	1	2724	-0.45	1034.93	-0.51
568	SLD 14	-213	4	2725	-0.47	1035.33	-1.77
568	SLD 15	-229	-160	2746	0.63	1047.67	64.12
568	SLD 16	-220	-157	2747	0.61	1048.07	62.87
568	SLV 1	347	87	2960	-0.13	1153.03	-34.9
568	SLV 2	362	92	2962	-0.16	1153.65	-36.86
568	SLV 3	335	-174	2996	1.61	1173.66	69.57
568	SLV 4	350	-169	2998	1.58	1174.29	67.6
568	SLV 5	120	376	2815	-2.44	1076.92	-150.76
568	SLV 6	130	380	2816	-2.46	1077.34	-152.08
568	SLV 7	80	-494	2934	3.36	1145.71	197.46
568	SLV 8	90	-490	2935	3.34	1146.13	196.14
568	SLV 9	-88	363	2725	-2.68	1032.23	-145.32
568	SLV 10	-78	366	2726	-2.7	1032.65	-146.65
568	SLV 11	-128	-507	2845	3.12	1101.02	202.9
568	SLV 12	-118	-504	2846	3.1	1101.44	201.58
568	SLV 13	-348	42	2663	-0.92	1004.07	-16.79
568	SLV 14	-333	47	2664	-0.95	1004.7	-18.75
568	SLV 15	-360	-219	2699	0.82	1024.71	87.68
568	SLV 16	-345	-214	2700	0.79	1025.33	85.72
568	SLV FO 1	382	102	2973	-0.18	1159.41	-40.93
568	SLV FO 2	398	108	2975	-0.21	1160.1	-43.09
568	SLV FO 3	368	-185	3013	1.74	1182.11	73.98
568	SLV FO 4	385	-180	3014	1.7	1182.8	71.82
568	SLV FO 5	132	420	2813	-2.72	1075.69	-168.37
568	SLV FO 6	143	424	2814	-2.74	1076.16	-169.83
568	SLV FO 7	88	-537	2945	3.66	1151.36	214.67
568	SLV FO 8	99	-533	2946	3.64	1151.82	213.22
568	SLV FO 9	-97	406	2715	-2.98	1026.54	-162.4
568	SLV FO 10	-86	409	2716	-3	1027	-163.85
568	SLV FO 11	-141	-552	2846	3.4	1102.21	220.65
568	SLV FO 12	-130	-548	2848	3.38	1102.67	219.19
568	SLV FO 13	-383	52	2646	-1.04	995.56	-21.01
568	SLV FO 14	-367	58	2648	-1.08	996.25	-23.16
568	SLV FO 15	-396	-235	2686	0.87	1018.26	93.91
568	SLV FO 16	-380	-229	2687	0.84	1018.95	91.75
568	CRTFP Ux+	0	0	0	0	0	0
568	CRTFP Ux-	0	0	0	0	0	0
568	CRTFP Uy+	0	0	0	0	0	0
568	CRTFP Uy-	0	0	0	0	0	0
569	SLU 1	-47	47	3686	4.23	-757	11.82
569	SLU 2	-48	68	3698	4.07	-757.36	17.15
569	SLU 3	-48	48	3768	4.37	-774.11	11.96
569	SLU 4	-49	60	3775	4.28	-774.33	15.16
569	SLU 5	-49	69	3750	4.16	-768.12	17.25
569	SLU 6	-48	48	3819	4.47	-784.87	12.05
569	SLU 7	-49	61	3826	4.37	-785.09	15.25
569	SLU 8	-48	48	3789	4.42	-778.53	12.01
569	SLU 9	-49	61	3796	4.32	-778.74	15.21
569	SLU 10	-50	75	4163	4.68	-853.49	18.82
569	SLU 11	-49	54	4233	4.98	-870.24	13.62
569	SLU 12	-50	67	4240	4.89	-870.46	16.82
569	SLU 13	-50	75	4215	4.77	-864.26	18.91
569	SLU 14	-50	55	4284	5.08	-881.01	13.72
569	SLU 15	-51	67	4291	4.98	-881.22	16.92
569	SLU 16	-50	54	4254	5.03	-874.66	13.67
569	SLU 17	-50	67	4261	4.93	-874.88	16.87
569	SLU 18	-49	57	4351	5.1	-894.33	14.2
569	SLU 19	-50	69	4358	5	-894.55	17.4
569	SLU 20	-50	57	4402	5.19	-905.1	14.29
569	SLU 21	-50	70	4409	5.1	-905.31	17.49
569	SLU 22	-51	52	4254	5.08	-875.09	13.02
569	SLU 23	-52	73	4266	4.92	-875.45	18.35
569	SLU 24	-52	52	4336	5.22	-892.2	13.16
569	SLU 25	-52	65	4343	5.13	-892.42	16.36
569	SLU 26	-52	74	4318	5.01	-886.21	18.45
569	SLU 27	-52	53	4387	5.32	-902.96	13.25
569	SLU 28	-53	66	4394	5.22	-903.18	16.45
569	SLU 29	-52	53	4357	5.27	-896.62	13.21
569	SLU 30	-52	65	4364	5.17	-896.83	16.41
569	SLU 31	-53	80	4731	5.52	-971.58	20.02
569	SLU 32	-53	59	4801	5.83	-988.33	14.83
569	SLU 33	-54	72	4808	5.74	-988.55	18.03
569	SLU 34	-54	80	4783	5.62	-982.35	20.12
569	SLU 35	-53	59	4852	5.93	-999.1	14.92
569	SLU 36	-54	72	4859	5.83	-999.31	18.12
569	SLU 37	-53	59	4822	5.87	-992.75	14.88
569	SLU 38	-54	72	4829	5.78	-992.97	18.08
569	SLU 39	-53	61	4919	5.95	-1012.42	15.4
569	SLU 40	-53	74	4926	5.85	-1012.64	18.6
569	SLU 41	-53	62	4970	6.04	-1023.19	15.5
569	SLU 42	-54	75	4977	5.94	-1023.4	18.7
569	SLU 43	-60	60	4597	5.21	-943.61	14.95
569	SLU 44	-61	81	4610	5.04	-943.97	20.28
569	SLU 45	-61	60	4679	5.35	-960.72	15.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
569	SLU 46	-62	73	4686	5.25	-960.94	18.29
569	SLU 47	-62	81	4661	5.14	-954.74	20.38
569	SLU 48	-61	60	4730	5.45	-971.49	15.18
569	SLU 49	-62	73	4737	5.35	-971.7	18.38
569	SLU 50	-61	60	4700	5.39	-965.14	15.14
569	SLU 51	-62	73	4707	5.3	-965.36	18.34
569	SLU 52	-62	88	5075	5.65	-1040.11	21.95
569	SLU 53	-62	67	5144	5.96	-1056.86	16.76
569	SLU 54	-63	80	5151	5.86	-1057.07	19.96
569	SLU 55	-63	88	5126	5.75	-1050.87	22.05
569	SLU 56	-63	67	5195	6.05	-1067.62	16.85
569	SLU 57	-63	80	5203	5.96	-1067.84	20.05
569	SLU 58	-62	67	5165	6	-1061.27	16.81
569	SLU 59	-63	80	5172	5.91	-1061.49	20.01
569	SLU 60	-62	69	5262	6.08	-1080.95	17.33
569	SLU 61	-63	82	5269	5.98	-1081.16	20.53
569	SLU 62	-62	69	5313	6.17	-1091.71	17.43
569	SLU 63	-63	82	5320	6.07	-1091.93	20.63
569	SLU 64	-64	64	5165	6.06	-1061.7	16.15
569	SLU 65	-65	86	5178	5.89	-1062.06	21.49
569	SLU 66	-64	65	5247	6.2	-1078.81	16.29
569	SLU 67	-65	78	5254	6.1	-1079.03	19.49
569	SLU 68	-65	86	5229	5.99	-1072.83	21.58
569	SLU 69	-65	65	5298	6.29	-1089.58	16.39
569	SLU 70	-66	78	5305	6.2	-1089.79	19.59
569	SLU 71	-65	65	5268	6.24	-1083.23	16.34
569	SLU 72	-65	78	5275	6.15	-1083.45	19.54
569	SLU 73	-66	92	5643	6.5	-1158.19	23.16
569	SLU 74	-66	72	5712	6.81	-1174.94	17.96
569	SLU 75	-67	84	5719	6.71	-1175.16	21.16
569	SLU 76	-67	93	5694	6.6	-1168.96	23.25
569	SLU 77	-66	72	5763	6.9	-1185.71	18.05
569	SLU 78	-67	85	5770	6.81	-1185.92	21.25
569	SLU 79	-66	72	5733	6.85	-1179.36	18.01
569	SLU 80	-67	85	5740	6.76	-1179.58	21.21
569	SLU 81	-66	74	5830	6.93	-1199.03	18.54
569	SLU 82	-66	87	5837	6.83	-1199.25	21.74
569	SLU 83	-66	74	5881	7.02	-1209.8	18.63
569	SLU 84	-67	87	5888	6.92	-1210.01	21.83
569	SLE RA 1	-48	48	3849	4.47	-790.74	12.16
569	SLE RA 2	-49	63	3857	4.36	-790.98	15.72
569	SLE RA 3	-49	49	3903	4.57	-802.15	12.25
569	SLE RA 4	-49	57	3908	4.5	-802.29	14.39
569	SLE RA 5	-49	63	3891	4.43	-798.16	15.78
569	SLE RA 6	-49	49	3937	4.63	-809.32	12.32
569	SLE RA 7	-50	58	3942	4.57	-809.47	14.45
569	SLE RA 8	-49	49	3917	4.6	-805.09	12.29
569	SLE RA 9	-49	57	3922	4.53	-805.24	14.42
569	SLE RA 10	-50	67	4167	4.77	-855.07	16.83
569	SLE RA 11	-50	53	4213	4.97	-866.24	13.37
569	SLE RA 12	-50	62	4218	4.91	-866.38	15.5
569	SLE RA 13	-50	67	4201	4.83	-862.24	16.89
569	SLE RA 14	-50	53	4247	5.04	-873.41	13.43
569	SLE RA 15	-50	62	4252	4.97	-873.56	15.56
569	SLE RA 16	-50	53	4227	5	-869.18	13.4
569	SLE RA 17	-50	62	4232	4.94	-869.32	15.53
569	SLE RA 18	-49	55	4291	5.05	-882.3	13.75
569	SLE RA 19	-50	63	4296	4.99	-882.44	15.88
569	SLE RA 20	-50	55	4326	5.11	-889.47	13.81
569	SLE RA 21	-50	64	4330	5.05	-889.62	15.95
569	SLE FR 1	-48	48	3849	4.47	-790.74	12.16
569	SLE FR 2	-48	51	3850	4.45	-790.79	12.87
569	SLE FR 3	-48	49	3862	4.5	-793.61	12.19
569	SLE FR 4	-49	53	3983	4.62	-818.25	13.35
569	SLE FR 5	-49	50	3995	4.67	-821.08	12.66
569	SLE FR 6	-49	52	4070	4.76	-836.52	12.96
569	SLE QP 1	-48	48	3849	4.47	-790.74	12.16
569	SLE QP 2	-49	50	3981	4.65	-818.21	12.64
569	SLD 1	216	182	5148	4.88	-1028.29	45.47
569	SLD 2	227	77	5134	5.06	-1028.3	19.42
569	SLD 3	233	-60	4994	7.06	-1025.11	-15.04
569	SLD 4	244	-165	4980	7.24	-1025.12	-41.1
569	SLD 5	3	477	4567	1.37	-886.06	118.96
569	SLD 6	11	407	4558	1.49	-886.06	101.76
569	SLD 7	59	-332	4054	8.65	-875.45	-82.75
569	SLD 8	67	-401	4045	8.77	-875.46	-99.96
569	SLD 9	-164	502	3918	0.52	-760.96	125.23
569	SLD 10	-156	432	3908	0.64	-760.96	108.03
569	SLD 11	-108	-307	3405	7.8	-750.35	-76.48
569	SLD 12	-100	-376	3396	7.92	-750.36	-93.69
569	SLD 13	-341	266	2983	2.05	-611.29	66.37
569	SLD 14	-330	161	2969	2.23	-611.3	40.32
569	SLD 15	-324	23	2829	4.23	-608.11	5.86
569	SLD 16	-313	-81	2815	4.41	-608.12	-20.2
569	SLV 1	365	263	5805	4.94	-1145.98	65.59
569	SLV 2	383	99	5783	5.23	-1146	24.78
569	SLV 3	392	-129	5557	8.48	-1140.84	-32.15
569	SLV 4	410	-293	5535	8.76	-1140.85	-72.97
569	SLV 5	31	739	4910	-0.67	-924.34	184.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
569	SLV 6	43	628	4895	-0.48	-924.35	156.91
569	SLV 7	122	-567	4081	11.1	-907.2	-141.43
569	SLV 8	134	-677	4066	11.29	-907.2	-168.91
569	SLV 9	-231	778	3897	-2	-729.21	194.19
569	SLV 10	-219	668	3882	-1.81	-729.22	166.71
569	SLV 11	-140	-528	3068	9.77	-712.07	-131.63
569	SLV 12	-128	-638	3053	9.96	-712.08	-159.12
569	SLV 13	-508	394	2428	0.53	-495.56	98.25
569	SLV 14	-489	230	2406	0.81	-495.57	57.43
569	SLV 15	-480	2	2179	4.06	-490.42	0.5
569	SLV 16	-462	-162	2157	4.35	-490.43	-40.32
569	SLV FO 1	406	284	5988	4.97	-1178.76	70.89
569	SLV FO 2	426	103	5964	5.29	-1178.78	25.99
569	SLV FO 3	436	-147	5714	8.86	-1173.1	-36.63
569	SLV FO 4	456	-327	5690	9.17	-1173.12	-81.53
569	SLV FO 5	39	808	5003	-1.21	-934.95	201.57
569	SLV FO 6	52	686	4987	-1	-934.96	171.34
569	SLV FO 7	139	-629	4091	11.74	-916.09	-156.84
569	SLV FO 8	152	-750	4074	11.95	-916.1	-187.07
569	SLV FO 9	-249	851	3888	-2.66	-720.31	212.34
569	SLV FO 10	-236	729	3872	-2.45	-720.32	182.11
569	SLV FO 11	-149	-585	2976	10.29	-701.45	-146.06
569	SLV FO 12	-136	-707	2960	10.5	-701.46	-176.29
569	SLV FO 13	-553	428	2273	0.12	-463.29	106.81
569	SLV FO 14	-533	247	2249	0.43	-463.31	61.91
569	SLV FO 15	-523	-3	1999	4	-457.64	-0.71
569	SLV FO 16	-503	-183	1975	4.32	-457.65	-45.61
569	CRTFP Ux+	0	0	0	0	0	0
569	CRTFP Ux-	0	0	0	0	0	0
569	CRTFP Uy+	0	0	0	0	0	0
569	CRTFP Uy-	0	0	0	0	0	0
572	SLU 1	59	-19	6352	0.97	32.63	-0.53
572	SLU 2	59	11	6358	0.49	31.39	-0.46
572	SLU 3	60	-19	6501	1.14	33.61	-0.55
572	SLU 4	60	-1	6505	0.85	32.87	-0.51
572	SLU 5	60	11	6455	0.61	32.05	-0.48
572	SLU 6	61	-19	6598	1.27	34.26	-0.58
572	SLU 7	61	-1	6602	0.98	33.52	-0.54
572	SLU 8	60	-19	6546	1.22	33.94	-0.57
572	SLU 9	61	-1	6550	0.93	33.2	-0.53
572	SLU 10	62	12	7213	0.82	36.99	-0.51
572	SLU 11	63	-18	7355	1.47	39.2	-0.6
572	SLU 12	64	0	7359	1.18	38.46	-0.56
572	SLU 13	63	12	7310	0.94	37.64	-0.53
572	SLU 14	64	-18	7452	1.59	39.85	-0.62
572	SLU 15	65	0	7456	1.3	39.11	-0.58
572	SLU 16	64	-18	7400	1.55	39.53	-0.62
572	SLU 17	64	0	7404	1.26	38.79	-0.58
572	SLU 18	63	-18	7572	1.44	40.62	-0.59
572	SLU 19	64	0	7576	1.15	39.88	-0.55
572	SLU 20	64	-18	7669	1.56	41.27	-0.61
572	SLU 21	64	0	7673	1.27	40.53	-0.57
572	SLU 22	66	-19	7365	1.62	37.86	-0.59
572	SLU 23	67	11	7372	1.14	36.62	-0.52
572	SLU 24	67	-19	7515	1.79	38.84	-0.61
572	SLU 25	68	-1	7519	1.5	38.1	-0.57
572	SLU 26	68	11	7469	1.27	37.28	-0.55
572	SLU 27	68	-19	7612	1.92	39.49	-0.64
572	SLU 28	69	-1	7616	1.63	38.75	-0.6
572	SLU 29	68	-19	7559	1.87	39.17	-0.63
572	SLU 30	68	-1	7563	1.58	38.42	-0.59
572	SLU 31	70	12	8226	1.47	42.22	-0.57
572	SLU 32	70	-19	8369	2.12	44.43	-0.66
572	SLU 33	71	-1	8373	1.83	43.69	-0.62
572	SLU 34	71	11	8323	1.59	42.87	-0.59
572	SLU 35	71	-19	8466	2.24	45.08	-0.68
572	SLU 36	72	-1	8470	1.95	44.34	-0.64
572	SLU 37	71	-19	8414	2.2	44.76	-0.68
572	SLU 38	71	-1	8418	1.91	44.02	-0.64
572	SLU 39	70	-18	8586	2.09	45.85	-0.65
572	SLU 40	71	0	8590	1.8	45.11	-0.61
572	SLU 41	71	-18	8683	2.22	46.5	-0.68
572	SLU 42	72	0	8687	1.93	45.76	-0.64
572	SLU 43	74	-24	7909	1.04	40.62	-0.66
572	SLU 44	74	6	7916	0.56	39.39	-0.6
572	SLU 45	75	-24	8059	1.21	41.6	-0.69
572	SLU 46	76	-6	8063	0.92	40.86	-0.65
572	SLU 47	75	6	8013	0.68	40.04	-0.62
572	SLU 48	76	-24	8156	1.33	42.26	-0.71
572	SLU 49	76	-6	8160	1.05	41.52	-0.67
572	SLU 50	75	-24	8104	1.29	41.93	-0.71
572	SLU 51	76	-6	8108	1	41.19	-0.67
572	SLU 52	78	7	8770	0.89	44.98	-0.64
572	SLU 53	78	-24	8913	1.54	47.2	-0.74
572	SLU 54	79	-6	8917	1.25	46.46	-0.7
572	SLU 55	78	7	8868	1.01	45.64	-0.67
572	SLU 56	79	-24	9010	1.66	47.85	-0.76
572	SLU 57	80	-6	9014	1.37	47.11	-0.72
572	SLU 58	79	-24	8958	1.62	47.53	-0.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
572	SLU 59	79	-6	8962	1.33	46.79	-0.71
572	SLU 60	78	-23	9130	1.51	48.62	-0.73
572	SLU 61	79	-5	9134	1.22	47.88	-0.69
572	SLU 62	79	-23	9227	1.63	49.27	-0.75
572	SLU 63	80	-5	9231	1.34	48.53	-0.71
572	SLU 64	81	-25	8923	1.69	45.85	-0.73
572	SLU 65	82	5	8930	1.21	44.62	-0.66
572	SLU 66	82	-25	9073	1.86	46.83	-0.75
572	SLU 67	83	-7	9077	1.57	46.09	-0.71
572	SLU 68	83	5	9027	1.33	45.27	-0.68
572	SLU 69	83	-25	9170	1.99	47.49	-0.77
572	SLU 70	84	-7	9174	1.7	46.75	-0.73
572	SLU 71	83	-25	9117	1.94	47.16	-0.77
572	SLU 72	83	-7	9121	1.65	46.42	-0.73
572	SLU 73	85	6	9784	1.54	50.21	-0.7
572	SLU 74	86	-24	9927	2.19	52.43	-0.8
572	SLU 75	86	-6	9931	1.9	51.69	-0.76
572	SLU 76	86	6	9881	1.66	50.87	-0.73
572	SLU 77	86	-24	10024	2.31	53.08	-0.82
572	SLU 78	87	-6	10028	2.02	52.34	-0.78
572	SLU 79	86	-24	9972	2.27	52.75	-0.82
572	SLU 80	86	-6	9976	1.98	52.01	-0.78
572	SLU 81	85	-24	10144	2.16	53.84	-0.79
572	SLU 82	86	-6	10148	1.87	53.1	-0.75
572	SLU 83	86	-24	10241	2.28	54.5	-0.81
572	SLU 84	87	-6	10245	1.99	53.76	-0.77
572	SLE RA 1	61	-19	6641	1.16	34.12	-0.55
572	SLE RA 2	61	1	6646	0.84	33.3	-0.5
572	SLE RA 3	62	-19	6741	1.27	34.78	-0.56
572	SLE RA 4	62	-7	6743	1.08	34.28	-0.54
572	SLE RA 5	62	1	6710	0.92	33.74	-0.52
572	SLE RA 6	62	-19	6805	1.35	35.21	-0.58
572	SLE RA 7	63	-7	6808	1.16	34.72	-0.55
572	SLE RA 8	62	-19	6771	1.32	34.99	-0.58
572	SLE RA 9	62	-7	6773	1.13	34.5	-0.55
572	SLE RA 10	63	2	7215	1.06	37.03	-0.53
572	SLE RA 11	64	-18	7310	1.49	38.5	-0.59
572	SLE RA 12	64	-6	7313	1.3	38.01	-0.57
572	SLE RA 13	64	2	7280	1.14	37.46	-0.55
572	SLE RA 14	64	-19	7375	1.57	38.94	-0.61
572	SLE RA 15	65	-7	7378	1.38	38.45	-0.58
572	SLE RA 16	64	-18	7340	1.54	38.72	-0.61
572	SLE RA 17	64	-6	7343	1.35	38.23	-0.58
572	SLE RA 18	64	-18	7455	1.47	39.45	-0.59
572	SLE RA 19	64	-6	7458	1.28	38.96	-0.56
572	SLE RA 20	64	-18	7520	1.55	39.89	-0.6
572	SLE RA 21	65	-6	7522	1.36	39.39	-0.58
572	SLE FR 1	61	-19	6641	1.16	34.12	-0.55
572	SLE FR 2	61	-15	6642	1.1	33.96	-0.54
572	SLE FR 3	61	-19	6667	1.19	34.3	-0.55
572	SLE FR 4	62	-15	6886	1.19	35.56	-0.55
572	SLE FR 5	62	-19	6911	1.29	35.9	-0.56
572	SLE FR 6	62	-18	7048	1.32	36.79	-0.57
572	SLE QP 1	61	-19	6641	1.16	34.12	-0.55
572	SLE QP 2	62	-19	6885	1.25	35.72	-0.56
572	SLD 1	623	163	6306	-2.11	34.53	0.47
572	SLD 2	642	241	6315	-2.48	33.09	2.49
572	SLD 3	613	-167	6226	4.08	50.46	-0.24
572	SLD 4	633	-89	6234	3.7	49.02	1.79
572	SLD 5	241	523	6832	-9.07	11.46	0.46
572	SLD 6	254	574	6838	-9.32	10.51	1.8
572	SLD 7	209	-578	6564	11.55	64.56	-1.9
572	SLD 8	222	-527	6569	11.3	63.61	-0.57
572	SLD 9	-99	490	7201	-8.8	7.83	-0.55
572	SLD 10	-86	541	7207	-9.04	6.88	0.79
572	SLD 11	-131	-612	6933	11.82	60.93	-2.91
572	SLD 12	-118	-560	6938	11.58	59.98	-1.58
572	SLD 13	-510	52	7536	-1.2	22.42	-2.9
572	SLD 14	-490	130	7545	-1.57	20.99	-0.88
572	SLD 15	-519	-278	7456	4.99	38.35	-3.61
572	SLD 16	-500	-200	7465	4.62	36.91	-1.59
572	SLV 1	941	274	5984	-4.17	33.7	1.07
572	SLV 2	971	396	5998	-4.75	31.46	4.24
572	SLV 3	925	-260	5853	5.83	59.45	-0.09
572	SLV 4	956	-138	5867	5.25	57.2	3.08
572	SLV 5	343	857	6811	-15.43	-3.52	1.1
572	SLV 6	364	939	6820	-15.82	-5.03	3.24
572	SLV 7	291	-924	6375	17.9	82.31	-2.77
572	SLV 8	312	-842	6384	17.51	80.8	-0.64
572	SLV 9	-189	805	7387	-15	-9.36	-0.48
572	SLV 10	-168	887	7396	-15.4	-10.87	1.65
572	SLV 11	-241	-976	6950	18.33	76.47	-4.35
572	SLV 12	-220	-894	6960	17.94	74.96	-2.22
572	SLV 13	-833	101	7904	-2.74	14.24	-4.2
572	SLV 14	-802	223	7917	-3.33	11.99	-1.03
572	SLV 15	-848	-434	7773	7.26	39.99	-5.36
572	SLV 16	-818	-311	7786	6.68	37.74	-2.19
572	SLV FO 1	1029	303	5894	-4.71	33.5	1.24
572	SLV FO 2	1062	438	5909	-5.35	31.03	4.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
572	SLV FO 3	1012	-284	5750	6.29	61.82	-0.04
572	SLV FO 4	1045	-150	5765	5.65	59.35	3.45
572	SLV FO 5	371	944	6804	-17.1	-7.44	1.27
572	SLV FO 6	394	1035	6814	-17.53	-9.11	3.62
572	SLV FO 7	314	-1015	6324	19.57	86.97	-2.99
572	SLV FO 8	337	-924	6334	19.14	85.31	-0.65
572	SLV FO 9	-214	887	7437	-16.63	-13.86	-0.47
572	SLV FO 10	-191	978	7447	-17.06	-15.53	1.88
572	SLV FO 11	-271	-1072	6957	20.04	80.55	-4.73
572	SLV FO 12	-248	-981	6967	19.61	78.88	-2.39
572	SLV FO 13	-922	113	8005	-3.14	12.09	-4.56
572	SLV FO 14	-889	247	8020	-3.78	9.62	-1.08
572	SLV FO 15	-939	-475	7861	7.86	40.41	-5.84
572	SLV FO 16	-906	-340	7876	7.22	37.94	-2.35
572	CRTFP Ux+	0	0	0	0	0	0
572	CRTFP Ux-	0	0	0	0	0	0
572	CRTFP Uy+	0	0	0	0	0	0
572	CRTFP Uy-	0	0	0	0	0	0
575	SLU 1	54	7	4216	4.97	1231.14	-2.58
575	SLU 2	55	30	4226	4.78	1230.67	-10.65
575	SLU 3	55	7	4316	5.15	1260.85	-2.57
575	SLU 4	56	21	4323	5.04	1260.58	-7.4
575	SLU 5	55	30	4292	4.91	1250.08	-10.77
575	SLU 6	56	7	4382	5.28	1280.26	-2.69
575	SLU 7	57	21	4388	5.17	1279.98	-7.52
575	SLU 8	56	7	4346	5.23	1269.95	-2.83
575	SLU 9	56	21	4353	5.11	1269.67	-7.66
575	SLU 10	57	30	4763	5.5	1387.47	-10.68
575	SLU 11	58	7	4852	5.88	1417.65	-2.6
575	SLU 12	58	21	4859	5.76	1417.37	-7.43
575	SLU 13	58	30	4828	5.63	1406.88	-10.8
575	SLU 14	58	7	4918	6.01	1437.06	-2.72
575	SLU 15	59	21	4924	5.89	1436.78	-7.55
575	SLU 16	58	7	4883	5.95	1426.75	-2.86
575	SLU 17	58	21	4889	5.83	1426.47	-7.69
575	SLU 18	57	7	4982	6	1455.14	-2.63
575	SLU 19	58	21	4988	5.88	1454.86	-7.46
575	SLU 20	58	7	5047	6.13	1474.54	-2.75
575	SLU 21	58	21	5054	6.01	1474.26	-7.58
575	SLU 22	59	4	4870	5.97	1423.58	-1.6
575	SLU 23	60	27	4881	5.78	1423.11	-9.66
575	SLU 24	61	4	4971	6.16	1453.29	-1.58
575	SLU 25	61	18	4977	6.05	1453.01	-6.42
575	SLU 26	61	27	4946	5.91	1442.52	-9.79
575	SLU 27	62	4	5036	6.29	1472.7	-1.71
575	SLU 28	62	18	5042	6.18	1472.42	-6.54
575	SLU 29	61	5	5001	6.23	1462.38	-1.85
575	SLU 30	61	18	5007	6.12	1462.11	-6.68
575	SLU 31	62	27	5417	6.5	1579.91	-9.69
575	SLU 32	63	4	5507	6.88	1610.09	-1.61
575	SLU 33	63	18	5513	6.77	1609.81	-6.45
575	SLU 34	63	27	5482	6.64	1599.31	-9.81
575	SLU 35	64	4	5572	7.01	1629.49	-1.74
575	SLU 36	64	18	5579	6.9	1629.22	-6.57
575	SLU 37	63	5	5537	6.96	1619.18	-1.87
575	SLU 38	64	18	5543	6.84	1618.9	-6.71
575	SLU 39	63	4	5636	7	1647.57	-1.65
575	SLU 40	63	18	5642	6.89	1647.3	-6.48
575	SLU 41	63	4	5701	7.13	1666.98	-1.77
575	SLU 42	64	18	5708	7.02	1666.7	-6.6
575	SLU 43	68	10	5256	6.11	1534.5	-3.7
575	SLU 44	69	33	5267	5.92	1534.04	-11.76
575	SLU 45	70	10	5356	6.3	1564.22	-3.68
575	SLU 46	70	24	5363	6.18	1563.94	-8.51
575	SLU 47	70	33	5332	6.05	1553.44	-11.88
575	SLU 48	71	10	5422	6.43	1583.62	-3.8
575	SLU 49	71	24	5428	6.31	1583.34	-8.63
575	SLU 50	70	10	5387	6.37	1573.31	-3.94
575	SLU 51	70	24	5393	6.26	1573.03	-8.77
575	SLU 52	71	33	5803	6.64	1690.84	-11.79
575	SLU 53	72	10	5893	7.02	1721.02	-3.71
575	SLU 54	72	24	5899	6.91	1720.74	-8.54
575	SLU 55	72	33	5868	6.77	1710.24	-11.91
575	SLU 56	73	10	5958	7.15	1740.42	-3.83
575	SLU 57	73	24	5965	7.04	1740.14	-8.66
575	SLU 58	72	11	5923	7.09	1730.11	-3.97
575	SLU 59	73	24	5929	6.98	1729.83	-8.8
575	SLU 60	72	10	6022	7.14	1758.5	-3.74
575	SLU 61	72	24	6028	7.03	1758.22	-8.57
575	SLU 62	72	10	6087	7.27	1777.9	-3.86
575	SLU 63	73	24	6094	7.16	1777.62	-8.7
575	SLU 64	74	7	5910	7.12	1726.94	-2.72
575	SLU 65	74	30	5921	6.93	1726.48	-10.78
575	SLU 66	75	7	6011	7.31	1756.65	-2.7
575	SLU 67	75	21	6017	7.19	1756.38	-7.53
575	SLU 68	75	30	5986	7.06	1745.88	-10.9
575	SLU 69	76	7	6076	7.44	1776.06	-2.82
575	SLU 70	76	21	6083	7.32	1775.78	-7.65
575	SLU 71	75	8	6041	7.38	1765.75	-2.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
575	SLU 72	76	21	6047	7.26	1765.47	-7.79
575	SLU 73	77	30	6457	7.65	1883.27	-10.81
575	SLU 74	77	7	6547	8.03	1913.45	-2.73
575	SLU 75	78	21	6554	7.91	1913.17	-7.56
575	SLU 76	77	30	6523	7.78	1902.68	-10.93
575	SLU 77	78	7	6613	8.16	1932.86	-2.85
575	SLU 78	78	21	6619	8.04	1932.58	-7.68
575	SLU 79	78	8	6577	8.1	1922.55	-2.99
575	SLU 80	78	21	6584	7.99	1922.27	-7.82
575	SLU 81	77	7	6676	8.15	1950.94	-2.76
575	SLU 82	77	21	6683	8.03	1950.66	-7.59
575	SLU 83	78	7	6742	8.28	1970.34	-2.88
575	SLU 84	78	21	6748	8.16	1970.06	-7.71
575	SLE RA 1	56	6	4402	5.25	1286.12	-2.3
575	SLE RA 2	56	21	4410	5.13	1285.81	-7.68
575	SLE RA 3	56	6	4470	5.38	1305.93	-2.29
575	SLE RA 4	57	15	4474	5.3	1305.75	-5.52
575	SLE RA 5	56	22	4453	5.21	1298.75	-7.76
575	SLE RA 6	57	6	4513	5.47	1318.87	-2.37
575	SLE RA 7	57	15	4518	5.39	1318.68	-5.6
575	SLE RA 8	57	6	4490	5.43	1311.99	-2.47
575	SLE RA 9	57	16	4494	5.35	1311.81	-5.69
575	SLE RA 10	57	21	4767	5.61	1390.34	-7.7
575	SLE RA 11	58	6	4827	5.86	1410.46	-2.31
575	SLE RA 12	58	15	4831	5.78	1410.28	-5.54
575	SLE RA 13	58	22	4811	5.69	1403.28	-7.78
575	SLE RA 14	58	6	4871	5.95	1423.4	-2.39
575	SLE RA 15	59	15	4875	5.87	1423.21	-5.62
575	SLE RA 16	58	6	4847	5.91	1416.53	-2.48
575	SLE RA 17	58	16	4852	5.83	1416.34	-5.71
575	SLE RA 18	58	6	4913	5.94	1435.45	-2.33
575	SLE RA 19	58	15	4918	5.86	1435.27	-5.56
575	SLE RA 20	58	6	4957	6.03	1448.39	-2.41
575	SLE RA 21	58	15	4961	5.95	1448.2	-5.64
575	SLE FR 1	56	6	4402	5.25	1286.12	-2.3
575	SLE FR 2	56	9	4404	5.23	1286.06	-3.38
575	SLE FR 3	56	6	4420	5.29	1291.3	-2.34
575	SLE FR 4	56	9	4557	5.43	1330.86	-3.39
575	SLE FR 5	56	6	4573	5.49	1336.1	-2.34
575	SLE FR 6	57	6	4658	5.6	1360.79	-2.32
575	SLE QP 1	56	6	4402	5.25	1286.12	-2.3
575	SLE QP 2	56	6	4556	5.46	1330.92	-2.31
575	SLD 1	379	120	3409	2.78	1001.79	-42.04
575	SLD 2	392	236	3418	2.56	1000.2	-82.63
575	SLD 3	370	-121	3282	5.27	1010.73	42.12
575	SLD 4	383	-4	3292	5.05	1009.15	1.52
575	SLD 5	164	384	4402	0.92	1218.9	-134.55
575	SLD 6	172	461	4409	0.78	1217.86	-161.36
575	SLD 7	135	-418	3979	9.22	1248.71	145.97
575	SLD 8	143	-341	3986	9.07	1247.67	119.16
575	SLD 9	-31	353	5126	1.85	1414.18	-123.79
575	SLD 10	-23	430	5132	1.7	1413.13	-150.59
575	SLD 11	-60	-449	4703	10.14	1443.98	156.73
575	SLD 12	-52	-372	4709	10	1442.94	129.93
575	SLD 13	-271	16	5820	5.87	1652.7	-6.15
575	SLD 14	-258	133	5830	5.65	1651.11	-46.74
575	SLD 15	-280	-224	5693	8.36	1661.64	78.01
575	SLD 16	-267	-108	5703	8.14	1660.05	37.41
575	SLV 1	562	190	2770	1.21	817.3	-66.7
575	SLV 2	582	373	2785	0.87	814.81	-130.3
575	SLV 3	548	-200	2565	5.24	831.75	69.62
575	SLV 4	568	-17	2580	4.89	829.27	6.02
575	SLV 5	226	618	4328	-1.85	1155.38	-216.52
575	SLV 6	239	741	4338	-2.08	1153.7	-259.34
575	SLV 7	178	-681	3645	11.56	1203.56	237.9
575	SLV 8	192	-558	3655	11.33	1201.88	195.08
575	SLV 9	-80	570	5456	-0.41	1459.96	-199.71
575	SLV 10	-66	693	5467	-0.64	1458.29	-242.53
575	SLV 11	-127	-729	4773	13	1508.14	254.72
575	SLV 12	-113	-606	4783	12.77	1506.47	211.9
575	SLV 13	-456	29	6531	6.03	1832.58	-10.65
575	SLV 14	-436	212	6546	5.68	1830.09	-74.25
575	SLV 15	-470	-361	6326	10.05	1847.03	125.68
575	SLV 16	-450	-178	6341	9.71	1844.54	62.08
575	SLV FO 1	613	209	2592	0.79	765.94	-73.14
575	SLV FO 2	635	409	2608	0.41	763.2	-143.1
575	SLV FO 3	597	-220	2366	5.21	781.83	76.82
575	SLV FO 4	619	-19	2383	4.84	779.1	6.86
575	SLV FO 5	243	680	4305	-2.58	1137.82	-237.94
575	SLV FO 6	258	815	4317	-2.84	1135.98	-285.05
575	SLV FO 7	191	-750	3554	12.17	1190.82	261.92
575	SLV FO 8	206	-615	3565	11.92	1188.98	214.82
575	SLV FO 9	-93	626	5547	-1	1472.86	-219.44
575	SLV FO 10	-78	762	5558	-1.25	1471.02	-266.55
575	SLV FO 11	-145	-803	4795	13.76	1525.86	280.42
575	SLV FO 12	-130	-668	4806	13.5	1524.02	233.32
575	SLV FO 13	-507	31	6729	6.08	1882.74	-11.48
575	SLV FO 14	-485	232	6745	5.71	1880.01	-81.44
575	SLV FO 15	-523	-397	6503	10.51	1898.64	138.48



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
575	SLV FO 16	-500	-197	6520	10.13	1895.91	68.52
575	CRTFP Ux+	0	0	0	0	0	0
575	CRTFP Uy-	0	0	0	0	0	0
575	CRTFP Uy+	0	0	0	0	0	0
575	CRTFP Uy-	0	0	0	0	0	0
578	SLU 1	-59	-50	5945	0.39	-15.56	0.65
578	SLU 2	-59	-23	5955	0.11	-15.01	0.62
578	SLU 3	-60	-52	6083	0.49	-16.14	0.65
578	SLU 4	-60	-35	6089	0.32	-15.81	0.63
578	SLU 5	-60	-23	6043	0.18	-15.42	0.62
578	SLU 6	-61	-52	6171	0.55	-16.55	0.65
578	SLU 7	-61	-36	6177	0.39	-16.22	0.63
578	SLU 8	-60	-52	6121	0.52	-16.38	0.65
578	SLU 9	-61	-35	6127	0.36	-16.05	0.63
578	SLU 10	-61	-28	6760	0.29	-18.47	0.68
578	SLU 11	-61	-57	6888	0.67	-19.6	0.71
578	SLU 12	-62	-40	6894	0.5	-19.27	0.69
578	SLU 13	-62	-29	6847	0.36	-18.88	0.68
578	SLU 14	-62	-58	6976	0.73	-20.01	0.71
578	SLU 15	-63	-41	6981	0.57	-19.68	0.69
578	SLU 16	-62	-57	6926	0.7	-19.84	0.71
578	SLU 17	-62	-41	6931	0.54	-19.51	0.69
578	SLU 18	-61	-58	7095	0.65	-20.5	0.74
578	SLU 19	-61	-41	7100	0.48	-20.17	0.72
578	SLU 20	-62	-59	7183	0.72	-20.91	0.73
578	SLU 21	-62	-42	7188	0.55	-20.58	0.71
578	SLU 22	-64	-57	6902	0.79	-18.7	0.69
578	SLU 23	-65	-29	6912	0.52	-18.15	0.66
578	SLU 24	-65	-58	7040	0.89	-19.28	0.69
578	SLU 25	-66	-42	7046	0.72	-18.95	0.67
578	SLU 26	-65	-30	7000	0.58	-18.56	0.66
578	SLU 27	-66	-59	7128	0.96	-19.69	0.69
578	SLU 28	-66	-43	7134	0.79	-19.36	0.67
578	SLU 29	-65	-59	7078	0.92	-19.52	0.69
578	SLU 30	-66	-42	7084	0.76	-19.19	0.67
578	SLU 31	-66	-35	7717	0.7	-21.61	0.72
578	SLU 32	-67	-64	7845	1.07	-22.74	0.75
578	SLU 33	-67	-47	7850	0.9	-22.41	0.73
578	SLU 34	-67	-36	7804	0.76	-22.02	0.72
578	SLU 35	-67	-65	7932	1.14	-23.15	0.75
578	SLU 36	-68	-48	7938	0.97	-22.82	0.73
578	SLU 37	-67	-64	7883	1.1	-22.98	0.75
578	SLU 38	-67	-48	7888	0.94	-22.65	0.73
578	SLU 39	-66	-65	8052	1.05	-23.64	0.78
578	SLU 40	-67	-48	8057	0.88	-23.31	0.76
578	SLU 41	-67	-66	8139	1.12	-24.05	0.77
578	SLU 42	-67	-49	8145	0.95	-23.72	0.75
578	SLU 43	-74	-63	7401	0.37	-19.16	0.83
578	SLU 44	-75	-35	7411	0.09	-18.61	0.8
578	SLU 45	-76	-64	7539	0.47	-19.74	0.84
578	SLU 46	-76	-48	7544	0.3	-19.41	0.82
578	SLU 47	-76	-36	7498	0.16	-19.02	0.8
578	SLU 48	-76	-65	7627	0.53	-20.15	0.83
578	SLU 49	-77	-48	7632	0.37	-19.82	0.82
578	SLU 50	-76	-65	7577	0.5	-19.97	0.83
578	SLU 51	-76	-48	7582	0.34	-19.64	0.81
578	SLU 52	-77	-41	8215	0.27	-22.07	0.86
578	SLU 53	-77	-69	8343	0.65	-23.2	0.9
578	SLU 54	-78	-53	8349	0.48	-22.87	0.88
578	SLU 55	-77	-41	8303	0.34	-22.48	0.86
578	SLU 56	-78	-70	8431	0.71	-23.61	0.89
578	SLU 57	-78	-54	8437	0.55	-23.28	0.87
578	SLU 58	-78	-70	8381	0.68	-23.43	0.89
578	SLU 59	-78	-53	8387	0.52	-23.1	0.87
578	SLU 60	-77	-70	8550	0.63	-24.1	0.92
578	SLU 61	-77	-54	8556	0.46	-23.77	0.9
578	SLU 62	-77	-71	8638	0.7	-24.51	0.92
578	SLU 63	-78	-55	8644	0.53	-24.18	0.9
578	SLU 64	-80	-70	8358	0.77	-22.29	0.87
578	SLU 65	-80	-42	8368	0.5	-21.74	0.84
578	SLU 66	-81	-71	8496	0.87	-22.87	0.88
578	SLU 67	-81	-55	8501	0.7	-22.54	0.86
578	SLU 68	-81	-43	8455	0.56	-22.15	0.84
578	SLU 69	-82	-72	8583	0.94	-23.28	0.87
578	SLU 70	-82	-55	8589	0.77	-22.95	0.85
578	SLU 71	-81	-72	8534	0.9	-23.11	0.87
578	SLU 72	-82	-55	8539	0.74	-22.78	0.85
578	SLU 73	-82	-47	9172	0.68	-25.2	0.9
578	SLU 74	-83	-76	9300	1.05	-26.33	0.93
578	SLU 75	-83	-60	9306	0.88	-26	0.92
578	SLU 76	-83	-48	9260	0.74	-25.61	0.9
578	SLU 77	-83	-77	9388	1.12	-26.74	0.93
578	SLU 78	-84	-61	9394	0.95	-26.41	0.91
578	SLU 79	-83	-77	9338	1.08	-26.57	0.93
578	SLU 80	-83	-60	9344	0.92	-26.24	0.91
578	SLU 81	-82	-77	9507	1.03	-27.23	0.96
578	SLU 82	-82	-61	9513	0.86	-26.9	0.94
578	SLU 83	-83	-78	9595	1.1	-27.64	0.96
578	SLU 84	-83	-62	9601	0.93	-27.31	0.94



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
578	SLE RA 1	-60	-52	6219	0.51	-16.46	0.66
578	SLE RA 2	-61	-34	6225	0.32	-16.09	0.64
578	SLE RA 3	-61	-53	6311	0.57	-16.84	0.66
578	SLE RA 4	-61	-42	6315	0.46	-16.62	0.65
578	SLE RA 5	-61	-34	6284	0.37	-16.36	0.64
578	SLE RA 6	-61	-54	6369	0.61	-17.12	0.66
578	SLE RA 7	-62	-43	6373	0.5	-16.9	0.65
578	SLE RA 8	-61	-53	6336	0.59	-17	0.66
578	SLE RA 9	-61	-42	6340	0.48	-16.78	0.65
578	SLE RA 10	-62	-37	6762	0.44	-18.4	0.68
578	SLE RA 11	-62	-57	6847	0.69	-19.15	0.7
578	SLE RA 12	-62	-46	6851	0.58	-18.93	0.69
578	SLE RA 13	-62	-38	6820	0.49	-18.67	0.68
578	SLE RA 14	-63	-57	6906	0.73	-19.42	0.7
578	SLE RA 15	-63	-46	6909	0.62	-19.2	0.69
578	SLE RA 16	-62	-57	6872	0.71	-19.31	0.7
578	SLE RA 17	-62	-46	6876	0.6	-19.09	0.69
578	SLE RA 18	-62	-57	6985	0.68	-19.75	0.72
578	SLE RA 19	-62	-46	6989	0.57	-19.53	0.71
578	SLE RA 20	-62	-58	7044	0.72	-20.03	0.72
578	SLE RA 21	-62	-47	7047	0.61	-19.81	0.7
578	SLE FR 1	-60	-52	6219	0.51	-16.46	0.66
578	SLE FR 2	-60	-49	6220	0.47	-16.38	0.66
578	SLE FR 3	-60	-52	6242	0.52	-16.57	0.66
578	SLE FR 4	-61	-50	6450	0.52	-17.37	0.68
578	SLE FR 5	-61	-54	6472	0.58	-17.56	0.68
578	SLE FR 6	-61	-55	6602	0.59	-18.11	0.69
578	SLE QP 1	-60	-52	6219	0.51	-16.46	0.66
578	SLE QP 2	-61	-54	6449	0.56	-17.45	0.68
578	SLD 1	451	100	7145	-1.08	6.02	0.57
578	SLD 2	466	30	7134	-0.89	4.99	2.17
578	SLD 3	463	-221	7025	2.58	-1.46	1.25
578	SLD 4	478	-292	7015	2.77	-2.49	2.85
578	SLD 5	71	493	6841	-5.53	1.12	-0.68
578	SLD 6	82	446	6834	-5.4	0.44	0.38
578	SLD 7	112	-579	6442	6.69	-23.81	1.6
578	SLD 8	122	-625	6435	6.82	-24.49	2.65
578	SLD 9	-244	518	6462	-5.7	-10.4	-1.3
578	SLD 10	-233	471	6455	-5.58	-11.09	-0.24
578	SLD 11	-203	-554	6063	6.52	-35.33	0.98
578	SLD 12	-193	-600	6056	6.64	-36.02	2.04
578	SLD 13	-600	184	5882	-1.66	-32.4	-1.49
578	SLD 14	-584	113	5872	-1.47	-33.43	0.11
578	SLD 15	-587	-137	5763	2.01	-39.88	-0.81
578	SLD 16	-572	-208	5752	2.2	-40.91	0.79
578	SLV 1	740	196	7538	-2.1	19.39	0.49
578	SLV 2	764	85	7522	-1.81	17.76	3
578	SLV 3	759	-323	7344	3.82	7.31	1.58
578	SLV 4	783	-434	7328	4.12	5.68	4.09
578	SLV 5	145	829	7073	-9.28	12.23	-1.51
578	SLV 6	161	754	7062	-9.08	11.13	0.18
578	SLV 7	211	-901	6426	10.47	-28.04	2.14
578	SLV 8	227	-976	6415	10.67	-29.13	3.83
578	SLV 9	-348	868	6482	-9.55	-5.76	-2.47
578	SLV 10	-332	794	6471	-9.35	-6.85	-0.78
578	SLV 11	-283	-862	5836	10.2	-46.03	1.18
578	SLV 12	-266	-936	5825	10.4	-47.12	2.87
578	SLV 13	-905	326	5569	-3	-40.57	-2.73
578	SLV 14	-881	216	5553	-2.7	-42.2	-0.22
578	SLV 15	-885	-193	5375	2.93	-52.65	-1.64
578	SLV 16	-861	-303	5359	3.22	-54.28	0.87
578	SLV FO 1	820	221	7647	-2.37	23.07	0.47
578	SLV FO 2	846	99	7629	-2.05	21.28	3.23
578	SLV FO 3	841	-350	7434	4.15	9.78	1.67
578	SLV FO 4	868	-472	7416	4.47	8	4.43
578	SLV FO 5	166	917	7135	-10.27	15.19	-1.73
578	SLV FO 6	184	835	7123	-10.05	13.99	0.13
578	SLV FO 7	238	-986	6424	11.46	-29.1	2.29
578	SLV FO 8	256	-1068	6412	11.68	-30.3	4.15
578	SLV FO 9	-377	960	6485	-10.56	-4.59	-2.79
578	SLV FO 10	-359	878	6473	-10.34	-5.8	-0.93
578	SLV FO 11	-305	-943	5774	11.16	-48.88	1.23
578	SLV FO 12	-287	-1025	5762	11.38	-50.09	3.08
578	SLV FO 13	-989	364	5481	-3.35	-42.89	-3.07
578	SLV FO 14	-963	243	5463	-3.03	-44.67	-0.31
578	SLV FO 15	-968	-207	5268	3.16	-56.17	-1.87
578	SLV FO 16	-941	-328	5250	3.49	-57.96	0.89
578	CRTFP Ux+	0	0	0	0	0	0
578	CRTFP Ux-	0	0	0	0	0	0
578	CRTFP Uy+	0	0	0	0	0	0
578	CRTFP Uy-	0	0	0	0	0	0
583	SLU 1	5	-59	2624	0.31	1015.07	23.67
583	SLU 2	6	-45	2619	0.23	1012.55	18.11
583	SLU 3	5	-61	2686	0.35	1038.89	24.15
583	SLU 4	6	-52	2682	0.3	1037.38	20.81
583	SLU 5	6	-46	2659	0.26	1028.1	18.4
583	SLU 6	5	-61	2725	0.38	1054.44	24.43
583	SLU 7	6	-53	2722	0.33	1052.93	21.1
583	SLU 8	5	-61	2704	0.37	1046.17	24.24



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
583	SLU 9	5	-52	2701	0.32	1044.66	20.91
583	SLU 10	5	-52	2985	0.3	1155	20.87
583	SLU 11	5	-67	3052	0.42	1181.34	26.91
583	SLU 12	5	-59	3049	0.37	1179.83	23.58
583	SLU 13	5	-53	3025	0.33	1170.55	21.16
583	SLU 14	5	-68	3092	0.45	1196.89	27.2
583	SLU 15	5	-60	3089	0.4	1195.38	23.86
583	SLU 16	5	-68	3070	0.44	1188.62	27
583	SLU 17	5	-59	3067	0.39	1187.11	23.67
583	SLU 18	4	-69	3148	0.41	1218.57	27.61
583	SLU 19	5	-61	3144	0.36	1217.06	24.28
583	SLU 20	4	-70	3188	0.44	1234.12	27.9
583	SLU 21	5	-62	3184	0.39	1232.61	24.57
583	SLU 22	6	-67	3036	0.48	1174.23	26.69
583	SLU 23	6	-53	3030	0.39	1171.71	21.14
583	SLU 24	6	-68	3097	0.52	1198.05	27.17
583	SLU 25	6	-60	3094	0.47	1196.54	23.84
583	SLU 26	6	-54	3070	0.42	1187.26	21.42
583	SLU 27	6	-69	3137	0.55	1213.6	27.46
583	SLU 28	6	-61	3134	0.49	1212.09	24.12
583	SLU 29	6	-68	3115	0.54	1205.33	27.27
583	SLU 30	6	-60	3112	0.48	1203.82	23.93
583	SLU 31	6	-60	3397	0.46	1314.16	23.9
583	SLU 32	5	-75	3463	0.59	1340.5	29.93
583	SLU 33	6	-67	3460	0.53	1338.99	26.6
583	SLU 34	6	-61	3437	0.49	1329.71	24.19
583	SLU 35	5	-76	3503	0.62	1356.05	30.22
583	SLU 36	6	-67	3500	0.56	1354.54	26.89
583	SLU 37	5	-75	3482	0.61	1347.78	30.03
583	SLU 38	5	-67	3479	0.55	1346.27	26.7
583	SLU 39	5	-77	3559	0.58	1377.73	30.64
583	SLU 40	5	-69	3556	0.53	1376.22	27.31
583	SLU 41	5	-78	3599	0.61	1393.28	30.93
583	SLU 42	5	-69	3596	0.55	1391.77	27.59
583	SLU 43	7	-75	3270	0.35	1265.02	29.73
583	SLU 44	7	-61	3265	0.26	1262.5	24.17
583	SLU 45	7	-76	3332	0.39	1288.84	30.21
583	SLU 46	7	-67	3329	0.34	1287.33	26.88
583	SLU 47	7	-61	3305	0.29	1278.05	24.46
583	SLU 48	7	-76	3372	0.42	1304.39	30.5
583	SLU 49	7	-68	3368	0.37	1302.88	27.16
583	SLU 50	7	-76	3350	0.41	1296.12	30.3
583	SLU 51	7	-68	3347	0.36	1294.61	26.97
583	SLU 52	6	-68	3631	0.33	1404.95	26.94
583	SLU 53	6	-83	3698	0.46	1431.3	32.97
583	SLU 54	6	-74	3695	0.41	1429.79	29.64
583	SLU 55	6	-68	3671	0.36	1420.5	27.22
583	SLU 56	6	-83	3738	0.49	1446.84	33.26
583	SLU 57	6	-75	3735	0.44	1445.33	29.93
583	SLU 58	6	-83	3717	0.48	1438.57	33.07
583	SLU 59	6	-75	3713	0.43	1437.06	29.73
583	SLU 60	6	-84	3794	0.45	1468.52	33.68
583	SLU 61	6	-76	3791	0.4	1467.01	30.34
583	SLU 62	6	-85	3834	0.48	1484.07	33.96
583	SLU 63	6	-77	3831	0.43	1482.56	30.63
583	SLU 64	7	-82	3682	0.52	1424.18	32.75
583	SLU 65	8	-68	3676	0.43	1421.66	27.2
583	SLU 66	7	-83	3743	0.56	1448.01	33.23
583	SLU 67	7	-75	3740	0.5	1446.5	29.9
583	SLU 68	8	-69	3716	0.46	1437.21	27.49
583	SLU 69	7	-84	3783	0.58	1463.55	33.52
583	SLU 70	7	-76	3780	0.53	1462.04	30.19
583	SLU 71	7	-84	3762	0.57	1455.28	33.33
583	SLU 72	7	-75	3758	0.52	1453.77	30
583	SLU 73	7	-75	4043	0.5	1564.12	29.96
583	SLU 74	7	-90	4110	0.63	1590.46	36
583	SLU 75	7	-82	4106	0.57	1588.95	32.66
583	SLU 76	7	-76	4083	0.53	1579.66	30.25
583	SLU 77	7	-91	4150	0.65	1606	36.28
583	SLU 78	7	-83	4146	0.6	1604.49	32.95
583	SLU 79	7	-90	4128	0.64	1597.73	36.09
583	SLU 80	7	-82	4125	0.59	1596.22	32.76
583	SLU 81	6	-92	4205	0.62	1627.68	36.7
583	SLU 82	7	-84	4202	0.56	1626.17	33.37
583	SLU 83	6	-93	4245	0.65	1643.23	36.99
583	SLU 84	7	-84	4242	0.59	1641.72	33.66
583	SLE RA 1	5	-61	2742	0.36	1060.54	24.53
583	SLE RA 2	6	-52	2738	0.3	1058.87	20.83
583	SLE RA 3	5	-62	2783	0.39	1076.43	24.85
583	SLE RA 4	6	-57	2781	0.35	1075.42	22.63
583	SLE RA 5	6	-53	2765	0.32	1069.23	21.02
583	SLE RA 6	5	-63	2809	0.41	1086.79	25.04
583	SLE RA 7	6	-57	2807	0.37	1085.79	22.82
583	SLE RA 8	5	-62	2795	0.4	1081.28	24.91
583	SLE RA 9	6	-57	2793	0.36	1080.27	22.69
583	SLE RA 10	5	-57	2982	0.35	1153.83	22.67
583	SLE RA 11	5	-67	3027	0.43	1171.39	26.69
583	SLE RA 12	5	-61	3025	0.4	1170.39	24.47
583	SLE RA 13	5	-57	3009	0.37	1164.2	22.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
583	SLE RA 14	5	-67	3054	0.45	1181.76	26.88
583	SLE RA 15	5	-62	3051	0.42	1180.75	24.66
583	SLE RA 16	5	-67	3039	0.45	1176.24	26.76
583	SLE RA 17	5	-62	3037	0.41	1175.24	24.53
583	SLE RA 18	5	-68	3091	0.43	1196.21	27.16
583	SLE RA 19	5	-63	3089	0.39	1195.2	24.94
583	SLE RA 20	5	-69	3117	0.45	1206.58	27.35
583	SLE RA 21	5	-63	3115	0.41	1205.57	25.13
583	SLE FR 1	5	-61	2742	0.36	1060.54	24.53
583	SLE FR 2	5	-60	2741	0.35	1060.21	23.79
583	SLE FR 3	5	-62	2752	0.37	1064.69	24.61
583	SLE FR 4	5	-62	2846	0.37	1100.91	24.58
583	SLE FR 5	5	-64	2857	0.39	1105.39	25.4
583	SLE FR 6	5	-65	2916	0.39	1128.38	25.85
583	SLE QP 1	5	-61	2742	0.36	1060.54	24.53
583	SLE QP 2	5	-63	2846	0.38	1101.24	25.32
583	SLD 1	228	30	2918	0.1	1138.45	-12.27
583	SLD 2	235	34	2918	0.08	1138.53	-13.52
583	SLD 3	223	-131	2988	1.19	1170.37	52.42
583	SLD 4	229	-128	2988	1.17	1170.45	51.17
583	SLD 5	79	209	2761	-1.35	1063.98	-83.84
583	SLD 6	84	211	2762	-1.36	1064.03	-84.67
583	SLD 7	61	-330	2995	2.28	1170.38	131.78
583	SLD 8	65	-327	2995	2.26	1170.44	130.96
583	SLD 9	-55	200	2698	-1.5	1032.05	-80.32
583	SLD 10	-50	203	2698	-1.51	1032.1	-81.15
583	SLD 11	-73	-338	2931	2.13	1138.46	135.31
583	SLD 12	-69	-336	2931	2.11	1138.51	134.48
583	SLD 13	-219	1	2705	-0.4	1032.04	-0.53
583	SLD 14	-212	4	2705	-0.42	1032.11	-1.78
583	SLD 15	-225	-160	2775	0.68	1063.96	64.16
583	SLD 16	-218	-157	2775	0.66	1064.04	62.91
583	SLV 1	355	87	2956	-0.09	1158.51	-35.19
583	SLV 2	365	93	2956	-0.12	1158.63	-37.15
583	SLV 3	346	-174	3070	1.67	1210.09	69.36
583	SLV 4	356	-169	3070	1.64	1210.21	67.4
583	SLV 5	122	377	2707	-2.42	1040.18	-151.03
583	SLV 6	129	380	2708	-2.44	1040.26	-152.35
583	SLV 7	92	-494	3085	3.44	1212.1	197.46
583	SLV 8	99	-490	3085	3.42	1212.18	196.14
583	SLV 9	-88	363	2608	-2.66	990.31	-145.5
583	SLV 10	-81	367	2608	-2.68	990.39	-146.82
583	SLV 11	-118	-507	2985	3.2	1162.23	202.99
583	SLV 12	-111	-504	2985	3.18	1162.31	201.67
583	SLV 13	-346	42	2623	-0.88	992.28	-16.76
583	SLV 14	-335	47	2623	-0.91	992.4	-18.72
583	SLV 15	-355	-220	2737	0.88	1043.86	87.79
583	SLV 16	-344	-214	2737	0.85	1043.98	85.83
583	SLV FO 1	390	102	2967	-0.13	1164.24	-41.24
583	SLV FO 2	401	108	2967	-0.17	1164.37	-43.4
583	SLV FO 3	380	-185	3092	1.8	1220.97	73.77
583	SLV FO 4	391	-179	3092	1.76	1221.1	71.61
583	SLV FO 5	134	421	2694	-2.7	1034.07	-168.67
583	SLV FO 6	141	425	2694	-2.72	1034.16	-170.12
583	SLV FO 7	100	-537	3109	3.75	1223.19	214.68
583	SLV FO 8	108	-533	3109	3.72	1223.28	213.22
583	SLV FO 9	-98	406	2584	-2.96	979.21	-162.59
583	SLV FO 10	-90	410	2584	-2.98	979.3	-164.04
583	SLV FO 11	-131	-552	2999	3.49	1168.33	220.76
583	SLV FO 12	-123	-548	2999	3.46	1168.42	219.3
583	SLV FO 13	-381	52	2601	-1	981.39	-20.97
583	SLV FO 14	-369	58	2601	-1.04	981.52	-23.13
583	SLV FO 15	-391	-235	2726	0.93	1038.12	94.04
583	SLV FO 16	-379	-229	2726	0.9	1038.25	91.88
583	CRTFP Ux+	0	0	0	0	0	0
583	CRTFP Ux-	0	0	0	0	0	0
583	CRTFP Uy+	0	0	0	0	0	0
583	CRTFP Uy-	0	0	0	0	0	0
585	SLU 1	-41	40	3245	-89.07	-723.24	8.91
585	SLU 2	-42	58	3252	-89.35	-723.63	13.45
585	SLU 3	-42	41	3318	-91.05	-739.71	9.01
585	SLU 4	-43	52	3322	-91.21	-739.94	11.73
585	SLU 5	-43	59	3298	-90.59	-734	13.51
585	SLU 6	-43	41	3364	-92.29	-750.07	9.08
585	SLU 7	-43	52	3368	-92.45	-750.31	11.79
585	SLU 8	-42	41	3337	-91.55	-743.97	9.05
585	SLU 9	-43	52	3341	-91.72	-744.2	11.77
585	SLU 10	-43	64	3663	-100.6	-815.9	14.84
585	SLU 11	-43	46	3729	-102.3	-831.97	10.4
585	SLU 12	-44	57	3733	-102.46	-832.21	13.12
585	SLU 13	-44	64	3709	-101.84	-826.26	14.9
585	SLU 14	-44	47	3775	-103.54	-842.34	10.47
585	SLU 15	-44	58	3779	-103.7	-842.58	13.18
585	SLU 16	-43	47	3748	-102.8	-836.24	10.44
585	SLU 17	-44	58	3752	-102.97	-836.47	13.16
585	SLU 18	-43	48	3832	-105.14	-855.05	10.9
585	SLU 19	-43	59	3836	-105.31	-855.28	13.62
585	SLU 20	-43	49	3878	-106.38	-865.41	10.97
585	SLU 21	-44	60	3882	-106.55	-865.65	13.69



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
585	SLU 22	-44	44	3750	-102.82	-836.72	9.85
585	SLU 23	-45	63	3756	-103.1	-837.12	14.38
585	SLU 24	-45	45	3823	-104.79	-853.19	9.94
585	SLU 25	-46	56	3827	-104.96	-853.43	12.66
585	SLU 26	-46	63	3802	-104.34	-847.48	14.45
585	SLU 27	-46	45	3869	-106.03	-863.56	10.01
585	SLU 28	-46	56	3873	-106.2	-863.79	12.73
585	SLU 29	-45	45	3842	-105.3	-857.45	9.98
585	SLU 30	-46	56	3846	-105.47	-857.69	12.7
585	SLU 31	-46	68	4167	-114.35	-929.38	15.77
585	SLU 32	-46	50	4234	-116.05	-945.46	11.33
585	SLU 33	-47	61	4238	-116.21	-945.7	14.05
585	SLU 34	-47	69	4213	-115.59	-939.75	15.84
585	SLU 35	-47	51	4280	-117.29	-955.83	11.4
585	SLU 36	-47	62	4284	-117.45	-956.06	14.12
585	SLU 37	-46	51	4253	-116.55	-949.72	11.37
585	SLU 38	-47	62	4257	-116.72	-949.96	14.09
585	SLU 39	-46	52	4337	-118.89	-968.53	11.83
585	SLU 40	-46	63	4341	-119.06	-968.77	14.55
585	SLU 41	-46	53	4383	-120.13	-978.9	11.9
585	SLU 42	-47	64	4387	-120.3	-979.14	14.62
585	SLU 43	-53	51	4046	-111.08	-901.3	11.27
585	SLU 44	-53	69	4053	-111.36	-901.69	15.8
585	SLU 45	-53	51	4119	-113.05	-917.77	11.36
585	SLU 46	-54	62	4123	-113.22	-918	14.08
585	SLU 47	-54	69	4098	-112.6	-912.06	15.87
585	SLU 48	-54	52	4165	-114.29	-928.13	11.43
585	SLU 49	-54	63	4169	-114.46	-928.37	14.15
585	SLU 50	-54	52	4138	-113.56	-922.03	11.4
585	SLU 51	-54	62	4142	-113.72	-922.27	14.12
585	SLU 52	-55	75	4464	-122.61	-993.96	17.19
585	SLU 53	-55	57	4530	-124.31	-1010.03	12.75
585	SLU 54	-55	68	4534	-124.47	-1010.27	15.47
585	SLU 55	-55	75	4509	-123.85	-1004.32	17.26
585	SLU 56	-55	57	4576	-125.55	-1020.4	12.82
585	SLU 57	-55	68	4580	-125.71	-1020.64	15.54
585	SLU 58	-55	57	4549	-124.81	-1014.3	12.79
585	SLU 59	-55	68	4553	-124.98	-1014.53	15.51
585	SLU 60	-54	59	4633	-127.15	-1033.11	13.25
585	SLU 61	-55	70	4637	-127.32	-1033.34	15.97
585	SLU 62	-55	59	4679	-128.39	-1043.47	13.32
585	SLU 63	-55	70	4683	-128.56	-1043.71	16.04
585	SLU 64	-56	55	4550	-124.83	-1014.78	12.2
585	SLU 65	-56	73	4557	-125.1	-1015.18	16.73
585	SLU 66	-56	55	4623	-126.8	-1031.25	12.3
585	SLU 67	-57	66	4627	-126.97	-1031.49	15.02
585	SLU 68	-57	74	4603	-126.34	-1025.54	16.8
585	SLU 69	-57	56	4669	-128.04	-1041.62	12.36
585	SLU 70	-57	67	4673	-128.21	-1041.86	15.08
585	SLU 71	-57	56	4642	-127.31	-1035.52	12.34
585	SLU 72	-57	67	4646	-127.47	-1035.75	15.05
585	SLU 73	-58	79	4968	-136.35	-1107.45	18.12
585	SLU 74	-58	61	5034	-138.05	-1123.52	13.69
585	SLU 75	-58	72	5038	-138.22	-1123.76	16.41
585	SLU 76	-58	79	5014	-137.59	-1117.81	18.19
585	SLU 77	-58	61	5080	-139.29	-1133.89	13.75
585	SLU 78	-58	72	5084	-139.46	-1134.12	16.47
585	SLU 79	-58	61	5053	-138.56	-1127.78	13.73
585	SLU 80	-58	72	5057	-138.72	-1128.02	16.44
585	SLU 81	-57	63	5138	-140.9	-1146.6	14.19
585	SLU 82	-58	74	5142	-141.07	-1146.83	16.91
585	SLU 83	-58	63	5184	-142.14	-1156.96	14.26
585	SLU 84	-58	74	5187	-142.31	-1157.2	16.97
585	SLE RA 1	-42	41	3390	-93	-755.66	9.18
585	SLE RA 2	-43	54	3394	-93.18	-755.92	12.2
585	SLE RA 3	-43	42	3438	-94.32	-766.64	9.24
585	SLE RA 4	-43	49	3441	-94.43	-766.8	11.06
585	SLE RA 5	-43	54	3424	-94.01	-762.83	12.25
585	SLE RA 6	-43	42	3469	-95.14	-773.55	9.29
585	SLE RA 7	-43	49	3471	-95.25	-773.71	11.1
585	SLE RA 8	-43	42	3451	-94.65	-769.48	9.27
585	SLE RA 9	-43	49	3453	-94.76	-769.64	11.08
585	SLE RA 10	-43	57	3668	-100.68	-817.43	13.13
585	SLE RA 11	-43	46	3712	-101.82	-828.15	10.17
585	SLE RA 12	-44	53	3715	-101.93	-828.31	11.98
585	SLE RA 13	-44	58	3698	-101.51	-824.35	13.17
585	SLE RA 14	-44	46	3743	-102.64	-835.06	10.22
585	SLE RA 15	-44	53	3745	-102.75	-835.22	12.03
585	SLE RA 16	-44	46	3725	-102.15	-830.99	10.2
585	SLE RA 17	-44	53	3727	-102.26	-831.15	12.01
585	SLE RA 18	-43	47	3781	-103.71	-843.54	10.5
585	SLE RA 19	-44	54	3784	-103.82	-843.69	12.32
585	SLE RA 20	-44	47	3812	-104.54	-850.45	10.55
585	SLE RA 21	-44	54	3814	-104.65	-850.6	12.36
585	SLE FR 1	-42	41	3390	-93	-755.66	9.18
585	SLE FR 2	-42	44	3390	-93.04	-755.71	9.79
585	SLE FR 3	-42	41	3402	-93.33	-758.43	9.2
585	SLE FR 4	-43	45	3508	-96.25	-782.08	10.18
585	SLE FR 5	-43	43	3519	-96.54	-784.79	9.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
585	SLE FR 6	-43	44	3585	-98.36	-799.6	9.84
585	SLE QP 1	-42	41	3390	-93	-755.66	9.18
585	SLE QP 2	-42	43	3507	-96.21	-782.02	9.58
585	SLD 1	189	156	4508	-124.29	-984.79	54.75
585	SLD 2	195	66	4500	-123.97	-984.49	32.59
585	SLD 3	200	-52	4428	-120.8	-981.25	3.26
585	SLD 4	206	-141	4420	-120.48	-980.95	-18.9
585	SLD 5	10	408	3930	-109.99	-848.28	105.22
585	SLD 6	14	349	3925	-109.78	-848.08	90.58
585	SLD 7	45	-284	3663	-98.35	-836.47	-66.41
585	SLD 8	49	-343	3658	-98.14	-836.27	-81.05
585	SLD 9	-134	429	3356	-94.29	-727.78	100.21
585	SLD 10	-130	370	3350	-94.08	-727.58	85.57
585	SLD 11	-99	-263	3089	-82.65	-715.96	-71.42
585	SLD 12	-95	-322	3084	-82.44	-715.76	-86.06
585	SLD 13	-291	228	2594	-71.95	-583.1	38.06
585	SLD 14	-285	138	2586	-71.63	-582.8	15.89
585	SLD 15	-280	20	2514	-68.46	-579.55	-13.43
585	SLD 16	-274	-70	2506	-68.14	-579.25	-35.6
585	SLV 1	320	225	5071	-140.1	-1098.4	81.6
585	SLV 2	329	84	5059	-139.61	-1097.93	46.87
585	SLV 3	337	-110	4942	-134.46	-1092.67	-1.57
585	SLV 4	347	-251	4929	-133.96	-1092.2	-36.3
585	SLV 5	38	633	4175	-118.04	-885.71	163.8
585	SLV 6	45	538	4166	-117.7	-885.4	140.42
585	SLV 7	96	-485	3743	-99.21	-866.62	-113.42
585	SLV 8	102	-580	3735	-98.88	-866.3	-136.8
585	SLV 9	-187	666	3279	-93.55	-697.75	155.96
585	SLV 10	-181	571	3270	-93.21	-697.43	132.58
585	SLV 11	-130	-452	2848	-74.72	-678.65	-121.27
585	SLV 12	-123	-546	2839	-74.39	-678.33	-144.65
585	SLV 13	-432	337	2085	-58.47	-471.85	55.46
585	SLV 14	-422	196	2072	-57.97	-471.38	20.73
585	SLV 15	-414	2	1955	-52.82	-466.12	-27.71
585	SLV 16	-405	-139	1943	-52.32	-465.65	-62.44
585	SLV FO 1	356	243	5227	-144.49	-1130.04	88.8
585	SLV FO 2	367	89	5214	-143.95	-1129.52	50.6
585	SLV FO 3	375	-126	5085	-138.28	-1123.74	-2.69
585	SLV FO 4	386	-280	5072	-137.74	-1123.22	-40.89
585	SLV FO 5	46	691	4241	-120.22	-896.08	179.23
585	SLV FO 6	53	587	4232	-119.85	-895.73	153.51
585	SLV FO 7	110	-538	3767	-99.51	-875.07	-125.72
585	SLV FO 8	117	-642	3758	-99.15	-874.72	-151.44
585	SLV FO 9	-202	728	3256	-93.28	-689.32	170.6
585	SLV FO 10	-195	624	3247	-92.91	-688.97	144.88
585	SLV FO 11	-138	-501	2782	-72.57	-668.31	-134.35
585	SLV FO 12	-131	-605	2773	-72.21	-667.96	-160.07
585	SLV FO 13	-471	366	1942	-54.69	-440.83	60.04
585	SLV FO 14	-460	212	1929	-54.14	-440.31	21.84
585	SLV FO 15	-452	-2	1800	-48.48	-434.53	-31.44
585	SLV FO 16	-441	-157	1787	-47.93	-434.01	-69.64
585	CRTFP Ux+	0	0	0	0	0	0
585	CRTFP Ux-	0	0	0	0	0	0
585	CRTFP Uy+	0	0	0	0	0	0
585	CRTFP Uy-	0	0	0	0	0	0
588	SLU 1	52	-13	5477	-151.78	26.75	1.46
588	SLU 2	52	13	5471	-151.91	25.58	1.52
588	SLU 3	53	-13	5610	-155.35	27.59	1.49
588	SLU 4	53	3	5606	-155.43	26.89	1.53
588	SLU 5	53	13	5557	-154.23	26.14	1.54
588	SLU 6	54	-13	5696	-157.68	28.16	1.51
588	SLU 7	54	3	5692	-157.76	27.46	1.55
588	SLU 8	53	-13	5650	-156.43	27.88	1.5
588	SLU 9	54	3	5646	-156.51	27.18	1.53
588	SLU 10	55	14	6213	-172.33	30.23	1.62
588	SLU 11	56	-12	6352	-175.78	32.25	1.59
588	SLU 12	56	4	6348	-175.86	31.54	1.63
588	SLU 13	56	14	6299	-174.66	30.8	1.64
588	SLU 14	57	-12	6438	-178.1	32.81	1.61
588	SLU 15	57	4	6434	-178.18	32.11	1.65
588	SLU 16	56	-12	6392	-176.85	32.53	1.6
588	SLU 17	56	4	6388	-176.93	31.83	1.63
588	SLU 18	56	-11	6537	-180.96	33.4	1.61
588	SLU 19	56	4	6533	-181.03	32.69	1.64
588	SLU 20	56	-11	6624	-183.28	33.96	1.62
588	SLU 21	57	4	6620	-183.36	33.26	1.66
588	SLU 22	58	-13	6364	-176.03	31.08	1.65
588	SLU 23	58	13	6358	-176.16	29.91	1.71
588	SLU 24	59	-13	6497	-179.61	31.93	1.68
588	SLU 25	60	3	6493	-179.69	31.22	1.71
588	SLU 26	59	13	6444	-178.49	30.48	1.72
588	SLU 27	60	-13	6583	-181.93	32.49	1.69
588	SLU 28	60	3	6579	-182.01	31.79	1.73
588	SLU 29	60	-13	6537	-180.68	32.21	1.68
588	SLU 30	60	3	6533	-180.76	31.51	1.72
588	SLU 31	61	14	7100	-196.59	34.57	1.81
588	SLU 32	62	-12	7238	-200.03	36.58	1.78
588	SLU 33	62	4	7235	-200.11	35.88	1.81
588	SLU 34	62	14	7186	-198.91	35.13	1.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
588	SLU 35	63	-12	7325	-202.36	37.15	1.8
588	SLU 36	63	4	7321	-202.44	36.45	1.83
588	SLU 37	63	-12	7279	-201.11	36.87	1.78
588	SLU 38	63	4	7275	-201.19	36.17	1.82
588	SLU 39	62	-11	7424	-205.21	37.73	1.79
588	SLU 40	62	4	7420	-205.29	37.03	1.83
588	SLU 41	63	-11	7510	-207.54	38.3	1.81
588	SLU 42	63	4	7506	-207.61	37.6	1.84
588	SLU 43	65	-16	6817	-188.99	33.28	1.84
588	SLU 44	65	9	6810	-189.13	32.11	1.9
588	SLU 45	66	-16	6949	-192.57	34.13	1.87
588	SLU 46	66	-1	6945	-192.65	33.43	1.9
588	SLU 47	66	9	6897	-191.45	32.68	1.91
588	SLU 48	67	-17	7035	-194.9	34.7	1.88
588	SLU 49	67	-1	7032	-194.97	33.99	1.92
588	SLU 50	67	-16	6989	-193.64	34.42	1.87
588	SLU 51	67	-1	6986	-193.72	33.72	1.91
588	SLU 52	68	10	7552	-209.55	36.77	2
588	SLU 53	69	-16	7691	-213	38.78	1.97
588	SLU 54	69	0	7687	-213.08	38.08	2
588	SLU 55	69	10	7638	-211.88	37.34	2.01
588	SLU 56	70	-16	7777	-215.32	39.35	1.99
588	SLU 57	70	0	7773	-215.4	38.65	2.02
588	SLU 58	69	-16	7731	-214.07	39.07	1.97
588	SLU 59	70	0	7727	-214.15	38.37	2.01
588	SLU 60	69	-15	7876	-218.17	39.93	1.98
588	SLU 61	69	0	7873	-218.25	39.23	2.02
588	SLU 62	70	-15	7963	-220.5	40.5	2
588	SLU 63	70	0	7959	-220.58	39.8	2.03
588	SLU 64	71	-16	7703	-213.25	37.62	2.02
588	SLU 65	72	9	7697	-213.38	36.45	2.08
588	SLU 66	73	-16	7836	-216.83	38.46	2.05
588	SLU 67	73	-1	7832	-216.9	37.76	2.09
588	SLU 68	73	9	7783	-215.7	37.02	2.1
588	SLU 69	74	-16	7922	-219.15	39.03	2.07
588	SLU 70	74	-1	7918	-219.23	38.33	2.11
588	SLU 71	73	-16	7876	-217.9	38.75	2.06
588	SLU 72	73	-1	7872	-217.98	38.05	2.09
588	SLU 73	74	10	8439	-233.81	41.1	2.18
588	SLU 74	75	-16	8578	-237.25	43.12	2.15
588	SLU 75	76	0	8574	-237.33	42.42	2.19
588	SLU 76	75	10	8525	-236.13	41.67	2.2
588	SLU 77	76	-16	8664	-239.58	43.68	2.17
588	SLU 78	77	0	8660	-239.66	42.98	2.21
588	SLU 79	76	-15	8618	-238.32	43.41	2.16
588	SLU 80	76	0	8614	-238.4	42.7	2.19
588	SLU 81	75	-15	8763	-242.43	44.27	2.17
588	SLU 82	75	0	8759	-242.51	43.57	2.2
588	SLU 83	76	-15	8849	-244.75	44.83	2.18
588	SLU 84	76	0	8846	-244.83	44.13	2.22
588	SLE RA 1	53	-13	5731	-158.71	27.98	1.51
588	SLE RA 2	54	5	5727	-158.79	27.2	1.55
588	SLE RA 3	54	-13	5819	-161.09	28.55	1.54
588	SLE RA 4	54	-2	5817	-161.14	28.08	1.56
588	SLE RA 5	54	5	5784	-160.34	27.58	1.57
588	SLE RA 6	55	-13	5877	-162.64	28.93	1.55
588	SLE RA 7	55	-2	5874	-162.69	28.46	1.57
588	SLE RA 8	55	-13	5846	-161.81	28.74	1.54
588	SLE RA 9	55	-2	5843	-161.86	28.27	1.56
588	SLE RA 10	56	5	6221	-172.41	30.31	1.62
588	SLE RA 11	56	-12	6314	-174.71	31.65	1.6
588	SLE RA 12	56	-2	6311	-174.76	31.18	1.63
588	SLE RA 13	56	5	6279	-173.96	30.69	1.63
588	SLE RA 14	57	-12	6371	-176.26	32.03	1.61
588	SLE RA 15	57	-2	6369	-176.31	31.56	1.64
588	SLE RA 16	56	-12	6340	-175.42	31.84	1.6
588	SLE RA 17	57	-2	6338	-175.48	31.38	1.63
588	SLE RA 18	56	-12	6437	-178.16	32.42	1.61
588	SLE RA 19	56	-1	6435	-178.21	31.95	1.64
588	SLE RA 20	57	-12	6495	-179.71	32.8	1.62
588	SLE RA 21	57	-1	6492	-179.76	32.33	1.65
588	SLE FR 1	53	-13	5731	-158.71	27.98	1.51
588	SLE FR 2	53	-9	5730	-158.72	27.83	1.52
588	SLE FR 3	54	-13	5754	-159.33	28.14	1.52
588	SLE FR 4	54	-9	5942	-164.56	29.16	1.55
588	SLE FR 5	54	-12	5966	-165.16	29.47	1.55
588	SLE FR 6	55	-12	6084	-168.43	30.2	1.56
588	SLE QP 1	53	-13	5731	-158.71	27.98	1.51
588	SLE QP 2	54	-12	5943	-164.54	29.31	1.54
588	SLD 1	534	142	5360	-150.55	27.09	15.05
588	SLD 2	542	209	5358	-150.73	25.88	16.75
588	SLD 3	527	-141	5448	-148.98	41.94	14.44
588	SLD 4	536	-74	5446	-149.17	40.73	16.13
588	SLD 5	206	451	5636	-162.68	6.34	6.23
588	SLD 6	211	495	5634	-162.81	5.54	7.34
588	SLD 7	185	-492	5927	-157.46	55.84	4.17
588	SLD 8	191	-448	5926	-157.59	55.04	5.29
588	SLD 9	-83	423	5959	-171.5	3.59	-2.2
588	SLD 10	-77	467	5958	-171.62	2.79	-1.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
588	SLD 11	-103	-519	6251	-166.28	53.09	-4.26
588	SLD 12	-97	-475	6250	-166.4	52.29	-3.14
588	SLD 13	-428	50	6440	-179.92	17.9	-13.04
588	SLD 14	-419	116	6438	-180.11	16.69	-11.35
588	SLD 15	-434	-233	6527	-178.35	32.75	-13.66
588	SLD 16	-425	-166	6525	-178.54	31.54	-11.96
588	SLV 1	805	236	5031	-142.76	25.76	22.72
588	SLV 2	819	341	5028	-143.05	23.86	25.37
588	SLV 3	795	-221	5173	-140.21	49.77	21.71
588	SLV 4	809	-117	5170	-140.51	47.87	24.36
588	SLV 5	292	736	5455	-161.82	-7.8	8.93
588	SLV 6	301	807	5453	-162.02	-9.08	10.72
588	SLV 7	259	-788	5927	-153.32	72.21	5.57
588	SLV 8	268	-718	5925	-153.52	70.93	7.35
588	SLV 9	-160	693	5961	-175.56	-12.3	-4.26
588	SLV 10	-151	763	5959	-175.76	-13.58	-2.48
588	SLV 11	-193	-831	6432	-167.07	67.71	-7.63
588	SLV 12	-183	-761	6430	-167.27	66.43	-5.85
588	SLV 13	-700	92	6716	-188.58	10.76	-21.27
588	SLV 14	-687	196	6713	-188.87	8.86	-18.62
588	SLV 15	-710	-365	6857	-186.03	34.77	-22.28
588	SLV 16	-697	-261	6854	-186.33	32.87	-19.63
588	SLV FO 1	880	261	4940	-140.58	25.41	24.84
588	SLV FO 2	895	376	4937	-140.91	23.32	27.75
588	SLV FO 3	869	-242	5096	-137.78	51.81	23.72
588	SLV FO 4	884	-127	5093	-138.1	49.72	26.64
588	SLV FO 5	316	811	5407	-161.54	-11.51	9.67
588	SLV FO 6	326	889	5404	-161.76	-12.92	11.64
588	SLV FO 7	279	-866	5925	-152.2	76.5	5.97
588	SLV FO 8	289	-788	5923	-152.42	75.09	7.93
588	SLV FO 9	-181	764	5962	-176.66	-16.47	-4.85
588	SLV FO 10	-171	841	5960	-176.88	-17.87	-2.88
588	SLV FO 11	-217	-913	6481	-167.32	71.55	-8.55
588	SLV FO 12	-207	-836	6479	-167.54	70.14	-6.58
588	SLV FO 13	-776	102	6793	-190.98	8.91	-23.56
588	SLV FO 14	-761	217	6790	-191.31	6.82	-20.64
588	SLV FO 15	-787	-401	6948	-188.18	35.31	-24.67
588	SLV FO 16	-772	-286	6945	-188.5	33.22	-21.75
588	CRTFP Ux+	0	0	0	0	0	0
588	CRTFP Ux-	0	0	0	0	0	0
588	CRTFP Uy+	0	0	0	0	0	0
588	CRTFP Uy-	0	0	0	0	0	0
591	SLU 1	51	6	3713	-101.89	1158.47	-0.74
591	SLU 2	51	26	3718	-102.13	1158.16	-7.62
591	SLU 3	52	6	3804	-104.33	1186.76	-0.68
591	SLU 4	52	18	3807	-104.47	1186.57	-4.81
591	SLU 5	52	26	3777	-103.71	1176.64	-7.7
591	SLU 6	53	6	3863	-105.91	1205.24	-0.76
591	SLU 7	53	18	3866	-106.06	1205.05	-4.89
591	SLU 8	53	6	3831	-105.06	1195.44	-0.9
591	SLU 9	53	18	3834	-105.2	1195.25	-5.02
591	SLU 10	54	26	4192	-115.11	1306.63	-7.57
591	SLU 11	55	6	4278	-117.31	1335.22	-0.63
591	SLU 12	55	18	4281	-117.45	1335.04	-4.76
591	SLU 13	55	26	4251	-116.69	1325.11	-7.65
591	SLU 14	56	6	4337	-118.89	1353.7	-0.71
591	SLU 15	56	18	4340	-119.04	1353.52	-4.84
591	SLU 16	55	6	4305	-118.04	1343.9	-0.84
591	SLU 17	55	18	4308	-118.18	1343.71	-4.97
591	SLU 18	54	6	4391	-120.43	1370.57	-0.66
591	SLU 19	55	18	4394	-120.57	1370.38	-4.79
591	SLU 20	55	6	4450	-122.01	1389.05	-0.74
591	SLU 21	56	18	4453	-122.16	1388.86	-4.87
591	SLU 22	56	3	4295	-117.73	1340.95	0.26
591	SLU 23	57	23	4300	-117.97	1340.64	-6.62
591	SLU 24	57	3	4386	-120.17	1369.23	0.32
591	SLU 25	58	15	4388	-120.32	1369.05	-3.81
591	SLU 26	57	23	4359	-119.56	1359.12	-6.7
591	SLU 27	58	4	4444	-121.76	1387.72	0.24
591	SLU 28	59	15	4447	-121.9	1387.53	-3.89
591	SLU 29	58	4	4413	-120.91	1377.91	0.11
591	SLU 30	58	16	4416	-121.05	1377.72	-4.02
591	SLU 31	59	23	4774	-130.95	1489.1	-6.57
591	SLU 32	60	3	4860	-133.15	1517.7	0.37
591	SLU 33	60	15	4863	-133.3	1517.51	-3.76
591	SLU 34	60	23	4833	-132.54	1507.58	-6.64
591	SLU 35	61	4	4919	-134.74	1536.18	0.3
591	SLU 36	61	15	4922	-134.88	1535.99	-3.83
591	SLU 37	60	4	4887	-133.89	1526.38	0.16
591	SLU 38	61	16	4890	-134.03	1526.19	-3.97
591	SLU 39	60	3	4973	-136.27	1553.04	0.34
591	SLU 40	60	15	4976	-136.42	1552.86	-3.79
591	SLU 41	61	4	5032	-137.86	1571.52	0.26
591	SLU 42	61	16	5034	-138.01	1571.34	-3.87
591	SLU 43	64	9	4628	-127.02	1443.45	-1.31
591	SLU 44	65	28	4633	-127.26	1443.14	-8.19
591	SLU 45	66	8	4718	-129.46	1471.74	-1.25
591	SLU 46	66	20	4721	-129.6	1471.55	-5.38
591	SLU 47	66	28	4692	-128.85	1461.62	-8.27



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
591	SLU 48	67	9	4777	-131.05	1490.22	-1.33
591	SLU 49	67	21	4780	-131.19	1490.03	-5.46
591	SLU 50	66	9	4746	-130.19	1480.41	-1.46
591	SLU 51	66	21	4749	-130.34	1480.23	-5.59
591	SLU 52	67	28	5107	-140.24	1591.6	-8.14
591	SLU 53	68	8	5193	-142.44	1620.2	-1.2
591	SLU 54	68	20	5195	-142.58	1620.01	-5.33
591	SLU 55	68	28	5166	-141.82	1610.09	-8.21
591	SLU 56	69	9	5252	-144.02	1638.68	-1.27
591	SLU 57	69	21	5254	-144.17	1638.5	-5.4
591	SLU 58	69	9	5220	-143.17	1628.88	-1.41
591	SLU 59	69	21	5223	-143.32	1628.69	-5.54
591	SLU 60	68	9	5306	-145.56	1655.55	-1.23
591	SLU 61	68	20	5308	-145.7	1655.36	-5.36
591	SLU 62	69	9	5364	-147.15	1674.03	-1.31
591	SLU 63	69	21	5367	-147.29	1673.84	-5.44
591	SLU 64	70	6	5210	-142.87	1625.93	-0.31
591	SLU 65	70	26	5215	-143.11	1625.62	-7.19
591	SLU 66	71	6	5300	-145.31	1654.21	-0.25
591	SLU 67	71	18	5303	-145.45	1654.03	-4.38
591	SLU 68	71	26	5273	-144.69	1644.1	-7.26
591	SLU 69	72	6	5359	-146.89	1672.69	-0.32
591	SLU 70	72	18	5362	-147.04	1672.51	-4.45
591	SLU 71	71	7	5328	-146.04	1662.89	-0.46
591	SLU 72	72	18	5330	-146.18	1662.7	-4.59
591	SLU 73	72	26	5689	-156.08	1774.08	-7.13
591	SLU 74	73	6	5774	-158.28	1802.68	-0.19
591	SLU 75	74	18	5777	-158.43	1802.49	-4.32
591	SLU 76	73	26	5748	-157.67	1792.56	-7.21
591	SLU 77	74	6	5833	-159.87	1821.16	-0.27
591	SLU 78	74	18	5836	-160.02	1820.97	-4.4
591	SLU 79	74	7	5802	-159.02	1811.36	-0.4
591	SLU 80	74	18	5805	-159.16	1811.17	-4.53
591	SLU 81	73	6	5887	-161.41	1838.02	-0.23
591	SLU 82	73	18	5890	-161.55	1837.83	-4.36
591	SLU 83	74	6	5946	-162.99	1856.5	-0.3
591	SLU 84	74	18	5949	-163.14	1856.32	-4.43
591	SLE RA 1	52	5	3880	-106.41	1210.61	-0.46
591	SLE RA 2	53	18	3883	-106.57	1210.4	-5.04
591	SLE RA 3	53	5	3940	-108.04	1229.47	-0.42
591	SLE RA 4	53	13	3942	-108.14	1229.34	-3.17
591	SLE RA 5	53	18	3922	-107.63	1222.72	-5.09
591	SLE RA 6	54	5	3979	-109.1	1241.79	-0.47
591	SLE RA 7	54	13	3981	-109.19	1241.66	-3.22
591	SLE RA 8	54	6	3958	-108.53	1235.25	-0.56
591	SLE RA 9	54	13	3960	-108.63	1235.13	-3.31
591	SLE RA 10	54	18	4199	-115.23	1309.38	-5.01
591	SLE RA 11	55	5	4256	-116.69	1328.44	-0.38
591	SLE RA 12	55	13	4258	-116.79	1328.32	-3.13
591	SLE RA 13	55	19	4238	-116.28	1321.7	-5.06
591	SLE RA 14	56	5	4295	-117.75	1340.76	-0.43
591	SLE RA 15	56	13	4297	-117.85	1340.64	-3.18
591	SLE RA 16	55	6	4274	-117.18	1334.23	-0.52
591	SLE RA 17	55	13	4276	-117.28	1334.1	-3.27
591	SLE RA 18	55	5	4331	-118.77	1352.01	-0.4
591	SLE RA 19	55	13	4333	-118.87	1351.88	-3.16
591	SLE RA 20	55	5	4371	-119.83	1364.33	-0.45
591	SLE RA 21	55	13	4373	-119.93	1364.2	-3.21
591	SLE FR 1	52	5	3880	-106.41	1210.61	-0.46
591	SLE FR 2	52	8	3880	-106.45	1210.57	-1.37
591	SLE FR 3	53	5	3895	-106.84	1215.54	-0.48
591	SLE FR 4	53	8	4016	-110.15	1252.99	-1.36
591	SLE FR 5	53	5	4031	-110.54	1257.96	-0.46
591	SLE FR 6	54	5	4105	-112.59	1281.31	-0.43
591	SLE QP 1	52	5	3880	-106.41	1210.61	-0.46
591	SLE QP 2	53	5	4015	-110.12	1253.03	-0.44
591	SLD 1	329	103	2974	-82.28	940.78	-5.22
591	SLD 2	335	202	2977	-82.49	939.63	-39.86
591	SLD 3	324	-104	2923	-79.48	948.5	66.7
591	SLD 4	330	-4	2926	-79.69	947.34	32.06
591	SLD 5	143	329	3779	-105.98	1147.86	-104.72
591	SLD 6	147	395	3781	-106.12	1147.1	-127.59
591	SLD 7	125	-358	3610	-96.64	1173.58	135.03
591	SLD 8	129	-292	3612	-96.78	1172.82	112.15
591	SLD 9	-23	302	4418	-123.46	1333.24	-113.03
591	SLD 10	-18	368	4420	-123.6	1332.48	-135.91
591	SLD 11	-41	-384	4249	-114.12	1358.96	126.71
591	SLD 12	-37	-319	4251	-114.26	1358.19	103.84
591	SLD 13	-224	14	5104	-140.56	1558.71	-32.94
591	SLD 14	-217	114	5107	-140.77	1557.56	-67.58
591	SLD 15	-229	-192	5053	-137.76	1566.43	38.98
591	SLD 16	-223	-92	5057	-137.96	1565.27	4.34
591	SLV 1	485	163	2392	-66.77	765.78	-9.88
591	SLV 2	495	319	2397	-67.1	763.97	-64.15
591	SLV 3	477	-171	2310	-62.25	778.24	106.63
591	SLV 4	487	-14	2315	-62.57	776.43	52.36
591	SLV 5	195	530	3651	-103.92	1088.29	-169.85
591	SLV 6	201	635	3655	-104.14	1087.08	-206.39
591	SLV 7	165	-583	3379	-88.83	1129.83	218.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
591	SLV 8	171	-478	3382	-89.05	1128.61	181.98
591	SLV 9	-65	488	4648	-131.19	1377.45	-182.86
591	SLV 10	-58	593	4652	-131.41	1376.23	-219.4
591	SLV 11	-95	-625	4375	-116.1	1418.98	205.51
591	SLV 12	-88	-519	4379	-116.32	1417.76	168.97
591	SLV 13	-380	25	5715	-157.67	1729.63	-53.24
591	SLV 14	-370	181	5720	-158	1727.82	-107.51
591	SLV 15	-389	-309	5633	-153.14	1742.09	63.27
591	SLV 16	-379	-153	5638	-153.47	1740.28	9
591	SLV FO 1	529	179	2230	-62.44	717.05	-10.82
591	SLV FO 2	540	351	2235	-62.8	715.06	-70.52
591	SLV FO 3	519	-188	2140	-57.46	730.76	117.34
591	SLV FO 4	530	-16	2145	-57.82	728.77	57.64
591	SLV FO 5	209	582	3615	-103.3	1071.82	-186.79
591	SLV FO 6	216	698	3619	-103.55	1070.48	-226.98
591	SLV FO 7	176	-642	3315	-86.7	1117.51	240.41
591	SLV FO 8	183	-526	3319	-86.94	1116.17	200.22
591	SLV FO 9	-77	536	4712	-133.3	1389.89	-201.1
591	SLV FO 10	-70	652	4715	-133.54	1388.55	-241.29
591	SLV FO 11	-110	-688	4412	-116.7	1435.58	226.1
591	SLV FO 12	-102	-572	4415	-116.94	1434.24	185.91
591	SLV FO 13	-424	27	5885	-162.43	1777.29	-58.52
591	SLV FO 14	-413	199	5891	-162.79	1775.3	-118.22
591	SLV FO 15	-433	-340	5795	-157.45	1790.99	69.64
591	SLV FO 16	-422	-168	5801	-157.81	1789	9.94
591	CRTFP Ux+	0	0	0	0	0	0
591	CRTFP Ux-	0	0	0	0	0	0
591	CRTFP Uy+	0	0	0	0	0	0
591	CRTFP Uy-	0	0	0	0	0	0
594	SLU 1	-52	-40	5026	-140.22	-11.5	-1.08
594	SLU 2	-52	-17	5027	-140.4	-10.99	-1.12
594	SLU 3	-53	-41	5145	-143.49	-11.98	-1.11
594	SLU 4	-53	-27	5145	-143.59	-11.67	-1.13
594	SLU 5	-53	-18	5103	-142.48	-11.33	-1.13
594	SLU 6	-53	-42	5220	-145.57	-12.32	-1.13
594	SLU 7	-54	-28	5221	-145.68	-12.01	-1.15
594	SLU 8	-53	-42	5177	-144.39	-12.18	-1.12
594	SLU 9	-53	-28	5178	-144.49	-11.87	-1.14
594	SLU 10	-54	-21	5711	-159.4	-13.71	-1.14
594	SLU 11	-54	-46	5828	-162.49	-14.71	-1.13
594	SLU 12	-55	-32	5829	-162.59	-14.4	-1.15
594	SLU 13	-54	-22	5786	-161.48	-14.05	-1.15
594	SLU 14	-55	-46	5903	-164.57	-15.05	-1.15
594	SLU 15	-55	-32	5904	-164.68	-14.74	-1.17
594	SLU 16	-55	-46	5861	-163.39	-14.91	-1.14
594	SLU 17	-55	-32	5862	-163.49	-14.6	-1.16
594	SLU 18	-54	-47	6002	-167.36	-15.4	-1.11
594	SLU 19	-54	-33	6003	-167.47	-15.09	-1.13
594	SLU 20	-55	-47	6078	-169.45	-15.74	-1.13
594	SLU 21	-55	-33	6079	-169.55	-15.43	-1.15
594	SLU 22	-56	-46	5843	-162.85	-13.95	-1.19
594	SLU 23	-57	-23	5845	-163.03	-13.43	-1.22
594	SLU 24	-57	-47	5962	-166.11	-14.43	-1.21
594	SLU 25	-58	-33	5963	-166.22	-14.12	-1.23
594	SLU 26	-58	-24	5921	-165.11	-13.77	-1.24
594	SLU 27	-58	-48	6038	-168.2	-14.77	-1.23
594	SLU 28	-58	-34	6039	-168.3	-14.46	-1.25
594	SLU 29	-58	-48	5995	-167.02	-14.63	-1.22
594	SLU 30	-58	-34	5996	-167.12	-14.32	-1.24
594	SLU 31	-58	-27	6528	-182.02	-16.16	-1.24
594	SLU 32	-59	-51	6645	-185.11	-17.15	-1.23
594	SLU 33	-59	-37	6646	-185.22	-16.84	-1.25
594	SLU 34	-59	-28	6604	-184.11	-16.5	-1.25
594	SLU 35	-60	-52	6721	-187.2	-17.49	-1.25
594	SLU 36	-60	-38	6722	-187.3	-17.18	-1.27
594	SLU 37	-59	-52	6678	-186.01	-17.35	-1.24
594	SLU 38	-59	-38	6679	-186.12	-17.04	-1.26
594	SLU 39	-59	-52	6819	-189.99	-17.84	-1.21
594	SLU 40	-59	-38	6820	-190.1	-17.53	-1.23
594	SLU 41	-59	-53	6895	-192.07	-18.18	-1.23
594	SLU 42	-60	-39	6896	-192.18	-17.87	-1.25
594	SLU 43	-66	-51	6253	-174.53	-14.12	-1.38
594	SLU 44	-66	-27	6255	-174.71	-13.6	-1.41
594	SLU 45	-67	-52	6372	-177.8	-14.59	-1.4
594	SLU 46	-67	-38	6373	-177.9	-14.28	-1.42
594	SLU 47	-67	-28	6331	-176.79	-13.94	-1.43
594	SLU 48	-67	-52	6448	-179.88	-14.93	-1.42
594	SLU 49	-68	-38	6449	-179.98	-14.62	-1.44
594	SLU 50	-67	-52	6405	-178.7	-14.8	-1.41
594	SLU 51	-67	-38	6406	-178.8	-14.49	-1.43
594	SLU 52	-68	-32	6938	-193.7	-16.33	-1.43
594	SLU 53	-68	-56	7055	-196.79	-17.32	-1.42
594	SLU 54	-69	-42	7056	-196.9	-17.01	-1.44
594	SLU 55	-68	-32	7014	-195.79	-16.67	-1.44
594	SLU 56	-69	-57	7131	-198.88	-17.66	-1.44
594	SLU 57	-69	-43	7132	-198.98	-17.35	-1.46
594	SLU 58	-69	-56	7088	-197.69	-17.52	-1.43
594	SLU 59	-69	-42	7089	-197.8	-17.21	-1.45
594	SLU 60	-68	-57	7229	-201.67	-18.01	-1.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
594	SLU 61	-68	-43	7230	-201.78	-17.7	-1.42
594	SLU 62	-69	-57	7305	-203.75	-18.35	-1.42
594	SLU 63	-69	-43	7306	-203.86	-18.04	-1.44
594	SLU 64	-70	-56	7071	-197.16	-16.56	-1.48
594	SLU 65	-71	-33	7072	-197.33	-16.05	-1.51
594	SLU 66	-71	-57	7189	-200.42	-17.04	-1.5
594	SLU 67	-72	-43	7190	-200.53	-16.73	-1.52
594	SLU 68	-71	-34	7148	-199.42	-16.39	-1.53
594	SLU 69	-72	-58	7265	-202.51	-17.38	-1.52
594	SLU 70	-72	-44	7266	-202.61	-17.07	-1.54
594	SLU 71	-72	-58	7222	-201.32	-17.24	-1.51
594	SLU 72	-72	-44	7223	-201.43	-16.93	-1.53
594	SLU 73	-72	-37	7755	-216.33	-18.77	-1.53
594	SLU 74	-73	-62	7873	-219.42	-19.77	-1.52
594	SLU 75	-73	-48	7874	-219.53	-19.46	-1.54
594	SLU 76	-73	-38	7831	-218.42	-19.11	-1.55
594	SLU 77	-74	-62	7948	-221.51	-20.1	-1.54
594	SLU 78	-74	-48	7949	-221.61	-19.79	-1.56
594	SLU 79	-73	-62	7905	-220.32	-19.97	-1.53
594	SLU 80	-73	-48	7906	-220.43	-19.66	-1.55
594	SLU 81	-73	-62	8047	-224.3	-20.46	-1.5
594	SLU 82	-73	-48	8048	-224.4	-20.15	-1.52
594	SLU 83	-73	-63	8123	-226.38	-20.8	-1.52
594	SLU 84	-74	-49	8123	-226.49	-20.49	-1.54
594	SLE RA 1	-53	-42	5259	-146.69	-12.2	-1.11
594	SLE RA 2	-53	-27	5260	-146.8	-11.86	-1.14
594	SLE RA 3	-54	-43	5339	-148.86	-12.52	-1.13
594	SLE RA 4	-54	-33	5339	-148.93	-12.31	-1.14
594	SLE RA 5	-54	-27	5311	-148.19	-12.09	-1.15
594	SLE RA 6	-54	-43	5389	-150.25	-12.75	-1.14
594	SLE RA 7	-54	-34	5390	-150.32	-12.54	-1.16
594	SLE RA 8	-54	-43	5360	-149.46	-12.66	-1.14
594	SLE RA 9	-54	-34	5361	-149.53	-12.45	-1.15
594	SLE RA 10	-55	-29	5716	-159.47	-13.68	-1.15
594	SLE RA 11	-55	-46	5794	-161.53	-14.34	-1.14
594	SLE RA 12	-55	-36	5795	-161.6	-14.13	-1.16
594	SLE RA 13	-55	-30	5766	-160.86	-13.9	-1.16
594	SLE RA 14	-55	-46	5844	-162.92	-14.56	-1.15
594	SLE RA 15	-55	-37	5845	-162.99	-14.36	-1.17
594	SLE RA 16	-55	-46	5816	-162.13	-14.47	-1.15
594	SLE RA 17	-55	-37	5816	-162.2	-14.27	-1.16
594	SLE RA 18	-55	-46	5910	-164.78	-14.8	-1.13
594	SLE RA 19	-55	-37	5911	-164.85	-14.59	-1.14
594	SLE RA 20	-55	-47	5961	-166.17	-15.03	-1.14
594	SLE RA 21	-55	-37	5961	-166.24	-14.82	-1.16
594	SLE FR 1	-53	-42	5259	-146.69	-12.2	-1.11
594	SLE FR 2	-53	-39	5260	-146.71	-12.13	-1.12
594	SLE FR 3	-53	-42	5280	-147.24	-12.29	-1.12
594	SLE FR 4	-54	-40	5455	-152.14	-12.91	-1.12
594	SLE FR 5	-54	-43	5475	-152.67	-13.07	-1.12
594	SLE FR 6	-54	-44	5585	-155.73	-13.5	-1.12
594	SLE QP 1	-53	-42	5259	-146.69	-12.2	-1.11
594	SLE QP 2	-54	-43	5455	-152.11	-12.98	-1.12
594	SLD 1	379	87	6005	-168.19	7.37	10.63
594	SLD 2	387	28	6001	-167.99	6.51	11.94
594	SLD 3	388	-183	5989	-166.05	0.56	11.23
594	SLD 4	395	-243	5985	-165.84	-0.3	12.53
594	SLD 5	62	417	5645	-160.23	3.61	1.26
594	SLD 6	67	378	5642	-160.09	3.04	2.13
594	SLD 7	90	-485	5592	-153.08	-19.1	3.26
594	SLD 8	95	-525	5589	-152.94	-19.66	4.12
594	SLD 9	-202	438	5321	-151.28	-6.3	-6.36
594	SLD 10	-197	399	5318	-151.15	-6.87	-5.5
594	SLD 11	-174	-465	5267	-144.14	-2.9	-4.37
594	SLD 12	-170	-504	5264	-144	-29.57	-3.5
594	SLD 13	-502	156	4924	-138.38	-25.66	-14.77
594	SLD 14	-495	97	4920	-138.18	-26.52	-13.47
594	SLD 15	-494	-115	4908	-136.24	-32.47	-14.18
594	SLD 16	-487	-174	4904	-136.03	-33.33	-12.87
594	SLV 1	624	168	6315	-177.26	18.96	17.27
594	SLV 2	635	75	6308	-176.94	17.62	19.31
594	SLV 3	638	-269	6288	-173.79	7.96	18.23
594	SLV 4	649	-362	6281	-173.47	6.62	20.27
594	SLV 5	127	701	5754	-164.99	13.54	2.56
594	SLV 6	135	638	5750	-164.78	12.63	3.94
594	SLV 7	172	-757	5665	-153.4	-23.13	5.76
594	SLV 8	180	-820	5661	-153.19	-24.04	7.13
594	SLV 9	-287	733	5248	-151.04	-1.93	-9.37
594	SLV 10	-279	671	5244	-150.83	-2.83	-8
594	SLV 11	-242	-725	5160	-139.45	-38.6	-6.18
594	SLV 12	-235	-787	5155	-139.23	-39.5	-4.8
594	SLV 13	-756	276	4628	-130.76	-32.59	-22.51
594	SLV 14	-745	183	4621	-130.44	-33.93	-20.46
594	SLV 15	-743	-162	4602	-127.29	-43.59	-21.55
594	SLV 16	-731	-255	4595	-126.96	-44.93	-19.51
594	SLV FO 1	692	189	6401	-179.78	22.16	19.11
594	SLV FO 2	704	87	6393	-179.43	20.68	21.36
594	SLV FO 3	707	-292	6371	-175.95	10.06	20.16
594	SLV FO 4	719	-394	6364	-175.6	8.58	22.41



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
594	SLV FO 5	145	775	5784	-166.28	16.19	2.93
594	SLV FO 6	154	706	5779	-166.04	15.2	4.44
594	SLV FO 7	195	-828	5687	-153.53	-24.15	6.44
594	SLV FO 8	203	-897	5681	-153.29	-25.14	7.96
594	SLV FO 9	-310	811	5228	-150.94	-0.82	-10.2
594	SLV FO 10	-302	742	5223	-150.7	-1.82	-8.68
594	SLV FO 11	-261	-793	5130	-138.19	-41.16	-6.68
594	SLV FO 12	-253	-862	5125	-137.95	-42.15	-5.17
594	SLV FO 13	-826	308	4546	-128.63	-34.55	-24.65
594	SLV FO 14	-814	205	4538	-128.27	-36.02	-22.4
594	SLV FO 15	-812	-174	4516	-124.8	-46.65	-23.59
594	SLV FO 16	-799	-276	4509	-124.45	-48.12	-21.34
594	CRTFP Ux+	0	0	0	0	0	0
594	CRTFP Ux-	0	0	0	0	0	0
594	CRTFP Uy+	0	0	0	0	0	0
594	CRTFP Uy-	0	0	0	0	0	0
599	SLU 1	7	-47	2088	-58.12	811.94	18.95
599	SLU 2	8	-36	2081	-57.96	808.82	14.55
599	SLU 3	8	-48	2138	-59.49	831.4	19.33
599	SLU 4	8	-41	2134	-59.39	829.52	16.69
599	SLU 5	8	-36	2114	-58.85	821.55	14.78
599	SLU 6	8	-48	2171	-60.38	844.13	19.56
599	SLU 7	8	-42	2166	-60.29	842.25	16.92
599	SLU 8	8	-48	2153	-59.9	837.41	19.41
599	SLU 9	8	-41	2149	-59.81	835.53	16.77
599	SLU 10	8	-41	2374	-66.09	923.01	16.74
599	SLU 11	8	-53	2431	-67.61	945.59	21.52
599	SLU 12	8	-47	2426	-67.52	943.71	18.88
599	SLU 13	8	-42	2406	-66.98	935.74	16.97
599	SLU 14	8	-54	2463	-68.51	958.32	21.75
599	SLU 15	8	-47	2459	-68.41	956.45	19.11
599	SLU 16	8	-54	2446	-68.03	951.6	21.6
599	SLU 17	8	-47	2442	-67.94	949.72	18.96
599	SLU 18	8	-55	2506	-69.72	975.08	22.08
599	SLU 19	8	-48	2502	-69.63	973.2	19.44
599	SLU 20	8	-55	2539	-70.62	987.81	22.31
599	SLU 21	8	-49	2534	-70.52	985.93	19.67
599	SLU 22	8	-53	2420	-67.27	940.76	21.37
599	SLU 23	9	-42	2412	-67.12	937.63	16.98
599	SLU 24	9	-54	2469	-68.65	960.21	21.75
599	SLU 25	9	-47	2465	-68.55	958.34	19.12
599	SLU 26	9	-43	2445	-68.01	950.37	17.21
599	SLU 27	9	-54	2502	-69.54	972.95	21.98
599	SLU 28	9	-48	2498	-69.45	971.07	19.35
599	SLU 29	9	-54	2485	-69.06	966.22	21.83
599	SLU 30	9	-47	2480	-68.97	964.35	19.19
599	SLU 31	9	-47	2705	-75.24	1051.83	19.17
599	SLU 32	9	-59	2762	-76.77	1074.41	23.95
599	SLU 33	9	-53	2758	-76.68	1072.53	21.31
599	SLU 34	9	-48	2737	-76.14	1064.56	19.4
599	SLU 35	9	-60	2794	-77.66	1087.14	24.17
599	SLU 36	9	-53	2790	-77.57	1085.26	21.54
599	SLU 37	9	-60	2777	-77.19	1080.42	24.02
599	SLU 38	9	-53	2773	-77.09	1078.54	21.38
599	SLU 39	8	-61	2837	-78.88	1103.89	24.5
599	SLU 40	9	-54	2833	-78.79	1102.02	21.86
599	SLU 41	9	-61	2870	-79.78	1116.63	24.73
599	SLU 42	9	-55	2866	-79.68	1114.75	22.09
599	SLU 43	9	-59	2601	-72.41	1011.36	23.8
599	SLU 44	10	-48	2594	-72.26	1008.24	19.41
599	SLU 45	9	-60	2651	-73.78	1030.81	24.18
599	SLU 46	10	-53	2647	-73.69	1028.94	21.55
599	SLU 47	10	-49	2627	-73.15	1020.97	19.64
599	SLU 48	10	-60	2684	-74.68	1043.55	24.41
599	SLU 49	10	-54	2679	-74.58	1041.67	21.78
599	SLU 50	9	-60	2666	-74.2	1036.83	24.26
599	SLU 51	10	-53	2662	-74.1	1034.95	21.62
599	SLU 52	10	-53	2887	-80.38	1122.43	21.6
599	SLU 53	10	-65	2944	-81.91	1145.01	26.38
599	SLU 54	10	-59	2939	-81.81	1143.13	23.74
599	SLU 55	10	-54	2919	-81.27	1135.16	21.83
599	SLU 56	10	-66	2976	-82.8	1157.74	26.6
599	SLU 57	10	-59	2972	-82.71	1155.86	23.97
599	SLU 58	10	-66	2959	-82.32	1151.02	26.45
599	SLU 59	10	-59	2955	-82.23	1149.14	23.81
599	SLU 60	9	-67	3019	-84.02	1174.5	26.93
599	SLU 61	10	-60	3015	-83.93	1172.62	24.29
599	SLU 62	9	-67	3052	-84.91	1187.23	27.16
599	SLU 63	10	-61	3047	-84.82	1185.35	24.52
599	SLU 64	10	-65	2932	-81.57	1140.18	26.22
599	SLU 65	11	-54	2925	-81.41	1137.05	21.83
599	SLU 66	10	-66	2982	-82.94	1159.63	26.61
599	SLU 67	11	-59	2978	-82.85	1157.76	23.97
599	SLU 68	11	-55	2958	-82.31	1149.78	22.06
599	SLU 69	10	-66	3015	-83.83	1172.36	26.84
599	SLU 70	11	-60	3011	-83.74	1170.49	24.2
599	SLU 71	10	-66	2998	-83.36	1165.64	26.68
599	SLU 72	11	-59	2993	-83.26	1163.77	24.05
599	SLU 73	11	-59	3218	-89.54	1251.24	24.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
599	SLU 74	10	-71	3275	-91.07	1273.82	28.8
599	SLU 75	11	-65	3270	-90.97	1271.95	26.16
599	SLU 76	11	-60	3250	-90.43	1263.98	24.25
599	SLU 77	11	-72	3307	-91.96	1286.56	29.03
599	SLU 78	11	-65	3303	-91.87	1284.68	26.39
599	SLU 79	10	-72	3290	-91.48	1279.83	28.87
599	SLU 80	11	-65	3286	-91.39	1277.96	26.24
599	SLU 81	10	-73	3350	-93.18	1303.31	29.35
599	SLU 82	11	-66	3346	-93.08	1301.44	26.72
599	SLU 83	10	-73	3383	-94.07	1316.04	29.58
599	SLU 84	11	-67	3379	-93.98	1314.17	26.95
599	SLE RA 1	8	-49	2183	-60.73	848.75	19.64
599	SLE RA 2	8	-41	2178	-60.63	846.66	16.71
599	SLE RA 3	8	-49	2216	-61.65	861.72	19.9
599	SLE RA 4	8	-45	2213	-61.58	860.47	18.14
599	SLE RA 5	8	-42	2200	-61.22	855.15	16.86
599	SLE RA 6	8	-50	2238	-62.24	870.21	20.05
599	SLE RA 7	8	-45	2235	-62.18	868.95	18.29
599	SLE RA 8	8	-49	2226	-61.92	865.72	19.95
599	SLE RA 9	8	-45	2223	-61.86	864.47	18.19
599	SLE RA 10	8	-45	2373	-66.05	922.79	18.17
599	SLE RA 11	8	-53	2411	-67.06	937.85	21.36
599	SLE RA 12	8	-49	2408	-67	936.6	19.6
599	SLE RA 13	8	-45	2395	-66.64	931.28	18.32
599	SLE RA 14	8	-53	2433	-67.66	946.33	21.51
599	SLE RA 15	8	-49	2430	-67.6	945.08	19.75
599	SLE RA 16	8	-53	2421	-67.34	941.85	21.41
599	SLE RA 17	8	-49	2418	-67.28	940.6	19.65
599	SLE RA 18	8	-54	2462	-68.47	957.5	21.73
599	SLE RA 19	8	-49	2459	-68.41	956.25	19.97
599	SLE RA 20	8	-54	2483	-69.07	965.99	21.88
599	SLE RA 21	8	-50	2480	-69	964.74	20.12
599	SLE FR 1	8	-49	2183	-60.73	848.75	19.64
599	SLE FR 2	8	-47	2182	-60.71	848.33	19.05
599	SLE FR 3	8	-49	2192	-60.97	852.14	19.7
599	SLE FR 4	8	-49	2266	-63.03	880.96	19.68
599	SLE FR 5	8	-50	2275	-63.29	884.77	20.33
599	SLE FR 6	8	-51	2322	-64.6	903.13	20.68
599	SLE QP 1	8	-49	2183	-60.73	848.75	19.64
599	SLE QP 2	8	-50	2267	-63.05	881.38	20.27
599	SLD 1	186	24	2314	-64.52	907.88	-3.29
599	SLD 2	190	27	2313	-64.51	907.68	-4.21
599	SLD 3	183	-104	2405	-66.51	947.16	47.89
599	SLD 4	187	-101	2404	-66.5	946.97	46.97
599	SLD 5	65	166	2143	-60.48	829.78	-64.26
599	SLD 6	68	167	2143	-60.48	829.65	-64.86
599	SLD 7	55	-261	2445	-67.11	960.73	106.34
599	SLD 8	57	-259	2445	-67.1	960.6	105.73
599	SLD 9	-42	159	2088	-59.01	802.15	-65.2
599	SLD 10	-40	161	2088	-59	802.02	-65.81
599	SLD 11	-52	-268	2390	-65.63	933.1	105.39
599	SLD 12	-50	-266	2390	-65.63	932.97	104.79
599	SLD 13	-171	1	2129	-59.61	815.78	-6.44
599	SLD 14	-168	3	2128	-59.6	815.59	-7.36
599	SLD 15	-174	-127	2220	-61.59	855.07	44.74
599	SLD 16	-171	-125	2219	-61.59	854.87	43.82
599	SLV 1	288	69	2338	-65.29	921.72	-17.67
599	SLV 2	293	74	2337	-65.28	921.42	-19.11
599	SLV 3	282	-137	2485	-68.5	985.2	65.04
599	SLV 4	288	-133	2484	-68.49	984.89	63.6
599	SLV 5	98	299	2066	-58.86	797.27	-116.3
599	SLV 6	102	301	2066	-58.85	797.07	-117.27
599	SLV 7	81	-391	2554	-69.56	1008.84	159.42
599	SLV 8	85	-388	2554	-69.56	1008.64	158.45
599	SLV 9	-69	288	1979	-56.55	754.11	-117.92
599	SLV 10	-66	290	1979	-56.55	753.91	-118.89
599	SLV 11	-86	-402	2467	-67.26	965.68	157.8
599	SLV 12	-83	-399	2467	-67.25	965.48	156.83
599	SLV 13	-272	33	2049	-57.61	777.86	-23.07
599	SLV 14	-267	37	2048	-57.61	777.56	-24.51
599	SLV 15	-277	-174	2196	-60.83	841.33	59.64
599	SLV 16	-272	-170	2195	-60.82	841.03	58.2
599	SLV FO 1	315	81	2345	-65.52	925.76	-21.47
599	SLV FO 2	321	86	2344	-65.51	925.42	-23.05
599	SLV FO 3	310	-146	2507	-69.05	995.58	69.52
599	SLV FO 4	316	-142	2506	-69.04	995.24	67.94
599	SLV FO 5	108	334	2046	-58.44	788.86	-129.95
599	SLV FO 6	111	337	2045	-58.43	788.64	-131.02
599	SLV FO 7	89	-425	2583	-70.21	1021.59	173.33
599	SLV FO 8	93	-422	2582	-70.21	1021.36	172.27
599	SLV FO 9	-77	322	1951	-55.9	741.39	-131.73
599	SLV FO 10	-73	325	1950	-55.9	741.16	-132.8
599	SLV FO 11	-96	-437	2488	-67.68	974.11	171.55
599	SLV FO 12	-92	-434	2487	-67.67	973.89	170.49
599	SLV FO 13	-300	41	2028	-57.07	767.51	-27.4
599	SLV FO 14	-294	46	2027	-57.06	767.17	-28.99
599	SLV FO 15	-306	-186	2189	-60.6	837.33	63.58
599	SLV FO 16	-300	-182	2188	-60.59	836.99	62
599	CRTFP Ux+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
599	CRTFP Ux-	0	0	0	0	0	0
599	CRTFP Uy+	0	0	0	0	0	0
599	CRTFP Uy-	0	0	0	0	0	0
654	SLU 1	-118	123	9768	2.23	-1784.79	21.96
654	SLU 2	-118	177	9775	-0.33	-1786.14	31.95
654	SLU 3	-120	124	9991	2.96	-1825.59	22.2
654	SLU 4	-120	157	9995	1.43	-1826.4	28.2
654	SLU 5	-119	178	9915	0.18	-1811.84	32.12
654	SLU 6	-121	125	10131	3.47	-1851.29	22.38
654	SLU 7	-121	158	10136	1.93	-1852.1	28.37
654	SLU 8	-120	124	10049	3.25	-1836.18	22.3
654	SLU 9	-120	157	10053	1.71	-1836.99	28.29
654	SLU 10	-120	194	11012	0.05	-2013.49	35.03
654	SLU 11	-122	141	11228	3.33	-2052.94	25.29
654	SLU 12	-122	174	11233	1.8	-2053.75	31.28
654	SLU 13	-122	195	11153	0.56	-2039.18	35.2
654	SLU 14	-123	142	11369	3.84	-2078.63	25.46
654	SLU 15	-124	175	11373	2.31	-2079.44	31.45
654	SLU 16	-123	142	11286	3.62	-2063.53	25.38
654	SLU 17	-123	174	11290	2.09	-2064.34	31.37
654	SLU 18	-121	147	11536	2.76	-2109.57	26.36
654	SLU 19	-121	180	11540	1.23	-2110.38	32.35
654	SLU 20	-122	148	11676	3.27	-2135.26	26.53
654	SLU 21	-123	181	11680	1.74	-2136.07	32.52
654	SLU 22	-126	135	11296	4.5	-2065.04	24.16
654	SLU 23	-127	189	11303	1.94	-2066.39	34.15
654	SLU 24	-128	136	11519	5.23	-2105.85	24.41
654	SLU 25	-128	169	11523	3.69	-2106.66	30.41
654	SLU 26	-128	190	11443	2.45	-2092.09	34.32
654	SLU 27	-129	137	11659	5.74	-2131.54	24.58
654	SLU 28	-130	170	11663	4.2	-2132.35	30.58
654	SLU 29	-129	137	11576	5.51	-2116.43	24.51
654	SLU 30	-129	170	11581	3.98	-2117.24	30.5
654	SLU 31	-129	207	12540	2.32	-2293.74	37.23
654	SLU 32	-131	154	12756	5.6	-2333.19	27.49
654	SLU 33	-131	186	12760	4.07	-2334	33.49
654	SLU 34	-130	208	12681	2.83	-2319.43	37.41
654	SLU 35	-132	155	12897	6.11	-2358.89	27.66
654	SLU 36	-132	187	12901	4.58	-2359.7	33.66
654	SLU 37	-131	154	12814	5.89	-2343.78	27.59
654	SLU 38	-131	187	12818	4.36	-2344.59	33.58
654	SLU 39	-129	160	13063	5.03	-2389.82	28.57
654	SLU 40	-130	192	13068	3.5	-2390.63	34.56
654	SLU 41	-131	161	13204	5.54	-2415.52	28.74
654	SLU 42	-131	193	13208	4.01	-2416.33	34.73
654	SLU 43	-150	155	12174	2.12	-2224.14	27.79
654	SLU 44	-150	210	12181	-0.44	-2225.49	37.78
654	SLU 45	-152	156	12397	2.85	-2264.94	28.04
654	SLU 46	-152	189	12402	1.32	-2265.75	34.03
654	SLU 47	-152	210	12322	0.07	-2251.19	37.95
654	SLU 48	-153	157	12538	3.36	-2290.64	28.21
654	SLU 49	-154	190	12542	1.83	-2291.45	34.2
654	SLU 50	-153	157	12455	3.14	-2275.53	28.13
654	SLU 51	-153	190	12459	1.61	-2276.34	34.12
654	SLU 52	-153	227	13419	-0.06	-2452.84	40.86
654	SLU 53	-154	174	13635	3.23	-2492.29	31.12
654	SLU 54	-155	206	13639	1.69	-2493.1	37.11
654	SLU 55	-154	228	13559	0.45	-2478.53	41.03
654	SLU 56	-156	175	13775	3.73	-2517.98	31.29
654	SLU 57	-156	207	13780	2.2	-2518.79	37.28
654	SLU 58	-155	174	13693	3.51	-2502.88	31.21
654	SLU 59	-155	207	13697	1.98	-2503.69	37.2
654	SLU 60	-153	180	13942	2.66	-2548.92	32.19
654	SLU 61	-154	212	13946	1.12	-2549.73	38.18
654	SLU 62	-155	181	14083	3.17	-2574.61	32.36
654	SLU 63	-155	213	14087	1.63	-2575.42	38.35
654	SLU 64	-158	167	13702	4.39	-2504.39	29.99
654	SLU 65	-159	222	13709	1.83	-2505.75	39.98
654	SLU 66	-161	169	13925	5.12	-2545.2	30.24
654	SLU 67	-161	202	13929	3.58	-2546.01	36.24
654	SLU 68	-160	223	13850	2.34	-2531.44	40.15
654	SLU 69	-162	170	14066	5.63	-2570.89	30.41
654	SLU 70	-162	203	14070	4.09	-2571.7	36.41
654	SLU 71	-161	169	13983	5.41	-2555.79	30.34
654	SLU 72	-161	202	13987	3.87	-2556.6	36.33
654	SLU 73	-161	239	14947	2.21	-2733.09	43.06
654	SLU 74	-163	186	15163	5.49	-2772.54	33.32
654	SLU 75	-163	219	15167	3.96	-2773.35	39.32
654	SLU 76	-163	240	15087	2.72	-2758.78	43.24
654	SLU 77	-164	187	15303	6	-2798.24	33.49
654	SLU 78	-165	220	15307	4.47	-2799.05	39.49
654	SLU 79	-163	187	15220	5.78	-2783.13	33.42
654	SLU 80	-164	219	15225	4.25	-2783.94	39.41
654	SLU 81	-162	192	15470	4.92	-2829.17	34.4
654	SLU 82	-162	225	15474	3.39	-2829.98	40.39
654	SLU 83	-163	193	15610	5.43	-2854.87	34.57
654	SLU 84	-163	226	15615	3.9	-2855.68	40.56
654	SLE RA 1	-120	126	10204	2.88	-1864.86	22.59
654	SLE RA 2	-120	162	10209	1.17	-1865.76	29.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
654	SLE RA 3	-121	127	10353	3.36	-1892.07	22.75
654	SLE RA 4	-122	149	10356	2.34	-1892.61	26.75
654	SLE RA 5	-121	163	10303	1.51	-1882.89	29.36
654	SLE RA 6	-122	128	10447	3.7	-1909.2	22.87
654	SLE RA 7	-122	149	10449	2.68	-1909.74	26.86
654	SLE RA 8	-122	127	10392	3.56	-1899.12	22.81
654	SLE RA 9	-122	149	10394	2.53	-1899.66	26.81
654	SLE RA 10	-122	174	11034	1.42	-2017.33	31.3
654	SLE RA 11	-123	139	11178	3.61	-2043.63	24.81
654	SLE RA 12	-123	160	11181	2.59	-2044.17	28.8
654	SLE RA 13	-123	175	11128	1.76	-2034.46	31.41
654	SLE RA 14	-124	139	11272	3.95	-2060.76	24.92
654	SLE RA 15	-124	161	11274	2.93	-2061.3	28.92
654	SLE RA 16	-123	139	11217	3.81	-2050.69	24.87
654	SLE RA 17	-124	161	11219	2.78	-2051.23	28.86
654	SLE RA 18	-122	143	11383	3.23	-2081.38	25.52
654	SLE RA 19	-122	164	11386	2.21	-2081.92	29.52
654	SLE RA 20	-123	143	11476	3.57	-2098.51	25.64
654	SLE RA 21	-123	165	11479	2.55	-2099.05	29.63
654	SLE FR 1	-120	126	10204	2.88	-1864.86	22.59
654	SLE FR 2	-120	133	10205	2.54	-1865.04	23.92
654	SLE FR 3	-120	126	10242	3.01	-1871.72	22.63
654	SLE FR 4	-121	138	10559	2.64	-1930	24.8
654	SLE FR 5	-121	131	10595	3.12	-1936.67	23.51
654	SLE FR 6	-121	134	10794	3.06	-1973.12	24.05
654	SLE QP 1	-120	126	10204	2.88	-1864.86	22.59
654	SLE QP 2	-121	131	10558	2.98	-1929.82	23.47
654	SLD 1	587	469	13521	-11.6	-2449.54	84.98
654	SLD 2	588	200	13510	-9.18	-2447.44	36.3
654	SLD 3	599	-152	13443	22.31	-2435.41	-28.83
654	SLD 4	601	-422	13432	24.73	-2433.31	-77.51
654	SLD 5	73	1223	11568	-53.27	-2107.54	223.31
654	SLD 6	74	1045	11560	-51.67	-2106.15	191.16
654	SLD 7	113	-848	11307	59.79	-2060.45	-156.07
654	SLD 8	115	-1026	11300	61.38	-2059.06	-188.21
654	SLD 9	-356	1288	9816	-55.42	-1800.57	235.15
654	SLD 10	-355	1110	9809	-53.82	-1799.19	203
654	SLD 11	-315	-783	9556	57.64	-1753.48	-144.23
654	SLD 12	-314	-961	9548	59.24	-1752.1	-176.37
654	SLD 13	-842	684	7684	-18.76	-1426.32	124.45
654	SLD 14	-840	414	7672	-16.35	-1424.23	75.77
654	SLD 15	-830	62	7605	15.15	-1412.2	10.64
654	SLD 16	-828	-207	7594	17.57	-1410.1	-38.05
654	SLV 1	987	676	15183	-20.73	-2740.88	122.69
654	SLV 2	990	254	15165	-16.94	-2737.59	46.41
654	SLV 3	1007	-327	15056	34.08	-2718.04	-61.15
654	SLV 4	1010	-750	15039	37.87	-2714.75	-137.42
654	SLV 5	181	1896	12140	-87.97	-2208.39	346.28
654	SLV 6	183	1611	12128	-85.42	-2206.18	294.93
654	SLV 7	247	-1450	11719	94.74	-2132.26	-266.49
654	SLV 8	249	-1734	11707	97.29	-2130.05	-317.85
654	SLV 9	-490	1996	9409	-91.33	-1729.59	364.78
654	SLV 10	-488	1712	9397	-88.78	-1727.38	313.43
654	SLV 11	-425	-1349	8987	91.39	-1653.46	-247.99
654	SLV 12	-423	-1634	8975	93.94	-1651.25	-299.35
654	SLV 13	-1251	1012	6077	-31.91	-1144.89	184.35
654	SLV 14	-1248	589	6060	-28.12	-1141.6	108.08
654	SLV 15	-1231	8	5951	22.91	-1122.05	0.52
654	SLV 16	-1228	-414	5933	26.7	-1118.76	-75.75
654	SLV FO 1	1098	731	15645	-23.1	-2821.98	132.61
654	SLV FO 2	1101	266	15626	-18.94	-2818.37	48.71
654	SLV FO 3	1119	-373	15506	37.19	-2796.86	-69.61
654	SLV FO 4	1123	-838	15487	41.36	-2793.24	-153.51
654	SLV FO 5	211	2072	12298	-97.07	-2236.25	378.56
654	SLV FO 6	214	1759	12286	-94.26	-2233.81	322.08
654	SLV FO 7	283	-1608	11835	103.92	-2152.5	-295.49
654	SLV FO 8	286	-1921	11822	106.72	-2150.07	-351.98
654	SLV FO 9	-527	2183	9294	-100.76	-1709.57	398.91
654	SLV FO 10	-525	1870	9281	-97.95	-1707.14	342.43
654	SLV FO 11	-455	-1497	8830	100.23	-1625.82	-275.14
654	SLV FO 12	-453	-1810	8817	103.04	-1623.39	-331.63
654	SLV FO 13	-1364	1100	5629	-35.39	-1066.39	200.44
654	SLV FO 14	-1361	635	5610	-31.23	-1062.78	116.54
654	SLV FO 15	-1342	-4	5490	24.9	-1041.27	-1.77
654	SLV FO 16	-1339	-469	5471	29.07	-1037.66	-85.67
654	CRTFP Ux+	0	0	0	0	0	0
654	CRTFP Ux-	0	0	0	0	0	0
654	CRTFP Uy+	0	0	0	0	0	0
654	CRTFP Uy-	0	0	0	0	0	0
656	SLU 1	-76	76	6272	-10.29	-173.03	0.84
656	SLU 2	-77	110	6277	-13.19	-173.16	1.55
656	SLU 3	-78	76	6416	-9.75	-176.99	0.85
656	SLU 4	-78	97	6419	-11.5	-177.07	1.27
656	SLU 5	-78	111	6367	-12.8	-175.66	1.56
656	SLU 6	-79	77	6506	-9.36	-179.49	0.85
656	SLU 7	-79	98	6509	-11.1	-179.57	1.28
656	SLU 8	-78	77	6453	-9.5	-178.02	0.85
656	SLU 9	-78	97	6456	-11.24	-178.1	1.27
656	SLU 10	-78	121	7075	-14.4	-195.31	1.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLU 11	-79	87	7214	-10.96	-199.14	0.97
656	SLU 12	-80	108	7217	-12.7	-199.22	1.39
656	SLU 13	-79	121	7165	-14.01	-197.81	1.68
656	SLU 14	-80	88	7304	-10.57	-201.64	0.97
656	SLU 15	-81	108	7307	-12.31	-201.72	1.4
656	SLU 16	-80	87	7251	-10.71	-200.17	0.97
656	SLU 17	-80	108	7254	-12.45	-200.25	1.4
656	SLU 18	-79	91	7412	-12.02	-204.67	1.02
656	SLU 19	-79	111	7415	-13.76	-204.75	1.44
656	SLU 20	-80	91	7503	-11.62	-207.17	1.02
656	SLU 21	-80	112	7506	-13.37	-207.25	1.44
656	SLU 22	-82	83	7257	-9.72	-200.3	0.9
656	SLU 23	-82	118	7261	-12.62	-200.44	1.61
656	SLU 24	-83	84	7400	-9.18	-204.27	0.91
656	SLU 25	-84	105	7403	-10.92	-204.35	1.34
656	SLU 26	-83	118	7352	-12.23	-202.93	1.62
656	SLU 27	-84	85	7490	-8.79	-206.76	0.91
656	SLU 28	-84	105	7493	-10.53	-206.84	1.34
656	SLU 29	-84	84	7437	-8.93	-205.3	0.91
656	SLU 30	-84	105	7440	-10.67	-205.38	1.34
656	SLU 31	-84	128	8059	-13.83	-222.59	1.74
656	SLU 32	-85	95	8198	-10.39	-226.42	1.03
656	SLU 33	-85	115	8201	-12.13	-226.5	1.46
656	SLU 34	-85	129	8150	-13.44	-225.09	1.74
656	SLU 35	-86	95	8288	-10	-228.92	1.03
656	SLU 36	-86	116	8291	-11.74	-229	1.46
656	SLU 37	-85	95	8235	-10.14	-227.45	1.03
656	SLU 38	-85	116	8238	-11.88	-227.53	1.46
656	SLU 39	-84	98	8397	-11.45	-231.95	1.08
656	SLU 40	-84	119	8400	-13.19	-232.03	1.5
656	SLU 41	-85	99	8487	-11.05	-234.45	1.08
656	SLU 42	-85	120	8490	-12.79	-234.53	1.51
656	SLU 43	-97	96	7817	-13.58	-215.58	1.07
656	SLU 44	-98	130	7821	-16.48	-215.71	1.78
656	SLU 45	-99	96	7960	-13.04	-219.54	1.08
656	SLU 46	-99	117	7963	-14.78	-219.62	1.5
656	SLU 47	-99	131	7912	-16.08	-218.21	1.79
656	SLU 48	-100	97	8050	-12.64	-222.04	1.08
656	SLU 49	-100	118	8053	-14.38	-222.12	1.51
656	SLU 50	-99	97	7997	-12.79	-220.57	1.08
656	SLU 51	-99	117	8000	-14.53	-220.65	1.51
656	SLU 52	-99	141	8619	-17.69	-237.87	1.9
656	SLU 53	-100	107	8758	-14.25	-241.7	1.2
656	SLU 54	-101	128	8761	-15.99	-241.78	1.63
656	SLU 55	-100	141	8710	-17.29	-240.36	1.91
656	SLU 56	-101	108	8848	-13.85	-244.19	1.2
656	SLU 57	-102	128	8851	-15.59	-244.27	1.63
656	SLU 58	-101	107	8795	-13.99	-242.73	1.2
656	SLU 59	-101	128	8798	-15.73	-242.81	1.63
656	SLU 60	-100	111	8957	-15.3	-247.23	1.25
656	SLU 61	-100	132	8959	-17.04	-247.31	1.67
656	SLU 62	-101	111	9047	-14.91	-249.73	1.25
656	SLU 63	-101	132	9050	-16.65	-249.81	1.68
656	SLU 64	-103	103	8801	-13.01	-242.86	1.14
656	SLU 65	-103	138	8805	-15.91	-242.99	1.85
656	SLU 66	-104	104	8944	-12.47	-246.82	1.14
656	SLU 67	-105	125	8947	-14.21	-246.9	1.57
656	SLU 68	-104	138	8896	-15.51	-245.49	1.85
656	SLU 69	-105	105	9035	-12.07	-249.32	1.14
656	SLU 70	-105	125	9037	-13.81	-249.4	1.57
656	SLU 71	-105	104	8981	-12.21	-247.85	1.14
656	SLU 72	-105	125	8984	-13.95	-247.93	1.57
656	SLU 73	-105	148	9604	-17.12	-265.15	1.97
656	SLU 74	-106	115	9742	-13.68	-268.98	1.26
656	SLU 75	-106	135	9745	-15.42	-269.06	1.69
656	SLU 76	-106	149	9694	-16.72	-267.64	1.97
656	SLU 77	-107	115	9833	-13.28	-271.47	1.26
656	SLU 78	-107	136	9835	-15.02	-271.55	1.69
656	SLU 79	-106	115	9780	-13.42	-270.01	1.26
656	SLU 80	-107	136	9782	-15.16	-270.09	1.69
656	SLU 81	-105	118	9941	-14.73	-274.51	1.31
656	SLU 82	-105	139	9944	-16.47	-274.59	1.74
656	SLU 83	-106	119	10031	-14.34	-277	1.31
656	SLU 84	-106	140	10034	-16.08	-277.08	1.74
656	SLE RA 1	-78	78	6554	-10.13	-180.82	0.86
656	SLE RA 2	-78	101	6557	-12.06	-180.91	1.33
656	SLE RA 3	-79	78	6649	-9.77	-183.46	0.86
656	SLE RA 4	-79	92	6651	-10.93	-183.52	1.15
656	SLE RA 5	-79	101	6617	-11.8	-182.57	1.34
656	SLE RA 6	-80	79	6709	-9.51	-185.13	0.87
656	SLE RA 7	-80	92	6711	-10.67	-185.18	1.15
656	SLE RA 8	-79	78	6674	-9.6	-184.15	0.86
656	SLE RA 9	-79	92	6676	-10.76	-184.2	1.15
656	SLE RA 10	-79	108	7089	-12.87	-195.68	1.41
656	SLE RA 11	-80	85	7181	-10.58	-198.23	0.98
656	SLE RA 12	-80	99	7183	-11.74	-198.28	1.23
656	SLE RA 13	-80	108	7149	-12.61	-197.34	1.42
656	SLE RA 14	-81	86	7241	-10.31	-199.9	0.95
656	SLE RA 15	-81	100	7243	-11.47	-199.95	1.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
656	SLE RA 16	-80	86	7206	-10.41	-198.92	0.94
656	SLE RA 17	-80	99	7208	-11.57	-198.97	1.23
656	SLE RA 18	-80	88	7314	-11.28	-201.92	0.98
656	SLE RA 19	-80	102	7315	-12.44	-201.97	1.26
656	SLE RA 20	-80	88	7374	-11.02	-203.58	0.98
656	SLE RA 21	-80	102	7376	-12.18	-203.64	1.26
656	SLE FR 1	-78	78	6554	-10.13	-180.82	0.86
656	SLE FR 2	-78	82	6554	-10.52	-180.84	0.95
656	SLE FR 3	-78	78	6578	-10.02	-181.49	0.86
656	SLE FR 4	-79	85	6782	-10.86	-187.17	0.99
656	SLE FR 5	-79	81	6806	-10.37	-187.81	0.9
656	SLE FR 6	-79	83	6934	-10.71	-191.37	0.92
656	SLE QP 1	-78	78	6554	-10.13	-180.82	0.86
656	SLE QP 2	-78	81	6782	-10.48	-187.15	0.89
656	SLD 1	380	295	8630	-32	-235.98	5.19
656	SLD 2	382	126	8622	-29.28	-235.77	2.39
656	SLD 3	388	-99	8580	6.49	-234.62	-2.89
656	SLD 4	390	-268	8572	9.2	-234.41	-5.69
656	SLD 5	47	772	7413	-75.79	-203.9	14.94
656	SLD 6	48	661	7408	-74	-203.76	13.09
656	SLD 7	73	-540	7246	52.49	-199.36	-11.99
656	SLD 8	74	-651	7242	54.29	-199.23	-13.84
656	SLD 9	-231	813	6321	-75.24	-175.07	15.63
656	SLD 10	-230	701	6317	-73.45	-174.93	13.78
656	SLD 11	-205	-499	6155	53.05	-170.54	-11.3
656	SLD 12	-204	-611	6150	54.84	-170.4	-13.15
656	SLD 13	-547	429	4991	-30.15	-139.89	7.48
656	SLD 14	-545	260	4983	-27.44	-139.68	4.68
656	SLD 15	-539	36	4941	8.33	-138.53	-0.6
656	SLD 16	-537	-133	4934	11.05	-138.32	-3.4
656	SLV 1	640	426	9666	-45.16	-263.35	7.82
656	SLV 2	642	161	9654	-40.9	-263.02	3.44
656	SLV 3	653	-210	9585	17.04	-261.15	-5.23
656	SLV 4	655	-474	9573	21.3	-260.82	-9.61
656	SLV 5	117	1198	7771	-116.01	-213.41	23.58
656	SLV 6	119	1020	7764	-113.15	-213.19	20.63
656	SLV 7	160	-921	7502	91.33	-206.07	-19.91
656	SLV 8	161	-1099	7494	94.19	-205.86	-22.86
656	SLV 9	-318	1261	6069	-115.14	-168.44	24.65
656	SLV 10	-317	1083	6061	-112.28	-168.22	21.7
656	SLV 11	-276	-858	5799	92.2	-161.11	-18.84
656	SLV 12	-274	-1036	5792	95.06	-160.89	-21.79
656	SLV 13	-812	636	3990	-42.25	-113.47	11.4
656	SLV 14	-810	371	3978	-37.99	-113.15	7.02
656	SLV 15	-799	0	3909	19.95	-111.27	-1.65
656	SLV 16	-797	-264	3898	24.21	-110.95	-6.03
656	SLV FO 1	712	460	9954	-48.63	-270.97	8.51
656	SLV FO 2	714	169	9941	-43.95	-270.61	3.69
656	SLV FO 3	726	-239	9865	19.8	-268.55	-5.84
656	SLV FO 4	728	-530	9852	24.48	-268.19	-10.66
656	SLV FO 5	137	1309	7870	-126.57	-216.03	25.85
656	SLV FO 6	138	1114	7862	-123.42	-215.79	22.6
656	SLV FO 7	184	-1022	7574	101.51	-207.97	-21.99
656	SLV FO 8	185	-1217	7566	104.66	-207.73	-25.24
656	SLV FO 9	-342	1379	5997	-125.61	-166.57	27.03
656	SLV FO 10	-341	1183	5989	-122.46	-166.33	23.78
656	SLV FO 11	-295	-952	5701	102.47	-158.51	-20.81
656	SLV FO 12	-294	-1148	5693	105.62	-158.27	-24.06
656	SLV FO 13	-885	691	3711	-45.43	-106.11	12.45
656	SLV FO 14	-883	401	3698	-40.75	-105.75	7.63
656	SLV FO 15	-871	-8	3622	23	-103.69	-1.9
656	SLV FO 16	-869	-299	3609	27.68	-103.33	-6.72
656	CRTFP Ux+	0	0	0	0	0	0
656	CRTFP Ux-	0	0	0	0	0	0
656	CRTFP Uy+	0	0	0	0	0	0
656	CRTFP Uy-	0	0	0	0	0	0
657	SLU 1	-90	81	7278	-12.98	2.06	-1.73
657	SLU 2	-90	120	7284	-16.3	2.06	-2.06
657	SLU 3	-91	82	7445	-12.38	2.1	-1.75
657	SLU 4	-92	105	7448	-14.37	2.09	-1.95
657	SLU 5	-91	120	7389	-15.86	2.08	-2.07
657	SLU 6	-92	82	7550	-11.94	2.12	-1.77
657	SLU 7	-93	105	7553	-13.93	2.11	-1.97
657	SLU 8	-92	82	7488	-12.09	2.1	-1.76
657	SLU 9	-92	105	7491	-14.08	2.1	-1.96
657	SLU 10	-92	131	8216	-17.86	2.09	-2.3
657	SLU 11	-93	93	8377	-13.94	2.13	-2
657	SLU 12	-93	116	8381	-15.93	2.13	-2.2
657	SLU 13	-93	132	8321	-17.41	2.11	-2.32
657	SLU 14	-94	94	8483	-13.5	2.15	-2.02
657	SLU 15	-94	117	8486	-15.49	2.15	-2.21
657	SLU 16	-94	93	8421	-13.65	2.14	-2.01
657	SLU 17	-94	117	8424	-15.64	2.13	-2.21
657	SLU 18	-92	97	8610	-15.21	2.11	-2.08
657	SLU 19	-93	120	8614	-17.2	2.11	-2.27
657	SLU 20	-93	98	8716	-14.77	2.13	-2.09
657	SLU 21	-94	121	8719	-16.76	2.13	-2.29
657	SLU 22	-96	89	8426	-12.49	2.17	-1.93
657	SLU 23	-97	128	8432	-15.81	2.17	-2.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLU 24	-98	90	8593	-11.89	2.21	-1.96
657	SLU 25	-98	113	8596	-13.88	2.21	-2.16
657	SLU 26	-98	128	8537	-15.37	2.19	-2.28
657	SLU 27	-99	90	8698	-11.45	2.23	-1.98
657	SLU 28	-99	113	8701	-13.44	2.23	-2.18
657	SLU 29	-98	90	8636	-11.61	2.21	-1.97
657	SLU 30	-98	113	8640	-13.59	2.21	-2.17
657	SLU 31	-98	139	9365	-17.37	2.2	-2.51
657	SLU 32	-100	101	9526	-13.45	2.24	-2.21
657	SLU 33	-100	124	9529	-15.44	2.24	-2.4
657	SLU 34	-99	140	9470	-16.93	2.22	-2.53
657	SLU 35	-101	101	9631	-13.01	2.26	-2.22
657	SLU 36	-101	125	9634	-15	2.26	-2.42
657	SLU 37	-100	101	9569	-13.16	2.25	-2.22
657	SLU 38	-100	125	9572	-15.15	2.25	-2.41
657	SLU 39	-99	105	9759	-14.72	2.22	-2.28
657	SLU 40	-99	128	9762	-16.71	2.22	-2.48
657	SLU 41	-100	105	9864	-14.28	2.24	-2.3
657	SLU 42	-100	129	9867	-16.27	2.24	-2.5
657	SLU 43	-114	102	9068	-17.05	2.64	-2.17
657	SLU 44	-115	141	9073	-20.36	2.64	-2.5
657	SLU 45	-116	103	9234	-16.45	2.68	-2.2
657	SLU 46	-116	126	9238	-18.44	2.67	-2.4
657	SLU 47	-116	142	9178	-19.92	2.66	-2.52
657	SLU 48	-117	104	9339	-16	2.7	-2.22
657	SLU 49	-117	127	9343	-17.99	2.69	-2.42
657	SLU 50	-116	103	9278	-16.16	2.68	-2.21
657	SLU 51	-117	127	9281	-18.15	2.68	-2.41
657	SLU 52	-117	152	10006	-21.92	2.67	-2.75
657	SLU 53	-118	114	10167	-18.01	2.71	-2.45
657	SLU 54	-118	138	10171	-20	2.71	-2.64
657	SLU 55	-118	153	10111	-21.48	2.69	-2.77
657	SLU 56	-119	115	10272	-17.56	2.73	-2.46
657	SLU 57	-119	138	10276	-19.55	2.73	-2.66
657	SLU 58	-118	115	10210	-17.72	2.72	-2.46
657	SLU 59	-118	138	10214	-19.71	2.71	-2.65
657	SLU 60	-117	118	10400	-19.27	2.69	-2.52
657	SLU 61	-117	142	10403	-21.26	2.69	-2.72
657	SLU 62	-118	119	10505	-18.83	2.71	-2.54
657	SLU 63	-118	142	10509	-20.82	2.71	-2.74
657	SLU 64	-121	110	10216	-16.56	2.75	-2.38
657	SLU 65	-121	149	10221	-19.87	2.75	-2.71
657	SLU 66	-122	111	10383	-15.96	2.79	-2.41
657	SLU 67	-123	134	10386	-17.95	2.79	-2.61
657	SLU 68	-122	150	10327	-19.43	2.77	-2.73
657	SLU 69	-123	112	10488	-15.51	2.81	-2.43
657	SLU 70	-124	135	10491	-17.5	2.81	-2.62
657	SLU 71	-123	111	10426	-15.67	2.79	-2.42
657	SLU 72	-123	135	10429	-17.66	2.79	-2.62
657	SLU 73	-123	160	11154	-21.43	2.78	-2.95
657	SLU 74	-124	122	11315	-17.52	2.82	-2.65
657	SLU 75	-125	146	11319	-19.51	2.82	-2.85
657	SLU 76	-124	161	11259	-20.99	2.8	-2.97
657	SLU 77	-125	123	11421	-17.07	2.84	-2.67
657	SLU 78	-126	146	11424	-19.06	2.84	-2.87
657	SLU 79	-125	123	11359	-17.23	2.83	-2.66
657	SLU 80	-125	146	11362	-19.22	2.83	-2.86
657	SLU 81	-124	126	11548	-18.78	2.8	-2.73
657	SLU 82	-124	150	11552	-20.77	2.8	-2.93
657	SLU 83	-125	127	11653	-18.34	2.82	-2.75
657	SLU 84	-125	150	11657	-20.33	2.82	-2.95
657	SLE RA 1	-91	83	7606	-12.84	2.09	-1.79
657	SLE RA 2	-92	109	7610	-15.05	2.09	-2.01
657	SLE RA 3	-93	84	7717	-12.44	2.12	-1.8
657	SLE RA 4	-93	99	7719	-13.77	2.11	-1.94
657	SLE RA 5	-92	109	7680	-14.76	2.1	-2.02
657	SLE RA 6	-93	84	7787	-12.15	2.13	-1.82
657	SLE RA 7	-93	99	7789	-13.47	2.13	-1.95
657	SLE RA 8	-93	84	7746	-12.25	2.12	-1.81
657	SLE RA 9	-93	99	7748	-13.58	2.12	-1.94
657	SLE RA 10	-93	116	8232	-16.09	2.11	-2.17
657	SLE RA 11	-94	91	8339	-13.48	2.14	-1.97
657	SLE RA 12	-94	107	8341	-14.81	2.14	-2.1
657	SLE RA 13	-94	117	8302	-15.8	2.13	-2.18
657	SLE RA 14	-95	92	8409	-13.19	2.15	-1.98
657	SLE RA 15	-95	107	8411	-14.51	2.15	-2.11
657	SLE RA 16	-94	91	8368	-13.29	2.14	-1.97
657	SLE RA 17	-94	107	8370	-14.62	2.14	-2.11
657	SLE RA 18	-93	94	8494	-14.33	2.13	-2.02
657	SLE RA 19	-93	109	8497	-15.65	2.12	-2.15
657	SLE RA 20	-94	94	8564	-14.03	2.14	-2.03
657	SLE RA 21	-94	110	8567	-15.36	2.14	-2.16
657	SLE FR 1	-91	83	7606	-12.84	2.09	-1.79
657	SLE FR 2	-92	88	7607	-13.29	2.09	-1.83
657	SLE FR 3	-92	83	7634	-12.72	2.1	-1.79
657	SLE FR 4	-92	91	7873	-13.73	2.1	-1.9
657	SLE FR 5	-92	86	7901	-13.17	2.11	-1.86
657	SLE FR 6	-92	88	8050	-13.59	2.11	-1.9
657	SLE QP 1	-91	83	7606	-12.84	2.09	-1.79



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
657	SLE QP 2	-92	86	7872	-13.29	2.1	-1.86
657	SLD 1	447	327	9914	-37.88	6.12	-5.8
657	SLD 2	448	140	9906	-34.86	6.13	-3.41
657	SLD 3	456	-117	9857	6.15	6.07	-2.11
657	SLD 4	458	-304	9849	9.16	6.08	0.27
657	SLD 5	55	865	8573	-87.98	3.38	-9.06
657	SLD 6	56	742	8568	-85.99	3.39	-7.49
657	SLD 7	86	-614	8383	58.77	3.22	3.23
657	SLD 8	87	-738	8377	60.76	3.22	4.81
657	SLD 9	-271	910	7368	-87.34	0.98	-8.52
657	SLD 10	-270	787	7362	-85.35	0.99	-6.95
657	SLD 11	-240	-570	7177	59.41	0.82	3.78
657	SLD 12	-239	-693	7172	61.4	0.82	5.35
657	SLD 13	-642	476	5896	-35.74	-1.87	-3.99
657	SLD 14	-640	289	5888	-32.72	-1.87	-1.61
657	SLD 15	-633	32	5839	8.29	-1.92	-0.3
657	SLD 16	-631	-154	5831	11.3	-1.91	2.08
657	SLV 1	752	474	11059	-52.92	8.37	-8.12
657	SLV 2	754	182	11045	-48.2	8.39	-4.39
657	SLV 3	767	-243	10967	18.24	8.29	-2.15
657	SLV 4	770	-535	10953	22.96	8.31	1.58
657	SLV 5	138	1345	8971	-133.99	4.1	-13.47
657	SLV 6	140	1148	8962	-130.8	4.11	-10.96
657	SLV 7	188	-1045	8663	103.21	3.84	6.4
657	SLV 8	190	-1242	8654	106.39	3.85	8.91
657	SLV 9	-374	1414	7091	-132.97	0.36	-12.63
657	SLV 10	-372	1218	7082	-129.79	0.37	-10.11
657	SLV 11	-324	-975	6783	104.23	0.09	7.25
657	SLV 12	-322	-1172	6774	107.41	0.1	9.76
657	SLV 13	-954	707	4792	-49.54	-4.1	-5.29
657	SLV 14	-951	415	4778	-44.81	-4.09	-1.56
657	SLV 15	-939	-10	4700	21.62	-4.18	0.67
657	SLV 16	-936	-302	4686	26.35	-4.17	4.4
657	SLV FO 1	836	513	11378	-56.89	9	-8.74
657	SLV FO 2	839	192	11363	-51.69	9.01	-4.64
657	SLV FO 3	853	-276	11276	21.39	8.91	-2.18
657	SLV FO 4	856	-597	11261	26.59	8.93	1.92
657	SLV FO 5	161	1470	9081	-146.05	4.3	-14.64
657	SLV FO 6	163	1254	9071	-142.55	4.31	-11.87
657	SLV FO 7	216	-1158	8742	114.86	4.01	7.23
657	SLV FO 8	218	-1375	8732	118.36	4.02	9.99
657	SLV FO 9	-402	1547	7013	-144.94	0.19	-13.7
657	SLV FO 10	-400	1331	7003	-141.44	0.2	-10.94
657	SLV FO 11	-347	-1082	6674	115.98	-0.11	8.16
657	SLV FO 12	-345	-1298	6664	119.48	-0.1	10.92
657	SLV FO 13	-1040	769	4484	-53.16	-4.72	-5.63
657	SLV FO 14	-1037	448	4469	-47.97	-4.7	-1.53
657	SLV FO 15	-1023	-19	4382	25.11	-4.81	0.93
657	SLV FO 16	-1021	-341	4367	30.31	-4.79	5.03
657	CRTFP Ux+	0	0	0	0	0	0
657	CRTFP Ux-	0	0	0	0	0	0
657	CRTFP Uy+	0	0	0	0	0	0
657	CRTFP Uy-	0	0	0	0	0	0
658	SLU 1	-90	71	7222	-14.08	1.52	-1.87
658	SLU 2	-90	109	7227	-17.32	1.52	-2.19
658	SLU 3	-91	72	7388	-13.51	1.54	-1.9
658	SLU 4	-91	94	7391	-15.45	1.54	-2.09
658	SLU 5	-91	109	7332	-16.9	1.53	-2.21
658	SLU 6	-92	73	7492	-13.08	1.56	-1.92
658	SLU 7	-92	95	7496	-15.03	1.55	-2.11
658	SLU 8	-91	72	7431	-13.23	1.55	-1.91
658	SLU 9	-92	95	7434	-15.17	1.55	-2.1
658	SLU 10	-92	119	8160	-19.05	1.49	-2.46
658	SLU 11	-93	82	8320	-15.23	1.52	-2.16
658	SLU 12	-93	104	8324	-17.18	1.51	-2.36
658	SLU 13	-93	119	8265	-18.62	1.5	-2.48
658	SLU 14	-94	83	8425	-14.81	1.53	-2.18
658	SLU 15	-94	105	8428	-16.76	1.53	-2.38
658	SLU 16	-93	82	8364	-14.95	1.52	-2.17
658	SLU 17	-94	105	8367	-16.9	1.52	-2.37
658	SLU 18	-92	86	8554	-16.54	1.48	-2.25
658	SLU 19	-93	108	8558	-18.49	1.48	-2.44
658	SLU 20	-93	86	8659	-16.12	1.5	-2.27
658	SLU 21	-94	109	8662	-18.06	1.49	-2.46
658	SLU 22	-96	78	8368	-13.78	1.56	-2.09
658	SLU 23	-97	115	8374	-17.03	1.55	-2.42
658	SLU 24	-98	79	8534	-13.21	1.58	-2.12
658	SLU 25	-98	101	8537	-15.16	1.58	-2.32
658	SLU 26	-98	116	8478	-16.6	1.57	-2.44
658	SLU 27	-99	79	8638	-12.79	1.59	-2.14
658	SLU 28	-99	102	8642	-14.74	1.59	-2.34
658	SLU 29	-98	79	8577	-12.93	1.58	-2.13
658	SLU 30	-98	102	8580	-14.88	1.58	-2.33
658	SLU 31	-99	125	9306	-18.75	1.53	-2.69
658	SLU 32	-100	89	9467	-14.94	1.55	-2.39
658	SLU 33	-100	111	9470	-16.89	1.55	-2.59
658	SLU 34	-100	126	9411	-18.33	1.54	-2.71
658	SLU 35	-101	89	9571	-14.51	1.56	-2.41
658	SLU 36	-101	112	9575	-16.46	1.56	-2.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLU 37	-100	89	9510	-14.66	1.55	-2.4
658	SLU 38	-100	112	9513	-16.6	1.55	-2.6
658	SLU 39	-99	93	9700	-16.25	1.52	-2.47
658	SLU 40	-99	115	9704	-18.19	1.52	-2.67
658	SLU 41	-100	93	9805	-15.82	1.53	-2.49
658	SLU 42	-100	115	9808	-17.77	1.53	-2.69
658	SLU 43	-114	90	8995	-18.4	1.97	-2.35
658	SLU 44	-115	128	9001	-21.64	1.96	-2.68
658	SLU 45	-116	91	9161	-17.83	1.99	-2.38
658	SLU 46	-116	113	9165	-19.78	1.99	-2.57
658	SLU 47	-116	128	9105	-21.22	1.98	-2.7
658	SLU 48	-117	92	9266	-17.41	2	-2.4
658	SLU 49	-117	114	9269	-19.35	2	-2.6
658	SLU 50	-116	91	9204	-17.55	1.99	-2.39
658	SLU 51	-116	114	9208	-19.5	1.99	-2.59
658	SLU 52	-117	138	9934	-23.37	1.94	-2.94
658	SLU 53	-118	101	10094	-19.56	1.96	-2.64
658	SLU 54	-118	124	10097	-21.5	1.96	-2.84
658	SLU 55	-118	138	10038	-22.95	1.95	-2.96
658	SLU 56	-119	102	10198	-19.13	1.97	-2.66
658	SLU 57	-119	124	10202	-21.08	1.97	-2.86
658	SLU 58	-118	101	10137	-19.28	1.96	-2.66
658	SLU 59	-118	124	10141	-21.22	1.96	-2.85
658	SLU 60	-117	105	10328	-20.86	1.93	-2.73
658	SLU 61	-117	127	10331	-22.81	1.93	-2.93
658	SLU 62	-118	105	10432	-20.44	1.94	-2.75
658	SLU 63	-118	128	10436	-22.39	1.94	-2.95
658	SLU 64	-121	97	10141	-18.1	2	-2.58
658	SLU 65	-121	134	10147	-21.35	2	-2.9
658	SLU 66	-122	98	10307	-17.54	2.02	-2.6
658	SLU 67	-123	120	10311	-19.48	2.02	-2.8
658	SLU 68	-122	135	10252	-20.93	2.01	-2.92
658	SLU 69	-123	98	10412	-17.11	2.04	-2.63
658	SLU 70	-124	121	10415	-19.06	2.03	-2.82
658	SLU 71	-123	98	10350	-17.26	2.03	-2.62
658	SLU 72	-123	121	10354	-19.2	2.02	-2.81
658	SLU 73	-123	144	11080	-23.08	1.97	-3.17
658	SLU 74	-124	108	11240	-19.26	2	-2.87
658	SLU 75	-125	130	11244	-21.21	1.99	-3.07
658	SLU 76	-124	145	11184	-22.65	1.98	-3.19
658	SLU 77	-125	109	11345	-18.84	2.01	-2.89
658	SLU 78	-126	131	11348	-20.79	2.01	-3.09
658	SLU 79	-125	108	11283	-18.98	2	-2.88
658	SLU 80	-125	131	11287	-20.93	2	-3.08
658	SLU 81	-124	112	11474	-20.57	1.96	-2.96
658	SLU 82	-124	134	11477	-22.52	1.96	-3.15
658	SLU 83	-125	112	11579	-20.15	1.97	-2.98
658	SLU 84	-125	134	11582	-22.09	1.97	-3.17
658	SLE RA 1	-91	73	7549	-13.99	1.53	-1.93
658	SLE RA 2	-92	98	7553	-16.15	1.53	-2.15
658	SLE RA 3	-92	74	7660	-13.61	1.55	-1.95
658	SLE RA 4	-93	89	7662	-14.91	1.55	-2.08
658	SLE RA 5	-92	98	7623	-15.87	1.54	-2.16
658	SLE RA 6	-93	74	7729	-13.33	1.56	-1.96
658	SLE RA 7	-93	89	7732	-14.63	1.55	-2.1
658	SLE RA 8	-93	74	7689	-13.42	1.55	-1.96
658	SLE RA 9	-93	89	7691	-14.72	1.55	-2.09
658	SLE RA 10	-93	105	8175	-17.31	1.51	-2.33
658	SLE RA 11	-94	80	8282	-14.76	1.53	-2.13
658	SLE RA 12	-94	95	8284	-16.06	1.53	-2.26
658	SLE RA 13	-94	105	8245	-17.02	1.52	-2.34
658	SLE RA 14	-94	81	8351	-14.48	1.54	-2.14
658	SLE RA 15	-95	96	8354	-15.78	1.54	-2.27
658	SLE RA 16	-94	81	8310	-14.58	1.53	-2.14
658	SLE RA 17	-94	96	8313	-15.87	1.53	-2.27
658	SLE RA 18	-93	83	8438	-15.64	1.51	-2.18
658	SLE RA 19	-93	98	8440	-16.93	1.5	-2.32
658	SLE RA 20	-94	83	8507	-15.35	1.51	-2.2
658	SLE RA 21	-94	98	8510	-16.65	1.51	-2.33
658	SLE FR 1	-91	73	7549	-13.99	1.53	-1.93
658	SLE FR 2	-91	78	7550	-14.42	1.53	-1.97
658	SLE FR 3	-92	73	7577	-13.88	1.54	-1.94
658	SLE FR 4	-92	81	7816	-14.92	1.52	-2.05
658	SLE FR 5	-92	76	7844	-14.37	1.53	-2.01
658	SLE FR 6	-92	78	7993	-14.81	1.52	-2.06
658	SLE QP 1	-91	73	7549	-13.99	1.53	-1.93
658	SLE QP 2	-92	76	7816	-14.48	1.52	-2.01
658	SLD 1	448	306	9733	-36.39	5.3	-5.85
658	SLD 2	449	131	9724	-33.54	5.31	-5.51
658	SLD 3	457	-119	9677	6.72	5.25	-2.24
658	SLD 4	459	-293	9668	9.57	5.27	0.09
658	SLD 5	56	821	8477	-86.95	2.72	-9.04
658	SLD 6	57	706	8471	-85.07	2.73	-7.5
658	SLD 7	87	-595	8291	56.75	2.58	2.96
658	SLD 8	88	-710	8285	58.63	2.58	4.51
658	SLD 9	-272	863	7346	-87.6	0.46	-8.52
658	SLD 10	-271	748	7340	-85.72	0.47	-6.98
658	SLD 11	-240	-553	7160	56.1	0.32	3.49
658	SLD 12	-239	-668	7154	57.98	0.33	5.03



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
658	SLD 13	-643	446	5963	-38.54	-2.22	-4.11
658	SLD 14	-641	272	5954	-35.69	-2.21	-1.77
658	SLD 15	-633	21	5907	4.57	-2.26	-0.5
658	SLD 16	-632	-153	5898	7.42	-2.25	1.83
658	SLV 1	754	446	10808	-49.86	7.41	-8.11
658	SLV 2	756	173	10794	-45.39	7.43	-4.45
658	SLV 3	769	-240	10718	19.82	7.34	-2.29
658	SLV 4	771	-513	10704	24.29	7.36	1.37
658	SLV 5	138	1279	8853	-131.62	3.39	-13.36
658	SLV 6	140	1095	8844	-128.61	3.4	-10.89
658	SLV 7	189	-1008	8552	100.66	3.16	6.06
658	SLV 8	190	-1192	8542	103.67	3.18	8.52
658	SLV 9	-374	1344	7089	-132.64	-0.13	-12.54
658	SLV 10	-373	1161	7079	-129.63	-0.12	-10.08
658	SLV 11	-324	-943	6788	99.64	-0.35	6.88
658	SLV 12	-322	-1126	6778	102.65	-0.34	9.34
658	SLV 13	-955	665	4928	-53.26	-4.31	-5.39
658	SLV 14	-953	392	4913	-48.79	-4.29	-1.73
658	SLV 15	-940	-21	4837	16.42	-4.38	0.44
658	SLV 16	-937	-294	4823	20.89	-4.36	4.1
658	SLV FO 1	838	483	11108	-53.4	8	-8.72
658	SLV FO 2	841	183	11092	-48.48	8.02	-4.69
658	SLV FO 3	855	-272	11008	23.25	7.92	-2.31
658	SLV FO 4	857	-572	10992	28.17	7.94	1.71
658	SLV FO 5	161	1399	8957	-143.33	3.58	-14.49
658	SLV FO 6	163	1197	8946	-140.02	3.59	-11.78
658	SLV FO 7	217	-1117	8625	112.17	3.33	6.87
658	SLV FO 8	218	-1319	8615	115.48	3.34	9.58
658	SLV FO 9	-402	1471	7016	-144.45	-0.29	-13.59
658	SLV FO 10	-401	1269	7006	-141.14	-0.28	-10.88
658	SLV FO 11	-347	-1044	6685	111.05	-0.54	7.77
658	SLV FO 12	-345	-1247	6674	114.36	-0.53	10.48
658	SLV FO 13	-1041	724	4639	-57.14	-4.89	-5.73
658	SLV FO 14	-1039	424	4623	-52.22	-4.87	-1.7
658	SLV FO 15	-1025	-31	4539	19.51	-4.97	0.68
658	SLV FO 16	-1022	-331	4524	24.43	-4.95	4.71
658	CRTFP Ux+	0	0	0	0	0	0
658	CRTFP Ux-	0	0	0	0	0	0
658	CRTFP Uy+	0	0	0	0	0	0
658	CRTFP Uy-	0	0	0	0	0	0
659	SLU 1	-89	61	7174	-15.19	1.46	-1.96
659	SLU 2	-90	97	7180	-18.36	1.46	-2.27
659	SLU 3	-91	62	7340	-14.65	1.48	-1.99
659	SLU 4	-91	83	7343	-16.56	1.48	-2.18
659	SLU 5	-91	97	7284	-17.96	1.47	-2.29
659	SLU 6	-92	62	7444	-14.24	1.5	-2.02
659	SLU 7	-92	84	7447	-16.15	1.49	-2.2
659	SLU 8	-91	62	7383	-14.37	1.49	-2.01
659	SLU 9	-92	84	7386	-16.28	1.48	-2.19
659	SLU 10	-92	106	8114	-20.26	1.44	-2.55
659	SLU 11	-93	71	8273	-16.54	1.46	-2.28
659	SLU 12	-93	92	8277	-18.45	1.46	-2.46
659	SLU 13	-93	106	8218	-19.85	1.45	-2.57
659	SLU 14	-94	71	8378	-16.14	1.48	-2.3
659	SLU 15	-94	92	8381	-18.04	1.47	-2.48
659	SLU 16	-93	71	8316	-16.27	1.47	-2.29
659	SLU 17	-94	92	8320	-18.18	1.46	-2.47
659	SLU 18	-92	74	8508	-17.89	1.43	-2.36
659	SLU 19	-93	95	8512	-19.8	1.43	-2.55
659	SLU 20	-93	74	8612	-17.49	1.45	-2.39
659	SLU 21	-94	95	8616	-19.39	1.44	-2.57
659	SLU 22	-96	67	8319	-15.09	1.5	-2.2
659	SLU 23	-97	103	8325	-18.27	1.5	-2.51
659	SLU 24	-98	68	8485	-14.55	1.53	-2.24
659	SLU 25	-98	89	8488	-16.46	1.52	-2.42
659	SLU 26	-98	103	8429	-17.86	1.51	-2.53
659	SLU 27	-99	68	8589	-14.14	1.54	-2.26
659	SLU 28	-99	89	8592	-16.05	1.54	-2.44
659	SLU 29	-98	68	8528	-14.27	1.53	-2.25
659	SLU 30	-98	89	8531	-16.18	1.53	-2.43
659	SLU 31	-99	111	9259	-20.16	1.48	-2.79
659	SLU 32	-100	76	9418	-16.45	1.51	-2.52
659	SLU 33	-100	98	9422	-18.35	1.5	-2.7
659	SLU 34	-100	112	9363	-19.75	1.49	-2.81
659	SLU 35	-101	77	9523	-16.04	1.52	-2.54
659	SLU 36	-101	98	9526	-17.95	1.51	-2.72
659	SLU 37	-100	76	9462	-16.17	1.51	-2.53
659	SLU 38	-100	98	9465	-18.08	1.51	-2.71
659	SLU 39	-99	79	9653	-17.79	1.47	-2.6
659	SLU 40	-99	101	9657	-19.7	1.47	-2.79
659	SLU 41	-100	80	9758	-17.39	1.49	-2.63
659	SLU 42	-100	101	9761	-19.29	1.48	-2.81
659	SLU 43	-114	78	8934	-19.78	1.89	-2.47
659	SLU 44	-114	113	8940	-22.95	1.88	-2.78
659	SLU 45	-115	79	9099	-19.24	1.91	-2.5
659	SLU 46	-116	100	9103	-21.15	1.91	-2.69
659	SLU 47	-115	114	9044	-22.55	1.9	-2.8
659	SLU 48	-116	79	9203	-18.83	1.92	-2.52
659	SLU 49	-117	100	9207	-20.74	1.92	-2.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
659	SLU 50	-116	79	9142	-18.96	1.91	-2.51
659	SLU 51	-116	100	9146	-20.87	1.91	-2.7
659	SLU 52	-116	122	9874	-24.85	1.86	-3.06
659	SLU 53	-118	87	10033	-21.13	1.89	-2.78
659	SLU 54	-118	108	10037	-23.04	1.89	-2.97
659	SLU 55	-117	123	9978	-24.44	1.88	-3.08
659	SLU 56	-119	88	10137	-20.73	1.9	-2.8
659	SLU 57	-119	109	10141	-22.63	1.9	-2.99
659	SLU 58	-118	87	10076	-20.86	1.89	-2.79
659	SLU 59	-118	109	10080	-22.76	1.89	-2.98
659	SLU 60	-117	90	10268	-22.48	1.86	-2.87
659	SLU 61	-117	112	10272	-24.39	1.86	-3.06
659	SLU 62	-118	91	10372	-22.08	1.87	-2.89
659	SLU 63	-118	112	10376	-23.98	1.87	-3.08
659	SLU 64	-121	84	10079	-19.68	1.93	-2.71
659	SLU 65	-121	119	10085	-22.86	1.93	-3.02
659	SLU 66	-122	84	10244	-19.14	1.95	-2.74
659	SLU 67	-123	105	10248	-21.05	1.95	-2.93
659	SLU 68	-122	120	10189	-22.45	1.94	-3.04
659	SLU 69	-123	85	10349	-18.73	1.96	-2.76
659	SLU 70	-123	106	10352	-20.64	1.96	-2.95
659	SLU 71	-123	84	10288	-18.86	1.95	-2.75
659	SLU 72	-123	106	10291	-20.77	1.95	-2.94
659	SLU 73	-123	128	11019	-24.75	1.9	-3.3
659	SLU 74	-124	93	11178	-21.04	1.93	-3.02
659	SLU 75	-125	114	11182	-22.94	1.93	-3.21
659	SLU 76	-124	128	11123	-24.34	1.92	-3.32
659	SLU 77	-125	93	11282	-20.63	1.94	-3.04
659	SLU 78	-126	114	11286	-22.54	1.94	-3.23
659	SLU 79	-125	93	11221	-20.76	1.93	-3.03
659	SLU 80	-125	114	11225	-22.67	1.93	-3.22
659	SLU 81	-124	96	11413	-22.38	1.9	-3.11
659	SLU 82	-124	117	11417	-24.29	1.9	-3.3
659	SLU 83	-125	96	11517	-21.98	1.91	-3.13
659	SLU 84	-125	118	11521	-23.88	1.91	-3.32
659	SLE RA 1	-91	63	7502	-15.16	1.47	-2.03
659	SLE RA 2	-92	87	7505	-17.28	1.47	-2.24
659	SLE RA 3	-92	63	7612	-14.8	1.49	-2.05
659	SLE RA 4	-93	78	7614	-16.07	1.49	-2.18
659	SLE RA 5	-92	87	7575	-17.01	1.48	-2.25
659	SLE RA 6	-93	64	7681	-14.53	1.5	-2.07
659	SLE RA 7	-93	78	7683	-15.8	1.5	-2.19
659	SLE RA 8	-93	64	7640	-14.62	1.49	-2.06
659	SLE RA 9	-93	78	7643	-15.89	1.49	-2.18
659	SLE RA 10	-93	92	8128	-18.54	1.46	-2.42
659	SLE RA 11	-94	69	8234	-16.06	1.48	-2.24
659	SLE RA 12	-94	83	8237	-17.33	1.47	-2.36
659	SLE RA 13	-94	93	8197	-18.27	1.47	-2.44
659	SLE RA 14	-94	69	8304	-15.79	1.48	-2.25
659	SLE RA 15	-95	84	8306	-17.06	1.48	-2.38
659	SLE RA 16	-94	69	8263	-15.88	1.48	-2.25
659	SLE RA 17	-94	84	8265	-17.15	1.48	-2.37
659	SLE RA 18	-93	71	8391	-16.96	1.45	-2.3
659	SLE RA 19	-93	85	8393	-18.23	1.45	-2.42
659	SLE RA 20	-94	72	8460	-16.69	1.46	-2.31
659	SLE RA 21	-94	86	8463	-17.96	1.46	-2.44
659	SLE FR 1	-91	63	7502	-15.16	1.47	-2.03
659	SLE FR 2	-91	68	7502	-15.58	1.47	-2.07
659	SLE FR 3	-92	63	7529	-15.05	1.48	-2.04
659	SLE FR 4	-92	70	7769	-16.12	1.47	-2.15
659	SLE FR 5	-92	66	7796	-15.59	1.47	-2.12
659	SLE FR 6	-92	67	7946	-16.06	1.46	-2.17
659	SLE QP 1	-91	63	7502	-15.16	1.47	-2.03
659	SLE QP 2	-92	66	7768	-15.7	1.47	-2.11
659	SLD 1	449	284	9567	-37.08	5.13	-5.72
659	SLD 2	450	122	9557	-34.39	5.14	-3.49
659	SLD 3	458	-123	9512	5.16	5.09	-2.38
659	SLD 4	460	-285	9502	7.85	5.11	-0.15
659	SLD 5	56	777	8393	-86.67	2.62	-8.66
659	SLD 6	57	670	8387	-84.9	2.63	-7.19
659	SLD 7	87	-579	8210	54.15	2.5	2.47
659	SLD 8	88	-686	8203	55.93	2.51	3.94
659	SLD 9	-272	817	7333	-87.32	0.43	-8.17
659	SLD 10	-271	710	7327	-85.55	0.44	-6.7
659	SLD 11	-241	-539	7150	53.5	0.31	2.97
659	SLD 12	-240	-646	7144	55.27	0.32	4.44
659	SLD 13	-643	416	6034	-39.25	-2.17	-4.07
659	SLD 14	-642	254	6025	-36.56	-2.16	-1.85
659	SLD 15	-634	9	5979	2.99	-2.21	-0.73
659	SLD 16	-633	-153	5970	5.68	-2.19	1.49
659	SLV 1	755	418	10576	-50.23	7.18	-7.84
659	SLV 2	757	163	10561	-46.01	7.2	-4.35
659	SLV 3	770	-239	10487	18.06	7.12	-2.44
659	SLV 4	772	-493	10472	22.28	7.14	1.05
659	SLV 5	139	1215	8748	-130.42	3.27	-12.67
659	SLV 6	140	1044	8738	-127.58	3.28	-10.32
659	SLV 7	189	-975	8452	97.22	3.07	5.33
659	SLV 8	191	-1146	8442	100.06	3.09	7.68
659	SLV 9	-374	1277	7095	-131.46	-0.15	-11.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
659	SLV 10	-373	1106	7085	-128.62	-0.13	-9.55
659	SLV 11	-324	-913	6799	96.18	-0.34	6.1
659	SLV 12	-323	-1084	6789	99.02	-0.33	8.45
659	SLV 13	-956	624	5065	-53.68	-4.21	-5.27
659	SLV 14	-954	370	5050	-49.46	-4.19	-1.78
659	SLV 15	-941	-32	4976	14.61	-4.26	0.13
659	SLV 16	-939	-287	4961	18.83	-4.24	3.62
659	SLV FO 1	840	453	10856	-53.68	7.75	-8.41
659	SLV FO 2	842	173	10840	-49.04	7.78	-4.58
659	SLV FO 3	856	-269	10758	21.44	7.69	-2.47
659	SLV FO 4	859	-549	10742	26.08	7.71	1.36
659	SLV FO 5	162	1330	8846	-141.89	3.45	-13.73
659	SLV FO 6	164	1142	8835	-138.77	3.46	-11.15
659	SLV FO 7	217	-1079	8520	108.51	3.23	6.07
659	SLV FO 8	219	-1267	8509	111.63	3.25	8.66
659	SLV FO 9	-403	1398	7028	-143.03	-0.31	-12.88
659	SLV FO 10	-401	1210	7017	-139.91	-0.3	-10.3
659	SLV FO 11	-347	-1010	6702	107.37	-0.53	6.92
659	SLV FO 12	-346	-1199	6691	110.49	-0.51	9.51
659	SLV FO 13	-1043	680	4795	-57.48	-4.77	-5.59
659	SLV FO 14	-1040	400	4778	-52.84	-4.75	-1.75
659	SLV FO 15	-1026	-42	4697	17.65	-4.84	0.35
659	SLV FO 16	-1023	-322	4680	22.28	-4.82	4.19
659	CRTFP Ux+	0	0	0	0	0	0
659	CRTFP Ux-	0	0	0	0	0	0
659	CRTFP Uy+	0	0	0	0	0	0
659	CRTFP Uy-	0	0	0	0	0	0
660	SLU 1	-89	51	7125	-16.32	1.66	-2.02
660	SLU 2	-90	85	7131	-19.43	1.65	-2.3
660	SLU 3	-91	52	7289	-15.81	1.68	-2.06
660	SLU 4	-91	72	7293	-17.68	1.68	-2.22
660	SLU 5	-91	85	7234	-19.04	1.67	-2.32
660	SLU 6	-92	52	7393	-15.42	1.7	-2.08
660	SLU 7	-92	72	7396	-17.29	1.7	-2.25
660	SLU 8	-91	52	7332	-15.54	1.69	-2.07
660	SLU 9	-91	72	7336	-17.41	1.69	-2.24
660	SLU 10	-92	92	8064	-21.5	1.68	-2.59
660	SLU 11	-93	59	8223	-17.88	1.71	-2.35
660	SLU 12	-93	79	8226	-19.74	1.71	-2.51
660	SLU 13	-93	93	8168	-21.11	1.69	-2.61
660	SLU 14	-94	59	8327	-17.49	1.72	-2.37
660	SLU 15	-94	79	8330	-19.36	1.72	-2.54
660	SLU 16	-93	59	8266	-17.61	1.71	-2.36
660	SLU 17	-94	79	8269	-19.47	1.71	-2.52
660	SLU 18	-92	61	8459	-19.27	1.69	-2.43
660	SLU 19	-93	82	8462	-21.14	1.69	-2.6
660	SLU 20	-93	62	8562	-18.88	1.71	-2.46
660	SLU 21	-94	82	8566	-20.75	1.71	-2.62
660	SLU 22	-96	56	8268	-16.41	1.75	-2.27
660	SLU 23	-96	90	8274	-19.53	1.75	-2.55
660	SLU 24	-98	56	8432	-15.91	1.78	-2.31
660	SLU 25	-98	76	8436	-17.77	1.78	-2.47
660	SLU 26	-97	90	8377	-19.14	1.76	-2.57
660	SLU 27	-99	56	8536	-15.52	1.79	-2.33
660	SLU 28	-99	77	8539	-17.39	1.79	-2.5
660	SLU 29	-98	56	8475	-15.64	1.78	-2.32
660	SLU 30	-98	76	8479	-17.5	1.78	-2.49
660	SLU 31	-99	97	9207	-21.59	1.77	-2.84
660	SLU 32	-100	63	9366	-17.97	1.8	-2.59
660	SLU 33	-100	83	9369	-19.84	1.8	-2.76
660	SLU 34	-100	97	9311	-21.2	1.79	-2.86
660	SLU 35	-101	63	9470	-17.58	1.82	-2.62
660	SLU 36	-101	84	9473	-19.45	1.82	-2.78
660	SLU 37	-100	63	9409	-17.7	1.81	-2.61
660	SLU 38	-101	84	9412	-19.57	1.8	-2.77
660	SLU 39	-99	66	9602	-19.36	1.79	-2.68
660	SLU 40	-100	86	9605	-21.23	1.78	-2.85
660	SLU 41	-100	66	9705	-18.98	1.8	-2.71
660	SLU 42	-101	86	9709	-20.84	1.8	-2.87
660	SLU 43	-113	65	8870	-21.18	2.12	-2.55
660	SLU 44	-114	99	8876	-24.29	2.12	-2.82
660	SLU 45	-115	65	9035	-20.67	2.15	-2.58
660	SLU 46	-115	86	9038	-22.54	2.15	-2.75
660	SLU 47	-115	99	8980	-23.9	2.14	-2.85
660	SLU 48	-116	66	9138	-20.28	2.17	-2.6
660	SLU 49	-116	86	9142	-22.15	2.16	-2.77
660	SLU 50	-115	66	9078	-20.4	2.15	-2.59
660	SLU 51	-116	86	9081	-22.27	2.15	-2.76
660	SLU 52	-116	106	9810	-26.36	2.14	-3.11
660	SLU 53	-117	73	9968	-22.74	2.17	-2.87
660	SLU 54	-118	93	9972	-24.61	2.17	-3.03
660	SLU 55	-117	106	9914	-25.97	2.16	-3.13
660	SLU 56	-118	73	10072	-22.35	2.19	-2.89
660	SLU 57	-119	93	10076	-24.22	2.19	-3.06
660	SLU 58	-118	73	10011	-22.47	2.18	-2.88
660	SLU 59	-118	93	10015	-24.34	2.18	-3.05
660	SLU 60	-117	75	10204	-24.13	2.16	-2.96
660	SLU 61	-117	96	10208	-26	2.16	-3.12
660	SLU 62	-118	75	10308	-23.74	2.17	-2.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLU 63	-118	96	10311	-25.61	2.17	-3.15
660	SLU 64	-120	69	10013	-21.28	2.22	-2.8
660	SLU 65	-121	103	10019	-24.39	2.21	-3.07
660	SLU 66	-122	70	10178	-20.77	2.24	-2.83
660	SLU 67	-122	90	10181	-22.64	2.24	-3
660	SLU 68	-122	104	10123	-24	2.23	-3.1
660	SLU 69	-123	70	10281	-20.38	2.26	-2.85
660	SLU 70	-123	90	10285	-22.25	2.26	-3.02
660	SLU 71	-122	70	10221	-20.5	2.25	-2.84
660	SLU 72	-123	90	10224	-22.37	2.25	-3.01
660	SLU 73	-123	111	10953	-26.45	2.24	-3.36
660	SLU 74	-124	77	11111	-22.83	2.27	-3.12
660	SLU 75	-125	97	11115	-24.7	2.27	-3.28
660	SLU 76	-124	111	11057	-26.07	2.25	-3.38
660	SLU 77	-125	77	11215	-22.45	2.28	-3.14
660	SLU 78	-126	98	11219	-24.31	2.28	-3.31
660	SLU 79	-125	77	11154	-22.56	2.27	-3.13
660	SLU 80	-125	97	11158	-24.43	2.27	-3.3
660	SLU 81	-124	80	11347	-24.23	2.25	-3.21
660	SLU 82	-124	100	11351	-26.09	2.25	-3.37
660	SLU 83	-125	80	11451	-23.84	2.27	-3.23
660	SLU 84	-125	100	11454	-25.71	2.26	-3.4
660	SLE RA 1	-91	52	7451	-16.34	1.68	-2.1
660	SLE RA 2	-91	75	7455	-18.42	1.68	-2.28
660	SLE RA 3	-92	53	7561	-16.01	1.7	-2.12
660	SLE RA 4	-92	66	7563	-17.25	1.7	-2.23
660	SLE RA 5	-92	75	7524	-18.16	1.69	-2.3
660	SLE RA 6	-93	53	7630	-15.75	1.71	-2.13
660	SLE RA 7	-93	66	7632	-16.99	1.71	-2.24
660	SLE RA 8	-92	53	7589	-15.83	1.7	-2.13
660	SLE RA 9	-93	66	7592	-17.07	1.7	-2.24
660	SLE RA 10	-93	80	8078	-19.8	1.7	-2.47
660	SLE RA 11	-94	57	8183	-17.38	1.72	-2.31
660	SLE RA 12	-94	71	8186	-18.63	1.72	-2.42
660	SLE RA 13	-94	80	8147	-19.54	1.71	-2.49
660	SLE RA 14	-94	58	8252	-17.12	1.73	-2.32
660	SLE RA 15	-95	71	8255	-18.37	1.73	-2.44
660	SLE RA 16	-94	58	8212	-17.2	1.72	-2.32
660	SLE RA 17	-94	71	8214	-18.45	1.72	-2.43
660	SLE RA 18	-93	59	8340	-18.31	1.71	-2.37
660	SLE RA 19	-93	73	8343	-19.56	1.71	-2.48
660	SLE RA 20	-94	59	8410	-18.05	1.72	-2.38
660	SLE RA 21	-94	73	8412	-19.3	1.72	-2.5
660	SLE FR 1	-91	52	7451	-16.34	1.68	-2.1
660	SLE FR 2	-91	57	7452	-16.76	1.68	-2.13
660	SLE FR 3	-91	52	7479	-16.24	1.69	-2.1
660	SLE FR 4	-92	59	7719	-17.35	1.69	-2.21
660	SLE FR 5	-92	55	7746	-16.83	1.7	-2.18
660	SLE FR 6	-92	56	7896	-17.33	1.7	-2.23
660	SLE QP 1	-91	52	7451	-16.34	1.68	-2.1
660	SLE QP 2	-92	54	7718	-16.93	1.69	-2.18
660	SLD 1	450	263	9400	-37.81	5.32	-5.45
660	SLD 2	451	112	9390	-35.28	5.33	-3.38
660	SLD 3	459	-128	9346	3.62	5.28	-2.5
660	SLD 4	461	-279	9336	6.16	5.3	-0.43
660	SLD 5	56	736	8307	-86.5	2.83	-8
660	SLD 6	57	636	8300	-84.83	2.84	-6.64
660	SLD 7	87	-565	8126	51.62	2.71	1.82
660	SLD 8	88	-665	8119	53.29	2.72	3.19
660	SLD 9	-272	774	7317	-87.16	0.66	-7.55
660	SLD 10	-271	674	7310	-85.49	0.67	-6.18
660	SLD 11	-241	-528	7136	50.96	0.55	2.28
660	SLD 12	-240	-627	7129	52.63	0.56	3.65
660	SLD 13	-644	388	6100	-40.02	-1.91	-3.92
660	SLD 14	-643	236	6090	-37.49	-1.9	-1.85
660	SLD 15	-635	-3	6046	1.41	-1.95	-0.98
660	SLD 16	-633	-154	6036	3.94	-1.93	1.1
660	SLV 1	756	391	10343	-50.65	7.34	-7.38
660	SLV 2	759	154	10328	-46.68	7.37	-4.13
660	SLV 3	771	-240	10255	16.34	7.29	-2.61
660	SLV 4	774	-477	10240	20.3	7.32	0.64
660	SLV 5	139	1156	8642	-129.38	3.46	-11.58
660	SLV 6	141	996	8631	-126.71	3.48	-9.39
660	SLV 7	190	-946	8349	93.9	3.29	4.32
660	SLV 8	191	-1105	8338	96.57	3.3	6.51
660	SLV 9	-375	1214	7098	-130.44	0.08	-10.86
660	SLV 10	-373	1055	7087	-127.77	0.1	-8.67
660	SLV 11	-324	-887	6805	92.84	-0.1	5.03
660	SLV 12	-323	-1047	6794	95.51	-0.08	7.22
660	SLV 13	-957	586	5196	-54.17	-3.93	-4.99
660	SLV 14	-955	349	5180	-50.21	-3.91	-1.74
660	SLV 15	-942	-45	5108	12.81	-3.99	-0.22
660	SLV 16	-940	-282	5093	16.78	-3.96	3.03
660	SLV FO 1	841	424	10606	-54.02	7.91	-7.9
660	SLV FO 2	844	164	10589	-49.66	7.94	-4.33
660	SLV FO 3	858	-269	10509	19.66	7.85	-2.65
660	SLV FO 4	860	-530	10492	24.03	7.88	0.92
660	SLV FO 5	162	1266	8734	-140.63	3.64	-12.52
660	SLV FO 6	164	1090	8723	-137.69	3.66	-10.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
660	SLV FO 7	218	-1046	8412	104.98	3.45	4.97
660	SLV FO 8	220	-1221	8400	107.92	3.46	7.38
660	SLV FO 9	-403	1330	7036	-141.79	-0.08	-11.73
660	SLV FO 10	-401	1155	7024	-138.85	-0.06	-9.32
660	SLV FO 11	-348	-982	6713	103.82	-0.28	5.76
660	SLV FO 12	-346	-1157	6702	106.76	-0.26	8.16
660	SLV FO 13	-1044	639	4944	-57.9	-4.49	-5.27
660	SLV FO 14	-1041	378	4927	-53.53	-4.47	-1.7
660	SLV FO 15	-1027	-55	4847	15.79	-4.55	-0.03
660	SLV FO 16	-1024	-315	4830	20.15	-4.53	3.55
660	CRTFP Ux+	0	0	0	0	0	0
660	CRTFP Ux-	0	0	0	0	0	0
660	CRTFP Uy+	0	0	0	0	0	0
660	CRTFP Uy-	0	0	0	0	0	0
661	SLU 1	-89	41	7066	-17.47	1.98	-2.06
661	SLU 2	-89	73	7072	-20.52	1.98	-2.29
661	SLU 3	-90	41	7230	-16.99	2.02	-2.09
661	SLU 4	-91	60	7233	-18.82	2.02	-2.23
661	SLU 5	-90	73	7175	-20.15	2	-2.32
661	SLU 6	-91	41	7333	-16.62	2.04	-2.12
661	SLU 7	-92	61	7337	-18.45	2.04	-2.26
661	SLU 8	-91	41	7273	-16.73	2.02	-2.1
661	SLU 9	-91	61	7276	-18.56	2.02	-2.25
661	SLU 10	-92	79	8004	-22.76	2.07	-2.58
661	SLU 11	-93	47	8162	-19.23	2.11	-2.38
661	SLU 12	-93	66	8165	-21.06	2.11	-2.52
661	SLU 13	-93	79	8107	-22.39	2.09	-2.61
661	SLU 14	-94	47	8265	-18.86	2.13	-2.4
661	SLU 15	-94	66	8269	-20.69	2.13	-2.55
661	SLU 16	-93	47	8205	-18.97	2.11	-2.39
661	SLU 17	-93	66	8208	-20.8	2.11	-2.54
661	SLU 18	-92	49	8398	-20.67	2.11	-2.47
661	SLU 19	-93	68	8401	-22.5	2.11	-2.61
661	SLU 20	-93	49	8501	-20.3	2.13	-2.49
661	SLU 21	-94	68	8504	-22.13	2.13	-2.64
661	SLU 22	-96	44	8205	-17.76	2.15	-2.31
661	SLU 23	-96	76	8211	-20.81	2.15	-2.55
661	SLU 24	-97	44	8368	-17.28	2.19	-2.35
661	SLU 25	-98	64	8372	-19.11	2.19	-2.49
661	SLU 26	-97	77	8314	-20.44	2.17	-2.57
661	SLU 27	-98	44	8472	-16.91	2.21	-2.37
661	SLU 28	-99	64	8475	-18.74	2.21	-2.51
661	SLU 29	-98	44	8411	-17.02	2.19	-2.36
661	SLU 30	-98	64	8415	-18.85	2.19	-2.5
661	SLU 31	-99	82	9143	-23.05	2.24	-2.84
661	SLU 32	-100	50	9300	-19.52	2.28	-2.63
661	SLU 33	-100	69	9304	-21.35	2.28	-2.78
661	SLU 34	-100	82	9246	-22.68	2.26	-2.86
661	SLU 35	-101	50	9404	-19.15	2.3	-2.66
661	SLU 36	-101	69	9407	-20.98	2.3	-2.8
661	SLU 37	-100	50	9343	-19.26	2.28	-2.65
661	SLU 38	-101	69	9347	-21.09	2.28	-2.79
661	SLU 39	-99	52	9536	-20.96	2.28	-2.72
661	SLU 40	-100	71	9540	-22.79	2.28	-2.87
661	SLU 41	-100	52	9640	-20.59	2.3	-2.75
661	SLU 42	-101	72	9643	-22.42	2.3	-2.89
661	SLU 43	-113	52	8796	-22.61	2.52	-2.59
661	SLU 44	-113	84	8802	-25.66	2.52	-2.82
661	SLU 45	-115	52	8959	-22.13	2.56	-2.62
661	SLU 46	-115	72	8963	-23.96	2.55	-2.76
661	SLU 47	-114	85	8905	-25.29	2.54	-2.85
661	SLU 48	-116	52	9062	-21.76	2.58	-2.65
661	SLU 49	-116	72	9066	-23.59	2.57	-2.79
661	SLU 50	-115	52	9002	-21.87	2.56	-2.63
661	SLU 51	-115	72	9006	-23.7	2.56	-2.78
661	SLU 52	-116	90	9734	-27.9	2.61	-3.11
661	SLU 53	-117	58	9891	-24.37	2.64	-2.91
661	SLU 54	-117	77	9895	-26.2	2.64	-3.05
661	SLU 55	-117	90	9837	-27.53	2.63	-3.14
661	SLU 56	-118	58	9994	-24	2.66	-2.93
661	SLU 57	-118	77	9998	-25.83	2.66	-3.08
661	SLU 58	-117	58	9934	-24.11	2.65	-2.92
661	SLU 59	-118	77	9938	-25.94	2.65	-3.07
661	SLU 60	-116	60	10127	-25.81	2.65	-3
661	SLU 61	-117	79	10131	-27.64	2.65	-3.14
661	SLU 62	-117	60	10230	-25.44	2.67	-3.02
661	SLU 63	-118	80	10234	-27.27	2.67	-3.17
661	SLU 64	-120	55	9934	-22.9	2.69	-2.84
661	SLU 65	-121	88	9941	-25.95	2.69	-3.08
661	SLU 66	-122	55	10098	-22.42	2.73	-2.88
661	SLU 67	-122	75	10102	-24.25	2.72	-3.02
661	SLU 68	-121	88	10044	-25.58	2.71	-3.1
661	SLU 69	-123	55	10201	-22.05	2.75	-2.9
661	SLU 70	-123	75	10205	-23.88	2.74	-3.04
661	SLU 71	-122	55	10141	-22.16	2.73	-2.89
661	SLU 72	-122	75	10144	-23.99	2.73	-3.03
661	SLU 73	-123	93	10873	-28.19	2.78	-3.37
661	SLU 74	-124	61	11030	-24.66	2.81	-3.16
661	SLU 75	-124	80	11034	-26.49	2.81	-3.31



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	SLU 76	-124	93	10976	-27.82	2.8	-3.39
661	SLU 77	-125	61	11133	-24.29	2.83	-3.19
661	SLU 78	-125	80	11137	-26.12	2.83	-3.33
661	SLU 79	-124	61	11073	-24.4	2.82	-3.18
661	SLU 80	-125	80	11076	-26.23	2.82	-3.32
661	SLU 81	-123	63	11266	-26.1	2.82	-3.25
661	SLU 82	-124	83	11270	-27.93	2.81	-3.4
661	SLU 83	-124	63	11369	-25.73	2.84	-3.28
661	SLU 84	-125	83	11373	-27.56	2.83	-3.42
661	SLE RA 1	-91	42	7392	-17.55	2.03	-2.13
661	SLE RA 2	-91	63	7396	-19.59	2.03	-2.29
661	SLE RA 3	-92	42	7501	-17.23	2.06	-2.15
661	SLE RA 4	-92	55	7503	-18.45	2.05	-2.25
661	SLE RA 5	-92	63	7464	-19.34	2.04	-2.3
661	SLE RA 6	-93	42	7569	-16.99	2.07	-2.17
661	SLE RA 7	-93	55	7572	-18.21	2.07	-2.26
661	SLE RA 8	-92	42	7529	-17.06	2.06	-2.16
661	SLE RA 9	-92	55	7532	-18.28	2.06	-2.26
661	SLE RA 10	-93	67	8017	-21.08	2.09	-2.48
661	SLE RA 11	-94	45	8122	-18.73	2.11	-2.34
661	SLE RA 12	-94	58	8124	-19.95	2.11	-2.44
661	SLE RA 13	-93	67	8086	-20.83	2.1	-2.5
661	SLE RA 14	-94	46	8191	-18.48	2.13	-2.36
661	SLE RA 15	-94	59	8193	-19.7	2.13	-2.46
661	SLE RA 16	-94	45	8151	-18.55	2.12	-2.35
661	SLE RA 17	-94	59	8153	-19.77	2.12	-2.45
661	SLE RA 18	-93	47	8279	-19.68	2.12	-2.4
661	SLE RA 19	-93	60	8282	-20.91	2.12	-2.5
661	SLE RA 20	-94	47	8348	-19.44	2.13	-2.42
661	SLE RA 21	-94	60	8350	-20.66	2.13	-2.52
661	SLE FR 1	-91	42	7392	-17.55	2.03	-2.13
661	SLE FR 2	-91	46	7392	-17.96	2.03	-2.16
661	SLE FR 3	-91	42	7419	-17.45	2.04	-2.14
661	SLE FR 4	-92	47	7659	-18.6	2.06	-2.24
661	SLE FR 5	-92	43	7685	-18.09	2.06	-2.22
661	SLE FR 6	-92	44	7835	-18.62	2.07	-2.27
661	SLE QP 1	-91	42	7392	-17.55	2.03	-2.13
661	SLE QP 2	-91	43	7658	-18.19	2.06	-2.21
661	SLD 1	451	243	9224	-38.58	5.68	-5.1
661	SLD 2	452	101	9214	-36.21	5.69	-3.2
661	SLD 3	460	-134	9170	2.09	5.64	-2.62
661	SLD 4	461	-275	9160	4.47	5.66	-0.73
661	SLD 5	57	699	8212	-86.43	3.19	-7.17
661	SLD 6	58	606	8205	-84.86	3.2	-5.92
661	SLD 7	88	-555	8032	49.16	3.08	1.08
661	SLD 8	89	-649	8025	50.73	3.09	2.33
661	SLD 9	-272	735	7291	-87.11	1.02	-6.75
661	SLD 10	-271	642	7284	-85.54	1.04	-5.5
661	SLD 11	-241	-520	7111	48.48	0.91	1.5
661	SLD 12	-240	-613	7104	50.05	0.92	2.75
661	SLD 13	-644	361	6156	-40.85	-1.54	-3.7
661	SLD 14	-643	220	6146	-38.48	-1.53	-1.8
661	SLD 15	-635	-15	6102	-0.18	-1.58	-1.22
661	SLD 16	-634	-156	6092	2.2	-1.56	0.67
661	SLV 1	757	365	10103	-51.12	7.7	-6.79
661	SLV 2	760	144	10086	-47.4	7.73	-3.82
661	SLV 3	772	-243	10015	14.64	7.65	-2.79
661	SLV 4	775	-464	9999	18.36	7.67	0.18
661	SLV 5	140	1103	8527	-128.5	3.82	-10.21
661	SLV 6	142	954	8516	-126	3.84	-8.21
661	SLV 7	190	-923	8236	90.7	3.65	3.13
661	SLV 8	192	-1072	8225	93.21	3.67	5.13
661	SLV 9	-375	1158	7091	-129.59	0.45	-9.56
661	SLV 10	-373	1010	7080	-127.08	0.46	-7.56
661	SLV 11	-325	-868	6800	89.61	0.27	3.79
661	SLV 12	-323	-1017	6789	92.12	0.29	5.79
661	SLV 13	-958	550	5317	-54.75	-3.56	-4.6
661	SLV 14	-955	329	5300	-51.02	-3.53	-1.63
661	SLV 15	-943	-58	5230	11.02	-3.61	-0.6
661	SLV 16	-940	-279	5213	14.74	-3.59	2.37
661	SLV FO 1	842	397	10347	-54.41	8.26	-7.25
661	SLV FO 2	845	154	10329	-50.32	8.29	-3.98
661	SLV FO 3	859	-272	10251	17.93	8.21	-2.85
661	SLV FO 4	862	-515	10233	22.02	8.24	0.42
661	SLV FO 5	163	1209	8614	-139.53	4	-11.01
661	SLV FO 6	165	1045	8602	-136.78	4.02	-8.81
661	SLV FO 7	218	-1020	8294	101.59	3.81	3.67
661	SLV FO 8	220	-1184	8281	104.35	3.83	5.87
661	SLV FO 9	-403	1270	7034	-140.73	0.28	-10.29
661	SLV FO 10	-401	1106	7022	-137.97	0.3	-8.09
661	SLV FO 11	-348	-959	6714	100.39	0.09	4.39
661	SLV FO 12	-346	-1123	6702	103.15	0.11	6.59
661	SLV FO 13	-1045	601	5083	-58.4	-4.12	-4.84
661	SLV FO 14	-1042	358	5065	-54.31	-4.09	-1.58
661	SLV FO 15	-1028	-68	4987	13.94	-4.18	-0.44
661	SLV FO 16	-1025	-311	4969	18.03	-4.15	2.83
661	CRTFP Ux+	0	0	0	0	0	0
661	CRTFP Ux-	0	0	0	0	0	0
661	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
661	CRTFP Uy-	0	0	0	0	0	0
662	SLU 1	-88	30	6996	-18.64	2.38	-2.07
662	SLU 2	-89	62	7002	-21.64	2.38	-2.26
662	SLU 3	-90	30	7158	-18.19	2.43	-2.1
662	SLU 4	-90	49	7162	-19.99	2.42	-2.22
662	SLU 5	-90	62	7105	-21.29	2.4	-2.28
662	SLU 6	-91	30	7261	-17.84	2.45	-2.13
662	SLU 7	-91	49	7264	-19.64	2.45	-2.24
662	SLU 8	-90	30	7201	-17.93	2.43	-2.11
662	SLU 9	-91	49	7205	-19.73	2.43	-2.23
662	SLU 10	-91	66	7930	-24.05	2.54	-2.54
662	SLU 11	-92	34	8086	-20.61	2.59	-2.39
662	SLU 12	-93	53	8090	-22.41	2.59	-2.5
662	SLU 13	-92	66	8033	-23.7	2.57	-2.57
662	SLU 14	-93	34	8189	-20.25	2.62	-2.41
662	SLU 15	-94	53	8192	-22.05	2.62	-2.53
662	SLU 16	-93	34	8129	-20.35	2.6	-2.4
662	SLU 17	-93	53	8133	-22.15	2.6	-2.51
662	SLU 18	-92	36	8322	-22.09	2.62	-2.47
662	SLU 19	-92	55	8326	-23.89	2.61	-2.59
662	SLU 20	-93	36	8424	-21.74	2.64	-2.5
662	SLU 21	-93	55	8428	-23.54	2.64	-2.61
662	SLU 22	-95	32	8128	-19.13	2.64	-2.32
662	SLU 23	-96	63	8134	-22.13	2.64	-2.51
662	SLU 24	-97	32	8290	-18.68	2.68	-2.36
662	SLU 25	-97	51	8294	-20.48	2.68	-2.47
662	SLU 26	-97	63	8237	-21.77	2.66	-2.54
662	SLU 27	-98	32	8393	-18.33	2.71	-2.38
662	SLU 28	-98	51	8396	-20.12	2.71	-2.49
662	SLU 29	-97	32	8333	-18.42	2.69	-2.37
662	SLU 30	-98	51	8337	-20.22	2.69	-2.48
662	SLU 31	-98	67	9062	-24.54	2.8	-2.8
662	SLU 32	-100	36	9218	-21.1	2.85	-2.64
662	SLU 33	-100	55	9222	-22.89	2.85	-2.76
662	SLU 34	-99	68	9165	-24.19	2.83	-2.82
662	SLU 35	-101	36	9321	-20.74	2.88	-2.66
662	SLU 36	-101	55	9324	-22.54	2.87	-2.78
662	SLU 37	-100	36	9261	-20.84	2.86	-2.65
662	SLU 38	-100	55	9265	-22.64	2.85	-2.77
662	SLU 39	-99	38	9454	-22.58	2.87	-2.73
662	SLU 40	-99	57	9457	-24.38	2.87	-2.84
662	SLU 41	-100	38	9556	-22.23	2.9	-2.75
662	SLU 42	-100	57	9560	-24.03	2.9	-2.87
662	SLU 43	-112	38	8707	-24.07	3.01	-2.6
662	SLU 44	-113	70	8713	-27.06	3	-2.79
662	SLU 45	-114	38	8869	-23.62	3.05	-2.63
662	SLU 46	-114	57	8873	-25.42	3.05	-2.75
662	SLU 47	-114	70	8816	-26.71	3.03	-2.82
662	SLU 48	-115	38	8972	-23.26	3.08	-2.66
662	SLU 49	-115	57	8975	-25.06	3.08	-2.77
662	SLU 50	-114	38	8912	-23.36	3.06	-2.65
662	SLU 51	-115	57	8916	-25.16	3.06	-2.76
662	SLU 52	-115	74	9641	-29.48	3.17	-3.08
662	SLU 53	-117	43	9797	-26.03	3.22	-2.92
662	SLU 54	-117	62	9801	-27.83	3.21	-3.04
662	SLU 55	-116	74	9744	-29.13	3.19	-3.1
662	SLU 56	-117	43	9900	-25.68	3.24	-2.94
662	SLU 57	-118	62	9903	-27.48	3.24	-3.06
662	SLU 58	-117	43	9840	-25.78	3.22	-2.93
662	SLU 59	-117	62	9843	-27.57	3.22	-3.05
662	SLU 60	-116	44	10033	-27.52	3.24	-3.01
662	SLU 61	-116	63	10036	-29.32	3.24	-3.12
662	SLU 62	-117	44	10135	-27.16	3.27	-3.03
662	SLU 63	-117	63	10139	-28.96	3.27	-3.15
662	SLU 64	-119	40	9839	-24.55	3.26	-2.85
662	SLU 65	-120	72	9845	-27.55	3.26	-3.05
662	SLU 66	-121	40	10001	-24.1	3.31	-2.89
662	SLU 67	-121	59	10005	-25.9	3.31	-3
662	SLU 68	-121	72	9947	-27.2	3.29	-3.07
662	SLU 69	-122	40	10104	-23.75	3.34	-2.91
662	SLU 70	-122	59	10107	-25.55	3.33	-3.03
662	SLU 71	-121	40	10044	-23.85	3.32	-2.9
662	SLU 72	-122	59	10047	-25.65	3.32	-3.02
662	SLU 73	-123	76	10773	-29.97	3.43	-3.33
662	SLU 74	-124	44	10929	-26.52	3.47	-3.17
662	SLU 75	-124	63	10933	-28.32	3.47	-3.29
662	SLU 76	-123	76	10875	-29.61	3.45	-3.35
662	SLU 77	-125	44	11031	-26.17	3.5	-3.2
662	SLU 78	-125	63	11035	-27.97	3.5	-3.31
662	SLU 79	-124	44	10972	-26.26	3.48	-3.19
662	SLU 80	-124	63	10975	-28.06	3.48	-3.3
662	SLU 81	-123	46	11165	-28	3.5	-3.26
662	SLU 82	-123	65	11168	-29.8	3.5	-3.38
662	SLU 83	-124	46	11267	-27.65	3.53	-3.28
662	SLU 84	-124	65	11271	-29.45	3.52	-3.4
662	SLE RA 1	-90	31	7320	-18.78	2.45	-2.14
662	SLE RA 2	-91	52	7324	-20.78	2.45	-2.27
662	SLE RA 3	-91	31	7428	-18.48	2.48	-2.16
662	SLE RA 4	-92	43	7430	-19.68	2.48	-2.24



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
662	SLE RA 5	-91	52	7392	-20.54	2.47	-2.28
662	SLE RA 6	-92	31	7496	-18.25	2.5	-2.18
662	SLE RA 7	-92	43	7498	-19.44	2.5	-2.26
662	SLE RA 8	-92	31	7456	-18.31	2.49	-2.17
662	SLE RA 9	-92	43	7459	-19.51	2.49	-2.25
662	SLE RA 10	-92	54	7942	-22.39	2.56	-2.46
662	SLE RA 11	-93	33	8046	-20.09	2.59	-2.35
662	SLE RA 12	-93	46	8049	-21.29	2.59	-2.43
662	SLE RA 13	-93	54	8011	-22.15	2.58	-2.47
662	SLE RA 14	-94	33	8115	-19.86	2.61	-2.37
662	SLE RA 15	-94	46	8117	-21.05	2.61	-2.45
662	SLE RA 16	-93	33	8075	-19.92	2.6	-2.36
662	SLE RA 17	-94	46	8077	-21.12	2.6	-2.44
662	SLE RA 18	-93	34	8203	-21.08	2.61	-2.41
662	SLE RA 19	-93	47	8206	-22.28	2.61	-2.49
662	SLE RA 20	-93	35	8272	-20.85	2.63	-2.43
662	SLE RA 21	-94	47	8274	-22.04	2.63	-2.5
662	SLE FR 1	-90	31	7320	-18.78	2.45	-2.14
662	SLE FR 2	-90	35	7320	-19.18	2.45	-2.16
662	SLE FR 3	-91	31	7347	-18.69	2.46	-2.15
662	SLE FR 4	-91	36	7586	-19.87	2.5	-2.25
662	SLE FR 5	-91	32	7612	-19.38	2.51	-2.23
662	SLE FR 6	-92	32	7762	-19.93	2.53	-2.27
662	SLE QP 1	-90	31	7320	-18.78	2.45	-2.14
662	SLE QP 2	-91	32	7585	-19.47	2.5	-2.22
662	SLD 1	452	223	9035	-39.39	6.08	-4.69
662	SLD 2	453	92	9024	-37.17	6.1	-2.98
662	SLD 3	461	-142	8981	0.57	6.12	-2.73
662	SLD 4	462	-273	8970	2.8	6.14	-1.02
662	SLD 5	57	667	8104	-86.46	3.52	-6.24
662	SLD 6	58	580	8096	-85	3.53	-5.12
662	SLD 7	88	-550	7924	46.76	3.64	0.3
662	SLD 8	89	-637	7917	48.23	3.65	1.42
662	SLD 9	-271	701	7253	-87.17	1.36	-5.86
662	SLD 10	-270	614	7245	-85.7	1.37	-4.74
662	SLD 11	-240	-516	7073	46.06	1.47	0.68
662	SLD 12	-239	-603	7066	47.52	1.48	1.8
662	SLD 13	-645	337	6199	-41.74	-1.13	-3.42
662	SLD 14	-643	205	6188	-39.51	-1.12	-1.71
662	SLD 15	-635	-28	6145	-1.77	-1.1	-1.46
662	SLD 16	-634	-160	6134	0.45	-1.08	0.25
662	SLV 1	759	341	9849	-51.65	8.09	-6.14
662	SLV 2	761	135	9832	-48.16	8.12	-3.46
662	SLV 3	774	-248	9762	12.97	8.14	-2.96
662	SLV 4	776	-455	9745	16.46	8.17	-0.29
662	SLV 5	141	1057	8400	-127.78	4.09	-8.71
662	SLV 6	142	918	8388	-125.43	4.11	-6.91
662	SLV 7	191	-908	8109	87.62	4.27	1.88
662	SLV 8	192	-1047	8097	89.96	4.29	3.68
662	SLV 9	-374	1110	7072	-128.9	0.71	-8.12
662	SLV 10	-373	971	7061	-126.56	0.73	-6.32
662	SLV 11	-324	-855	6782	86.49	0.89	2.47
662	SLV 12	-323	-994	6770	88.84	0.91	4.27
662	SLV 13	-958	518	5425	-55.4	-3.17	-4.15
662	SLV 14	-956	312	5408	-51.91	-3.14	-1.48
662	SLV 15	-943	-71	5338	9.22	-3.11	-0.98
662	SLV 16	-941	-278	5320	12.7	-3.09	1.7
662	SLV FO 1	844	372	10076	-54.86	8.65	-6.53
662	SLV FO 2	846	145	10056	-51.03	8.68	-3.59
662	SLV FO 3	860	-276	9980	16.22	8.71	-3.03
662	SLV FO 4	863	-504	9961	20.05	8.74	-0.09
662	SLV FO 5	164	1160	8481	-138.61	4.25	-9.36
662	SLV FO 6	166	1007	8468	-136.03	4.27	-7.38
662	SLV FO 7	219	-1002	8161	98.33	4.45	2.28
662	SLV FO 8	221	-1155	8149	100.91	4.47	4.27
662	SLV FO 9	-403	1218	7021	-139.85	0.53	-8.71
662	SLV FO 10	-401	1065	7008	-137.27	0.56	-6.73
662	SLV FO 11	-348	-943	6701	97.09	0.73	2.94
662	SLV FO 12	-346	-1096	6689	99.67	0.75	4.92
662	SLV FO 13	-1045	567	5209	-58.99	-3.74	-4.35
662	SLV FO 14	-1042	340	5190	-55.16	-3.7	-1.41
662	SLV FO 15	-1029	-81	5113	12.09	-3.68	-0.85
662	SLV FO 16	-1026	-309	5094	15.92	-3.64	2.09
662	CRTFP Ux+	0	0	0	0	0	0
662	CRTFP Ux-	0	0	0	0	0	0
662	CRTFP Uy+	0	0	0	0	0	0
662	CRTFP Uy-	0	0	0	0	0	0
663	SLU 1	-87	19	6913	-19.84	2.82	-2.06
663	SLU 2	-88	50	6919	-22.78	2.82	-2.2
663	SLU 3	-89	19	7073	-19.42	2.88	-2.09
663	SLU 4	-89	38	7077	-21.18	2.88	-2.18
663	SLU 5	-89	50	7020	-22.45	2.85	-2.23
663	SLU 6	-90	19	7175	-19.08	2.91	-2.12
663	SLU 7	-90	38	7178	-20.85	2.91	-2.2
663	SLU 8	-89	19	7116	-19.16	2.89	-2.1
663	SLU 9	-90	38	7119	-20.93	2.88	-2.19
663	SLU 10	-91	53	7840	-25.38	3.07	-2.48
663	SLU 11	-92	22	7995	-22.01	3.12	-2.37
663	SLU 12	-92	40	7998	-23.78	3.12	-2.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLU 13	-92	53	7942	-25.04	3.1	-2.5
663	SLU 14	-93	22	8096	-21.68	3.16	-2.39
663	SLU 15	-93	40	8100	-23.44	3.16	-2.48
663	SLU 16	-92	22	8037	-21.76	3.13	-2.38
663	SLU 17	-92	40	8041	-23.53	3.13	-2.47
663	SLU 18	-91	23	8229	-23.55	3.17	-2.45
663	SLU 19	-92	42	8233	-25.31	3.17	-2.54
663	SLU 20	-92	23	8330	-23.21	3.21	-2.47
663	SLU 21	-93	42	8334	-24.98	3.21	-2.56
663	SLU 22	-95	20	8035	-20.52	3.18	-2.31
663	SLU 23	-95	51	8041	-23.47	3.18	-2.45
663	SLU 24	-96	20	8195	-20.1	3.23	-2.34
663	SLU 25	-97	38	8199	-21.87	3.23	-2.43
663	SLU 26	-96	50	8142	-23.13	3.21	-2.48
663	SLU 27	-97	20	8297	-19.76	3.26	-2.37
663	SLU 28	-98	38	8300	-21.53	3.26	-2.45
663	SLU 29	-97	20	8238	-19.85	3.24	-2.35
663	SLU 30	-97	38	8241	-21.62	3.24	-2.44
663	SLU 31	-98	53	8962	-26.06	3.42	-2.73
663	SLU 32	-99	22	9117	-22.7	3.48	-2.62
663	SLU 33	-99	41	9120	-24.46	3.48	-2.71
663	SLU 34	-99	53	9064	-25.73	3.46	-2.75
663	SLU 35	-100	22	9218	-22.36	3.51	-2.64
663	SLU 36	-100	41	9222	-24.13	3.51	-2.73
663	SLU 37	-99	22	9159	-22.44	3.49	-2.63
663	SLU 38	-100	41	9163	-24.21	3.49	-2.72
663	SLU 39	-99	24	9351	-24.23	3.53	-2.7
663	SLU 40	-99	42	9355	-26	3.53	-2.79
663	SLU 41	-100	24	9452	-23.89	3.56	-2.72
663	SLU 42	-100	42	9456	-25.66	3.56	-2.81
663	SLU 43	-111	25	8602	-25.55	3.54	-2.59
663	SLU 44	-112	56	8608	-28.5	3.54	-2.73
663	SLU 45	-113	25	8762	-25.13	3.6	-2.62
663	SLU 46	-113	43	8766	-26.9	3.6	-2.71
663	SLU 47	-113	56	8709	-28.16	3.58	-2.76
663	SLU 48	-114	25	8864	-24.8	3.63	-2.65
663	SLU 49	-114	43	8868	-26.56	3.63	-2.74
663	SLU 50	-113	25	8805	-24.88	3.61	-2.64
663	SLU 51	-113	43	8808	-26.65	3.61	-2.72
663	SLU 52	-114	58	9529	-31.09	3.79	-3.01
663	SLU 53	-116	28	9684	-27.73	3.85	-2.9
663	SLU 54	-116	46	9687	-29.5	3.85	-2.99
663	SLU 55	-115	58	9631	-30.76	3.82	-3.03
663	SLU 56	-117	28	9785	-27.39	3.88	-2.92
663	SLU 57	-117	46	9789	-29.16	3.88	-3.01
663	SLU 58	-116	28	9726	-27.48	3.86	-2.91
663	SLU 59	-116	46	9730	-29.24	3.86	-3
663	SLU 60	-115	29	9918	-29.26	3.9	-2.98
663	SLU 61	-115	47	9922	-31.03	3.9	-3.07
663	SLU 62	-116	29	10019	-28.93	3.93	-3.01
663	SLU 63	-116	47	10023	-30.69	3.93	-3.09
663	SLU 64	-118	25	9724	-26.24	3.9	-2.84
663	SLU 65	-119	56	9730	-29.18	3.9	-2.98
663	SLU 66	-120	25	9884	-25.82	3.96	-2.87
663	SLU 67	-120	44	9888	-27.58	3.96	-2.96
663	SLU 68	-120	56	9831	-28.85	3.93	-3.01
663	SLU 69	-121	25	9986	-25.48	3.99	-2.9
663	SLU 70	-121	44	9990	-27.25	3.99	-2.99
663	SLU 71	-120	25	9927	-25.56	3.96	-2.89
663	SLU 72	-121	44	9931	-27.33	3.96	-2.97
663	SLU 73	-122	59	10651	-31.78	4.15	-3.26
663	SLU 74	-123	28	10806	-28.41	4.2	-3.15
663	SLU 75	-123	46	10809	-30.18	4.2	-3.24
663	SLU 76	-123	59	10753	-31.44	4.18	-3.28
663	SLU 77	-124	28	10907	-28.08	4.24	-3.17
663	SLU 78	-124	46	10911	-29.84	4.24	-3.26
663	SLU 79	-123	28	10848	-28.16	4.21	-3.16
663	SLU 80	-123	46	10852	-29.93	4.21	-3.25
663	SLU 81	-122	29	11040	-29.95	4.25	-3.23
663	SLU 82	-123	48	11044	-31.71	4.25	-3.32
663	SLU 83	-123	29	11142	-29.61	4.29	-3.26
663	SLU 84	-124	48	11145	-31.38	4.29	-3.34
663	SLE RA 1	-90	20	7233	-20.03	2.92	-2.13
663	SLE RA 2	-90	40	7237	-22	2.92	-2.23
663	SLE RA 3	-91	19	7340	-19.75	2.96	-2.15
663	SLE RA 4	-91	32	7343	-20.93	2.96	-2.21
663	SLE RA 5	-90	40	7305	-21.77	2.94	-2.24
663	SLE RA 6	-91	19	7408	-19.53	2.98	-2.17
663	SLE RA 7	-91	32	7410	-20.71	2.98	-2.23
663	SLE RA 8	-91	19	7369	-19.58	2.97	-2.16
663	SLE RA 9	-91	32	7371	-20.76	2.96	-2.22
663	SLE RA 10	-92	42	7852	-23.73	3.09	-2.41
663	SLE RA 11	-92	21	7955	-21.48	3.12	-2.34
663	SLE RA 12	-93	34	7957	-22.66	3.12	-2.39
663	SLE RA 13	-92	42	7919	-23.5	3.11	-2.43
663	SLE RA 14	-93	21	8022	-21.26	3.15	-2.35
663	SLE RA 15	-93	33	8025	-22.44	3.15	-2.41
663	SLE RA 16	-93	21	7983	-21.31	3.13	-2.34
663	SLE RA 17	-93	33	7985	-22.49	3.13	-2.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
663	SLE RA 18	-92	22	8111	-22.5	3.16	-2.39
663	SLE RA 19	-92	34	8113	-23.68	3.16	-2.45
663	SLE RA 20	-93	22	8178	-22.28	3.18	-2.41
663	SLE RA 21	-93	34	8181	-23.46	3.18	-2.47
663	SLE FR 1	-90	20	7233	-20.03	2.92	-2.13
663	SLE FR 2	-90	24	7234	-20.43	2.92	-2.15
663	SLE FR 3	-90	19	7260	-19.94	2.93	-2.13
663	SLE FR 4	-90	24	7497	-21.17	2.99	-2.23
663	SLE FR 5	-91	20	7524	-20.68	3	-2.21
663	SLE FR 6	-91	21	7672	-21.27	3.04	-2.26
663	SLE QP 1	-90	20	7233	-20.03	2.92	-2.13
663	SLE QP 2	-90	20	7497	-20.77	2.99	-2.21
663	SLD 1	453	206	8832	-40.25	6.58	-4.27
663	SLD 2	454	82	8820	-38.18	6.6	-2.74
663	SLD 3	462	-151	8778	-0.94	6.55	-2.81
663	SLD 4	464	-274	8766	1.13	6.57	-1.29
663	SLD 5	58	639	7981	-86.61	4.12	-5.31
663	SLD 6	59	557	7973	-85.24	4.13	-4.3
663	SLD 7	89	-549	7801	44.42	4.01	-0.46
663	SLD 8	90	-631	7794	45.79	4.02	0.55
663	SLD 9	-271	671	7199	-87.34	1.97	-4.96
663	SLD 10	-270	590	7192	-85.97	1.98	-3.96
663	SLD 11	-240	-517	7020	43.69	1.85	-0.11
663	SLD 12	-239	-598	7012	45.06	1.87	0.89
663	SLD 13	-644	315	6227	-42.68	-0.58	-3.13
663	SLD 14	-643	191	6215	-40.61	-0.57	-1.6
663	SLD 15	-635	-42	6173	-3.37	-0.62	-1.67
663	SLD 16	-633	-165	6161	-1.3	-0.6	-0.15
663	SLV 1	760	320	9581	-52.23	8.6	-5.47
663	SLV 2	763	126	9563	-48.98	8.62	-3.08
663	SLV 3	775	-256	9494	11.33	8.54	-3.11
663	SLV 4	778	-449	9476	14.58	8.57	-0.73
663	SLV 5	142	1019	8257	-127.21	4.75	-7.21
663	SLV 6	143	889	8245	-125.03	4.77	-5.6
663	SLV 7	192	-899	7967	84.65	4.57	0.65
663	SLV 8	193	-1030	7955	86.83	4.59	2.26
663	SLV 9	-374	1070	7038	-128.38	1.4	-6.67
663	SLV 10	-372	940	7026	-126.19	1.42	-5.06
663	SLV 11	-324	-848	6748	83.48	1.22	1.18
663	SLV 12	-322	-978	6736	85.66	1.24	2.79
663	SLV 13	-958	490	5517	-56.12	-2.59	-3.69
663	SLV 14	-956	296	5499	-52.88	-2.56	-1.3
663	SLV 15	-943	-85	5430	7.43	-2.64	-1.33
663	SLV 16	-941	-279	5412	10.68	-2.61	1.06
663	SLV FO 1	845	350	9790	-55.37	9.16	-5.8
663	SLV FO 2	848	137	9769	-51.8	9.19	-3.17
663	SLV FO 3	862	-283	9694	14.54	9.1	-3.21
663	SLV FO 4	864	-496	9674	18.11	9.13	-0.58
663	SLV FO 5	165	1119	8333	-137.85	4.93	-7.71
663	SLV FO 6	167	976	8320	-135.45	4.95	-5.94
663	SLV FO 7	220	-991	8014	95.19	4.73	0.93
663	SLV FO 8	222	-1135	8001	97.59	4.75	2.7
663	SLV FO 9	-402	1175	6992	-139.14	1.24	-7.12
663	SLV FO 10	-400	1032	6979	-136.74	1.26	-5.35
663	SLV FO 11	-347	-935	6673	93.9	1.04	1.52
663	SLV FO 12	-345	-1078	6660	96.31	1.06	3.29
663	SLV FO 13	-1045	537	5319	-59.66	-3.14	-3.84
663	SLV FO 14	-1042	324	5299	-56.09	-3.11	-1.21
663	SLV FO 15	-1029	-96	5224	10.25	-3.2	-1.25
663	SLV FO 16	-1026	-309	5203	13.82	-3.17	1.38
663	CRTFP Ux+	0	0	0	0	0	0
663	CRTFP Ux-	0	0	0	0	0	0
663	CRTFP Uy+	0	0	0	0	0	0
663	CRTFP Uy-	0	0	0	0	0	0
664	SLU 1	-86	9	6815	-21.06	3.27	-2.03
664	SLU 2	-87	39	6821	-23.95	3.27	-2.13
664	SLU 3	-88	9	6973	-20.67	3.33	-2.07
664	SLU 4	-88	27	6977	-22.4	3.34	-2.13
664	SLU 5	-88	39	6921	-23.63	3.31	-2.16
664	SLU 6	-89	8	7074	-20.35	3.37	-2.09
664	SLU 7	-89	26	7077	-22.08	3.37	-2.15
664	SLU 8	-88	8	7015	-20.42	3.34	-2.08
664	SLU 9	-88	26	7019	-22.16	3.35	-2.14
664	SLU 10	-90	40	7733	-26.73	3.6	-2.4
664	SLU 11	-91	10	7885	-23.44	3.67	-2.33
664	SLU 12	-91	28	7889	-25.18	3.67	-2.39
664	SLU 13	-91	40	7833	-26.41	3.64	-2.42
664	SLU 14	-92	10	7986	-23.12	3.7	-2.35
664	SLU 15	-92	28	7989	-24.86	3.71	-2.41
664	SLU 16	-91	10	7928	-23.2	3.68	-2.34
664	SLU 17	-91	28	7931	-24.93	3.68	-2.4
664	SLU 18	-90	11	8118	-25.03	3.74	-2.41
664	SLU 19	-91	29	8121	-26.77	3.74	-2.47
664	SLU 20	-91	11	8218	-24.71	3.78	-2.43
664	SLU 21	-92	29	8222	-26.45	3.78	-2.49
664	SLU 22	-94	8	7924	-21.94	3.72	-2.27
664	SLU 23	-94	38	7930	-24.84	3.73	-2.38
664	SLU 24	-95	8	8082	-21.55	3.79	-2.31
664	SLU 25	-96	26	8086	-23.29	3.79	-2.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
664	SLU 26	-95	38	8030	-24.52	3.76	-2.4
664	SLU 27	-96	8	8183	-21.23	3.83	-2.33
664	SLU 28	-97	26	8186	-22.97	3.83	-2.39
664	SLU 29	-96	8	8125	-21.3	3.8	-2.32
664	SLU 30	-96	26	8128	-23.04	3.8	-2.38
664	SLU 31	-97	39	8842	-27.62	4.06	-2.64
664	SLU 32	-98	9	8994	-24.33	4.12	-2.57
664	SLU 33	-98	27	8998	-26.06	4.12	-2.63
664	SLU 34	-98	39	8942	-27.3	4.1	-2.66
664	SLU 35	-99	9	9095	-24.01	4.16	-2.6
664	SLU 36	-99	27	9098	-25.74	4.16	-2.66
664	SLU 37	-98	9	9037	-24.08	4.13	-2.58
664	SLU 38	-99	27	9040	-25.82	4.13	-2.65
664	SLU 39	-98	10	9227	-25.91	4.2	-2.65
664	SLU 40	-98	28	9230	-27.65	4.2	-2.71
664	SLU 41	-99	10	9327	-25.59	4.23	-2.67
664	SLU 42	-99	28	9331	-27.33	4.24	-2.73
664	SLU 43	-110	12	8479	-27.07	4.09	-2.56
664	SLU 44	-110	42	8485	-29.97	4.1	-2.66
664	SLU 45	-111	11	8638	-26.68	4.16	-2.59
664	SLU 46	-112	29	8641	-28.42	4.16	-2.65
664	SLU 47	-111	42	8585	-29.65	4.13	-2.68
664	SLU 48	-112	11	8738	-26.36	4.2	-2.62
664	SLU 49	-112	29	8742	-28.1	4.2	-2.68
664	SLU 50	-112	11	8680	-26.43	4.17	-2.6
664	SLU 51	-112	29	8683	-28.17	4.17	-2.67
664	SLU 52	-113	43	9397	-32.75	4.43	-2.92
664	SLU 53	-114	13	9550	-29.46	4.49	-2.86
664	SLU 54	-114	31	9553	-31.2	4.49	-2.92
664	SLU 55	-114	43	9497	-32.43	4.47	-2.95
664	SLU 56	-115	13	9650	-29.14	4.53	-2.88
664	SLU 57	-115	31	9654	-30.88	4.53	-2.94
664	SLU 58	-114	13	9592	-29.21	4.5	-2.87
664	SLU 59	-115	31	9595	-30.95	4.5	-2.93
664	SLU 60	-114	14	9782	-31.04	4.57	-2.93
664	SLU 61	-114	32	9785	-32.78	4.57	-2.99
664	SLU 62	-115	13	9882	-30.72	4.61	-2.96
664	SLU 63	-115	32	9886	-32.46	4.61	-3.02
664	SLU 64	-117	11	9588	-27.96	4.55	-2.8
664	SLU 65	-117	41	9594	-30.85	4.55	-2.9
664	SLU 66	-119	11	9747	-27.56	4.61	-2.84
664	SLU 67	-119	29	9750	-29.3	4.61	-2.9
664	SLU 68	-118	41	9694	-30.53	4.59	-2.93
664	SLU 69	-120	10	9847	-27.24	4.65	-2.86
664	SLU 70	-120	28	9851	-28.98	4.65	-2.92
664	SLU 71	-119	11	9789	-27.32	4.62	-2.85
664	SLU 72	-119	29	9792	-29.05	4.63	-2.91
664	SLU 73	-120	42	10506	-33.63	4.88	-3.17
664	SLU 74	-121	12	10659	-30.34	4.94	-3.1
664	SLU 75	-122	30	10662	-32.08	4.95	-3.16
664	SLU 76	-121	42	10606	-33.31	4.92	-3.19
664	SLU 77	-122	12	10759	-30.02	4.98	-3.12
664	SLU 78	-123	30	10763	-31.76	4.99	-3.18
664	SLU 79	-122	12	10701	-30.09	4.96	-3.11
664	SLU 80	-122	30	10704	-31.83	4.96	-3.17
664	SLU 81	-121	13	10891	-31.93	5.02	-3.18
664	SLU 82	-121	31	10895	-33.66	5.02	-3.24
664	SLU 83	-122	13	10991	-31.61	5.06	-3.2
664	SLU 84	-122	31	10995	-33.34	5.06	-3.26
664	SLE RA 1	-88	9	7132	-21.31	3.4	-2.1
664	SLE RA 2	-89	29	7136	-23.24	3.4	-2.17
664	SLE RA 3	-89	8	7237	-21.05	3.44	-2.12
664	SLE RA 4	-90	20	7240	-22.21	3.44	-2.17
664	SLE RA 5	-89	29	7203	-23.03	3.43	-2.18
664	SLE RA 6	-90	8	7304	-20.84	3.47	-2.14
664	SLE RA 7	-90	20	7307	-21.99	3.47	-2.18
664	SLE RA 8	-90	8	7265	-20.88	3.45	-2.13
664	SLE RA 9	-90	20	7268	-22.04	3.45	-2.17
664	SLE RA 10	-91	30	7744	-25.09	3.62	-2.34
664	SLE RA 11	-91	9	7845	-22.9	3.66	-2.3
664	SLE RA 12	-92	21	7848	-24.06	3.66	-2.34
664	SLE RA 13	-91	29	7811	-24.88	3.65	-2.36
664	SLE RA 14	-92	9	7912	-22.69	3.69	-2.31
664	SLE RA 15	-92	21	7915	-23.85	3.69	-2.36
664	SLE RA 16	-92	9	7873	-22.74	3.67	-2.31
664	SLE RA 17	-92	21	7876	-23.89	3.67	-2.35
664	SLE RA 18	-91	10	8000	-23.96	3.71	-2.35
664	SLE RA 19	-91	22	8003	-25.12	3.72	-2.39
664	SLE RA 20	-92	10	8067	-23.74	3.74	-2.37
664	SLE RA 21	-92	22	8070	-24.9	3.74	-2.41
664	SLE FR 1	-88	9	7132	-21.31	3.4	-2.1
664	SLE FR 2	-88	13	7132	-21.7	3.4	-2.11
664	SLE FR 3	-89	9	7158	-21.23	3.41	-2.11
664	SLE FR 4	-89	13	7393	-22.49	3.49	-2.19
664	SLE FR 5	-89	9	7419	-22.02	3.5	-2.18
664	SLE FR 6	-90	9	7566	-22.63	3.56	-2.23
664	SLE QP 1	-88	9	7132	-21.31	3.4	-2.1
664	SLE QP 2	-89	9	7392	-22.1	3.49	-2.18
664	SID 1	454	190	8613	-41.15	7.01	-3.87



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
664	SLD 2	456	73	8601	-39.23	7.02	-2.5
664	SLD 3	463	-161	8560	-2.45	6.96	-2.87
664	SLD 4	465	-277	8548	-0.53	6.97	-1.51
664	SLD 5	60	615	7841	-86.85	4.62	-4.44
664	SLD 6	61	539	7833	-85.58	4.63	-3.54
664	SLD 7	90	-552	7664	42.13	4.45	-1.12
664	SLD 8	91	-629	7656	43.4	4.46	-0.22
664	SLD 9	-270	647	7128	-87.61	2.53	-4.13
664	SLD 10	-269	570	7120	-86.34	2.54	-3.23
664	SLD 11	-239	-521	6951	41.37	2.35	-0.81
664	SLD 12	-238	-597	6943	42.64	2.36	0.09
664	SLD 13	-643	295	6236	-43.68	0.01	-2.85
664	SLD 14	-642	179	6224	-41.76	0.03	-1.48
664	SLD 15	-634	-55	6183	-4.98	-0.04	-1.85
664	SLD 16	-633	-172	6171	-3.06	-0.02	-0.48
664	SLV 1	762	300	9299	-52.87	8.98	-4.85
664	SLV 2	764	118	9280	-49.85	9	-2.71
664	SLV 3	777	-265	9213	9.71	8.89	-3.24
664	SLV 4	779	-447	9194	12.72	8.92	-1.1
664	SLV 5	143	988	8098	-126.8	5.26	-5.82
664	SLV 6	145	866	8085	-124.77	5.28	-4.38
664	SLV 7	193	-897	7812	81.78	4.98	-0.45
664	SLV 8	194	-1020	7799	83.81	5	0.99
664	SLV 9	-373	1038	6985	-128.02	1.99	-5.34
664	SLV 10	-371	915	6972	-125.99	2	-3.9
664	SLV 11	-323	-848	6699	80.56	1.71	0.03
664	SLV 12	-321	-970	6687	82.59	1.72	1.47
664	SLV 13	-957	465	5590	-56.93	-1.93	-3.25
664	SLV 14	-955	283	5571	-53.92	-1.91	-1.12
664	SLV 15	-943	-100	5505	5.64	-2.02	-1.64
664	SLV 16	-940	-282	5485	8.66	-1.99	0.5
664	SLV FO 1	847	330	9490	-55.94	9.52	-5.12
664	SLV FO 2	850	129	9469	-52.63	9.55	-2.76
664	SLV FO 3	863	-293	9395	12.89	9.43	-3.34
664	SLV FO 4	866	-493	9374	16.2	9.46	-0.99
664	SLV FO 5	166	1086	8168	-137.27	5.44	-6.19
664	SLV FO 6	168	951	8154	-135.04	5.46	-4.6
664	SLV FO 7	221	-988	7854	92.17	5.13	-0.27
664	SLV FO 8	223	-1123	7840	94.4	5.15	1.31
664	SLV FO 9	-401	1141	6945	-138.61	1.84	-5.66
664	SLV FO 10	-399	1006	6930	-136.38	1.86	-4.08
664	SLV FO 11	-347	-933	6630	90.83	1.53	0.25
664	SLV FO 12	-345	-1068	6616	93.06	1.55	1.84
664	SLV FO 13	-1044	511	5410	-60.41	-2.47	-3.36
664	SLV FO 14	-1041	311	5389	-57.1	-2.45	-1.01
664	SLV FO 15	-1028	-111	5316	8.42	-2.57	-1.59
664	SLV FO 16	-1025	-312	5295	11.73	-2.54	0.76
664	CRTFP Ux+	0	0	0	0	0	0
664	CRTFP Ux-	0	0	0	0	0	0
664	CRTFP Uy+	0	0	0	0	0	0
664	CRTFP Uy-	0	0	0	0	0	0
665	SLU 1	-85	-2	6703	-22.31	3.64	-1.99
665	SLU 2	-85	28	6709	-25.16	3.66	-2.06
665	SLU 3	-86	-2	6860	-21.94	3.72	-2.03
665	SLU 4	-87	16	6863	-23.65	3.72	-2.06
665	SLU 5	-86	28	6808	-24.85	3.7	-2.08
665	SLU 6	-87	-2	6959	-21.64	3.76	-2.05
665	SLU 7	-87	15	6962	-23.35	3.77	-2.09
665	SLU 8	-87	-2	6902	-21.7	3.73	-2.04
665	SLU 9	-87	16	6905	-23.41	3.74	-2.08
665	SLU 10	-88	28	7609	-28.12	4.06	-2.3
665	SLU 11	-89	-2	7760	-24.91	4.12	-2.27
665	SLU 12	-89	16	7763	-26.62	4.13	-2.31
665	SLU 13	-89	28	7708	-27.82	4.1	-2.32
665	SLU 14	-90	-2	7859	-24.6	4.16	-2.29
665	SLU 15	-90	15	7862	-26.31	4.17	-2.33
665	SLU 16	-89	-2	7802	-24.66	4.13	-2.28
665	SLU 17	-90	16	7805	-26.37	4.14	-2.32
665	SLU 18	-89	-1	7989	-26.54	4.22	-2.34
665	SLU 19	-89	16	7993	-28.25	4.23	-2.38
665	SLU 20	-90	-2	8088	-26.24	4.27	-2.36
665	SLU 21	-90	16	8092	-27.95	4.27	-2.4
665	SLU 22	-92	-4	7796	-23.39	4.18	-2.22
665	SLU 23	-93	26	7802	-26.24	4.19	-2.29
665	SLU 24	-94	-4	7953	-23.02	4.25	-2.26
665	SLU 25	-94	14	7956	-24.73	4.26	-2.3
665	SLU 26	-93	26	7901	-25.93	4.24	-2.31
665	SLU 27	-95	-4	8052	-22.72	4.3	-2.28
665	SLU 28	-95	13	8055	-24.43	4.3	-2.32
665	SLU 29	-94	-4	7995	-22.78	4.27	-2.27
665	SLU 30	-94	14	7998	-24.49	4.27	-2.31
665	SLU 31	-95	26	8702	-29.2	4.6	-2.53
665	SLU 32	-97	-4	8853	-25.99	4.66	-2.5
665	SLU 33	-97	14	8856	-27.7	4.67	-2.54
665	SLU 34	-96	26	8801	-28.9	4.64	-2.56
665	SLU 35	-97	-4	8952	-25.68	4.7	-2.53
665	SLU 36	-98	13	8955	-27.39	4.71	-2.56
665	SLU 37	-97	-4	8895	-25.74	4.67	-2.51
665	SLU 38	-97	14	8898	-27.45	4.68	-2.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
665	SLU 39	-96	-3	9082	-27.62	4.76	-2.57
665	SLU 40	-96	14	9086	-29.33	4.77	-2.61
665	SLU 41	-97	-4	9181	-27.32	4.8	-2.6
665	SLU 42	-97	14	9185	-29.03	4.81	-2.63
665	SLU 43	-107	-1	8340	-28.63	4.55	-2.51
665	SLU 44	-108	28	8346	-31.48	4.56	-2.57
665	SLU 45	-109	-2	8496	-28.26	4.62	-2.54
665	SLU 46	-109	16	8500	-29.97	4.63	-2.58
665	SLU 47	-109	28	8445	-31.17	4.61	-2.6
665	SLU 48	-110	-2	8595	-27.96	4.67	-2.57
665	SLU 49	-110	16	8599	-29.67	4.67	-2.61
665	SLU 50	-109	-2	8538	-28.02	4.64	-2.55
665	SLU 51	-110	16	8541	-29.73	4.64	-2.59
665	SLU 52	-111	28	9246	-34.44	4.97	-2.82
665	SLU 53	-112	-2	9396	-31.23	5.03	-2.79
665	SLU 54	-112	16	9400	-32.94	5.04	-2.83
665	SLU 55	-112	28	9345	-34.14	5.01	-2.84
665	SLU 56	-113	-2	9495	-30.92	5.07	-2.81
665	SLU 57	-113	16	9499	-32.63	5.08	-2.85
665	SLU 58	-112	-2	9438	-30.99	5.04	-2.8
665	SLU 59	-113	16	9441	-32.7	5.05	-2.84
665	SLU 60	-112	-1	9625	-32.86	5.13	-2.86
665	SLU 61	-112	17	9629	-34.57	5.14	-2.9
665	SLU 62	-113	-2	9725	-32.56	5.17	-2.88
665	SLU 63	-113	16	9728	-34.27	5.18	-2.92
665	SLU 64	-115	-3	9433	-29.71	5.09	-2.74
665	SLU 65	-115	26	9439	-32.56	5.1	-2.8
665	SLU 66	-116	-4	9589	-29.34	5.16	-2.77
665	SLU 67	-117	14	9593	-31.05	5.17	-2.81
665	SLU 68	-116	26	9538	-32.26	5.14	-2.83
665	SLU 69	-117	-4	9688	-29.04	5.2	-2.8
665	SLU 70	-118	14	9692	-30.75	5.21	-2.84
665	SLU 71	-117	-4	9631	-29.1	5.17	-2.79
665	SLU 72	-117	14	9634	-30.81	5.18	-2.83
665	SLU 73	-118	26	10339	-35.52	5.51	-3.05
665	SLU 74	-119	-4	10489	-32.31	5.57	-3.02
665	SLU 75	-120	14	10493	-34.02	5.58	-3.06
665	SLU 76	-119	26	10438	-35.22	5.55	-3.07
665	SLU 77	-120	-4	10588	-32	5.61	-3.04
665	SLU 78	-121	14	10592	-33.71	5.62	-3.08
665	SLU 79	-120	-4	10531	-32.07	5.58	-3.03
665	SLU 80	-120	14	10534	-33.78	5.59	-3.07
665	SLU 81	-119	-3	10719	-33.95	5.67	-3.09
665	SLU 82	-119	15	10722	-35.66	5.68	-3.13
665	SLU 83	-120	-4	10818	-33.64	5.71	-3.11
665	SLU 84	-120	14	10821	-35.35	5.72	-3.15
665	SLE RA 1	-87	-2	7016	-22.62	3.8	-2.06
665	SLE RA 2	-87	18	7020	-24.52	3.8	-2.1
665	SLE RA 3	-88	-2	7120	-22.37	3.84	-2.08
665	SLE RA 4	-88	9	7122	-23.51	3.85	-2.11
665	SLE RA 5	-88	17	7086	-24.31	3.83	-2.12
665	SLE RA 6	-88	-3	7186	-22.17	3.87	-2.1
665	SLE RA 7	-89	9	7188	-23.31	3.88	-2.12
665	SLE RA 8	-88	-3	7148	-22.21	3.85	-2.09
665	SLE RA 9	-88	9	7150	-23.35	3.86	-2.11
665	SLE RA 10	-89	18	7620	-26.49	4.08	-2.26
665	SLE RA 11	-90	-2	7720	-24.35	4.12	-2.24
665	SLE RA 12	-90	9	7722	-25.49	4.12	-2.27
665	SLE RA 13	-90	17	7686	-26.29	4.1	-2.28
665	SLE RA 14	-90	-3	7786	-24.15	4.14	-2.26
665	SLE RA 15	-91	9	7788	-25.29	4.15	-2.28
665	SLE RA 16	-90	-3	7748	-24.19	4.12	-2.25
665	SLE RA 17	-90	9	7750	-25.33	4.13	-2.28
665	SLE RA 18	-90	-2	7873	-25.44	4.18	-2.29
665	SLE RA 19	-90	10	7875	-26.58	4.19	-2.32
665	SLE RA 20	-90	-2	7939	-25.24	4.21	-2.31
665	SLE RA 21	-90	10	7941	-26.38	4.22	-2.33
665	SLE FR 1	-87	-2	7016	-22.62	3.8	-2.06
665	SLE FR 2	-87	2	7016	-23	3.8	-2.07
665	SLE FR 3	-87	-2	7042	-22.53	3.81	-2.06
665	SLE FR 4	-88	2	7274	-23.84	3.91	-2.14
665	SLE FR 5	-88	-2	7299	-23.38	3.92	-2.13
665	SLE FR 6	-88	-2	7444	-24.03	3.99	-2.17
665	SLE QP 1	-87	-2	7016	-22.62	3.8	-2.06
665	SLE QP 2	-88	-2	7273	-23.46	3.91	-2.13
665	SLD 1	456	175	8384	-42.1	7.26	-3.52
665	SLD 2	458	65	8371	-40.32	7.27	-2.28
665	SLD 3	465	-172	8333	-3.96	7.12	-2.89
665	SLD 4	467	-281	8321	-2.19	7.13	-1.65
665	SLD 5	61	596	7684	-87.21	5.13	-3.72
665	SLD 6	62	524	7676	-86.03	5.13	-2.9
665	SLD 7	92	-559	7517	39.9	4.66	-1.63
665	SLD 8	93	-631	7509	41.07	4.67	-0.81
665	SLD 9	-268	627	7037	-88	3.16	-3.44
665	SLD 10	-267	554	7029	-86.83	3.16	-2.62
665	SLD 11	-238	-528	6870	39.11	2.69	-1.36
665	SLD 12	-236	-600	6861	40.28	2.69	-0.54
665	SLD 13	-642	277	6225	-44.74	0.69	-2.6
665	SLD 14	-640	167	6212	-42.96	0.7	-1.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
665	SLD 15	-633	-69	6175	-6.61	0.55	-1.97
665	SLD 16	-631	-179	6162	-4.83	0.56	-0.74
665	SLV 1	764	283	9007	-53.56	9.14	-4.32
665	SLV 2	766	112	8988	-50.78	9.15	-2.38
665	SLV 3	778	-276	8926	8.1	8.92	-3.31
665	SLV 4	781	-448	8906	10.89	8.93	-1.37
665	SLV 5	145	964	7920	-126.54	5.83	-4.68
665	SLV 6	147	848	7907	-124.67	5.83	-3.38
665	SLV 7	194	-900	7649	79.01	5.07	-1.31
665	SLV 8	196	-1016	7636	80.89	5.07	0
665	SLV 9	-371	1012	6910	-127.81	2.75	-4.25
665	SLV 10	-369	896	6896	-125.94	2.76	-2.95
665	SLV 11	-322	-852	6639	77.74	1.99	-0.88
665	SLV 12	-320	-968	6626	79.61	2	0.43
665	SLV 13	-956	443	5639	-57.81	-1.1	-2.89
665	SLV 14	-953	272	5620	-55.03	-1.09	-0.95
665	SLV 15	-941	-116	5558	3.85	-1.33	-1.87
665	SLV 16	-939	-288	5538	6.64	-1.32	0.07
665	SLV FO 1	849	312	9181	-56.57	9.67	-4.54
665	SLV FO 2	852	123	9159	-53.51	9.68	-2.4
665	SLV FO 3	865	-303	9091	11.26	9.42	-3.43
665	SLV FO 4	868	-492	9070	14.32	9.43	-1.29
665	SLV FO 5	168	1061	7985	-136.85	6.02	-4.94
665	SLV FO 6	170	933	7970	-134.79	6.02	-3.5
665	SLV FO 7	222	-990	7687	89.26	5.18	-1.23
665	SLV FO 8	224	-1117	7672	91.32	5.19	0.21
665	SLV FO 9	-399	1113	6873	-138.25	2.64	-4.47
665	SLV FO 10	-397	986	6859	-136.19	2.64	-3.03
665	SLV FO 11	-345	-938	6576	87.86	1.8	-0.75
665	SLV FO 12	-343	-1065	6561	89.92	1.81	0.69
665	SLV FO 13	-1043	488	5476	-61.25	-1.6	-2.96
665	SLV FO 14	-1040	299	5454	-58.19	-1.59	-0.83
665	SLV FO 15	-1027	-127	5387	6.58	-1.85	-1.85
665	SLV FO 16	-1024	-316	5365	9.65	-1.84	0.29
665	CRTFP Ux+	0	0	0	0	0	0
665	CRTFP Ux-	0	0	0	0	0	0
665	CRTFP Uy+	0	0	0	0	0	0
665	CRTFP Uy-	0	0	0	0	0	0
666	SLU 1	-82	-12	6584	-23.58	3.76	-1.94
666	SLU 2	-83	18	6589	-26.39	3.79	-1.97
666	SLU 3	-84	-12	6738	-23.24	3.83	-1.97
666	SLU 4	-84	5	6741	-24.93	3.85	-1.99
666	SLU 5	-84	17	6686	-26.1	3.83	-1.99
666	SLU 6	-85	-13	6835	-22.96	3.87	-1.99
666	SLU 7	-85	5	6838	-24.64	3.89	-2.01
666	SLU 8	-84	-13	6779	-23.01	3.84	-1.98
666	SLU 9	-85	5	6782	-24.69	3.86	-2
666	SLU 10	-86	17	7475	-29.55	4.23	-2.2
666	SLU 11	-87	-13	7624	-26.4	4.27	-2.19
666	SLU 12	-87	4	7627	-28.08	4.29	-2.22
666	SLU 13	-87	16	7573	-29.26	4.27	-2.22
666	SLU 14	-88	-14	7722	-26.11	4.31	-2.22
666	SLU 15	-88	4	7725	-27.8	4.33	-2.24
666	SLU 16	-87	-14	7665	-26.16	4.28	-2.21
666	SLU 17	-88	4	7668	-27.85	4.3	-2.23
666	SLU 18	-87	-13	7850	-28.09	4.39	-2.26
666	SLU 19	-87	4	7853	-29.78	4.4	-2.28
666	SLU 20	-88	-14	7948	-27.8	4.43	-2.28
666	SLU 21	-88	4	7951	-29.49	4.44	-2.3
666	SLU 22	-90	-15	7659	-24.86	4.33	-2.15
666	SLU 23	-90	15	7664	-27.67	4.36	-2.19
666	SLU 24	-91	-15	7813	-24.53	4.4	-2.19
666	SLU 25	-92	2	7816	-26.21	4.42	-2.21
666	SLU 26	-91	14	7761	-27.38	4.4	-2.21
666	SLU 27	-92	-16	7910	-24.24	4.45	-2.21
666	SLU 28	-93	2	7913	-25.92	4.46	-2.23
666	SLU 29	-92	-16	7854	-24.29	4.41	-2.2
666	SLU 30	-92	2	7857	-25.97	4.43	-2.22
666	SLU 31	-93	13	8550	-30.83	4.8	-2.41
666	SLU 32	-94	-17	8699	-27.68	4.84	-2.41
666	SLU 33	-95	1	8702	-29.37	4.86	-2.43
666	SLU 34	-94	13	8648	-30.54	4.84	-2.44
666	SLU 35	-95	-17	8797	-27.39	4.89	-2.43
666	SLU 36	-96	1	8800	-29.08	4.9	-2.45
666	SLU 37	-95	-17	8740	-27.44	4.85	-2.42
666	SLU 38	-95	1	8743	-29.13	4.87	-2.44
666	SLU 39	-94	-16	8925	-29.37	4.96	-2.47
666	SLU 40	-94	1	8928	-31.06	4.98	-2.5
666	SLU 41	-95	-17	9023	-29.08	5	-2.5
666	SLU 42	-95	1	9026	-30.77	5.02	-2.52
666	SLU 43	-105	-14	8190	-30.22	4.69	-2.44
666	SLU 44	-105	15	8195	-33.03	4.72	-2.48
666	SLU 45	-106	-15	8344	-29.88	4.76	-2.48
666	SLU 46	-107	3	8347	-31.57	4.78	-2.5
666	SLU 47	-106	15	8293	-32.74	4.76	-2.5
666	SLU 48	-107	-15	8442	-29.59	4.8	-2.5
666	SLU 49	-107	3	8445	-31.28	4.82	-2.52
666	SLU 50	-107	-15	8385	-29.64	4.77	-2.49
666	SLU 51	-107	3	8389	-31.33	4.79	-2.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLU 52	-108	14	9082	-36.18	5.16	-2.7
666	SLU 53	-109	-16	9230	-33.04	5.2	-2.7
666	SLU 54	-109	2	9234	-34.72	5.22	-2.72
666	SLU 55	-109	14	9179	-35.89	5.2	-2.73
666	SLU 56	-110	-16	9328	-32.75	5.24	-2.72
666	SLU 57	-110	1	9331	-34.43	5.26	-2.74
666	SLU 58	-109	-16	9272	-32.8	5.21	-2.71
666	SLU 59	-110	2	9275	-34.48	5.23	-2.73
666	SLU 60	-109	-16	9456	-34.73	5.32	-2.76
666	SLU 61	-109	2	9459	-36.41	5.33	-2.78
666	SLU 62	-110	-16	9554	-34.44	5.36	-2.79
666	SLU 63	-110	2	9557	-36.12	5.38	-2.81
666	SLU 64	-112	-17	9265	-31.5	5.26	-2.66
666	SLU 65	-113	12	9270	-34.31	5.29	-2.7
666	SLU 66	-114	-18	9419	-31.16	5.33	-2.69
666	SLU 67	-114	0	9422	-32.85	5.35	-2.71
666	SLU 68	-113	12	9368	-34.02	5.33	-2.72
666	SLU 69	-115	-18	9517	-30.87	5.38	-2.72
666	SLU 70	-115	-1	9520	-32.56	5.39	-2.74
666	SLU 71	-114	-18	9460	-30.92	5.35	-2.7
666	SLU 72	-114	0	9464	-32.61	5.36	-2.73
666	SLU 73	-115	11	10157	-37.46	5.73	-2.92
666	SLU 74	-117	-19	10305	-34.32	5.77	-2.92
666	SLU 75	-117	-1	10309	-36	5.79	-2.94
666	SLU 76	-116	11	10254	-37.18	5.77	-2.94
666	SLU 77	-117	-20	10403	-34.03	5.82	-2.94
666	SLU 78	-118	-2	10406	-35.71	5.83	-2.96
666	SLU 79	-117	-19	10347	-34.08	5.79	-2.93
666	SLU 80	-117	-2	10350	-35.76	5.8	-2.95
666	SLU 81	-116	-19	10531	-36.01	5.89	-2.98
666	SLU 82	-117	-1	10534	-37.69	5.91	-3
666	SLU 83	-117	-19	10629	-35.72	5.93	-3
666	SLU 84	-117	-2	10632	-37.4	5.95	-3.02
666	SLE RA 1	-85	-13	6891	-23.95	3.92	-2
666	SLE RA 2	-85	7	6894	-25.82	3.94	-2.02
666	SLE RA 3	-86	-13	6993	-23.72	3.97	-2.02
666	SLE RA 4	-86	-1	6995	-24.85	3.98	-2.03
666	SLE RA 5	-86	7	6959	-25.63	3.97	-2.04
666	SLE RA 6	-86	-13	7059	-23.53	4	-2.04
666	SLE RA 7	-86	-2	7061	-24.65	4.01	-2.05
666	SLE RA 8	-86	-13	7021	-23.56	3.98	-2.03
666	SLE RA 9	-86	-1	7023	-24.69	3.99	-2.04
666	SLE RA 10	-87	6	7485	-27.93	4.23	-2.17
666	SLE RA 11	-88	-14	7584	-25.83	4.26	-2.17
666	SLE RA 12	-88	-2	7586	-26.95	4.27	-2.18
666	SLE RA 13	-87	6	7550	-27.73	4.26	-2.19
666	SLE RA 14	-88	-14	7649	-25.64	4.29	-2.18
666	SLE RA 15	-88	-2	7652	-26.76	4.3	-2.2
666	SLE RA 16	-88	-14	7612	-25.67	4.27	-2.18
666	SLE RA 17	-88	-2	7614	-26.79	4.28	-2.19
666	SLE RA 18	-87	-14	7735	-26.95	4.34	-2.21
666	SLE RA 19	-88	-2	7737	-28.08	4.35	-2.23
666	SLE RA 20	-88	-14	7800	-26.76	4.37	-2.23
666	SLE RA 21	-88	-2	7802	-27.89	4.38	-2.24
666	SLE FR 1	-85	-13	6891	-23.95	3.92	-2
666	SLE FR 2	-85	-9	6891	-24.32	3.92	-2
666	SLE FR 3	-85	-13	6917	-23.87	3.93	-2
666	SLE FR 4	-85	-9	7145	-25.23	4.05	-2.07
666	SLE FR 5	-86	-13	7170	-24.77	4.06	-2.07
666	SLE FR 6	-86	-13	7313	-25.45	4.13	-2.11
666	SLE QP 1	-85	-13	6891	-23.95	3.92	-2
666	SLE QP 2	-85	-13	7144	-24.85	4.05	-2.06
666	SLD 1	458	161	8152	-43.09	7.09	-3.26
666	SLD 2	460	58	8139	-41.46	7.08	-2.1
666	SLD 3	467	-183	8109	-5.47	6.76	-2.88
666	SLD 4	469	-286	8096	-3.84	6.75	-1.72
666	SLD 5	64	580	7514	-87.67	5.46	-3.22
666	SLD 6	65	512	7505	-86.59	5.45	-2.45
666	SLD 7	94	-567	7371	37.72	4.36	-1.93
666	SLD 8	95	-636	7362	38.79	4.35	-1.16
666	SLD 9	-266	610	6926	-88.5	3.74	-2.96
666	SLD 10	-265	542	6917	-87.42	3.73	-2.19
666	SLD 11	-236	-537	6783	36.89	2.64	-1.67
666	SLD 12	-234	-606	6774	37.96	2.63	-0.91
666	SLD 13	-640	261	6192	-45.86	1.35	-2.41
666	SLD 14	-638	157	6179	-44.23	1.33	-1.25
666	SLD 15	-631	-84	6149	-8.25	1.02	-2.02
666	SLD 16	-629	-187	6136	-6.61	1	-0.86
666	SLV 1	766	269	8717	-54.32	8.8	-3.95
666	SLV 2	769	106	8698	-51.76	8.78	-2.13
666	SLV 3	780	-287	8648	6.51	8.27	-3.33
666	SLV 4	783	-449	8628	9.07	8.25	-1.51
666	SLV 5	147	945	7725	-126.43	6.29	-3.92
666	SLV 6	149	836	7712	-124.71	6.27	-2.69
666	SLV 7	196	-908	7494	76.35	4.51	-1.84
666	SLV 8	198	-1017	7480	78.07	4.49	-0.61
666	SLV 9	-369	991	6808	-127.77	3.6	-3.51
666	SLV 10	-367	882	6794	-126.05	3.59	-2.29
666	SLV 11	-320	-861	6576	75.01	1.82	-1.44



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
666	SLV 12	-318	-970	6563	76.73	1.81	-0.21
666	SLV 13	-954	424	5660	-58.77	-0.16	-2.62
666	SLV 14	-951	261	5640	-56.22	-0.18	-0.8
666	SLV 15	-939	-132	5590	2.06	-0.69	-1.99
666	SLV 16	-937	-294	5571	4.62	-0.71	-0.17
666	SLV FO 1	851	297	8875	-57.27	9.28	-4.14
666	SLV FO 2	854	118	8853	-54.45	9.26	-2.14
666	SLV FO 3	867	-315	8798	9.65	8.69	-3.46
666	SLV FO 4	870	-493	8777	12.46	8.67	-1.45
666	SLV FO 5	171	1040	7783	-136.59	6.51	-4.1
666	SLV FO 6	173	920	7769	-134.7	6.5	-2.75
666	SLV FO 7	224	-997	7529	86.46	4.55	-1.81
666	SLV FO 8	226	-1117	7514	88.36	4.54	-0.47
666	SLV FO 9	-397	1092	6774	-138.06	3.55	-3.66
666	SLV FO 10	-395	972	6759	-136.17	3.54	-2.31
666	SLV FO 11	-343	-946	6519	84.99	1.6	-1.37
666	SLV FO 12	-341	-1066	6505	86.89	1.58	-0.02
666	SLV FO 13	-1041	467	5511	-62.17	-0.58	-2.67
666	SLV FO 14	-1038	289	5490	-59.35	-0.6	-0.67
666	SLV FO 15	-1025	-144	5435	4.75	-1.16	-1.99
666	SLV FO 16	-1022	-322	5413	7.56	-1.19	0.02
666	CRTFP Ux+	0	0	0	0	0	0
666	CRTFP Ux-	0	0	0	0	0	0
666	CRTFP Uy+	0	0	0	0	0	0
666	CRTFP Uy-	0	0	0	0	0	0
667	SLU 1	-69	-18	5506	-262.99	130.77	-4.1
667	SLU 2	-69	7	5510	-265.47	130.8	-4.72
667	SLU 3	-70	-18	5635	-268.41	133.85	-4.17
667	SLU 4	-70	-3	5638	-269.9	133.87	-4.54
667	SLU 5	-70	7	5592	-268.86	132.76	-4.76
667	SLU 6	-71	-19	5717	-271.79	135.8	-4.21
667	SLU 7	-71	-4	5720	-273.28	135.82	-4.58
667	SLU 8	-70	-19	5670	-269.75	134.68	-4.18
667	SLU 9	-71	-4	5672	-271.24	134.7	-4.55
667	SLU 10	-72	5	6253	-300.98	148.4	-4.95
667	SLU 11	-73	-20	6378	-303.91	151.45	-4.4
667	SLU 12	-73	-5	6380	-305.4	151.47	-4.77
667	SLU 13	-73	5	6335	-304.36	150.35	-4.99
667	SLU 14	-73	-21	6460	-307.29	153.4	-4.44
667	SLU 15	-74	-6	6462	-308.78	153.42	-4.81
667	SLU 16	-73	-20	6413	-305.25	152.28	-4.41
667	SLU 17	-73	-6	6415	-306.74	152.3	-4.78
667	SLU 18	-72	-20	6567	-313.71	155.91	-4.43
667	SLU 19	-73	-5	6570	-315.2	155.93	-4.8
667	SLU 20	-73	-21	6649	-317.09	157.87	-4.47
667	SLU 21	-73	-6	6652	-318.58	157.88	-4.84
667	SLU 22	-75	-21	6406	-303.79	152.2	-4.45
667	SLU 23	-75	4	6410	-306.27	152.23	-5.07
667	SLU 24	-76	-22	6535	-309.21	155.28	-4.52
667	SLU 25	-77	-7	6537	-310.7	155.3	-4.89
667	SLU 26	-76	3	6491	-309.65	154.19	-5.11
667	SLU 27	-77	-22	6617	-312.59	157.23	-4.56
667	SLU 28	-77	-7	6619	-314.08	157.25	-4.93
667	SLU 29	-77	-22	6569	-310.55	156.11	-4.53
667	SLU 30	-77	-7	6572	-312.04	156.13	-4.9
667	SLU 31	-78	2	7152	-341.77	169.83	-5.3
667	SLU 32	-79	-24	7277	-344.71	172.88	-4.75
667	SLU 33	-79	-9	7280	-346.2	172.9	-5.12
667	SLU 34	-79	1	7234	-345.16	171.78	-5.34
667	SLU 35	-80	-24	7359	-348.09	174.83	-4.79
667	SLU 36	-80	-9	7362	-349.58	174.85	-5.16
667	SLU 37	-79	-24	7312	-346.05	173.71	-4.76
667	SLU 38	-79	-9	7315	-347.54	173.73	-5.13
667	SLU 39	-79	-24	7467	-354.5	177.34	-4.78
667	SLU 40	-79	-9	7469	-356	177.36	-5.15
667	SLU 41	-79	-24	7549	-357.89	179.3	-4.82
667	SLU 42	-80	-9	7551	-359.38	179.31	-5.19
667	SLU 43	-87	-22	6850	-327.9	162.65	-5.22
667	SLU 44	-88	3	6854	-330.38	162.68	-5.83
667	SLU 45	-89	-22	6979	-333.32	165.73	-5.28
667	SLU 46	-89	-8	6981	-334.81	165.75	-5.65
667	SLU 47	-89	3	6936	-333.76	164.64	-5.87
667	SLU 48	-89	-23	7061	-336.7	167.69	-5.32
667	SLU 49	-90	-8	7063	-338.19	167.71	-5.69
667	SLU 50	-89	-23	7014	-334.66	166.56	-5.29
667	SLU 51	-89	-8	7016	-336.15	166.58	-5.67
667	SLU 52	-90	1	7597	-365.88	180.28	-6.06
667	SLU 53	-91	-24	7722	-368.82	183.33	-5.51
667	SLU 54	-91	-9	7724	-370.31	183.35	-5.88
667	SLU 55	-91	1	7678	-369.27	182.24	-6.1
667	SLU 56	-92	-25	7804	-372.2	185.29	-5.55
667	SLU 57	-92	-10	7806	-373.69	185.31	-5.92
667	SLU 58	-91	-25	7756	-370.16	184.16	-5.52
667	SLU 59	-92	-10	7759	-371.65	184.18	-5.89
667	SLU 60	-91	-24	7911	-378.61	187.79	-5.54
667	SLU 61	-91	-9	7913	-380.1	187.81	-5.91
667	SLU 62	-92	-25	7993	-382	189.75	-5.58
667	SLU 63	-92	-10	7995	-383.49	189.77	-5.95
667	SLU 64	-94	-25	7749	-368.7	184.08	-5.56



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
667	SLU 65	-94	0	7753	-371.18	184.11	-6.18
667	SLU 66	-95	-26	7878	-374.12	187.16	-5.63
667	SLU 67	-95	-11	7880	-375.61	187.18	-6
667	SLU 68	-95	-1	7835	-374.56	186.07	-6.22
667	SLU 69	-96	-26	7960	-377.5	189.12	-5.67
667	SLU 70	-96	-12	7962	-378.99	189.14	-6.04
667	SLU 71	-95	-26	7913	-375.46	187.99	-5.64
667	SLU 72	-95	-11	7915	-376.95	188.01	-6.01
667	SLU 73	-96	-2	8496	-406.68	201.71	-6.41
667	SLU 74	-97	-28	8621	-409.62	204.76	-5.86
667	SLU 75	-98	-13	8623	-411.11	204.78	-6.23
667	SLU 76	-97	-3	8578	-410.06	203.67	-6.45
667	SLU 77	-98	-28	8703	-413	206.72	-5.9
667	SLU 78	-98	-13	8705	-414.49	206.74	-6.27
667	SLU 79	-98	-28	8656	-410.96	205.59	-5.87
667	SLU 80	-98	-13	8658	-412.45	205.61	-6.24
667	SLU 81	-97	-28	8810	-419.41	209.22	-5.89
667	SLU 82	-97	-13	8813	-420.9	209.24	-6.26
667	SLU 83	-98	-28	8892	-422.79	211.18	-5.93
667	SLU 84	-98	-14	8895	-424.29	211.2	-6.3
667	SLE RA 1	-71	-19	5763	-274.65	136.89	-4.2
667	SLE RA 2	-71	-2	5766	-276.3	136.91	-4.62
667	SLE RA 3	-71	-19	5849	-278.26	138.94	-4.25
667	SLE RA 4	-72	-9	5851	-279.25	138.96	-4.49
667	SLE RA 5	-71	-2	5820	-278.56	138.21	-4.64
667	SLE RA 6	-72	-19	5904	-280.51	140.25	-4.27
667	SLE RA 7	-72	-10	5905	-281.51	140.26	-4.52
667	SLE RA 8	-72	-19	5872	-279.16	139.5	-4.26
667	SLE RA 9	-72	-9	5874	-280.15	139.51	-4.5
667	SLE RA 10	-73	-3	6261	-299.97	148.64	-4.77
667	SLE RA 11	-73	-20	6344	-301.93	150.68	-4.4
667	SLE RA 12	-73	-10	6346	-302.92	150.69	-4.65
667	SLE RA 13	-73	-4	6316	-302.22	149.95	-4.8
667	SLE RA 14	-74	-21	6399	-304.18	151.98	-4.43
667	SLE RA 15	-74	-11	6401	-305.17	151.99	-4.67
667	SLE RA 16	-73	-21	6368	-302.82	151.23	-4.41
667	SLE RA 17	-73	-11	6369	-303.82	151.24	-4.66
667	SLE RA 18	-73	-20	6471	-308.46	153.65	-4.42
667	SLE RA 19	-73	-11	6472	-309.45	153.66	-4.67
667	SLE RA 20	-74	-21	6525	-310.71	154.96	-4.45
667	SLE RA 21	-74	-11	6527	-311.71	154.97	-4.7
667	SLE FR 1	-71	-19	5763	-274.65	136.89	-4.2
667	SLE FR 2	-71	-15	5764	-274.98	136.89	-4.29
667	SLE FR 3	-71	-19	5785	-275.55	137.41	-4.21
667	SLE FR 4	-71	-16	5976	-285.12	141.92	-4.35
667	SLE FR 5	-72	-19	5997	-285.69	142.44	-4.28
667	SLE FR 6	-72	-20	6117	-291.55	145.27	-4.31
667	SLE QP 1	-71	-19	5763	-274.65	136.89	-4.2
667	SLE QP 2	-71	-19	5975	-284.79	141.92	-4.27
667	SLD 1	390	127	6763	-333.71	161.52	12.03
667	SLD 2	392	44	6753	-332.01	161.3	15
667	SLD 3	398	-164	6730	-301.29	161.83	19.37
667	SLD 4	400	-247	6720	-299.59	161.61	22.34
667	SLD 5	55	482	6264	-348.93	147.37	-11.04
667	SLD 6	56	427	6257	-347.81	147.23	-9.08
667	SLD 7	81	-489	6153	-240.89	148.39	13.41
667	SLD 8	82	-544	6147	-239.77	148.25	15.37
667	SLD 9	-225	506	5804	-329.81	135.59	-23.91
667	SLD 10	-223	451	5797	-328.69	135.44	-21.95
667	SLD 11	-199	-465	5694	-221.77	136.61	0.54
667	SLD 12	-198	-520	5687	-220.65	136.46	2.5
667	SLD 13	-543	209	5231	-269.99	122.23	-30.87
667	SLD 14	-540	126	5221	-268.29	122.01	-27.9
667	SLD 15	-535	-82	5198	-237.58	122.54	-23.54
667	SLD 16	-533	-166	5188	-235.87	122.32	-20.57
667	SLV 1	651	217	7206	-362.06	172.49	21.08
667	SLV 2	654	87	7189	-359.4	172.15	25.74
667	SLV 3	664	-253	7152	-309.63	172.99	32.92
667	SLV 4	667	-383	7136	-306.97	172.64	37.57
667	SLV 5	126	790	6429	-387.98	150.4	-15.48
667	SLV 6	128	702	6418	-386.19	150.17	-12.35
667	SLV 7	167	-778	6250	-213.23	152.05	23.97
667	SLV 8	170	-866	6239	-211.43	151.82	27.11
667	SLV 9	-312	828	5712	-358.15	132.01	-35.64
667	SLV 10	-310	740	5701	-356.35	131.78	-32.51
667	SLV 11	-271	-740	5533	-183.39	133.66	3.81
667	SLV 12	-269	-828	5522	-181.6	133.43	6.95
667	SLV 13	-810	345	4815	-262.61	111.19	-46.11
667	SLV 14	-806	214	4799	-259.95	110.85	-41.46
667	SLV 15	-797	-125	4761	-210.18	111.69	-34.27
667	SLV 16	-794	-256	4745	-207.52	111.34	-29.62
667	SLV FO 1	723	241	7329	-369.79	175.55	23.62
667	SLV FO 2	727	98	7311	-366.86	175.17	28.74
667	SLV FO 3	737	-276	7270	-312.12	176.1	36.64
667	SLV FO 4	741	-420	7252	-309.19	175.72	41.76
667	SLV FO 5	146	870	6474	-398.3	151.25	-16.61
667	SLV FO 6	148	774	6462	-396.33	151	-13.16
667	SLV FO 7	191	-854	6278	-206.07	153.07	26.8
667	SLV FO 8	194	-951	6266	-204.1	152.81	30.24



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
667	SLV FO 9	-336	913	5685	-365.48	131.02	-38.78
667	SLV FO 10	-334	816	5673	-363.51	130.77	-35.33
667	SLV FO 11	-291	-812	5489	-173.25	132.84	4.62
667	SLV FO 12	-288	-909	5477	-171.28	132.58	8.07
667	SLV FO 13	-883	381	4699	-260.39	108.12	-50.3
667	SLV FO 14	-880	238	4681	-257.46	107.74	-45.18
667	SLV FO 15	-870	-136	4640	-202.72	108.66	-37.27
667	SLV FO 16	-866	-280	4622	-199.79	108.28	-32.16
667	CRTFP Ux+	0	0	0	0	0	0
667	CRTFP Ux-	0	0	0	0	0	0
667	CRTFP Uy+	0	0	0	0	0	0
667	CRTFP Uy-	0	0	0	0	0	0
669	SLU 1	-206	-90	17703	2241.51	-1842.95	7.8
669	SLU 2	-207	-9	17699	2234.36	-1840.79	16.61
669	SLU 3	-210	-93	18123	2296.95	-1887.34	7.85
669	SLU 4	-211	-44	18121	2292.66	-1886.05	13.14
669	SLU 5	-210	-11	17967	2269.84	-1869.19	16.61
669	SLU 6	-212	-95	18391	2332.43	-1915.74	7.85
669	SLU 7	-213	-46	18389	2328.14	-1914.45	13.14
669	SLU 8	-211	-94	18238	2312.48	-1899.75	7.79
669	SLU 9	-211	-45	18236	2308.19	-1898.46	13.08
669	SLU 10	-214	-18	20094	2537.84	-2091.95	15.44
669	SLU 11	-217	-103	20519	2600.43	-2138.5	6.67
669	SLU 12	-217	-54	20516	2596.14	-2137.21	11.97
669	SLU 13	-216	-20	20362	2573.32	-2120.36	15.44
669	SLU 14	-219	-105	20787	2635.91	-2166.91	6.67
669	SLU 15	-220	-56	20784	2631.62	-2165.61	11.96
669	SLU 16	-217	-104	20634	2615.96	-2150.91	6.61
669	SLU 17	-218	-55	20632	2611.67	-2149.62	11.9
669	SLU 18	-215	-104	21125	2675.06	-2201.75	6.12
669	SLU 19	-216	-55	21123	2670.76	-2200.46	11.41
669	SLU 20	-218	-106	21393	2710.54	-2230.15	6.11
669	SLU 21	-219	-57	21390	2706.25	-2228.86	11.4
669	SLU 22	-224	-106	20606	2615.78	-2146.11	7.6
669	SLU 23	-226	-24	20602	2608.63	-2143.95	16.42
669	SLU 24	-228	-108	21027	2671.22	-2190.5	7.65
669	SLU 25	-229	-59	21025	2666.93	-2189.21	12.95
669	SLU 26	-228	-26	20870	2644.11	-2172.36	16.42
669	SLU 27	-231	-110	21295	2706.7	-2218.91	7.65
669	SLU 28	-231	-61	21292	2702.41	-2217.61	12.94
669	SLU 29	-229	-109	21142	2686.75	-2202.91	7.59
669	SLU 30	-230	-60	21140	2682.46	-2201.62	12.88
669	SLU 31	-232	-34	22998	2912.11	-2395.12	15.24
669	SLU 32	-235	-118	23422	2974.7	-2441.67	6.48
669	SLU 33	-236	-69	23420	2970.41	-2440.37	11.77
669	SLU 34	-235	-35	23266	2947.59	-2423.52	15.24
669	SLU 35	-237	-120	23690	3010.18	-2470.07	6.48
669	SLU 36	-238	-71	23688	3005.89	-2468.78	11.77
669	SLU 37	-236	-119	23538	2990.23	-2454.08	6.42
669	SLU 38	-236	-70	23535	2985.94	-2452.78	11.71
669	SLU 39	-234	-119	24029	3049.32	-2504.91	5.92
669	SLU 40	-235	-70	24026	3045.03	-2503.62	11.21
669	SLU 41	-236	-121	24296	3084.81	-2533.31	5.92
669	SLU 42	-237	-72	24294	3080.52	-2532.02	11.21
669	SLU 43	-261	-112	22018	2785.65	-2291.89	10.2
669	SLU 44	-263	-31	22014	2778.49	-2289.73	19.02
669	SLU 45	-265	-115	22438	2841.08	-2336.28	10.26
669	SLU 46	-266	-66	22436	2836.79	-2334.99	15.55
669	SLU 47	-265	-33	22282	2813.98	-2318.14	19.02
669	SLU 48	-268	-117	22706	2876.56	-2364.69	10.25
669	SLU 49	-268	-68	22704	2872.27	-2363.39	15.54
669	SLU 50	-266	-116	22554	2856.61	-2348.69	10.19
669	SLU 51	-267	-67	22551	2852.32	-2347.4	15.49
669	SLU 52	-269	-40	24410	3081.97	-2540.9	17.84
669	SLU 53	-272	-125	24834	3144.56	-2587.45	9.08
669	SLU 54	-273	-76	24832	3140.27	-2586.15	14.37
669	SLU 55	-272	-42	24677	3117.46	-2569.3	17.84
669	SLU 56	-274	-127	25102	3180.04	-2615.85	9.08
669	SLU 57	-275	-78	25100	3175.75	-2614.56	14.37
669	SLU 58	-273	-126	24949	3160.09	-2599.86	9.02
669	SLU 59	-273	-77	24947	3155.8	-2598.56	14.31
669	SLU 60	-271	-126	25440	3219.19	-2650.69	8.52
669	SLU 61	-272	-77	25438	3214.9	-2649.4	13.81
669	SLU 62	-273	-128	25708	3254.67	-2679.09	8.52
669	SLU 63	-274	-79	25706	3250.38	-2677.8	13.81
669	SLU 64	-280	-127	24922	3159.91	-2595.05	10.01
669	SLU 65	-281	-46	24918	3152.76	-2592.9	18.83
669	SLU 66	-284	-130	25342	3215.35	-2639.45	10.06
669	SLU 67	-285	-81	25340	3211.06	-2638.15	15.35
669	SLU 68	-283	-48	25186	3188.25	-2621.3	18.82
669	SLU 69	-286	-132	25610	3250.83	-2667.85	10.06
669	SLU 70	-287	-83	25608	3246.54	-2666.56	15.35
669	SLU 71	-284	-131	25457	3230.88	-2651.86	10
669	SLU 72	-285	-82	25455	3226.59	-2650.56	15.29
669	SLU 73	-288	-55	27313	3456.24	-2844.06	17.65
669	SLU 74	-290	-140	27738	3518.83	-2890.61	8.88
669	SLU 75	-291	-91	27735	3514.54	-2889.32	14.18
669	SLU 76	-290	-57	27581	3491.73	-2872.46	17.65
669	SLU 77	-293	-142	28006	3554.31	-2919.01	8.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
669	SLU 78	-293	-93	28003	3550.02	-2917.72	14.17
669	SLU 79	-291	-141	27853	3534.36	-2903.02	8.82
669	SLU 80	-292	-92	27851	3530.07	-2901.73	14.11
669	SLU 81	-289	-141	28344	3593.46	-2953.85	8.33
669	SLU 82	-290	-92	28341	3589.17	-2952.56	13.62
669	SLU 83	-292	-143	28612	3628.94	-2982.26	8.32
669	SLU 84	-292	-94	28609	3624.65	-2980.96	13.61
669	SLE RA 1	-211	-95	18532	2348.45	-1929.56	7.74
669	SLE RA 2	-212	-40	18530	2343.68	-1928.13	13.62
669	SLE RA 3	-214	-97	18813	2385.4	-1959.16	7.78
669	SLE RA 4	-214	-64	18811	2382.54	-1958.3	11.3
669	SLE RA 5	-214	-42	18708	2367.33	-1947.06	13.62
669	SLE RA 6	-215	-98	18991	2409.06	-1978.1	7.77
669	SLE RA 7	-216	-65	18990	2406.2	-1977.23	11.3
669	SLE RA 8	-214	-97	18889	2395.76	-1967.43	7.73
669	SLE RA 9	-215	-65	18888	2392.9	-1966.57	11.26
669	SLE RA 10	-216	-47	20127	2546	-2095.57	12.84
669	SLE RA 11	-218	-103	20410	2587.72	-2126.6	6.99
669	SLE RA 12	-219	-70	20408	2584.86	-2125.74	10.52
669	SLE RA 13	-218	-48	20305	2569.65	-2114.5	12.83
669	SLE RA 14	-220	-104	20588	2611.38	-2145.54	6.99
669	SLE RA 15	-220	-72	20587	2608.52	-2144.68	10.52
669	SLE RA 16	-219	-104	20487	2598.08	-2134.88	6.95
669	SLE RA 17	-219	-71	20485	2595.22	-2134.01	10.48
669	SLE RA 18	-218	-104	20814	2637.48	-2168.76	6.62
669	SLE RA 19	-218	-71	20812	2634.61	-2167.9	10.15
669	SLE RA 20	-219	-105	20992	2661.13	-2187.7	6.62
669	SLE RA 21	-220	-73	20991	2658.27	-2186.84	10.15
669	SLE FR 1	-211	-95	18532	2348.45	-1929.56	7.74
669	SLE FR 2	-211	-84	18532	2347.49	-1929.28	8.92
669	SLE FR 3	-212	-95	18604	2357.91	-1937.14	7.74
669	SLE FR 4	-213	-87	19216	2434.2	-2001.04	8.58
669	SLE FR 5	-214	-98	19288	2444.62	-2008.9	7.4
669	SLE FR 6	-214	-99	19673	2492.96	-2049.16	7.18
669	SLE QP 1	-211	-95	18532	2348.45	-1929.56	7.74
669	SLE QP 2	-213	-97	19217	2435.16	-2001.32	7.4
669	SLD 1	1308	379	21480	2691.63	-2191.14	-138.28
669	SLD 2	1307	127	21459	2692.24	-2190.61	-157.83
669	SLD 3	1331	-575	21591	2795.02	-2222.4	-240.8
669	SLD 4	1330	-827	21569	2795.62	-2221.87	-260.35
669	SLD 5	208	1537	19732	2355.18	-2010.96	122.71
669	SLD 6	208	1371	19718	2355.58	-2010.61	109.8
669	SLD 7	285	-1642	20101	2699.81	-2115.15	-219.03
669	SLD 8	285	-1808	20086	2700.21	-2114.8	-231.93
669	SLD 9	-711	1613	18347	2170.1	-1887.85	246.74
669	SLD 10	-712	1447	18333	2170.5	-1887.5	233.84
669	SLD 11	-634	-1566	18716	2514.73	-1992.04	-95
669	SLD 12	-634	-1732	18701	2515.13	-1991.69	-107.9
669	SLD 13	-1757	632	16864	2074.69	-1780.78	275.16
669	SLD 14	-1757	380	16843	2075.29	-1780.25	255.61
669	SLD 15	-1733	-322	16975	2178.07	-1812.04	172.64
669	SLD 16	-1734	-574	16953	2178.68	-1811.51	153.09
669	SLV 1	2169	672	22745	2832.32	-2296.56	-218.2
669	SLV 2	2167	277	22712	2833.27	-2295.73	-248.82
669	SLV 3	2206	-868	22924	2999.47	-2347.02	-383.75
669	SLV 4	2205	-1263	22890	3000.42	-2346.19	-414.38
669	SLV 5	445	2543	20011	2300.63	-2013.51	196.53
669	SLV 6	444	2277	19989	2301.27	-2012.95	175.91
669	SLV 7	570	-2591	20605	2857.77	-2181.73	-355.32
669	SLV 8	569	-2857	20583	2858.41	-2181.17	-375.94
669	SLV 9	-995	2662	17851	2011.9	-1821.48	390.75
669	SLV 10	-996	2396	17828	2012.54	-1820.92	370.13
669	SLV 11	-870	-2472	18445	2569.04	-1989.7	-161.11
669	SLV 12	-871	-2738	18422	2569.68	-1989.14	-181.72
669	SLV 13	-2631	1068	15544	1869.89	-1656.46	429.18
669	SLV 14	-2632	673	15510	1870.84	-1655.63	398.56
669	SLV 15	-2594	-472	15722	2037.04	-1706.92	263.63
669	SLV 16	-2595	-867	15688	2037.99	-1706.09	233.01
669	SLV FO 1	2407	749	23098	2872.04	-2326.08	-240.76
669	SLV FO 2	2406	315	23061	2873.09	-2325.17	-274.44
669	SLV FO 3	2448	-945	23294	3055.9	-2381.59	-422.87
669	SLV FO 4	2447	-1379	23257	3056.94	-2380.68	-456.55
669	SLV FO 5	511	2807	20091	2287.17	-2014.73	215.44
669	SLV FO 6	510	2514	20066	2287.88	-2014.11	192.77
669	SLV FO 7	648	-2840	20744	2900.03	-2199.77	-391.59
669	SLV FO 8	647	-3133	20719	2900.74	-2199.15	-414.27
669	SLV FO 9	-1073	2938	17714	1969.57	-1803.5	429.08
669	SLV FO 10	-1074	2645	17689	1970.28	-1802.88	406.4
669	SLV FO 11	-936	-2709	18368	2582.43	-1988.53	-177.96
669	SLV FO 12	-937	-3002	18343	2583.14	-1987.92	-200.63
669	SLV FO 13	-2873	1184	15176	1813.37	-1621.97	471.36
669	SLV FO 14	-2874	750	15139	1814.41	-1621.06	437.68
669	SLV FO 15	-2832	-510	15372	1997.22	-1677.48	289.25
669	SLV FO 16	-2833	-944	15335	1998.27	-1676.57	255.57
669	CRTFP Ux+	0	0	0	0	0	0
669	CRTFP Ux-	0	0	0	0	0	0
669	CRTFP Uy+	0	0	0	0	0	0
669	CRTFP Uy-	0	0	0	0	0	0
671	SLU 1	-162	-114	14953	-1118.19	-727.28	-17.75



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
671	SLU 2	-163	-45	14945	-1121.9	-726.54	-14.57
671	SLU 3	-165	-117	15310	-1143.44	-744.8	-18.12
671	SLU 4	-165	-76	15305	-1145.67	-744.36	-16.22
671	SLU 5	-165	-47	15173	-1137.96	-737.79	-14.81
671	SLU 6	-167	-119	15538	-1159.5	-756.05	-18.37
671	SLU 7	-167	-78	15533	-1161.73	-755.61	-16.46
671	SLU 8	-165	-118	15409	-1150.31	-749.78	-18.23
671	SLU 9	-166	-77	15405	-1152.54	-749.34	-16.33
671	SLU 10	-168	-57	16981	-1272.83	-827.13	-15.63
671	SLU 11	-170	-130	17346	-1294.37	-845.39	-19.18
671	SLU 12	-170	-88	17341	-1296.6	-844.95	-17.27
671	SLU 13	-170	-59	17209	-1288.89	-838.38	-15.87
671	SLU 14	-172	-132	17574	-1310.43	-856.64	-19.42
671	SLU 15	-172	-90	17569	-1312.66	-856.2	-17.52
671	SLU 16	-170	-131	17445	-1301.24	-850.37	-19.29
671	SLU 17	-171	-89	17440	-1303.47	-849.93	-17.39
671	SLU 18	-169	-132	17861	-1333.8	-870.98	-19.26
671	SLU 19	-170	-90	17856	-1336.03	-870.54	-17.35
671	SLU 20	-171	-134	18089	-1349.87	-882.23	-19.5
671	SLU 21	-171	-92	18084	-1352.09	-881.79	-17.6
671	SLU 22	-176	-131	17403	-1295.49	-846.42	-19.62
671	SLU 23	-177	-61	17395	-1299.2	-845.69	-16.44
671	SLU 24	-179	-134	17760	-1320.74	-863.94	-19.99
671	SLU 25	-180	-92	17755	-1322.96	-863.5	-18.09
671	SLU 26	-179	-63	17623	-1315.26	-856.94	-16.68
671	SLU 27	-181	-136	17988	-1336.8	-875.2	-20.24
671	SLU 28	-182	-94	17983	-1339.02	-874.75	-18.33
671	SLU 29	-180	-135	17859	-1327.61	-868.92	-20.1
671	SLU 30	-180	-93	17855	-1329.84	-868.48	-18.2
671	SLU 31	-182	-73	19431	-1450.13	-946.28	-17.5
671	SLU 32	-184	-146	19796	-1471.67	-964.54	-21.05
671	SLU 33	-185	-104	19791	-1473.89	-964.1	-19.15
671	SLU 34	-184	-76	19659	-1466.19	-957.53	-17.74
671	SLU 35	-186	-148	20024	-1487.73	-975.79	-21.3
671	SLU 36	-187	-106	20019	-1489.95	-975.35	-19.39
671	SLU 37	-185	-147	19895	-1478.54	-969.51	-21.16
671	SLU 38	-185	-105	19890	-1480.76	-969.07	-19.26
671	SLU 39	-183	-148	20311	-1511.1	-990.12	-21.13
671	SLU 40	-184	-106	20306	-1513.33	-989.68	-19.22
671	SLU 41	-185	-150	20539	-1527.16	-1001.37	-21.37
671	SLU 42	-186	-108	20534	-1529.39	-1000.93	-19.47
671	SLU 43	-205	-143	18599	-1392.86	-904.61	-22.43
671	SLU 44	-206	-74	18591	-1396.57	-903.88	-19.25
671	SLU 45	-208	-146	18956	-1418.11	-922.13	-22.8
671	SLU 46	-209	-104	18951	-1420.34	-921.69	-20.9
671	SLU 47	-208	-76	18819	-1412.63	-915.13	-19.5
671	SLU 48	-210	-148	19184	-1434.17	-933.39	-23.05
671	SLU 49	-211	-106	19179	-1436.4	-932.95	-21.14
671	SLU 50	-209	-147	19055	-1424.98	-927.11	-22.92
671	SLU 51	-210	-105	19051	-1427.21	-926.67	-21.01
671	SLU 52	-211	-86	20627	-1547.5	-1004.47	-20.31
671	SLU 53	-213	-158	20991	-1569.04	-1022.73	-23.86
671	SLU 54	-214	-117	20987	-1571.27	-1022.29	-21.96
671	SLU 55	-213	-88	20855	-1563.56	-1015.72	-20.56
671	SLU 56	-215	-160	21219	-1585.1	-1033.98	-24.11
671	SLU 57	-216	-119	21215	-1587.33	-1033.54	-22.2
671	SLU 58	-214	-159	21091	-1575.91	-1027.7	-23.97
671	SLU 59	-215	-118	21086	-1578.14	-1027.26	-22.07
671	SLU 60	-212	-160	21507	-1608.47	-1048.31	-23.94
671	SLU 61	-213	-119	21502	-1610.7	-1047.87	-22.04
671	SLU 62	-214	-162	21735	-1624.54	-1059.56	-24.18
671	SLU 63	-215	-121	21730	-1626.76	-1059.12	-22.28
671	SLU 64	-220	-159	21049	-1570.16	-1023.75	-24.3
671	SLU 65	-221	-90	21041	-1573.87	-1023.02	-21.12
671	SLU 66	-223	-162	21406	-1595.41	-1041.28	-24.67
671	SLU 67	-223	-121	21401	-1597.63	-1040.84	-22.77
671	SLU 68	-223	-92	21269	-1589.93	-1034.27	-21.37
671	SLU 69	-225	-165	21634	-1611.47	-1052.53	-24.92
671	SLU 70	-225	-123	21629	-1613.69	-1052.09	-23.01
671	SLU 71	-223	-164	21505	-1602.28	-1046.26	-24.79
671	SLU 72	-224	-122	21501	-1604.51	-1045.82	-22.88
671	SLU 73	-226	-102	23077	-1724.8	-1123.61	-22.18
671	SLU 74	-228	-175	23442	-1746.34	-1141.87	-25.73
671	SLU 75	-228	-133	23437	-1748.56	-1141.43	-23.83
671	SLU 76	-228	-104	23305	-1740.86	-1134.86	-22.43
671	SLU 77	-230	-177	23670	-1762.4	-1153.12	-25.98
671	SLU 78	-230	-135	23665	-1764.62	-1152.68	-24.07
671	SLU 79	-228	-176	23541	-1753.21	-1146.85	-25.85
671	SLU 80	-229	-134	23536	-1755.43	-1146.41	-23.94
671	SLU 81	-227	-177	23957	-1785.77	-1167.46	-25.81
671	SLU 82	-228	-135	23952	-1788	-1167.02	-23.91
671	SLU 83	-229	-179	24185	-1801.83	-1178.71	-26.06
671	SLU 84	-229	-137	24180	-1804.06	-1178.27	-24.15
671	SLE RA 1	-166	-119	15653	-1168.85	-761.32	-18.28
671	SLE RA 2	-167	-73	15648	-1171.32	-760.83	-16.16
671	SLE RA 3	-168	-121	15891	-1185.68	-773	-18.53
671	SLE RA 4	-168	-93	15888	-1187.16	-772.71	-17.26
671	SLE RA 5	-168	-74	15800	-1182.03	-768.33	-16.33
671	SLE RA 6	-169	-122	16043	-1196.39	-780.5	-18.69



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
671	SLE RA 7	-170	-95	16040	-1197.87	-780.21	-17.42
671	SLE RA 8	-168	-122	15957	-1190.26	-776.32	-18.61
671	SLE RA 9	-169	-94	15954	-1191.75	-776.03	-17.34
671	SLE RA 10	-170	-81	17005	-1271.94	-827.89	-16.87
671	SLE RA 11	-171	-129	17248	-1286.3	-840.06	-19.24
671	SLE RA 12	-172	-101	17245	-1287.78	-839.77	-17.97
671	SLE RA 13	-171	-82	17157	-1282.65	-835.39	-17.03
671	SLE RA 14	-172	-131	17400	-1297.01	-847.56	-19.4
671	SLE RA 15	-173	-103	17397	-1298.49	-847.27	-18.13
671	SLE RA 16	-172	-130	17314	-1290.88	-843.38	-19.31
671	SLE RA 17	-172	-102	17311	-1292.37	-843.09	-18.04
671	SLE RA 18	-171	-131	17592	-1312.59	-857.12	-19.29
671	SLE RA 19	-171	-103	17589	-1314.07	-856.83	-18.02
671	SLE RA 20	-172	-132	17744	-1323.3	-864.62	-19.45
671	SLE RA 21	-172	-104	17741	-1324.78	-864.33	-18.18
671	SLE FR 1	-166	-119	15653	-1168.85	-761.32	-18.28
671	SLE FR 2	-166	-110	15652	-1169.34	-761.22	-17.86
671	SLE FR 3	-166	-120	15714	-1173.13	-764.32	-18.35
671	SLE FR 4	-167	-113	16234	-1212.46	-789.96	-18.16
671	SLE FR 5	-168	-123	16296	-1216.25	-793.06	-18.65
671	SLE FR 6	-168	-125	16622	-1240.72	-809.22	-18.78
671	SLE QP 1	-166	-119	15653	-1168.85	-761.32	-18.28
671	SLE QP 2	-167	-123	16235	-1211.97	-790.06	-18.58
671	SLD 1	1128	270	17866	-1349.93	-835.94	94.73
671	SLD 2	1136	87	17858	-1347.21	-836.71	90.82
671	SLD 3	1150	-537	18002	-1301.4	-846.71	58.4
671	SLD 4	1157	-721	17994	-1298.69	-847.48	54.49
671	SLD 5	188	1253	16519	-1327.44	-787.35	71.22
671	SLD 6	193	1132	16514	-1325.65	-787.86	68.64
671	SLD 7	259	-1439	16973	-1165.69	-823.25	-49.88
671	SLD 8	264	-1560	16967	-1163.9	-823.75	-52.47
671	SLD 9	-598	1315	15502	-1260.04	-756.36	15.3
671	SLD 10	-593	1193	15497	-1258.25	-756.87	12.72
671	SLD 11	-527	-1377	15955	-1098.29	-792.26	-105.8
671	SLD 12	-522	-1498	15950	-1096.5	-792.76	-108.38
671	SLD 13	-1492	476	14475	-1125.25	-732.64	-91.66
671	SLD 14	-1484	292	14467	-1122.54	-733.41	-95.57
671	SLD 15	-1470	-332	14611	-1076.73	-743.41	-127.99
671	SLD 16	-1463	-516	14603	-1074.01	-744.18	-131.9
671	SLV 1	1861	513	18776	-1428.62	-861.31	159.81
671	SLV 2	1873	225	18764	-1424.37	-862.51	153.69
671	SLV 3	1896	-791	18996	-1350.06	-878.72	101.1
671	SLV 4	1908	-1079	18983	-1345.81	-879.93	94.97
671	SLV 5	387	2100	16667	-1396.91	-784.8	125.13
671	SLV 6	395	1906	16658	-1394.05	-785.61	121.01
671	SLV 7	502	-2247	17398	-1135.04	-842.84	-70.59
671	SLV 8	510	-2441	17390	-1132.17	-843.65	-74.71
671	SLV 9	-844	2196	15080	-1291.77	-736.46	37.55
671	SLV 10	-836	2002	15072	-1288.9	-737.27	33.42
671	SLV 11	-729	-2151	15811	-1029.89	-794.51	-158.17
671	SLV 12	-721	-2345	15803	-1027.03	-795.32	-162.3
671	SLV 13	-2242	834	13486	-1078.13	-700.19	-132.14
671	SLV 14	-2230	546	13474	-1073.88	-701.4	-138.26
671	SLV 15	-2208	-470	13706	-999.57	-717.6	-190.85
671	SLV 16	-2196	-758	13693	-995.32	-718.81	-196.98
671	SLV FO 1	2064	577	19030	-1450.29	-868.43	177.65
671	SLV FO 2	2077	260	19017	-1445.61	-869.76	170.91
671	SLV FO 3	2102	-858	19272	-1363.87	-887.59	113.06
671	SLV FO 4	2115	-1175	19258	-1359.19	-888.91	106.33
671	SLV FO 5	442	2322	16710	-1415.41	-784.27	139.5
671	SLV FO 6	451	2109	16701	-1412.26	-785.16	134.96
671	SLV FO 7	569	-2460	17514	-1127.34	-848.12	-75.79
671	SLV FO 8	578	-2673	17505	-1124.19	-849.01	-80.32
671	SLV FO 9	-912	2428	14964	-1299.74	-731.1	43.16
671	SLV FO 10	-903	2215	14955	-1296.6	-732	38.62
671	SLV FO 11	-785	-2354	15769	-1011.68	-794.95	-172.13
671	SLV FO 12	-777	-2567	15760	-1008.53	-795.84	-176.67
671	SLV FO 13	-2450	930	13212	-1064.75	-691.2	-143.49
671	SLV FO 14	-2437	613	13198	-1060.07	-692.53	-150.23
671	SLV FO 15	-2412	-505	13453	-978.33	-710.36	-208.08
671	SLV FO 16	-2399	-822	13439	-973.65	-711.68	-214.82
671	CRTFP Ux+	0	0	0	0	0	0
671	CRTFP Ux-	0	0	0	0	0	0
671	CRTFP Uy+	0	0	0	0	0	0
671	CRTFP Uy-	0	0	0	0	0	0
672	SLU 1	-22	-16	2014	491.13	-107.59	4.62
672	SLU 2	-22	-6	2011	489.97	-107.43	5.16
672	SLU 3	-22	-16	2063	503.16	-110.2	4.71
672	SLU 4	-22	-10	2061	502.46	-110.1	5.02
672	SLU 5	-22	-6	2043	497.67	-109.1	5.2
672	SLU 6	-22	-16	2094	510.86	-111.87	4.75
672	SLU 7	-23	-11	2093	510.16	-111.77	5.07
672	SLU 8	-22	-16	2077	506.53	-110.93	4.71
672	SLU 9	-22	-10	2075	505.84	-110.83	5.03
672	SLU 10	-23	-8	2287	557.18	-122.16	5.23
672	SLU 11	-23	-18	2339	570.37	-124.93	4.78
672	SLU 12	-23	-12	2337	569.67	-124.83	5.1
672	SLU 13	-23	-8	2318	564.89	-123.83	5.28
672	SLU 14	-23	-18	2370	578.07	-126.59	4.83



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
672	SLU 15	-23	-12	2368	577.38	-126.5	5.15
672	SLU 16	-23	-18	2352	573.75	-125.66	4.79
672	SLU 17	-23	-12	2351	573.05	-125.56	5.11
672	SLU 18	-23	-18	2408	587.15	-128.63	4.74
672	SLU 19	-23	-12	2406	586.45	-128.53	5.05
672	SLU 20	-23	-18	2439	594.85	-130.3	4.78
672	SLU 21	-23	-13	2437	594.15	-130.2	5.1
672	SLU 22	-24	-18	2347	572.84	-125.37	5
672	SLU 23	-24	-8	2344	571.68	-125.21	5.53
672	SLU 24	-24	-18	2396	584.87	-127.98	5.08
672	SLU 25	-24	-13	2394	584.17	-127.88	5.4
672	SLU 26	-24	-9	2375	579.38	-126.88	5.57
672	SLU 27	-24	-18	2427	592.57	-129.65	5.12
672	SLU 28	-24	-13	2425	591.87	-129.55	5.44
672	SLU 29	-24	-18	2410	588.24	-128.71	5.09
672	SLU 30	-24	-13	2408	587.55	-128.61	5.41
672	SLU 31	-25	-10	2620	638.89	-139.94	5.61
672	SLU 32	-25	-20	2672	652.08	-142.71	5.16
672	SLU 33	-25	-14	2670	651.38	-142.61	5.47
672	SLU 34	-25	-10	2651	646.59	-141.61	5.65
672	SLU 35	-25	-20	2703	659.78	-144.37	5.2
672	SLU 36	-25	-14	2701	659.09	-144.28	5.52
672	SLU 37	-25	-20	2685	655.46	-143.44	5.17
672	SLU 38	-25	-14	2683	654.76	-143.34	5.48
672	SLU 39	-25	-20	2741	668.86	-146.41	5.11
672	SLU 40	-25	-15	2739	668.16	-146.31	5.43
672	SLU 41	-25	-20	2772	676.56	-148.08	5.15
672	SLU 42	-25	-15	2770	675.86	-147.98	5.47
672	SLU 43	-28	-19	2505	610.45	-133.77	5.88
672	SLU 44	-28	-10	2502	609.29	-133.61	6.41
672	SLU 45	-28	-20	2554	622.48	-136.38	5.97
672	SLU 46	-28	-14	2552	621.79	-136.28	6.28
672	SLU 47	-28	-10	2533	617	-135.28	6.46
672	SLU 48	-28	-20	2585	630.18	-138.05	6.01
672	SLU 49	-28	-14	2583	629.49	-137.95	6.33
672	SLU 50	-28	-20	2567	625.86	-137.11	5.97
672	SLU 51	-28	-14	2565	625.16	-137.01	6.29
672	SLU 52	-28	-12	2777	676.51	-148.34	6.49
672	SLU 53	-29	-21	2829	689.7	-151.11	6.04
672	SLU 54	-29	-16	2827	689	-151.01	6.36
672	SLU 55	-29	-12	2808	684.21	-150.01	6.54
672	SLU 56	-29	-22	2860	697.4	-152.78	6.09
672	SLU 57	-29	-16	2858	696.7	-152.68	6.41
672	SLU 58	-29	-22	2843	693.07	-151.84	6.05
672	SLU 59	-29	-16	2841	692.37	-151.74	6.37
672	SLU 60	-29	-22	2898	706.47	-154.81	6
672	SLU 61	-29	-16	2896	705.78	-154.72	6.31
672	SLU 62	-29	-22	2930	714.17	-156.48	6.04
672	SLU 63	-29	-16	2928	713.48	-156.38	6.36
672	SLU 64	-30	-22	2838	692.16	-151.55	6.26
672	SLU 65	-30	-12	2835	691	-151.39	6.79
672	SLU 66	-30	-22	2886	704.19	-154.16	6.34
672	SLU 67	-30	-16	2884	703.5	-154.06	6.66
672	SLU 68	-30	-13	2866	698.71	-153.06	6.83
672	SLU 69	-30	-22	2918	711.89	-155.83	6.38
672	SLU 70	-30	-17	2916	711.2	-155.73	6.7
672	SLU 71	-30	-22	2900	707.57	-154.89	6.35
672	SLU 72	-30	-17	2898	706.87	-154.79	6.67
672	SLU 73	-30	-14	3110	758.22	-166.12	6.87
672	SLU 74	-31	-24	3162	771.4	-168.89	6.42
672	SLU 75	-31	-18	3160	770.71	-168.79	6.73
672	SLU 76	-31	-14	3141	765.92	-167.79	6.91
672	SLU 77	-31	-24	3193	779.11	-170.56	6.46
672	SLU 78	-31	-18	3191	778.41	-170.46	6.78
672	SLU 79	-31	-24	3175	774.78	-169.62	6.43
672	SLU 80	-31	-18	3174	774.08	-169.52	6.74
672	SLU 81	-31	-24	3231	788.18	-172.59	6.37
672	SLU 82	-31	-18	3229	787.49	-172.5	6.69
672	SLU 83	-31	-24	3262	795.88	-174.26	6.41
672	SLU 84	-31	-19	3260	795.19	-174.16	6.73
672	SLE RA 1	-22	-16	2110	514.48	-112.67	4.73
672	SLE RA 2	-22	-10	2108	513.7	-112.56	5.08
672	SLE RA 3	-23	-16	2142	522.49	-114.41	4.78
672	SLE RA 4	-23	-13	2141	522.03	-114.34	5
672	SLE RA 5	-23	-10	2128	518.84	-113.68	5.11
672	SLE RA 6	-23	-17	2163	527.63	-115.52	4.81
672	SLE RA 7	-23	-13	2162	527.16	-115.46	5.03
672	SLE RA 8	-23	-17	2151	524.74	-114.9	4.79
672	SLE RA 9	-23	-13	2150	524.28	-114.83	5
672	SLE RA 10	-23	-11	2291	558.51	-122.38	5.14
672	SLE RA 11	-23	-18	2326	567.3	-124.23	4.84
672	SLE RA 12	-23	-14	2325	566.84	-124.16	5.05
672	SLE RA 13	-23	-11	2312	563.65	-123.49	5.17
672	SLE RA 14	-23	-18	2347	572.44	-125.34	4.87
672	SLE RA 15	-23	-14	2345	571.97	-125.28	5.08
672	SLE RA 16	-23	-18	2335	569.55	-124.71	4.84
672	SLE RA 17	-23	-14	2334	569.09	-124.65	5.06
672	SLE RA 18	-23	-18	2372	578.49	-126.7	4.81
672	SLE RA 19	-23	-14	2371	578.02	-126.63	5.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
672	SLE RA 20	-23	-18	2393	583.62	-127.81	4.84
672	SLE RA 21	-23	-14	2392	583.16	-127.75	5.05
672	SLE FR 1	-22	-16	2110	514.48	-112.67	4.73
672	SLE FR 2	-22	-15	2109	514.32	-112.65	4.8
672	SLE FR 3	-22	-16	2118	516.53	-113.12	4.74
672	SLE FR 4	-23	-15	2188	533.52	-116.86	4.82
672	SLE FR 5	-23	-17	2197	535.73	-117.32	4.77
672	SLE FR 6	-23	-17	2241	546.48	-119.69	4.77
672	SLE QP 1	-22	-16	2110	514.48	-112.67	4.73
672	SLE QP 2	-23	-17	2188	533.68	-116.88	4.75
672	SLD 1	153	36	2389	578.34	-127.35	-36.21
672	SLD 2	152	12	2389	578.57	-127.37	-37.29
672	SLD 3	155	-73	2433	595.09	-129.74	-42.46
672	SLD 4	155	-96	2433	595.32	-129.76	-43.54
672	SLD 5	26	168	2181	521.63	-116.39	2.13
672	SLD 6	26	152	2181	521.78	-116.41	1.42
672	SLD 7	35	-194	2329	577.47	-124.36	-18.69
672	SLD 8	34	-209	2329	577.62	-124.37	-19.4
672	SLD 9	-79	176	2047	489.74	-109.39	28.91
672	SLD 10	-80	161	2048	489.89	-109.4	28.19
672	SLD 11	-71	-186	2195	545.58	-117.35	8.09
672	SLD 12	-71	-201	2196	545.73	-117.37	7.37
672	SLD 13	-200	63	1943	472.04	-104	53.04
672	SLD 14	-200	39	1943	472.27	-104.02	51.96
672	SLD 15	-197	-46	1988	488.79	-106.39	46.8
672	SLD 16	-198	-69	1988	489.02	-106.41	45.72
672	SLV 1	252	69	2500	602.88	-133.15	-59.25
672	SLV 2	251	31	2500	603.24	-133.18	-60.94
672	SLV 3	256	-107	2571	629.95	-137.01	-69.33
672	SLV 4	255	-144	2572	630.31	-137.03	-71.02
672	SLV 5	54	282	2173	513.33	-115.9	1.16
672	SLV 6	53	257	2173	513.57	-115.92	0.02
672	SLV 7	67	-303	2412	603.54	-128.77	-32.44
672	SLV 8	67	-328	2412	603.78	-128.78	-33.58
672	SLV 9	-112	294	1964	463.58	-104.98	43.09
672	SLV 10	-112	269	1965	463.82	-104.99	41.95
672	SLV 11	-98	-290	2203	553.79	-117.84	9.49
672	SLV 12	-99	-315	2204	554.03	-117.86	8.35
672	SLV 13	-300	111	1805	437.05	-96.73	80.53
672	SLV 14	-301	74	1805	437.41	-96.75	78.83
672	SLV 15	-296	-65	1876	464.11	-100.58	70.45
672	SLV 16	-297	-102	1877	464.47	-100.61	68.75
672	SLV FO 1	279	77	2531	609.8	-134.78	-65.65
672	SLV FO 2	278	36	2531	610.2	-134.8	-67.51
672	SLV FO 3	284	-116	2610	639.57	-139.02	-76.74
672	SLV FO 4	283	-157	2610	639.97	-139.05	-78.6
672	SLV FO 5	61	312	2171	511.29	-115.81	0.8
672	SLV FO 6	61	284	2172	511.56	-115.83	-0.45
672	SLV FO 7	76	-331	2434	610.52	-129.95	-36.16
672	SLV FO 8	76	-359	2435	610.79	-129.97	-37.42
672	SLV FO 9	-121	326	1942	456.57	-103.79	46.93
672	SLV FO 10	-121	298	1942	456.84	-103.81	45.67
672	SLV FO 11	-106	-317	2205	555.8	-117.93	9.96
672	SLV FO 12	-107	-345	2205	556.06	-117.95	8.71
672	SLV FO 13	-328	123	1766	427.39	-94.71	88.1
672	SLV FO 14	-329	83	1767	427.79	-94.74	86.24
672	SLV FO 15	-323	-69	1845	457.16	-98.96	77.02
672	SLV FO 16	-324	-110	1846	457.55	-98.98	75.15
672	CRTFP Ux+	0	0	0	0	0	0
672	CRTFP Ux-	0	0	0	0	0	0
672	CRTFP Uy+	0	0	0	0	0	0
672	CRTFP Uy-	0	0	0	0	0	0
675	SLU 1	-56	-39	5365	107.87	-69.3	1.5
675	SLU 2	-56	-14	5360	105.82	-69.26	1.8
675	SLU 3	-57	-40	5495	111.16	-70.96	1.52
675	SLU 4	-57	-25	5491	109.93	-70.94	1.71
675	SLU 5	-57	-15	5443	107.95	-70.33	1.81
675	SLU 6	-57	-41	5577	113.29	-72.02	1.53
675	SLU 7	-58	-26	5574	112.06	-72.01	1.72
675	SLU 8	-57	-40	5531	112.14	-71.43	1.52
675	SLU 9	-57	-25	5528	110.91	-71.41	1.7
675	SLU 10	-58	-18	6095	121.44	-78.82	1.84
675	SLU 11	-58	-44	6230	126.78	-80.51	1.56
675	SLU 12	-59	-29	6226	125.55	-80.49	1.74
675	SLU 13	-58	-19	6178	123.58	-79.88	1.85
675	SLU 14	-59	-45	6312	128.92	-81.58	1.57
675	SLU 15	-59	-30	6309	127.69	-81.56	1.75
675	SLU 16	-59	-45	6266	127.76	-80.98	1.55
675	SLU 17	-59	-30	6263	126.53	-80.96	1.74
675	SLU 18	-58	-45	6415	130.19	-82.94	1.55
675	SLU 19	-58	-30	6412	128.96	-82.92	1.73
675	SLU 20	-59	-46	6498	132.33	-84.01	1.56
675	SLU 21	-59	-31	6495	131.1	-83.99	1.74
675	SLU 22	-61	-44	6248	128.71	-80.67	1.63
675	SLU 23	-61	-20	6243	126.66	-80.64	1.93
675	SLU 24	-62	-45	6378	132	-82.33	1.65
675	SLU 25	-62	-31	6374	130.77	-82.32	1.83
675	SLU 26	-62	-20	6326	128.8	-81.7	1.94
675	SLU 27	-62	-46	6460	134.14	-83.4	1.66



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
675	SLU 28	-63	-31	6457	132.91	-83.38	1.84
675	SLU 29	-62	-46	6414	132.98	-82.8	1.65
675	SLU 30	-62	-31	6411	131.75	-82.78	1.83
675	SLU 31	-63	-24	6978	142.29	-90.19	1.96
675	SLU 32	-64	-50	7113	147.63	-91.89	1.69
675	SLU 33	-64	-35	7109	146.4	-91.87	1.87
675	SLU 34	-63	-25	7061	144.42	-91.26	1.97
675	SLU 35	-64	-51	7195	149.76	-92.95	1.7
675	SLU 36	-64	-36	7192	148.53	-92.93	1.88
675	SLU 37	-64	-50	7149	148.61	-92.35	1.68
675	SLU 38	-64	-35	7146	147.38	-92.33	1.86
675	SLU 39	-63	-51	7298	151.04	-94.32	1.68
675	SLU 40	-63	-36	7295	149.81	-94.3	1.86
675	SLU 41	-64	-51	7381	153.17	-95.38	1.69
675	SLU 42	-64	-36	7378	151.94	-95.36	1.87
675	SLU 43	-71	-49	6672	133.08	-86.19	1.91
675	SLU 44	-71	-24	6667	131.03	-86.15	2.21
675	SLU 45	-72	-50	6802	136.37	-87.85	1.93
675	SLU 46	-72	-35	6798	135.14	-87.83	2.11
675	SLU 47	-72	-25	6750	133.17	-87.22	2.22
675	SLU 48	-72	-50	6884	138.51	-88.91	1.94
675	SLU 49	-73	-36	6881	137.28	-88.89	2.12
675	SLU 50	-72	-50	6838	137.35	-88.32	1.93
675	SLU 51	-72	-35	6834	136.12	-88.3	2.11
675	SLU 52	-73	-28	7402	146.66	-95.7	2.24
675	SLU 53	-73	-54	7537	152	-97.4	1.96
675	SLU 54	-74	-39	7533	150.77	-97.38	2.15
675	SLU 55	-73	-29	7485	148.79	-96.77	2.25
675	SLU 56	-74	-55	7619	154.13	-98.47	1.97
675	SLU 57	-74	-40	7616	152.9	-98.45	2.16
675	SLU 58	-74	-54	7573	152.98	-97.87	1.96
675	SLU 59	-74	-39	7569	151.75	-97.85	2.14
675	SLU 60	-73	-55	7722	155.4	-99.83	1.96
675	SLU 61	-73	-40	7719	154.17	-99.81	2.14
675	SLU 62	-74	-55	7805	157.54	-100.9	1.97
675	SLU 63	-74	-41	7802	156.31	-100.88	2.15
675	SLU 64	-76	-54	7555	153.93	-97.56	2.04
675	SLU 65	-76	-29	7550	151.88	-97.53	2.34
675	SLU 66	-77	-55	7685	157.22	-99.22	2.06
675	SLU 67	-77	-40	7681	155.99	-99.2	2.24
675	SLU 68	-77	-30	7633	154.01	-98.59	2.35
675	SLU 69	-77	-56	7767	159.35	-100.29	2.07
675	SLU 70	-78	-41	7764	158.12	-100.27	2.25
675	SLU 71	-77	-56	7721	158.2	-99.69	2.06
675	SLU 72	-77	-41	7717	156.97	-99.67	2.24
675	SLU 73	-78	-34	8285	167.5	-107.08	2.37
675	SLU 74	-79	-60	8420	172.84	-108.78	2.09
675	SLU 75	-79	-45	8416	171.61	-108.76	2.27
675	SLU 76	-78	-35	8368	169.64	-108.14	2.38
675	SLU 77	-79	-60	8502	174.98	-109.84	2.1
675	SLU 78	-79	-45	8499	173.75	-109.82	2.28
675	SLU 79	-79	-60	8456	173.82	-109.24	2.09
675	SLU 80	-79	-45	8452	172.59	-109.22	2.27
675	SLU 81	-78	-60	8605	176.25	-111.21	2.08
675	SLU 82	-78	-45	8602	175.02	-111.19	2.27
675	SLU 83	-79	-61	8688	178.38	-112.27	2.09
675	SLU 84	-79	-46	8685	177.15	-112.25	2.27
675	SLE RA 1	-57	-40	5618	113.82	-72.55	1.54
675	SLE RA 2	-57	-24	5614	112.46	-72.53	1.74
675	SLE RA 3	-58	-41	5704	116.02	-73.66	1.55
675	SLE RA 4	-58	-31	5702	115.2	-73.64	1.67
675	SLE RA 5	-58	-24	5669	113.88	-73.24	1.75
675	SLE RA 6	-58	-42	5759	117.44	-74.37	1.56
675	SLE RA 7	-58	-32	5757	116.62	-74.35	1.68
675	SLE RA 8	-58	-41	5728	116.67	-73.97	1.55
675	SLE RA 9	-58	-32	5726	115.85	-73.95	1.67
675	SLE RA 10	-59	-27	6104	122.87	-78.89	1.76
675	SLE RA 11	-59	-44	6194	126.43	-80.02	1.58
675	SLE RA 12	-59	-34	6192	125.61	-80.01	1.7
675	SLE RA 13	-59	-27	6159	124.3	-79.6	1.77
675	SLE RA 14	-59	-44	6249	127.86	-80.73	1.58
675	SLE RA 15	-60	-35	6247	127.04	-80.72	1.7
675	SLE RA 16	-59	-44	6218	127.09	-80.33	1.57
675	SLE RA 17	-59	-34	6216	126.27	-80.32	1.69
675	SLE RA 18	-59	-45	6318	128.71	-81.64	1.57
675	SLE RA 19	-59	-35	6316	127.89	-81.63	1.69
675	SLE RA 20	-59	-45	6373	130.13	-82.35	1.58
675	SLE RA 21	-59	-35	6371	129.31	-82.34	1.7
675	SLE FR 1	-57	-40	5618	113.82	-72.55	1.54
675	SLE FR 2	-57	-37	5617	113.55	-72.54	1.58
675	SLE FR 3	-57	-41	5640	114.39	-72.83	1.54
675	SLE FR 4	-58	-38	5827	118.01	-75.27	1.59
675	SLE FR 5	-58	-42	5850	118.86	-75.56	1.55
675	SLE FR 6	-58	-42	5968	121.26	-77.1	1.55
675	SLE QP 1	-57	-40	5618	113.82	-72.55	1.54
675	SLE QP 2	-58	-42	5828	118.29	-75.28	1.55
675	SLD 1	406	97	6332	119.34	-80.64	-6.89
675	SLD 2	407	38	6332	120.2	-80.63	-6.76
675	SLD 3	413	-189	6414	147.67	-81.22	-10.43



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
675	SLD 4	415	-248	6414	148.54	-81.2	-10.29
675	SLD 5	70	445	5855	75.47	-76.01	4.36
675	SLD 6	71	406	5855	76.05	-76	4.45
675	SLD 7	94	-510	6128	169.92	-77.94	-7.44
675	SLD 8	95	-548	6128	170.49	-77.93	-7.35
675	SLD 9	-210	465	5528	66.09	-72.62	10.44
675	SLD 10	-209	427	5528	66.66	-72.62	10.53
675	SLD 11	-187	-490	5801	160.53	-74.55	-1.35
675	SLD 12	-186	-528	5800	161.1	-74.54	-1.26
675	SLD 13	-530	165	5242	88.04	-69.35	13.39
675	SLD 14	-528	106	5241	88.91	-69.34	13.53
675	SLD 15	-523	-122	5323	116.37	-69.93	9.85
675	SLD 16	-521	-180	5323	117.24	-69.91	9.99
675	SLV 1	668	183	6612	119.11	-83.62	-11.59
675	SLV 2	670	91	6612	120.47	-83.61	-11.37
675	SLV 3	680	-280	6745	164.93	-84.56	-17.3
675	SLV 4	682	-372	6744	166.29	-84.54	-17.09
675	SLV 5	142	744	5863	48.78	-76.37	6.24
675	SLV 6	144	683	5863	49.7	-76.35	6.38
675	SLV 7	181	-798	6303	201.52	-79.48	-12.82
675	SLV 8	182	-859	6303	202.44	-79.47	-12.67
675	SLV 9	-297	776	5353	34.14	-71.08	15.77
675	SLV 10	-296	714	5352	35.05	-71.07	15.91
675	SLV 11	-259	-766	5793	186.88	-74.2	-3.28
675	SLV 12	-258	-828	5793	187.79	-74.19	-3.14
675	SLV 13	-797	288	4911	70.29	-66.01	20.18
675	SLV 14	-795	197	4911	71.65	-65.99	20.4
675	SLV 15	-786	-174	5043	116.11	-66.95	14.47
675	SLV 16	-783	-266	5043	117.47	-66.93	14.68
675	SLV FO 1	741	205	6691	119.19	-84.46	-12.9
675	SLV FO 2	743	104	6691	120.68	-84.44	-12.66
675	SLV FO 3	753	-304	6836	169.59	-85.49	-19.19
675	SLV FO 4	756	-405	6836	171.09	-85.47	-18.95
675	SLV FO 5	162	823	5866	41.83	-76.48	6.71
675	SLV FO 6	164	755	5866	42.84	-76.46	6.86
675	SLV FO 7	204	-873	6351	209.85	-79.9	-14.25
675	SLV FO 8	206	-941	6350	210.85	-79.89	-14.09
675	SLV FO 9	-321	858	5305	25.72	-70.66	17.19
675	SLV FO 10	-320	790	5305	26.73	-70.65	17.35
675	SLV FO 11	-279	-838	5789	193.74	-74.09	-3.77
675	SLV FO 12	-278	-906	5789	194.74	-74.08	-3.61
675	SLV FO 13	-871	321	4820	65.49	-65.09	22.05
675	SLV FO 14	-869	221	4819	66.98	-65.07	22.28
675	SLV FO 15	-859	-187	4965	115.89	-66.11	15.76
675	SLV FO 16	-856	-288	4965	117.39	-66.09	15.99
675	CRTFP Ux+	0	0	0	0	0	0
675	CRTFP Ux-	0	0	0	0	0	0
675	CRTFP Uy+	0	0	0	0	0	0
675	CRTFP Uy-	0	0	0	0	0	0
676	SLU 1	-59	-36	5856	-7.93	-0.51	1.42
676	SLU 2	-59	-10	5850	-9.89	-0.52	1.4
676	SLU 3	-60	-37	5997	-7.4	-0.54	1.45
676	SLU 4	-60	-21	5994	-8.58	-0.54	1.43
676	SLU 5	-60	-10	5940	-9.53	-0.53	1.41
676	SLU 6	-61	-38	6087	-7.03	-0.55	1.46
676	SLU 7	-61	-22	6084	-8.21	-0.55	1.44
676	SLU 8	-60	-38	6037	-7.19	-0.55	1.45
676	SLU 9	-60	-22	6033	-8.37	-0.55	1.43
676	SLU 10	-61	-14	6655	-10.07	-0.68	1.49
676	SLU 11	-62	-42	6802	-7.58	-0.71	1.54
676	SLU 12	-62	-26	6799	-8.76	-0.71	1.53
676	SLU 13	-62	-15	6746	-9.7	-0.7	1.5
676	SLU 14	-62	-42	6893	-7.21	-0.72	1.55
676	SLU 15	-63	-26	6889	-8.39	-0.72	1.54
676	SLU 16	-62	-42	6842	-7.37	-0.72	1.54
676	SLU 17	-62	-26	6839	-8.55	-0.72	1.53
676	SLU 18	-61	-42	7006	-8.18	-0.76	1.56
676	SLU 19	-62	-26	7003	-9.36	-0.76	1.54
676	SLU 20	-62	-43	7097	-7.81	-0.77	1.57
676	SLU 21	-62	-27	7093	-8.99	-0.77	1.56
676	SLU 22	-64	-42	6821	-5.94	-0.65	1.58
676	SLU 23	-65	-15	6815	-7.9	-0.65	1.56
676	SLU 24	-65	-43	6962	-5.41	-0.67	1.6
676	SLU 25	-66	-27	6958	-6.59	-0.67	1.59
676	SLU 26	-65	-16	6905	-7.53	-0.67	1.57
676	SLU 27	-66	-44	7052	-5.04	-0.69	1.62
676	SLU 28	-66	-28	7049	-6.22	-0.69	1.6
676	SLU 29	-65	-43	7001	-5.2	-0.68	1.6
676	SLU 30	-66	-27	6998	-6.38	-0.68	1.59
676	SLU 31	-66	-19	7620	-8.08	-0.82	1.65
676	SLU 32	-67	-47	7767	-5.58	-0.84	1.7
676	SLU 33	-67	-31	7764	-6.76	-0.84	1.69
676	SLU 34	-67	-20	7711	-7.71	-0.84	1.66
676	SLU 35	-68	-48	7858	-5.22	-0.86	1.71
676	SLU 36	-68	-32	7854	-6.39	-0.86	1.7
676	SLU 37	-67	-48	7807	-5.38	-0.85	1.7
676	SLU 38	-68	-32	7803	-6.55	-0.85	1.69
676	SLU 39	-67	-48	7971	-6.19	-0.89	1.72
676	SLU 40	-67	-32	7968	-7.37	-0.89	1.7



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
676	SLU 41	-68	-49	8061	-5.82	-0.91	1.73
676	SLU 42	-68	-33	8058	-7	-0.91	1.71
676	SLU 43	-75	-45	7282	-10.99	-0.62	1.79
676	SLU 44	-75	-19	7276	-12.96	-0.62	1.77
676	SLU 45	-76	-46	7423	-10.47	-0.64	1.82
676	SLU 46	-76	-30	7419	-11.64	-0.64	1.8
676	SLU 47	-76	-19	7366	-12.59	-0.64	1.78
676	SLU 48	-76	-47	7513	-10.1	-0.66	1.83
676	SLU 49	-77	-31	7510	-11.28	-0.66	1.81
676	SLU 50	-76	-47	7462	-10.26	-0.65	1.82
676	SLU 51	-76	-31	7459	-11.44	-0.65	1.8
676	SLU 52	-77	-23	8081	-13.13	-0.79	1.86
676	SLU 53	-78	-51	8228	-10.64	-0.81	1.91
676	SLU 54	-78	-35	8225	-11.82	-0.81	1.9
676	SLU 55	-78	-24	8172	-12.76	-0.81	1.88
676	SLU 56	-78	-51	8319	-10.27	-0.83	1.92
676	SLU 57	-78	-35	8315	-11.45	-0.83	1.91
676	SLU 58	-78	-51	8268	-10.43	-0.82	1.91
676	SLU 59	-78	-35	8264	-11.61	-0.82	1.9
676	SLU 60	-77	-52	8432	-11.24	-0.86	1.93
676	SLU 61	-78	-36	8429	-12.42	-0.86	1.92
676	SLU 62	-78	-52	8522	-10.88	-0.88	1.94
676	SLU 63	-78	-36	8519	-12.05	-0.88	1.93
676	SLU 64	-80	-51	8246	-9	-0.75	1.95
676	SLU 65	-80	-24	8241	-10.96	-0.76	1.93
676	SLU 66	-81	-52	8388	-8.47	-0.78	1.98
676	SLU 67	-81	-36	8384	-9.65	-0.78	1.96
676	SLU 68	-81	-25	8331	-10.6	-0.77	1.94
676	SLU 69	-82	-53	8478	-8.1	-0.79	1.99
676	SLU 70	-82	-37	8475	-9.28	-0.8	1.97
676	SLU 71	-81	-52	8427	-8.26	-0.79	1.98
676	SLU 72	-82	-36	8424	-9.44	-0.79	1.96
676	SLU 73	-82	-28	9046	-11.14	-0.93	2.02
676	SLU 74	-83	-56	9193	-8.65	-0.95	2.07
676	SLU 75	-83	-40	9190	-9.82	-0.95	2.06
676	SLU 76	-83	-29	9137	-10.77	-0.94	2.04
676	SLU 77	-84	-57	9283	-8.28	-0.96	2.08
676	SLU 78	-84	-41	9280	-9.46	-0.97	2.07
676	SLU 79	-83	-57	9233	-8.44	-0.96	2.07
676	SLU 80	-83	-41	9229	-9.62	-0.96	2.06
676	SLU 81	-83	-57	9397	-9.25	-1	2.09
676	SLU 82	-83	-41	9394	-10.43	-1	2.07
676	SLU 83	-83	-58	9487	-8.88	-1.01	2.1
676	SLU 84	-84	-42	9484	-10.06	-1.02	2.09
676	SLE RA 1	-60	-38	6131	-7.36	-0.55	1.47
676	SLE RA 2	-61	-20	6128	-8.67	-0.55	1.45
676	SLE RA 3	-61	-39	6226	-7.01	-0.57	1.48
676	SLE RA 4	-61	-28	6223	-7.79	-0.57	1.47
676	SLE RA 5	-61	-21	6188	-8.42	-0.56	1.46
676	SLE RA 6	-61	-39	6286	-6.76	-0.58	1.49
676	SLE RA 7	-62	-28	6284	-7.55	-0.58	1.48
676	SLE RA 8	-61	-39	6252	-6.87	-0.57	1.48
676	SLE RA 9	-61	-28	6250	-7.66	-0.57	1.47
676	SLE RA 10	-62	-23	6664	-8.79	-0.67	1.51
676	SLE RA 11	-62	-41	6762	-7.13	-0.68	1.55
676	SLE RA 12	-62	-31	6760	-7.91	-0.68	1.54
676	SLE RA 13	-62	-23	6725	-8.54	-0.68	1.52
676	SLE RA 14	-63	-42	6823	-6.88	-0.69	1.55
676	SLE RA 15	-63	-31	6820	-7.67	-0.69	1.54
676	SLE RA 16	-62	-42	6789	-6.99	-0.69	1.55
676	SLE RA 17	-63	-31	6787	-7.77	-0.69	1.54
676	SLE RA 18	-62	-42	6898	-7.53	-0.71	1.56
676	SLE RA 19	-62	-31	6896	-8.31	-0.71	1.55
676	SLE RA 20	-63	-42	6959	-7.28	-0.72	1.57
676	SLE RA 21	-63	-32	6956	-8.07	-0.72	1.56
676	SLE FR 1	-60	-38	6131	-7.36	-0.55	1.47
676	SLE FR 2	-60	-34	6131	-7.62	-0.55	1.46
676	SLE FR 3	-60	-38	6155	-7.26	-0.56	1.47
676	SLE FR 4	-61	-36	6361	-7.67	-0.6	1.49
676	SLE FR 5	-61	-39	6386	-7.31	-0.6	1.5
676	SLE FR 6	-61	-40	6515	-7.44	-0.63	1.51
676	SLE QP 1	-60	-38	6131	-7.36	-0.55	1.47
676	SLE QP 2	-61	-39	6361	-7.41	-0.6	1.49
676	SLD 1	444	112	6854	-16.31	1.22	1.62
676	SLD 2	445	53	6853	-15.46	1.24	2.56
676	SLD 3	451	-199	6940	10.82	1.25	1.84
676	SLD 4	453	-258	6940	11.67	1.27	2.77
676	SLD 5	79	487	6377	-51.38	-0.1	1.04
676	SLD 6	80	448	6377	-50.81	-0.09	1.65
676	SLD 7	104	-547	6667	39.05	0	1.76
676	SLD 8	105	-586	6667	39.61	0.01	2.37
676	SLD 9	-227	507	6056	-54.43	-1.21	0.62
676	SLD 10	-226	468	6056	-53.87	-1.2	1.23
676	SLD 11	-202	-526	6346	35.99	-1.11	1.34
676	SLD 12	-200	-565	6346	36.56	-1.1	1.95
676	SLD 13	-575	179	5783	-26.49	-2.47	0.22
676	SLD 14	-573	120	5782	-25.64	-2.45	1.15
676	SLD 15	-567	-131	5870	0.63	-2.44	0.43
676	SLD 16	-565	-190	5869	1.49	-2.42	1.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
676	SLV 1	729	205	7127	-22.08	2.24	1.69
676	SLV 2	732	112	7126	-20.74	2.26	3.14
676	SLV 3	741	-296	7267	21.81	2.29	2.04
676	SLV 4	744	-389	7266	23.15	2.31	3.5
676	SLV 5	157	811	6378	-78.62	0.18	0.74
676	SLV 6	159	749	6378	-77.72	0.19	1.73
676	SLV 7	198	-859	6846	67.67	0.34	1.92
676	SLV 8	200	-921	6846	68.57	0.35	2.9
676	SLV 9	-321	843	5877	-83.39	-1.55	0.09
676	SLV 10	-319	781	5877	-82.49	-1.54	1.07
676	SLV 11	-281	-827	6345	62.9	-1.39	1.26
676	SLV 12	-279	-889	6345	63.8	-1.37	2.24
676	SLV 13	-866	310	5456	-37.97	-3.51	-0.51
676	SLV 14	-863	218	5456	-36.63	-3.49	0.95
676	SLV 15	-854	-190	5597	5.92	-3.46	-0.16
676	SLV 16	-851	-283	5596	7.26	-3.44	1.3
676	SLV FO 1	808	229	7203	-23.55	2.53	1.71
676	SLV FO 2	811	127	7203	-22.07	2.55	3.31
676	SLV FO 3	821	-322	7358	24.73	2.58	2.09
676	SLV FO 4	825	-424	7357	26.2	2.6	3.7
676	SLV FO 5	179	896	6380	-85.75	0.25	0.67
676	SLV FO 6	181	828	6380	-84.75	0.27	1.75
676	SLV FO 7	224	-941	6895	75.17	0.43	1.96
676	SLV FO 8	226	-1009	6894	76.17	0.45	3.04
676	SLV FO 9	-347	931	5829	-90.99	-1.65	-0.05
676	SLV FO 10	-345	862	5828	-90	-1.63	1.02
676	SLV FO 11	-303	-906	6343	69.93	-1.47	1.24
676	SLV FO 12	-301	-974	6343	70.92	-1.45	2.32
676	SLV FO 13	-946	345	5366	-41.03	-3.8	-0.71
676	SLV FO 14	-943	244	5365	-39.55	-3.78	0.89
676	SLV FO 15	-933	-206	5520	7.25	-3.75	-0.32
676	SLV FO 16	-930	-307	5520	8.73	-3.73	1.28
676	CRTFP Ux+	0	0	0	0	0	0
676	CRTFP Ux-	0	0	0	0	0	0
676	CRTFP Uy+	0	0	0	0	0	0
676	CRTFP Uy-	0	0	0	0	0	0
677	SLU 1	-57	-28	5865	-9.52	0	1.73
677	SLU 2	-58	-2	5860	-11.32	-0.01	1.71
677	SLU 3	-58	-29	6007	-9.07	-0.01	1.76
677	SLU 4	-59	-13	6004	-10.16	-0.01	1.75
677	SLU 5	-58	-2	5950	-11.01	-0.02	1.73
677	SLU 6	-59	-30	6098	-8.77	-0.01	1.77
677	SLU 7	-59	-14	6094	-9.85	-0.02	1.76
677	SLU 8	-59	-30	6047	-8.9	-0.01	1.76
677	SLU 9	-59	-14	6043	-9.98	-0.02	1.75
677	SLU 10	-60	-5	6670	-11.81	-0.1	1.82
677	SLU 11	-60	-33	6817	-9.56	-0.1	1.87
677	SLU 12	-61	-17	6813	-10.65	-0.1	1.86
677	SLU 13	-60	-6	6760	-11.5	-0.11	1.84
677	SLU 14	-61	-34	6908	-9.25	-0.1	1.89
677	SLU 15	-61	-18	6904	-10.34	-0.11	1.88
677	SLU 16	-61	-33	6857	-9.39	-0.1	1.87
677	SLU 17	-61	-17	6853	-10.47	-0.11	1.86
677	SLU 18	-60	-34	7022	-10.21	-0.13	1.89
677	SLU 19	-60	-18	7019	-11.3	-0.14	1.88
677	SLU 20	-61	-34	7113	-9.9	-0.14	1.91
677	SLU 21	-61	-18	7110	-10.99	-0.14	1.9
677	SLU 22	-63	-33	6833	-7.92	-0.04	1.92
677	SLU 23	-63	-6	6828	-9.72	-0.05	1.9
677	SLU 24	-64	-34	6975	-7.47	-0.04	1.95
677	SLU 25	-64	-18	6972	-8.56	-0.05	1.94
677	SLU 26	-64	-7	6918	-9.41	-0.06	1.92
677	SLU 27	-64	-34	7066	-7.16	-0.05	1.96
677	SLU 28	-65	-18	7062	-8.25	-0.06	1.95
677	SLU 29	-64	-34	7015	-7.3	-0.05	1.95
677	SLU 30	-64	-18	7011	-8.38	-0.06	1.94
677	SLU 31	-65	-10	7638	-10.21	-0.14	2.02
677	SLU 32	-66	-37	7785	-7.96	-0.14	2.06
677	SLU 33	-66	-21	7781	-9.04	-0.14	2.05
677	SLU 34	-66	-11	7728	-9.9	-0.15	2.03
677	SLU 35	-66	-38	7876	-7.65	-0.14	2.08
677	SLU 36	-67	-22	7872	-8.73	-0.15	2.07
677	SLU 37	-66	-38	7825	-7.78	-0.14	2.06
677	SLU 38	-66	-22	7821	-8.87	-0.15	2.05
677	SLU 39	-65	-38	7990	-8.61	-0.17	2.08
677	SLU 40	-66	-22	7987	-9.7	-0.18	2.07
677	SLU 41	-66	-39	8081	-8.3	-0.17	2.1
677	SLU 42	-66	-23	8078	-9.39	-0.18	2.09
677	SLU 43	-73	-35	7293	-12.92	0.02	2.18
677	SLU 44	-73	-9	7287	-14.73	0	2.16
677	SLU 45	-74	-36	7434	-12.48	0.01	2.21
677	SLU 46	-74	-20	7431	-13.56	0	2.2
677	SLU 47	-74	-9	7378	-14.42	0	2.18
677	SLU 48	-74	-37	7525	-12.17	0	2.22
677	SLU 49	-75	-21	7522	-13.25	0	2.21
677	SLU 50	-74	-36	7474	-12.3	0	2.21
677	SLU 51	-74	-21	7471	-13.39	0	2.2
677	SLU 52	-75	-12	8097	-15.21	-0.09	2.28
677	SLU 53	-76	-40	8244	-12.97	-0.08	2.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
677	SLU 54	-76	-24	8241	-14.05	-0.09	2.31
677	SLU 55	-76	-13	8188	-14.9	-0.09	2.29
677	SLU 56	-76	-40	8335	-12.66	-0.09	2.34
677	SLU 57	-77	-24	8332	-13.74	-0.1	2.33
677	SLU 58	-76	-40	8284	-12.79	-0.09	2.32
677	SLU 59	-76	-24	8281	-13.87	-0.1	2.31
677	SLU 60	-75	-40	8450	-13.62	-0.11	2.34
677	SLU 61	-76	-24	8446	-14.7	-0.12	2.33
677	SLU 62	-76	-41	8540	-13.31	-0.12	2.36
677	SLU 63	-76	-25	8537	-14.39	-0.13	2.35
677	SLU 64	-78	-40	8261	-11.32	-0.02	2.37
677	SLU 65	-78	-13	8255	-13.13	-0.04	2.35
677	SLU 66	-79	-41	8402	-10.88	-0.03	2.4
677	SLU 67	-79	-25	8399	-11.96	-0.04	2.39
677	SLU 68	-79	-14	8346	-12.82	-0.04	2.37
677	SLU 69	-80	-41	8493	-10.57	-0.04	2.42
677	SLU 70	-80	-25	8490	-11.65	-0.04	2.41
677	SLU 71	-79	-41	8442	-10.7	-0.04	2.4
677	SLU 72	-79	-25	8439	-11.78	-0.04	2.39
677	SLU 73	-80	-17	9065	-13.61	-0.13	2.47
677	SLU 74	-81	-44	9212	-11.37	-0.12	2.51
677	SLU 75	-81	-28	9209	-12.45	-0.13	2.5
677	SLU 76	-81	-17	9156	-13.3	-0.13	2.48
677	SLU 77	-82	-45	9303	-11.06	-0.13	2.53
677	SLU 78	-82	-29	9300	-12.14	-0.14	2.52
677	SLU 79	-81	-45	9252	-11.19	-0.13	2.52
677	SLU 80	-81	-29	9249	-12.27	-0.13	2.51
677	SLU 81	-81	-45	9418	-12.02	-0.15	2.53
677	SLU 82	-81	-29	9414	-13.1	-0.16	2.52
677	SLU 83	-81	-46	9508	-11.71	-0.16	2.55
677	SLU 84	-82	-30	9505	-12.79	-0.17	2.54
677	SLE RA 1	-59	-30	6141	-9.06	-0.01	1.78
677	SLE RA 2	-59	-12	6138	-10.26	-0.02	1.77
677	SLE RA 3	-59	-30	6236	-8.76	-0.01	1.8
677	SLE RA 4	-60	-19	6234	-9.49	-0.02	1.79
677	SLE RA 5	-59	-12	6199	-10.06	-0.02	1.78
677	SLE RA 6	-60	-31	6297	-8.56	-0.02	1.81
677	SLE RA 7	-60	-20	6294	-9.28	-0.02	1.8
677	SLE RA 8	-60	-30	6263	-8.65	-0.02	1.8
677	SLE RA 9	-60	-20	6261	-9.37	-0.02	1.8
677	SLE RA 10	-60	-14	6678	-10.59	-0.08	1.85
677	SLE RA 11	-61	-33	6776	-9.09	-0.08	1.88
677	SLE RA 12	-61	-22	6774	-9.81	-0.08	1.87
677	SLE RA 13	-61	-15	6738	-10.38	-0.08	1.86
677	SLE RA 14	-61	-33	6837	-8.88	-0.08	1.89
677	SLE RA 15	-61	-22	6834	-9.61	-0.08	1.88
677	SLE RA 16	-61	-33	6803	-8.97	-0.08	1.88
677	SLE RA 17	-61	-22	6800	-9.69	-0.08	1.87
677	SLE RA 18	-61	-33	6913	-9.52	-0.1	1.89
677	SLE RA 19	-61	-22	6911	-10.25	-0.1	1.88
677	SLE RA 20	-61	-34	6973	-9.32	-0.1	1.9
677	SLE RA 21	-61	-23	6971	-10.04	-0.11	1.89
677	SLE FR 1	-59	-30	6141	-9.06	-0.01	1.78
677	SLE FR 2	-59	-26	6141	-9.3	-0.01	1.78
677	SLE FR 3	-59	-30	6166	-8.98	-0.01	1.79
677	SLE FR 4	-59	-27	6372	-9.44	-0.04	1.81
677	SLE FR 5	-60	-31	6397	-9.12	-0.04	1.82
677	SLE FR 6	-60	-31	6527	-9.29	-0.05	1.84
677	SLE QP 1	-59	-30	6141	-9.06	-0.01	1.78
677	SLE QP 2	-59	-31	6373	-9.2	-0.04	1.81
677	SLD 1	446	121	6798	-16.37	1.96	2.27
677	SLD 2	447	67	6797	-15.61	1.99	3.12
677	SLD 3	453	-188	6882	8.74	2.1	2.14
677	SLD 4	455	-243	6881	9.49	2.13	2.99
677	SLD 5	81	494	6373	-49.56	0.34	2
677	SLD 6	82	458	6372	-49.07	0.36	2.56
677	SLD 7	105	-538	6653	34.12	0.82	1.55
677	SLD 8	106	-574	6653	34.62	0.84	2.11
677	SLD 9	-225	513	6093	-53.02	-0.91	1.51
677	SLD 10	-224	476	6092	-52.52	-0.89	2.08
677	SLD 11	-201	-519	6373	30.67	-0.43	1.06
677	SLD 12	-199	-556	6373	31.16	-0.41	1.63
677	SLD 13	-573	182	5865	-27.89	-2.2	0.64
677	SLD 14	-572	127	5863	-27.14	-2.17	1.49
677	SLD 15	-566	-128	5949	-2.78	-2.06	0.51
677	SLD 16	-564	-183	5948	-2.03	-2.03	1.36
677	SLV 1	731	215	7034	-21.11	3.07	2.53
677	SLV 2	734	129	7032	-19.93	3.11	3.86
677	SLV 3	743	-285	7170	19.51	3.3	2.3
677	SLV 4	746	-371	7168	20.69	3.35	3.64
677	SLV 5	159	818	6366	-74.6	0.53	2.13
677	SLV 6	161	760	6365	-73.81	0.56	3.02
677	SLV 7	199	-849	6818	60.8	1.31	1.37
677	SLV 8	201	-907	6817	61.6	1.34	2.26
677	SLV 9	-320	846	5929	-80	-1.41	1.36
677	SLV 10	-318	788	5928	-79.2	-1.38	2.26
677	SLV 11	-280	-821	6381	55.41	-0.63	0.61
677	SLV 12	-278	-879	6380	56.2	-0.6	1.5
677	SLV 13	-865	310	5578	-39.09	-3.42	-0.01



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
677	SLV 14	-862	224	5576	-37.91	-3.37	1.32
677	SLV 15	-853	-190	5713	1.53	-3.18	-0.24
677	SLV 16	-850	-276	5712	2.71	-3.14	1.1
677	SLV FO 1	810	240	7100	-22.3	3.38	2.6
677	SLV FO 2	813	145	7098	-21.01	3.43	4.07
677	SLV FO 3	824	-310	7250	22.38	3.64	2.35
677	SLV FO 4	827	-405	7248	23.68	3.68	3.82
677	SLV FO 5	181	902	6365	-81.14	0.59	2.16
677	SLV FO 6	183	839	6364	-80.27	0.62	3.14
677	SLV FO 7	225	-931	6863	67.81	1.45	1.32
677	SLV FO 8	227	-995	6861	68.68	1.48	2.31
677	SLV FO 9	-346	934	5884	-87.08	-1.55	1.32
677	SLV FO 10	-343	870	5883	-86.2	-1.52	2.31
677	SLV FO 11	-302	-900	6382	61.87	-0.69	0.48
677	SLV FO 12	-300	-963	6381	62.74	-0.66	1.47
677	SLV FO 13	-945	344	5498	-42.08	-3.76	-0.19
677	SLV FO 14	-942	249	5496	-40.78	-3.71	1.28
677	SLV FO 15	-932	-206	5647	2.61	-3.5	-0.44
677	SLV FO 16	-929	-301	5646	3.9	-3.45	1.03
677	CRTFP Ux+	0	0	0	0	0	0
677	CRTFP Ux-	0	0	0	0	0	0
677	CRTFP Uy+	0	0	0	0	0	0
677	CRTFP Uy-	0	0	0	0	0	0
678	SLU 1	-56	-19	5854	-11.11	0.64	1.74
678	SLU 2	-56	7	5849	-12.76	0.63	1.74
678	SLU 3	-57	-20	5996	-10.76	0.66	1.77
678	SLU 4	-57	-4	5993	-11.74	0.64	1.77
678	SLU 5	-57	7	5940	-12.51	0.63	1.76
678	SLU 6	-58	-21	6086	-10.5	0.66	1.79
678	SLU 7	-58	-5	6084	-11.49	0.65	1.79
678	SLU 8	-57	-20	6036	-10.61	0.66	1.78
678	SLU 9	-57	-5	6033	-11.6	0.65	1.77
678	SLU 10	-58	4	6661	-13.56	0.64	1.85
678	SLU 11	-59	-23	6807	-11.56	0.67	1.88
678	SLU 12	-59	-7	6804	-12.54	0.66	1.88
678	SLU 13	-59	4	6751	-13.31	0.64	1.87
678	SLU 14	-60	-24	6898	-11.3	0.67	1.9
678	SLU 15	-60	-8	6895	-12.29	0.66	1.9
678	SLU 16	-59	-24	6847	-11.41	0.67	1.89
678	SLU 17	-59	-8	6844	-12.4	0.66	1.88
678	SLU 18	-59	-24	7013	-12.26	0.66	1.9
678	SLU 19	-59	-8	7010	-13.24	0.65	1.9
678	SLU 20	-60	-24	7104	-12	0.66	1.92
678	SLU 21	-60	-8	7101	-12.99	0.65	1.91
678	SLU 22	-61	-23	6821	-9.9	0.73	1.94
678	SLU 23	-62	4	6816	-11.55	0.71	1.93
678	SLU 24	-62	-24	6963	-9.55	0.74	1.97
678	SLU 25	-63	-8	6960	-10.54	0.73	1.97
678	SLU 26	-62	3	6907	-11.3	0.71	1.95
678	SLU 27	-63	-24	7054	-9.3	0.74	1.98
678	SLU 28	-63	-8	7051	-10.28	0.73	1.98
678	SLU 29	-63	-24	7003	-9.4	0.74	1.97
678	SLU 30	-63	-8	7000	-10.39	0.73	1.97
678	SLU 31	-64	1	7628	-12.35	0.72	2.04
678	SLU 32	-64	-27	7774	-10.35	0.75	2.08
678	SLU 33	-65	-11	7771	-11.34	0.74	2.07
678	SLU 34	-64	0	7719	-12.1	0.72	2.06
678	SLU 35	-65	-27	7865	-10.1	0.75	2.09
678	SLU 36	-65	-11	7862	-11.08	0.74	2.09
678	SLU 37	-65	-27	7814	-10.2	0.75	2.08
678	SLU 38	-65	-11	7811	-11.19	0.74	2.08
678	SLU 39	-64	-27	7980	-11.05	0.74	2.09
678	SLU 40	-64	-11	7977	-12.03	0.73	2.09
678	SLU 41	-65	-28	8071	-10.8	0.75	2.11
678	SLU 42	-65	-12	8068	-11.78	0.74	2.11
678	SLU 43	-71	-24	7278	-14.86	0.81	2.2
678	SLU 44	-71	3	7274	-16.51	0.79	2.2
678	SLU 45	-72	-25	7420	-14.5	0.82	2.23
678	SLU 46	-72	-9	7417	-15.49	0.81	2.23
678	SLU 47	-72	2	7364	-16.26	0.8	2.21
678	SLU 48	-73	-25	7511	-14.25	0.83	2.25
678	SLU 49	-73	-9	7508	-15.24	0.82	2.24
678	SLU 50	-72	-25	7460	-14.36	0.82	2.23
678	SLU 51	-72	-9	7457	-15.35	0.81	2.23
678	SLU 52	-73	0	8085	-17.31	0.8	2.31
678	SLU 53	-74	-28	8232	-15.3	0.83	2.34
678	SLU 54	-74	-12	8229	-16.29	0.82	2.34
678	SLU 55	-74	-1	8176	-17.06	0.81	2.32
678	SLU 56	-75	-28	8322	-15.05	0.84	2.36
678	SLU 57	-75	-12	8320	-16.04	0.83	2.35
678	SLU 58	-74	-28	8272	-15.16	0.83	2.34
678	SLU 59	-74	-12	8269	-16.15	0.82	2.34
678	SLU 60	-74	-28	8438	-16	0.82	2.36
678	SLU 61	-74	-12	8435	-16.99	0.81	2.35
678	SLU 62	-74	-29	8528	-15.75	0.83	2.37
678	SLU 63	-75	-13	8526	-16.74	0.82	2.37
678	SLU 64	-76	-27	8246	-13.65	0.89	2.4
678	SLU 65	-77	-1	8241	-15.3	0.87	2.39
678	SLU 66	-77	-28	8387	-13.3	0.9	2.42



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
678	SLU 67	-78	-12	8385	-14.28	0.89	2.42
678	SLU 68	-77	-1	8332	-15.05	0.88	2.41
678	SLU 69	-78	-29	8478	-13.04	0.91	2.44
678	SLU 70	-78	-13	8475	-14.03	0.9	2.44
678	SLU 71	-77	-29	8427	-13.15	0.9	2.43
678	SLU 72	-78	-13	8425	-14.14	0.89	2.42
678	SLU 73	-79	-4	9052	-16.1	0.88	2.5
678	SLU 74	-79	-31	9199	-14.1	0.91	2.53
678	SLU 75	-80	-15	9196	-15.08	0.9	2.53
678	SLU 76	-79	-5	9143	-15.85	0.89	2.52
678	SLU 77	-80	-32	9290	-13.84	0.92	2.55
678	SLU 78	-80	-16	9287	-14.83	0.91	2.55
678	SLU 79	-80	-32	9239	-13.95	0.91	2.54
678	SLU 80	-80	-16	9236	-14.94	0.9	2.53
678	SLU 81	-79	-32	9405	-14.79	0.91	2.55
678	SLU 82	-79	-16	9402	-15.78	0.9	2.55
678	SLU 83	-80	-32	9496	-14.54	0.91	2.57
678	SLU 84	-80	-17	9493	-15.53	0.9	2.56
678	SLE RA 1	-57	-20	6130	-10.77	0.67	1.8
678	SLE RA 2	-58	-3	6127	-11.87	0.66	1.8
678	SLE RA 3	-58	-21	6225	-10.53	0.68	1.82
678	SLE RA 4	-58	-10	6223	-11.19	0.67	1.82
678	SLE RA 5	-58	-3	6188	-11.7	0.66	1.81
678	SLE RA 6	-59	-21	6285	-10.36	0.68	1.83
678	SLE RA 7	-59	-11	6283	-11.02	0.67	1.83
678	SLE RA 8	-58	-21	6251	-10.43	0.68	1.82
678	SLE RA 9	-58	-10	6249	-11.09	0.67	1.82
678	SLE RA 10	-59	-5	6668	-12.4	0.66	1.87
678	SLE RA 11	-60	-23	6766	-11.06	0.68	1.89
678	SLE RA 12	-60	-12	6764	-11.72	0.68	1.89
678	SLE RA 13	-59	-5	6729	-12.23	0.67	1.88
678	SLE RA 14	-60	-23	6826	-10.9	0.69	1.9
678	SLE RA 15	-60	-13	6824	-11.55	0.68	1.9
678	SLE RA 16	-60	-23	6792	-10.97	0.68	1.89
678	SLE RA 17	-60	-13	6790	-11.62	0.68	1.89
678	SLE RA 18	-59	-23	6903	-11.53	0.68	1.9
678	SLE RA 19	-60	-13	6901	-12.19	0.67	1.9
678	SLE RA 20	-60	-24	6964	-11.36	0.68	1.91
678	SLE RA 21	-60	-13	6962	-12.02	0.67	1.91
678	SLE FR 1	-57	-20	6130	-10.77	0.67	1.8
678	SLE FR 2	-57	-17	6130	-10.99	0.67	1.8
678	SLE FR 3	-58	-20	6154	-10.7	0.67	1.8
678	SLE FR 4	-58	-18	6361	-11.22	0.67	1.83
678	SLE FR 5	-58	-21	6386	-10.93	0.67	1.84
678	SLE FR 6	-58	-22	6517	-11.15	0.67	1.85
678	SLE QP 1	-57	-20	6130	-10.77	0.67	1.8
678	SLE QP 2	-58	-21	6362	-11	0.67	1.83
678	SLD 1	447	133	6716	-16.43	2.76	2.42
678	SLD 2	449	82	6714	-15.79	2.79	3.21
678	SLD 3	454	-177	6794	6.67	2.98	2.2
678	SLD 4	456	-228	6792	7.32	3.02	2.99
678	SLD 5	82	504	6351	-47.79	0.95	2.2
678	SLD 6	83	471	6350	-47.36	0.97	2.72
678	SLD 7	106	-529	6610	29.23	1.7	1.47
678	SLD 8	107	-562	6608	29.66	1.72	1.99
678	SLD 9	-223	520	6116	-51.65	-0.38	1.67
678	SLD 10	-222	486	6114	-51.22	-0.36	2.19
678	SLD 11	-200	-513	6375	25.37	0.37	0.94
678	SLD 12	-198	-547	6373	25.8	0.39	1.46
678	SLD 13	-572	186	5932	-29.31	-1.67	0.67
678	SLD 14	-570	135	5930	-28.66	-1.64	1.46
678	SLD 15	-565	-124	6010	-6.21	-1.45	0.45
678	SLD 16	-563	-175	6008	-5.56	-1.41	1.24
678	SLV 1	733	228	6913	-20.15	3.92	2.76
678	SLV 2	736	148	6909	-19.14	3.97	3.99
678	SLV 3	745	-273	7038	17.24	4.28	2.4
678	SLV 4	747	-353	7034	18.25	4.34	3.63
678	SLV 5	161	827	6338	-70.65	1.09	2.43
678	SLV 6	163	774	6335	-69.96	1.12	3.25
678	SLV 7	200	-841	6756	54	2.29	1.22
678	SLV 8	202	-895	6753	54.68	2.33	2.05
678	SLV 9	-318	852	5971	-76.67	-0.99	1.61
678	SLV 10	-316	799	5969	-75.99	-0.95	2.44
678	SLV 11	-279	-816	6389	47.97	0.22	0.41
678	SLV 12	-277	-870	6386	48.65	0.26	1.24
678	SLV 13	-863	310	5690	-40.25	-2.99	0.03
678	SLV 14	-861	231	5686	-39.23	-2.94	1.26
678	SLV 15	-852	-190	5815	-2.85	-2.63	-0.33
678	SLV 16	-849	-270	5812	-1.84	-2.58	0.9
678	SLV FO 1	812	252	6968	-21.07	4.24	2.85
678	SLV FO 2	815	165	6964	-19.95	4.3	4.21
678	SLV FO 3	825	-298	7105	20.06	4.64	2.45
678	SLV FO 4	828	-386	7102	21.18	4.7	3.81
678	SLV FO 5	183	912	6335	-76.61	1.13	2.48
678	SLV FO 6	185	853	6333	-75.86	1.17	3.4
678	SLV FO 7	226	-923	6795	60.5	2.45	1.16
678	SLV FO 8	228	-982	6792	61.25	2.5	2.08
678	SLV FO 9	-344	940	5932	-83.24	-1.15	1.58
678	SLV FO 10	-342	881	5929	-82.49	-1.11	2.5



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
678	SLV FO 11	-301	-896	6391	53.87	0.17	0.26
678	SLV FO 12	-299	-955	6389	54.62	0.21	1.18
678	SLV FO 13	-944	343	5623	-43.17	-3.36	-0.15
678	SLV FO 14	-941	256	5619	-42.05	-3.3	1.21
678	SLV FO 15	-931	-207	5760	-2.04	-2.96	-0.54
678	SLV FO 16	-928	-295	5757	-0.92	-2.9	0.81
678	CRTFP Ux+	0	0	0	0	0	0
678	CRTFP Ux-	0	0	0	0	0	0
678	CRTFP Uy+	0	0	0	0	0	0
678	CRTFP Uy-	0	0	0	0	0	0
679	SLU 1	-55	-11	5819	-12.72	1.36	1.48
679	SLU 2	-55	16	5815	-14.21	1.34	1.49
679	SLU 3	-56	-12	5960	-12.45	1.39	1.5
679	SLU 4	-56	4	5958	-13.34	1.38	1.51
679	SLU 5	-56	15	5905	-14.02	1.36	1.5
679	SLU 6	-56	-12	6050	-12.25	1.41	1.51
679	SLU 7	-57	4	6048	-13.15	1.4	1.52
679	SLU 8	-56	-12	6000	-12.33	1.4	1.5
679	SLU 9	-56	4	5997	-13.23	1.38	1.51
679	SLU 10	-57	13	6624	-15.32	1.46	1.57
679	SLU 11	-58	-14	6769	-13.56	1.52	1.58
679	SLU 12	-58	2	6767	-14.45	1.5	1.59
679	SLU 13	-58	12	6715	-15.13	1.48	1.58
679	SLU 14	-59	-15	6860	-13.37	1.53	1.6
679	SLU 15	-59	1	6857	-14.26	1.52	1.6
679	SLU 16	-58	-15	6809	-13.45	1.52	1.58
679	SLU 17	-58	1	6807	-14.34	1.51	1.59
679	SLU 18	-58	-15	6975	-14.31	1.54	1.59
679	SLU 19	-58	1	6972	-15.2	1.52	1.6
679	SLU 20	-58	-15	7065	-14.12	1.56	1.6
679	SLU 21	-59	1	7063	-15.01	1.54	1.61
679	SLU 22	-60	-14	6781	-11.9	1.58	1.64
679	SLU 23	-60	13	6777	-13.39	1.56	1.65
679	SLU 24	-61	-14	6922	-11.63	1.61	1.67
679	SLU 25	-61	2	6920	-12.52	1.6	1.67
679	SLU 26	-61	12	6867	-13.2	1.58	1.67
679	SLU 27	-62	-15	7013	-11.44	1.63	1.68
679	SLU 28	-62	1	7010	-12.33	1.62	1.69
679	SLU 29	-61	-15	6962	-11.52	1.62	1.67
679	SLU 30	-62	1	6960	-12.41	1.61	1.68
679	SLU 31	-63	10	7586	-14.5	1.68	1.73
679	SLU 32	-63	-17	7731	-12.74	1.74	1.75
679	SLU 33	-64	-1	7729	-13.64	1.72	1.75
679	SLU 34	-63	10	7677	-14.31	1.7	1.75
679	SLU 35	-64	-17	7822	-12.55	1.76	1.76
679	SLU 36	-64	-1	7819	-13.44	1.74	1.77
679	SLU 37	-64	-17	7771	-12.63	1.74	1.75
679	SLU 38	-64	-1	7769	-13.52	1.73	1.76
679	SLU 39	-63	-17	7937	-13.49	1.76	1.76
679	SLU 40	-63	-1	7935	-14.39	1.74	1.76
679	SLU 41	-64	-18	8027	-13.3	1.78	1.77
679	SLU 42	-64	-2	8025	-14.19	1.76	1.78
679	SLU 43	-69	-13	7235	-16.81	1.69	1.86
679	SLU 44	-70	13	7231	-18.31	1.67	1.87
679	SLU 45	-70	-14	7376	-16.54	1.72	1.89
679	SLU 46	-71	2	7373	-17.44	1.71	1.89
679	SLU 47	-70	13	7321	-18.11	1.69	1.89
679	SLU 48	-71	-14	7466	-16.35	1.74	1.9
679	SLU 49	-71	1	7464	-17.24	1.73	1.91
679	SLU 50	-71	-14	7416	-16.43	1.73	1.89
679	SLU 51	-71	2	7413	-17.32	1.72	1.9
679	SLU 52	-72	11	8040	-19.42	1.79	1.95
679	SLU 53	-73	-17	8185	-17.66	1.85	1.97
679	SLU 54	-73	-1	8183	-18.55	1.83	1.97
679	SLU 55	-72	10	8130	-19.23	1.81	1.97
679	SLU 56	-73	-17	8275	-17.46	1.87	1.98
679	SLU 57	-73	-1	8273	-18.36	1.85	1.99
679	SLU 58	-73	-17	8225	-17.54	1.85	1.97
679	SLU 59	-73	-1	8222	-18.44	1.84	1.98
679	SLU 60	-72	-17	8391	-18.4	1.87	1.98
679	SLU 61	-73	-1	8388	-19.3	1.86	1.98
679	SLU 62	-73	-18	8481	-18.21	1.89	1.99
679	SLU 63	-73	-2	8479	-19.11	1.88	2
679	SLU 64	-75	-16	8197	-16	1.91	2.03
679	SLU 65	-75	11	8193	-17.49	1.89	2.04
679	SLU 66	-76	-17	8338	-15.73	1.94	2.05
679	SLU 67	-76	-1	8336	-16.62	1.93	2.06
679	SLU 68	-76	10	8283	-17.29	1.91	2.05
679	SLU 69	-76	-17	8428	-15.53	1.96	2.07
679	SLU 70	-77	-1	8426	-16.43	1.95	2.07
679	SLU 71	-76	-17	8378	-15.61	1.95	2.05
679	SLU 72	-76	-1	8375	-16.51	1.94	2.06
679	SLU 73	-77	8	9002	-18.6	2.01	2.12
679	SLU 74	-78	-19	9147	-16.84	2.07	2.13
679	SLU 75	-78	-3	9145	-17.73	2.06	2.14
679	SLU 76	-78	7	9092	-18.41	2.03	2.13
679	SLU 77	-79	-20	9238	-16.65	2.09	2.15
679	SLU 78	-79	-4	9235	-17.54	2.07	2.15
679	SLU 79	-78	-20	9187	-16.72	2.07	2.13



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
679	SLU 80	-78	-4	9185	-17.62	2.06	2.14
679	SLU 81	-78	-20	9353	-17.59	2.09	2.14
679	SLU 82	-78	-4	9350	-18.48	2.08	2.15
679	SLU 83	-78	-20	9443	-17.39	2.11	2.16
679	SLU 84	-79	-4	9441	-18.29	2.1	2.16
679	SLE RA 1	-56	-12	6094	-12.49	1.42	1.52
679	SLE RA 2	-56	6	6091	-13.48	1.41	1.53
679	SLE RA 3	-57	-12	6188	-12.3	1.44	1.54
679	SLE RA 4	-57	-1	6186	-12.9	1.43	1.54
679	SLE RA 5	-57	6	6152	-13.35	1.42	1.54
679	SLE RA 6	-57	-12	6248	-12.18	1.46	1.55
679	SLE RA 7	-58	-2	6247	-12.77	1.45	1.55
679	SLE RA 8	-57	-12	6215	-12.23	1.45	1.54
679	SLE RA 9	-57	-2	6213	-12.82	1.44	1.55
679	SLE RA 10	-58	4	6631	-14.22	1.49	1.58
679	SLE RA 11	-58	-14	6727	-13.05	1.53	1.59
679	SLE RA 12	-59	-3	6726	-13.64	1.52	1.6
679	SLE RA 13	-58	4	6691	-14.09	1.5	1.59
679	SLE RA 14	-59	-14	6788	-12.92	1.54	1.6
679	SLE RA 15	-59	-4	6786	-13.51	1.53	1.61
679	SLE RA 16	-59	-14	6754	-12.97	1.53	1.59
679	SLE RA 17	-59	-4	6752	-13.57	1.52	1.6
679	SLE RA 18	-58	-14	6865	-13.55	1.54	1.6
679	SLE RA 19	-58	-4	6863	-14.14	1.53	1.6
679	SLE RA 20	-59	-15	6925	-13.42	1.55	1.61
679	SLE RA 21	-59	-4	6923	-14.01	1.54	1.61
679	SLE FR 1	-56	-12	6094	-12.49	1.42	1.52
679	SLE FR 2	-56	-8	6093	-12.68	1.42	1.52
679	SLE FR 3	-56	-12	6118	-12.43	1.43	1.53
679	SLE FR 4	-57	-9	6325	-13	1.45	1.55
679	SLE FR 5	-57	-13	6349	-12.75	1.46	1.55
679	SLE FR 6	-57	-13	6479	-13.02	1.48	1.56
679	SLE QP 1	-56	-12	6094	-12.49	1.42	1.52
679	SLE QP 2	-57	-12	6325	-12.8	1.46	1.55
679	SLD 1	448	144	6606	-16.52	3.58	2.25
679	SLD 2	450	97	6603	-15.97	3.61	3
679	SLD 3	455	-167	6675	4.61	3.83	1.86
679	SLD 4	457	-214	6672	5.16	3.87	2.6
679	SLD 5	84	515	6305	-46.06	1.7	2.22
679	SLD 6	85	484	6303	-45.7	1.72	2.71
679	SLD 7	107	-522	6536	24.36	2.55	0.91
679	SLD 8	108	-553	6533	24.72	2.58	1.4
679	SLD 9	-222	529	6117	-50.33	0.34	1.69
679	SLD 10	-221	497	6114	-49.97	0.36	2.19
679	SLD 11	-199	-509	6348	20.09	1.19	0.38
679	SLD 12	-198	-540	6345	20.45	1.22	0.87
679	SLD 13	-571	189	5979	-30.76	-0.96	0.49
679	SLD 14	-569	142	5975	-30.22	-0.92	1.24
679	SLD 15	-564	-122	6048	-9.64	-0.7	0.1
679	SLD 16	-562	-169	6044	-9.09	-0.66	0.84
679	SLV 1	734	240	6762	-19.21	4.76	2.66
679	SLV 2	737	167	6756	-18.36	4.81	3.82
679	SLV 3	746	-262	6873	14.98	5.17	2.02
679	SLV 4	748	-336	6868	15.84	5.23	3.18
679	SLV 5	163	840	6288	-66.75	1.81	2.64
679	SLV 6	165	790	6284	-66.18	1.85	3.42
679	SLV 7	201	-836	6660	47.24	3.19	0.49
679	SLV 8	202	-886	6656	47.82	3.23	1.28
679	SLV 9	-316	861	5994	-73.42	-0.31	1.81
679	SLV 10	-314	811	5990	-72.85	-0.27	2.6
679	SLV 11	-278	-815	6366	40.57	1.07	-0.33
679	SLV 12	-277	-865	6363	41.15	1.11	0.46
679	SLV 13	-862	311	5782	-41.44	-2.31	-0.09
679	SLV 14	-859	237	5777	-40.59	-2.26	1.08
679	SLV 15	-851	-192	5894	-7.25	-1.9	-0.73
679	SLV 16	-848	-265	5889	-6.39	-1.84	0.43
679	SLV FO 1	813	266	6805	-19.86	5.09	2.77
679	SLV FO 2	816	185	6799	-18.92	5.15	4.05
679	SLV FO 3	826	-287	6928	17.76	5.54	2.06
679	SLV FO 4	829	-368	6922	18.7	5.61	3.35
679	SLV FO 5	185	925	6284	-72.15	1.84	2.75
679	SLV FO 6	187	870	6280	-71.52	1.89	3.61
679	SLV FO 7	226	-918	6694	53.25	3.36	0.39
679	SLV FO 8	228	-973	6690	53.88	3.4	1.25
679	SLV FO 9	-342	948	5961	-79.49	-0.49	1.84
679	SLV FO 10	-340	893	5957	-78.85	-0.45	2.7
679	SLV FO 11	-300	-895	6371	45.91	1.03	-0.52
679	SLV FO 12	-298	-950	6366	46.54	1.07	0.35
679	SLV FO 13	-942	344	5728	-44.31	-2.69	-0.25
679	SLV FO 14	-940	262	5722	-43.37	-2.63	1.03
679	SLV FO 15	-930	-209	5851	-6.69	-2.24	-0.96
679	SLV FO 16	-927	-291	5845	-5.75	-2.17	0.32
679	CRTFP Ux+	0	0	0	0	0	0
679	CRTFP Ux-	0	0	0	0	0	0
679	CRTFP Uy+	0	0	0	0	0	0
679	CRTFP Uy-	0	0	0	0	0	0
680	SLU 1	-53	-5	5759	-14.34	2.08	0.92
680	SLU 2	-54	22	5756	-15.67	2.07	0.95
680	SLU 3	-55	-5	5899	-14.15	2.14	0.94



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
680	SLU 4	-55	11	5896	-14.95	2.13	0.96
680	SLU 5	-54	22	5845	-15.54	2.1	0.96
680	SLU 6	-55	-6	5988	-14.02	2.17	0.95
680	SLU 7	-55	10	5986	-14.82	2.16	0.96
680	SLU 8	-55	-6	5938	-14.07	2.15	0.94
680	SLU 9	-55	10	5936	-14.87	2.14	0.96
680	SLU 10	-56	20	6558	-17.1	2.31	0.98
680	SLU 11	-57	-7	6701	-15.58	2.38	0.97
680	SLU 12	-57	9	6699	-16.38	2.37	0.99
680	SLU 13	-57	19	6648	-16.96	2.34	0.99
680	SLU 14	-58	-8	6791	-15.44	2.41	0.98
680	SLU 15	-58	8	6789	-16.24	2.4	0.99
680	SLU 16	-57	-8	6741	-15.49	2.39	0.97
680	SLU 17	-57	8	6739	-16.3	2.38	0.99
680	SLU 18	-57	-8	6906	-16.38	2.43	0.96
680	SLU 19	-57	8	6904	-17.18	2.42	0.98
680	SLU 20	-57	-8	6995	-16.24	2.46	0.97
680	SLU 21	-58	8	6993	-17.04	2.45	0.99
680	SLU 22	-59	-7	6711	-13.91	2.45	1.03
680	SLU 23	-59	20	6707	-15.24	2.43	1.06
680	SLU 24	-60	-7	6850	-13.72	2.5	1.05
680	SLU 25	-60	9	6848	-14.52	2.49	1.06
680	SLU 26	-60	20	6797	-15.11	2.46	1.07
680	SLU 27	-61	-7	6940	-13.59	2.53	1.05
680	SLU 28	-61	9	6938	-14.39	2.52	1.07
680	SLU 29	-60	-7	6890	-13.64	2.51	1.05
680	SLU 30	-60	9	6888	-14.44	2.5	1.06
680	SLU 31	-62	18	7510	-16.67	2.67	1.09
680	SLU 32	-62	-9	7653	-15.15	2.74	1.08
680	SLU 33	-63	7	7651	-15.95	2.73	1.09
680	SLU 34	-62	17	7600	-16.54	2.7	1.1
680	SLU 35	-63	-10	7743	-15.02	2.77	1.08
680	SLU 36	-63	6	7741	-15.82	2.76	1.1
680	SLU 37	-63	-10	7693	-15.07	2.75	1.08
680	SLU 38	-63	6	7691	-15.87	2.74	1.09
680	SLU 39	-62	-10	7858	-15.95	2.79	1.07
680	SLU 40	-62	6	7856	-16.75	2.78	1.09
680	SLU 41	-63	-10	7947	-15.81	2.82	1.08
680	SLU 42	-63	6	7945	-16.62	2.81	1.1
680	SLU 43	-68	-5	7160	-18.78	2.58	1.16
680	SLU 44	-68	21	7157	-20.12	2.57	1.19
680	SLU 45	-69	-6	7300	-18.6	2.64	1.18
680	SLU 46	-69	10	7298	-19.4	2.63	1.2
680	SLU 47	-69	21	7246	-19.98	2.6	1.2
680	SLU 48	-69	-6	7389	-18.46	2.67	1.19
680	SLU 49	-70	10	7387	-19.26	2.66	1.2
680	SLU 50	-69	-6	7339	-18.51	2.65	1.18
680	SLU 51	-69	10	7337	-19.32	2.64	1.2
680	SLU 52	-70	19	7960	-21.55	2.81	1.22
680	SLU 53	-71	-8	8103	-20.03	2.88	1.21
680	SLU 54	-71	8	8101	-20.83	2.87	1.22
680	SLU 55	-71	19	8049	-21.41	2.84	1.23
680	SLU 56	-72	-9	8192	-19.89	2.91	1.22
680	SLU 57	-72	7	8190	-20.69	2.9	1.23
680	SLU 58	-71	-9	8142	-19.94	2.89	1.21
680	SLU 59	-71	7	8140	-20.74	2.88	1.22
680	SLU 60	-71	-9	8307	-20.82	2.93	1.2
680	SLU 61	-71	7	8305	-21.62	2.92	1.22
680	SLU 62	-72	-9	8397	-20.69	2.96	1.21
680	SLU 63	-72	7	8395	-21.49	2.95	1.23
680	SLU 64	-73	-7	8112	-18.36	2.95	1.27
680	SLU 65	-73	19	8109	-19.69	2.93	1.3
680	SLU 66	-74	-8	8252	-18.17	3	1.29
680	SLU 67	-74	8	8250	-18.97	2.99	1.3
680	SLU 68	-74	19	8198	-19.56	2.96	1.31
680	SLU 69	-75	-8	8341	-18.04	3.03	1.29
680	SLU 70	-75	8	8339	-18.84	3.02	1.31
680	SLU 71	-74	-8	8291	-18.09	3.01	1.29
680	SLU 72	-75	8	8289	-18.89	3	1.3
680	SLU 73	-76	17	8912	-21.12	3.17	1.33
680	SLU 74	-76	-10	9054	-19.6	3.24	1.32
680	SLU 75	-77	6	9052	-20.4	3.23	1.33
680	SLU 76	-76	17	9001	-20.99	3.2	1.34
680	SLU 77	-77	-11	9144	-19.46	3.27	1.32
680	SLU 78	-77	5	9142	-20.26	3.26	1.34
680	SLU 79	-77	-10	9094	-19.51	3.25	1.32
680	SLU 80	-77	6	9092	-20.32	3.24	1.33
680	SLU 81	-76	-11	9259	-20.4	3.29	1.31
680	SLU 82	-77	5	9257	-21.2	3.28	1.33
680	SLU 83	-77	-11	9349	-20.26	3.32	1.32
680	SLU 84	-77	5	9346	-21.06	3.31	1.34
680	SLE RA 1	-55	-5	6031	-14.21	2.19	0.95
680	SLE RA 2	-55	13	6029	-15.1	2.18	0.97
680	SLE RA 3	-56	-5	6124	-14.09	2.22	0.96
680	SLE RA 4	-56	5	6123	-14.62	2.22	0.98
680	SLE RA 5	-56	12	6088	-15.02	2.2	0.98
680	SLE RA 6	-56	-6	6184	-14	2.24	0.97
680	SLE RA 7	-56	5	6182	-14.53	2.24	0.98
680	SLE RA 8	-56	-6	6150	-14.03	2.23	0.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
680	SLE RA 9	-56	5	6149	-14.57	2.22	0.98
680	SLE RA 10	-57	11	6564	-16.06	2.34	0.99
680	SLE RA 11	-57	-7	6659	-15.04	2.38	0.98
680	SLE RA 12	-57	4	6658	-15.58	2.38	0.99
680	SLE RA 13	-57	11	6624	-15.97	2.36	1
680	SLE RA 14	-58	-7	6719	-14.95	2.41	0.99
680	SLE RA 15	-58	3	6717	-15.49	2.4	1
680	SLE RA 16	-57	-7	6686	-14.99	2.39	0.98
680	SLE RA 17	-58	3	6684	-15.52	2.38	0.99
680	SLE RA 18	-57	-7	6795	-15.57	2.42	0.98
680	SLE RA 19	-57	3	6794	-16.11	2.41	0.99
680	SLE RA 20	-58	-8	6855	-15.48	2.44	0.99
680	SLE RA 21	-58	3	6854	-16.02	2.43	1
680	SLE FR 1	-55	-5	6031	-14.21	2.19	0.95
680	SLE FR 2	-55	-2	6031	-14.39	2.18	0.96
680	SLE FR 3	-55	-5	6055	-14.18	2.2	0.95
680	SLE FR 4	-56	-2	6260	-14.8	2.25	0.96
680	SLE FR 5	-56	-6	6284	-14.59	2.26	0.96
680	SLE FR 6	-56	-6	6413	-14.89	2.3	0.97
680	SLE QP 1	-55	-5	6031	-14.21	2.19	0.95
680	SLE QP 2	-56	-6	6260	-14.62	2.26	0.96
680	SLD 1	449	154	6468	-16.61	4.36	1.72
680	SLD 2	451	110	6463	-16.17	4.39	2.44
680	SLD 3	456	-160	6529	2.56	4.58	1.15
680	SLD 4	458	-203	6524	3	4.62	1.87
680	SLD 5	85	525	6231	-44.37	2.54	1.92
680	SLD 6	86	497	6228	-44.08	2.56	2.4
680	SLD 7	108	-520	6434	19.52	3.29	0.02
680	SLD 8	109	-548	6431	19.81	3.31	0.5
680	SLD 9	-220	537	6090	-49.06	1.2	1.42
680	SLD 10	-219	508	6087	-48.77	1.22	1.9
680	SLD 11	-198	-508	6293	14.83	1.95	-0.48
680	SLD 12	-197	-537	6289	15.12	1.97	0
680	SLD 13	-569	192	5997	-32.24	-0.11	0.05
680	SLD 14	-568	148	5992	-31.8	-0.07	0.77
680	SLD 15	-562	-122	6058	-13.08	0.12	-0.52
680	SLD 16	-561	-165	6053	-12.64	0.15	0.2
680	SLV 1	735	252	6583	-18.29	5.53	2.16
680	SLV 2	738	183	6575	-17.6	5.58	3.3
680	SLV 3	746	-255	6681	12.75	5.89	1.23
680	SLV 4	749	-323	6673	13.44	5.95	2.37
680	SLV 5	164	852	6210	-62.93	2.67	2.51
680	SLV 6	166	806	6205	-62.46	2.71	3.27
680	SLV 7	201	-836	6537	40.53	3.89	-0.57
680	SLV 8	203	-882	6532	41	3.93	0.2
680	SLV 9	-314	870	5989	-70.24	0.59	1.72
680	SLV 10	-313	824	5984	-69.78	0.62	2.49
680	SLV 11	-277	-818	6316	33.22	1.8	-1.35
680	SLV 12	-276	-864	6311	33.68	1.84	-0.59
680	SLV 13	-860	311	5847	-42.69	-1.44	-0.45
680	SLV 14	-858	243	5840	-41.99	-1.38	0.69
680	SLV 15	-849	-195	5946	-11.65	-1.07	-1.38
680	SLV 16	-846	-263	5938	-10.95	-1.02	-0.24
680	SLV FO 1	814	277	6615	-18.66	5.86	2.28
680	SLV FO 2	817	202	6607	-17.89	5.92	3.53
680	SLV FO 3	826	-280	6723	15.49	6.26	1.26
680	SLV FO 4	829	-355	6714	16.25	6.32	2.52
680	SLV FO 5	186	938	6205	-67.76	2.72	2.66
680	SLV FO 6	188	887	6199	-67.24	2.76	3.51
680	SLV FO 7	227	-919	6564	46.05	4.05	-0.72
680	SLV FO 8	229	-969	6559	46.56	4.09	0.12
680	SLV FO 9	-340	958	5962	-75.81	0.42	1.8
680	SLV FO 10	-338	907	5956	-75.29	0.46	2.64
680	SLV FO 11	-300	-899	6322	38	1.75	-1.58
680	SLV FO 12	-298	-950	6316	38.51	1.8	-0.74
680	SLV FO 13	-941	343	5806	-45.49	-1.81	-0.59
680	SLV FO 14	-938	268	5798	-44.73	-1.74	0.66
680	SLV FO 15	-928	-214	5914	-11.35	-1.4	-1.61
680	SLV FO 16	-926	-289	5906	-10.59	-1.34	-0.36
680	CRTFP Ux+	0	0	0	0	0	0
680	CRTFP Ux-	0	0	0	0	0	0
680	CRTFP Uy+	0	0	0	0	0	0
680	CRTFP Uy-	0	0	0	0	0	0
681	SLU 1	-52	-2	5675	-15.97	2.69	0.08
681	SLU 2	-52	25	5672	-17.15	2.68	0.13
681	SLU 3	-53	-2	5813	-15.87	2.76	0.09
681	SLU 4	-53	14	5811	-16.58	2.76	0.11
681	SLU 5	-53	25	5761	-17.07	2.73	0.13
681	SLU 6	-54	-3	5901	-15.79	2.8	0.09
681	SLU 7	-54	14	5899	-16.5	2.8	0.11
681	SLU 8	-53	-3	5852	-15.81	2.78	0.09
681	SLU 9	-54	14	5850	-16.52	2.77	0.11
681	SLU 10	-55	23	6465	-18.89	3.02	0.08
681	SLU 11	-56	-4	6605	-17.61	3.1	0.04
681	SLU 12	-56	12	6603	-18.32	3.09	0.07
681	SLU 13	-56	22	6553	-18.82	3.07	0.08
681	SLU 14	-56	-5	6693	-17.53	3.14	0.04
681	SLU 15	-56	11	6692	-18.24	3.14	0.07
681	SLU 16	-56	-5	6644	-17.56	3.12	0.04



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
681	SLU 17	-56	11	6642	-18.27	3.11	0.07
681	SLU 18	-56	-5	6808	-18.46	3.17	0.02
681	SLU 19	-56	11	6806	-19.17	3.17	0.05
681	SLU 20	-56	-5	6896	-18.38	3.22	0.02
681	SLU 21	-57	11	6894	-19.09	3.21	0.05
681	SLU 22	-58	-3	6612	-15.93	3.18	0.1
681	SLU 23	-58	24	6609	-17.11	3.17	0.15
681	SLU 24	-59	-4	6750	-15.83	3.25	0.11
681	SLU 25	-59	12	6748	-16.54	3.24	0.13
681	SLU 26	-58	23	6698	-17.04	3.21	0.15
681	SLU 27	-59	-4	6838	-15.75	3.29	0.11
681	SLU 28	-59	12	6836	-16.46	3.29	0.13
681	SLU 29	-59	-4	6789	-15.78	3.26	0.11
681	SLU 30	-59	12	6787	-16.49	3.26	0.13
681	SLU 31	-60	21	7402	-18.86	3.51	0.1
681	SLU 32	-61	-6	7542	-17.57	3.58	0.06
681	SLU 33	-61	10	7540	-18.28	3.58	0.09
681	SLU 34	-61	21	7490	-18.78	3.55	0.1
681	SLU 35	-62	-6	7630	-17.5	3.63	0.06
681	SLU 36	-62	10	7629	-18.21	3.62	0.09
681	SLU 37	-61	-6	7581	-17.52	3.6	0.06
681	SLU 38	-61	10	7579	-18.23	3.6	0.09
681	SLU 39	-61	-7	7745	-18.42	3.66	0.04
681	SLU 40	-61	10	7743	-19.13	3.66	0.07
681	SLU 41	-62	-7	7833	-18.34	3.7	0.04
681	SLU 42	-62	9	7831	-19.05	3.7	0.07
681	SLU 43	-66	-2	7057	-20.77	3.33	0.1
681	SLU 44	-66	25	7054	-21.95	3.32	0.14
681	SLU 45	-67	-2	7194	-20.67	3.4	0.11
681	SLU 46	-67	14	7192	-21.38	3.4	0.13
681	SLU 47	-67	25	7142	-21.88	3.37	0.15
681	SLU 48	-68	-2	7282	-20.59	3.44	0.11
681	SLU 49	-68	14	7280	-21.3	3.44	0.13
681	SLU 50	-67	-2	7233	-20.62	3.42	0.1
681	SLU 51	-67	14	7231	-21.33	3.41	0.13
681	SLU 52	-69	23	7846	-23.7	3.66	0.1
681	SLU 53	-69	-4	7987	-22.41	3.74	0.06
681	SLU 54	-70	12	7985	-23.12	3.74	0.09
681	SLU 55	-69	22	7934	-23.62	3.71	0.1
681	SLU 56	-70	-5	8075	-22.34	3.78	0.06
681	SLU 57	-70	11	8073	-23.05	3.78	0.09
681	SLU 58	-70	-5	8026	-22.36	3.76	0.06
681	SLU 59	-70	11	8024	-23.07	3.75	0.08
681	SLU 60	-69	-5	8189	-23.26	3.81	0.04
681	SLU 61	-70	11	8187	-23.97	3.81	0.06
681	SLU 62	-70	-5	8277	-23.19	3.86	0.04
681	SLU 63	-70	11	8275	-23.89	3.85	0.06
681	SLU 64	-71	-3	7994	-20.73	3.82	0.12
681	SLU 65	-72	24	7991	-21.92	3.81	0.16
681	SLU 66	-72	-4	8131	-20.63	3.89	0.13
681	SLU 67	-73	12	8129	-21.34	3.88	0.15
681	SLU 68	-72	23	8079	-21.84	3.85	0.17
681	SLU 69	-73	-4	8219	-20.56	3.93	0.13
681	SLU 70	-73	12	8217	-21.27	3.93	0.15
681	SLU 71	-73	-4	8170	-20.58	3.9	0.12
681	SLU 72	-73	12	8168	-21.29	3.9	0.15
681	SLU 73	-74	21	8783	-23.66	4.15	0.12
681	SLU 74	-75	-6	8924	-22.38	4.22	0.08
681	SLU 75	-75	10	8922	-23.09	4.22	0.11
681	SLU 76	-75	21	8871	-23.58	4.19	0.12
681	SLU 77	-75	-6	9012	-22.3	4.27	0.08
681	SLU 78	-76	10	9010	-23.01	4.26	0.11
681	SLU 79	-75	-6	8963	-22.32	4.24	0.08
681	SLU 80	-75	10	8961	-23.03	4.24	0.1
681	SLU 81	-75	-6	9126	-23.22	4.3	0.06
681	SLU 82	-75	10	9124	-23.93	4.3	0.08
681	SLU 83	-76	-7	9214	-23.15	4.34	0.06
681	SLU 84	-76	9	9212	-23.86	4.34	0.08
681	SLE RA 1	-54	-2	5943	-15.96	2.83	0.09
681	SLE RA 2	-54	16	5941	-16.75	2.82	0.12
681	SLE RA 3	-54	-2	6035	-15.89	2.88	0.09
681	SLE RA 4	-55	8	6033	-16.36	2.87	0.11
681	SLE RA 5	-54	15	6000	-16.69	2.85	0.12
681	SLE RA 6	-55	-3	6093	-15.84	2.9	0.09
681	SLE RA 7	-55	8	6092	-16.31	2.9	0.11
681	SLE RA 8	-55	-3	6061	-15.86	2.89	0.09
681	SLE RA 9	-55	8	6059	-16.33	2.88	0.11
681	SLE RA 10	-56	14	6469	-17.91	3.05	0.09
681	SLE RA 11	-56	-4	6563	-17.05	3.1	0.06
681	SLE RA 12	-56	7	6562	-17.53	3.1	0.08
681	SLE RA 13	-56	14	6528	-17.86	3.08	0.09
681	SLE RA 14	-56	-4	6622	-17	3.13	0.06
681	SLE RA 15	-57	7	6621	-17.47	3.13	0.08
681	SLE RA 16	-56	-4	6589	-17.02	3.11	0.06
681	SLE RA 17	-56	7	6588	-17.49	3.11	0.08
681	SLE RA 18	-56	-4	6698	-17.62	3.15	0.05
681	SLE RA 19	-56	6	6697	-18.09	3.15	0.06
681	SLE RA 20	-56	-5	6757	-17.57	3.18	0.05
681	SLE RA 21	-57	6	6755	-18.04	3.18	0.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
681	SLE FR 1	-54	-2	5943	-15.96	2.83	0.09
681	SLE FR 2	-54	1	5943	-16.12	2.83	0.09
681	SLE FR 3	-54	-2	5967	-15.94	2.84	0.09
681	SLE FR 4	-54	1	6169	-16.61	2.92	0.08
681	SLE FR 5	-55	-3	6193	-16.44	2.94	0.08
681	SLE FR 6	-55	-3	6320	-16.79	2.99	0.07
681	SLE QP 1	-54	-2	5943	-15.96	2.83	0.09
681	SLE QP 2	-54	-3	6170	-16.46	2.93	0.08
681	SLD 1	450	160	6305	-16.72	4.97	0.8
681	SLD 2	452	120	6299	-16.38	5	1.54
681	SLD 3	457	-157	6360	0.51	5.07	0.1
681	SLD 4	459	-197	6354	0.85	5.1	0.84
681	SLD 5	87	533	6128	-42.72	3.38	1.23
681	SLD 6	88	507	6124	-42.5	3.4	1.72
681	SLD 7	109	-522	6311	14.7	3.71	-1.12
681	SLD 8	110	-549	6307	14.92	3.73	-0.63
681	SLD 9	-219	543	6032	-47.84	2.12	0.78
681	SLD 10	-218	517	6028	-47.61	2.14	1.27
681	SLD 11	-196	-513	6215	9.59	2.45	-1.56
681	SLD 12	-195	-539	6211	9.81	2.47	-1.08
681	SLD 13	-567	192	5985	-33.76	0.76	-0.68
681	SLD 14	-566	151	5979	-33.42	0.79	0.05
681	SLD 15	-561	-125	6040	-16.53	0.85	-1.39
681	SLD 16	-559	-165	6034	-16.19	0.88	-0.65
681	SLV 1	736	259	6380	-17.38	6.11	1.23
681	SLV 2	738	196	6371	-16.85	6.15	2.39
681	SLV 3	747	-252	6469	10.53	6.27	0.09
681	SLV 4	749	-315	6460	11.06	6.31	1.25
681	SLV 5	166	863	6100	-59.16	3.63	1.94
681	SLV 6	167	821	6093	-58.8	3.66	2.72
681	SLV 7	202	-842	6396	33.87	4.16	-1.87
681	SLV 8	204	-884	6389	34.23	4.19	-1.09
681	SLV 9	-312	878	5950	-67.14	1.66	1.24
681	SLV 10	-311	836	5943	-66.78	1.69	2.02
681	SLV 11	-276	-827	6246	25.89	2.19	-2.56
681	SLV 12	-275	-869	6239	26.25	2.22	-1.78
681	SLV 13	-858	310	5880	-43.97	-0.46	-1.1
681	SLV 14	-855	247	5870	-43.44	-0.41	0.06
681	SLV 15	-847	-202	5968	-16.06	-0.3	-2.24
681	SLV 16	-844	-265	5959	-15.53	-0.26	-1.08
681	SLV FO 1	815	285	6401	-17.47	6.43	1.35
681	SLV FO 2	817	216	6391	-16.89	6.48	2.62
681	SLV FO 3	827	-277	6499	13.22	6.6	0.09
681	SLV FO 4	829	-346	6489	13.81	6.65	1.37
681	SLV FO 5	188	950	6093	-63.43	3.7	2.12
681	SLV FO 6	190	903	6086	-63.04	3.74	2.98
681	SLV FO 7	227	-926	6418	38.9	4.28	-2.06
681	SLV FO 8	229	-972	6411	39.29	4.32	-1.2
681	SLV FO 9	-338	967	5928	-72.21	1.54	1.35
681	SLV FO 10	-336	920	5921	-71.81	1.57	2.21
681	SLV FO 11	-298	-909	6253	30.13	2.11	-2.83
681	SLV FO 12	-297	-955	6246	30.52	2.15	-1.97
681	SLV FO 13	-938	341	5851	-46.72	-0.8	-1.21
681	SLV FO 14	-935	272	5840	-46.14	-0.75	0.06
681	SLV FO 15	-926	-222	5948	-16.02	-0.63	-2.47
681	SLV FO 16	-923	-291	5938	-15.44	-0.57	-1.19
681	CRTFP Ux+	0	0	0	0	0	0
681	CRTFP Ux-	0	0	0	0	0	0
681	CRTFP Uy+	0	0	0	0	0	0
681	CRTFP Uy-	0	0	0	0	0	0
682	SLU 1	-51	-4	5605	-5.99	-2.09	-0.98
682	SLU 2	-51	24	5602	-7.03	-2.07	-0.9
682	SLU 3	-52	-4	5740	-5.69	-2.14	-1
682	SLU 4	-52	12	5738	-6.31	-2.13	-0.95
682	SLU 5	-52	23	5689	-6.82	-2.11	-0.91
682	SLU 6	-52	-4	5827	-5.48	-2.17	-1.01
682	SLU 7	-53	12	5825	-6.1	-2.16	-0.96
682	SLU 8	-52	-4	5779	-5.58	-2.16	-1
682	SLU 9	-52	12	5777	-6.2	-2.14	-0.95
682	SLU 10	-54	21	6385	-7.42	-2.4	-1.05
682	SLU 11	-54	-7	6524	-6.08	-2.47	-1.14
682	SLU 12	-55	10	6522	-6.7	-2.45	-1.09
682	SLU 13	-54	21	6472	-7.22	-2.43	-1.05
682	SLU 14	-55	-7	6611	-5.87	-2.5	-1.15
682	SLU 15	-55	9	6609	-6.49	-2.48	-1.1
682	SLU 16	-55	-7	6563	-5.98	-2.48	-1.14
682	SLU 17	-55	9	6561	-6.6	-2.47	-1.1
682	SLU 18	-55	-7	6724	-6.55	-2.56	-1.19
682	SLU 19	-55	9	6723	-7.18	-2.55	-1.14
682	SLU 20	-55	-8	6811	-6.35	-2.59	-1.19
682	SLU 21	-55	8	6810	-6.97	-2.58	-1.15
682	SLU 22	-56	-5	6528	-4.37	-2.38	-1.08
682	SLU 23	-57	22	6525	-5.4	-2.36	-1
682	SLU 24	-57	-6	6664	-4.06	-2.43	-1.09
682	SLU 25	-57	11	6662	-4.68	-2.41	-1.04
682	SLU 26	-57	22	6612	-5.2	-2.39	-1.01
682	SLU 27	-58	-6	6751	-3.85	-2.46	-1.1
682	SLU 28	-58	10	6749	-4.47	-2.45	-1.05
682	SLU 29	-57	-6	6702	-3.96	-2.44	-1.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
682	SLU 30	-58	10	6700	-4.58	-2.43	-1.05
682	SLU 31	-59	19	7309	-5.79	-2.68	-1.14
682	SLU 32	-60	-8	7448	-4.45	-2.75	-1.23
682	SLU 33	-60	8	7446	-5.07	-2.74	-1.18
682	SLU 34	-60	19	7396	-5.59	-2.72	-1.15
682	SLU 35	-61	-9	7535	-4.25	-2.78	-1.24
682	SLU 36	-61	7	7533	-4.87	-2.77	-1.19
682	SLU 37	-60	-9	7486	-4.35	-2.77	-1.24
682	SLU 38	-60	7	7484	-4.97	-2.76	-1.19
682	SLU 39	-60	-9	7648	-4.93	-2.84	-1.28
682	SLU 40	-60	7	7646	-5.55	-2.83	-1.23
682	SLU 41	-61	-10	7735	-4.72	-2.88	-1.29
682	SLU 42	-61	7	7733	-5.34	-2.86	-1.24
682	SLU 43	-64	-4	6969	-8.35	-2.62	-1.25
682	SLU 44	-65	23	6966	-9.38	-2.6	-1.17
682	SLU 45	-65	-4	7105	-8.04	-2.67	-1.26
682	SLU 46	-65	12	7103	-8.66	-2.66	-1.21
682	SLU 47	-65	23	7053	-9.18	-2.63	-1.18
682	SLU 48	-66	-5	7192	-7.84	-2.7	-1.27
682	SLU 49	-66	11	7190	-8.46	-2.69	-1.22
682	SLU 50	-65	-5	7143	-7.94	-2.69	-1.27
682	SLU 51	-66	11	7142	-8.56	-2.67	-1.22
682	SLU 52	-67	20	7750	-9.78	-2.93	-1.31
682	SLU 53	-68	-7	7889	-8.44	-3	-1.4
682	SLU 54	-68	9	7887	-9.06	-2.98	-1.35
682	SLU 55	-68	20	7837	-9.57	-2.96	-1.32
682	SLU 56	-69	-8	7976	-8.23	-3.03	-1.41
682	SLU 57	-69	9	7974	-8.85	-3.01	-1.36
682	SLU 58	-68	-8	7927	-8.33	-3.01	-1.41
682	SLU 59	-68	9	7925	-8.95	-3	-1.36
682	SLU 60	-68	-8	8089	-8.91	-3.09	-1.45
682	SLU 61	-68	8	8087	-9.53	-3.08	-1.4
682	SLU 62	-69	-8	8176	-8.7	-3.12	-1.46
682	SLU 63	-69	8	8174	-9.33	-3.11	-1.41
682	SLU 64	-70	-6	7893	-6.72	-2.91	-1.34
682	SLU 65	-70	22	7890	-7.76	-2.89	-1.26
682	SLU 66	-71	-6	8028	-6.42	-2.96	-1.35
682	SLU 67	-71	10	8027	-7.04	-2.94	-1.31
682	SLU 68	-71	21	7977	-7.55	-2.92	-1.27
682	SLU 69	-71	-7	8115	-6.21	-2.99	-1.36
682	SLU 70	-71	10	8114	-6.83	-2.98	-1.31
682	SLU 71	-71	-7	8067	-6.31	-2.97	-1.36
682	SLU 72	-71	10	8065	-6.93	-2.96	-1.31
682	SLU 73	-73	19	8674	-8.15	-3.21	-1.4
682	SLU 74	-73	-9	8812	-6.81	-3.28	-1.49
682	SLU 75	-73	7	8810	-7.43	-3.27	-1.45
682	SLU 76	-73	18	8761	-7.94	-3.24	-1.41
682	SLU 77	-74	-9	8899	-6.6	-3.31	-1.5
682	SLU 78	-74	7	8897	-7.22	-3.3	-1.46
682	SLU 79	-74	-9	8851	-6.7	-3.3	-1.5
682	SLU 80	-74	7	8849	-7.33	-3.29	-1.45
682	SLU 81	-73	-10	9013	-7.28	-3.37	-1.54
682	SLU 82	-74	7	9011	-7.9	-3.36	-1.49
682	SLU 83	-74	-10	9100	-7.08	-3.41	-1.55
682	SLU 84	-74	6	9098	-7.7	-3.39	-1.5
682	SLE RA 1	-52	-4	5869	-5.53	-2.17	-1.01
682	SLE RA 2	-53	14	5866	-6.22	-2.16	-0.96
682	SLE RA 3	-53	-4	5959	-5.32	-2.21	-1.02
682	SLE RA 4	-53	7	5958	-5.74	-2.2	-0.99
682	SLE RA 5	-53	14	5924	-6.08	-2.18	-0.96
682	SLE RA 6	-53	-5	6017	-5.19	-2.23	-1.03
682	SLE RA 7	-54	6	6016	-5.6	-2.22	-0.99
682	SLE RA 8	-53	-5	5985	-5.25	-2.22	-1.02
682	SLE RA 9	-53	6	5983	-5.67	-2.21	-0.99
682	SLE RA 10	-54	12	6389	-6.48	-2.38	-1.05
682	SLE RA 11	-55	-6	6481	-5.59	-2.42	-1.11
682	SLE RA 12	-55	5	6480	-6	-2.41	-1.08
682	SLE RA 13	-55	12	6447	-6.34	-2.4	-1.06
682	SLE RA 14	-55	-6	6539	-5.45	-2.44	-1.12
682	SLE RA 15	-55	4	6538	-5.86	-2.44	-1.09
682	SLE RA 16	-55	-6	6507	-5.52	-2.43	-1.12
682	SLE RA 17	-55	4	6506	-5.93	-2.43	-1.08
682	SLE RA 18	-55	-7	6615	-5.9	-2.49	-1.14
682	SLE RA 19	-55	4	6614	-6.32	-2.48	-1.11
682	SLE RA 20	-55	-7	6673	-5.77	-2.51	-1.15
682	SLE RA 21	-55	4	6672	-6.18	-2.5	-1.12
682	SLE FR 1	-52	-4	5869	-5.53	-2.17	-1.01
682	SLE FR 2	-52	0	5868	-5.67	-2.17	-1
682	SLE FR 3	-53	-4	5892	-5.47	-2.18	-1.01
682	SLE FR 4	-53	-1	6092	-5.78	-2.27	-1.04
682	SLE FR 5	-53	-5	6116	-5.59	-2.28	-1.05
682	SLE FR 6	-54	-5	6242	-5.72	-2.33	-1.08
682	SLE QP 1	-52	-4	5869	-5.53	-2.17	-1.01
682	SLE QP 2	-53	-5	6093	-5.64	-2.27	-1.05
682	SLD 1	453	161	6160	-4.22	-0.33	-1.3
682	SLD 2	455	124	6153	-4	-0.31	-0.55
682	SLD 3	460	-161	6216	11.18	-0.6	-2.37
682	SLD 4	462	-198	6209	11.4	-0.58	-1.61
682	SLD 5	89	540	6028	-28.62	-1.29	0.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
682	SLD 6	90	516	6023	-28.48	-1.27	0.86
682	SLD 7	111	-534	6217	22.73	-2.18	-3.2
682	SLD 8	112	-558	6212	22.88	-2.16	-2.7
682	SLD 9	-218	548	5973	-34.16	-2.38	0.6
682	SLD 10	-217	524	5968	-34.01	-2.36	1.1
682	SLD 11	-196	-525	6162	17.19	-3.26	-2.96
682	SLD 12	-195	-550	6157	17.34	-3.25	-2.46
682	SLD 13	-568	188	5976	-22.68	-3.96	-0.49
682	SLD 14	-566	152	5969	-22.47	-3.94	0.27
682	SLD 15	-561	-134	6032	-7.28	-4.23	-1.56
682	SLD 16	-560	-170	6025	-7.06	-4.2	-0.8
682	SLV 1	740	262	6196	-3.89	0.75	-1.41
682	SLV 2	742	205	6186	-3.55	0.79	-0.23
682	SLV 3	751	-258	6288	21.08	0.32	-3.14
682	SLV 4	753	-315	6277	21.42	0.36	-1.96
682	SLV 5	168	875	5987	-43.05	-0.71	1.24
682	SLV 6	170	836	5980	-42.82	-0.69	2.04
682	SLV 7	204	-859	6292	40.19	-2.15	-4.52
682	SLV 8	205	-898	6285	40.42	-2.13	-3.73
682	SLV 9	-312	888	5900	-51.7	-2.41	1.62
682	SLV 10	-310	849	5893	-51.47	-2.39	2.42
682	SLV 11	-276	-846	6205	31.54	-3.85	-4.14
682	SLV 12	-274	-885	6198	31.77	-3.82	-3.35
682	SLV 13	-859	306	5908	-32.7	-4.9	-0.14
682	SLV 14	-857	248	5897	-32.36	-4.86	1.04
682	SLV 15	-849	-214	5999	-7.73	-5.33	-1.87
682	SLV 16	-846	-272	5989	-7.39	-5.29	-0.69
682	SLV FO 1	819	289	6207	-3.72	1.06	-1.45
682	SLV FO 2	822	226	6195	-3.34	1.1	-0.15
682	SLV FO 3	831	-283	6308	23.75	0.58	-3.35
682	SLV FO 4	834	-346	6296	24.13	0.62	-2.05
682	SLV FO 5	190	963	5976	-46.8	-0.56	1.47
682	SLV FO 6	192	920	5968	-46.54	-0.53	2.35
682	SLV FO 7	229	-944	6312	44.77	-2.14	-4.87
682	SLV FO 8	231	-987	6304	45.02	-2.11	-3.99
682	SLV FO 9	-338	977	5881	-56.3	-2.42	1.89
682	SLV FO 10	-336	935	5873	-56.05	-2.4	2.77
682	SLV FO 11	-298	-930	6217	35.26	-4	-4.45
682	SLV FO 12	-297	-973	6209	35.52	-3.98	-3.57
682	SLV FO 13	-940	337	5889	-35.41	-5.16	-0.05
682	SLV FO 14	-937	274	5878	-35.03	-5.12	1.25
682	SLV FO 15	-928	-235	5990	-7.94	-5.63	-1.95
682	SLV FO 16	-926	-299	5978	-7.56	-5.59	-0.65
682	CRTFP Ux+	0	0	0	0	0	0
682	CRTFP Ux-	0	0	0	0	0	0
682	CRTFP Uy+	0	0	0	0	0	0
682	CRTFP Uy-	0	0	0	0	0	0
683	SLU 1	-29	-6	2754	-667.39	1.26	-7.31
683	SLU 2	-29	8	2752	-667.3	1.3	-7.32
683	SLU 3	-29	-6	2820	-683.26	1.29	-7.45
683	SLU 4	-29	2	2819	-683.2	1.31	-7.45
683	SLU 5	-29	7	2795	-677.49	1.31	-7.4
683	SLU 6	-29	-7	2863	-693.45	1.31	-7.54
683	SLU 7	-29	2	2862	-693.39	1.33	-7.54
683	SLU 8	-29	-7	2839	-687.78	1.3	-7.48
683	SLU 9	-29	2	2838	-687.72	1.32	-7.48
683	SLU 10	-30	6	3138	-760.36	1.45	-7.78
683	SLU 11	-31	-8	3206	-776.32	1.45	-7.92
683	SLU 12	-31	0	3205	-776.26	1.46	-7.92
683	SLU 13	-31	6	3180	-770.56	1.47	-7.87
683	SLU 14	-31	-8	3248	-786.51	1.46	-8
683	SLU 15	-31	0	3247	-786.46	1.48	-8
683	SLU 16	-31	-8	3225	-780.84	1.45	-7.95
683	SLU 17	-31	0	3224	-780.79	1.47	-7.95
683	SLU 18	-31	-9	3305	-800.34	1.48	-7.97
683	SLU 19	-31	-1	3304	-800.28	1.5	-7.98
683	SLU 20	-31	-9	3347	-810.53	1.5	-8.06
683	SLU 21	-31	-1	3346	-810.48	1.52	-8.06
683	SLU 22	-32	-7	3205	-775.47	1.5	-8.09
683	SLU 23	-32	6	3203	-775.38	1.53	-8.09
683	SLU 24	-32	-8	3271	-791.33	1.53	-8.23
683	SLU 25	-32	1	3270	-791.28	1.55	-8.23
683	SLU 26	-32	6	3246	-785.57	1.55	-8.18
683	SLU 27	-33	-8	3314	-801.53	1.54	-8.32
683	SLU 28	-33	0	3313	-801.47	1.56	-8.32
683	SLU 29	-32	-8	3290	-795.86	1.53	-8.26
683	SLU 30	-32	0	3289	-795.8	1.55	-8.26
683	SLU 31	-33	4	3589	-868.44	1.68	-8.56
683	SLU 32	-34	-9	3656	-884.39	1.68	-8.69
683	SLU 33	-34	-1	3656	-884.34	1.7	-8.7
683	SLU 34	-34	4	3631	-878.63	1.7	-8.65
683	SLU 35	-34	-10	3699	-894.59	1.7	-8.78
683	SLU 36	-34	-2	3698	-894.53	1.72	-8.78
683	SLU 37	-34	-10	3675	-888.92	1.68	-8.72
683	SLU 38	-34	-1	3674	-888.86	1.7	-8.73
683	SLU 39	-34	-10	3755	-908.42	1.72	-8.75
683	SLU 40	-34	-2	3755	-908.36	1.74	-8.76
683	SLU 41	-35	-10	3798	-918.61	1.73	-8.84
683	SLU 42	-35	-2	3797	-918.55	1.75	-8.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
683	SLU 43	-36	-7	3425	-830.56	1.56	-9.23
683	SLU 44	-36	6	3424	-830.46	1.6	-9.24
683	SLU 45	-37	-8	3492	-846.42	1.59	-9.38
683	SLU 46	-37	1	3491	-846.36	1.61	-9.38
683	SLU 47	-36	6	3466	-840.66	1.61	-9.33
683	SLU 48	-37	-8	3534	-856.61	1.61	-9.46
683	SLU 49	-37	0	3533	-856.56	1.63	-9.47
683	SLU 50	-37	-8	3511	-850.94	1.6	-9.41
683	SLU 51	-37	0	3510	-850.89	1.62	-9.41
683	SLU 52	-38	4	3809	-923.53	1.75	-9.71
683	SLU 53	-38	-10	3877	-939.48	1.74	-9.84
683	SLU 54	-38	-1	3876	-939.43	1.76	-9.84
683	SLU 55	-38	4	3852	-933.72	1.77	-9.79
683	SLU 56	-39	-10	3920	-949.68	1.76	-9.93
683	SLU 57	-39	-2	3919	-949.62	1.78	-9.93
683	SLU 58	-39	-10	3896	-944.01	1.75	-9.87
683	SLU 59	-39	-2	3895	-943.95	1.77	-9.87
683	SLU 60	-39	-10	3976	-963.5	1.78	-9.9
683	SLU 61	-39	-2	3975	-963.45	1.8	-9.9
683	SLU 62	-39	-10	4019	-973.7	1.8	-9.98
683	SLU 63	-39	-2	4018	-973.64	1.82	-9.99
683	SLU 64	-39	-9	3876	-938.63	1.8	-10.01
683	SLU 65	-39	5	3875	-938.54	1.83	-10.02
683	SLU 66	-40	-9	3942	-954.49	1.82	-10.16
683	SLU 67	-40	-1	3942	-954.44	1.84	-10.16
683	SLU 68	-40	5	3917	-948.73	1.85	-10.11
683	SLU 69	-40	-9	3985	-964.69	1.84	-10.24
683	SLU 70	-40	-1	3984	-964.63	1.86	-10.25
683	SLU 71	-40	-9	3961	-959.02	1.83	-10.19
683	SLU 72	-40	-1	3960	-958.96	1.85	-10.19
683	SLU 73	-41	3	4260	-1031.6	1.98	-10.48
683	SLU 74	-41	-11	4328	-1047.56	1.98	-10.62
683	SLU 75	-42	-3	4327	-1047.5	2	-10.62
683	SLU 76	-41	3	4303	-1041.79	2	-10.57
683	SLU 77	-42	-11	4371	-1057.75	2	-10.71
683	SLU 78	-42	-3	4370	-1057.69	2.01	-10.71
683	SLU 79	-42	-11	4347	-1052.08	1.98	-10.65
683	SLU 80	-42	-3	4346	-1052.03	2	-10.65
683	SLU 81	-42	-11	4427	-1071.58	2.02	-10.68
683	SLU 82	-42	-3	4426	-1071.52	2.04	-10.68
683	SLU 83	-42	-12	4470	-1081.77	2.03	-10.76
683	SLU 84	-42	-3	4469	-1081.72	2.05	-10.77
683	SLE RA 1	-29	-6	2883	-698.27	1.33	-7.53
683	SLE RA 2	-29	3	2882	-698.21	1.35	-7.54
683	SLE RA 3	-30	-7	2927	-708.85	1.35	-7.63
683	SLE RA 4	-30	-1	2926	-708.81	1.36	-7.63
683	SLE RA 5	-30	3	2910	-705.01	1.36	-7.59
683	SLE RA 6	-30	-7	2955	-715.64	1.36	-7.68
683	SLE RA 7	-30	-1	2955	-715.61	1.37	-7.69
683	SLE RA 8	-30	-7	2939	-711.86	1.35	-7.65
683	SLE RA 9	-30	-1	2939	-711.83	1.37	-7.65
683	SLE RA 10	-31	1	3139	-760.25	1.45	-7.85
683	SLE RA 11	-31	-8	3184	-770.89	1.45	-7.94
683	SLE RA 12	-31	-2	3183	-770.85	1.46	-7.94
683	SLE RA 13	-31	1	3167	-767.05	1.47	-7.9
683	SLE RA 14	-31	-8	3212	-777.68	1.46	-7.99
683	SLE RA 15	-31	-3	3212	-777.65	1.48	-8
683	SLE RA 16	-31	-8	3196	-773.91	1.46	-7.96
683	SLE RA 17	-31	-3	3196	-773.87	1.47	-7.96
683	SLE RA 18	-31	-8	3250	-786.9	1.48	-7.97
683	SLE RA 19	-31	-3	3249	-786.87	1.49	-7.98
683	SLE RA 20	-31	-8	3278	-793.7	1.49	-8.03
683	SLE RA 21	-31	-3	3278	-793.66	1.5	-8.03
683	SLE FR 1	-29	-6	2883	-698.27	1.33	-7.53
683	SLE FR 2	-29	-5	2882	-698.26	1.34	-7.53
683	SLE FR 3	-30	-6	2894	-700.99	1.34	-7.55
683	SLE FR 4	-30	-5	2993	-724.85	1.38	-7.67
683	SLE FR 5	-30	-7	3004	-727.58	1.38	-7.69
683	SLE FR 6	-30	-7	3066	-742.59	1.4	-7.75
683	SLE QP 1	-29	-6	2883	-698.27	1.33	-7.53
683	SLE QP 2	-30	-7	2993	-724.86	1.37	-7.66
683	SLD 1	222	88	2993	-726.69	2.47	55.24
683	SLD 2	224	72	2990	-725.76	2.47	55.86
683	SLD 3	224	-74	3019	-729.14	2.09	55.92
683	SLD 4	227	-90	3016	-728.21	2.09	56.54
683	SLD 5	41	270	2954	-721.86	2.29	10.06
683	SLD 6	42	260	2952	-721.25	2.29	10.48
683	SLD 7	50	-270	3041	-730.03	1.01	12.33
683	SLD 8	52	-281	3038	-729.41	1	12.74
683	SLD 9	-112	267	2947	-720.31	1.75	-28.07
683	SLD 10	-110	256	2945	-719.69	1.74	-27.65
683	SLD 11	-102	-274	3034	-728.48	0.46	-25.81
683	SLD 12	-101	-284	3031	-727.86	0.46	-25.39
683	SLD 13	-287	76	2970	-721.51	0.66	-71.87
683	SLD 14	-284	60	2966	-720.58	0.66	-71.24
683	SLD 15	-284	-86	2996	-723.96	0.28	-71.19
683	SLD 16	-282	-102	2992	-723.03	0.27	-70.57
683	SLV 1	364	146	2995	-728.02	3.1	90.82
683	SLV 2	368	121	2989	-726.56	3.09	91.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
683	SLV 3	369	-116	3036	-732.05	2.48	91.92
683	SLV 4	372	-141	3031	-730.59	2.47	92.91
683	SLV 5	81	441	2931	-719.98	2.84	20.02
683	SLV 6	83	424	2927	-718.99	2.83	20.68
683	SLV 7	96	-432	3070	-733.4	0.77	23.71
683	SLV 8	98	-449	3067	-732.41	0.76	24.37
683	SLV 9	-158	435	2919	-717.31	1.99	-39.7
683	SLV 10	-156	418	2915	-716.33	1.98	-39.04
683	SLV 11	-143	-438	3058	-730.73	-0.08	-36.01
683	SLV 12	-141	-455	3055	-729.74	-0.09	-35.35
683	SLV 13	-432	127	2955	-719.14	0.28	-108.23
683	SLV 14	-428	102	2949	-717.67	0.27	-107.25
683	SLV 15	-428	-135	2997	-723.16	-0.34	-107.13
683	SLV 16	-424	-160	2991	-721.7	-0.35	-106.15
683	SLV FO 1	403	162	2995	-728.34	3.27	100.66
683	SLV FO 2	407	134	2989	-726.73	3.27	101.75
683	SLV FO 3	408	-126	3041	-732.77	2.59	101.88
683	SLV FO 4	412	-154	3035	-731.16	2.58	102.96
683	SLV FO 5	92	486	2925	-719.49	2.98	22.79
683	SLV FO 6	95	467	2921	-718.41	2.98	23.51
683	SLV FO 7	108	-474	3078	-734.25	0.7	26.84
683	SLV FO 8	111	-493	3074	-733.17	0.7	27.57
683	SLV FO 9	-171	479	2912	-716.56	2.05	-42.9
683	SLV FO 10	-168	461	2907	-715.47	2.04	-42.17
683	SLV FO 11	-154	-481	3065	-731.32	-0.23	-38.84
683	SLV FO 12	-152	-500	3061	-730.23	-0.23	-38.12
683	SLV FO 13	-472	141	2951	-718.56	0.17	-118.29
683	SLV FO 14	-468	113	2945	-716.95	0.16	-117.21
683	SLV FO 15	-467	-147	2997	-722.99	-0.52	-117.07
683	SLV FO 16	-463	-175	2991	-721.38	-0.52	-115.99
683	CRTFP Ux+	0	0	0	0	0	0
683	CRTFP Ux-	0	0	0	0	0	0
683	CRTFP Uy+	0	0	0	0	0	0
683	CRTFP Uy-	0	0	0	0	0	0
685	SLU 1	-142	-77	16965	2315.1	216.6	1.75
685	SLU 2	-143	10	16943	2311.06	218.43	1.48
685	SLU 3	-145	-80	17376	2371.78	221.93	1.9
685	SLU 4	-146	-28	17363	2369.36	223.03	1.74
685	SLU 5	-145	8	17208	2347.51	221.79	1.58
685	SLU 6	-147	-82	17640	2408.23	225.29	2
685	SLU 7	-147	-30	17627	2405.81	226.39	1.84
685	SLU 8	-146	-81	17493	2387.99	223.32	1.94
685	SLU 9	-146	-29	17480	2385.57	224.42	1.78
685	SLU 10	-151	-7	19324	2636.15	247.36	0.66
685	SLU 11	-153	-96	19756	2696.87	250.87	1.08
685	SLU 12	-153	-44	19743	2694.45	251.96	0.92
685	SLU 13	-153	-9	19588	2672.6	250.72	0.76
685	SLU 14	-154	-98	20020	2733.32	254.23	1.18
685	SLU 15	-155	-46	20007	2730.9	255.32	1.02
685	SLU 16	-153	-98	19874	2713.08	252.25	1.13
685	SLU 17	-154	-46	19861	2710.66	253.35	0.97
685	SLU 18	-153	-101	20366	2779.51	257.93	0.58
685	SLU 19	-154	-49	20353	2777.09	259.03	0.42
685	SLU 20	-155	-103	20630	2815.96	261.29	0.68
685	SLU 21	-155	-51	20617	2813.54	262.39	0.52
685	SLU 22	-158	-90	19751	2700.26	255.78	2.12
685	SLU 23	-159	-3	19729	2696.23	257.6	1.85
685	SLU 24	-161	-92	20162	2756.94	261.11	2.27
685	SLU 25	-161	-40	20149	2754.52	262.21	2.11
685	SLU 26	-161	-5	19993	2732.67	260.96	1.95
685	SLU 27	-162	-94	20426	2793.39	264.47	2.37
685	SLU 28	-163	-42	20413	2790.97	265.57	2.21
685	SLU 29	-161	-94	20279	2773.16	262.5	2.32
685	SLU 30	-162	-41	20266	2770.74	263.59	2.16
685	SLU 31	-167	-19	22110	3021.32	286.54	1.03
685	SLU 32	-168	-109	22542	3082.03	290.04	1.45
685	SLU 33	-169	-56	22529	3079.61	291.14	1.29
685	SLU 34	-168	-21	22374	3057.76	289.9	1.13
685	SLU 35	-170	-111	22806	3118.48	293.4	1.55
685	SLU 36	-171	-58	22793	3116.06	294.5	1.39
685	SLU 37	-169	-110	22660	3098.24	291.43	1.5
685	SLU 38	-170	-58	22647	3095.82	292.53	1.34
685	SLU 39	-169	-113	23152	3164.67	297.11	0.95
685	SLU 40	-169	-61	23139	3162.25	298.21	0.79
685	SLU 41	-170	-115	23416	3201.12	300.47	1.05
685	SLU 42	-171	-63	23403	3198.7	301.57	0.89
685	SLU 43	-179	-97	21099	2877.57	268.15	2.14
685	SLU 44	-180	-10	21078	2873.54	269.97	1.88
685	SLU 45	-182	-99	21510	2934.26	273.48	2.3
685	SLU 46	-183	-47	21497	2931.84	274.58	2.14
685	SLU 47	-182	-12	21342	2909.99	273.33	1.97
685	SLU 48	-184	-101	21774	2970.7	276.84	2.4
685	SLU 49	-185	-49	21761	2968.28	277.94	2.23
685	SLU 50	-183	-101	21628	2950.47	274.87	2.34
685	SLU 51	-183	-48	21615	2948.05	275.96	2.18
685	SLU 52	-188	-26	23458	3198.63	298.91	1.06
685	SLU 53	-190	-115	23891	3259.35	302.41	1.48
685	SLU 54	-191	-63	23878	3256.93	303.51	1.32
685	SLU 55	-190	-28	23723	3235.08	302.27	1.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLU 56	-192	-117	24155	3295.79	305.77	1.58
685	SLU 57	-192	-65	24142	3293.37	306.87	1.42
685	SLU 58	-190	-117	24008	3275.56	303.8	1.52
685	SLU 59	-191	-65	23995	3273.14	304.9	1.36
685	SLU 60	-190	-120	24500	3341.99	309.48	0.98
685	SLU 61	-191	-68	24487	3339.57	310.58	0.81
685	SLU 62	-192	-122	24765	3378.43	312.84	1.07
685	SLU 63	-193	-70	24752	3376.01	313.94	0.91
685	SLU 64	-195	-109	23885	3262.73	307.33	2.51
685	SLU 65	-196	-22	23864	3258.7	309.15	2.25
685	SLU 66	-198	-111	24296	3319.42	312.66	2.67
685	SLU 67	-199	-59	24283	3317	313.75	2.51
685	SLU 68	-198	-24	24128	3295.15	312.51	2.35
685	SLU 69	-200	-113	24560	3355.87	316.02	2.77
685	SLU 70	-200	-61	24547	3353.45	317.11	2.61
685	SLU 71	-198	-113	24414	3335.63	314.05	2.71
685	SLU 72	-199	-61	24401	3333.21	315.14	2.55
685	SLU 73	-204	-38	26244	3583.79	338.08	1.43
685	SLU 74	-206	-128	26677	3644.51	341.59	1.85
685	SLU 75	-206	-75	26664	3642.09	342.69	1.69
685	SLU 76	-206	-40	26508	3620.24	341.44	1.53
685	SLU 77	-207	-130	26941	3680.95	344.95	1.95
685	SLU 78	-208	-77	26928	3678.53	346.05	1.79
685	SLU 79	-206	-129	26794	3660.72	342.98	1.89
685	SLU 80	-207	-77	26781	3658.3	344.07	1.73
685	SLU 81	-206	-132	27286	3727.15	348.66	1.35
685	SLU 82	-207	-80	27273	3724.73	349.75	1.19
685	SLU 83	-208	-134	27550	3763.6	352.02	1.45
685	SLU 84	-208	-82	27537	3761.18	353.11	1.28
685	SLE RA 1	-146	-81	17761	2425.14	227.79	1.85
685	SLE RA 2	-147	-23	17747	2422.46	229.01	1.67
685	SLE RA 3	-148	-83	18035	2462.93	231.35	1.95
685	SLE RA 4	-149	-48	18026	2461.32	232.08	1.85
685	SLE RA 5	-148	-24	17923	2446.75	231.25	1.74
685	SLE RA 6	-150	-84	18211	2487.23	233.59	2.02
685	SLE RA 7	-150	-49	18202	2485.62	234.32	1.91
685	SLE RA 8	-149	-84	18113	2473.74	232.27	1.98
685	SLE RA 9	-149	-49	18105	2472.13	233	1.88
685	SLE RA 10	-152	-34	19334	2639.18	248.3	1.13
685	SLE RA 11	-154	-94	19622	2679.66	250.64	1.41
685	SLE RA 12	-154	-59	19613	2678.05	251.37	1.3
685	SLE RA 13	-154	-35	19510	2663.48	250.54	1.2
685	SLE RA 14	-155	-95	19798	2703.96	252.88	1.48
685	SLE RA 15	-155	-60	19789	2702.34	253.61	1.37
685	SLE RA 16	-154	-95	19700	2690.47	251.56	1.44
685	SLE RA 17	-154	-60	19692	2688.85	252.29	1.33
685	SLE RA 18	-154	-97	20028	2734.75	255.35	1.07
685	SLE RA 19	-154	-62	20020	2733.14	256.08	0.97
685	SLE RA 20	-155	-98	20204	2759.05	257.59	1.14
685	SLE RA 21	-155	-63	20196	2757.44	258.32	1.03
685	SLE FR 1	-146	-81	17761	2425.14	227.79	1.85
685	SLE FR 2	-147	-69	17758	2424.61	228.04	1.82
685	SLE FR 3	-147	-82	17831	2434.86	228.69	1.88
685	SLE FR 4	-149	-74	18438	2517.49	236.3	1.58
685	SLE FR 5	-149	-86	18512	2527.75	236.96	1.65
685	SLE FR 6	-150	-89	18895	2579.95	241.57	1.46
685	SLE QP 1	-146	-81	17761	2425.14	227.79	1.85
685	SLE QP 2	-149	-86	18441	2518.03	236.06	1.62
685	SLD 1	1432	440	18356	2526.13	302.74	-220.97
685	SLD 2	1431	351	18333	2522.72	302.61	-214.32
685	SLD 3	1454	-591	18676	2587.97	283.13	-217.26
685	SLD 4	1454	-681	18653	2584.57	283	-210.61
685	SLD 5	292	1653	17934	2427.28	285.84	-71.99
685	SLD 6	292	1594	17919	2425.03	285.75	-67.6
685	SLD 7	366	-1786	19002	2633.42	220.46	-59.61
685	SLD 8	366	-1845	18987	2631.17	220.37	-55.22
685	SLD 9	-663	1674	17896	2404.88	251.75	58.46
685	SLD 10	-663	1615	17881	2402.63	251.67	62.85
685	SLD 11	-589	-1766	18964	2611.03	186.37	70.83
685	SLD 12	-589	-1825	18949	2608.78	186.29	75.22
685	SLD 13	-1751	509	18229	2451.49	189.12	213.85
685	SLD 14	-1751	420	18206	2448.08	188.99	220.49
685	SLD 15	-1729	-523	18550	2513.33	169.51	217.56
685	SLD 16	-1729	-612	18527	2509.92	169.38	224.21
685	SLV 1	2325	763	18306	2528.99	340.67	-346.96
685	SLV 2	2325	623	18270	2523.65	340.47	-336.54
685	SLV 3	2361	-904	18824	2629.08	308.95	-340.93
685	SLV 4	2361	-1044	18788	2623.74	308.75	-330.52
685	SLV 5	539	2723	17622	2370.51	315.59	-114.04
685	SLV 6	539	2629	17598	2366.92	315.46	-107.02
685	SLV 7	659	-2833	19348	2704.14	209.86	-93.95
685	SLV 8	658	-2927	19324	2700.55	209.72	-86.94
685	SLV 9	-956	2756	17558	2335.51	262.4	90.18
685	SLV 10	-956	2662	17534	2331.92	262.27	97.19
685	SLV 11	-836	-2800	19285	2669.14	156.67	110.26
685	SLV 12	-837	-2894	19261	2665.54	156.53	117.27
685	SLV 13	-2658	873	18094	2412.31	163.37	333.76
685	SLV 14	-2658	733	18058	2406.98	163.17	344.17
685	SLV 15	-2622	-794	18612	2512.4	131.65	339.78



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
685	SLV 16	-2623	-934	18577	2507.06	131.45	350.2
685	SLV FO 1	2573	847	18292	2530.09	351.13	-381.82
685	SLV FO 2	2572	694	18253	2524.22	350.91	-370.36
685	SLV FO 3	2612	-986	18862	2640.18	316.24	-375.19
685	SLV FO 4	2612	-1140	18823	2634.31	316.02	-363.73
685	SLV FO 5	608	3004	17540	2355.76	323.55	-125.6
685	SLV FO 6	608	2900	17513	2351.81	323.4	-117.89
685	SLV FO 7	739	-3108	19439	2722.75	207.24	-103.51
685	SLV FO 8	739	-3211	19413	2718.8	207.09	-95.8
685	SLV FO 9	-1036	3040	17470	2317.26	265.04	99.03
685	SLV FO 10	-1037	2937	17443	2313.3	264.89	106.75
685	SLV FO 11	-905	-3072	19369	2684.25	148.73	121.12
685	SLV FO 12	-905	-3175	19343	2680.29	148.58	128.84
685	SLV FO 13	-2909	969	18060	2401.74	156.1	366.97
685	SLV FO 14	-2909	815	18020	2395.87	155.88	378.43
685	SLV FO 15	-2870	-865	18629	2511.84	121.21	373.6
685	SLV FO 16	-2870	-1019	18590	2505.97	120.99	385.05
685	CRTFP Ux+	0	0	0	0	0	0
685	CRTFP Ux-	0	0	0	0	0	0
685	CRTFP Uy+	0	0	0	0	0	0
685	CRTFP Uy-	0	0	0	0	0	0
687	SLU 1	-160	-202	14591	-2627.19	454.65	-43.78
687	SLU 2	-161	-123	14559	-2622.93	455.07	-45.99
687	SLU 3	-163	-207	14942	-2689.2	465.61	-44.59
687	SLU 4	-164	-159	14923	-2686.65	465.86	-45.92
687	SLU 5	-162	-126	14785	-2662.89	462.1	-46.47
687	SLU 6	-165	-210	15168	-2729.16	472.64	-45.07
687	SLU 7	-165	-162	15149	-2726.61	472.89	-46.4
687	SLU 8	-164	-208	15044	-2707.11	468.7	-44.74
687	SLU 9	-164	-161	15024	-2704.55	468.96	-46.07
687	SLU 10	-172	-153	16612	-2989.8	518.38	-49.68
687	SLU 11	-175	-237	16995	-3056.08	528.92	-48.28
687	SLU 12	-175	-189	16976	-3053.52	529.17	-49.61
687	SLU 13	-174	-156	16838	-3029.76	525.41	-50.16
687	SLU 14	-177	-240	17221	-3096.04	535.95	-48.76
687	SLU 15	-177	-192	17202	-3093.48	536.2	-50.09
687	SLU 16	-176	-238	17096	-3073.98	532.01	-48.43
687	SLU 17	-176	-191	17077	-3071.43	532.27	-49.76
687	SLU 18	-177	-245	17523	-3151.3	545.1	-49.05
687	SLU 19	-177	-198	17504	-3148.74	545.35	-50.38
687	SLU 20	-179	-248	17750	-3191.26	552.12	-49.53
687	SLU 21	-179	-201	17731	-3188.7	552.37	-50.86
687	SLU 22	-178	-228	16955	-3044.99	530.03	-48.8
687	SLU 23	-178	-149	16924	-3040.73	530.45	-51.02
687	SLU 24	-181	-233	17307	-3107	540.98	-49.62
687	SLU 25	-181	-185	17288	-3104.45	541.24	-50.95
687	SLU 26	-180	-152	17150	-3080.69	537.47	-51.5
687	SLU 27	-183	-236	17533	-3146.96	548.01	-50.1
687	SLU 28	-183	-188	17514	-3144.41	548.26	-51.43
687	SLU 29	-182	-234	17408	-3124.91	544.08	-49.76
687	SLU 30	-182	-187	17389	-3122.35	544.33	-51.09
687	SLU 31	-190	-179	18976	-3407.61	593.75	-54.71
687	SLU 32	-193	-263	19359	-3473.88	604.29	-53.31
687	SLU 33	-193	-215	19340	-3471.32	604.55	-54.64
687	SLU 34	-192	-182	19203	-3447.57	600.78	-55.19
687	SLU 35	-195	-266	19586	-3513.84	611.32	-53.79
687	SLU 36	-195	-218	19567	-3511.28	611.57	-55.12
687	SLU 37	-194	-264	19461	-3491.79	607.39	-53.46
687	SLU 38	-194	-217	19442	-3489.23	607.64	-54.78
687	SLU 39	-195	-271	19888	-3569.1	620.47	-54.07
687	SLU 40	-195	-224	19869	-3566.54	620.72	-55.4
687	SLU 41	-197	-274	20114	-3609.06	627.49	-54.56
687	SLU 42	-197	-227	20095	-3606.5	627.75	-55.89
687	SLU 43	-202	-254	18157	-3272.1	565.21	-55.19
687	SLU 44	-202	-175	18125	-3267.84	565.63	-57.4
687	SLU 45	-205	-258	18508	-3334.11	576.17	-56
687	SLU 46	-205	-211	18489	-3331.56	576.42	-57.33
687	SLU 47	-204	-178	18352	-3307.8	572.65	-57.88
687	SLU 48	-207	-261	18735	-3374.07	583.19	-56.48
687	SLU 49	-207	-214	18716	-3371.52	583.44	-57.81
687	SLU 50	-206	-260	18610	-3352.02	579.26	-56.15
687	SLU 51	-206	-212	18591	-3349.46	579.51	-57.48
687	SLU 52	-214	-205	20178	-3634.72	628.94	-61.09
687	SLU 53	-217	-288	20561	-3700.99	639.48	-59.69
687	SLU 54	-217	-241	20542	-3698.43	639.73	-61.02
687	SLU 55	-216	-208	20405	-3674.67	635.96	-61.57
687	SLU 56	-219	-291	20788	-3740.95	646.5	-60.17
687	SLU 57	-219	-244	20769	-3738.39	646.75	-61.5
687	SLU 58	-218	-290	20663	-3718.9	642.57	-59.84
687	SLU 59	-218	-243	20644	-3716.34	642.82	-61.17
687	SLU 60	-219	-297	21090	-3796.21	655.65	-60.46
687	SLU 61	-219	-249	21071	-3793.65	655.9	-61.79
687	SLU 62	-221	-300	21316	-3836.17	662.68	-60.94
687	SLU 63	-221	-252	21297	-3833.61	662.93	-62.27
687	SLU 64	-220	-280	20522	-3689.9	640.58	-60.21
687	SLU 65	-220	-201	20490	-3685.64	641	-62.43
687	SLU 66	-223	-284	20873	-3751.92	651.54	-61.03
687	SLU 67	-223	-237	20854	-3749.36	651.79	-62.36
687	SLU 68	-222	-204	20716	-3725.6	648.03	-62.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
687	SLU 69	-225	-287	21100	-3791.87	658.56	-61.51
687	SLU 70	-225	-240	21080	-3789.32	658.82	-62.84
687	SLU 71	-224	-286	20975	-3769.82	654.63	-61.17
687	SLU 72	-224	-238	20956	-3767.27	654.88	-62.5
687	SLU 73	-232	-231	22543	-4052.52	704.31	-66.12
687	SLU 74	-235	-314	22926	-4118.79	714.85	-64.72
687	SLU 75	-235	-267	22907	-4116.23	715.1	-66.05
687	SLU 76	-234	-234	22769	-4092.48	711.33	-66.6
687	SLU 77	-237	-317	23152	-4158.75	721.87	-65.2
687	SLU 78	-237	-270	23133	-4156.19	722.13	-66.53
687	SLU 79	-236	-316	23027	-4136.7	717.94	-64.86
687	SLU 80	-236	-269	23008	-4134.14	718.19	-66.19
687	SLU 81	-237	-323	23454	-4214.01	731.02	-65.48
687	SLU 82	-237	-275	23435	-4211.45	731.27	-66.81
687	SLU 83	-239	-326	23681	-4253.97	738.05	-65.97
687	SLU 84	-239	-278	23662	-4251.41	738.3	-67.3
687	SLE RA 1	-165	-210	15266	-2746.56	476.19	-45.21
687	SLE RA 2	-166	-157	15245	-2743.72	476.47	-46.69
687	SLE RA 3	-167	-213	15501	-2787.9	483.49	-45.76
687	SLE RA 4	-168	-181	15488	-2786.2	483.66	-46.64
687	SLE RA 5	-167	-159	15396	-2770.36	481.15	-47.01
687	SLE RA 6	-169	-215	15651	-2814.54	488.18	-46.08
687	SLE RA 7	-169	-183	15639	-2812.84	488.35	-46.96
687	SLE RA 8	-168	-214	15568	-2799.84	485.56	-45.85
687	SLE RA 9	-168	-182	15555	-2798.14	485.72	-46.74
687	SLE RA 10	-173	-177	16614	-2988.31	518.67	-49.15
687	SLE RA 11	-175	-233	16869	-3032.49	525.7	-48.22
687	SLE RA 12	-175	-201	16856	-3030.78	525.87	-49.1
687	SLE RA 13	-175	-179	16765	-3014.94	523.36	-49.47
687	SLE RA 14	-177	-235	17020	-3059.13	530.38	-48.54
687	SLE RA 15	-177	-203	17007	-3057.42	530.55	-49.42
687	SLE RA 16	-176	-234	16937	-3044.43	527.76	-48.31
687	SLE RA 17	-176	-202	16924	-3042.72	527.93	-49.2
687	SLE RA 18	-177	-238	17221	-3095.97	536.48	-48.73
687	SLE RA 19	-177	-207	17209	-3094.26	536.65	-49.61
687	SLE RA 20	-178	-240	17372	-3122.61	541.17	-49.05
687	SLE RA 21	-178	-209	17360	-3120.9	541.33	-49.93
687	SLE FR 1	-165	-210	15266	-2746.56	476.19	-45.21
687	SLE FR 2	-165	-199	15262	-2746	476.24	-45.51
687	SLE FR 3	-166	-210	15327	-2757.22	478.06	-45.34
687	SLE FR 4	-169	-208	15849	-2850.82	494.33	-46.56
687	SLE FR 5	-169	-219	15913	-2862.04	496.15	-46.39
687	SLE FR 6	-171	-224	16244	-2921.27	506.34	-46.97
687	SLE QP 1	-165	-210	15266	-2746.56	476.19	-45.21
687	SLE QP 2	-169	-218	15853	-2851.38	494.28	-46.27
687	SLD 1	1224	246	15334	-2743.09	503.57	202.87
687	SLD 2	1237	193	15317	-2740.41	502.66	210.99
687	SLD 3	1240	-695	15754	-2797.11	500.18	230.71
687	SLD 4	1253	-747	15737	-2794.44	499.27	238.83
687	SLD 5	222	1357	15064	-2737.44	502.37	-15.21
687	SLD 6	230	1322	15053	-2735.67	501.77	-9.84
687	SLD 7	277	-1778	16462	-2917.53	491.07	77.58
687	SLD 8	285	-1813	16451	-2915.76	490.47	82.94
687	SLD 9	-622	1376	15255	-2787.01	498.08	-175.48
687	SLD 10	-614	1342	15243	-2785.24	497.48	-170.12
687	SLD 11	-568	-1759	16653	-2967.1	486.78	-82.69
687	SLD 12	-559	-1793	16642	-2965.33	486.18	-77.33
687	SLD 13	-1590	311	15969	-2908.33	489.28	-331.36
687	SLD 14	-1578	258	15952	-2905.65	488.37	-323.24
687	SLD 15	-1574	-629	16389	-2962.36	485.89	-303.53
687	SLD 16	-1561	-682	16371	-2959.68	484.98	-295.41
687	SLV 1	2012	530	15032	-2680.82	509.07	343.23
687	SLV 2	2031	448	15005	-2676.63	507.64	355.95
687	SLV 3	2038	-989	15710	-2768.23	503.58	388.11
687	SLV 4	2058	-1072	15683	-2764.03	502.16	400.83
687	SLV 5	441	2326	14583	-2668.44	507.3	0.13
687	SLV 6	455	2271	14565	-2665.62	506.34	8.7
687	SLV 7	530	-2739	16843	-2959.78	489.02	149.75
687	SLV 8	544	-2794	16825	-2956.95	488.06	158.31
687	SLV 9	-881	2358	14881	-2745.81	500.5	-250.85
687	SLV 10	-868	2302	14862	-2742.99	499.54	-242.28
687	SLV 11	-792	-2707	17141	-3037.15	482.22	-101.23
687	SLV 12	-779	-2763	17123	-3034.33	481.26	-92.66
687	SLV 13	-2396	635	16023	-2938.74	486.4	-493.37
687	SLV 14	-2376	553	15996	-2934.54	484.97	-480.65
687	SLV 15	-2369	-884	16701	-3026.14	480.91	-448.48
687	SLV 16	-2349	-967	16674	-3021.94	479.49	-435.76
687	SLV FO 1	2230	605	14950	-2663.77	510.55	382.18
687	SLV FO 2	2251	514	14920	-2659.16	508.98	396.17
687	SLV FO 3	2259	-1066	15695	-2759.91	504.51	431.55
687	SLV FO 4	2281	-1157	15666	-2755.3	502.94	445.54
687	SLV FO 5	502	2581	14456	-2650.15	508.6	4.77
687	SLV FO 6	517	2519	14436	-2647.04	507.54	14.19
687	SLV FO 7	600	-2991	16942	-2970.62	488.49	169.35
687	SLV FO 8	615	-3052	16922	-2967.51	487.43	178.77
687	SLV FO 9	-952	2615	14783	-2735.26	501.12	-271.31
687	SLV FO 10	-938	2554	14763	-2732.15	500.06	-261.88
687	SLV FO 11	-854	-2956	17269	-3055.73	481.01	-106.72
687	SLV FO 12	-840	-3017	17250	-3052.62	479.95	-97.3



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
687	SLV FO 13	-2618	721	16040	-2947.47	485.61	-538.08
687	SLV FO 14	-2596	630	16010	-2942.86	484.04	-524.08
687	SLV FO 15	-2589	-951	16786	-3043.61	479.58	-488.7
687	SLV FO 16	-2567	-1042	16756	-3039	478.01	-474.71
687	CRTFP Ux+	0	0	0	0	0	0
687	CRTFP Ux-	0	0	0	0	0	0
687	CRTFP Uy+	0	0	0	0	0	0
687	CRTFP Uy-	0	0	0	0	0	0
689	SLU 1	-33	-87	4571	287.47	362.47	3.73
689	SLU 2	-33	-62	4557	286.04	361.49	1.83
689	SLU 3	-34	-88	4682	294.85	371.25	3.82
689	SLU 4	-34	-74	4674	293.99	370.65	2.68
689	SLU 5	-34	-63	4629	290.81	367.14	1.9
689	SLU 6	-34	-89	4753	299.62	376.9	3.88
689	SLU 7	-34	-75	4745	298.76	376.31	2.75
689	SLU 8	-34	-89	4714	297	373.79	3.86
689	SLU 9	-34	-74	4706	296.14	373.2	2.72
689	SLU 10	-35	-74	5204	327.61	412.67	2.31
689	SLU 11	-36	-101	5328	336.42	422.43	4.3
689	SLU 12	-36	-86	5320	335.57	421.84	3.16
689	SLU 13	-36	-75	5275	332.38	418.33	2.38
689	SLU 14	-36	-102	5400	341.19	428.09	4.36
689	SLU 15	-36	-87	5392	340.33	427.5	3.22
689	SLU 16	-36	-101	5360	338.58	424.97	4.34
689	SLU 17	-36	-87	5352	337.72	424.38	3.2
689	SLU 18	-36	-104	5494	346.86	435.59	4.42
689	SLU 19	-36	-89	5486	346	435	3.28
689	SLU 20	-36	-105	5566	351.63	441.25	4.48
689	SLU 21	-36	-91	5558	350.77	440.66	3.34
689	SLU 22	-37	-98	5314	336.79	421.36	4.18
689	SLU 23	-37	-73	5301	335.35	420.37	2.28
689	SLU 24	-37	-99	5425	344.16	430.13	4.27
689	SLU 25	-37	-85	5417	343.3	429.54	3.13
689	SLU 26	-37	-74	5372	340.12	426.03	2.35
689	SLU 27	-38	-101	5497	348.93	435.79	4.33
689	SLU 28	-38	-86	5489	348.07	435.2	3.19
689	SLU 29	-38	-100	5458	346.31	432.68	4.31
689	SLU 30	-38	-85	5449	345.46	432.09	3.17
689	SLU 31	-39	-85	5947	376.92	471.56	2.76
689	SLU 32	-39	-112	6072	385.74	481.32	4.75
689	SLU 33	-39	-97	6064	384.88	480.73	3.61
689	SLU 34	-39	-87	6019	381.69	477.22	2.82
689	SLU 35	-40	-113	6143	390.5	486.98	4.81
689	SLU 36	-40	-98	6135	389.64	486.39	3.67
689	SLU 37	-39	-112	6104	387.89	483.86	4.79
689	SLU 38	-40	-98	6096	387.03	483.27	3.65
689	SLU 39	-39	-115	6238	396.17	494.48	4.86
689	SLU 40	-40	-100	6230	395.31	493.89	3.72
689	SLU 41	-40	-116	6310	400.94	500.14	4.93
689	SLU 42	-40	-102	6301	400.08	499.55	3.79
689	SLU 43	-42	-109	5687	356.81	451.02	4.7
689	SLU 44	-42	-84	5673	355.38	450.04	2.8
689	SLU 45	-43	-110	5798	364.19	459.8	4.79
689	SLU 46	-43	-96	5790	363.33	459.2	3.65
689	SLU 47	-43	-85	5745	360.14	455.7	2.87
689	SLU 48	-43	-112	5870	368.95	465.46	4.85
689	SLU 49	-43	-97	5861	368.09	464.86	3.71
689	SLU 50	-43	-111	5830	366.34	462.34	4.83
689	SLU 51	-43	-96	5822	365.48	461.75	3.69
689	SLU 52	-44	-96	6320	396.95	501.22	3.28
689	SLU 53	-44	-123	6444	405.76	510.98	5.27
689	SLU 54	-45	-108	6436	404.9	510.39	4.13
689	SLU 55	-44	-98	6391	401.71	506.88	3.34
689	SLU 56	-45	-124	6516	410.53	516.64	5.33
689	SLU 57	-45	-109	6508	409.67	516.05	4.19
689	SLU 58	-45	-123	6477	407.91	513.52	5.31
689	SLU 59	-45	-109	6468	407.05	512.93	4.17
689	SLU 60	-45	-126	6611	416.2	524.14	5.38
689	SLU 61	-45	-112	6602	415.34	523.55	4.24
689	SLU 62	-45	-128	6682	420.96	529.8	5.45
689	SLU 63	-45	-113	6674	420.1	529.21	4.31
689	SLU 64	-45	-120	6431	406.12	509.91	5.15
689	SLU 65	-46	-95	6417	404.69	508.93	3.25
689	SLU 66	-46	-122	6542	413.5	518.69	5.24
689	SLU 67	-46	-107	6533	412.64	518.09	4.1
689	SLU 68	-46	-96	6489	409.45	514.58	3.31
689	SLU 69	-47	-123	6613	418.26	524.34	5.3
689	SLU 70	-47	-108	6605	417.41	523.75	4.16
689	SLU 71	-46	-122	6574	415.65	521.23	5.28
689	SLU 72	-46	-107	6566	414.79	520.64	4.14
689	SLU 73	-48	-107	7064	446.26	560.11	5.73
689	SLU 74	-48	-134	7188	455.07	569.87	5.71
689	SLU 75	-48	-119	7180	454.21	569.28	4.57
689	SLU 76	-48	-109	7135	451.03	565.77	3.79
689	SLU 77	-48	-135	7260	459.84	575.53	5.78
689	SLU 78	-49	-120	7252	458.98	574.94	4.64
689	SLU 79	-48	-135	7220	457.22	572.41	5.75
689	SLU 80	-48	-120	7212	456.36	571.82	4.61
689	SLU 81	-48	-137	7354	465.51	583.03	5.83



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
689	SLU 82	-48	-123	7346	464.65	582.44	4.69
689	SLU 83	-49	-139	7426	470.27	588.69	5.89
689	SLU 84	-49	-124	7418	469.41	588.1	4.76
689	SLE RA 1	-34	-90	4783	301.56	379.3	3.86
689	SLE RA 2	-34	-73	4774	300.61	378.64	2.6
689	SLE RA 3	-35	-91	4857	306.48	385.15	3.92
689	SLE RA 4	-35	-81	4852	305.91	384.75	3.16
689	SLE RA 5	-35	-74	4822	303.79	382.41	2.64
689	SLE RA 6	-35	-92	4905	309.66	388.92	3.96
689	SLE RA 7	-35	-82	4899	309.09	388.52	3.2
689	SLE RA 8	-35	-91	4879	307.92	386.84	3.95
689	SLE RA 9	-35	-81	4873	307.34	386.45	3.19
689	SLE RA 10	-36	-81	5205	328.32	412.76	2.91
689	SLE RA 11	-36	-99	5288	334.2	419.27	4.24
689	SLE RA 12	-36	-89	5283	333.62	418.87	3.48
689	SLE RA 13	-36	-82	5253	331.5	416.53	2.96
689	SLE RA 14	-36	-100	5336	337.37	423.04	4.28
689	SLE RA 15	-36	-90	5330	336.8	422.65	3.52
689	SLE RA 16	-36	-100	5310	335.63	420.97	4.27
689	SLE RA 17	-36	-90	5304	335.06	420.57	3.51
689	SLE RA 18	-36	-101	5399	341.16	428.04	4.32
689	SLE RA 19	-36	-92	5393	340.58	427.65	3.56
689	SLE RA 20	-36	-102	5447	344.33	431.82	4.36
689	SLE RA 21	-36	-92	5441	343.76	431.42	3.6
689	SLE FR 1	-34	-90	4783	301.56	379.3	3.86
689	SLE FR 2	-34	-86	4781	301.37	379.17	3.61
689	SLE FR 3	-34	-90	4802	302.83	380.81	3.88
689	SLE FR 4	-35	-90	4966	313.25	393.79	3.75
689	SLE FR 5	-35	-94	4987	314.71	395.43	4.02
689	SLE FR 6	-35	-96	5091	321.36	403.67	4.09
689	SLE QP 1	-34	-90	4783	301.56	379.3	3.86
689	SLE QP 2	-35	-93	4968	313.44	393.92	4
689	SLD 1	394	48	4769	305.68	378.94	-30.71
689	SLD 2	395	35	4764	305.25	378.54	-29.06
689	SLD 3	399	-244	4945	325.28	391.78	-8.16
689	SLD 4	400	-256	4940	324.84	391.38	-6.52
689	SLD 5	86	393	4642	281.47	370.02	-40.9
689	SLD 6	87	385	4639	281.18	369.75	-39.82
689	SLD 7	103	-578	5229	346.79	412.83	34.25
689	SLD 8	104	-586	5226	346.5	412.57	35.34
689	SLD 9	-173	400	4710	280.38	375.28	-27.34
689	SLD 10	-173	391	4707	280.09	375.01	-26.25
689	SLD 11	-156	-571	5297	345.7	418.09	47.82
689	SLD 12	-155	-579	5294	345.41	417.82	48.9
689	SLD 13	-470	70	4996	302.04	396.46	14.52
689	SLD 14	-469	57	4991	301.61	396.06	16.16
689	SLD 15	-465	-221	5172	321.64	409.31	37.06
689	SLD 16	-463	-234	5167	321.2	408.91	38.7
689	SLV 1	636	134	4653	300.81	370.18	-50.92
689	SLV 2	638	114	4645	300.12	369.55	-48.35
689	SLV 3	645	-336	4938	332.51	390.94	-14.49
689	SLV 4	647	-356	4930	331.82	390.31	-11.92
689	SLV 5	154	692	4443	261.7	355.43	-68.2
689	SLV 6	155	679	4438	261.24	355.01	-66.47
689	SLV 7	182	-876	5392	367.36	424.63	53.22
689	SLV 8	183	-890	5387	366.91	424.21	54.95
689	SLV 9	-252	703	4549	259.98	363.64	-46.95
689	SLV 10	-251	690	4544	259.52	363.21	-45.22
689	SLV 11	-224	-866	5498	365.64	432.83	74.47
689	SLV 12	-223	-879	5493	365.18	432.41	76.2
689	SLV 13	-716	170	5006	295.06	377.53	19.92
689	SLV 14	-714	150	4998	294.38	396.9	22.49
689	SLV 15	-708	-301	5291	326.76	418.29	56.35
689	SLV 16	-706	-321	5283	326.08	417.66	58.92
689	SLV FO 1	704	157	4621	299.54	367.8	-56.41
689	SLV FO 2	705	135	4613	298.79	367.12	-53.58
689	SLV FO 3	713	-361	4934	334.41	390.64	-16.34
689	SLV FO 4	715	-382	4926	333.66	389.95	-13.51
689	SLV FO 5	172	771	4390	256.53	351.58	-75.43
689	SLV FO 6	174	756	4385	256.02	351.12	-73.52
689	SLV FO 7	203	-955	5435	372.76	427.7	58.14
689	SLV FO 8	204	-969	5429	372.25	427.24	60.05
689	SLV FO 9	-274	783	4507	254.63	360.61	-52.05
689	SLV FO 10	-273	768	4501	254.13	360.14	-50.14
689	SLV FO 11	-243	-943	5551	370.86	436.73	81.52
689	SLV FO 12	-242	-957	5545	370.36	436.26	83.42
689	SLV FO 13	-784	196	5010	293.22	397.89	21.51
689	SLV FO 14	-782	174	5001	292.47	397.2	24.34
689	SLV FO 15	-775	-322	5323	328.09	420.73	61.58
689	SLV FO 16	-773	-343	5315	327.34	420.04	64.41
689	CRTFP Ux+	0	0	0	0	0	0
689	CRTFP Ux-	0	0	0	0	0	0
689	CRTFP Uy+	0	0	0	0	0	0
689	CRTFP Uy-	0	0	0	0	0	0
690	SLU 1	-13	-102	3960	936.57	-810.17	-18.64
690	SLU 2	-13	-80	3946	932.64	-807.1	-14.14
690	SLU 3	-13	-104	4057	959.4	-829.92	-19.01
690	SLU 4	-14	-91	4048	957.05	-828.09	-16.31
690	SLU 5	-14	-81	4008	947.39	-819.87	-14.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
690	SLU 6	-14	-105	4119	974.15	-842.69	-19.25
690	SLU 7	-14	-92	4110	971.8	-840.85	-16.55
690	SLU 8	-14	-104	4085	966.06	-835.7	-19.13
690	SLU 9	-14	-91	4076	963.71	-833.86	-16.43
690	SLU 10	-14	-94	4508	1065.01	-922.09	-17.25
690	SLU 11	-14	-118	4619	1091.77	-944.91	-22.11
690	SLU 12	-14	-105	4610	1089.41	-943.07	-19.42
690	SLU 13	-14	-96	4570	1079.75	-934.86	-17.49
690	SLU 14	-14	-119	4681	1106.51	-957.68	-22.36
690	SLU 15	-14	-106	4672	1104.16	-955.84	-19.66
690	SLU 16	-14	-119	4647	1098.43	-950.69	-22.24
690	SLU 17	-14	-106	4638	1096.07	-948.85	-19.54
690	SLU 18	-13	-122	4763	1125.66	-974.44	-23.08
690	SLU 19	-13	-109	4754	1123.3	-972.6	-20.38
690	SLU 20	-13	-123	4825	1140.41	-987.2	-23.32
690	SLU 21	-14	-111	4817	1138.05	-985.36	-20.62
690	SLU 22	-14	-115	4605	1089.03	-942.05	-21.21
690	SLU 23	-15	-93	4591	1085.11	-938.98	-16.72
690	SLU 24	-15	-117	4702	1111.87	-961.8	-21.58
690	SLU 25	-15	-104	4693	1109.51	-959.96	-18.88
690	SLU 26	-15	-95	4653	1099.86	-951.75	-16.96
690	SLU 27	-15	-118	4764	1126.61	-974.57	-21.82
690	SLU 28	-15	-105	4756	1124.26	-972.73	-19.13
690	SLU 29	-15	-117	4730	1118.53	-967.58	-21.7
690	SLU 30	-15	-105	4721	1116.17	-965.74	-19
690	SLU 31	-15	-108	5153	1217.47	-1053.97	-19.82
690	SLU 32	-15	-131	5264	1244.23	-1076.79	-24.69
690	SLU 33	-15	-118	5255	1241.88	-1074.95	-21.99
690	SLU 34	-15	-109	5215	1232.22	-1066.74	-20.07
690	SLU 35	-15	-133	5326	1258.98	-1089.56	-24.93
690	SLU 36	-15	-120	5318	1256.62	-1087.72	-22.23
690	SLU 37	-15	-132	5292	1250.89	-1082.56	-24.81
690	SLU 38	-15	-119	5283	1248.54	-1080.73	-22.11
690	SLU 39	-14	-135	5408	1278.12	-1106.32	-25.65
690	SLU 40	-15	-122	5399	1275.77	-1104.48	-22.95
690	SLU 41	-15	-137	5471	1292.87	-1119.08	-25.89
690	SLU 42	-15	-124	5462	1290.52	-1117.24	-23.2
690	SLU 43	-17	-128	4927	1165.26	-1008	-23.35
690	SLU 44	-17	-106	4912	1161.34	-1004.94	-18.85
690	SLU 45	-17	-130	5024	1188.1	-1027.76	-23.72
690	SLU 46	-17	-117	5015	1185.74	-1025.92	-21.02
690	SLU 47	-17	-107	4975	1176.09	-1017.7	-19.1
690	SLU 48	-17	-131	5086	1202.85	-1040.52	-23.96
690	SLU 49	-17	-118	5077	1200.49	-1038.68	-21.27
690	SLU 50	-17	-130	5052	1194.76	-1033.53	-23.84
690	SLU 51	-17	-117	5043	1192.4	-1031.69	-21.14
690	SLU 52	-17	-120	5474	1293.7	-1119.93	-21.96
690	SLU 53	-17	-144	5586	1320.46	-1142.75	-26.82
690	SLU 54	-17	-131	5577	1318.11	-1140.91	-24.13
690	SLU 55	-17	-122	5537	1308.45	-1132.69	-22.2
690	SLU 56	-17	-145	5648	1335.21	-1155.51	-27.07
690	SLU 57	-17	-132	5639	1332.86	-1153.67	-24.37
690	SLU 58	-17	-145	5614	1327.12	-1148.52	-26.95
690	SLU 59	-17	-132	5605	1324.77	-1146.68	-24.25
690	SLU 60	-17	-148	5730	1354.35	-1172.27	-27.79
690	SLU 61	-17	-135	5721	1352	-1170.43	-25.09
690	SLU 62	-17	-149	5792	1369.1	-1185.04	-28.03
690	SLU 63	-17	-137	5784	1366.75	-1183.2	-25.33
690	SLU 64	-18	-141	5572	1317.73	-1139.88	-25.92
690	SLU 65	-18	-119	5558	1313.8	-1136.82	-21.43
690	SLU 66	-18	-143	5669	1340.56	-1159.64	-26.29
690	SLU 67	-18	-130	5660	1338.21	-1157.8	-23.59
690	SLU 68	-18	-121	5620	1328.55	-1149.58	-21.67
690	SLU 69	-18	-144	5731	1355.31	-1172.4	-26.53
690	SLU 70	-18	-131	5722	1352.96	-1170.56	-23.84
690	SLU 71	-18	-143	5697	1347.22	-1165.41	-26.41
690	SLU 72	-18	-130	5688	1344.87	-1163.57	-23.71
690	SLU 73	-18	-134	6120	1446.17	-1251.81	-24.53
690	SLU 74	-18	-157	6231	1472.93	-1274.62	-29.4
690	SLU 75	-18	-144	6222	1470.57	-1272.79	-26.7
690	SLU 76	-18	-135	6182	1460.92	-1264.57	-24.78
690	SLU 77	-18	-158	6293	1487.67	-1287.39	-29.64
690	SLU 78	-19	-146	6284	1485.32	-1285.55	-26.94
690	SLU 79	-18	-158	6259	1479.59	-1280.4	-29.52
690	SLU 80	-18	-145	6250	1477.23	-1278.56	-26.82
690	SLU 81	-18	-161	6375	1506.82	-1304.15	-30.36
690	SLU 82	-18	-148	6366	1504.47	-1302.31	-27.66
690	SLU 83	-18	-163	6437	1521.57	-1316.91	-30.6
690	SLU 84	-18	-150	6429	1519.21	-1315.08	-27.91
690	SLE RA 1	-14	-105	4144	980.13	-847.85	-19.38
690	SLE RA 2	-14	-91	4135	977.51	-845.8	-16.38
690	SLE RA 3	-14	-107	4209	995.35	-861.02	-19.62
690	SLE RA 4	-14	-98	4203	993.78	-859.79	-17.82
690	SLE RA 5	-14	-92	4176	987.34	-854.31	-16.54
690	SLE RA 6	-14	-108	4250	1005.18	-869.53	-19.78
690	SLE RA 7	-14	-99	4245	1003.61	-868.3	-17.98
690	SLE RA 8	-14	-107	4228	999.79	-864.87	-19.7
690	SLE RA 9	-14	-99	4222	998.22	-863.64	-17.9
690	SLE RA 10	-14	-101	4509	1065.76	-922.46	-18.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
690	SLE RA 11	-14	-116	4584	1083.59	-937.68	-21.69
690	SLE RA 12	-14	-108	4578	1082.02	-936.45	-19.89
690	SLE RA 13	-14	-101	4551	1075.59	-930.97	-18.61
690	SLE RA 14	-14	-117	4625	1093.43	-946.19	-21.85
690	SLE RA 15	-14	-109	4619	1091.86	-944.96	-20.06
690	SLE RA 16	-14	-117	4602	1088.03	-941.53	-21.77
690	SLE RA 17	-14	-108	4597	1086.47	-940.3	-19.97
690	SLE RA 18	-14	-119	4680	1106.19	-957.36	-22.33
690	SLE RA 19	-14	-110	4674	1104.62	-956.13	-20.53
690	SLE RA 20	-14	-120	4721	1116.02	-965.87	-22.5
690	SLE RA 21	-14	-111	4716	1114.45	-964.64	-20.7
690	SLE FR 1	-14	-105	4144	980.13	-847.85	-19.38
690	SLE FR 2	-14	-102	4143	979.61	-847.44	-18.78
690	SLE FR 3	-14	-106	4161	984.06	-851.25	-19.44
690	SLE FR 4	-14	-107	4303	1017.42	-880.29	-19.66
690	SLE FR 5	-14	-110	4322	1021.88	-884.1	-20.33
690	SLE FR 6	-14	-112	4412	1043.16	-902.6	-20.85
690	SLE QP 1	-14	-105	4144	980.13	-847.85	-19.38
690	SLE QP 2	-14	-109	4305	1017.95	-880.7	-20.26
690	SLD 1	357	11	4104	976.96	-838.52	-87.79
690	SLD 2	356	3	4100	976.2	-837.81	-88.96
690	SLD 3	362	-243	4292	1027.56	-877.85	-140.79
690	SLD 4	361	-251	4288	1026.8	-877.13	-141.96
690	SLD 5	91	313	3961	929.04	-808.53	40.07
690	SLD 6	90	308	3958	928.54	-808.05	39.3
690	SLD 7	106	-533	4586	1097.71	-939.62	-136.59
690	SLD 8	106	-538	4584	1097.21	-939.15	-137.36
690	SLD 9	-133	319	4026	938.68	-822.25	96.84
690	SLD 10	-133	314	4024	938.18	-821.78	96.06
690	SLD 11	-117	-527	4652	1107.35	-953.35	-79.82
690	SLD 12	-118	-532	4649	1106.85	-952.87	-80.6
690	SLD 13	-388	32	4322	1009.09	-884.26	101.43
690	SLD 14	-389	24	4318	1008.33	-883.55	100.26
690	SLD 15	-383	-222	4510	1059.7	-923.59	48.44
690	SLD 16	-384	-229	4506	1058.94	-922.88	47.26
690	SLV 1	566	84	3986	952.54	-813.79	-124.63
690	SLV 2	565	73	3980	951.35	-812.66	-126.46
690	SLV 3	574	-326	4289	1034.33	-877.35	-210.25
690	SLV 4	573	-337	4284	1033.14	-876.23	-212.09
690	SLV 5	149	573	3750	874.5	-764.43	78.63
690	SLV 6	148	565	3747	873.7	-763.67	77.39
690	SLV 7	174	-794	4761	1147.13	-976.31	-206.78
690	SLV 8	174	-802	4758	1146.33	-975.56	-208.01
690	SLV 9	-201	583	3853	889.56	-785.84	167.49
690	SLV 10	-201	575	3849	888.76	-785.09	166.25
690	SLV 11	-175	-784	4864	1162.19	-997.73	-117.92
690	SLV 12	-176	-792	4860	1161.39	-996.97	-119.15
690	SLV 13	-600	118	4326	1002.76	-885.17	171.56
690	SLV 14	-601	107	4321	1001.56	-884.05	169.72
690	SLV 15	-592	-292	4630	1084.54	-948.74	85.94
690	SLV 16	-593	-303	4624	1083.35	-947.61	84.1
690	SLV FO 1	624	104	3954	946	-807.1	-135.06
690	SLV FO 2	623	91	3948	944.69	-805.86	-137.08
690	SLV FO 3	633	-347	4288	1035.97	-877.02	-229.25
690	SLV FO 4	631	-360	4282	1034.66	-875.78	-231.27
690	SLV FO 5	165	641	3695	860.16	-752.8	88.52
690	SLV FO 6	165	633	3691	859.27	-751.97	87.16
690	SLV FO 7	193	-863	4807	1160.05	-985.87	-225.43
690	SLV FO 8	192	-871	4803	1159.17	-985.04	-226.79
690	SLV FO 9	-219	652	3807	876.73	-776.36	186.26
690	SLV FO 10	-220	644	3803	875.84	-775.53	184.9
690	SLV FO 11	-192	-851	4919	1176.62	-1009.43	-127.68
690	SLV FO 12	-192	-860	4915	1175.74	-1008.6	-129.04
690	SLV FO 13	-658	141	4329	1001.24	-885.62	190.74
690	SLV FO 14	-660	128	4322	999.93	-884.38	188.72
690	SLV FO 15	-650	-310	4662	1091.2	-955.54	96.56
690	SLV FO 16	-651	-323	4656	1089.89	-954.3	94.54
690	CRTFP Ux+	0	0	0	0	0	0
690	CRTFP Ux-	0	0	0	0	0	0
690	CRTFP Uy+	0	0	0	0	0	0
690	CRTFP Uy-	0	0	0	0	0	0
691	SLU 1	-9	-158	5233	960.61	788.96	25.94
691	SLU 2	-9	-128	5213	955.7	785.84	21.6
691	SLU 3	-9	-161	5360	983.17	808.17	26.45
691	SLU 4	-10	-143	5348	980.22	806.31	23.85
691	SLU 5	-10	-130	5295	970.26	798.27	21.94
691	SLU 6	-10	-163	5442	997.73	820.6	26.79
691	SLU 7	-10	-145	5430	994.78	818.73	24.19
691	SLU 8	-10	-162	5397	989.73	813.8	26.61
691	SLU 9	-10	-144	5385	986.78	811.94	24.01
691	SLU 10	-9	-152	5953	1087.06	897.77	25.04
691	SLU 11	-9	-185	6101	1114.54	920.1	29.89
691	SLU 12	-9	-167	6088	1111.59	918.23	27.29
691	SLU 13	-10	-154	6035	1101.62	910.19	25.38
691	SLU 14	-9	-187	6183	1129.09	932.52	30.23
691	SLU 15	-10	-169	6170	1126.14	930.65	27.63
691	SLU 16	-9	-186	6138	1121.1	925.73	30.05
691	SLU 17	-10	-168	6126	1118.15	923.86	27.45
691	SLU 18	-9	-192	6291	1148.28	948.85	30.85



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
691	SLU 19	-9	-174	6279	1145.33	946.98	28.25
691	SLU 20	-9	-194	6373	1162.84	961.27	31.19
691	SLU 21	-9	-177	6361	1159.89	959.41	28.59
691	SLU 22	-10	-179	6081	1111.76	917.12	29.19
691	SLU 23	-10	-149	6060	1106.84	914.01	24.85
691	SLU 24	-10	-182	6207	1134.32	936.34	29.71
691	SLU 25	-10	-165	6195	1131.37	934.47	27.11
691	SLU 26	-10	-152	6142	1121.4	926.43	25.19
691	SLU 27	-10	-184	6290	1148.87	948.76	30.05
691	SLU 28	-10	-167	6277	1145.92	946.9	27.45
691	SLU 29	-10	-183	6245	1140.88	941.97	29.87
691	SLU 30	-10	-165	6232	1137.93	940.1	27.27
691	SLU 31	-10	-174	6800	1238.21	1025.94	28.29
691	SLU 32	-10	-206	6948	1265.68	1048.27	33.15
691	SLU 33	-10	-189	6936	1262.73	1046.4	30.55
691	SLU 34	-10	-176	6883	1252.77	1038.36	28.63
691	SLU 35	-10	-208	7030	1280.24	1060.69	33.49
691	SLU 36	-10	-191	7018	1277.29	1058.82	30.89
691	SLU 37	-10	-207	6985	1272.24	1053.9	33.31
691	SLU 38	-10	-190	6973	1269.29	1052.03	30.71
691	SLU 39	-10	-214	7138	1299.42	1077.02	34.11
691	SLU 40	-10	-196	7126	1296.47	1075.15	31.5
691	SLU 41	-10	-216	7221	1313.98	1089.44	34.45
691	SLU 42	-10	-198	7208	1311.03	1087.57	31.84
691	SLU 43	-12	-198	6513	1196.98	981.7	32.6
691	SLU 44	-12	-168	6492	1192.06	978.59	28.26
691	SLU 45	-12	-201	6640	1219.53	1000.92	33.12
691	SLU 46	-12	-183	6627	1216.58	999.05	30.51
691	SLU 47	-12	-170	6574	1206.62	991.01	28.6
691	SLU 48	-12	-203	6722	1234.09	1013.34	33.46
691	SLU 49	-12	-185	6709	1231.14	1011.47	30.85
691	SLU 50	-12	-202	6677	1226.09	1006.55	33.28
691	SLU 51	-12	-184	6664	1223.14	1004.68	30.67
691	SLU 52	-12	-192	7233	1323.43	1090.51	31.7
691	SLU 53	-12	-225	7380	1350.9	1112.84	36.56
691	SLU 54	-12	-207	7368	1347.95	1110.98	33.96
691	SLU 55	-12	-194	7315	1337.98	1102.94	32.04
691	SLU 56	-12	-227	7462	1365.46	1125.27	36.9
691	SLU 57	-12	-209	7450	1362.51	1123.4	34.29
691	SLU 58	-12	-226	7417	1357.46	1118.47	36.72
691	SLU 59	-12	-208	7405	1354.51	1116.6	34.11
691	SLU 60	-12	-232	7571	1384.64	1141.59	37.52
691	SLU 61	-12	-215	7558	1381.69	1139.73	34.91
691	SLU 62	-12	-234	7653	1399.2	1154.02	37.85
691	SLU 63	-12	-217	7640	1396.25	1152.15	35.25
691	SLU 64	-12	-219	7360	1348.12	1109.87	35.86
691	SLU 65	-13	-190	7339	1343.21	1106.76	31.52
691	SLU 66	-13	-222	7487	1370.68	1129.08	36.37
691	SLU 67	-13	-205	7475	1367.73	1127.22	33.77
691	SLU 68	-13	-192	7421	1357.76	1119.18	31.86
691	SLU 69	-13	-224	7569	1385.24	1141.51	36.71
691	SLU 70	-13	-207	7557	1382.29	1139.64	34.11
691	SLU 71	-13	-223	7524	1377.24	1134.71	36.53
691	SLU 72	-13	-206	7512	1374.29	1132.85	33.93
691	SLU 73	-12	-214	8080	1474.57	1218.68	34.96
691	SLU 74	-12	-246	8228	1502.04	1241.01	39.82
691	SLU 75	-13	-229	8215	1499.09	1239.14	37.21
691	SLU 76	-13	-216	8162	1489.13	1231.1	35.3
691	SLU 77	-13	-249	8310	1516.6	1253.43	40.15
691	SLU 78	-13	-231	8297	1513.65	1251.57	37.55
691	SLU 79	-13	-247	8265	1508.6	1246.64	39.97
691	SLU 80	-13	-230	8252	1505.65	1244.77	37.37
691	SLU 81	-12	-254	8418	1535.79	1269.76	40.77
691	SLU 82	-12	-236	8406	1532.84	1267.89	38.17
691	SLU 83	-12	-256	8500	1550.34	1282.18	41.11
691	SLU 84	-13	-238	8488	1547.39	1280.32	38.51
691	SLE RA 1	-9	-164	5475	1003.8	825.58	26.87
691	SLE RA 2	-10	-144	5462	1000.52	823.5	23.97
691	SLE RA 3	-10	-166	5560	1018.84	838.39	27.21
691	SLE RA 4	-10	-154	5552	1016.87	837.14	25.48
691	SLE RA 5	-10	-146	5516	1010.23	831.78	24.2
691	SLE RA 6	-10	-167	5615	1028.54	846.67	27.44
691	SLE RA 7	-10	-156	5606	1026.58	845.42	25.7
691	SLE RA 8	-10	-167	5585	1023.21	842.14	27.32
691	SLE RA 9	-10	-155	5577	1021.24	840.9	25.58
691	SLE RA 10	-9	-160	5955	1088.1	898.12	26.27
691	SLE RA 11	-9	-182	6054	1106.41	913	29.51
691	SLE RA 12	-10	-170	6045	1104.45	911.76	27.77
691	SLE RA 13	-10	-162	6010	1097.8	906.4	26.49
691	SLE RA 14	-10	-183	6108	1116.12	921.29	29.73
691	SLE RA 15	-10	-172	6100	1114.15	920.04	28
691	SLE RA 16	-10	-183	6078	1110.79	916.76	29.61
691	SLE RA 17	-10	-171	6070	1108.82	915.51	27.88
691	SLE RA 18	-9	-187	6181	1128.91	932.17	30.14
691	SLE RA 19	-9	-175	6172	1126.94	930.93	28.41
691	SLE RA 20	-9	-188	6235	1138.61	940.45	30.37
691	SLE RA 21	-9	-176	6227	1136.65	939.21	28.63
691	SLE FR 1	-9	-164	5475	1003.8	825.58	26.87
691	SLE FR 2	-9	-160	5473	1003.14	825.16	26.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
691	SLE FR 3	-9	-165	5497	1007.68	828.89	26.96
691	SLE FR 4	-9	-167	5684	1040.68	857.14	27.27
691	SLE FR 5	-9	-171	5709	1045.21	860.87	27.94
691	SLE FR 6	-9	-175	5828	1066.35	878.87	28.51
691	SLE QP 1	-9	-164	5475	1003.8	825.58	26.87
691	SLE QP 2	-9	-171	5687	1041.33	857.56	27.85
691	SLD 1	498	-7	5407	981.37	815.11	-124.22
691	SLD 2	497	-13	5404	981.69	814.48	-122.89
691	SLD 3	503	-357	5672	1043.47	854.97	-73.09
691	SLD 4	502	-362	5669	1043.8	854.34	-71.75
691	SLD 5	135	409	5202	929.09	784.48	-95.57
691	SLD 6	134	405	5199	929.3	784.06	-94.69
691	SLD 7	153	-756	6085	1136.11	917.35	74.88
691	SLD 8	152	-759	6083	1136.33	916.93	75.76
691	SLD 9	-171	418	5291	946.34	798.18	-20.06
691	SLD 10	-171	414	5289	946.55	797.76	-19.18
691	SLD 11	-153	-747	6175	1153.36	931.05	150.38
691	SLD 12	-154	-751	6172	1153.57	930.63	151.27
691	SLD 13	-521	21	5705	1038.86	860.77	127.45
691	SLD 14	-522	15	5701	1039.19	860.14	128.79
691	SLD 15	-516	-329	5970	1100.97	900.63	178.59
691	SLD 16	-517	-334	5966	1101.29	900	179.92
691	SLV 1	785	93	5243	946.04	790.21	-211.59
691	SLV 2	783	85	5238	946.55	789.22	-209.5
691	SLV 3	793	-471	5672	1046.43	854.64	-128.95
691	SLV 4	792	-480	5666	1046.94	853.64	-126.85
691	SLV 5	216	766	4905	860.39	739.83	-169.72
691	SLV 6	215	760	4901	860.73	739.16	-168.31
691	SLV 7	245	-1116	6333	1195.03	954.57	105.77
691	SLV 8	244	-1121	6329	1195.37	953.91	107.18
691	SLV 9	-263	780	5045	887.29	761.2	-51.48
691	SLV 10	-264	774	5041	887.64	760.54	-50.07
691	SLV 11	-234	-1102	6473	1221.93	975.95	224.01
691	SLV 12	-235	-1108	6469	1222.28	975.28	225.42
691	SLV 13	-810	138	5708	1035.72	861.47	182.55
691	SLV 14	-812	130	5702	1036.23	860.47	184.65
691	SLV 15	-802	-426	6136	1136.11	925.89	265.2
691	SLV 16	-803	-435	6131	1136.63	924.9	267.29
691	SLV FO 1	864	120	5199	936.51	783.48	-235.54
691	SLV FO 2	862	110	5193	937.07	782.38	-233.23
691	SLV FO 3	873	-501	5670	1046.94	854.34	-144.63
691	SLV FO 4	872	-511	5664	1047.5	853.25	-142.32
691	SLV FO 5	238	860	4827	842.29	728.05	-189.48
691	SLV FO 6	237	854	4823	842.67	727.32	-187.93
691	SLV FO 7	270	-1210	6398	1210.4	964.28	113.56
691	SLV FO 8	269	-1217	6394	1210.77	963.54	115.11
691	SLV FO 9	-288	875	4980	871.89	751.57	-59.41
691	SLV FO 10	-289	868	4976	872.27	750.83	-57.86
691	SLV FO 11	-256	-1195	6551	1239.99	987.79	243.63
691	SLV FO 12	-257	-1202	6547	1240.37	987.06	245.18
691	SLV FO 13	-891	169	5710	1035.16	861.86	198.02
691	SLV FO 14	-892	160	5704	1035.72	860.77	200.33
691	SLV FO 15	-881	-452	6181	1145.59	932.73	288.93
691	SLV FO 16	-883	-461	6175	1146.15	931.63	291.24
691	CRTFP Ux+	0	0	0	0	0	0
691	CRTFP Ux-	0	0	0	0	0	0
691	CRTFP Uy+	0	0	0	0	0	0
691	CRTFP Uy-	0	0	0	0	0	0
693	SLU 1	-1	-117	4659	768.13	-751.59	-16.02
693	SLU 2	-1	-90	4642	764.79	-748.9	-11.52
693	SLU 3	-1	-120	4771	785.14	-769.43	-16.36
693	SLU 4	-1	-103	4760	783.14	-767.81	-13.67
693	SLU 5	-1	-91	4714	775.73	-760.44	-11.76
693	SLU 6	-1	-121	4843	796.09	-780.97	-16.61
693	SLU 7	-1	-105	4832	794.08	-779.35	-13.91
693	SLU 8	-1	-121	4803	790.02	-774.68	-16.5
693	SLU 9	-1	-104	4793	788.01	-773.06	-13.8
693	SLU 10	0	-110	5295	866.9	-853.87	-14.46
693	SLU 11	0	-140	5424	887.26	-874.39	-19.31
693	SLU 12	0	-123	5413	885.25	-872.78	-16.61
693	SLU 13	-1	-111	5367	877.85	-865.41	-14.7
693	SLU 14	0	-141	5496	898.2	-885.94	-19.55
693	SLU 15	0	-125	5485	896.2	-884.32	-16.85
693	SLU 16	0	-140	5457	892.13	-879.65	-19.44
693	SLU 17	-1	-124	5446	890.13	-878.03	-16.75
693	SLU 18	0	-146	5593	914.01	-901.55	-20.22
693	SLU 19	0	-129	5582	912	-899.93	-17.52
693	SLU 20	0	-147	5665	924.95	-913.09	-20.46
693	SLU 21	0	-131	5654	922.95	-911.47	-17.76
693	SLU 22	0	-134	5406	884.88	-871.54	-18.52
693	SLU 23	0	-106	5388	881.54	-868.85	-14.02
693	SLU 24	0	-136	5517	901.89	-889.37	-18.87
693	SLU 25	0	-120	5507	899.89	-887.76	-16.17
693	SLU 26	0	-108	5460	892.48	-880.39	-14.26
693	SLU 27	0	-138	5589	912.83	-900.92	-19.11
693	SLU 28	0	-122	5579	910.83	-899.3	-16.41
693	SLU 29	0	-137	5550	906.76	-894.63	-19
693	SLU 30	0	-121	5539	904.76	-893.01	-16.3
693	SLU 31	0	-126	6042	983.65	-973.82	-16.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLU 32	0	-156	6170	1004	-994.34	-21.81
693	SLU 33	0	-140	6160	1002	-992.73	-19.11
693	SLU 34	0	-128	6114	994.6	-985.36	-17.21
693	SLU 35	0	-158	6242	1014.95	-1005.89	-22.05
693	SLU 36	0	-142	6232	1012.95	-1004.27	-19.35
693	SLU 37	0	-157	6203	1008.88	-999.6	-21.94
693	SLU 38	0	-141	6193	1006.88	-997.98	-19.25
693	SLU 39	0	-162	6339	1030.75	-1021.5	-22.72
693	SLU 40	0	-146	6329	1028.75	-1019.88	-20.02
693	SLU 41	0	-164	6411	1041.7	-1033.04	-22.96
693	SLU 42	0	-148	6401	1039.69	-1031.42	-20.26
693	SLU 43	-1	-147	5801	958.54	-935.94	-19.96
693	SLU 44	-1	-119	5784	955.2	-933.25	-15.47
693	SLU 45	-1	-149	5912	975.55	-953.78	-20.31
693	SLU 46	-1	-133	5902	973.55	-952.16	-17.61
693	SLU 47	-1	-121	5856	966.14	-944.79	-15.71
693	SLU 48	-1	-151	5984	986.5	-965.32	-20.55
693	SLU 49	-1	-134	5974	984.49	-963.7	-17.86
693	SLU 50	-1	-150	5945	980.43	-959.03	-20.45
693	SLU 51	-1	-133	5935	978.42	-957.41	-17.75
693	SLU 52	-1	-139	6437	1057.31	-1038.22	-18.41
693	SLU 53	-1	-169	6566	1077.67	-1058.75	-23.25
693	SLU 54	-1	-152	6555	1075.66	-1057.13	-20.56
693	SLU 55	-1	-141	6509	1068.26	-1049.76	-18.65
693	SLU 56	-1	-171	6638	1088.61	-1070.29	-23.5
693	SLU 57	-1	-154	6627	1086.61	-1068.67	-20.8
693	SLU 58	-1	-170	6598	1082.54	-1064	-23.39
693	SLU 59	-1	-153	6588	1080.54	-1062.38	-20.69
693	SLU 60	-1	-175	6734	1104.42	-1085.9	-24.17
693	SLU 61	-1	-159	6724	1102.41	-1084.28	-21.47
693	SLU 62	-1	-177	6806	1115.36	-1097.44	-24.41
693	SLU 63	-1	-160	6796	1113.36	-1095.83	-21.71
693	SLU 64	-1	-163	6548	1075.29	-1055.89	-22.47
693	SLU 65	-1	-136	6530	1071.95	-1053.2	-17.97
693	SLU 66	-1	-166	6659	1092.3	-1073.73	-22.81
693	SLU 67	-1	-149	6649	1090.3	-1072.11	-20.11
693	SLU 68	-1	-138	6602	1082.89	-1064.74	-18.21
693	SLU 69	-1	-168	6731	1103.24	-1085.27	-23.06
693	SLU 70	-1	-151	6721	1101.24	-1083.65	-20.36
693	SLU 71	-1	-167	6692	1097.17	-1078.98	-22.95
693	SLU 72	-1	-150	6681	1095.17	-1077.36	-20.25
693	SLU 73	0	-156	7184	1174.06	-1158.17	-20.91
693	SLU 74	0	-186	7312	1194.42	-1178.7	-25.75
693	SLU 75	0	-169	7302	1192.41	-1177.08	-23.06
693	SLU 76	0	-157	7256	1185.01	-1169.71	-21.15
693	SLU 77	0	-187	7384	1205.36	-1190.24	-26
693	SLU 78	0	-171	7374	1203.36	-1188.62	-23.3
693	SLU 79	0	-187	7345	1199.29	-1183.95	-25.89
693	SLU 80	0	-170	7335	1197.29	-1182.33	-23.19
693	SLU 81	0	-192	7481	1221.16	-1205.85	-26.67
693	SLU 82	0	-175	7471	1219.16	-1204.23	-23.97
693	SLU 83	0	-194	7553	1232.11	-1217.39	-26.91
693	SLU 84	0	-177	7543	1230.11	-1215.78	-24.21
693	SLE RA 1	-1	-122	4873	801.48	-785.86	-16.73
693	SLE RA 2	-1	-104	4861	799.26	-784.07	-13.73
693	SLE RA 3	-1	-124	4947	812.83	-797.75	-16.96
693	SLE RA 4	-1	-113	4940	811.49	-796.67	-15.16
693	SLE RA 5	-1	-105	4909	806.55	-791.76	-13.89
693	SLE RA 6	-1	-125	4995	820.12	-805.45	-17.12
693	SLE RA 7	-1	-114	4988	818.79	-804.37	-15.33
693	SLE RA 8	-1	-124	4969	816.08	-801.25	-17.05
693	SLE RA 9	-1	-113	4962	814.74	-800.18	-15.26
693	SLE RA 10	0	-117	5297	867.34	-854.05	-15.69
693	SLE RA 11	0	-137	5382	880.9	-867.73	-18.92
693	SLE RA 12	0	-126	5375	879.57	-866.65	-17.13
693	SLE RA 13	0	-118	5345	874.63	-861.74	-15.86
693	SLE RA 14	0	-138	5430	888.2	-875.43	-19.09
693	SLE RA 15	0	-127	5423	886.86	-874.35	-17.29
693	SLE RA 16	0	-138	5404	884.15	-871.23	-19.02
693	SLE RA 17	0	-127	5397	882.82	-870.16	-17.22
693	SLE RA 18	0	-141	5495	898.74	-885.83	-19.53
693	SLE RA 19	0	-130	5488	897.4	-884.76	-17.73
693	SLE RA 20	0	-142	5543	906.03	-893.53	-19.69
693	SLE RA 21	0	-131	5536	904.7	-892.45	-17.9
693	SLE FR 1	-1	-122	4873	801.48	-785.86	-16.73
693	SLE FR 2	-1	-118	4870	801.04	-785.5	-16.13
693	SLE FR 3	-1	-122	4892	804.4	-788.94	-16.8
693	SLE FR 4	0	-124	5057	830.21	-815.5	-16.97
693	SLE FR 5	0	-128	5078	833.58	-818.93	-17.64
693	SLE FR 6	0	-132	5184	850.11	-835.85	-18.13
693	SLE QP 1	-1	-122	4873	801.48	-785.86	-16.73
693	SLE QP 2	0	-128	5059	830.66	-815.85	-17.57
693	SLD 1	477	22	4832	802.44	-781.36	-112.76
693	SLD 2	476	22	4830	803.53	-781.14	-112.3
693	SLD 3	482	-302	5056	844.93	-816.09	-165.48
693	SLD 4	481	-302	5054	846.02	-815.87	-165.02
693	SLD 5	136	408	4652	757.56	-752.87	33.75
693	SLD 6	136	408	4651	758.28	-752.72	34.06
693	SLD 7	151	-670	5398	899.18	-868.64	-141.99



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
693	SLD 8	151	-671	5397	899.9	-868.5	-141.69
693	SLD 9	-152	415	4722	761.42	-763.21	106.55
693	SLD 10	-152	415	4721	762.14	-763.07	106.85
693	SLD 11	-137	-663	5468	903.04	-878.98	-69.2
693	SLD 12	-137	-663	5466	903.76	-878.84	-68.9
693	SLD 13	-482	46	5065	815.3	-815.84	129.88
693	SLD 14	-483	46	5063	816.39	-815.62	130.34
693	SLD 15	-477	-277	5288	857.79	-850.57	77.16
693	SLD 16	-478	-277	5287	858.88	-850.35	77.61
693	SLV 1	747	114	4698	785.4	-761.04	-165.28
693	SLV 2	746	114	4695	787.11	-760.7	-164.56
693	SLV 3	755	-408	5060	854.08	-817.17	-250.46
693	SLV 4	753	-409	5057	855.79	-816.83	-249.74
693	SLV 5	213	738	4403	712.6	-714.34	67.18
693	SLV 6	212	737	4401	713.76	-714.11	67.66
693	SLV 7	238	-1005	5608	941.53	-901.44	-216.77
693	SLV 8	237	-1005	5606	942.68	-901.21	-216.29
693	SLV 9	-238	749	4512	718.64	-730.5	181.14
693	SLV 10	-238	749	4510	719.79	-730.27	181.63
693	SLV 11	-213	-993	5717	947.56	-917.59	-102.81
693	SLV 12	-214	-993	5715	948.71	-917.37	-102.32
693	SLV 13	-754	154	5062	805.53	-814.88	214.6
693	SLV 14	-756	153	5059	807.24	-814.54	215.32
693	SLV 15	-747	-369	5423	874.21	-871.01	129.41
693	SLV 16	-748	-370	5420	875.92	-870.67	130.13
693	SLV FO 1	822	139	4662	780.88	-755.56	-180.05
693	SLV FO 2	821	138	4659	782.76	-755.18	-179.26
693	SLV FO 3	830	-436	5060	856.42	-817.3	-273.75
693	SLV FO 4	829	-437	5057	858.3	-816.92	-272.96
693	SLV FO 5	234	824	4337	700.8	-704.19	75.65
693	SLV FO 6	233	824	4335	702.06	-703.94	76.19
693	SLV FO 7	261	-1092	5663	952.61	-910	-236.69
693	SLV FO 8	260	-1093	5661	953.88	-909.75	-236.16
693	SLV FO 9	-261	837	4457	707.44	-721.96	201.01
693	SLV FO 10	-262	837	4455	708.71	-721.71	201.55
693	SLV FO 11	-234	-1079	5783	959.25	-927.77	-111.33
693	SLV FO 12	-235	-1080	5781	960.52	-927.52	-110.8
693	SLV FO 13	-830	182	5062	803.02	-814.78	237.82
693	SLV FO 14	-831	181	5059	804.9	-814.41	238.61
693	SLV FO 15	-822	-393	5460	878.56	-876.53	144.11
693	SLV FO 16	-823	-394	5456	880.44	-876.15	144.9
693	CRTFP Ux+	0	0	0	0	0	0
693	CRTFP Ux-	0	0	0	0	0	0
693	CRTFP Uy+	0	0	0	0	0	0
693	CRTFP Uy-	0	0	0	0	0	0
695	SLU 1	20	-19	7373	1280.39	-377.17	16.15
695	SLU 2	20	25	7352	1280.74	-376.93	18.22
695	SLU 3	21	-20	7544	1307.21	-385.42	16.38
695	SLU 4	21	6	7531	1307.42	-385.27	17.62
695	SLU 5	21	23	7463	1297.7	-382.25	18.31
695	SLU 6	21	-22	7655	1324.17	-390.74	16.47
695	SLU 7	21	5	7642	1324.38	-390.59	17.71
695	SLU 8	21	-22	7594	1314.3	-387.81	16.33
695	SLU 9	21	5	7582	1314.51	-387.66	17.57
695	SLU 10	22	14	8369	1451.75	-427.36	20.38
695	SLU 11	22	-30	8562	1478.21	-435.85	18.54
695	SLU 12	22	-4	8549	1478.42	-435.7	19.78
695	SLU 13	22	13	8480	1468.7	-432.68	20.47
695	SLU 14	22	-32	8672	1495.17	-441.17	18.63
695	SLU 15	22	-5	8660	1495.38	-441.03	19.87
695	SLU 16	22	-32	8612	1485.3	-438.25	18.49
695	SLU 17	22	-5	8599	1485.52	-438.1	19.73
695	SLU 18	22	-34	8827	1524.68	-449.22	19.24
695	SLU 19	22	-7	8814	1524.89	-449.07	20.48
695	SLU 20	22	-35	8937	1541.63	-454.54	19.33
695	SLU 21	22	-9	8925	1541.85	-454.39	20.57
695	SLU 22	23	-25	8538	1474.98	-435.33	17.98
695	SLU 23	24	19	8517	1475.33	-435.08	20.04
695	SLU 24	24	-26	8709	1501.79	-443.58	18.21
695	SLU 25	24	0	8696	1502.01	-443.43	19.44
695	SLU 26	24	18	8627	1492.28	-440.4	20.13
695	SLU 27	24	-27	8820	1518.75	-448.9	18.29
695	SLU 28	24	-1	8807	1518.96	-448.75	19.53
695	SLU 29	24	-27	8759	1508.89	-445.97	18.16
695	SLU 30	24	-1	8746	1509.1	-445.82	19.4
695	SLU 31	25	9	9534	1646.33	-485.52	22.21
695	SLU 32	25	-36	9726	1672.79	-494.01	20.37
695	SLU 33	25	-10	9714	1673.01	-493.86	21.61
695	SLU 34	25	8	9645	1663.28	-490.84	22.3
695	SLU 35	25	-37	9837	1689.75	-499.33	20.46
695	SLU 36	25	-11	9824	1689.96	-499.18	21.7
695	SLU 37	25	-37	9777	1679.89	-496.41	20.32
695	SLU 38	25	-11	9764	1680.1	-496.26	21.56
695	SLU 39	25	-39	9991	1719.26	-507.38	21.07
695	SLU 40	25	-13	9978	1719.47	-507.23	22.31
695	SLU 41	25	-40	10102	1736.22	-512.7	21.16
695	SLU 42	25	-14	10089	1736.43	-512.55	22.4
695	SLU 43	25	-23	9186	1597.8	-470.38	20.37
695	SLU 44	25	21	9164	1598.15	-470.14	22.44



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
695	SLU 45	26	-24	9357	1624.61	-478.63	20.6
695	SLU 46	26	2	9344	1624.83	-478.48	21.84
695	SLU 47	26	19	9275	1615.1	-475.46	22.53
695	SLU 48	26	-25	9467	1641.57	-483.95	20.69
695	SLU 49	26	1	9455	1641.78	-483.8	21.93
695	SLU 50	26	-26	9407	1631.71	-481.02	20.55
695	SLU 51	26	1	9394	1631.92	-480.88	21.79
695	SLU 52	27	11	10182	1769.15	-520.57	24.6
695	SLU 53	27	-34	10374	1795.61	-529.06	22.76
695	SLU 54	27	-8	10362	1795.83	-528.92	24
695	SLU 55	27	9	10293	1786.1	-525.89	24.69
695	SLU 56	27	-35	10485	1812.57	-534.38	22.85
695	SLU 57	27	-9	10472	1812.78	-534.24	24.09
695	SLU 58	27	-36	10424	1802.71	-531.46	22.71
695	SLU 59	27	-9	10412	1802.92	-531.31	23.95
695	SLU 60	27	-38	10639	1842.08	-542.43	23.46
695	SLU 61	27	-11	10626	1842.29	-542.28	24.7
695	SLU 62	27	-39	10750	1859.04	-547.75	23.55
695	SLU 63	27	-12	10737	1859.25	-547.6	24.79
695	SLU 64	28	-29	10350	1792.38	-528.54	22.2
695	SLU 65	29	15	10329	1792.73	-528.3	24.26
695	SLU 66	29	-30	10521	1819.2	-536.79	22.42
695	SLU 67	29	-3	10509	1819.41	-536.64	23.66
695	SLU 68	29	14	10440	1809.69	-533.62	24.35
695	SLU 69	29	-31	10632	1836.15	-542.11	22.51
695	SLU 70	29	-5	10619	1836.36	-541.96	23.75
695	SLU 71	29	-31	10572	1826.29	-539.18	22.38
695	SLU 72	29	-5	10559	1826.5	-539.03	23.62
695	SLU 73	30	5	11347	1963.73	-578.73	26.43
695	SLU 74	30	-40	11539	1990.2	-587.22	24.59
695	SLU 75	30	-14	11526	1990.41	-587.07	25.83
695	SLU 76	30	4	11457	1980.69	-584.05	26.52
695	SLU 77	30	-41	11650	2007.15	-592.54	24.68
695	SLU 78	30	-15	11637	2007.37	-592.39	25.92
695	SLU 79	30	-41	11589	1997.29	-589.62	24.54
695	SLU 80	30	-15	11576	1997.5	-589.47	25.78
695	SLU 81	30	-43	11804	2036.67	-600.59	25.29
695	SLU 82	30	-17	11791	2036.88	-600.44	26.53
695	SLU 83	30	-44	11914	2053.62	-605.91	25.38
695	SLU 84	30	-18	11902	2053.83	-605.76	26.62
695	SLE RA 1	21	-21	7706	1335.99	-393.79	16.68
695	SLE RA 2	21	8	7692	1336.22	-393.62	18.05
695	SLE RA 3	21	-22	7820	1353.87	-399.29	16.83
695	SLE RA 4	22	-4	7811	1354.01	-399.19	17.65
695	SLE RA 5	21	8	7765	1347.53	-397.17	18.11
695	SLE RA 6	22	-22	7894	1365.17	-402.83	16.88
695	SLE RA 7	22	-5	7885	1365.31	-402.73	17.71
695	SLE RA 8	21	-22	7853	1358.59	-400.88	16.79
695	SLE RA 9	22	-5	7845	1358.74	-400.78	17.62
695	SLE RA 10	22	2	8370	1450.22	-427.25	19.49
695	SLE RA 11	22	-28	8498	1467.87	-432.91	18.27
695	SLE RA 12	22	-11	8490	1468.01	-432.81	19.09
695	SLE RA 13	22	1	8444	1461.53	-430.79	19.55
695	SLE RA 14	22	-29	8572	1479.17	-436.46	18.33
695	SLE RA 15	22	-12	8564	1479.31	-436.36	19.15
695	SLE RA 16	22	-29	8532	1472.59	-434.51	18.24
695	SLE RA 17	22	-12	8523	1472.74	-434.41	19.06
695	SLE RA 18	22	-31	8675	1498.84	-441.82	18.74
695	SLE RA 19	22	-13	8666	1498.99	-441.72	19.56
695	SLE RA 20	22	-31	8749	1510.15	-445.37	18.8
695	SLE RA 21	22	-14	8740	1510.29	-445.27	19.62
695	SLE FR 1	21	-21	7706	1335.99	-393.79	16.68
695	SLE FR 2	21	-15	7703	1336.03	-393.76	16.95
695	SLE FR 3	21	-21	7735	1340.51	-395.21	16.7
695	SLE FR 4	21	-18	7994	1384.89	-408.17	17.57
695	SLE FR 5	22	-24	8026	1389.37	-409.62	17.32
695	SLE FR 6	22	-26	8190	1417.42	-417.8	17.71
695	SLE QP 1	21	-21	7706	1335.99	-393.79	16.68
695	SLE QP 2	21	-24	7996	1384.84	-408.2	17.29
695	SLD 1	818	202	7722	1218.23	-400.19	-171.94
695	SLD 2	817	216	7723	1220.51	-400.67	-168.89
695	SLD 3	810	-312	7999	1223.07	-404.65	-195.84
695	SLD 4	808	-298	8000	1225.35	-405.13	-192.79
695	SLD 5	273	821	7493	1327.11	-398.94	-3.78
695	SLD 6	272	830	7493	1328.61	-399.26	-1.77
695	SLD 7	245	-892	8418	1343.24	-413.81	-83.44
695	SLD 8	245	-883	8419	1344.74	-414.13	-81.43
695	SLD 9	-202	835	7574	1424.95	-402.26	116.01
695	SLD 10	-203	845	7574	1426.45	-402.58	118.03
695	SLD 11	-230	-878	8500	1441.08	-417.14	36.36
695	SLD 12	-230	-868	8500	1442.58	-417.46	38.37
695	SLD 13	-765	250	7993	1544.34	-411.27	227.38
695	SLD 14	-767	265	7993	1546.62	-411.75	230.42
695	SLD 15	-774	-264	8270	1549.18	-415.73	203.48
695	SLD 16	-775	-249	8271	1551.46	-416.21	206.52
695	SLV 1	1269	342	7560	1124.53	-395.53	-278.39
695	SLV 2	1267	364	7561	1128.09	-396.28	-273.61
695	SLV 3	1255	-489	8009	1132.81	-402.76	-316.99
695	SLV 4	1253	-466	8010	1136.38	-403.52	-312.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
695	SLV 5	417	1341	7184	1293.52	-393.28	-13.76
695	SLV 6	415	1357	7185	1295.92	-393.79	-10.54
695	SLV 7	371	-1427	8681	1321.14	-417.4	-142.43
695	SLV 8	370	-1412	8682	1323.53	-417.91	-139.21
695	SLV 9	-327	1364	7311	1446.15	-398.49	173.8
695	SLV 10	-328	1380	7312	1448.55	-398.99	177.01
695	SLV 11	-372	-1404	8808	1473.77	-422.61	45.13
695	SLV 12	-374	-1389	8808	1476.17	-423.11	48.34
695	SLV 13	-1210	419	7983	1633.31	-412.88	346.8
695	SLV 14	-1212	441	7984	1636.87	-413.63	351.58
695	SLV 15	-1224	-412	8432	1641.6	-420.12	308.2
695	SLV 16	-1226	-389	8433	1645.16	-420.87	312.97
695	SLV FO 1	1394	378	7516	1098.5	-394.26	-307.96
695	SLV FO 2	1391	403	7518	1102.42	-395.09	-302.71
695	SLV FO 3	1379	-535	8010	1107.61	-402.22	-350.42
695	SLV FO 4	1376	-510	8011	1111.53	-403.05	-345.17
695	SLV FO 5	456	1478	7103	1284.39	-391.79	-16.86
695	SLV FO 6	455	1495	7104	1287.03	-392.35	-13.33
695	SLV FO 7	406	-1568	8749	1314.76	-418.32	-158.4
695	SLV FO 8	405	-1551	8750	1317.4	-418.88	-154.86
695	SLV FO 9	-362	1503	7243	1452.29	-397.52	189.45
695	SLV FO 10	-363	1520	7244	1454.92	-398.07	192.99
695	SLV FO 11	-412	-1542	8889	1482.66	-424.05	47.91
695	SLV FO 12	-413	-1525	8890	1485.3	-424.61	51.45
695	SLV FO 13	-1333	463	7981	1658.16	-413.35	379.75
695	SLV FO 14	-1336	488	7983	1662.08	-414.18	385
695	SLV FO 15	-1348	-451	8475	1667.27	-421.31	337.29
695	SLV FO 16	-1351	-426	8477	1671.19	-422.14	342.54
695	CRTFP Ux+	0	0	0	0	0	0
695	CRTFP Ux-	0	0	0	0	0	0
695	CRTFP Uy+	0	0	0	0	0	0
695	CRTFP Uy-	0	0	0	0	0	0
696	SLU 1	9	-42	1877	-179.17	545.23	13.47
696	SLU 2	9	-32	1869	-178.38	542.43	10.53
696	SLU 3	10	-43	1923	-183.5	558.53	13.75
696	SLU 4	10	-37	1918	-183.03	556.85	11.98
696	SLU 5	10	-33	1899	-181.22	551.17	10.69
696	SLU 6	10	-43	1953	-186.34	567.27	13.91
696	SLU 7	10	-37	1948	-185.87	565.59	12.14
696	SLU 8	10	-43	1937	-184.84	562.7	13.8
696	SLU 9	10	-37	1932	-184.37	561.02	12.03
696	SLU 10	10	-37	2133	-203.53	619.37	12.05
696	SLU 11	10	-48	2187	-208.65	635.47	15.26
696	SLU 12	10	-42	2182	-208.18	633.79	13.49
696	SLU 13	10	-38	2162	-206.37	628.11	12.21
696	SLU 14	10	-48	2216	-211.49	644.21	15.42
696	SLU 15	10	-42	2211	-211.02	642.53	13.66
696	SLU 16	10	-48	2201	-209.99	639.64	15.31
696	SLU 17	10	-42	2196	-209.52	637.96	13.54
696	SLU 18	10	-49	2254	-215.09	655.15	15.64
696	SLU 19	10	-43	2249	-214.62	653.47	13.87
696	SLU 20	10	-50	2284	-217.93	663.88	15.8
696	SLU 21	10	-44	2279	-217.46	662.2	14.03
696	SLU 22	11	-47	2178	-207.8	632.59	15.21
696	SLU 23	11	-38	2169	-207.02	629.79	12.26
696	SLU 24	11	-48	2224	-212.14	645.89	15.48
696	SLU 25	11	-42	2218	-211.67	644.21	13.71
696	SLU 26	11	-38	2199	-209.86	638.53	12.42
696	SLU 27	11	-49	2253	-214.98	654.63	15.64
696	SLU 28	11	-43	2248	-214.51	652.95	13.87
696	SLU 29	11	-48	2238	-213.48	650.06	15.53
696	SLU 30	11	-42	2233	-213.01	648.38	13.76
696	SLU 31	11	-42	2433	-232.16	706.73	13.78
696	SLU 32	11	-53	2487	-237.28	722.83	17
696	SLU 33	11	-47	2482	-236.81	721.15	15.23
696	SLU 34	11	-43	2463	-235	715.47	13.94
696	SLU 35	11	-54	2517	-240.12	731.57	17.16
696	SLU 36	11	-48	2512	-239.65	729.89	15.39
696	SLU 37	11	-53	2501	-238.62	727	17.04
696	SLU 38	11	-47	2496	-238.15	725.32	15.28
696	SLU 39	11	-54	2555	-243.72	742.51	17.37
696	SLU 40	11	-48	2549	-243.25	740.83	15.61
696	SLU 41	11	-55	2584	-246.56	751.24	17.53
696	SLU 42	11	-49	2579	-246.09	749.56	15.77
696	SLU 43	12	-53	2338	-223.1	678.85	16.92
696	SLU 44	12	-43	2329	-222.32	676.05	13.98
696	SLU 45	12	-54	2383	-227.44	692.15	17.19
696	SLU 46	12	-48	2378	-226.97	690.47	15.43
696	SLU 47	12	-43	2359	-225.15	684.78	14.14
696	SLU 48	12	-54	2413	-230.27	700.89	17.36
696	SLU 49	12	-48	2408	-229.8	699.21	15.59
696	SLU 50	12	-54	2397	-228.77	696.32	17.24
696	SLU 51	12	-48	2392	-228.3	694.64	15.48
696	SLU 52	12	-48	2593	-247.46	752.99	15.49
696	SLU 53	12	-58	2647	-252.58	769.09	18.71
696	SLU 54	12	-53	2642	-252.11	767.41	16.94
696	SLU 55	12	-48	2623	-250.3	761.72	15.65
696	SLU 56	12	-59	2677	-255.42	777.83	18.87
696	SLU 57	12	-53	2672	-254.95	776.15	17.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLU 58	12	-59	2661	-253.92	773.26	18.76
696	SLU 59	12	-53	2656	-253.45	771.58	16.99
696	SLU 60	12	-60	2714	-259.02	788.76	19.09
696	SLU 61	12	-54	2709	-258.55	787.08	17.32
696	SLU 62	12	-60	2744	-261.86	797.5	19.25
696	SLU 63	13	-54	2739	-261.39	795.82	17.48
696	SLU 64	13	-58	2638	-251.74	766.21	18.66
696	SLU 65	13	-48	2630	-250.95	763.41	15.71
696	SLU 66	13	-59	2684	-256.07	779.51	18.93
696	SLU 67	13	-53	2679	-255.6	777.83	17.16
696	SLU 68	13	-49	2660	-253.79	772.14	15.87
696	SLU 69	13	-59	2714	-258.91	788.25	19.09
696	SLU 70	13	-54	2708	-258.44	786.57	17.32
696	SLU 71	13	-59	2698	-257.41	783.68	18.98
696	SLU 72	13	-53	2693	-256.94	782	17.21
696	SLU 73	14	-53	2893	-276.1	840.35	17.23
696	SLU 74	14	-64	2947	-281.22	856.45	20.44
696	SLU 75	14	-58	2942	-280.75	854.77	18.68
696	SLU 76	14	-54	2923	-278.93	849.08	17.39
696	SLU 77	14	-64	2977	-284.05	865.19	20.6
696	SLU 78	14	-58	2972	-283.58	863.51	18.84
696	SLU 79	14	-64	2961	-282.56	860.62	20.49
696	SLU 80	14	-58	2956	-282.09	858.94	18.73
696	SLU 81	14	-65	3015	-287.66	876.12	20.82
696	SLU 82	14	-59	3010	-287.19	874.44	19.05
696	SLU 83	14	-66	3045	-290.49	884.86	20.98
696	SLU 84	14	-60	3039	-290.02	883.18	19.21
696	SLE RA 1	10	-44	1963	-187.35	570.19	13.97
696	SLE RA 2	10	-37	1958	-186.83	568.32	12.01
696	SLE RA 3	10	-44	1994	-190.24	579.06	14.15
696	SLE RA 4	10	-40	1990	-189.93	577.94	12.97
696	SLE RA 5	10	-37	1978	-188.72	574.15	12.11
696	SLE RA 6	10	-44	2014	-192.13	584.88	14.26
696	SLE RA 7	10	-40	2010	-191.82	583.76	13.08
696	SLE RA 8	10	-44	2003	-191.13	581.84	14.18
696	SLE RA 9	10	-40	2000	-190.82	580.72	13.01
696	SLE RA 10	10	-40	2133	-203.59	619.62	13.02
696	SLE RA 11	10	-47	2169	-207	630.35	15.16
696	SLE RA 12	10	-43	2166	-206.69	629.23	13.98
696	SLE RA 13	10	-41	2153	-205.48	625.44	13.12
696	SLE RA 14	10	-48	2189	-208.89	636.18	15.27
696	SLE RA 15	10	-44	2186	-208.58	635.06	14.09
696	SLE RA 16	10	-47	2179	-207.9	633.13	15.19
696	SLE RA 17	10	-44	2175	-207.58	632.01	14.02
696	SLE RA 18	10	-48	2214	-211.3	643.47	15.41
696	SLE RA 19	10	-44	2211	-210.98	642.35	14.24
696	SLE RA 20	10	-49	2234	-213.19	649.29	15.52
696	SLE RA 21	10	-45	2231	-212.87	648.17	14.34
696	SLE FR 1	10	-44	1963	-187.35	570.19	13.97
696	SLE FR 2	10	-42	1962	-187.24	569.82	13.58
696	SLE FR 3	10	-44	1971	-188.11	572.52	14.01
696	SLE FR 4	10	-44	2038	-194.43	591.8	14.01
696	SLE FR 5	10	-45	2047	-195.29	594.5	14.45
696	SLE FR 6	10	-46	2089	-199.32	606.83	14.69
696	SLE QP 1	10	-44	1963	-187.35	570.19	13.97
696	SLE QP 2	10	-45	2039	-194.53	592.17	14.4
696	SLD 1	171	22	2074	-198.04	610.08	9.96
696	SLD 2	173	24	2073	-197.95	609.81	9.43
696	SLD 3	169	-93	2182	-207.91	645.07	44.26
696	SLD 4	171	-91	2181	-207.82	644.8	43.73
696	SLD 5	61	148	1886	-180.62	544.53	-38.85
696	SLD 6	62	150	1886	-180.56	544.35	-39.2
696	SLD 7	54	-233	2245	-213.54	661.16	75.47
696	SLD 8	55	-232	2244	-213.48	660.98	75.12
696	SLD 9	-36	142	1833	-175.59	523.37	-46.31
696	SLD 10	-35	144	1832	-175.53	523.19	-46.67
696	SLD 11	-42	-240	2192	-208.5	640	68.01
696	SLD 12	-41	-238	2191	-208.44	639.82	67.66
696	SLD 13	-151	1	1897	-181.25	539.55	-14.92
696	SLD 14	-150	3	1895	-181.15	539.28	-15.45
696	SLD 15	-153	-114	2004	-191.12	574.53	19.38
696	SLD 16	-152	-111	2003	-191.03	574.26	18.84
696	SLV 1	263	62	2091	-199.75	619.21	6.64
696	SLV 2	265	66	2090	-199.6	618.79	5.8
696	SLV 3	259	-123	2265	-215.7	675.74	62.07
696	SLV 4	262	-119	2264	-215.56	675.32	61.23
696	SLV 5	90	267	1791	-171.93	514.62	-71.84
696	SLV 6	92	270	1790	-171.83	514.34	-72.4
696	SLV 7	79	-350	2371	-225.11	703.06	112.93
696	SLV 8	81	-347	2369	-225.01	702.78	112.36
696	SLV 9	-61	257	1708	-164.05	481.57	-83.56
696	SLV 10	-60	260	1707	-163.96	481.29	-84.12
696	SLV 11	-72	-360	2287	-217.24	670.01	101.21
696	SLV 12	-70	-357	2286	-217.14	669.73	100.64
696	SLV 13	-242	29	1814	-173.51	509.03	-32.42
696	SLV 14	-240	33	1812	-173.36	508.61	-33.26
696	SLV 15	-245	-156	1987	-189.46	565.56	23.01
696	SLV 16	-243	-152	1986	-189.32	565.14	22.17
696	SLV FO 1	288	73	2097	-200.27	621.91	5.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
696	SLV FO 2	290	77	2095	-200.11	621.45	4.94
696	SLV FO 3	284	-131	2288	-217.82	684.1	66.83
696	SLV FO 4	287	-127	2286	-217.66	683.63	65.91
696	SLV FO 5	98	299	1766	-169.66	506.87	-80.46
696	SLV FO 6	100	301	1765	-169.56	506.56	-81.08
696	SLV FO 7	86	-380	2404	-228.17	714.15	122.78
696	SLV FO 8	88	-378	2402	-228.06	713.84	122.16
696	SLV FO 9	-68	288	1675	-161	470.51	-93.35
696	SLV FO 10	-67	290	1674	-160.9	470.2	-93.97
696	SLV FO 11	-80	-391	2312	-219.51	677.79	109.89
696	SLV FO 12	-78	-388	2311	-219.4	677.48	109.27
696	SLV FO 13	-267	37	1791	-171.4	500.71	-37.1
696	SLV FO 14	-265	41	1789	-171.25	500.25	-38.03
696	SLV FO 15	-271	-167	1982	-188.96	562.9	23.87
696	SLV FO 16	-268	-163	1981	-188.8	562.44	22.95
696	CRTFP Ux+	0	0	0	0	0	0
696	CRTFP Ux-	0	0	0	0	0	0
696	CRTFP Uy+	0	0	0	0	0	0
696	CRTFP Uy-	0	0	0	0	0	0
703	SLU 1	94	367	15482	3855.98	5190.01	-134.7
703	SLU 2	96	451	15450	3850.56	5179.48	-164.53
703	SLU 3	96	372	15837	3942.89	5308.43	-136.73
703	SLU 4	97	423	15818	3939.63	5302.11	-154.63
703	SLU 5	97	453	15680	3906.74	5256	-165.22
703	SLU 6	97	374	16067	3999.07	5384.96	-137.42
703	SLU 7	98	424	16048	3995.82	5378.64	-155.32
703	SLU 8	97	370	15941	3968.35	5343.07	-136.08
703	SLU 9	97	421	15922	3965.09	5336.75	-153.98
703	SLU 10	100	485	17568	4377.67	5889.23	-175.35
703	SLU 11	101	406	17955	4470	6018.19	-147.55
703	SLU 12	102	457	17936	4466.75	6011.87	-165.45
703	SLU 13	102	487	17798	4433.86	5965.76	-176.04
703	SLU 14	102	408	18185	4526.18	6094.72	-148.24
703	SLU 15	103	458	18166	4522.93	6088.39	-166.14
703	SLU 16	102	404	18059	4495.46	6052.82	-146.9
703	SLU 17	102	455	18041	4492.21	6046.5	-164.8
703	SLU 18	101	415	18508	4609	6203.95	-150.16
703	SLU 19	102	466	18489	4605.75	6197.63	-168.06
703	SLU 20	103	417	18737	4665.18	6280.48	-150.85
703	SLU 21	103	467	18718	4661.93	6274.15	-168.75
703	SLU 22	107	411	17926	4463.86	6006.03	-150.75
703	SLU 23	108	496	17894	4458.44	5995.5	-180.58
703	SLU 24	109	416	18281	4550.77	6124.45	-152.77
703	SLU 25	110	467	18262	4547.52	6118.13	-170.67
703	SLU 26	109	497	18124	4514.62	6072.02	-181.27
703	SLU 27	110	418	18511	4606.95	6200.98	-153.47
703	SLU 28	111	469	18492	4603.7	6194.66	-171.36
703	SLU 29	109	414	18385	4576.23	6159.09	-152.13
703	SLU 30	110	465	18366	4572.98	6152.76	-170.03
703	SLU 31	113	530	20012	4985.55	6705.25	-191.4
703	SLU 32	114	450	20399	5077.88	6834.21	-163.6
703	SLU 33	115	501	20380	5074.63	6827.89	-181.5
703	SLU 34	114	531	20242	5041.74	6781.78	-192.09
703	SLU 35	115	452	20629	5134.06	6910.74	-164.29
703	SLU 36	116	503	20610	5130.81	6904.41	-182.19
703	SLU 37	114	448	20503	5103.34	6868.84	-162.95
703	SLU 38	115	499	20485	5100.09	6862.52	-180.85
703	SLU 39	114	460	20952	5216.88	7019.97	-166.21
703	SLU 40	115	510	20933	5213.63	7013.65	-184.1
703	SLU 41	115	461	21181	5273.06	7096.5	-166.9
703	SLU 42	116	512	21163	5269.81	7090.17	-184.79
703	SLU 43	118	461	19288	4804.36	6467.24	-169.61
703	SLU 44	120	546	19257	4798.94	6456.7	-199.44
703	SLU 45	120	467	19644	4891.26	6585.66	-171.64
703	SLU 46	121	517	19625	4888.01	6579.34	-189.54
703	SLU 47	121	548	19487	4855.12	6533.23	-200.13
703	SLU 48	121	468	19873	4947.45	6662.19	-172.33
703	SLU 49	122	519	19855	4944.2	6655.87	-190.23
703	SLU 50	121	465	19748	4916.72	6620.29	-170.99
703	SLU 51	121	515	19729	4913.47	6613.97	-188.89
703	SLU 52	124	580	21375	5326.05	7166.46	-210.26
703	SLU 53	125	501	21762	5418.38	7295.42	-182.46
703	SLU 54	126	551	21743	5415.12	7289.09	-200.36
703	SLU 55	126	581	21605	5382.23	7242.98	-210.95
703	SLU 56	126	502	21992	5474.56	7371.94	-183.15
703	SLU 57	127	553	21973	5471.31	7365.62	-201.05
703	SLU 58	126	499	21866	5443.84	7330.05	-181.81
703	SLU 59	126	549	21847	5440.59	7323.73	-199.71
703	SLU 60	125	510	22314	5557.37	7481.18	-185.07
703	SLU 61	126	561	22295	5554.12	7474.85	-202.97
703	SLU 62	127	511	22544	5613.56	7557.7	-185.76
703	SLU 63	127	562	22525	5610.31	7551.38	-203.66
703	SLU 64	131	506	21732	5412.24	7283.26	-185.65
703	SLU 65	132	590	21701	5406.82	7272.72	-215.48
703	SLU 66	133	511	22088	5499.15	7401.68	-187.68
703	SLU 67	134	562	22069	5495.89	7395.36	-205.58
703	SLU 68	133	592	21931	5463	7349.25	-216.17
703	SLU 69	134	513	22317	5555.33	7478.21	-188.37
703	SLU 70	135	564	22299	5552.08	7471.88	-206.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
703	SLU 71	133	509	22192	5524.61	7436.31	-187.04
703	SLU 72	134	560	22173	5521.35	7429.99	-204.93
703	SLU 73	137	624	23819	5933.93	7982.48	-226.31
703	SLU 74	138	545	24206	6026.26	8111.43	-198.51
703	SLU 75	139	596	24187	6023.01	8105.11	-216.4
703	SLU 76	138	626	24049	5990.11	8059	-227
703	SLU 77	139	547	24436	6082.44	8187.96	-199.2
703	SLU 78	140	598	24417	6079.19	8181.64	-217.09
703	SLU 79	138	543	24310	6051.72	8146.07	-197.86
703	SLU 80	139	594	24291	6048.47	8139.75	-215.76
703	SLU 81	138	554	24758	6165.26	8297.19	-201.11
703	SLU 82	139	605	24739	6162	8290.87	-219.01
703	SLU 83	139	556	24988	6221.44	8373.72	-201.81
703	SLU 84	140	607	24969	6218.19	8367.4	-219.7
703	SLE RA 1	98	379	16180	4029.66	5423.16	-139.28
703	SLE RA 2	99	436	16159	4026.05	5416.14	-159.17
703	SLE RA 3	99	383	16417	4087.6	5502.11	-140.64
703	SLE RA 4	100	417	16404	4085.43	5497.89	-152.57
703	SLE RA 5	99	437	16312	4063.5	5467.16	-159.63
703	SLE RA 6	100	384	16570	4125.05	5553.13	-141.1
703	SLE RA 7	101	418	16557	4122.89	5548.91	-153.03
703	SLE RA 8	99	382	16486	4104.57	5525.2	-140.21
703	SLE RA 9	100	415	16474	4102.4	5520.98	-152.14
703	SLE RA 10	102	458	17571	4377.45	5889.31	-166.39
703	SLE RA 11	103	405	17829	4439.01	5975.28	-147.85
703	SLE RA 12	103	439	17816	4436.84	5971.06	-159.78
703	SLE RA 13	103	459	17724	4414.91	5940.32	-166.85
703	SLE RA 14	103	407	17982	4476.46	6026.3	-148.31
703	SLE RA 15	104	440	17970	4474.29	6022.08	-160.24
703	SLE RA 16	103	404	17898	4455.98	5998.37	-147.42
703	SLE RA 17	103	438	17886	4453.81	5994.15	-159.35
703	SLE RA 18	103	412	18197	4531.67	6099.12	-149.59
703	SLE RA 19	103	445	18185	4529.5	6094.9	-161.52
703	SLE RA 20	103	413	18350	4569.13	6150.14	-150.05
703	SLE RA 21	104	447	18338	4566.96	6145.92	-161.98
703	SLE FR 1	98	379	16180	4029.66	5423.16	-139.28
703	SLE FR 2	98	391	16176	4028.94	5421.76	-143.26
703	SLE FR 3	98	380	16241	4044.64	5443.57	-139.47
703	SLE FR 4	99	400	16781	4179.54	5624.54	-146.35
703	SLE FR 5	100	389	16846	4195.25	5646.36	-142.56
703	SLE FR 6	100	395	17189	4280.67	5761.14	-144.44
703	SLE QP 1	98	379	16180	4029.66	5423.16	-139.28
703	SLE QP 2	99	389	16785	4180.26	5625.95	-142.38
703	SLD 1	1669	770	16034	3963.62	5430.91	-704.33
703	SLD 2	1665	856	16042	3968.42	5433.69	-727.11
703	SLD 3	1646	-214	16470	4044.04	5575.95	-355.59
703	SLD 4	1643	-128	16478	4048.84	5578.72	-378.36
703	SLD 5	604	1981	15897	3992.43	5346.96	-835.79
703	SLD 6	602	2038	15903	3995.6	5348.8	-850.83
703	SLD 7	530	-1300	17350	4260.51	5830.42	326.69
703	SLD 8	528	-1243	17356	4263.68	5832.26	311.66
703	SLD 9	-329	2021	16214	4096.85	5419.64	-596.41
703	SLD 10	-332	2078	16220	4100.02	5421.48	-611.45
703	SLD 11	-403	-1260	17668	4364.93	5903.1	566.08
703	SLD 12	-406	-1203	17673	4368.1	5904.94	551.04
703	SLD 13	-1444	906	17092	4311.68	5673.18	93.61
703	SLD 14	-1448	992	17101	4316.48	5675.95	70.83
703	SLD 15	-1466	-78	17528	4392.11	5818.21	442.35
703	SLD 16	-1470	8	17537	4396.91	5820.99	419.58
703	SLV 1	2557	1010	15600	3839.94	5317.56	-1031.06
703	SLV 2	2551	1145	15614	3847.46	5321.91	-1066.75
703	SLV 3	2521	-581	16305	3970.12	5552.04	-467.36
703	SLV 4	2515	-445	16319	3977.64	5556.39	-503.04
703	SLV 5	892	2963	15358	3879.32	5177	-1257.27
703	SLV 6	889	3054	15367	3884.38	5179.93	-1281.3
703	SLV 7	772	-2340	17708	4313.26	5958.59	621.74
703	SLV 8	768	-2249	17717	4318.32	5961.52	597.71
703	SLV 9	-570	3027	15853	4042.21	5290.38	-882.47
703	SLV 10	-573	3118	15862	4047.27	5293.31	-906.49
703	SLV 11	-690	-2276	18203	4476.14	6071.97	996.54
703	SLV 12	-694	-2185	18212	4481.2	6074.9	972.52
703	SLV 13	-2317	1223	17252	4382.89	5695.51	218.29
703	SLV 14	-2322	1359	17265	4390.41	5699.86	182.61
703	SLV 15	-2353	-367	17957	4513.07	5929.99	781.99
703	SLV 16	-2358	-232	17970	4520.59	5934.34	746.31
703	SLV FO 1	2803	1072	15482	3805.91	5286.72	-1119.93
703	SLV FO 2	2797	1221	15497	3814.18	5291.51	-1159.18
703	SLV FO 3	2763	-678	16257	3949.1	5544.65	-499.86
703	SLV FO 4	2757	-529	16272	3957.37	5549.43	-539.11
703	SLV FO 5	972	3220	15215	3849.23	5132.1	-1368.76
703	SLV FO 6	968	3320	15225	3854.8	5135.33	-1395.19
703	SLV FO 7	839	-2613	17800	4326.56	5991.85	698.15
703	SLV FO 8	835	-2513	17810	4332.12	5995.07	671.72
703	SLV FO 9	-637	3291	15760	4028.4	5256.83	-956.48
703	SLV FO 10	-641	3391	15770	4033.97	5260.05	-982.9
703	SLV FO 11	-769	-2542	18345	4505.73	6116.57	1110.43
703	SLV FO 12	-773	-2442	18355	4511.3	6119.8	1084.01
703	SLV FO 13	-2558	1307	17298	4403.15	5702.46	254.36
703	SLV FO 14	-2564	1456	17313	4411.42	5707.25	215.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
703	SLV FO 15	-2598	-443	18074	4546.35	5960.39	874.43
703	SLV FO 16	-2604	-294	18089	4554.62	5965.17	835.18
703	CRTFP Ux+	0	0	0	0	0	0
703	CRTFP Ux-	0	0	0	0	0	0
703	CRTFP Uy+	0	0	0	0	0	0
703	CRTFP Uy-	0	0	0	0	0	0
705	SLU 1	38	113	5423	437.89	137.52	-10.47
705	SLU 2	38	140	5409	437.95	137.36	-11.39
705	SLU 3	39	115	5551	447.2	140.57	-10.65
705	SLU 4	39	131	5542	447.24	140.47	-11.2
705	SLU 5	39	141	5492	443.95	139.32	-11.47
705	SLU 6	39	116	5634	453.2	142.54	-10.73
705	SLU 7	40	132	5625	453.23	142.44	-11.29
705	SLU 8	39	115	5589	449.89	141.45	-10.63
705	SLU 9	39	131	5580	449.92	141.35	-11.19
705	SLU 10	40	151	6154	496.79	156.02	-12.18
705	SLU 11	41	126	6296	506.03	159.23	-11.44
705	SLU 12	41	142	6288	506.07	159.14	-12
705	SLU 13	41	152	6237	502.78	157.99	-12.27
705	SLU 14	41	127	6379	512.03	161.2	-11.53
705	SLU 15	42	143	6371	512.07	161.1	-12.08
705	SLU 16	41	126	6334	508.72	160.11	-11.43
705	SLU 17	41	142	6326	508.75	160.01	-11.98
705	SLU 18	41	129	6488	521.94	164.18	-11.6
705	SLU 19	41	145	6479	521.98	164.08	-12.15
705	SLU 20	41	130	6571	527.94	166.15	-11.68
705	SLU 21	41	146	6562	527.97	166.05	-12.24
705	SLU 22	43	128	6288	505.47	158.95	-11.77
705	SLU 23	43	155	6275	505.53	158.78	-12.69
705	SLU 24	44	130	6416	514.77	162	-11.95
705	SLU 25	44	146	6408	514.81	161.9	-12.51
705	SLU 26	44	155	6357	511.52	160.75	-12.78
705	SLU 27	44	130	6499	520.77	163.96	-12.04
705	SLU 28	45	146	6491	520.81	163.86	-12.59
705	SLU 29	44	129	6454	517.46	162.88	-11.94
705	SLU 30	44	145	6446	517.5	162.78	-12.49
705	SLU 31	45	166	7020	564.36	177.45	-13.49
705	SLU 32	46	141	7161	573.61	180.66	-12.75
705	SLU 33	46	157	7153	573.64	180.56	-13.3
705	SLU 34	46	166	7103	570.36	179.41	-13.57
705	SLU 35	47	141	7244	579.6	182.62	-12.83
705	SLU 36	47	157	7236	579.64	182.52	-13.38
705	SLU 37	46	140	7199	576.29	181.54	-12.73
705	SLU 38	46	156	7191	576.33	181.44	-13.28
705	SLU 39	46	144	7353	589.51	185.61	-12.9
705	SLU 40	46	160	7345	589.55	185.51	-13.46
705	SLU 41	46	144	7436	595.51	187.57	-12.99
705	SLU 42	47	160	7428	595.55	187.47	-13.54
705	SLU 43	47	142	6753	546.09	171.43	-13.16
705	SLU 44	48	169	6739	546.15	171.27	-14.08
705	SLU 45	48	144	6881	555.4	174.48	-13.34
705	SLU 46	48	160	6873	555.44	174.39	-13.9
705	SLU 47	48	170	6822	552.15	173.24	-14.17
705	SLU 48	49	145	6964	561.4	176.45	-13.43
705	SLU 49	49	161	6956	561.43	176.35	-13.98
705	SLU 50	49	144	6919	558.09	175.36	-13.33
705	SLU 51	49	160	6911	558.12	175.26	-13.88
705	SLU 52	50	180	7485	604.98	189.93	-14.87
705	SLU 53	50	155	7626	614.23	193.15	-14.14
705	SLU 54	51	171	7618	614.27	193.05	-14.69
705	SLU 55	50	181	7568	610.98	191.9	-14.96
705	SLU 56	51	156	7709	620.23	195.11	-14.22
705	SLU 57	51	172	7701	620.27	195.01	-14.77
705	SLU 58	51	155	7664	616.92	194.02	-14.12
705	SLU 59	51	171	7656	616.95	193.93	-14.67
705	SLU 60	50	158	7818	630.14	198.09	-14.29
705	SLU 61	50	174	7810	630.18	198	-14.85
705	SLU 62	51	159	7901	636.14	200.06	-14.38
705	SLU 63	51	175	7892	636.17	199.96	-14.93
705	SLU 64	53	157	7619	613.67	192.86	-14.46
705	SLU 65	53	184	7605	613.73	192.7	-15.39
705	SLU 66	53	159	7746	622.97	195.91	-14.65
705	SLU 67	54	175	7738	623.01	195.81	-15.2
705	SLU 68	53	184	7688	619.72	194.66	-15.47
705	SLU 69	54	159	7829	628.97	197.87	-14.73
705	SLU 70	54	175	7821	629.01	197.77	-15.28
705	SLU 71	54	158	7784	625.66	196.79	-14.63
705	SLU 72	54	174	7776	625.69	196.69	-15.18
705	SLU 73	55	195	8350	672.56	211.36	-16.18
705	SLU 74	55	170	8492	681.81	214.57	-15.44
705	SLU 75	56	186	8483	681.84	214.47	-15.99
705	SLU 76	55	195	8433	678.56	213.32	-16.26
705	SLU 77	56	170	8574	687.8	216.53	-15.52
705	SLU 78	56	186	8566	687.84	216.44	-16.08
705	SLU 79	56	169	8530	684.49	215.45	-15.42
705	SLU 80	56	185	8521	684.53	215.35	-15.98
705	SLU 81	55	173	8683	697.71	219.52	-15.6
705	SLU 82	56	189	8675	697.75	219.42	-16.15
705	SLU 83	56	173	8766	703.71	221.48	-15.68



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
705	SLU 84	56	189	8758	703.75	221.38	-16.23
705	SLE RA 1	39	118	5670	457.2	143.64	-10.84
705	SLE RA 2	39	135	5661	457.24	143.54	-11.45
705	SLE RA 3	40	119	5755	463.4	145.68	-10.96
705	SLE RA 4	40	129	5750	463.43	145.61	-11.33
705	SLE RA 5	40	136	5716	461.24	144.85	-11.51
705	SLE RA 6	40	119	5811	467.4	146.99	-11.02
705	SLE RA 7	40	130	5805	467.43	146.92	-11.39
705	SLE RA 8	40	118	5781	465.19	146.26	-10.95
705	SLE RA 9	40	129	5775	465.22	146.2	-11.32
705	SLE RA 10	41	143	6158	496.46	155.98	-11.98
705	SLE RA 11	41	126	6252	502.63	158.12	-11.49
705	SLE RA 12	41	137	6247	502.65	158.05	-11.86
705	SLE RA 13	41	143	6213	500.46	157.29	-12.04
705	SLE RA 14	42	127	6308	506.62	159.43	-11.55
705	SLE RA 15	42	137	6302	506.65	159.36	-11.91
705	SLE RA 16	41	126	6278	504.42	158.7	-11.48
705	SLE RA 17	42	136	6272	504.44	158.64	-11.85
705	SLE RA 18	41	128	6380	513.23	161.42	-11.59
705	SLE RA 19	41	139	6375	513.25	161.35	-11.96
705	SLE RA 20	42	128	6435	517.23	162.73	-11.65
705	SLE RA 21	42	139	6430	517.25	162.66	-12.02
705	SLE FR 1	39	118	5670	457.2	143.64	-10.84
705	SLE FR 2	39	121	5668	457.21	143.62	-10.96
705	SLE FR 3	39	118	5692	458.8	144.17	-10.86
705	SLE FR 4	40	124	5881	474.02	148.95	-11.19
705	SLE FR 5	40	121	5905	475.61	149.5	-11.09
705	SLE FR 6	40	123	6025	485.21	152.53	-11.22
705	SLE QP 1	39	118	5670	457.2	143.64	-10.84
705	SLE QP 2	40	121	5883	474.01	148.98	-11.07
705	SLD 1	545	238	5532	438.48	143.02	-74.54
705	SLD 2	546	272	5532	440.94	143.33	-75.08
705	SLD 3	539	-70	5719	442.29	145.6	-63.47
705	SLD 4	539	-36	5719	444.75	145.91	-64
705	SLD 5	201	617	5494	457.13	143.23	-46.81
705	SLD 6	201	640	5494	458.75	143.43	-47.17
705	SLD 7	180	-410	6118	469.83	151.81	-9.89
705	SLD 8	181	-387	6118	471.45	152.02	-10.24
705	SLD 9	-101	629	5649	476.56	145.94	-11.89
705	SLD 10	-101	652	5649	478.19	146.14	-12.24
705	SLD 11	-121	-399	6272	489.27	154.52	25.03
705	SLD 12	-121	-376	6272	490.89	154.72	24.68
705	SLD 13	-460	277	6047	503.27	152.05	41.87
705	SLD 14	-459	312	6047	505.72	152.35	41.34
705	SLD 15	-466	-31	6235	507.08	154.62	52.95
705	SLD 16	-465	4	6234	509.53	154.93	52.41
705	SLV 1	831	312	5330	418.19	139.61	-110.74
705	SLV 2	832	366	5330	422.03	140.09	-111.58
705	SLV 3	821	-186	5633	424.84	143.78	-92.83
705	SLV 4	822	-132	5632	428.69	144.26	-93.67
705	SLV 5	292	924	5259	446.45	139.74	-67.97
705	SLV 6	293	960	5259	449.04	140.06	-68.54
705	SLV 7	259	-737	6267	468.63	153.67	-8.28
705	SLV 8	260	-701	6267	471.22	153.99	-8.84
705	SLV 9	-180	942	5500	476.8	143.96	-13.29
705	SLV 10	-179	979	5500	479.39	144.29	-13.86
705	SLV 11	-213	-719	6508	498.97	157.89	46.41
705	SLV 12	-212	-682	6508	501.56	158.21	45.84
705	SLV 13	-742	374	6134	519.33	153.69	71.54
705	SLV 14	-741	428	6134	523.18	154.17	70.7
705	SLV 15	-752	-125	6436	525.98	157.87	89.45
705	SLV 16	-751	-70	6436	529.83	158.35	88.61
705	SLV FO 1	910	331	5275	412.6	138.67	-120.71
705	SLV FO 2	911	391	5275	416.84	139.2	-121.63
705	SLV FO 3	899	-217	5608	419.92	143.26	-101.01
705	SLV FO 4	900	-157	5607	424.16	143.79	-101.93
705	SLV FO 5	317	1004	5196	443.7	138.82	-73.67
705	SLV FO 6	318	1044	5196	446.55	139.17	-74.29
705	SLV FO 7	281	-823	6305	468.09	154.13	-8
705	SLV FO 8	282	-783	6305	470.94	154.49	-8.62
705	SLV FO 9	-202	1024	5462	477.07	143.46	-13.51
705	SLV FO 10	-201	1064	5461	479.92	143.82	-14.13
705	SLV FO 11	-238	-803	6570	501.47	158.78	52.16
705	SLV FO 12	-238	-762	6570	504.32	159.14	51.53
705	SLV FO 13	-820	399	6159	523.86	154.16	79.8
705	SLV FO 14	-819	458	6159	528.09	154.69	78.88
705	SLV FO 15	-831	-149	6492	531.18	158.76	99.5
705	SLV FO 16	-830	-90	6491	535.41	159.28	98.58
705	CRTFP Ux+	0	0	0	0	0	0
705	CRTFP Ux-	0	0	0	0	0	0
705	CRTFP Uy+	0	0	0	0	0	0
705	CRTFP Uy-	0	0	0	0	0	0
706	SLU 1	39	101	5947	-236.31	-1.35	-3.69
706	SLU 2	39	128	5930	-234.44	-1.32	-3.75
706	SLU 3	40	103	6090	-242.96	-1.42	-3.73
706	SLU 4	40	119	6079	-241.84	-1.41	-3.77
706	SLU 5	40	129	6023	-238.8	-1.38	-3.76
706	SLU 6	41	103	6182	-247.32	-1.47	-3.74
706	SLU 7	41	120	6172	-246.2	-1.46	-3.78



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLU 8	41	102	6133	-245.03	-1.45	-3.7
706	SLU 9	41	119	6122	-243.91	-1.44	-3.74
706	SLU 10	41	139	6750	-268.55	-1.53	-4.06
706	SLU 11	42	113	6909	-277.07	-1.63	-4.04
706	SLU 12	42	129	6899	-275.95	-1.62	-4.08
706	SLU 13	42	139	6842	-272.91	-1.58	-4.07
706	SLU 14	43	113	7002	-281.44	-1.68	-4.05
706	SLU 15	43	130	6992	-280.31	-1.67	-4.09
706	SLU 16	43	112	6952	-279.15	-1.66	-4.01
706	SLU 17	43	129	6942	-278.02	-1.65	-4.05
706	SLU 18	42	115	7118	-285.04	-1.65	-4.13
706	SLU 19	42	132	7108	-283.92	-1.64	-4.17
706	SLU 20	43	116	7211	-289.4	-1.7	-4.14
706	SLU 21	43	133	7201	-288.28	-1.69	-4.18
706	SLU 22	45	114	6903	-276.69	-1.69	-4.09
706	SLU 23	45	142	6886	-274.82	-1.66	-4.15
706	SLU 24	46	116	7045	-283.34	-1.76	-4.13
706	SLU 25	46	132	7035	-282.22	-1.74	-4.17
706	SLU 26	45	142	6978	-279.18	-1.71	-4.16
706	SLU 27	46	116	7138	-287.7	-1.81	-4.14
706	SLU 28	46	133	7128	-286.58	-1.79	-4.17
706	SLU 29	46	115	7088	-285.41	-1.79	-4.1
706	SLU 30	46	132	7078	-284.29	-1.77	-4.14
706	SLU 31	47	152	7706	-308.93	-1.87	-4.46
706	SLU 32	48	126	7865	-317.45	-1.97	-4.44
706	SLU 33	48	143	7855	-316.33	-1.95	-4.48
706	SLU 34	47	153	7798	-313.29	-1.92	-4.47
706	SLU 35	48	127	7958	-321.81	-2.02	-4.45
706	SLU 36	48	143	7947	-320.69	-2	-4.48
706	SLU 37	48	126	7908	-319.53	-2	-4.41
706	SLU 38	48	142	7898	-318.4	-1.98	-4.45
706	SLU 39	47	129	8074	-325.42	-1.99	-4.53
706	SLU 40	48	145	8064	-324.3	-1.97	-4.57
706	SLU 41	48	129	8167	-329.78	-2.04	-4.54
706	SLU 42	48	146	8156	-328.66	-2.02	-4.58
706	SLU 43	49	127	7404	-293.36	-1.64	-4.66
706	SLU 44	49	154	7387	-291.49	-1.62	-4.72
706	SLU 45	50	128	7546	-300.01	-1.71	-4.7
706	SLU 46	50	145	7536	-298.89	-1.7	-4.74
706	SLU 47	50	155	7479	-295.85	-1.67	-4.73
706	SLU 48	51	129	7639	-304.37	-1.76	-4.71
706	SLU 49	51	145	7628	-303.25	-1.75	-4.75
706	SLU 50	50	128	7589	-302.08	-1.74	-4.67
706	SLU 51	51	144	7579	-300.96	-1.73	-4.71
706	SLU 52	51	164	8206	-325.6	-1.82	-5.03
706	SLU 53	52	138	8366	-334.12	-1.92	-5.01
706	SLU 54	52	155	8356	-333	-1.91	-5.05
706	SLU 55	52	165	8299	-329.96	-1.87	-5.04
706	SLU 56	53	139	8459	-338.48	-1.97	-5.02
706	SLU 57	53	156	8448	-337.36	-1.96	-5.06
706	SLU 58	52	138	8409	-336.2	-1.95	-4.98
706	SLU 59	53	155	8398	-335.07	-1.94	-5.02
706	SLU 60	52	141	8575	-342.09	-1.94	-5.1
706	SLU 61	52	158	8565	-340.97	-1.93	-5.14
706	SLU 62	53	142	8667	-346.45	-1.99	-5.11
706	SLU 63	53	158	8657	-345.33	-1.98	-5.15
706	SLU 64	54	140	8360	-333.74	-1.98	-5.06
706	SLU 65	55	167	8342	-331.87	-1.95	-5.12
706	SLU 66	56	142	8502	-340.39	-2.05	-5.1
706	SLU 67	56	158	8492	-339.27	-2.03	-5.14
706	SLU 68	55	168	8435	-336.23	-2	-5.13
706	SLU 69	56	142	8595	-344.75	-2.1	-5.11
706	SLU 70	56	159	8584	-343.63	-2.08	-5.14
706	SLU 71	56	141	8545	-342.46	-2.08	-5.07
706	SLU 72	56	158	8534	-341.34	-2.06	-5.11
706	SLU 73	57	178	9162	-365.98	-2.16	-5.43
706	SLU 74	58	152	9322	-374.5	-2.26	-5.41
706	SLU 75	58	168	9311	-373.38	-2.24	-5.45
706	SLU 76	57	178	9255	-370.34	-2.21	-5.44
706	SLU 77	58	152	9414	-378.86	-2.31	-5.42
706	SLU 78	58	169	9404	-377.74	-2.29	-5.45
706	SLU 79	58	151	9365	-376.57	-2.29	-5.38
706	SLU 80	58	168	9354	-375.45	-2.27	-5.42
706	SLU 81	57	154	9531	-382.47	-2.28	-5.5
706	SLU 82	57	171	9520	-381.35	-2.26	-5.54
706	SLU 83	58	155	9623	-386.83	-2.33	-5.51
706	SLU 84	58	172	9613	-385.71	-2.31	-5.55
706	SLE RA 1	41	105	6220	-247.85	-1.45	-3.8
706	SLE RA 2	41	123	6209	-246.6	-1.43	-3.85
706	SLE RA 3	41	106	6315	-252.28	-1.5	-3.83
706	SLE RA 4	42	117	6308	-251.53	-1.49	-3.86
706	SLE RA 5	41	124	6271	-249.51	-1.46	-3.85
706	SLE RA 6	42	106	6377	-255.19	-1.53	-3.83
706	SLE RA 7	42	117	6370	-254.44	-1.52	-3.86
706	SLE RA 8	42	106	6344	-253.66	-1.52	-3.81
706	SLE RA 9	42	117	6337	-252.92	-1.51	-3.84
706	SLE RA 10	42	130	6755	-269.34	-1.57	-4.05
706	SLE RA 11	43	113	6862	-275.02	-1.64	-4.04
706	SLE RA 12	43	124	6855	-274.28	-1.62	-4.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
706	SLE RA 13	43	130	6817	-272.25	-1.6	-4.06
706	SLE RA 14	43	113	6924	-277.93	-1.67	-4.04
706	SLE RA 15	43	124	6917	-277.18	-1.66	-4.07
706	SLE RA 16	43	112	6890	-276.41	-1.66	-4.02
706	SLE RA 17	43	123	6883	-275.66	-1.64	-4.04
706	SLE RA 18	43	114	7001	-280.34	-1.65	-4.1
706	SLE RA 19	43	125	6994	-279.59	-1.64	-4.12
706	SLE RA 20	43	115	7063	-283.24	-1.68	-4.1
706	SLE RA 21	43	126	7056	-282.49	-1.67	-4.13
706	SLE FR 1	41	105	6220	-247.85	-1.45	-3.8
706	SLE FR 2	41	108	6218	-247.6	-1.45	-3.81
706	SLE FR 3	41	105	6245	-249.01	-1.46	-3.8
706	SLE FR 4	41	111	6452	-257.35	-1.51	-3.9
706	SLE FR 5	41	108	6479	-258.76	-1.52	-3.89
706	SLE FR 6	42	109	6611	-264.09	-1.55	-3.95
706	SLE QP 1	41	105	6220	-247.85	-1.45	-3.8
706	SLE QP 2	41	108	6455	-257.6	-1.51	-3.89
706	SLD 1	572	226	5998	-253.33	0.87	-3.37
706	SLD 2	574	266	5994	-250.39	0.89	-2.75
706	SLD 3	567	-91	6227	-275.98	0.5	-2.13
706	SLD 4	568	-51	6224	-273.04	0.53	-1.5
706	SLD 5	209	616	5970	-222.5	-0.25	-5.74
706	SLD 6	210	642	5968	-220.55	-0.23	-5.33
706	SLD 7	190	-439	6735	-297.99	-1.46	-1.58
706	SLD 8	191	-413	6733	-296.05	-1.45	-1.17
706	SLD 9	-109	628	6176	-219.14	-1.57	-6.61
706	SLD 10	-108	654	6174	-217.2	-1.56	-6.2
706	SLD 11	-127	-427	6942	-294.64	-2.79	-2.45
706	SLD 12	-126	-401	6939	-292.69	-2.77	-2.04
706	SLD 13	-486	266	6685	-242.15	-3.55	-6.28
706	SLD 14	-484	306	6682	-239.21	-3.52	-5.65
706	SLD 15	-491	-51	6915	-264.8	-3.91	-5.03
706	SLD 16	-489	-11	6912	-261.86	-3.89	-4.41
706	SLV 1	872	301	5735	-250.55	2.21	-3.12
706	SLV 2	875	363	5730	-245.94	2.25	-2.14
706	SLV 3	864	-211	6106	-287.23	1.62	-1.11
706	SLV 4	866	-149	6101	-282.62	1.66	-0.13
706	SLV 5	304	930	5677	-200.71	0.49	-6.9
706	SLV 6	305	972	5673	-197.6	0.52	-6.24
706	SLV 7	274	-776	6914	-322.98	-1.47	-0.18
706	SLV 8	276	-734	6911	-319.88	-1.45	0.48
706	SLV 9	-193	949	5999	-195.31	-1.57	-8.26
706	SLV 10	-191	991	5995	-192.21	-1.55	-7.6
706	SLV 11	-223	-757	7236	-317.59	-3.54	-1.54
706	SLV 12	-221	-715	7232	-314.49	-3.51	-0.88
706	SLV 13	-784	364	6808	-232.57	-4.68	-7.65
706	SLV 14	-781	426	6803	-227.96	-4.64	-6.68
706	SLV 15	-793	-148	7179	-269.26	-5.26	-5.64
706	SLV 16	-790	-86	7174	-264.65	-5.23	-4.66
706	SLV FO 1	956	320	5663	-249.84	2.58	-3.04
706	SLV FO 2	958	389	5658	-244.77	2.62	-1.97
706	SLV FO 3	946	-243	6072	-290.19	1.93	-0.83
706	SLV FO 4	949	-174	6066	-285.12	1.97	0.25
706	SLV FO 5	330	1012	5599	-195.02	0.69	-7.2
706	SLV FO 6	332	1059	5595	-191.6	0.72	-6.47
706	SLV FO 7	297	-864	6960	-329.52	-1.47	0.19
706	SLV FO 8	299	-818	6956	-326.11	-1.44	0.91
706	SLV FO 9	-217	1033	5953	-189.09	-1.58	-8.69
706	SLV FO 10	-215	1079	5949	-185.67	-1.55	-7.97
706	SLV FO 11	-249	-843	7314	-323.59	-3.74	-1.31
706	SLV FO 12	-247	-797	7310	-320.18	-3.71	-0.58
706	SLV FO 13	-866	389	6843	-230.07	-4.99	-8.03
706	SLV FO 14	-863	458	6838	-225	-4.95	-6.95
706	SLV FO 15	-876	-174	7252	-270.42	-5.64	-5.81
706	SLV FO 16	-873	-105	7246	-265.35	-5.6	-4.74
706	CRTFP Ux+	0	0	0	0	0	0
706	CRTFP Ux-	0	0	0	0	0	0
706	CRTFP Uy+	0	0	0	0	0	0
706	CRTFP Uy-	0	0	0	0	0	0
707	SLU 1	42	81	5971	-235.2	-0.07	-4.09
707	SLU 2	42	108	5953	-233.35	-0.06	-4.14
707	SLU 3	43	82	6115	-241.8	-0.11	-4.14
707	SLU 4	44	99	6104	-240.69	-0.1	-4.17
707	SLU 5	43	109	6047	-237.68	-0.08	-4.15
707	SLU 6	44	83	6209	-246.13	-0.13	-4.16
707	SLU 7	44	99	6198	-245.02	-0.12	-4.19
707	SLU 8	44	82	6159	-243.86	-0.12	-4.12
707	SLU 9	44	98	6148	-242.75	-0.11	-4.15
707	SLU 10	45	117	6776	-267.27	-0.07	-4.48
707	SLU 11	46	91	6938	-275.73	-0.11	-4.48
707	SLU 12	46	107	6927	-274.62	-0.1	-4.51
707	SLU 13	45	117	6870	-271.6	-0.09	-4.49
707	SLU 14	46	91	7032	-280.06	-0.14	-4.5
707	SLU 15	46	108	7021	-278.95	-0.13	-4.53
707	SLU 16	46	90	6982	-277.78	-0.13	-4.46
707	SLU 17	46	107	6971	-276.67	-0.12	-4.49
707	SLU 18	45	93	7147	-283.66	-0.08	-4.57
707	SLU 19	45	109	7136	-282.55	-0.07	-4.6
707	SLU 20	46	94	7241	-287.99	-0.11	-4.59



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
707	SLU 21	46	110	7230	-286.88	-0.1	-4.62
707	SLU 22	48	92	6934	-275.36	-0.18	-4.55
707	SLU 23	48	119	6916	-273.51	-0.17	-4.6
707	SLU 24	49	93	7078	-281.97	-0.21	-4.6
707	SLU 25	49	110	7067	-280.86	-0.2	-4.63
707	SLU 26	49	120	7010	-277.84	-0.19	-4.61
707	SLU 27	50	94	7172	-286.3	-0.24	-4.61
707	SLU 28	50	110	7161	-285.19	-0.23	-4.64
707	SLU 29	49	93	7122	-284.02	-0.23	-4.58
707	SLU 30	50	110	7111	-282.91	-0.22	-4.61
707	SLU 31	50	128	7739	-307.44	-0.17	-4.94
707	SLU 32	51	102	7901	-315.89	-0.22	-4.94
707	SLU 33	51	118	7891	-314.78	-0.21	-4.97
707	SLU 34	51	128	7833	-311.77	-0.2	-4.95
707	SLU 35	52	102	7995	-320.22	-0.24	-4.95
707	SLU 36	52	119	7984	-319.11	-0.23	-4.99
707	SLU 37	52	102	7945	-317.95	-0.23	-4.92
707	SLU 38	52	118	7934	-316.84	-0.23	-4.95
707	SLU 39	51	104	8110	-323.83	-0.19	-5.03
707	SLU 40	51	120	8099	-322.72	-0.18	-5.06
707	SLU 41	52	105	8204	-328.16	-0.21	-5.05
707	SLU 42	52	121	8193	-327.05	-0.2	-5.08
707	SLU 43	53	101	7432	-291.98	-0.06	-5.16
707	SLU 44	53	129	7414	-290.14	-0.05	-5.21
707	SLU 45	54	103	7576	-298.59	-0.09	-5.21
707	SLU 46	54	119	7565	-297.48	-0.08	-5.24
707	SLU 47	54	129	7508	-294.47	-0.07	-5.22
707	SLU 48	55	103	7670	-302.92	-0.12	-5.23
707	SLU 49	55	120	7659	-301.81	-0.11	-5.26
707	SLU 50	54	103	7620	-300.64	-0.11	-5.19
707	SLU 51	55	119	7609	-299.54	-0.1	-5.22
707	SLU 52	55	137	8237	-324.06	-0.05	-5.55
707	SLU 53	56	111	8399	-332.52	-0.1	-5.55
707	SLU 54	56	128	8389	-331.41	-0.09	-5.58
707	SLU 55	56	138	8331	-328.39	-0.08	-5.56
707	SLU 56	57	112	8493	-336.85	-0.12	-5.57
707	SLU 57	57	128	8482	-335.74	-0.11	-5.6
707	SLU 58	57	111	8443	-334.57	-0.12	-5.53
707	SLU 59	57	127	8432	-333.46	-0.11	-5.56
707	SLU 60	56	113	8608	-340.45	-0.07	-5.64
707	SLU 61	56	130	8597	-339.34	-0.06	-5.67
707	SLU 62	57	114	8702	-344.78	-0.09	-5.66
707	SLU 63	57	130	8691	-343.67	-0.08	-5.69
707	SLU 64	59	112	8395	-332.15	-0.17	-5.62
707	SLU 65	59	140	8377	-330.3	-0.15	-5.67
707	SLU 66	60	114	8539	-338.75	-0.2	-5.67
707	SLU 67	60	130	8528	-337.64	-0.19	-5.7
707	SLU 68	60	140	8471	-334.63	-0.18	-5.68
707	SLU 69	61	114	8633	-343.08	-0.22	-5.68
707	SLU 70	61	131	8622	-341.98	-0.21	-5.71
707	SLU 71	60	114	8583	-340.81	-0.22	-5.65
707	SLU 72	60	130	8572	-339.7	-0.21	-5.68
707	SLU 73	61	148	9200	-364.23	-0.16	-6.01
707	SLU 74	62	122	9362	-372.68	-0.2	-6.01
707	SLU 75	62	139	9352	-371.57	-0.19	-6.04
707	SLU 76	62	149	9294	-368.56	-0.18	-6.02
707	SLU 77	63	123	9456	-377.01	-0.23	-6.02
707	SLU 78	63	139	9445	-375.9	-0.22	-6.05
707	SLU 79	62	122	9406	-374.73	-0.22	-5.99
707	SLU 80	62	138	9395	-373.63	-0.21	-6.02
707	SLU 81	62	124	9571	-380.61	-0.18	-6.1
707	SLU 82	62	141	9560	-379.5	-0.17	-6.13
707	SLU 83	63	125	9665	-384.94	-0.2	-6.12
707	SLU 84	63	141	9654	-383.84	-0.19	-6.15
707	SLE RA 1	44	84	6246	-246.67	-0.11	-4.22
707	SLE RA 2	44	102	6234	-245.44	-0.1	-4.25
707	SLE RA 3	45	85	6342	-251.07	-0.13	-4.25
707	SLE RA 4	45	96	6335	-250.34	-0.12	-4.28
707	SLE RA 5	45	103	6297	-248.33	-0.11	-4.26
707	SLE RA 6	45	85	6405	-253.96	-0.14	-4.26
707	SLE RA 7	45	96	6397	-253.22	-0.14	-4.29
707	SLE RA 8	45	85	6371	-252.44	-0.14	-4.24
707	SLE RA 9	45	96	6364	-251.71	-0.13	-4.26
707	SLE RA 10	45	108	6783	-268.06	-0.1	-4.48
707	SLE RA 11	46	91	6891	-273.69	-0.13	-4.48
707	SLE RA 12	46	102	6884	-272.95	-0.12	-4.5
707	SLE RA 13	46	108	6846	-270.94	-0.12	-4.49
707	SLE RA 14	47	91	6954	-276.58	-0.15	-4.49
707	SLE RA 15	47	102	6946	-275.84	-0.14	-4.51
707	SLE RA 16	46	90	6920	-275.06	-0.14	-4.47
707	SLE RA 17	46	101	6913	-274.32	-0.14	-4.49
707	SLE RA 18	46	92	7030	-278.98	-0.11	-4.54
707	SLE RA 19	46	103	7023	-278.24	-0.1	-4.56
707	SLE RA 20	46	92	7093	-281.87	-0.13	-4.55
707	SLE RA 21	47	103	7086	-281.13	-0.12	-4.57
707	SLE FR 1	44	84	6246	-246.67	-0.11	-4.22
707	SLE FR 2	44	88	6244	-246.42	-0.1	-4.23
707	SLE FR 3	44	84	6271	-247.83	-0.11	-4.22
707	SLE FR 4	45	90	6479	-256.12	-0.1	-4.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
707	SLE FR 5	45	87	6506	-257.52	-0.11	-4.32
707	SLE FR 6	45	88	6638	-262.83	-0.11	-4.38
707	SLE QP 1	44	84	6246	-246.67	-0.11	-4.22
707	SLE QP 2	45	86	6481	-256.36	-0.11	-4.32
707	SLD 1	574	242	5947	-252.18	2.13	-3.75
707	SLD 2	576	285	5943	-249.23	2.16	-3.1
707	SLD 3	569	-69	6186	-274.52	1.94	-2.66
707	SLD 4	571	-26	6181	-271.57	1.97	-2.01
707	SLD 5	212	597	5959	-221.76	0.85	-5.92
707	SLD 6	213	625	5957	-219.82	0.87	-5.49
707	SLD 7	193	-439	6756	-296.22	0.21	-2.28
707	SLD 8	194	-411	6753	-294.27	0.23	-1.85
707	SLD 9	-105	584	6210	-218.46	-0.45	-6.78
707	SLD 10	-104	612	6207	-216.51	-0.43	-6.35
707	SLD 11	-124	-453	7006	-292.91	-1.08	-3.14
707	SLD 12	-122	-424	7003	-290.96	-1.06	-2.72
707	SLD 13	-482	199	6781	-241.16	-2.18	-6.62
707	SLD 14	-480	241	6777	-238.21	-2.16	-5.98
707	SLD 15	-487	-112	7020	-263.5	-2.37	-5.53
707	SLD 16	-485	-70	7016	-260.55	-2.35	-4.89
707	SLV 1	874	339	5641	-249.45	3.39	-3.46
707	SLV 2	877	406	5634	-244.83	3.43	-2.45
707	SLV 3	865	-164	6027	-285.63	3.08	-1.7
707	SLV 4	868	-97	6020	-281.01	3.13	-0.69
707	SLV 5	307	912	5645	-200.28	1.4	-6.93
707	SLV 6	308	957	5640	-197.17	1.43	-6.25
707	SLV 7	277	-764	6932	-320.88	0.38	-1.04
707	SLV 8	279	-718	6927	-317.77	0.4	-0.36
707	SLV 9	-190	891	6035	-194.96	-0.62	-8.27
707	SLV 10	-188	937	6031	-191.85	-0.59	-7.59
707	SLV 11	-219	-784	7322	-315.56	-1.64	-2.39
707	SLV 12	-218	-739	7318	-312.45	-1.61	-1.71
707	SLV 13	-779	270	6942	-231.72	-3.34	-7.94
707	SLV 14	-776	337	6936	-227.1	-3.3	-6.94
707	SLV 15	-788	-233	7328	-267.9	-3.65	-6.18
707	SLV 16	-785	-166	7322	-263.28	-3.6	-5.17
707	SLV FO 1	957	364	5557	-248.76	3.74	-3.38
707	SLV FO 2	960	438	5549	-243.67	3.79	-2.27
707	SLV FO 3	948	-189	5981	-288.56	3.4	-1.43
707	SLV FO 4	951	-115	5974	-283.47	3.45	-0.33
707	SLV FO 5	333	995	5561	-194.67	1.55	-7.19
707	SLV FO 6	335	1044	5556	-191.25	1.58	-6.44
707	SLV FO 7	300	-849	6977	-327.33	0.42	-0.71
707	SLV FO 8	302	-799	6972	-323.91	0.46	0.03
707	SLV FO 9	-213	972	5991	-188.82	-0.67	-8.67
707	SLV FO 10	-211	1022	5986	-185.4	-0.64	-7.92
707	SLV FO 11	-246	-871	7406	-321.48	-1.8	-2.19
707	SLV FO 12	-244	-822	7401	-318.06	-1.77	-1.45
707	SLV FO 13	-862	288	6989	-229.26	-3.66	-8.31
707	SLV FO 14	-859	362	6981	-224.17	-3.62	-7.2
707	SLV FO 15	-871	-265	7413	-269.05	-4	-6.36
707	SLV FO 16	-868	-191	7406	-263.97	-3.95	-5.26
707	CRTFP Ux+	0	0	0	0	0	0
707	CRTFP Ux-	0	0	0	0	0	0
707	CRTFP Uy+	0	0	0	0	0	0
707	CRTFP Uy-	0	0	0	0	0	0
708	SLU 1	45	60	5955	-234.34	1.02	-4.18
708	SLU 2	46	87	5936	-232.52	1.02	-4.21
708	SLU 3	47	61	6099	-240.91	1.03	-4.24
708	SLU 4	47	77	6088	-239.81	1.03	-4.26
708	SLU 5	46	87	6031	-236.82	1.02	-4.23
708	SLU 6	47	61	6193	-245.21	1.02	-4.26
708	SLU 7	48	78	6182	-244.12	1.03	-4.28
708	SLU 8	47	61	6143	-242.95	1.02	-4.22
708	SLU 9	47	77	6132	-241.86	1.02	-4.24
708	SLU 10	48	93	6757	-266.29	1.2	-4.56
708	SLU 11	49	67	6919	-274.69	1.2	-4.58
708	SLU 12	49	84	6908	-273.59	1.2	-4.6
708	SLU 13	49	94	6851	-270.6	1.2	-4.58
708	SLU 14	50	68	7014	-278.99	1.2	-4.6
708	SLU 15	50	84	7003	-277.9	1.2	-4.62
708	SLU 16	49	67	6963	-276.73	1.2	-4.57
708	SLU 17	49	84	6952	-275.63	1.2	-4.58
708	SLU 18	49	69	7127	-282.6	1.27	-4.67
708	SLU 19	49	85	7116	-281.5	1.28	-4.69
708	SLU 20	49	70	7221	-286.9	1.27	-4.69
708	SLU 21	50	86	7210	-285.81	1.27	-4.71
708	SLU 22	51	68	6918	-274.33	1.12	-4.66
708	SLU 23	52	95	6899	-272.51	1.12	-4.69
708	SLU 24	53	69	7062	-280.9	1.12	-4.72
708	SLU 25	53	86	7051	-279.81	1.12	-4.74
708	SLU 26	52	96	6994	-276.81	1.12	-4.71
708	SLU 27	53	70	7156	-285.21	1.12	-4.74
708	SLU 28	54	86	7146	-284.11	1.12	-4.76
708	SLU 29	53	69	7106	-282.94	1.12	-4.7
708	SLU 30	53	86	7095	-281.85	1.12	-4.72
708	SLU 31	54	102	7720	-306.29	1.3	-5.03
708	SLU 32	55	76	7883	-314.68	1.3	-5.06
708	SLU 33	55	92	7872	-313.59	1.3	-5.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
708	SLU 34	55	103	7814	-310.59	1.3	-5.06
708	SLU 35	56	77	7977	-318.99	1.3	-5.08
708	SLU 36	56	93	7966	-317.89	1.3	-5.1
708	SLU 37	55	76	7927	-316.72	1.3	-5.04
708	SLU 38	55	92	7916	-315.63	1.3	-5.06
708	SLU 39	55	78	8090	-322.59	1.37	-5.15
708	SLU 40	55	94	8079	-321.49	1.37	-5.17
708	SLU 41	56	78	8184	-326.9	1.37	-5.17
708	SLU 42	56	95	8173	-325.8	1.37	-5.19
708	SLU 43	57	75	7411	-290.93	1.29	-5.27
708	SLU 44	57	102	7392	-289.11	1.3	-5.3
708	SLU 45	58	76	7555	-297.5	1.3	-5.33
708	SLU 46	58	92	7544	-296.4	1.3	-5.35
708	SLU 47	58	102	7487	-293.41	1.3	-5.32
708	SLU 48	59	76	7649	-301.8	1.3	-5.35
708	SLU 49	59	92	7639	-300.71	1.3	-5.37
708	SLU 50	59	76	7599	-299.54	1.29	-5.31
708	SLU 51	59	92	7588	-298.45	1.29	-5.33
708	SLU 52	59	108	8213	-322.88	1.47	-5.65
708	SLU 53	60	82	8376	-331.28	1.47	-5.67
708	SLU 54	61	99	8365	-330.18	1.48	-5.69
708	SLU 55	60	109	8307	-327.19	1.47	-5.67
708	SLU 56	61	83	8470	-335.58	1.47	-5.69
708	SLU 57	61	99	8459	-334.49	1.48	-5.71
708	SLU 58	61	82	8420	-333.32	1.47	-5.65
708	SLU 59	61	99	8409	-332.23	1.47	-5.67
708	SLU 60	60	84	8583	-339.19	1.55	-5.76
708	SLU 61	60	100	8572	-338.09	1.55	-5.78
708	SLU 62	61	85	8677	-343.49	1.55	-5.78
708	SLU 63	61	101	8666	-342.4	1.55	-5.8
708	SLU 64	63	83	8374	-330.92	1.39	-5.75
708	SLU 65	63	110	8356	-329.1	1.39	-5.78
708	SLU 66	64	84	8518	-337.49	1.4	-5.81
708	SLU 67	64	101	8507	-336.4	1.4	-5.83
708	SLU 68	64	111	8450	-333.4	1.39	-5.8
708	SLU 69	65	85	8613	-341.8	1.4	-5.83
708	SLU 70	65	101	8602	-340.7	1.4	-5.85
708	SLU 71	65	84	8562	-339.53	1.39	-5.79
708	SLU 72	65	100	8551	-338.44	1.39	-5.81
708	SLU 73	66	117	9176	-362.88	1.57	-6.12
708	SLU 74	67	91	9339	-371.27	1.57	-6.15
708	SLU 75	67	107	9328	-370.18	1.57	-6.17
708	SLU 76	66	118	9270	-367.18	1.57	-6.14
708	SLU 77	67	92	9433	-375.58	1.57	-6.17
708	SLU 78	67	108	9422	-374.48	1.57	-6.19
708	SLU 79	67	91	9383	-373.31	1.57	-6.13
708	SLU 80	67	107	9372	-372.22	1.57	-6.15
708	SLU 81	66	93	9546	-379.18	1.65	-6.24
708	SLU 82	66	109	9535	-378.08	1.65	-6.26
708	SLU 83	67	93	9640	-383.49	1.64	-6.26
708	SLU 84	67	110	9629	-382.39	1.65	-6.28
708	SLE RA 1	47	62	6230	-245.77	1.05	-4.32
708	SLE RA 2	47	80	6218	-244.55	1.05	-4.34
708	SLE RA 3	48	63	6326	-250.15	1.05	-4.36
708	SLE RA 4	48	74	6319	-249.42	1.05	-4.37
708	SLE RA 5	48	81	6280	-247.42	1.05	-4.35
708	SLE RA 6	48	63	6389	-253.02	1.05	-4.37
708	SLE RA 7	49	74	6382	-252.29	1.05	-4.38
708	SLE RA 8	48	63	6355	-251.51	1.05	-4.34
708	SLE RA 9	48	74	6348	-250.78	1.05	-4.36
708	SLE RA 10	49	85	6765	-267.07	1.17	-4.57
708	SLE RA 11	49	67	6873	-272.67	1.17	-4.59
708	SLE RA 12	50	78	6866	-271.94	1.17	-4.6
708	SLE RA 13	49	85	6827	-269.94	1.17	-4.58
708	SLE RA 14	50	68	6936	-275.54	1.17	-4.6
708	SLE RA 15	50	79	6929	-274.81	1.17	-4.61
708	SLE RA 16	50	67	6902	-274.03	1.17	-4.57
708	SLE RA 17	50	78	6895	-273.3	1.17	-4.59
708	SLE RA 18	49	68	7011	-277.94	1.22	-4.64
708	SLE RA 19	49	79	7004	-277.21	1.22	-4.66
708	SLE RA 20	50	69	7074	-280.81	1.22	-4.66
708	SLE RA 21	50	80	7067	-280.08	1.22	-4.67
708	SLE FR 1	47	62	6230	-245.77	1.05	-4.32
708	SLE FR 2	47	66	6227	-245.52	1.05	-4.32
708	SLE FR 3	47	62	6255	-246.92	1.05	-4.32
708	SLE FR 4	48	68	6462	-255.17	1.1	-4.42
708	SLE FR 5	48	64	6489	-256.57	1.1	-4.42
708	SLE FR 6	48	65	6620	-261.85	1.13	-4.48
708	SLE QP 1	47	62	6230	-245.77	1.05	-4.32
708	SLE QP 2	48	64	6464	-255.42	1.1	-4.41
708	SLD 1	577	220	5861	-251.31	2.97	-3.83
708	SLD 2	578	266	5855	-248.34	3	-3.14
708	SLD 3	571	-86	6103	-273.36	2.93	-2.95
708	SLD 4	573	-40	6098	-270.4	2.96	-2.26
708	SLD 5	214	567	5917	-221.27	1.72	-5.69
708	SLD 6	216	598	5913	-219.31	1.74	-5.24
708	SLD 7	196	-454	6724	-294.78	1.58	-2.77
708	SLD 8	197	-424	6721	-292.83	1.6	-2.32
708	SLD 9	-102	552	6208	-218.01	0.6	-6.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
708	SLD 10	-101	582	6204	-216.05	0.62	-6.06
708	SLD 11	-120	-469	7015	-291.52	0.46	-3.59
708	SLD 12	-119	-439	7012	-289.57	0.48	-3.14
708	SLD 13	-477	168	6831	-240.44	-0.76	-6.57
708	SLD 14	-475	214	6825	-237.48	-0.73	-5.88
708	SLD 15	-483	-138	7073	-262.49	-0.8	-5.69
708	SLD 16	-481	-92	7068	-259.53	-0.77	-5
708	SLV 1	876	316	5516	-248.63	4.02	-3.53
708	SLV 2	879	388	5508	-243.99	4.06	-2.45
708	SLV 3	867	-179	5908	-284.35	3.95	-2.11
708	SLV 4	870	-107	5899	-279.71	3.99	-1.03
708	SLV 5	309	877	5587	-200.06	2.08	-6.5
708	SLV 6	311	926	5582	-196.94	2.11	-5.77
708	SLV 7	279	-774	6893	-319.15	1.84	-1.77
708	SLV 8	281	-725	6887	-316.03	1.87	-1.05
708	SLV 9	-186	853	6041	-194.81	0.33	-7.78
708	SLV 10	-184	902	6036	-191.69	0.36	-7.05
708	SLV 11	-216	-798	7346	-313.9	0.09	-3.06
708	SLV 12	-214	-749	7341	-310.78	0.12	-2.33
708	SLV 13	-774	235	7029	-231.12	-1.79	-7.8
708	SLV 14	-771	307	7021	-226.48	-1.75	-6.72
708	SLV 15	-783	-260	7420	-266.85	-1.86	-6.38
708	SLV 16	-780	-188	7412	-262.21	-1.82	-5.3
708	SLV FO 1	959	341	5421	-247.95	4.31	-3.44
708	SLV FO 2	962	421	5412	-242.84	4.36	-2.25
708	SLV FO 3	949	-204	5852	-287.25	4.23	-1.88
708	SLV FO 4	952	-124	5843	-282.14	4.28	-0.69
708	SLV FO 5	335	959	5500	-194.52	2.18	-6.71
708	SLV FO 6	337	1012	5494	-191.09	2.21	-5.91
708	SLV FO 7	303	-857	6935	-325.52	1.91	-1.51
708	SLV FO 8	305	-804	6929	-322.09	1.94	-0.71
708	SLV FO 9	-209	932	5999	-188.75	0.26	-8.12
708	SLV FO 10	-207	985	5993	-185.31	0.29	-7.32
708	SLV FO 11	-242	-884	7435	-319.75	-0.01	-2.92
708	SLV FO 12	-240	-831	7429	-316.31	0.02	-2.12
708	SLV FO 13	-856	252	7085	-228.69	-2.08	-8.14
708	SLV FO 14	-853	332	7077	-223.59	-2.03	-6.95
708	SLV FO 15	-866	-293	7516	-267.99	-2.16	-6.58
708	SLV FO 16	-863	-213	7507	-262.89	-2.11	-5.39
708	CRTFP Ux+	0	0	0	0	0	0
708	CRTFP Ux-	0	0	0	0	0	0
708	CRTFP Uy+	0	0	0	0	0	0
708	CRTFP Uy-	0	0	0	0	0	0
709	SLU 1	49	39	5906	-233.74	1.84	-3.97
709	SLU 2	49	66	5888	-231.94	1.82	-3.98
709	SLU 3	50	40	6050	-240.28	1.87	-4.03
709	SLU 4	50	56	6039	-239.2	1.86	-4.04
709	SLU 5	50	66	5982	-236.23	1.84	-4
709	SLU 6	51	40	6144	-244.57	1.88	-4.05
709	SLU 7	51	56	6133	-243.49	1.88	-4.06
709	SLU 8	50	40	6094	-242.31	1.87	-4.01
709	SLU 9	51	56	6083	-241.23	1.86	-4.02
709	SLU 10	52	71	6700	-265.61	2.14	-4.3
709	SLU 11	53	45	6862	-273.95	2.19	-4.35
709	SLU 12	53	61	6851	-272.87	2.18	-4.36
709	SLU 13	52	71	6794	-269.89	2.16	-4.33
709	SLU 14	53	45	6956	-278.24	2.2	-4.38
709	SLU 15	54	61	6945	-277.16	2.2	-4.38
709	SLU 16	53	44	6906	-275.98	2.19	-4.34
709	SLU 17	53	61	6895	-274.9	2.18	-4.35
709	SLU 18	52	46	7066	-281.84	2.29	-4.43
709	SLU 19	53	62	7055	-280.76	2.29	-4.44
709	SLU 20	53	46	7160	-286.13	2.31	-4.46
709	SLU 21	53	62	7149	-285.05	2.3	-4.46
709	SLU 22	55	45	6863	-273.61	2.09	-4.43
709	SLU 23	55	72	6845	-271.81	2.08	-4.44
709	SLU 24	56	46	7007	-280.15	2.12	-4.49
709	SLU 25	57	62	6996	-279.07	2.11	-4.5
709	SLU 26	56	72	6939	-276.09	2.09	-4.47
709	SLU 27	57	46	7101	-284.44	2.13	-4.52
709	SLU 28	57	62	7090	-283.35	2.13	-4.52
709	SLU 29	57	46	7051	-282.18	2.12	-4.48
709	SLU 30	57	62	7040	-281.1	2.11	-4.48
709	SLU 31	58	77	7657	-305.48	2.4	-4.77
709	SLU 32	59	51	7819	-313.82	2.44	-4.82
709	SLU 33	59	67	7808	-312.74	2.43	-4.82
709	SLU 34	59	77	7751	-309.76	2.41	-4.79
709	SLU 35	60	51	7913	-318.11	2.45	-4.84
709	SLU 36	60	67	7902	-317.02	2.45	-4.85
709	SLU 37	59	51	7863	-315.85	2.44	-4.8
709	SLU 38	60	67	7852	-314.77	2.43	-4.81
709	SLU 39	59	52	8023	-321.71	2.54	-4.9
709	SLU 40	59	68	8012	-320.63	2.54	-4.9
709	SLU 41	60	52	8117	-326	2.56	-4.92
709	SLU 42	60	69	8106	-324.91	2.55	-4.93
709	SLU 43	61	48	7350	-290.2	2.3	-5
709	SLU 44	61	75	7332	-288.4	2.29	-5.01
709	SLU 45	63	49	7494	-296.74	2.33	-5.06
709	SLU 46	63	65	7483	-295.66	2.32	-5.07



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLU 47	62	76	7425	-292.68	2.31	-5.03
709	SLU 48	63	49	7587	-301.02	2.35	-5.08
709	SLU 49	64	66	7577	-299.94	2.34	-5.09
709	SLU 50	63	49	7538	-298.77	2.33	-5.05
709	SLU 51	63	65	7527	-297.69	2.33	-5.05
709	SLU 52	64	80	8143	-322.06	2.61	-5.34
709	SLU 53	65	54	8306	-330.41	2.65	-5.39
709	SLU 54	65	70	8295	-329.33	2.64	-5.39
709	SLU 55	65	81	8237	-326.35	2.63	-5.36
709	SLU 56	66	54	8399	-334.69	2.67	-5.41
709	SLU 57	66	71	8389	-333.61	2.66	-5.42
709	SLU 58	65	54	8349	-332.44	2.65	-5.37
709	SLU 59	66	70	8339	-331.36	2.65	-5.38
709	SLU 60	65	55	8510	-338.3	2.76	-5.46
709	SLU 61	65	72	8499	-337.22	2.75	-5.47
709	SLU 62	66	56	8604	-342.58	2.77	-5.49
709	SLU 63	66	72	8593	-341.5	2.77	-5.49
709	SLU 64	68	54	8307	-330.07	2.55	-5.46
709	SLU 65	68	81	8289	-328.26	2.54	-5.47
709	SLU 66	69	55	8451	-336.61	2.58	-5.52
709	SLU 67	69	71	8440	-335.52	2.57	-5.53
709	SLU 68	69	82	8383	-332.55	2.56	-5.5
709	SLU 69	70	56	8545	-340.89	2.6	-5.55
709	SLU 70	70	72	8534	-339.81	2.59	-5.55
709	SLU 71	69	55	8495	-338.64	2.59	-5.51
709	SLU 72	69	71	8484	-337.55	2.58	-5.52
709	SLU 73	70	86	9101	-361.93	2.86	-5.8
709	SLU 74	71	60	9263	-370.28	2.9	-5.85
709	SLU 75	72	76	9252	-369.19	2.89	-5.86
709	SLU 76	71	87	9195	-366.22	2.88	-5.82
709	SLU 77	72	61	9357	-374.56	2.92	-5.87
709	SLU 78	72	77	9346	-373.48	2.91	-5.88
709	SLU 79	72	60	9307	-372.31	2.9	-5.83
709	SLU 80	72	76	9296	-371.22	2.9	-5.84
709	SLU 81	71	62	9467	-378.17	3.01	-5.93
709	SLU 82	71	78	9456	-377.08	3	-5.93
709	SLU 83	72	62	9561	-382.45	3.02	-5.95
709	SLU 84	72	78	9550	-381.37	3.02	-5.96
709	SLE RA 1	51	41	6179	-245.14	1.91	-4.1
709	SLE RA 2	51	59	6167	-243.93	1.9	-4.11
709	SLE RA 3	51	41	6275	-249.5	1.93	-4.14
709	SLE RA 4	52	52	6268	-248.77	1.92	-4.15
709	SLE RA 5	51	59	6230	-246.79	1.91	-4.12
709	SLE RA 6	52	41	6338	-252.35	1.94	-4.16
709	SLE RA 7	52	52	6331	-251.63	1.93	-4.16
709	SLE RA 8	52	41	6305	-250.85	1.93	-4.13
709	SLE RA 9	52	52	6297	-250.13	1.93	-4.14
709	SLE RA 10	52	62	6709	-266.38	2.11	-4.32
709	SLE RA 11	53	44	6817	-271.94	2.14	-4.36
709	SLE RA 12	53	55	6809	-271.22	2.14	-4.36
709	SLE RA 13	53	62	6771	-269.24	2.12	-4.34
709	SLE RA 14	54	45	6879	-274.8	2.15	-4.37
709	SLE RA 15	54	55	6872	-274.08	2.15	-4.38
709	SLE RA 16	53	44	6846	-273.3	2.14	-4.35
709	SLE RA 17	54	55	6839	-272.57	2.14	-4.35
709	SLE RA 18	53	45	6953	-277.2	2.21	-4.41
709	SLE RA 19	53	56	6946	-276.48	2.21	-4.41
709	SLE RA 20	54	46	7015	-280.06	2.22	-4.43
709	SLE RA 21	54	56	7008	-279.34	2.22	-4.43
709	SLE FR 1	51	41	6179	-245.14	1.91	-4.1
709	SLE FR 2	51	44	6177	-244.9	1.91	-4.1
709	SLE FR 3	51	41	6205	-246.28	1.91	-4.11
709	SLE FR 4	51	46	6409	-254.51	2	-4.19
709	SLE FR 5	52	42	6437	-255.9	2	-4.2
709	SLE FR 6	52	43	6566	-261.17	2.06	-4.26
709	SLE QP 1	51	41	6179	-245.14	1.91	-4.1
709	SLE QP 2	51	42	6411	-254.76	2	-4.19
709	SLD 1	579	199	5756	-250.7	3.21	-3.64
709	SLD 2	580	249	5750	-247.73	3.24	-2.88
709	SLD 3	573	-104	5996	-272.51	3.36	-3.01
709	SLD 4	575	-54	5990	-269.53	3.39	-2.25
709	SLD 5	218	540	5852	-221.01	2.13	-5.12
709	SLD 6	219	573	5848	-219.05	2.15	-4.62
709	SLD 7	199	-470	6652	-293.68	2.63	-3.02
709	SLD 8	200	-438	6648	-291.72	2.65	-2.51
709	SLD 9	-98	521	6175	-217.79	1.35	-5.87
709	SLD 10	-96	554	6171	-215.83	1.37	-5.37
709	SLD 11	-116	-489	6975	-290.47	1.85	-3.77
709	SLD 12	-115	-456	6971	-288.5	1.86	-3.26
709	SLD 13	-472	138	6833	-239.98	0.61	-6.14
709	SLD 14	-470	188	6827	-237	0.63	-5.38
709	SLD 15	-478	-165	7073	-261.78	0.76	-5.51
709	SLD 16	-476	-115	7067	-258.81	0.78	-4.75
709	SLV 1	877	296	5382	-248.07	3.89	-3.35
709	SLV 2	880	374	5373	-243.41	3.93	-2.16
709	SLV 3	868	-194	5771	-283.39	4.13	-2.33
709	SLV 4	871	-116	5761	-278.73	4.17	-1.13
709	SLV 5	312	847	5516	-200.05	2.19	-5.72
709	SLV 6	314	899	5509	-196.91	2.22	-4.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
709	SLV 7	282	-787	6810	-317.79	3	-2.3
709	SLV 8	284	-734	6803	-314.65	3.03	-1.5
709	SLV 9	-181	818	6020	-194.86	0.97	-6.89
709	SLV 10	-179	870	6013	-191.72	1	-6.09
709	SLV 11	-211	-815	7314	-312.6	1.78	-3.47
709	SLV 12	-209	-763	7307	-309.46	1.81	-2.67
709	SLV 13	-768	200	7062	-230.78	-0.18	-7.25
709	SLV 14	-765	278	7052	-226.12	-0.14	-6.06
709	SLV 15	-777	-290	7450	-266.1	0.07	-6.23
709	SLV 16	-774	-212	7441	-261.44	0.11	-5.03
709	SLV FO 1	960	321	5279	-247.4	4.08	-3.27
709	SLV FO 2	963	407	5269	-242.27	4.12	-1.96
709	SLV FO 3	950	-218	5706	-286.26	4.35	-2.14
709	SLV FO 4	953	-132	5696	-281.13	4.39	-0.83
709	SLV FO 5	338	927	5426	-194.58	2.21	-5.87
709	SLV FO 6	340	985	5419	-191.13	2.24	-4.99
709	SLV FO 7	305	-869	6850	-324.09	3.1	-2.11
709	SLV FO 8	307	-812	6842	-320.64	3.13	-1.23
709	SLV FO 9	-205	896	5980	-188.87	0.87	-7.16
709	SLV FO 10	-203	953	5973	-185.42	0.9	-6.27
709	SLV FO 11	-238	-901	7404	-318.38	1.76	-3.4
709	SLV FO 12	-236	-843	7397	-314.93	1.79	-2.52
709	SLV FO 13	-850	216	7127	-228.38	-0.39	-7.56
709	SLV FO 14	-847	302	7116	-223.26	-0.35	-6.25
709	SLV FO 15	-860	-323	7554	-267.24	-0.13	-6.43
709	SLV FO 16	-857	-237	7543	-262.11	-0.08	-5.12
709	CRTFP Ux+	0	0	0	0	0	0
709	CRTFP Ux-	0	0	0	0	0	0
709	CRTFP Uy+	0	0	0	0	0	0
709	CRTFP Uy-	0	0	0	0	0	0
710	SLU 1	91	24	9766	-307.38	-1200.69	-4.4
710	SLU 2	92	70	9737	-305.04	-1197.25	1.28
710	SLU 3	94	25	10005	-316.04	-1230.08	-4.44
710	SLU 4	94	53	9988	-314.63	-1228.01	-1.03
710	SLU 5	93	70	9893	-310.7	-1216.46	1.27
710	SLU 6	95	26	10161	-321.7	-1249.28	-4.45
710	SLU 7	96	53	10144	-320.3	-1247.22	-1.04
710	SLU 8	95	25	10078	-318.7	-1239.11	-4.42
710	SLU 9	95	53	10061	-317.3	-1237.04	-1.01
710	SLU 10	97	75	11074	-349.7	-1361.09	1.33
710	SLU 11	99	30	11342	-360.7	-1393.91	-4.39
710	SLU 12	99	58	11324	-359.29	-1391.85	-0.98
710	SLU 13	98	75	11230	-355.36	-1380.3	1.32
710	SLU 14	100	31	11498	-366.36	-1413.12	-4.4
710	SLU 15	101	58	11480	-364.96	-1411.06	-0.99
710	SLU 16	100	30	11415	-363.36	-1402.95	-4.37
710	SLU 17	100	58	11398	-361.96	-1400.88	-0.96
710	SLU 18	98	32	11676	-371.18	-1434.75	-4.33
710	SLU 19	99	59	11658	-369.77	-1432.68	-0.92
710	SLU 20	100	32	11832	-376.84	-1453.96	-4.34
710	SLU 21	100	59	11814	-375.44	-1451.89	-0.93
710	SLU 22	103	30	11352	-360.17	-1395.8	-4.6
710	SLU 23	104	76	11323	-357.83	-1392.36	1.09
710	SLU 24	106	31	11591	-368.84	-1425.18	-4.63
710	SLU 25	106	58	11574	-367.43	-1423.12	-1.22
710	SLU 26	105	76	11479	-363.5	-1411.57	1.08
710	SLU 27	107	31	11747	-374.5	-1444.39	-4.64
710	SLU 28	107	59	11730	-373.09	-1442.33	-1.23
710	SLU 29	106	31	11664	-371.5	-1434.22	-4.61
710	SLU 30	107	58	11647	-370.1	-1432.15	-1.2
710	SLU 31	108	81	12660	-402.5	-1556.2	1.14
710	SLU 32	111	36	12927	-413.5	-1589.02	-4.58
710	SLU 33	111	63	12910	-412.09	-1586.96	-1.17
710	SLU 34	110	81	12816	-408.16	-1575.41	1.13
710	SLU 35	112	36	13083	-419.16	-1608.23	-4.59
710	SLU 36	112	64	13066	-417.76	-1606.16	-1.18
710	SLU 37	111	36	13001	-416.16	-1598.06	-4.56
710	SLU 38	111	63	12983	-414.76	-1595.99	-1.15
710	SLU 39	110	37	13261	-423.98	-1629.86	-4.53
710	SLU 40	110	65	13244	-422.57	-1627.79	-1.11
710	SLU 41	112	38	13417	-429.64	-1649.06	-4.53
710	SLU 42	112	65	13400	-428.24	-1647	-1.12
710	SLU 43	115	30	12153	-381.49	-1494.01	-5.66
710	SLU 44	115	75	12124	-379.15	-1490.57	0.03
710	SLU 45	117	31	12391	-390.15	-1523.39	-5.69
710	SLU 46	118	58	12374	-388.74	-1521.32	-2.28
710	SLU 47	117	76	12280	-384.81	-1509.77	0.02
710	SLU 48	119	31	12547	-395.81	-1542.6	-5.7
710	SLU 49	119	58	12530	-394.41	-1540.53	-2.29
710	SLU 50	118	31	12465	-392.81	-1532.42	-5.68
710	SLU 51	118	58	12447	-391.41	-1530.36	-2.26
710	SLU 52	120	80	13460	-423.81	-1654.4	0.08
710	SLU 53	122	36	13728	-434.81	-1687.23	-5.64
710	SLU 54	122	63	13710	-433.41	-1685.16	-2.23
710	SLU 55	122	81	13616	-429.47	-1673.61	0.07
710	SLU 56	124	36	13884	-440.47	-1706.44	-5.65
710	SLU 57	124	63	13866	-439.07	-1704.37	-2.24
710	SLU 58	123	36	13801	-437.47	-1696.26	-5.63
710	SLU 59	123	63	13784	-436.07	-1694.2	-2.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
710	SLU 60	122	37	14062	-445.29	-1728.06	-5.59
710	SLU 61	122	64	14044	-443.89	-1726	-2.18
710	SLU 62	123	38	14218	-450.95	-1747.27	-5.6
710	SLU 63	124	65	14200	-449.55	-1745.2	-2.18
710	SLU 64	127	36	13738	-434.28	-1689.12	-5.85
710	SLU 65	127	81	13709	-431.94	-1685.67	-0.17
710	SLU 66	129	36	13977	-442.95	-1718.5	-5.89
710	SLU 67	129	64	13960	-441.54	-1716.43	-2.48
710	SLU 68	129	81	13865	-437.61	-1704.88	-0.17
710	SLU 69	131	37	14133	-448.61	-1737.71	-5.9
710	SLU 70	131	64	14116	-447.2	-1735.64	-2.49
710	SLU 71	130	36	14050	-445.61	-1727.53	-5.87
710	SLU 72	130	64	14033	-444.21	-1725.47	-2.46
710	SLU 73	132	86	15046	-476.61	-1849.51	-0.12
710	SLU 74	134	41	15314	-487.61	-1882.34	-5.84
710	SLU 75	134	69	15296	-486.2	-1880.27	-2.43
710	SLU 76	133	87	15202	-482.27	-1868.72	-0.13
710	SLU 77	136	42	15470	-493.27	-1901.54	-5.85
710	SLU 78	136	69	15452	-491.87	-1899.48	-2.44
710	SLU 79	135	41	15387	-490.27	-1891.37	-5.82
710	SLU 80	135	69	15369	-488.87	-1889.3	-2.41
710	SLU 81	134	43	15648	-498.09	-1923.17	-5.78
710	SLU 82	134	70	15630	-496.68	-1921.1	-2.37
710	SLU 83	135	43	15804	-503.75	-1942.38	-5.79
710	SLU 84	135	71	15786	-502.35	-1940.31	-2.38
710	SLE RA 1	95	26	10219	-322.46	-1256.44	-4.46
710	SLE RA 2	95	56	10200	-320.9	-1254.14	-0.67
710	SLE RA 3	96	27	10379	-328.23	-1276.03	-4.48
710	SLE RA 4	97	45	10367	-327.3	-1274.65	-2.21
710	SLE RA 5	96	57	10304	-324.68	-1266.95	-0.67
710	SLE RA 6	98	27	10483	-332.01	-1288.83	-4.49
710	SLE RA 7	98	45	10471	-331.07	-1287.46	-2.21
710	SLE RA 8	97	27	10427	-330.01	-1282.05	-4.47
710	SLE RA 9	97	45	10416	-329.08	-1280.67	-2.2
710	SLE RA 10	98	60	11091	-350.68	-1363.37	-0.63
710	SLE RA 11	100	30	11270	-358.01	-1385.25	-4.45
710	SLE RA 12	100	48	11258	-357.07	-1383.88	-2.18
710	SLE RA 13	99	60	11195	-354.45	-1376.17	-0.64
710	SLE RA 14	101	30	11374	-361.78	-1398.06	-4.46
710	SLE RA 15	101	48	11362	-360.85	-1396.68	-2.18
710	SLE RA 16	100	30	11318	-359.79	-1391.27	-4.44
710	SLE RA 17	100	48	11307	-358.85	-1389.9	-2.16
710	SLE RA 18	100	31	11492	-365	-1412.48	-4.41
710	SLE RA 19	100	49	11481	-364.06	-1411.1	-2.14
710	SLE RA 20	101	31	11596	-368.77	-1425.28	-4.42
710	SLE RA 21	101	49	11585	-367.84	-1423.9	-2.14
710	SLE FR 1	95	26	10219	-322.46	-1256.44	-4.46
710	SLE FR 2	95	32	10216	-322.15	-1255.98	-3.7
710	SLE FR 3	95	26	10261	-323.97	-1261.56	-4.46
710	SLE FR 4	96	34	10597	-334.91	-1302.79	-3.69
710	SLE FR 5	97	28	10643	-336.73	-1308.37	-4.45
710	SLE FR 6	97	29	10856	-343.73	-1334.46	-4.43
710	SLE QP 1	95	26	10219	-322.46	-1256.44	-4.46
710	SLE QP 2	96	28	10601	-335.22	-1303.25	-4.44
710	SLD 1	979	296	9448	-338.62	-1158.7	26.37
710	SLD 2	982	389	9437	-334.12	-1157.31	39.8
710	SLD 3	969	-210	9832	-366.5	-1204.4	-36.18
710	SLD 4	973	-117	9820	-362	-1203.01	-22.75
710	SLD 5	374	859	9676	-294.76	-1190.81	97.24
710	SLD 6	376	920	9668	-291.79	-1189.9	106.11
710	SLD 7	344	-828	10954	-387.71	-1343.17	-111.24
710	SLD 8	346	-767	10947	-384.73	-1342.25	-102.37
710	SLD 9	-153	822	10256	-285.71	-1264.25	93.49
710	SLD 10	-151	883	10248	-282.74	-1263.33	102.35
710	SLD 11	-184	-865	11534	-378.65	-1416.6	-114.99
710	SLD 12	-182	-804	11527	-375.68	-1415.69	-106.12
710	SLD 13	-780	172	11382	-308.44	-1403.49	13.86
710	SLD 14	-777	265	11371	-303.94	-1402.1	27.29
710	SLD 15	-789	-334	11766	-336.32	-1449.19	-48.68
710	SLD 16	-786	-241	11754	-331.82	-1447.81	-35.25
710	SLV 1	1478	461	8792	-339.97	-1076.5	45.42
710	SLV 2	1483	607	8774	-332.92	-1074.33	66.46
710	SLV 3	1463	-357	9412	-385.2	-1150.37	-55.74
710	SLV 4	1468	-212	9394	-378.15	-1148.2	-34.7
710	SLV 5	533	1372	9122	-269.36	-1123.6	160.01
710	SLV 6	536	1470	9110	-264.62	-1122.13	174.18
710	SLV 7	483	-1356	11188	-420.13	-1369.83	-177.18
710	SLV 8	486	-1258	11176	-415.38	-1368.36	-163.02
710	SLV 9	-293	1313	10027	-255.06	-1238.14	154.13
710	SLV 10	-290	1411	10015	-250.31	-1236.67	168.3
710	SLV 11	-344	-1415	12093	-405.83	-1484.37	-183.07
710	SLV 12	-340	-1317	12081	-401.08	-1482.9	-168.9
710	SLV 13	-1276	267	11808	-292.29	-1458.3	25.81
710	SLV 14	-1271	412	11791	-285.24	-1456.13	46.85
710	SLV 15	-1291	-552	12428	-337.52	-1532.17	-75.35
710	SLV 16	-1286	-406	12411	-330.47	-1530	-54.31
710	SLV FO 1	1617	505	8611	-340.45	-1053.83	50.41
710	SLV FO 2	1622	665	8592	-332.69	-1051.44	73.55
710	SLV FO 3	1600	-396	9293	-390.2	-1135.09	-60.87



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
710	SLV FO 4	1605	-235	9274	-382.45	-1132.69	-37.72
710	SLV FO 5	577	1506	8974	-262.78	-1105.63	176.46
710	SLV FO 6	580	1614	8960	-257.56	-1104.02	192.04
710	SLV FO 7	521	-1495	11247	-428.62	-1376.49	-194.46
710	SLV FO 8	525	-1387	11234	-423.4	-1374.88	-178.87
710	SLV FO 9	-332	1442	9969	-247.04	-1231.62	169.99
710	SLV FO 10	-329	1550	9956	-241.82	-1230.01	185.57
710	SLV FO 11	-388	-1559	12242	-412.89	-1502.48	-200.93
710	SLV FO 12	-384	-1451	12229	-407.67	-1500.87	-185.35
710	SLV FO 13	-1413	291	11929	-288	-1473.81	28.83
710	SLV FO 14	-1407	451	11910	-280.24	-1471.41	51.98
710	SLV FO 15	-1429	-610	12611	-337.75	-1555.06	-82.44
710	SLV FO 16	-1424	-450	12592	-329.99	-1552.67	-59.29
710	CRTFP Ux+	0	0	0	0	0	0
710	CRTFP Ux-	0	0	0	0	0	0
710	CRTFP Uy+	0	0	0	0	0	0
710	CRTFP Uy-	0	0	0	0	0	0
711	SLU 1	97	20	7517	1562.04	-429.44	-21.02
711	SLU 2	97	57	7498	1560.33	-428.56	-18.95
711	SLU 3	99	21	7702	1599.45	-440.25	-21.56
711	SLU 4	99	43	7690	1598.43	-439.72	-20.31
711	SLU 5	98	58	7619	1584.84	-435.66	-19.29
711	SLU 6	101	21	7822	1623.96	-447.35	-21.9
711	SLU 7	101	44	7811	1622.94	-446.82	-20.65
711	SLU 8	100	21	7759	1611.06	-443.64	-21.7
711	SLU 9	100	43	7747	1610.03	-443.12	-20.46
711	SLU 10	103	63	8516	1768.42	-486.23	-19.81
711	SLU 11	105	26	8720	1807.54	-497.91	-22.42
711	SLU 12	105	48	8708	1806.51	-497.38	-21.18
711	SLU 13	104	63	8637	1792.93	-493.33	-20.16
711	SLU 14	107	26	8840	1832.05	-505.01	-22.76
711	SLU 15	107	49	8829	1831.02	-504.48	-21.52
711	SLU 16	106	26	8777	1819.14	-501.31	-22.57
711	SLU 17	106	49	8766	1818.12	-500.78	-21.32
711	SLU 18	105	27	8972	1859.31	-511.82	-22.26
711	SLU 19	105	50	8960	1858.28	-511.29	-21.01
711	SLU 20	107	28	9092	1883.81	-518.92	-22.6
711	SLU 21	107	50	9081	1882.79	-518.39	-21.36
711	SLU 22	109	25	8742	1811.68	-500.4	-23.54
711	SLU 23	109	62	8723	1809.97	-499.52	-21.47
711	SLU 24	112	26	8926	1849.09	-511.2	-24.07
711	SLU 25	112	48	8915	1848.07	-510.67	-22.83
711	SLU 26	111	63	8844	1834.48	-506.62	-21.81
711	SLU 27	113	26	9047	1873.6	-518.3	-24.42
711	SLU 28	113	49	9036	1872.58	-517.77	-23.17
711	SLU 29	112	26	8984	1860.7	-514.6	-24.22
711	SLU 30	112	48	8972	1859.67	-514.07	-22.98
711	SLU 31	115	68	9741	2018.06	-557.18	-22.33
711	SLU 32	117	31	9945	2057.18	-568.86	-24.94
711	SLU 33	118	53	9933	2056.15	-568.34	-23.7
711	SLU 34	117	68	9862	2042.57	-564.28	-22.67
711	SLU 35	119	31	10065	2081.69	-575.96	-25.28
711	SLU 36	119	54	10054	2080.66	-575.44	-24.04
711	SLU 37	118	31	10002	2068.78	-572.26	-25.09
711	SLU 38	118	54	9990	2067.76	-571.73	-23.84
711	SLU 39	117	32	10196	2108.95	-582.77	-24.78
711	SLU 40	117	55	10185	2107.92	-582.25	-23.53
711	SLU 41	119	33	10317	2133.46	-589.87	-25.12
711	SLU 42	119	55	10306	2132.43	-589.35	-23.87
711	SLU 43	121	24	9352	1945.06	-533.95	-26.46
711	SLU 44	122	62	9333	1943.35	-533.07	-24.39
711	SLU 45	124	25	9537	1982.47	-544.75	-27
711	SLU 46	124	47	9525	1981.45	-544.23	-25.75
711	SLU 47	123	62	9454	1967.86	-540.17	-24.73
711	SLU 48	126	25	9657	2006.98	-551.85	-27.34
711	SLU 49	126	48	9646	2005.96	-551.33	-26.1
711	SLU 50	125	25	9594	1994.08	-548.15	-27.14
711	SLU 51	125	48	9583	1993.05	-547.62	-25.9
711	SLU 52	127	67	10352	2151.44	-590.74	-25.26
711	SLU 53	130	30	10555	2190.56	-602.42	-27.87
711	SLU 54	130	53	10544	2189.53	-601.89	-26.62
711	SLU 55	129	67	10472	2175.95	-597.84	-25.6
711	SLU 56	132	31	10676	2215.07	-609.52	-28.21
711	SLU 57	132	53	10664	2214.04	-608.99	-26.96
711	SLU 58	131	30	10612	2202.16	-605.82	-28.01
711	SLU 59	131	53	10601	2201.14	-605.29	-26.77
711	SLU 60	130	32	10807	2242.33	-616.33	-27.7
711	SLU 61	130	54	10795	2241.3	-615.8	-26.46
711	SLU 62	131	32	10927	2266.84	-623.43	-28.04
711	SLU 63	132	55	10916	2265.81	-622.9	-26.8
711	SLU 64	134	29	10577	2194.7	-604.9	-28.98
711	SLU 65	134	67	10558	2192.99	-604.02	-26.91
711	SLU 66	136	30	10762	2232.11	-615.71	-29.52
711	SLU 67	136	52	10750	2231.09	-615.18	-28.27
711	SLU 68	135	67	10679	2217.5	-611.12	-27.25
711	SLU 69	138	30	10882	2256.62	-622.81	-29.86
711	SLU 70	138	53	10871	2255.6	-622.28	-28.61
711	SLU 71	137	30	10819	2243.72	-619.1	-29.66
711	SLU 72	137	53	10807	2242.69	-618.58	-28.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
711	SLU 73	140	72	11576	2401.08	-661.69	-27.78
711	SLU 74	142	35	11780	2440.2	-673.37	-30.38
711	SLU 75	142	58	11768	2439.17	-672.84	-29.14
711	SLU 76	141	72	11697	2425.59	-668.79	-28.12
711	SLU 77	144	36	11900	2464.71	-680.47	-30.73
711	SLU 78	144	58	11889	2463.68	-679.94	-29.48
711	SLU 79	143	35	11837	2451.81	-676.77	-30.53
711	SLU 80	143	58	11826	2450.78	-676.24	-29.29
711	SLU 81	142	37	12032	2491.97	-687.28	-30.22
711	SLU 82	142	59	12020	2490.94	-686.75	-28.98
711	SLU 83	144	37	12152	2516.48	-694.38	-30.56
711	SLU 84	144	60	12141	2515.45	-693.85	-29.32
711	SLE RA 1	100	21	7867	1633.36	-449.72	-21.74
711	SLE RA 2	100	46	7855	1632.23	-449.13	-20.36
711	SLE RA 3	102	22	7990	1658.31	-456.92	-22.1
711	SLE RA 4	102	37	7983	1657.62	-456.57	-21.27
711	SLE RA 5	101	47	7935	1648.57	-453.86	-20.58
711	SLE RA 6	103	22	8071	1674.64	-461.65	-22.32
711	SLE RA 7	103	37	8063	1673.96	-461.3	-21.49
711	SLE RA 8	102	22	8028	1666.04	-459.18	-22.19
711	SLE RA 9	102	37	8021	1665.36	-458.83	-21.36
711	SLE RA 10	104	50	8533	1770.95	-487.57	-20.94
711	SLE RA 11	106	25	8669	1797.03	-495.36	-22.67
711	SLE RA 12	106	40	8661	1796.35	-495.01	-21.85
711	SLE RA 13	105	50	8614	1787.29	-492.31	-21.16
711	SLE RA 14	107	26	8749	1813.37	-500.09	-22.9
711	SLE RA 15	107	41	8742	1812.69	-499.74	-22.07
711	SLE RA 16	106	25	8707	1804.77	-497.63	-22.77
711	SLE RA 17	106	40	8699	1804.09	-497.27	-21.94
711	SLE RA 18	106	26	8837	1831.54	-504.63	-22.56
711	SLE RA 19	106	41	8829	1830.86	-504.28	-21.74
711	SLE RA 20	107	27	8917	1847.88	-509.37	-22.79
711	SLE RA 21	107	42	8910	1847.2	-509.02	-21.96
711	SLE FR 1	100	21	7867	1633.36	-449.72	-21.74
711	SLE FR 2	100	26	7865	1633.14	-449.6	-21.46
711	SLE FR 3	101	21	7899	1639.9	-451.61	-21.83
711	SLE FR 4	102	28	8155	1692.59	-466.07	-21.71
711	SLE FR 5	102	23	8190	1699.35	-468.08	-22.08
711	SLE FR 6	103	24	8352	1732.45	-477.18	-22.15
711	SLE QP 1	100	21	7867	1633.36	-449.72	-21.74
711	SLE QP 2	102	23	8158	1692.82	-466.19	-21.98
711	SLD 1	818	237	7228	1462.19	-416.25	-191.31
711	SLD 2	816	328	7226	1466.29	-416.28	-184.01
711	SLD 3	811	-177	7484	1491.23	-428.76	-213.75
711	SLD 4	808	-85	7481	1495.33	-428.78	-206.46
711	SLD 5	328	698	7492	1578.85	-432.24	-40.06
711	SLD 6	326	758	7490	1581.55	-432.26	-35.24
711	SLD 7	304	-681	8344	1675.65	-473.92	-114.87
711	SLD 8	303	-620	8342	1678.35	-473.94	-110.05
711	SLD 9	-99	666	7973	1707.28	-458.44	66.08
711	SLD 10	-100	726	7972	1709.99	-458.46	70.9
711	SLD 11	-123	-713	8826	1804.09	-500.13	-8.73
711	SLD 12	-124	-652	8824	1806.79	-500.15	-3.91
711	SLD 13	-605	131	8835	1890.31	-503.6	162.49
711	SLD 14	-607	222	8832	1894.4	-503.63	169.78
711	SLD 15	-612	-283	9090	1919.35	-516.11	140.04
711	SLD 16	-614	-191	9088	1923.45	-516.13	147.34
711	SLV 1	1223	368	6700	1332.19	-387.87	-286.57
711	SLV 2	1220	512	6696	1338.6	-387.91	-275.14
711	SLV 3	1212	-300	7114	1379.29	-408.09	-322.86
711	SLV 4	1208	-157	7110	1385.7	-408.14	-311.43
711	SLV 5	457	1114	7094	1511.99	-412.02	-48.45
711	SLV 6	454	1211	7092	1516.31	-412.05	-40.75
711	SLV 7	418	-1115	8472	1669	-479.42	-169.43
711	SLV 8	415	-1019	8470	1673.32	-479.45	-161.73
711	SLV 9	-212	1064	7846	1712.32	-452.93	117.76
711	SLV 10	-214	1161	7843	1716.64	-452.96	125.46
711	SLV 11	-250	-1165	9224	1869.32	-520.34	-3.22
711	SLV 12	-253	-1069	9221	1873.64	-520.37	4.48
711	SLV 13	-1004	202	9206	1999.93	-524.25	267.46
711	SLV 14	-1008	346	9202	2006.35	-524.29	278.89
711	SLV 15	-1016	-466	9619	2047.04	-544.47	231.17
711	SLV 16	-1019	-323	9615	2053.45	-544.51	242.6
711	SLV FO 1	1335	403	6555	1296.12	-380.04	-313.02
711	SLV FO 2	1331	561	6550	1303.18	-380.09	-300.45
711	SLV FO 3	1322	-333	7010	1347.93	-402.28	-352.95
711	SLV FO 4	1319	-175	7005	1354.99	-402.33	-340.38
711	SLV FO 5	492	1223	6988	1493.91	-406.6	-51.09
711	SLV FO 6	490	1330	6985	1498.66	-406.63	-42.63
711	SLV FO 7	449	-1229	8504	1666.62	-480.75	-184.17
711	SLV FO 8	447	-1123	8501	1671.37	-480.78	-175.71
711	SLV FO 9	-243	1169	7815	1714.27	-451.6	131.74
711	SLV FO 10	-246	1275	7812	1719.02	-451.64	140.2
711	SLV FO 11	-286	-1284	9331	1886.97	-525.75	-1.34
711	SLV FO 12	-288	-1178	9328	1891.72	-525.78	7.12
711	SLV FO 13	-1115	220	9311	2030.65	-530.05	296.41
711	SLV FO 14	-1119	378	9306	2037.7	-530.1	308.98
711	SLV FO 15	-1128	-515	9766	2082.46	-552.3	256.48
711	SLV FO 16	-1132	-357	9761	2089.51	-552.35	269.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
711	CRTFP Ux+	0	0	0	0	0	0
711	CRTFP Ux-	0	0	0	0	0	0
711	CRTFP Uy+	0	0	0	0	0	0
711	CRTFP Uy-	0	0	0	0	0	0
714	SLU 1	115	-15	12253	-2547.32	3083.39	31.51
714	SLU 2	115	42	12223	-2545.16	3072.12	17.93
714	SLU 3	118	-15	12554	-2608.68	3159.8	32.2
714	SLU 4	118	19	12536	-2607.38	3153.04	24.05
714	SLU 5	117	42	12420	-2585.15	3122.1	18.37
714	SLU 6	120	-15	12750	-2648.67	3209.78	32.64
714	SLU 7	120	19	12732	-2647.37	3203.02	24.49
714	SLU 8	119	-15	12646	-2627.3	3183.35	32.39
714	SLU 9	119	19	12628	-2626	3176.59	24.24
714	SLU 10	121	45	13889	-2890.05	3494.74	18.99
714	SLU 11	124	-12	14220	-2953.57	3582.42	33.26
714	SLU 12	124	22	14202	-2952.27	3575.66	25.12
714	SLU 13	123	45	14086	-2930.04	3544.72	19.43
714	SLU 14	126	-12	14416	-2993.56	3633.4	33.7
714	SLU 15	126	22	14399	-2992.26	3625.64	25.56
714	SLU 16	125	-12	14312	-2972.19	3605.97	33.45
714	SLU 17	125	22	14294	-2970.89	3599.21	25.3
714	SLU 18	123	-10	14633	-3040.02	3687.13	33.03
714	SLU 19	124	24	14615	-3038.72	3680.37	24.88
714	SLU 20	125	-10	14830	-3080.01	3737.11	33.47
714	SLU 21	126	24	14812	-3078.71	3730.35	25.32
714	SLU 22	129	-14	14252	-2958.96	3586.62	34.58
714	SLU 23	130	43	14223	-2956.8	3575.35	21
714	SLU 24	132	-14	14553	-3020.32	3663.03	35.27
714	SLU 25	132	21	14535	-3019.03	3656.27	27.13
714	SLU 26	132	43	14419	-2996.79	3625.33	21.44
714	SLU 27	134	-14	14750	-3060.31	3713.01	35.71
714	SLU 28	135	21	14732	-3059.02	3706.25	27.57
714	SLU 29	133	-14	14646	-3038.94	3686.58	35.46
714	SLU 30	133	21	14628	-3037.65	3679.82	27.32
714	SLU 31	136	47	15889	-3301.69	3997.97	22.07
714	SLU 32	138	-10	16219	-3365.21	4085.65	36.34
714	SLU 33	139	24	16202	-3363.92	4078.89	28.19
714	SLU 34	138	47	16085	-3341.68	4047.95	22.51
714	SLU 35	140	-10	16416	-3405.2	4135.63	36.78
714	SLU 36	141	24	16398	-3403.91	4128.87	28.63
714	SLU 37	139	-10	16312	-3383.83	4109.2	36.53
714	SLU 38	140	24	16294	-3382.54	4102.44	28.38
714	SLU 39	138	-9	16633	-3451.66	4190.36	36.1
714	SLU 40	138	25	16615	-3450.37	4183.6	27.96
714	SLU 41	140	-9	16829	-3491.65	4240.34	36.54
714	SLU 42	140	25	16811	-3490.36	4233.58	28.4
714	SLU 43	144	-20	15243	-3170.38	3835.87	39.91
714	SLU 44	145	37	15213	-3168.22	3824.6	26.33
714	SLU 45	147	-20	15544	-3231.74	3912.29	40.6
714	SLU 46	148	14	15526	-3230.44	3905.52	32.45
714	SLU 47	147	37	15410	-3208.21	3874.58	26.77
714	SLU 48	149	-20	15740	-3271.73	3962.26	41.04
714	SLU 49	150	14	15723	-3270.43	3955.5	32.89
714	SLU 50	148	-20	15636	-3250.36	3935.83	40.79
714	SLU 51	149	14	15618	-3249.06	3929.07	32.64
714	SLU 52	151	40	16879	-3513.11	4247.22	27.39
714	SLU 53	153	-17	17210	-3576.63	4334.9	41.66
714	SLU 54	154	17	17192	-3575.33	4328.14	33.51
714	SLU 55	153	40	17076	-3553.1	4297.2	27.83
714	SLU 56	156	-17	17407	-3616.62	4384.88	42.1
714	SLU 57	156	17	17389	-3615.33	4378.12	33.95
714	SLU 58	154	-17	17302	-3595.25	4358.45	41.85
714	SLU 59	155	17	17285	-3593.95	4351.69	33.7
714	SLU 60	153	-16	17623	-3663.08	4439.61	41.43
714	SLU 61	153	19	17605	-3661.78	4432.85	33.28
714	SLU 62	155	-16	17820	-3703.07	4489.59	41.87
714	SLU 63	155	19	17802	-3701.77	4482.83	33.72
714	SLU 64	159	-19	17243	-3582.02	4339.1	42.98
714	SLU 65	159	38	17213	-3579.86	4327.83	29.4
714	SLU 66	162	-19	17543	-3643.38	4415.52	43.67
714	SLU 67	162	15	17526	-3642.09	4408.75	35.52
714	SLU 68	161	38	17410	-3619.85	4377.81	29.84
714	SLU 69	164	-19	17740	-3683.37	4465.49	44.11
714	SLU 70	164	15	17722	-3682.08	4458.73	35.96
714	SLU 71	163	-19	17636	-3662	4439.06	43.86
714	SLU 72	163	15	17618	-3660.71	4432.3	35.71
714	SLU 73	165	41	18879	-3924.75	4750.45	30.47
714	SLU 74	168	-15	19210	-3988.27	4838.13	44.74
714	SLU 75	168	19	19192	-3986.98	4831.37	36.59
714	SLU 76	167	42	19076	-3964.74	4800.43	30.91
714	SLU 77	170	-15	19406	-4028.26	4888.11	45.18
714	SLU 78	170	19	19388	-4026.97	4881.35	37.03
714	SLU 79	169	-15	19302	-4006.89	4861.68	44.92
714	SLU 80	169	19	19284	-4005.6	4854.92	36.78
714	SLU 81	167	-14	19623	-4074.72	4942.84	44.5
714	SLU 82	168	20	19605	-4073.43	4936.08	36.35
714	SLU 83	169	-14	19819	-4114.71	4992.82	44.94
714	SLU 84	170	20	19802	-4113.42	4986.06	36.79
714	SLE RA 1	119	-15	12824	-2664.93	3227.17	32.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
714	SLE RA 2	119	23	12804	-2663.49	3219.66	23.33
714	SLE RA 3	121	-15	13025	-2705.84	3278.11	32.85
714	SLE RA 4	121	8	13013	-2704.97	3273.61	27.42
714	SLE RA 5	121	23	12935	-2690.15	3252.98	23.63
714	SLE RA 6	122	-15	13156	-2732.5	3311.43	33.14
714	SLE RA 7	122	8	13144	-2731.63	3306.92	27.71
714	SLE RA 8	122	-15	13086	-2718.25	3293.81	32.97
714	SLE RA 9	122	8	13074	-2717.39	3289.3	27.54
714	SLE RA 10	123	25	13915	-2893.42	3501.4	24.04
714	SLE RA 11	125	-13	14135	-2935.76	3559.86	33.56
714	SLE RA 12	125	10	14124	-2934.9	3555.35	28.12
714	SLE RA 13	125	25	14046	-2920.08	3534.72	24.34
714	SLE RA 14	126	-13	14266	-2962.42	3593.18	33.85
714	SLE RA 15	127	10	14255	-2961.56	3588.67	28.42
714	SLE RA 16	126	-13	14197	-2948.18	3575.56	33.68
714	SLE RA 17	126	10	14185	-2947.31	3571.05	28.25
714	SLE RA 18	125	-12	14411	-2993.4	3629.67	33.4
714	SLE RA 19	125	11	14399	-2992.53	3625.16	27.97
714	SLE RA 20	126	-12	14542	-3020.06	3662.98	33.69
714	SLE RA 21	126	11	14530	-3019.19	3658.48	28.26
714	SLE FR 1	119	-15	12824	-2664.93	3227.17	32.39
714	SLE FR 2	119	-7	12820	-2664.64	3225.67	30.58
714	SLE FR 3	119	-15	12876	-2675.59	3240.5	32.5
714	SLE FR 4	121	-6	13296	-2763.18	3346.42	30.88
714	SLE FR 5	121	-14	13352	-2774.13	3361.25	32.81
714	SLE FR 6	122	-13	13617	-2829.16	3428.42	32.89
714	SLE QP 1	119	-15	12824	-2664.93	3227.17	32.39
714	SLE QP 2	121	-14	13300	-2763.47	3347.92	32.69
714	SLD 1	1188	324	11890	-2500.46	2989.6	175.08
714	SLD 2	1197	472	11874	-2500.16	2981.86	148.36
714	SLD 3	1176	-303	12282	-2531.14	3135.97	325.48
714	SLD 4	1186	-156	12266	-2530.84	3128.23	298.76
714	SLD 5	456	1013	12286	-2638.08	3019.82	-147.88
714	SLD 6	463	1110	12275	-2637.88	3014.71	-165.52
714	SLD 7	418	-1079	13592	-2740.37	3507.73	353.44
714	SLD 8	424	-981	13581	-2740.17	3502.62	335.8
714	SLD 9	-183	954	13019	-2786.77	3193.22	-270.42
714	SLD 10	-177	1051	13008	-2786.57	3188.11	-288.06
714	SLD 11	-222	-1138	14325	-2889.06	3681.13	230.9
714	SLD 12	-215	-1040	14315	-2888.86	3676.02	213.26
714	SLD 13	-945	128	14334	-2996.1	3567.61	-233.38
714	SLD 14	-935	276	14318	-2995.79	3559.87	-260.09
714	SLD 15	-956	-499	14726	-3026.78	3713.98	-82.98
714	SLD 16	-946	-352	14710	-3026.48	3706.24	-109.7
714	SLV 1	1792	531	11090	-2352.28	2784.94	251.99
714	SLV 2	1807	763	11064	-2351.81	2772.82	210.13
714	SLV 3	1773	-484	11723	-2401.94	3021.52	495.17
714	SLV 4	1788	-252	11698	-2401.47	3009.4	453.32
714	SLV 5	648	1646	11681	-2564.88	2822.47	-262.54
714	SLV 6	658	1801	11664	-2564.56	2814.31	-290.73
714	SLV 7	585	-1737	13792	-2730.42	3611.08	548.08
714	SLV 8	595	-1581	13775	-2730.1	3602.91	519.9
714	SLV 9	-354	1554	12825	-2796.84	3092.93	-454.52
714	SLV 10	-344	1709	12808	-2796.52	3084.76	-482.7
714	SLV 11	-417	-1829	14936	-2962.38	3881.53	356.11
714	SLV 12	-407	-1673	14919	-2962.06	3873.37	327.93
714	SLV 13	-1547	225	14902	-3125.47	3686.44	-387.94
714	SLV 14	-1532	456	14877	-3125	3674.32	-429.79
714	SLV 15	-1566	-790	15536	-3175.13	3923.03	-144.75
714	SLV 16	-1551	-559	15510	-3174.66	3910.9	-186.61
714	SLV FO 1	1959	586	10869	-2311.16	2728.64	273.92
714	SLV FO 2	1976	840	10841	-2310.64	2715.3	227.87
714	SLV FO 3	1938	-531	11565	-2365.79	2988.88	541.42
714	SLV FO 4	1955	-276	11538	-2365.27	2975.54	495.38
714	SLV FO 5	700	1812	11519	-2545.02	2769.93	-292.07
714	SLV FO 6	712	1983	11500	-2544.67	2760.95	-323.07
714	SLV FO 7	631	-1910	13842	-2727.12	3637.39	599.62
714	SLV FO 8	642	-1738	13823	-2726.77	3628.41	568.62
714	SLV FO 9	-401	1711	12777	-2800.17	3067.43	-503.24
714	SLV FO 10	-390	1882	12758	-2799.82	3058.45	-534.24
714	SLV FO 11	-471	-2011	15100	-2982.27	3934.89	388.45
714	SLV FO 12	-459	-1839	15081	-2981.92	3925.91	357.45
714	SLV FO 13	-1714	248	15062	-3161.67	3720.3	-430
714	SLV FO 14	-1697	503	15035	-3161.15	3706.96	-476.04
714	SLV FO 15	-1735	-868	15759	-3216.3	3980.54	-162.49
714	SLV FO 16	-1718	-613	15731	-3215.78	3967.2	-208.53
714	CRTFP Ux+	0	0	0	0	0	0
714	CRTFP Ux-	0	0	0	0	0	0
714	CRTFP Uy+	0	0	0	0	0	0
714	CRTFP Uy-	0	0	0	0	0	0
715	SLU 1	237	92	18240	2928.28	3234.49	-58.25
715	SLU 2	237	180	18213	2918.87	3226.49	-73.98
715	SLU 3	244	94	18690	3003.03	3314.83	-59.97
715	SLU 4	244	147	18673	2997.39	3310.03	-69.41
715	SLU 5	241	181	18508	2968.23	3279.16	-75.08
715	SLU 6	248	96	18984	3052.4	3367.51	-61.07
715	SLU 7	248	148	18968	3046.75	3362.7	-70.51
715	SLU 8	245	95	18829	3027.01	3339.84	-60.45
715	SLU 9	245	147	18813	3021.36	3335.04	-69.89



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLU 10	252	198	20674	3313.73	3663.77	-80.1
715	SLU 11	258	113	21151	3397.89	3752.12	-66.08
715	SLU 12	258	165	21135	3392.25	3747.31	-75.52
715	SLU 13	256	199	20969	3363.09	3716.45	-81.2
715	SLU 14	263	114	21446	3447.26	3804.79	-67.18
715	SLU 15	263	167	21429	3441.61	3799.99	-76.62
715	SLU 16	260	113	21291	3421.87	3777.13	-66.56
715	SLU 17	260	166	21274	3416.22	3772.32	-76
715	SLU 18	258	118	21756	3492.36	3859.19	-66.98
715	SLU 19	258	171	21740	3486.72	3854.38	-76.42
715	SLU 20	263	119	22051	3541.73	3911.86	-68.08
715	SLU 21	263	172	22034	3536.08	3907.06	-77.52
715	SLU 22	267	108	21229	3413.7	3765.06	-66.99
715	SLU 23	267	196	21202	3404.29	3757.05	-82.72
715	SLU 24	274	110	21679	3488.45	3845.4	-68.71
715	SLU 25	274	163	21663	3482.81	3840.59	-78.15
715	SLU 26	271	197	21497	3453.66	3809.72	-83.82
715	SLU 27	278	112	21974	3537.82	3898.07	-69.81
715	SLU 28	278	164	21958	3532.17	3893.27	-79.25
715	SLU 29	275	111	21819	3512.43	3870.4	-69.19
715	SLU 30	275	163	21803	3506.78	3865.6	-78.63
715	SLU 31	282	214	23663	3799.15	4194.34	-88.84
715	SLU 32	288	129	24140	3883.31	4282.68	-74.82
715	SLU 33	288	181	24124	3877.67	4277.88	-84.26
715	SLU 34	286	215	23958	3848.51	4247.01	-89.94
715	SLU 35	293	130	24435	3932.68	4335.36	-75.92
715	SLU 36	293	183	24419	3927.03	4330.55	-85.36
715	SLU 37	290	129	24280	3907.29	4307.69	-75.31
715	SLU 38	290	182	24264	3901.64	4302.89	-84.75
715	SLU 39	288	134	24745	3977.78	4389.75	-75.72
715	SLU 40	288	187	24729	3972.14	4384.95	-85.16
715	SLU 41	293	135	25040	4027.15	4442.43	-76.83
715	SLU 42	293	188	25024	4021.5	4437.62	-86.27
715	SLU 43	298	114	22687	3640.33	4022.93	-72.72
715	SLU 44	298	202	22660	3630.92	4014.93	-88.46
715	SLU 45	304	117	23137	3715.08	4103.27	-74.44
715	SLU 46	304	169	23120	3709.44	4098.47	-83.88
715	SLU 47	302	203	22954	3680.29	4067.6	-89.56
715	SLU 48	309	118	23431	3764.45	4155.95	-75.54
715	SLU 49	309	171	23415	3758.8	4151.14	-84.98
715	SLU 50	306	117	23276	3739.06	4128.28	-74.93
715	SLU 51	306	170	23260	3733.42	4123.48	-84.37
715	SLU 52	313	220	25121	4025.78	4452.21	-94.57
715	SLU 53	319	135	25598	4109.94	4540.56	-80.56
715	SLU 54	319	187	25582	4104.3	4535.75	-90
715	SLU 55	317	221	25416	4075.15	4504.89	-95.67
715	SLU 56	323	136	25893	4159.31	4593.23	-81.66
715	SLU 57	323	189	25876	4153.66	4588.43	-91.1
715	SLU 58	321	135	25737	4133.92	4565.57	-81.04
715	SLU 59	321	188	25721	4128.28	4560.76	-90.48
715	SLU 60	319	140	26203	4204.41	4647.63	-81.46
715	SLU 61	319	193	26187	4198.77	4642.82	-90.9
715	SLU 62	323	142	26498	4253.78	4700.3	-82.56
715	SLU 63	323	194	26481	4248.14	4695.5	-92
715	SLU 64	328	130	25676	4125.75	4553.5	-81.47
715	SLU 65	328	218	25649	4116.34	4545.49	-97.2
715	SLU 66	334	133	26126	4200.5	4633.84	-83.18
715	SLU 67	334	185	26110	4194.86	4629.03	-92.62
715	SLU 68	332	219	25944	4165.71	4598.16	-98.3
715	SLU 69	339	134	26421	4249.87	4686.51	-84.29
715	SLU 70	339	187	26405	4244.23	4681.71	-93.73
715	SLU 71	336	133	26266	4224.48	4658.84	-83.67
715	SLU 72	336	186	26250	4218.84	4654.04	-93.11
715	SLU 73	343	236	28110	4511.2	4982.78	-103.31
715	SLU 74	349	151	28587	4595.36	5071.12	-89.3
715	SLU 75	349	203	28571	4589.72	5066.32	-98.74
715	SLU 76	347	237	28405	4560.57	5035.45	-104.42
715	SLU 77	353	152	28882	4644.73	5123.8	-90.4
715	SLU 78	353	205	28866	4639.09	5118.99	-99.84
715	SLU 79	351	151	28727	4619.34	5096.13	-89.78
715	SLU 80	351	204	28711	4613.7	5091.33	-99.22
715	SLU 81	349	156	29192	4689.83	5178.19	-90.2
715	SLU 82	349	209	29176	4684.19	5173.39	-99.64
715	SLU 83	353	158	29487	4739.2	5230.87	-91.3
715	SLU 84	353	210	29471	4733.56	5226.06	-100.74
715	SLE RA 1	246	97	19094	3066.97	3386.08	-60.74
715	SLE RA 2	246	155	19076	3060.7	3380.74	-71.23
715	SLE RA 3	250	98	19394	3116.8	3439.64	-61.89
715	SLE RA 4	250	133	19383	3113.04	3436.44	-68.18
715	SLE RA 5	248	156	19272	3093.61	3415.86	-71.97
715	SLE RA 6	253	99	19590	3149.71	3474.76	-62.62
715	SLE RA 7	253	134	19580	3145.95	3471.55	-68.92
715	SLE RA 8	251	99	19487	3132.79	3456.31	-62.21
715	SLE RA 9	251	134	19476	3129.03	3453.11	-68.51
715	SLE RA 10	256	167	20717	3323.94	3672.27	-75.31
715	SLE RA 11	260	110	21035	3380.04	3731.17	-65.97
715	SLE RA 12	260	145	21024	3376.28	3727.96	-72.26
715	SLE RA 13	258	168	20913	3356.85	3707.38	-76.04
715	SLE RA 14	263	111	21231	3412.95	3766.28	-66.7



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
715	SLE RA 15	263	146	21220	3409.19	3763.08	-73
715	SLE RA 16	261	111	21128	3396.03	3747.84	-66.29
715	SLE RA 17	261	146	21117	3392.27	3744.64	-72.58
715	SLE RA 18	260	114	21438	3443.02	3802.55	-66.57
715	SLE RA 19	260	149	21427	3439.26	3799.34	-72.86
715	SLE RA 20	263	115	21634	3475.93	3837.66	-67.3
715	SLE RA 21	263	150	21624	3472.17	3834.46	-73.6
715	SLE FR 1	246	97	19094	3066.97	3386.08	-60.74
715	SLE FR 2	246	108	19090	3065.71	3385.02	-62.84
715	SLE FR 3	247	97	19172	3080.13	3400.13	-61.04
715	SLE FR 4	250	114	19793	3178.53	3509.95	-64.59
715	SLE FR 5	251	102	19876	3192.95	3525.07	-62.79
715	SLE FR 6	253	105	20266	3255	3594.31	-63.66
715	SLE QP 1	246	97	19094	3066.97	3386.08	-60.74
715	SLE QP 2	250	102	19797	3179.78	3511.02	-62.49
715	SLD 1	1866	582	17607	2773.01	3126.13	-405.91
715	SLD 2	1863	851	17608	2772.18	3125.73	-446
715	SLD 3	1850	-383	18007	2907.63	3235.84	-231.61
715	SLD 4	1847	-114	18008	2906.8	3235.44	-271.69
715	SLD 5	759	1661	18533	2853.73	3229.23	-422.66
715	SLD 6	757	1838	18534	2853.18	3228.97	-449.13
715	SLD 7	706	-1555	19867	3302.46	3594.93	158.36
715	SLD 8	704	-1378	19868	3301.91	3594.67	131.89
715	SLD 9	-205	1582	19727	3057.66	3427.37	-256.87
715	SLD 10	-206	1759	19727	3057.11	3427.11	-283.34
715	SLD 11	-258	-1635	21061	3506.39	3793.08	324.15
715	SLD 12	-259	-1457	21061	3505.84	3792.81	297.68
715	SLD 13	-1347	318	21586	3452.77	3786.6	146.71
715	SLD 14	-1350	586	21587	3451.94	3786.2	106.62
715	SLD 15	-1363	-647	21986	3587.39	3896.31	321.02
715	SLD 16	-1366	-379	21987	3586.56	3895.91	280.93
715	SLV 1	2781	879	16368	2541.21	2907.45	-604.77
715	SLV 2	2776	1300	16370	2539.91	2906.83	-667.57
715	SLV 3	2755	-682	17016	2759.07	3084.81	-322.82
715	SLV 4	2750	-261	17017	2757.77	3084.19	-385.62
715	SLV 5	1049	2624	17787	2658.03	3061.07	-641.08
715	SLV 6	1046	2907	17788	2657.16	3060.65	-683.37
715	SLV 7	963	-2579	19944	3384.24	3652.27	298.76
715	SLV 8	960	-2296	19945	3383.36	3651.85	256.48
715	SLV 9	-460	2500	19649	2976.21	3370.19	-381.46
715	SLV 10	-463	2783	19650	2975.33	3369.77	-423.75
715	SLV 11	-546	-2704	21806	3702.41	3961.4	558.38
715	SLV 12	-549	-2420	21807	3701.54	3960.98	516.1
715	SLV 13	-2251	465	22577	3601.8	3937.86	260.64
715	SLV 14	-2255	886	22579	3600.5	3937.23	197.83
715	SLV 15	-2276	-1096	23224	3819.66	4115.22	542.59
715	SLV 16	-2281	-675	23226	3818.36	4114.59	479.79
715	SLV FO 1	3034	957	16026	2477.35	2847.09	-659
715	SLV FO 2	3029	1420	16027	2475.92	2846.41	-728.08
715	SLV FO 3	3006	-760	16737	2717	3042.19	-348.85
715	SLV FO 4	3001	-298	16739	2715.57	3041.5	-417.93
715	SLV FO 5	1129	2876	17586	2605.86	3016.07	-698.94
715	SLV FO 6	1126	3188	17587	2604.89	3015.61	-745.46
715	SLV FO 7	1034	-2848	19958	3404.68	3666.4	334.89
715	SLV FO 8	1031	-2536	19960	3403.72	3665.94	288.38
715	SLV FO 9	-531	2740	19635	2955.85	3356.11	-413.36
715	SLV FO 10	-535	3051	19636	2954.89	3355.64	-459.87
715	SLV FO 11	-626	-2984	22007	3754.68	4006.43	620.47
715	SLV FO 12	-629	-2672	22008	3753.71	4005.97	573.96
715	SLV FO 13	-2501	501	22855	3644	3980.54	292.95
715	SLV FO 14	-2506	964	22857	3642.57	3979.85	223.86
715	SLV FO 15	-2529	-1216	23567	3883.65	4175.64	603.1
715	SLV FO 16	-2534	-753	23569	3882.22	4174.95	534.01
715	CRTFP Ux+	0	0	0	0	0	0
715	CRTFP Ux-	0	0	0	0	0	0
715	CRTFP Uy+	0	0	0	0	0	0
715	CRTFP Uy-	0	0	0	0	0	0
717	SLU 1	73	26	5566	-203.07	-110.4	2.74
717	SLU 2	73	52	5564	-204.84	-110.32	3.3
717	SLU 3	75	27	5702	-207.05	-113.12	2.79
717	SLU 4	75	43	5700	-208.11	-113.07	3.13
717	SLU 5	74	53	5652	-207.3	-112.1	3.33
717	SLU 6	76	27	5791	-209.51	-114.9	2.83
717	SLU 7	76	43	5789	-210.57	-114.86	3.16
717	SLU 8	75	27	5744	-207.99	-113.97	2.81
717	SLU 9	76	43	5742	-209.05	-113.92	3.14
717	SLU 10	78	58	6314	-232.23	-125.19	3.5
717	SLU 11	79	32	6452	-234.44	-127.99	2.99
717	SLU 12	80	48	6451	-235.5	-127.94	3.33
717	SLU 13	79	58	6403	-234.69	-126.97	3.53
717	SLU 14	81	32	6541	-236.9	-129.77	3.03
717	SLU 15	81	48	6539	-237.96	-129.73	3.36
717	SLU 16	80	32	6494	-235.38	-128.84	3.01
717	SLU 17	80	48	6492	-236.44	-128.79	3.34
717	SLU 18	79	34	6638	-242.19	-131.64	3.03
717	SLU 19	80	49	6637	-243.26	-131.59	3.36
717	SLU 20	81	34	6727	-244.65	-133.42	3.06
717	SLU 21	81	50	6725	-245.72	-133.38	3.4
717	SLU 22	82	30	6476	-234.03	-128.53	3.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
717	SLU 23	82	57	6474	-235.8	-128.45	3.56
717	SLU 24	84	31	6612	-238.02	-131.25	3.06
717	SLU 25	84	47	6610	-239.08	-131.2	3.39
717	SLU 26	83	57	6562	-238.27	-130.24	3.6
717	SLU 27	85	31	6701	-240.48	-133.03	3.1
717	SLU 28	85	47	6699	-241.54	-132.99	3.43
717	SLU 29	84	31	6654	-238.95	-132.1	3.08
717	SLU 30	85	47	6652	-240.02	-132.05	3.41
717	SLU 31	87	62	7224	-263.19	-143.32	3.76
717	SLU 32	88	36	7362	-265.4	-146.12	3.26
717	SLU 33	88	52	7361	-266.47	-146.07	3.59
717	SLU 34	88	62	7313	-265.65	-145.1	3.8
717	SLU 35	90	36	7451	-267.86	-147.9	3.3
717	SLU 36	90	52	7449	-268.93	-147.86	3.63
717	SLU 37	89	36	7404	-266.34	-146.97	3.28
717	SLU 38	89	52	7402	-267.4	-146.92	3.61
717	SLU 39	88	38	7548	-273.16	-149.77	3.3
717	SLU 40	89	53	7547	-274.22	-149.72	3.63
717	SLU 41	90	38	7637	-275.62	-151.55	3.33
717	SLU 42	90	54	7635	-276.68	-151.51	3.66
717	SLU 43	92	33	6924	-253.37	-137.3	3.47
717	SLU 44	92	59	6921	-255.14	-137.22	4.03
717	SLU 45	94	33	7060	-257.35	-140.02	3.53
717	SLU 46	94	49	7058	-258.42	-139.98	3.86
717	SLU 47	93	59	7010	-257.6	-139.01	4.06
717	SLU 48	95	34	7149	-259.81	-141.81	3.56
717	SLU 49	95	49	7147	-260.88	-141.76	3.89
717	SLU 50	94	33	7102	-258.29	-140.87	3.54
717	SLU 51	94	49	7100	-259.35	-140.82	3.88
717	SLU 52	97	64	7672	-282.53	-152.09	4.23
717	SLU 53	98	38	7810	-284.74	-154.89	3.73
717	SLU 54	98	54	7809	-285.8	-154.85	4.06
717	SLU 55	98	64	7761	-284.99	-153.88	4.26
717	SLU 56	100	39	7899	-287.2	-156.68	3.76
717	SLU 57	100	54	7897	-288.26	-156.63	4.09
717	SLU 58	99	39	7852	-285.68	-155.74	3.74
717	SLU 59	99	54	7850	-286.74	-155.69	4.08
717	SLU 60	98	40	7996	-292.5	-158.54	3.76
717	SLU 61	98	56	7994	-293.56	-158.49	4.09
717	SLU 62	100	40	8085	-294.96	-160.33	3.8
717	SLU 63	100	56	8083	-296.02	-160.28	4.13
717	SLU 64	101	37	7834	-284.34	-155.43	3.74
717	SLU 65	101	63	7831	-286.11	-155.35	4.3
717	SLU 66	103	37	7970	-288.32	-158.15	3.79
717	SLU 67	103	53	7968	-289.38	-158.11	4.13
717	SLU 68	102	63	7920	-288.57	-157.14	4.33
717	SLU 69	104	38	8059	-290.78	-159.94	3.83
717	SLU 70	104	53	8057	-291.84	-159.89	4.16
717	SLU 71	103	37	8012	-289.26	-159	3.81
717	SLU 72	103	53	8010	-290.32	-158.95	4.14
717	SLU 73	105	68	8582	-313.5	-170.22	4.5
717	SLU 74	107	42	8720	-315.71	-173.02	3.99
717	SLU 75	107	58	8719	-316.77	-172.98	4.33
717	SLU 76	107	68	8671	-315.96	-172.01	4.53
717	SLU 77	108	43	8809	-318.17	-174.81	4.03
717	SLU 78	109	58	8807	-319.23	-174.76	4.36
717	SLU 79	108	43	8762	-316.65	-173.87	4.01
717	SLU 80	108	58	8760	-317.71	-173.82	4.34
717	SLU 81	107	44	8906	-323.46	-176.67	4.03
717	SLU 82	107	60	8904	-324.53	-176.62	4.36
717	SLU 83	109	44	8995	-325.92	-178.46	4.06
717	SLU 84	109	60	8993	-326.99	-178.41	4.39
717	SLE RA 1	76	27	5826	-211.91	-115.58	2.82
717	SLE RA 2	76	45	5824	-213.1	-115.53	3.19
717	SLE RA 3	77	28	5917	-214.57	-117.39	2.85
717	SLE RA 4	77	38	5916	-215.28	-117.36	3.08
717	SLE RA 5	76	45	5884	-214.74	-116.72	3.21
717	SLE RA 6	78	28	5976	-216.21	-118.58	2.88
717	SLE RA 7	78	38	5975	-216.92	-118.55	3.1
717	SLE RA 8	77	28	5945	-215.2	-117.96	2.87
717	SLE RA 9	77	38	5943	-215.9	-117.93	3.09
717	SLE RA 10	79	48	6325	-231.35	-125.44	3.32
717	SLE RA 11	80	31	6417	-232.83	-127.3	2.99
717	SLE RA 12	80	42	6416	-233.54	-127.27	3.21
717	SLE RA 13	80	49	6384	-232.99	-126.63	3.35
717	SLE RA 14	81	31	6476	-234.47	-128.49	3.01
717	SLE RA 15	81	42	6475	-235.18	-128.46	3.23
717	SLE RA 16	80	31	6445	-233.45	-127.87	3
717	SLE RA 17	80	42	6444	-234.16	-127.84	3.22
717	SLE RA 18	80	32	6541	-238	-129.74	3.01
717	SLE RA 19	80	43	6540	-238.71	-129.71	3.23
717	SLE RA 20	81	33	6600	-239.64	-130.93	3.03
717	SLE RA 21	81	43	6599	-240.35	-130.9	3.25
717	SLE FR 1	76	27	5826	-211.91	-115.58	2.82
717	SLE FR 2	76	31	5826	-212.15	-115.57	2.89
717	SLE FR 3	76	28	5850	-212.57	-116.05	2.83
717	SLE FR 4	77	32	6040	-219.98	-119.81	2.95
717	SLE FR 5	77	29	6064	-220.4	-120.3	2.89
717	SLE FR 6	78	30	6184	-224.96	-122.66	2.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
717	SLE QP 1	76	27	5826	-211.91	-115.58	2.82
717	SLE QP 2	77	29	6041	-219.74	-119.82	2.88
717	SLD 1	552	171	5370	-213.74	-104.91	21.06
717	SLD 2	554	259	5372	-214.41	-104.93	23.8
717	SLD 3	547	-116	5423	-189.64	-106.37	15.14
717	SLD 4	549	-28	5424	-190.31	-106.4	17.88
717	SLD 5	226	491	5760	-254.37	-113.12	16.83
717	SLD 6	228	549	5761	-254.82	-113.14	18.64
717	SLD 7	210	-465	5934	-174.03	-118.01	-2.93
717	SLD 8	211	-408	5935	-174.48	-118.02	-1.12
717	SLD 9	-58	465	6146	-265	-121.63	6.87
717	SLD 10	-56	523	6147	-265.45	-121.64	8.68
717	SLD 11	-74	-491	6320	-184.66	-126.51	-12.89
717	SLD 12	-73	-433	6321	-185.11	-126.52	-11.08
717	SLD 13	-395	86	6657	-249.17	-133.25	-12.12
717	SLD 14	-393	173	6659	-249.84	-133.27	-9.38
717	SLD 15	-400	-201	6709	-225.07	-134.72	-18.05
717	SLD 16	-398	-113	6711	-225.74	-134.74	-15.31
717	SLV 1	820	259	4993	-211.06	-96.5	31.51
717	SLV 2	823	396	4996	-212.11	-96.54	35.81
717	SLV 3	812	-205	5077	-171.99	-98.87	21.91
717	SLV 4	816	-68	5080	-173.05	-98.91	26.2
717	SLV 5	311	776	5598	-276.18	-109.23	25.23
717	SLV 6	314	868	5600	-276.9	-109.25	28.12
717	SLV 7	285	-771	5879	-145.97	-117.13	-6.78
717	SLV 8	287	-679	5881	-146.68	-117.15	-3.88
717	SLV 9	-133	737	6201	-292.8	-122.5	9.64
717	SLV 10	-131	828	6202	-293.51	-122.52	12.53
717	SLV 11	-160	-811	6481	-162.58	-130.4	-22.36
717	SLV 12	-158	-719	6483	-163.29	-130.42	-19.47
717	SLV 13	-662	126	7001	-266.43	-140.74	-20.45
717	SLV 14	-659	263	7004	-267.49	-140.77	-16.16
717	SLV 15	-670	-338	7085	-227.37	-143.11	-30.05
717	SLV 16	-667	-201	7088	-228.42	-143.15	-25.76
717	SLV FO 1	895	282	4888	-210.19	-94.17	34.38
717	SLV FO 2	898	433	4892	-211.35	-94.21	39.1
717	SLV FO 3	886	-228	4981	-167.22	-96.78	23.81
717	SLV FO 4	889	-78	4984	-168.38	-96.82	28.54
717	SLV FO 5	335	851	5554	-281.83	-108.17	27.46
717	SLV FO 6	337	952	5556	-282.61	-108.19	30.64
717	SLV FO 7	306	-851	5863	-138.59	-116.86	-7.74
717	SLV FO 8	308	-749	5865	-139.38	-116.88	-4.56
717	SLV FO 9	-154	807	6217	-300.1	-122.76	10.31
717	SLV FO 10	-152	908	6219	-300.88	-122.79	13.49
717	SLV FO 11	-183	-894	6525	-156.87	-131.46	-24.89
717	SLV FO 12	-181	-793	6527	-157.65	-131.48	-21.71
717	SLV FO 13	-736	136	7097	-271.1	-142.83	-22.78
717	SLV FO 14	-732	286	7100	-272.26	-142.87	-18.06
717	SLV FO 15	-744	-375	7190	-228.13	-145.44	-33.35
717	SLV FO 16	-741	-224	7193	-229.29	-145.48	-28.62
717	CRTFP Ux+	0	0	0	0	0	0
717	CRTFP Ux-	0	0	0	0	0	0
717	CRTFP Uy+	0	0	0	0	0	0
717	CRTFP Uy-	0	0	0	0	0	0
718	SLU 1	86	29	6439	-20.74	-4.25	-0.21
718	SLU 2	87	59	6436	-22.95	-4.28	-0.16
718	SLU 3	89	29	6596	-20.15	-4.35	-0.23
718	SLU 4	89	47	6594	-21.48	-4.37	-0.2
718	SLU 5	88	59	6539	-22.4	-4.35	-0.17
718	SLU 6	90	30	6699	-19.6	-4.42	-0.24
718	SLU 7	90	47	6697	-20.93	-4.44	-0.21
718	SLU 8	89	29	6644	-19.65	-4.38	-0.23
718	SLU 9	89	47	6643	-20.97	-4.4	-0.2
718	SLU 10	92	64	7304	-25.74	-4.82	-0.23
718	SLU 11	94	35	7463	-22.94	-4.9	-0.3
718	SLU 12	94	53	7462	-24.27	-4.91	-0.27
718	SLU 13	93	64	7406	-25.19	-4.89	-0.24
718	SLU 14	96	35	7566	-22.39	-4.96	-0.31
718	SLU 15	96	53	7565	-23.72	-4.98	-0.28
718	SLU 16	95	35	7511	-22.44	-4.93	-0.3
718	SLU 17	95	53	7510	-23.76	-4.94	-0.27
718	SLU 18	94	37	7678	-24.72	-5.02	-0.31
718	SLU 19	94	55	7676	-26.05	-5.04	-0.28
718	SLU 20	96	37	7780	-24.18	-5.09	-0.32
718	SLU 21	96	55	7779	-25.5	-5.11	-0.29
718	SLU 22	97	33	7492	-21.61	-4.93	-0.35
718	SLU 23	97	63	7489	-23.82	-4.96	-0.3
718	SLU 24	99	33	7649	-21.02	-5.04	-0.37
718	SLU 25	99	51	7648	-22.35	-5.06	-0.34
718	SLU 26	99	63	7592	-23.27	-5.03	-0.31
718	SLU 27	101	33	7752	-20.47	-5.11	-0.38
718	SLU 28	101	51	7750	-21.8	-5.12	-0.35
718	SLU 29	100	33	7697	-20.52	-5.07	-0.36
718	SLU 30	100	51	7696	-21.84	-5.09	-0.33
718	SLU 31	102	68	8357	-26.61	-5.5	-0.37
718	SLU 32	105	39	8516	-23.81	-5.58	-0.44
718	SLU 33	105	57	8515	-25.14	-5.6	-0.41
718	SLU 34	104	68	8460	-26.06	-5.57	-0.38
718	SLU 35	106	39	8619	-23.27	-5.65	-0.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
718	SLU 36	106	57	8618	-24.59	-5.67	-0.42
718	SLU 37	105	39	8565	-23.31	-5.61	-0.43
718	SLU 38	105	57	8563	-24.63	-5.63	-0.4
718	SLU 39	105	41	8731	-25.6	-5.71	-0.45
718	SLU 40	105	59	8729	-26.92	-5.72	-0.42
718	SLU 41	106	41	8833	-25.05	-5.77	-0.46
718	SLU 42	106	59	8832	-26.38	-5.79	-0.43
718	SLU 43	109	36	8009	-26.66	-5.29	-0.23
718	SLU 44	109	66	8007	-28.87	-5.32	-0.18
718	SLU 45	111	37	8166	-26.07	-5.39	-0.25
718	SLU 46	111	55	8165	-27.4	-5.41	-0.22
718	SLU 47	110	66	8110	-28.32	-5.39	-0.19
718	SLU 48	112	37	8269	-25.53	-5.46	-0.26
718	SLU 49	113	55	8268	-26.85	-5.48	-0.23
718	SLU 50	112	37	8215	-25.57	-5.42	-0.24
718	SLU 51	112	55	8213	-26.89	-5.44	-0.21
718	SLU 52	114	72	8874	-31.66	-5.86	-0.25
718	SLU 53	116	42	9034	-28.86	-5.94	-0.32
718	SLU 54	116	60	9032	-30.19	-5.95	-0.29
718	SLU 55	116	72	8977	-31.12	-5.93	-0.26
718	SLU 56	118	42	9136	-28.32	-6	-0.33
718	SLU 57	118	60	9135	-29.64	-6.02	-0.3
718	SLU 58	117	42	9082	-28.36	-5.97	-0.31
718	SLU 59	117	60	9081	-29.69	-5.98	-0.28
718	SLU 60	116	44	9248	-30.65	-6.06	-0.33
718	SLU 61	116	62	9247	-31.97	-6.08	-0.3
718	SLU 62	118	44	9351	-30.1	-6.13	-0.34
718	SLU 63	118	62	9350	-31.43	-6.15	-0.31
718	SLU 64	119	40	9062	-27.53	-5.97	-0.37
718	SLU 65	119	70	9060	-29.74	-6	-0.32
718	SLU 66	122	41	9219	-26.94	-6.08	-0.39
718	SLU 67	122	58	9218	-28.27	-6.1	-0.36
718	SLU 68	121	70	9163	-29.2	-6.07	-0.32
718	SLU 69	123	41	9322	-26.4	-6.15	-0.39
718	SLU 70	123	59	9321	-27.72	-6.16	-0.36
718	SLU 71	122	41	9268	-26.44	-6.11	-0.38
718	SLU 72	122	59	9267	-27.77	-6.13	-0.35
718	SLU 73	125	75	9927	-32.53	-6.54	-0.39
718	SLU 74	127	46	10087	-29.73	-6.62	-0.46
718	SLU 75	127	64	10085	-31.06	-6.64	-0.43
718	SLU 76	126	76	10030	-31.99	-6.61	-0.39
718	SLU 77	128	46	10189	-29.19	-6.69	-0.46
718	SLU 78	128	64	10188	-30.51	-6.71	-0.43
718	SLU 79	128	46	10135	-29.23	-6.65	-0.45
718	SLU 80	128	64	10134	-30.56	-6.67	-0.42
718	SLU 81	127	48	10301	-31.52	-6.75	-0.47
718	SLU 82	127	66	10300	-32.84	-6.76	-0.44
718	SLU 83	128	48	10404	-30.97	-6.81	-0.47
718	SLU 84	128	66	10403	-32.3	-6.83	-0.44
718	SLE RA 1	89	30	6740	-20.99	-4.45	-0.25
718	SLE RA 2	90	50	6738	-22.46	-4.46	-0.22
718	SLE RA 3	91	30	6844	-20.59	-4.51	-0.27
718	SLE RA 4	91	42	6843	-21.48	-4.53	-0.25
718	SLE RA 5	90	50	6807	-22.1	-4.51	-0.22
718	SLE RA 6	92	30	6913	-20.23	-4.56	-0.27
718	SLE RA 7	92	42	6912	-21.11	-4.57	-0.25
718	SLE RA 8	91	30	6877	-20.26	-4.54	-0.26
718	SLE RA 9	91	42	6876	-21.14	-4.55	-0.24
718	SLE RA 10	93	54	7316	-24.32	-4.83	-0.27
718	SLE RA 11	95	34	7422	-22.45	-4.88	-0.31
718	SLE RA 12	95	46	7422	-23.34	-4.89	-0.29
718	SLE RA 13	94	54	7385	-23.96	-4.87	-0.27
718	SLE RA 14	95	34	7491	-22.09	-4.92	-0.32
718	SLE RA 15	96	46	7490	-22.97	-4.93	-0.3
718	SLE RA 16	95	34	7455	-22.12	-4.9	-0.31
718	SLE RA 17	95	46	7454	-23	-4.91	-0.29
718	SLE RA 18	95	35	7565	-23.64	-4.96	-0.32
718	SLE RA 19	95	47	7565	-24.53	-4.97	-0.3
718	SLE RA 20	96	35	7634	-23.28	-5.01	-0.32
718	SLE RA 21	96	47	7633	-24.16	-5.02	-0.3
718	SLE FR 1	89	30	6740	-20.99	-4.45	-0.25
718	SLE FR 2	89	34	6739	-21.28	-4.45	-0.25
718	SLE FR 3	90	30	6767	-20.84	-4.46	-0.25
718	SLE FR 4	91	36	6987	-22.08	-4.6	-0.27
718	SLE FR 5	91	32	7015	-21.64	-4.62	-0.27
718	SLE FR 6	92	33	7152	-22.31	-4.7	-0.29
718	SLE QP 1	89	30	6740	-20.99	-4.45	-0.25
718	SLE QP 2	91	32	6987	-21.78	-4.6	-0.27
718	SLD 1	629	193	6151	-39.66	-1.78	-0.21
718	SLD 2	630	298	6153	-40.55	-1.77	0.93
718	SLD 3	623	-133	6203	-9.29	-1.46	-0.53
718	SLD 4	625	-29	6205	-10.18	-1.46	0.61
718	SLD 5	260	556	6657	-73.05	-4.23	0.02
718	SLD 6	261	625	6658	-73.64	-4.23	0.78
718	SLD 7	242	-532	6831	28.19	-3.18	-1.04
718	SLD 8	243	-463	6832	27.6	-3.18	-0.28
718	SLD 9	-61	526	7142	-71.17	-6.02	-0.26
718	SLD 10	-60	595	7144	-71.76	-6.02	0.49
718	SLD 11	-80	-562	7316	30.07	-4.97	-1.32



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
718	SLD 12	-78	-493	7318	29.48	-4.97	-0.57
718	SLD 13	-443	92	7769	-33.39	-7.74	-1.16
718	SLD 14	-441	196	7771	-34.28	-7.74	-0.01
718	SLD 15	-449	-234	7821	-3.02	-7.43	-1.47
718	SLD 16	-447	-130	7823	-3.91	-7.42	-0.33
718	SLV 1	933	293	5681	-50.62	-0.2	-0.17
718	SLV 2	936	457	5684	-52.02	-0.19	1.62
718	SLV 3	924	-235	5765	-1.42	0.3	-0.7
718	SLV 4	927	-72	5768	-2.81	0.31	1.1
718	SLV 5	357	881	6467	-104.8	-4.05	0.22
718	SLV 6	359	991	6469	-105.74	-4.04	1.43
718	SLV 7	327	-880	6748	59.21	-2.36	-1.53
718	SLV 8	329	-770	6750	58.27	-2.36	-0.32
718	SLV 9	-147	833	7224	-101.84	-6.84	-0.22
718	SLV 10	-145	943	7226	-102.78	-6.84	0.99
718	SLV 11	-177	-928	7506	62.17	-5.15	-1.97
718	SLV 12	-175	-818	7508	61.23	-5.15	-0.77
718	SLV 13	-745	135	8206	-40.75	-9.51	-1.64
718	SLV 14	-743	298	8209	-42.15	-9.5	0.15
718	SLV 15	-754	-393	8291	8.45	-9.01	-2.16
718	SLV 16	-752	-230	8294	7.06	-9	-0.37
718	SLV FO 1	1018	319	5550	-53.51	0.24	-0.16
718	SLV FO 2	1021	499	5554	-55.04	0.25	1.81
718	SLV FO 3	1008	-262	5643	0.62	0.79	-0.74
718	SLV FO 4	1011	-82	5646	-0.92	0.8	1.23
718	SLV FO 5	383	966	6415	-113.1	-4	0.27
718	SLV FO 6	385	1087	6417	-114.13	-3.99	1.6
718	SLV FO 7	350	-971	6724	67.31	-2.14	-1.66
718	SLV FO 8	352	-850	6726	66.28	-2.13	-0.33
718	SLV FO 9	-170	913	7248	-109.85	-7.07	-0.21
718	SLV FO 10	-169	1034	7250	-110.88	-7.06	1.11
718	SLV FO 11	-203	-1024	7558	70.57	-5.21	-2.14
718	SLV FO 12	-202	-902	7560	69.54	-5.2	-0.81
718	SLV FO 13	-829	145	8328	-42.65	-10	-1.78
718	SLV FO 14	-826	325	8331	-44.18	-9.99	0.19
718	SLV FO 15	-839	-436	8421	11.47	-9.45	-2.35
718	SLV FO 16	-836	-256	8424	9.94	-9.43	-0.38
718	CRTFP Ux+	0	0	0	0	0	0
718	CRTFP Ux-	0	0	0	0	0	0
718	CRTFP Uy+	0	0	0	0	0	0
718	CRTFP Uy-	0	0	0	0	0	0
719	SLU 1	90	28	6566	-19.6	-3.67	-0.24
719	SLU 2	90	58	6565	-21.89	-3.69	-0.18
719	SLU 3	92	28	6727	-18.99	-3.76	-0.25
719	SLU 4	92	46	6726	-20.37	-3.77	-0.22
719	SLU 5	91	58	6670	-21.34	-3.75	-0.18
719	SLU 6	93	28	6832	-18.44	-3.82	-0.25
719	SLU 7	93	46	6831	-19.81	-3.83	-0.22
719	SLU 8	93	28	6776	-18.49	-3.79	-0.24
719	SLU 9	93	46	6775	-19.87	-3.8	-0.2
719	SLU 10	95	63	7448	-24.51	-4.12	-0.26
719	SLU 11	97	33	7610	-21.62	-4.2	-0.34
719	SLU 12	97	51	7609	-22.99	-4.21	-0.3
719	SLU 13	97	63	7553	-23.96	-4.18	-0.26
719	SLU 14	99	33	7715	-21.06	-4.26	-0.34
719	SLU 15	99	51	7714	-22.44	-4.27	-0.3
719	SLU 16	98	33	7659	-21.11	-4.23	-0.32
719	SLU 17	98	51	7658	-22.49	-4.24	-0.29
719	SLU 18	97	35	7828	-23.35	-4.3	-0.36
719	SLU 19	97	53	7827	-24.72	-4.31	-0.32
719	SLU 20	99	35	7933	-22.79	-4.36	-0.36
719	SLU 21	99	53	7932	-24.17	-4.37	-0.32
719	SLU 22	100	31	7640	-20.3	-4.24	-0.39
719	SLU 23	100	61	7638	-22.59	-4.25	-0.33
719	SLU 24	103	31	7800	-19.69	-4.33	-0.4
719	SLU 25	103	49	7799	-21.07	-4.34	-0.37
719	SLU 26	102	61	7743	-22.03	-4.31	-0.33
719	SLU 27	104	31	7905	-19.14	-4.39	-0.4
719	SLU 28	104	50	7904	-20.51	-4.4	-0.37
719	SLU 29	103	31	7849	-19.19	-4.36	-0.39
719	SLU 30	103	49	7848	-20.56	-4.37	-0.35
719	SLU 31	106	66	8521	-25.21	-4.69	-0.41
719	SLU 32	108	36	8683	-22.32	-4.77	-0.48
719	SLU 33	108	54	8682	-23.69	-4.78	-0.45
719	SLU 34	107	66	8626	-24.66	-4.75	-0.41
719	SLU 35	110	37	8788	-21.76	-4.83	-0.49
719	SLU 36	110	55	8787	-23.14	-4.84	-0.45
719	SLU 37	109	36	8732	-21.81	-4.79	-0.47
719	SLU 38	109	55	8731	-23.19	-4.8	-0.44
719	SLU 39	108	38	8901	-24.05	-4.86	-0.5
719	SLU 40	108	56	8900	-25.42	-4.87	-0.47
719	SLU 41	110	38	9006	-23.49	-4.92	-0.51
719	SLU 42	110	56	9005	-24.87	-4.93	-0.47
719	SLU 43	113	35	8168	-25.24	-4.58	-0.26
719	SLU 44	113	65	8167	-27.53	-4.59	-0.2
719	SLU 45	115	35	8329	-24.63	-4.67	-0.27
719	SLU 46	115	53	8328	-26.01	-4.68	-0.24
719	SLU 47	114	65	8272	-26.98	-4.65	-0.2
719	SLU 48	117	36	8434	-24.08	-4.73	-0.28



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
719	SLU 49	117	54	8433	-25.45	-4.74	-0.24
719	SLU 50	116	35	8378	-24.13	-4.7	-0.26
719	SLU 51	116	53	8377	-25.51	-4.71	-0.22
719	SLU 52	118	70	9050	-30.15	-5.03	-0.28
719	SLU 53	121	40	9212	-27.26	-5.11	-0.36
719	SLU 54	121	58	9211	-28.63	-5.12	-0.32
719	SLU 55	120	70	9155	-29.6	-5.09	-0.28
719	SLU 56	122	41	9317	-26.7	-5.17	-0.36
719	SLU 57	122	59	9316	-28.08	-5.18	-0.32
719	SLU 58	121	41	9261	-26.75	-5.14	-0.34
719	SLU 59	121	59	9260	-28.13	-5.15	-0.31
719	SLU 60	121	42	9430	-28.99	-5.2	-0.38
719	SLU 61	121	60	9429	-30.36	-5.21	-0.34
719	SLU 62	122	42	9535	-28.43	-5.26	-0.38
719	SLU 63	122	60	9534	-29.81	-5.27	-0.34
719	SLU 64	123	38	9242	-25.94	-5.14	-0.41
719	SLU 65	124	68	9240	-28.23	-5.16	-0.35
719	SLU 66	126	38	9402	-25.33	-5.24	-0.42
719	SLU 67	126	56	9401	-26.71	-5.25	-0.39
719	SLU 68	125	68	9345	-27.67	-5.22	-0.35
719	SLU 69	127	39	9507	-24.78	-5.3	-0.42
719	SLU 70	127	57	9506	-26.15	-5.31	-0.39
719	SLU 71	126	39	9451	-24.83	-5.26	-0.41
719	SLU 72	127	57	9450	-26.2	-5.27	-0.37
719	SLU 73	129	73	10123	-30.85	-5.6	-0.43
719	SLU 74	131	44	10285	-27.96	-5.67	-0.5
719	SLU 75	131	62	10284	-29.33	-5.68	-0.47
719	SLU 76	131	74	10228	-30.3	-5.66	-0.43
719	SLU 77	133	44	10390	-27.4	-5.73	-0.51
719	SLU 78	133	62	10389	-28.78	-5.74	-0.47
719	SLU 79	132	44	10334	-27.45	-5.7	-0.49
719	SLU 80	132	62	10333	-28.83	-5.71	-0.46
719	SLU 81	131	45	10503	-29.69	-5.77	-0.52
719	SLU 82	131	63	10502	-31.06	-5.78	-0.49
719	SLU 83	133	46	10608	-29.13	-5.83	-0.53
719	SLU 84	133	64	10607	-30.51	-5.84	-0.49
719	SLE RA 1	93	29	6873	-19.8	-3.83	-0.28
719	SLE RA 2	93	49	6872	-21.33	-3.84	-0.24
719	SLE RA 3	94	29	6980	-19.4	-3.89	-0.29
719	SLE RA 4	94	41	6979	-20.31	-3.9	-0.27
719	SLE RA 5	94	49	6942	-20.96	-3.88	-0.24
719	SLE RA 6	95	29	7050	-19.03	-3.93	-0.29
719	SLE RA 7	95	41	7049	-19.94	-3.94	-0.27
719	SLE RA 8	95	29	7013	-19.06	-3.91	-0.28
719	SLE RA 9	95	41	7012	-19.98	-3.92	-0.26
719	SLE RA 10	96	52	7461	-23.08	-4.13	-0.3
719	SLE RA 11	98	32	7569	-21.14	-4.19	-0.35
719	SLE RA 12	98	44	7568	-22.06	-4.19	-0.32
719	SLE RA 13	97	52	7531	-22.71	-4.17	-0.3
719	SLE RA 14	99	32	7639	-20.77	-4.23	-0.35
719	SLE RA 15	99	44	7638	-21.69	-4.23	-0.32
719	SLE RA 16	98	32	7602	-20.81	-4.2	-0.34
719	SLE RA 17	98	44	7601	-21.73	-4.21	-0.31
719	SLE RA 18	98	33	7714	-22.3	-4.25	-0.36
719	SLE RA 19	98	45	7713	-23.21	-4.26	-0.33
719	SLE RA 20	99	34	7784	-21.93	-4.29	-0.36
719	SLE RA 21	99	46	7783	-22.84	-4.3	-0.34
719	SLE FR 1	93	29	6873	-19.8	-3.83	-0.28
719	SLE FR 2	93	33	6873	-20.11	-3.83	-0.27
719	SLE FR 3	93	29	6901	-19.65	-3.85	-0.28
719	SLE FR 4	94	34	7125	-20.85	-3.96	-0.3
719	SLE FR 5	95	30	7153	-20.4	-3.97	-0.3
719	SLE FR 6	95	31	7294	-21.05	-4.04	-0.32
719	SLE QP 1	93	29	6873	-19.8	-3.83	-0.28
719	SLE QP 2	94	30	7125	-20.55	-3.96	-0.3
719	SLD 1	632	192	6188	-38.5	-0.54	-1.15
719	SLD 2	633	302	6190	-39.59	-0.52	0.03
719	SLD 3	626	-136	6233	-7.28	-0.38	-1.53
719	SLD 4	628	-26	6235	-8.37	-0.37	-0.35
719	SLD 5	263	556	6775	-73.09	-3.17	-0.19
719	SLD 6	265	629	6776	-73.81	-3.16	0.59
719	SLD 7	245	-537	6926	30.98	-2.65	-1.46
719	SLD 8	246	-464	6927	30.26	-2.64	-0.68
719	SLD 9	-58	524	7324	-71.35	-5.28	0.07
719	SLD 10	-57	597	7325	-72.08	-5.27	0.85
719	SLD 11	-76	-569	7474	32.71	-4.75	-1.19
719	SLD 12	-75	-496	7475	31.99	-4.74	-0.41
719	SLD 13	-439	86	8016	-32.73	-7.55	-0.26
719	SLD 14	-438	196	8017	-33.82	-7.53	0.92
719	SLD 15	-445	-242	8061	-1.51	-7.39	-0.64
719	SLD 16	-443	-132	8063	-2.6	-7.38	0.54
719	SLV 1	936	291	5661	-49.52	1.37	-1.61
719	SLV 2	939	464	5664	-51.23	1.39	0.24
719	SLV 3	927	-239	5735	1.05	1.62	-2.24
719	SLV 4	929	-66	5737	-0.67	1.65	-0.39
719	SLV 5	360	881	6575	-105.61	-2.75	-0.08
719	SLV 6	362	997	6576	-106.77	-2.73	1.16
719	SLV 7	330	-887	6819	62.94	-1.9	-2.19
719	SLV 8	332	-771	6820	61.79	-1.89	-0.94



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
719	SLV 9	-143	831	7430	-102.89	-6.03	0.33
719	SLV 10	-141	948	7432	-104.04	-6.01	1.58
719	SLV 11	-173	-937	7674	65.67	-5.18	-1.77
719	SLV 12	-172	-821	7676	64.51	-5.17	-0.52
719	SLV 13	-741	126	8514	-40.43	-9.56	-0.22
719	SLV 14	-739	299	8516	-42.15	-9.54	1.63
719	SLV 15	-750	-404	8587	10.14	-9.31	-0.85
719	SLV 16	-748	-231	8589	8.42	-9.29	1
719	SLV FO 1	1020	318	5515	-52.41	1.9	-1.74
719	SLV FO 2	1023	508	5518	-54.3	1.93	0.29
719	SLV FO 3	1010	-266	5595	3.21	2.18	-2.43
719	SLV FO 4	1013	-76	5598	1.32	2.21	-0.4
719	SLV FO 5	387	966	6520	-114.12	-2.63	-0.06
719	SLV FO 6	388	1094	6522	-115.39	-2.61	1.31
719	SLV FO 7	353	-979	6788	71.29	-1.7	-2.37
719	SLV FO 8	355	-851	6790	70.02	-1.68	-1
719	SLV FO 9	-167	911	7461	-111.12	-6.23	0.4
719	SLV FO 10	-165	1039	7463	-112.39	-6.22	1.77
719	SLV FO 11	-200	-1034	7729	74.29	-5.31	-1.91
719	SLV FO 12	-198	-906	7731	73.02	-5.29	-0.54
719	SLV FO 13	-825	136	8652	-42.42	-10.12	-0.21
719	SLV FO 14	-822	326	8655	-44.31	-10.1	1.83
719	SLV FO 15	-835	-447	8733	13.2	-9.84	-0.9
719	SLV FO 16	-832	-257	8736	11.32	-9.82	1.13
719	CRTFP Ux+	0	0	0	0	0	0
719	CRTFP Ux-	0	0	0	0	0	0
719	CRTFP Uy+	0	0	0	0	0	0
719	CRTFP Uy-	0	0	0	0	0	0
720	SLU 1	92	26	6674	-18.49	-3.01	-0.26
720	SLU 2	92	57	6673	-20.86	-3.02	-0.18
720	SLU 3	95	27	6837	-17.86	-3.09	-0.27
720	SLU 4	95	45	6836	-19.29	-3.09	-0.22
720	SLU 5	94	57	6779	-20.3	-3.07	-0.17
720	SLU 6	96	27	6944	-17.3	-3.14	-0.26
720	SLU 7	96	45	6943	-18.72	-3.15	-0.22
720	SLU 8	95	27	6887	-17.36	-3.11	-0.25
720	SLU 9	95	45	6886	-18.78	-3.12	-0.2
720	SLU 10	98	62	7568	-23.32	-3.34	-0.27
720	SLU 11	100	31	7732	-20.32	-3.41	-0.36
720	SLU 12	100	50	7731	-21.75	-3.42	-0.31
720	SLU 13	99	62	7674	-22.76	-3.39	-0.26
720	SLU 14	102	32	7839	-19.76	-3.46	-0.36
720	SLU 15	102	50	7838	-21.18	-3.47	-0.31
720	SLU 16	101	32	7782	-19.82	-3.43	-0.34
720	SLU 17	101	50	7782	-21.24	-3.44	-0.29
720	SLU 18	100	33	7953	-22	-3.47	-0.39
720	SLU 19	100	51	7952	-23.42	-3.47	-0.34
720	SLU 20	102	33	8059	-21.44	-3.52	-0.38
720	SLU 21	102	52	8059	-22.86	-3.52	-0.33
720	SLU 22	103	29	7763	-19.02	-3.44	-0.41
720	SLU 23	103	59	7762	-21.39	-3.45	-0.33
720	SLU 24	105	29	7926	-18.39	-3.52	-0.43
720	SLU 25	105	47	7925	-19.81	-3.52	-0.38
720	SLU 26	105	60	7868	-20.82	-3.5	-0.33
720	SLU 27	107	29	8033	-17.83	-3.57	-0.42
720	SLU 28	107	48	8032	-19.25	-3.57	-0.37
720	SLU 29	106	29	7976	-17.89	-3.54	-0.41
720	SLU 30	106	48	7976	-19.31	-3.55	-0.36
720	SLU 31	109	64	8657	-23.85	-3.77	-0.42
720	SLU 32	111	34	8821	-20.85	-3.84	-0.52
720	SLU 33	111	52	8821	-22.27	-3.84	-0.47
720	SLU 34	110	64	8764	-23.28	-3.82	-0.42
720	SLU 35	112	34	8928	-20.29	-3.89	-0.51
720	SLU 36	113	52	8927	-21.71	-3.89	-0.47
720	SLU 37	112	34	8871	-20.35	-3.86	-0.5
720	SLU 38	112	52	8871	-21.77	-3.87	-0.45
720	SLU 39	111	35	9042	-22.53	-3.9	-0.54
720	SLU 40	111	54	9041	-23.95	-3.9	-0.5
720	SLU 41	112	36	9148	-21.96	-3.95	-0.54
720	SLU 42	113	54	9148	-23.39	-3.95	-0.49
720	SLU 43	116	34	8302	-23.85	-3.77	-0.28
720	SLU 44	116	64	8301	-26.23	-3.78	-0.2
720	SLU 45	118	34	8466	-23.23	-3.85	-0.29
720	SLU 46	118	52	8465	-24.65	-3.85	-0.24
720	SLU 47	118	64	8408	-25.66	-3.83	-0.19
720	SLU 48	120	34	8572	-22.67	-3.9	-0.29
720	SLU 49	120	52	8572	-24.09	-3.9	-0.24
720	SLU 50	119	34	8516	-22.73	-3.87	-0.27
720	SLU 51	119	52	8515	-24.15	-3.87	-0.22
720	SLU 52	122	69	9196	-28.69	-4.1	-0.29
720	SLU 53	124	38	9361	-25.69	-4.17	-0.38
720	SLU 54	124	57	9360	-27.11	-4.17	-0.33
720	SLU 55	123	69	9303	-28.12	-4.15	-0.29
720	SLU 56	126	39	9467	-25.12	-4.22	-0.38
720	SLU 57	126	57	9467	-26.55	-4.22	-0.33
720	SLU 58	125	39	9411	-25.18	-4.19	-0.36
720	SLU 59	125	57	9410	-26.61	-4.19	-0.31
720	SLU 60	124	40	9581	-27.37	-4.23	-0.41
720	SLU 61	124	58	9581	-28.79	-4.23	-0.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
720	SLU 62	126	40	9688	-26.8	-4.28	-0.41
720	SLU 63	126	59	9687	-28.23	-4.28	-0.36
720	SLU 64	127	36	9392	-24.38	-4.2	-0.44
720	SLU 65	127	66	9390	-26.75	-4.2	-0.36
720	SLU 66	129	36	9555	-23.76	-4.27	-0.45
720	SLU 67	129	54	9554	-25.18	-4.28	-0.4
720	SLU 68	129	67	9497	-26.19	-4.26	-0.35
720	SLU 69	131	36	9661	-23.19	-4.33	-0.45
720	SLU 70	131	55	9661	-24.62	-4.33	-0.4
720	SLU 71	130	36	9605	-23.25	-4.3	-0.43
720	SLU 72	130	55	9604	-24.68	-4.3	-0.38
720	SLU 73	133	71	10286	-29.21	-4.52	-0.45
720	SLU 74	135	41	10450	-26.22	-4.6	-0.54
720	SLU 75	135	59	10449	-27.64	-4.6	-0.49
720	SLU 76	134	71	10392	-28.65	-4.58	-0.44
720	SLU 77	136	41	10557	-25.65	-4.65	-0.54
720	SLU 78	136	59	10556	-27.07	-4.65	-0.49
720	SLU 79	136	41	10500	-25.71	-4.62	-0.52
720	SLU 80	136	59	10499	-27.13	-4.62	-0.47
720	SLU 81	135	43	10671	-27.89	-4.65	-0.57
720	SLU 82	135	61	10670	-29.32	-4.66	-0.52
720	SLU 83	136	43	10777	-27.33	-4.7	-0.56
720	SLU 84	136	61	10776	-28.75	-4.71	-0.52
720	SLE RA 1	95	27	6985	-18.64	-3.13	-0.3
720	SLE RA 2	95	47	6984	-20.22	-3.14	-0.25
720	SLE RA 3	97	27	7094	-18.22	-3.19	-0.31
720	SLE RA 4	97	39	7093	-19.17	-3.19	-0.28
720	SLE RA 5	96	48	7055	-19.84	-3.17	-0.25
720	SLE RA 6	98	27	7165	-17.85	-3.22	-0.31
720	SLE RA 7	98	40	7164	-18.8	-3.22	-0.27
720	SLE RA 8	97	27	7127	-17.89	-3.2	-0.3
720	SLE RA 9	97	40	7127	-18.84	-3.2	-0.26
720	SLE RA 10	99	50	7581	-21.86	-3.35	-0.31
720	SLE RA 11	101	30	7691	-19.86	-3.4	-0.37
720	SLE RA 12	101	43	7690	-20.81	-3.4	-0.34
720	SLE RA 13	100	51	7652	-21.48	-3.39	-0.31
720	SLE RA 14	102	31	7762	-19.49	-3.43	-0.37
720	SLE RA 15	102	43	7761	-20.43	-3.44	-0.34
720	SLE RA 16	101	31	7724	-19.53	-3.42	-0.36
720	SLE RA 17	101	43	7724	-20.47	-3.42	-0.33
720	SLE RA 18	101	32	7838	-20.98	-3.44	-0.39
720	SLE RA 19	101	44	7837	-21.93	-3.44	-0.36
720	SLE RA 20	102	32	7909	-20.6	-3.47	-0.39
720	SLE RA 21	102	44	7908	-21.55	-3.48	-0.35
720	SLE FR 1	95	27	6985	-18.64	-3.13	-0.3
720	SLE FR 2	95	31	6985	-18.96	-3.13	-0.29
720	SLE FR 3	96	27	7013	-18.49	-3.15	-0.3
720	SLE FR 4	97	32	7241	-19.66	-3.23	-0.32
720	SLE FR 5	97	28	7269	-19.19	-3.24	-0.33
720	SLE FR 6	98	29	7411	-19.81	-3.29	-0.34
720	SLE QP 1	95	27	6985	-18.64	-3.13	-0.3
720	SLE QP 2	97	28	7241	-19.34	-3.23	-0.33
720	SLD 1	634	190	6189	-37.4	0.47	-1.15
720	SLD 2	635	306	6190	-38.7	0.49	0.11
720	SLD 3	628	-140	6230	-5.29	0.56	-1.71
720	SLD 4	630	-23	6231	-6.59	0.58	-0.44
720	SLD 5	266	556	6861	-73.22	-2.25	0.04
720	SLD 6	267	633	6862	-74.08	-2.24	0.88
720	SLD 7	247	-543	7001	33.8	-1.96	-1.82
720	SLD 8	249	-466	7002	32.94	-1.95	-0.98
720	SLD 9	-55	523	7480	-71.63	-4.5	0.32
720	SLD 10	-54	600	7481	-72.49	-4.49	1.16
720	SLD 11	-73	-576	7619	35.39	-4.21	-1.53
720	SLD 12	-72	-499	7620	34.54	-4.2	-0.69
720	SLD 13	-436	80	8250	-32.09	-7.03	-0.21
720	SLD 14	-434	197	8251	-33.39	-7.01	1.06
720	SLD 15	-442	-250	8292	0.01	-6.94	-0.77
720	SLD 16	-440	-133	8293	-1.29	-6.92	0.5
720	SLV 1	938	290	5598	-48.5	2.54	-1.6
720	SLV 2	940	472	5599	-50.54	2.57	0.39
720	SLV 3	929	-244	5665	3.5	2.68	-2.52
720	SLV 4	931	-61	5667	1.46	2.71	-0.53
720	SLV 5	362	882	6645	-106.56	-1.71	0.31
720	SLV 6	364	1005	6646	-107.94	-1.69	1.65
720	SLV 7	332	-897	6871	66.75	-1.25	-2.75
720	SLV 8	334	-774	6872	65.37	-1.23	-1.41
720	SLV 9	-140	831	7610	-104.06	-5.22	0.76
720	SLV 10	-139	954	7611	-105.43	-5.2	2.1
720	SLV 11	-170	-948	7836	69.25	-4.76	-2.31
720	SLV 12	-169	-826	7837	67.88	-4.74	-0.97
720	SLV 13	-738	118	8814	-40.14	-9.16	-0.12
720	SLV 14	-735	301	8816	-42.18	-9.13	1.87
720	SLV 15	-747	-415	8882	11.85	-9.02	-1.04
720	SLV 16	-744	-233	8884	9.81	-8.99	0.95
720	SLV FO 1	1022	316	5433	-51.41	3.12	-1.73
720	SLV FO 2	1025	517	5435	-53.66	3.15	0.46
720	SLV FO 3	1012	-271	5508	5.78	3.27	-2.74
720	SLV FO 4	1015	-70	5510	3.54	3.3	-0.55
720	SLV FO 5	389	968	6585	-115.29	-1.56	0.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
720	SLV FO 6	391	1103	6586	-116.8	-1.54	1.85
720	SLV FO 7	356	-989	6833	75.36	-1.05	-2.99
720	SLV FO 8	358	-854	6835	73.85	-1.03	-1.52
720	SLV FO 9	-164	911	7647	-112.53	-5.42	0.87
720	SLV FO 10	-162	1046	7648	-114.04	-5.4	2.34
720	SLV FO 11	-197	-1046	7895	78.11	-4.91	-2.51
720	SLV FO 12	-195	-911	7896	76.6	-4.89	-1.03
720	SLV FO 13	-821	127	8972	-42.22	-9.75	-0.1
720	SLV FO 14	-818	328	8974	-44.46	-9.72	2.08
720	SLV FO 15	-831	-460	9046	14.97	-9.6	-1.12
720	SLV FO 16	-828	-259	9048	12.73	-9.57	1.07
720	CRTFP Ux+	0	0	0	0	0	0
720	CRTFP Ux-	0	0	0	0	0	0
720	CRTFP Uy+	0	0	0	0	0	0
720	CRTFP Uy-	0	0	0	0	0	0
721	SLU 1	94	25	6761	-17.4	-2.41	-0.27
721	SLU 2	94	56	6760	-19.86	-2.41	-0.16
721	SLU 3	97	25	6926	-16.76	-2.47	-0.28
721	SLU 4	97	44	6926	-18.23	-2.47	-0.22
721	SLU 5	96	56	6868	-19.28	-2.45	-0.16
721	SLU 6	98	26	7034	-16.18	-2.51	-0.27
721	SLU 7	98	44	7034	-17.66	-2.52	-0.21
721	SLU 8	97	26	6977	-16.25	-2.49	-0.26
721	SLU 9	97	44	6976	-17.73	-2.49	-0.19
721	SLU 10	100	60	7663	-22.15	-2.62	-0.26
721	SLU 11	102	29	7830	-19.05	-2.68	-0.38
721	SLU 12	102	48	7829	-20.53	-2.68	-0.31
721	SLU 13	101	60	7772	-21.58	-2.66	-0.25
721	SLU 14	104	30	7938	-18.48	-2.72	-0.37
721	SLU 15	104	48	7937	-19.95	-2.73	-0.31
721	SLU 16	103	30	7881	-18.55	-2.7	-0.35
721	SLU 17	103	48	7880	-20.02	-2.7	-0.29
721	SLU 18	102	31	8052	-20.68	-2.71	-0.41
721	SLU 19	102	50	8051	-22.16	-2.71	-0.35
721	SLU 20	104	31	8160	-20.11	-2.75	-0.4
721	SLU 21	104	50	8159	-21.58	-2.75	-0.34
721	SLU 22	105	27	7862	-17.76	-2.71	-0.44
721	SLU 23	105	58	7861	-20.22	-2.71	-0.33
721	SLU 24	108	27	8027	-17.11	-2.77	-0.45
721	SLU 25	108	45	8026	-18.59	-2.78	-0.38
721	SLU 26	107	58	7969	-19.64	-2.75	-0.32
721	SLU 27	109	27	8135	-16.54	-2.81	-0.44
721	SLU 28	109	46	8135	-18.01	-2.82	-0.37
721	SLU 29	108	27	8078	-16.61	-2.79	-0.42
721	SLU 30	108	46	8077	-18.08	-2.79	-0.36
721	SLU 31	111	62	8764	-22.51	-2.92	-0.43
721	SLU 32	113	31	8931	-19.41	-2.98	-0.54
721	SLU 33	113	50	8930	-20.88	-2.99	-0.48
721	SLU 34	112	62	8872	-21.94	-2.97	-0.42
721	SLU 35	115	31	9039	-18.84	-3.03	-0.54
721	SLU 36	115	50	9038	-20.31	-3.03	-0.47
721	SLU 37	114	31	8982	-18.91	-3	-0.52
721	SLU 38	114	50	8981	-20.38	-3.01	-0.46
721	SLU 39	113	33	9153	-21.04	-3.01	-0.58
721	SLU 40	113	51	9152	-22.51	-3.01	-0.51
721	SLU 41	115	33	9261	-20.46	-3.05	-0.57
721	SLU 42	115	51	9260	-21.94	-3.05	-0.5
721	SLU 43	119	32	8411	-22.5	-3.02	-0.29
721	SLU 44	119	63	8410	-24.96	-3.03	-0.19
721	SLU 45	121	32	8577	-21.85	-3.09	-0.3
721	SLU 46	121	51	8576	-23.33	-3.09	-0.24
721	SLU 47	120	63	8519	-24.38	-3.07	-0.18
721	SLU 48	123	33	8685	-21.28	-3.13	-0.3
721	SLU 49	123	51	8684	-22.75	-3.13	-0.23
721	SLU 50	122	33	8628	-21.35	-3.11	-0.28
721	SLU 51	122	51	8627	-22.82	-3.11	-0.22
721	SLU 52	124	67	9314	-27.25	-3.24	-0.29
721	SLU 53	127	36	9481	-24.15	-3.3	-0.4
721	SLU 54	127	55	9480	-25.63	-3.3	-0.34
721	SLU 55	126	67	9422	-26.68	-3.28	-0.28
721	SLU 56	128	37	9589	-23.58	-3.34	-0.4
721	SLU 57	128	55	9588	-25.05	-3.34	-0.33
721	SLU 58	127	37	9531	-23.65	-3.32	-0.38
721	SLU 59	128	55	9531	-25.12	-3.32	-0.31
721	SLU 60	127	38	9702	-25.78	-3.33	-0.43
721	SLU 61	127	57	9702	-27.25	-3.33	-0.37
721	SLU 62	128	38	9811	-25.21	-3.37	-0.43
721	SLU 63	128	57	9810	-26.68	-3.37	-0.36
721	SLU 64	130	34	9512	-22.86	-3.33	-0.46
721	SLU 65	130	65	9511	-25.31	-3.33	-0.35
721	SLU 66	132	34	9678	-22.21	-3.39	-0.47
721	SLU 67	132	52	9677	-23.69	-3.39	-0.41
721	SLU 68	131	65	9619	-24.74	-3.37	-0.35
721	SLU 69	134	34	9786	-21.64	-3.43	-0.46
721	SLU 70	134	53	9785	-23.11	-3.44	-0.4
721	SLU 71	133	34	9729	-21.71	-3.41	-0.45
721	SLU 72	133	53	9728	-23.18	-3.41	-0.38
721	SLU 73	135	69	10415	-27.61	-3.54	-0.45
721	SLU 74	138	38	10582	-24.51	-3.6	-0.57



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
721	SLU 75	138	57	10581	-25.98	-3.6	-0.5
721	SLU 76	137	69	10523	-27.04	-3.58	-0.44
721	SLU 77	139	38	10690	-23.93	-3.64	-0.56
721	SLU 78	139	57	10689	-25.41	-3.65	-0.5
721	SLU 79	138	38	10632	-24	-3.62	-0.54
721	SLU 80	138	57	10632	-25.48	-3.62	-0.48
721	SLU 81	138	40	10803	-26.14	-3.63	-0.6
721	SLU 82	138	58	10803	-27.61	-3.63	-0.54
721	SLU 83	139	40	10911	-25.56	-3.67	-0.59
721	SLU 84	139	58	10911	-27.04	-3.67	-0.53
721	SLE RA 1	97	25	7075	-17.5	-2.49	-0.32
721	SLE RA 2	97	46	7075	-19.14	-2.5	-0.25
721	SLE RA 3	99	26	7186	-17.07	-2.53	-0.32
721	SLE RA 4	99	38	7185	-18.06	-2.54	-0.28
721	SLE RA 5	98	46	7147	-18.76	-2.52	-0.24
721	SLE RA 6	100	26	7258	-16.69	-2.56	-0.32
721	SLE RA 7	100	38	7257	-17.67	-2.56	-0.28
721	SLE RA 8	99	26	7219	-16.74	-2.55	-0.31
721	SLE RA 9	99	38	7219	-17.72	-2.55	-0.27
721	SLE RA 10	101	49	7677	-20.67	-2.64	-0.31
721	SLE RA 11	103	28	7788	-18.6	-2.68	-0.39
721	SLE RA 12	103	41	7788	-19.59	-2.68	-0.35
721	SLE RA 13	102	49	7749	-20.29	-2.66	-0.31
721	SLE RA 14	104	29	7860	-18.22	-2.7	-0.38
721	SLE RA 15	104	41	7860	-19.2	-2.71	-0.34
721	SLE RA 16	103	29	7822	-18.27	-2.69	-0.37
721	SLE RA 17	103	41	7821	-19.25	-2.69	-0.33
721	SLE RA 18	103	29	7936	-19.69	-2.69	-0.41
721	SLE RA 19	103	42	7936	-20.67	-2.7	-0.37
721	SLE RA 20	104	30	8008	-19.31	-2.72	-0.41
721	SLE RA 21	104	42	8008	-20.29	-2.72	-0.36
721	SLE FR 1	97	25	7075	-17.5	-2.49	-0.32
721	SLE FR 2	97	30	7075	-17.83	-2.49	-0.3
721	SLE FR 3	98	26	7104	-17.35	-2.5	-0.32
721	SLE FR 4	99	31	7333	-18.49	-2.55	-0.33
721	SLE FR 5	99	27	7362	-18.01	-2.56	-0.34
721	SLE FR 6	100	27	7506	-18.6	-2.59	-0.36
721	SLE QP 1	97	25	7075	-17.5	-2.49	-0.32
721	SLE QP 2	99	27	7333	-18.16	-2.55	-0.35
721	SLD 1	635	189	6160	-36.36	1.24	-1.16
721	SLD 2	637	312	6161	-37.87	1.25	0.24
721	SLD 3	629	-144	6200	-3.33	1.3	-1.98
721	SLD 4	631	-21	6201	-4.83	1.32	-0.58
721	SLD 5	268	558	6921	-73.45	-1.52	0.4
721	SLD 6	269	640	6921	-74.45	-1.51	1.32
721	SLD 7	249	-552	7054	36.66	-1.3	-2.32
721	SLD 8	250	-471	7054	35.67	-1.29	-1.4
721	SLD 9	-53	524	7612	-71.99	-3.82	0.71
721	SLD 10	-52	605	7613	-72.98	-3.81	1.63
721	SLD 11	-71	-586	7746	38.13	-3.6	-2.01
721	SLD 12	-70	-505	7746	37.13	-3.58	-1.09
721	SLD 13	-433	74	8466	-31.48	-6.43	-0.11
721	SLD 14	-432	198	8466	-32.99	-6.41	1.29
721	SLD 15	-439	-259	8506	1.55	-6.36	-0.93
721	SLD 16	-437	-135	8506	0.04	-6.34	0.47
721	SLV 1	939	289	5502	-47.56	3.36	-1.59
721	SLV 2	941	482	5503	-49.93	3.38	0.6
721	SLV 3	930	-250	5567	5.92	3.46	-2.93
721	SLV 4	932	-57	5568	3.56	3.49	-0.75
721	SLV 5	364	887	6686	-107.66	-0.95	0.91
721	SLV 6	366	1017	6686	-109.25	-0.93	2.38
721	SLV 7	334	-910	6901	70.63	-0.59	-3.56
721	SLV 8	336	-780	6902	69.04	-0.57	-2.09
721	SLV 9	-138	833	7765	-105.36	-4.53	1.4
721	SLV 10	-136	963	7765	-106.95	-4.51	2.87
721	SLV 11	-168	-964	7980	72.94	-4.18	-3.07
721	SLV 12	-166	-834	7981	71.34	-4.16	-1.6
721	SLV 13	-734	110	9099	-39.88	-8.59	0.06
721	SLV 14	-732	303	9100	-42.24	-8.57	2.24
721	SLV 15	-743	-429	9164	13.61	-8.49	-1.29
721	SLV 16	-741	-236	9165	11.25	-8.46	0.9
721	SLV FO 1	1023	315	5319	-50.5	3.95	-1.71
721	SLV FO 2	1025	528	5320	-53.1	3.98	0.69
721	SLV FO 3	1013	-278	5390	8.33	4.06	-3.19
721	SLV FO 4	1015	-65	5391	5.73	4.09	-0.79
721	SLV FO 5	391	973	6621	-116.61	-0.78	1.03
721	SLV FO 6	393	1116	6622	-118.36	-0.76	2.65
721	SLV FO 7	357	-1004	6858	79.51	-0.4	-3.89
721	SLV FO 8	359	-861	6859	77.76	-0.38	-2.27
721	SLV FO 9	-161	914	7808	-114.08	-4.73	1.58
721	SLV FO 10	-160	1057	7809	-115.83	-4.71	3.19
721	SLV FO 11	-195	-1063	8045	82.05	-4.34	-3.34
721	SLV FO 12	-193	-920	8046	80.3	-4.32	-1.72
721	SLV FO 13	-818	119	9276	-42.05	-9.2	0.1
721	SLV FO 14	-815	331	9277	-44.65	-9.17	2.5
721	SLV FO 15	-828	-474	9347	16.79	-9.08	-1.38
721	SLV FO 16	-825	-262	9348	14.19	-9.05	1.02
721	CRTFP Ux+	0	0	0	0	0	0
721	CRTFP Ux-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
721	CRTFP Uy+	0	0	0	0	0	0
721	CRTFP Uy-	0	0	0	0	0	0
722	SLU 1	96	24	6830	-16.34	-1.89	-0.28
722	SLU 2	96	55	6829	-18.88	-1.9	-0.15
722	SLU 3	98	24	6997	-15.67	-1.94	-0.29
722	SLU 4	99	43	6996	-17.2	-1.95	-0.21
722	SLU 5	98	56	6938	-18.3	-1.93	-0.14
722	SLU 6	100	24	7106	-15.09	-1.98	-0.28
722	SLU 7	100	43	7106	-16.61	-1.98	-0.2
722	SLU 8	99	24	7048	-15.16	-1.96	-0.27
722	SLU 9	99	43	7048	-16.69	-1.96	-0.18
722	SLU 10	102	59	7738	-21.02	-2.01	-0.25
722	SLU 11	104	27	7906	-17.81	-2.06	-0.4
722	SLU 12	104	46	7905	-19.34	-2.06	-0.31
722	SLU 13	103	59	7847	-20.43	-2.05	-0.24
722	SLU 14	106	28	8015	-17.22	-2.09	-0.39
722	SLU 15	106	47	8015	-18.75	-2.1	-0.3
722	SLU 16	105	28	7957	-17.3	-2.08	-0.37
722	SLU 17	105	47	7957	-18.83	-2.08	-0.29
722	SLU 18	104	29	8128	-19.39	-2.06	-0.43
722	SLU 19	104	48	8128	-20.92	-2.06	-0.35
722	SLU 20	106	29	8237	-18.8	-2.09	-0.42
722	SLU 21	106	48	8237	-20.33	-2.09	-0.34
722	SLU 22	107	24	7938	-16.52	-2.08	-0.45
722	SLU 23	107	56	7938	-19.07	-2.09	-0.32
722	SLU 24	109	24	8106	-15.86	-2.14	-0.46
722	SLU 25	110	43	8105	-17.39	-2.14	-0.38
722	SLU 26	109	56	8047	-18.48	-2.12	-0.31
722	SLU 27	111	25	8215	-15.27	-2.17	-0.45
722	SLU 28	111	44	8215	-16.8	-2.17	-0.37
722	SLU 29	110	25	8157	-15.35	-2.15	-0.44
722	SLU 30	110	44	8157	-16.88	-2.16	-0.35
722	SLU 31	113	59	8847	-21.21	-2.21	-0.42
722	SLU 32	115	28	9015	-18	-2.25	-0.57
722	SLU 33	115	47	9014	-19.52	-2.26	-0.48
722	SLU 34	114	60	8956	-20.62	-2.24	-0.41
722	SLU 35	117	28	9124	-17.41	-2.29	-0.56
722	SLU 36	117	47	9124	-18.94	-2.29	-0.47
722	SLU 37	116	29	9066	-17.49	-2.27	-0.54
722	SLU 38	116	48	9066	-19.02	-2.27	-0.46
722	SLU 39	115	29	9237	-19.58	-2.25	-0.6
722	SLU 40	115	48	9236	-21.1	-2.25	-0.52
722	SLU 41	117	30	9346	-18.99	-2.28	-0.59
722	SLU 42	117	49	9346	-20.52	-2.29	-0.51
722	SLU 43	121	30	8498	-21.17	-2.39	-0.31
722	SLU 44	121	62	8497	-23.72	-2.4	-0.17
722	SLU 45	124	31	8666	-20.51	-2.45	-0.32
722	SLU 46	124	50	8665	-22.03	-2.45	-0.24
722	SLU 47	123	62	8607	-23.13	-2.43	-0.16
722	SLU 48	125	31	8775	-19.92	-2.48	-0.31
722	SLU 49	125	50	8774	-21.45	-2.48	-0.23
722	SLU 50	124	31	8717	-20	-2.46	-0.29
722	SLU 51	124	50	8716	-21.53	-2.46	-0.21
722	SLU 52	127	66	9406	-25.86	-2.51	-0.28
722	SLU 53	129	34	9575	-22.65	-2.56	-0.42
722	SLU 54	129	53	9574	-24.17	-2.56	-0.34
722	SLU 55	128	66	9516	-25.27	-2.55	-0.27
722	SLU 56	131	35	9684	-22.06	-2.6	-0.41
722	SLU 57	131	54	9683	-23.59	-2.6	-0.33
722	SLU 58	130	35	9626	-22.14	-2.58	-0.4
722	SLU 59	130	54	9625	-23.67	-2.58	-0.31
722	SLU 60	129	36	9797	-24.23	-2.56	-0.46
722	SLU 61	129	55	9796	-25.75	-2.56	-0.38
722	SLU 62	131	36	9906	-23.64	-2.59	-0.45
722	SLU 63	131	55	9906	-25.17	-2.6	-0.37
722	SLU 64	132	31	9607	-21.36	-2.59	-0.48
722	SLU 65	132	63	9606	-23.9	-2.59	-0.34
722	SLU 66	134	31	9774	-20.7	-2.64	-0.49
722	SLU 67	135	50	9774	-22.22	-2.64	-0.41
722	SLU 68	134	63	9716	-23.32	-2.62	-0.33
722	SLU 69	136	32	9884	-20.11	-2.67	-0.48
722	SLU 70	136	51	9883	-21.64	-2.67	-0.4
722	SLU 71	135	32	9826	-20.19	-2.65	-0.46
722	SLU 72	135	51	9825	-21.72	-2.66	-0.38
722	SLU 73	138	66	10515	-26.04	-2.71	-0.45
722	SLU 74	140	35	10683	-22.83	-2.75	-0.59
722	SLU 75	140	54	10683	-24.36	-2.76	-0.51
722	SLU 76	139	67	10625	-25.46	-2.74	-0.44
722	SLU 77	142	35	10793	-22.25	-2.79	-0.58
722	SLU 78	142	54	10792	-23.77	-2.79	-0.5
722	SLU 79	141	35	10735	-22.33	-2.77	-0.57
722	SLU 80	141	54	10734	-23.85	-2.77	-0.48
722	SLU 81	140	36	10906	-24.41	-2.75	-0.63
722	SLU 82	140	55	10905	-25.94	-2.75	-0.55
722	SLU 83	142	37	11015	-23.83	-2.79	-0.62
722	SLU 84	142	56	11014	-25.36	-2.79	-0.54
722	SLE RA 1	99	24	7146	-16.39	-1.95	-0.33
722	SLE RA 2	99	45	7146	-18.09	-1.95	-0.24
722	SLE RA 3	101	24	7258	-15.95	-1.98	-0.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
722	SLE RA 4	101	37	7258	-16.96	-1.98	-0.28
722	SLE RA 5	100	45	7219	-17.7	-1.97	-0.23
722	SLE RA 6	102	24	7331	-15.56	-2	-0.33
722	SLE RA 7	102	37	7330	-16.57	-2.01	-0.28
722	SLE RA 8	101	24	7292	-15.61	-1.99	-0.32
722	SLE RA 9	101	37	7292	-16.63	-1.99	-0.27
722	SLE RA 10	103	47	7752	-19.51	-2.03	-0.31
722	SLE RA 11	105	26	7864	-17.37	-2.06	-0.41
722	SLE RA 12	105	39	7864	-18.39	-2.06	-0.35
722	SLE RA 13	104	48	7825	-19.12	-2.05	-0.3
722	SLE RA 14	106	27	7937	-16.98	-2.08	-0.4
722	SLE RA 15	106	39	7936	-18	-2.08	-0.35
722	SLE RA 16	105	27	7898	-17.03	-2.07	-0.39
722	SLE RA 17	105	39	7898	-18.05	-2.07	-0.33
722	SLE RA 18	104	27	8012	-18.43	-2.06	-0.43
722	SLE RA 19	104	40	8012	-19.44	-2.06	-0.38
722	SLE RA 20	106	28	8085	-18.03	-2.08	-0.43
722	SLE RA 21	106	40	8085	-19.05	-2.08	-0.37
722	SLE FR 1	99	24	7146	-16.39	-1.95	-0.33
722	SLE FR 2	99	28	7146	-16.73	-1.95	-0.31
722	SLE FR 3	100	24	7175	-16.23	-1.96	-0.33
722	SLE FR 4	101	29	7406	-17.34	-1.98	-0.34
722	SLE FR 5	101	25	7435	-16.84	-1.99	-0.36
722	SLE FR 6	102	26	7579	-17.41	-2	-0.38
722	SLE QP 1	99	24	7146	-16.39	-1.95	-0.33
722	SLE QP 2	101	25	7406	-17	-1.98	-0.36
722	SLD 1	636	188	6111	-35.39	1.81	-1.16
722	SLD 2	637	319	6111	-37.11	1.83	0.38
722	SLD 3	630	-150	6149	-1.39	1.88	-2.29
722	SLD 4	632	-19	6149	-3.1	1.9	-0.74
722	SLD 5	269	563	6959	-73.78	-0.95	0.83
722	SLD 6	270	649	6959	-74.92	-0.94	1.84
722	SLD 7	251	-563	7087	39.57	-0.72	-2.92
722	SLD 8	252	-477	7087	38.43	-0.71	-1.9
722	SLD 9	-51	527	7725	-72.43	-3.25	1.18
722	SLD 10	-49	613	7725	-73.57	-3.24	2.2
722	SLD 11	-69	-599	7853	40.92	-3.02	-2.57
722	SLD 12	-68	-513	7853	39.78	-3.01	-1.55
722	SLD 13	-431	69	8663	-30.9	-5.85	0.02
722	SLD 14	-429	199	8663	-32.61	-5.84	1.56
722	SLD 15	-436	-269	8701	3.11	-5.79	-1.11
722	SLD 16	-435	-138	8701	1.39	-5.77	0.44
722	SLV 1	939	289	5385	-46.72	3.93	-1.58
722	SLV 2	942	494	5385	-49.41	3.96	0.84
722	SLV 3	930	-258	5447	8.33	4.04	-3.42
722	SLV 4	933	-53	5447	5.64	4.07	-1
722	SLV 5	366	895	6705	-108.91	-0.38	1.61
722	SLV 6	367	1033	6705	-110.72	-0.36	3.24
722	SLV 7	335	-928	6913	74.6	-0.01	-4.52
722	SLV 8	337	-790	6913	72.78	0	-2.89
722	SLV 9	-136	839	7900	-106.78	-3.96	2.17
722	SLV 10	-134	977	7899	-108.6	-3.94	3.8
722	SLV 11	-166	-984	8107	76.72	-3.6	-3.96
722	SLV 12	-164	-846	8107	74.91	-3.58	-2.34
722	SLV 13	-731	102	9365	-39.64	-8.02	0.27
722	SLV 14	-729	307	9365	-42.33	-8	2.69
722	SLV 15	-740	-444	9428	15.41	-7.92	-1.57
722	SLV 16	-738	-240	9427	12.72	-7.89	0.85
722	SLV FO 1	1023	316	5182	-49.69	4.52	-1.7
722	SLV FO 2	1026	541	5182	-52.65	4.55	0.96
722	SLV FO 3	1013	-286	5251	10.86	4.64	-3.72
722	SLV FO 4	1016	-60	5251	7.9	4.67	-1.06
722	SLV FO 5	392	982	6635	-118.1	-0.22	1.81
722	SLV FO 6	394	1134	6635	-120.09	-0.2	3.6
722	SLV FO 7	359	-1023	6863	83.76	0.18	-4.93
722	SLV FO 8	361	-871	6863	81.76	0.2	-3.14
722	SLV FO 9	-159	921	7949	-115.76	-4.16	2.42
722	SLV FO 10	-157	1072	7949	-117.76	-4.14	4.21
722	SLV FO 11	-192	-1084	8177	86.09	-3.76	-4.32
722	SLV FO 12	-191	-933	8177	84.1	-3.74	-2.53
722	SLV FO 13	-814	110	9561	-41.9	-8.63	0.34
722	SLV FO 14	-812	336	9561	-44.86	-8.6	3
722	SLV FO 15	-824	-491	9630	18.65	-8.51	-1.69
722	SLV FO 16	-822	-266	9630	15.69	-8.48	0.97
722	CRTFP Ux+	0	0	0	0	0	0
722	CRTFP Ux-	0	0	0	0	0	0
722	CRTFP Uy+	0	0	0	0	0	0
722	CRTFP Uy-	0	0	0	0	0	0
723	SLU 1	98	22	6883	-15.29	-1.48	-0.3
723	SLU 2	98	54	6883	-17.93	-1.48	-0.13
723	SLU 3	100	22	7052	-14.61	-1.52	-0.31
723	SLU 4	100	42	7052	-16.19	-1.52	-0.21
723	SLU 5	99	55	6993	-17.33	-1.51	-0.12
723	SLU 6	102	23	7163	-14.01	-1.55	-0.3
723	SLU 7	102	42	7162	-15.59	-1.55	-0.2
723	SLU 8	101	23	7104	-14.1	-1.53	-0.28
723	SLU 9	101	42	7104	-15.68	-1.53	-0.18
723	SLU 10	103	58	7794	-19.91	-1.52	-0.24
723	SLU 11	106	25	7964	-16.59	-1.56	-0.41



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
723	SLU 12	106	45	7963	-18.17	-1.56	-0.31
723	SLU 13	105	58	7905	-19.31	-1.55	-0.23
723	SLU 14	107	26	8074	-15.99	-1.58	-0.4
723	SLU 15	107	45	8074	-17.57	-1.59	-0.3
723	SLU 16	106	26	8016	-16.08	-1.57	-0.39
723	SLU 17	106	45	8015	-17.66	-1.57	-0.29
723	SLU 18	105	27	8185	-18.12	-1.53	-0.45
723	SLU 19	106	46	8185	-19.7	-1.53	-0.35
723	SLU 20	107	27	8296	-17.53	-1.56	-0.44
723	SLU 21	107	46	8295	-19.11	-1.56	-0.34
723	SLU 22	109	22	7997	-15.31	-1.58	-0.47
723	SLU 23	109	54	7996	-17.95	-1.58	-0.31
723	SLU 24	111	22	8166	-14.62	-1.62	-0.48
723	SLU 25	111	41	8165	-16.21	-1.62	-0.38
723	SLU 26	110	55	8107	-17.35	-1.61	-0.3
723	SLU 27	113	22	8276	-14.03	-1.65	-0.47
723	SLU 28	113	42	8276	-15.61	-1.65	-0.37
723	SLU 29	112	23	8218	-14.12	-1.63	-0.45
723	SLU 30	112	42	8217	-15.7	-1.64	-0.35
723	SLU 31	114	57	8908	-19.93	-1.62	-0.41
723	SLU 32	117	25	9077	-16.61	-1.66	-0.59
723	SLU 33	117	45	9077	-18.19	-1.66	-0.49
723	SLU 34	116	58	9018	-19.33	-1.65	-0.4
723	SLU 35	118	26	9188	-16.01	-1.69	-0.58
723	SLU 36	118	45	9187	-17.59	-1.69	-0.48
723	SLU 37	117	26	9129	-16.1	-1.67	-0.56
723	SLU 38	117	45	9129	-17.68	-1.67	-0.46
723	SLU 39	116	26	9299	-18.14	-1.63	-0.63
723	SLU 40	116	46	9299	-19.72	-1.63	-0.53
723	SLU 41	118	27	9409	-17.54	-1.66	-0.62
723	SLU 42	118	46	9409	-19.13	-1.66	-0.52
723	SLU 43	123	29	8567	-19.87	-1.88	-0.33
723	SLU 44	123	61	8566	-22.51	-1.89	-0.16
723	SLU 45	126	29	8736	-19.19	-1.93	-0.34
723	SLU 46	126	48	8735	-20.77	-1.93	-0.24
723	SLU 47	125	62	8676	-21.91	-1.92	-0.15
723	SLU 48	127	29	8846	-18.59	-1.95	-0.33
723	SLU 49	127	49	8846	-20.17	-1.96	-0.23
723	SLU 50	126	30	8787	-18.68	-1.94	-0.31
723	SLU 51	126	49	8787	-20.26	-1.94	-0.21
723	SLU 52	129	64	9477	-24.49	-1.93	-0.27
723	SLU 53	131	32	9647	-21.17	-1.96	-0.45
723	SLU 54	131	51	9647	-22.75	-1.97	-0.35
723	SLU 55	130	65	9588	-23.89	-1.95	-0.26
723	SLU 56	133	32	9757	-20.57	-1.99	-0.44
723	SLU 57	133	52	9757	-22.15	-1.99	-0.34
723	SLU 58	132	33	9699	-20.66	-1.98	-0.42
723	SLU 59	132	52	9698	-22.24	-1.98	-0.32
723	SLU 60	131	33	9869	-22.7	-1.94	-0.48
723	SLU 61	131	53	9868	-24.29	-1.94	-0.38
723	SLU 62	133	34	9979	-22.11	-1.97	-0.47
723	SLU 63	133	53	9979	-23.69	-1.97	-0.37
723	SLU 64	134	29	9680	-19.89	-1.99	-0.5
723	SLU 65	134	61	9680	-22.53	-1.99	-0.34
723	SLU 66	137	29	9849	-19.21	-2.03	-0.51
723	SLU 67	137	48	9849	-20.79	-2.03	-0.41
723	SLU 68	136	61	9790	-21.93	-2.02	-0.33
723	SLU 69	138	29	9959	-18.61	-2.06	-0.5
723	SLU 70	138	49	9959	-20.19	-2.06	-0.4
723	SLU 71	137	29	9901	-18.7	-2.04	-0.48
723	SLU 72	137	49	9900	-20.28	-2.04	-0.38
723	SLU 73	140	64	10591	-24.51	-2.03	-0.44
723	SLU 74	142	32	10760	-21.19	-2.07	-0.62
723	SLU 75	142	51	10760	-22.77	-2.07	-0.52
723	SLU 76	141	64	10701	-23.91	-2.06	-0.43
723	SLU 77	144	32	10871	-20.59	-2.09	-0.61
723	SLU 78	144	52	10870	-22.17	-2.1	-0.51
723	SLU 79	143	33	10812	-20.68	-2.08	-0.59
723	SLU 80	143	52	10812	-22.26	-2.08	-0.49
723	SLU 81	142	33	10982	-22.72	-2.04	-0.66
723	SLU 82	142	52	10982	-24.3	-2.04	-0.56
723	SLU 83	144	33	11093	-22.13	-2.07	-0.65
723	SLU 84	144	53	11092	-23.71	-2.07	-0.55
723	SLE RA 1	101	22	7202	-15.3	-1.5	-0.35
723	SLE RA 2	101	44	7201	-17.05	-1.51	-0.24
723	SLE RA 3	102	22	7314	-14.84	-1.53	-0.35
723	SLE RA 4	102	35	7314	-15.89	-1.54	-0.29
723	SLE RA 5	102	44	7275	-16.66	-1.53	-0.23
723	SLE RA 6	103	22	7388	-14.44	-1.55	-0.35
723	SLE RA 7	103	35	7387	-15.5	-1.55	-0.28
723	SLE RA 8	103	23	7349	-14.5	-1.54	-0.34
723	SLE RA 9	103	36	7348	-15.55	-1.54	-0.27
723	SLE RA 10	104	46	7809	-18.38	-1.53	-0.31
723	SLE RA 11	106	24	7922	-16.16	-1.56	-0.43
723	SLE RA 12	106	37	7922	-17.22	-1.56	-0.36
723	SLE RA 13	106	46	7882	-17.98	-1.55	-0.3
723	SLE RA 14	107	24	7995	-15.76	-1.58	-0.42
723	SLE RA 15	107	37	7995	-16.82	-1.58	-0.35
723	SLE RA 16	107	25	7956	-15.82	-1.57	-0.41



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
723	SLE RA 17	107	38	7956	-16.88	-1.57	-0.34
723	SLE RA 18	106	25	8070	-17.18	-1.54	-0.45
723	SLE RA 19	106	38	8069	-18.24	-1.54	-0.38
723	SLE RA 20	107	25	8143	-16.79	-1.56	-0.44
723	SLE RA 21	107	38	8143	-17.84	-1.56	-0.38
723	SLE FR 1	101	22	7202	-15.3	-1.5	-0.35
723	SLE FR 2	101	26	7201	-15.65	-1.51	-0.33
723	SLE FR 3	101	22	7231	-15.14	-1.51	-0.35
723	SLE FR 4	102	27	7462	-16.21	-1.52	-0.36
723	SLE FR 5	103	23	7491	-15.7	-1.52	-0.38
723	SLE FR 6	103	24	7636	-16.24	-1.52	-0.4
723	SLE QP 1	101	22	7202	-15.3	-1.5	-0.35
723	SLE QP 2	102	23	7462	-15.86	-1.52	-0.38
723	SLD 1	637	188	6045	-34.49	2.25	-1.17
723	SLD 2	638	327	6045	-36.42	2.26	0.53
723	SLD 3	631	-156	6082	0.53	2.33	-2.61
723	SLD 4	633	-17	6082	-1.4	2.34	-0.91
723	SLD 5	271	570	6981	-74.22	-0.51	1.26
723	SLD 6	272	662	6981	-75.49	-0.5	2.38
723	SLD 7	252	-578	7104	42.52	-0.25	-3.54
723	SLD 8	253	-486	7104	41.24	-0.24	-2.42
723	SLD 9	-49	532	7820	-72.97	-2.79	1.66
723	SLD 10	-48	624	7820	-74.24	-2.78	2.78
723	SLD 11	-67	-616	7943	43.76	-2.53	-3.14
723	SLD 12	-66	-524	7943	42.49	-2.52	-2.02
723	SLD 13	-428	63	8842	-30.33	-5.37	0.15
723	SLD 14	-426	202	8842	-32.25	-5.36	1.85
723	SLD 15	-434	-281	8879	4.69	-5.29	-1.29
723	SLD 16	-432	-142	8879	2.77	-5.28	0.41
723	SLV 1	939	291	5251	-45.98	4.35	-1.57
723	SLV 2	942	509	5250	-49	4.38	1.09
723	SLV 3	930	-267	5310	10.71	4.48	-3.92
723	SLV 4	933	-49	5310	7.69	4.5	-1.26
723	SLV 5	367	908	6709	-110.31	0.05	2.33
723	SLV 6	368	1055	6708	-112.34	0.07	4.12
723	SLV 7	336	-950	6907	78.65	0.47	-5.11
723	SLV 8	338	-803	6906	76.61	0.48	-3.71
723	SLV 9	-134	849	8018	-108.34	-3.51	2.95
723	SLV 10	-132	996	8017	-110.37	-3.5	4.75
723	SLV 11	-164	-1009	8216	80.62	-3.1	-4.88
723	SLV 12	-162	-862	8215	78.58	-3.08	-3.09
723	SLV 13	-728	95	9614	-39.42	-7.53	0.5
723	SLV 14	-726	313	9613	-42.43	-7.51	3.16
723	SLV 15	-737	-463	9674	17.27	-7.41	-1.85
723	SLV 16	-735	-245	9673	14.25	-7.38	0.81
723	SLV FO 1	1023	318	5030	-48.99	4.94	-1.69
723	SLV FO 2	1026	557	5029	-52.31	4.97	1.24
723	SLV FO 3	1013	-296	5095	13.37	5.08	-4.28
723	SLV FO 4	1016	-56	5094	10.04	5.1	-1.35
723	SLV FO 5	393	997	6633	-119.75	0.21	2.6
723	SLV FO 6	395	1158	6633	-121.99	0.23	4.58
723	SLV FO 7	360	-1047	6851	88.1	0.67	-6.02
723	SLV FO 8	362	-886	6851	85.86	0.68	-4.05
723	SLV FO 9	-157	932	8073	-117.59	-3.71	3.29
723	SLV FO 10	-155	1093	8073	-119.82	-3.7	5.26
723	SLV FO 11	-190	-1112	8291	90.26	-3.26	-5.33
723	SLV FO 12	-189	-951	8291	88.03	-3.24	-3.36
723	SLV FO 13	-811	102	9830	-41.77	-8.13	0.59
723	SLV FO 14	-809	342	9829	-45.09	-8.11	3.52
723	SLV FO 15	-821	-511	9895	20.58	-8	-2
723	SLV FO 16	-819	-272	9894	17.26	-7.97	0.93
723	CRTFP Ux+	0	0	0	0	0	0
723	CRTFP Ux-	0	0	0	0	0	0
723	CRTFP Uy+	0	0	0	0	0	0
723	CRTFP Uy-	0	0	0	0	0	0
724	SLU 1	99	21	6926	-14.27	-1.18	-0.32
724	SLU 2	99	54	6925	-17	-1.19	-0.13
724	SLU 3	101	21	7096	-13.56	-1.22	-0.33
724	SLU 4	102	41	7096	-15.2	-1.22	-0.21
724	SLU 5	101	54	7037	-16.39	-1.21	-0.12
724	SLU 6	103	21	7207	-12.95	-1.24	-0.32
724	SLU 7	103	41	7207	-14.59	-1.25	-0.2
724	SLU 8	102	21	7148	-13.05	-1.23	-0.3
724	SLU 9	102	41	7148	-14.69	-1.24	-0.19
724	SLU 10	104	56	7837	-18.83	-1.17	-0.24
724	SLU 11	107	23	8008	-15.39	-1.2	-0.44
724	SLU 12	107	43	8007	-17.03	-1.2	-0.32
724	SLU 13	106	57	7948	-18.22	-1.19	-0.23
724	SLU 14	109	24	8119	-14.78	-1.22	-0.43
724	SLU 15	109	44	8118	-16.42	-1.22	-0.31
724	SLU 16	108	24	8060	-14.88	-1.21	-0.41
724	SLU 17	108	44	8060	-16.51	-1.21	-0.3
724	SLU 18	107	24	8228	-16.88	-1.15	-0.48
724	SLU 19	107	44	8228	-18.52	-1.16	-0.36
724	SLU 20	108	25	8339	-16.27	-1.18	-0.47
724	SLU 21	108	45	8339	-17.91	-1.18	-0.35
724	SLU 22	110	19	8041	-14.12	-1.22	-0.49
724	SLU 23	110	53	8041	-16.85	-1.22	-0.3
724	SLU 24	112	20	8212	-13.41	-1.25	-0.5



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
724	SLU 25	112	40	8211	-15.05	-1.26	-0.39
724	SLU 26	112	53	8152	-16.24	-1.25	-0.29
724	SLU 27	114	20	8323	-12.8	-1.28	-0.49
724	SLU 28	114	40	8322	-14.44	-1.28	-0.38
724	SLU 29	113	20	8264	-12.9	-1.26	-0.48
724	SLU 30	113	40	8264	-14.53	-1.27	-0.36
724	SLU 31	115	55	8953	-18.67	-1.2	-0.41
724	SLU 32	118	22	9123	-15.24	-1.23	-0.61
724	SLU 33	118	42	9123	-16.88	-1.23	-0.5
724	SLU 34	117	56	9064	-18.06	-1.22	-0.4
724	SLU 35	120	23	9234	-14.63	-1.25	-0.6
724	SLU 36	120	42	9234	-16.27	-1.26	-0.49
724	SLU 37	119	23	9175	-14.73	-1.24	-0.59
724	SLU 38	119	43	9175	-16.36	-1.25	-0.47
724	SLU 39	118	23	9344	-16.73	-1.18	-0.65
724	SLU 40	118	43	9343	-18.37	-1.19	-0.54
724	SLU 41	119	24	9455	-16.12	-1.21	-0.64
724	SLU 42	119	43	9455	-17.76	-1.21	-0.53
724	SLU 43	125	27	8621	-18.6	-1.53	-0.36
724	SLU 44	125	60	8621	-21.33	-1.53	-0.17
724	SLU 45	127	27	8791	-17.89	-1.56	-0.36
724	SLU 46	127	47	8791	-19.53	-1.57	-0.25
724	SLU 47	127	61	8732	-20.72	-1.56	-0.16
724	SLU 48	129	28	8902	-17.28	-1.59	-0.35
724	SLU 49	129	48	8902	-18.92	-1.59	-0.24
724	SLU 50	128	28	8843	-17.38	-1.58	-0.34
724	SLU 51	128	48	8843	-19.02	-1.58	-0.22
724	SLU 52	130	63	9532	-23.16	-1.51	-0.28
724	SLU 53	133	30	9703	-19.72	-1.54	-0.48
724	SLU 54	133	50	9703	-21.36	-1.54	-0.36
724	SLU 55	132	63	9643	-22.55	-1.53	-0.27
724	SLU 56	135	30	9814	-19.11	-1.57	-0.47
724	SLU 57	135	50	9814	-20.75	-1.57	-0.35
724	SLU 58	134	31	9755	-19.21	-1.55	-0.45
724	SLU 59	134	50	9755	-20.85	-1.56	-0.33
724	SLU 60	133	31	9923	-21.21	-1.5	-0.51
724	SLU 61	133	51	9923	-22.85	-1.5	-0.4
724	SLU 62	134	31	10035	-20.6	-1.52	-0.51
724	SLU 63	134	51	10034	-22.24	-1.52	-0.39
724	SLU 64	136	26	9737	-18.45	-1.56	-0.53
724	SLU 65	136	59	9736	-21.18	-1.57	-0.34
724	SLU 66	138	26	9907	-17.74	-1.6	-0.54
724	SLU 67	138	46	9907	-19.38	-1.6	-0.42
724	SLU 68	138	60	9847	-20.57	-1.59	-0.33
724	SLU 69	140	27	10018	-17.13	-1.62	-0.53
724	SLU 70	140	47	10018	-18.77	-1.62	-0.41
724	SLU 71	139	27	9959	-17.23	-1.61	-0.51
724	SLU 72	139	47	9959	-18.87	-1.61	-0.4
724	SLU 73	141	62	10648	-23.01	-1.54	-0.45
724	SLU 74	144	29	10818	-19.57	-1.57	-0.65
724	SLU 75	144	49	10818	-21.21	-1.58	-0.53
724	SLU 76	143	62	10759	-22.4	-1.57	-0.44
724	SLU 77	146	29	10930	-18.96	-1.6	-0.64
724	SLU 78	146	49	10929	-20.6	-1.6	-0.52
724	SLU 79	145	29	10871	-19.06	-1.59	-0.62
724	SLU 80	145	49	10870	-20.69	-1.59	-0.51
724	SLU 81	144	30	11039	-21.06	-1.53	-0.69
724	SLU 82	144	50	11039	-22.7	-1.53	-0.57
724	SLU 83	145	30	11150	-20.45	-1.55	-0.68
724	SLU 84	145	50	11150	-22.09	-1.56	-0.56
724	SLE RA 1	102	20	7245	-14.22	-1.19	-0.37
724	SLE RA 2	102	42	7244	-16.04	-1.2	-0.24
724	SLE RA 3	104	20	7358	-13.75	-1.22	-0.38
724	SLE RA 4	104	34	7358	-14.84	-1.22	-0.3
724	SLE RA 5	103	43	7318	-15.64	-1.21	-0.24
724	SLE RA 6	105	21	7432	-13.35	-1.23	-0.37
724	SLE RA 7	105	34	7432	-14.44	-1.24	-0.29
724	SLE RA 8	104	21	7393	-13.41	-1.23	-0.36
724	SLE RA 9	104	34	7393	-14.5	-1.23	-0.28
724	SLE RA 10	106	44	7852	-17.26	-1.18	-0.32
724	SLE RA 11	107	22	7966	-14.97	-1.2	-0.45
724	SLE RA 12	107	35	7966	-16.06	-1.2	-0.37
724	SLE RA 13	107	44	7926	-16.86	-1.2	-0.31
724	SLE RA 14	109	22	8040	-14.57	-1.22	-0.44
724	SLE RA 15	109	36	8040	-15.66	-1.22	-0.37
724	SLE RA 16	108	23	8001	-14.63	-1.21	-0.43
724	SLE RA 17	108	36	8000	-15.72	-1.21	-0.35
724	SLE RA 18	107	23	8113	-15.97	-1.17	-0.48
724	SLE RA 19	107	36	8113	-17.06	-1.17	-0.4
724	SLE RA 20	108	23	8187	-15.56	-1.19	-0.47
724	SLE RA 21	108	36	8187	-16.65	-1.19	-0.39
724	SLE FR 1	102	20	7245	-14.22	-1.19	-0.37
724	SLE FR 2	102	25	7245	-14.59	-1.19	-0.34
724	SLE FR 3	102	20	7274	-14.06	-1.2	-0.37
724	SLE FR 4	104	25	7505	-15.11	-1.19	-0.38
724	SLE FR 5	104	21	7535	-14.58	-1.19	-0.4
724	SLE FR 6	105	21	7679	-15.09	-1.18	-0.42
724	SLE QP 1	102	20	7245	-14.22	-1.19	-0.37
724	SLE QP 2	104	21	7505	-14.75	-1.19	-0.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
724	SLD 1	637	189	5967	-33.67	2.56	-1.2
724	SLD 2	638	337	5966	-35.8	2.58	0.65
724	SLD 3	631	-163	6002	2.41	2.65	-2.93
724	SLD 4	633	-15	6001	0.27	2.67	-1.08
724	SLD 5	272	579	6991	-74.76	-0.2	1.64
724	SLD 6	273	677	6990	-76.17	-0.19	2.86
724	SLD 7	253	-596	7107	45.51	0.1	-4.11
724	SLD 8	254	-498	7107	44.09	0.11	-2.89
724	SLD 9	-47	540	7904	-73.59	-2.48	2.09
724	SLD 10	-46	637	7903	-75	-2.47	3.31
724	SLD 11	-66	-635	8020	46.68	-2.18	-3.67
724	SLD 12	-65	-537	8019	45.26	-2.17	-2.45
724	SLD 13	-426	57	9009	-29.77	-5.04	0.27
724	SLD 14	-424	205	9008	-31.91	-5.03	2.12
724	SLD 15	-431	-295	9044	6.31	-4.95	-1.45
724	SLD 16	-430	-147	9043	4.17	-4.94	0.4
724	SLV 1	939	293	5106	-45.34	4.66	-1.6
724	SLV 2	941	526	5104	-48.69	4.68	1.3
724	SLV 3	930	-277	5162	13.06	4.81	-4.41
724	SLV 4	932	-45	5160	9.71	4.83	-1.51
724	SLV 5	368	925	6700	-111.86	0.34	2.96
724	SLV 6	369	1081	6699	-114.12	0.36	4.92
724	SLV 7	337	-977	6888	82.78	0.83	-6.41
724	SLV 8	339	-821	6887	80.53	0.84	-4.46
724	SLV 9	-132	863	8124	-110.02	-3.21	3.66
724	SLV 10	-130	1019	8122	-112.28	-3.2	5.61
724	SLV 11	-162	-1039	8311	84.63	-2.73	-5.72
724	SLV 12	-160	-883	8310	82.37	-2.72	-3.77
724	SLV 13	-725	87	9850	-39.2	-7.2	0.71
724	SLV 14	-723	319	9848	-42.55	-7.18	3.61
724	SLV 15	-734	-484	9906	19.2	-7.06	-2.1
724	SLV 16	-732	-252	9905	15.84	-7.04	0.79
724	SLV FO 1	1023	321	4866	-48.4	5.25	-1.72
724	SLV FO 2	1025	576	4864	-52.08	5.27	1.47
724	SLV FO 3	1013	-307	4927	15.84	5.41	-4.81
724	SLV FO 4	1015	-52	4926	12.15	5.43	-1.62
724	SLV FO 5	394	1015	6620	-121.57	0.5	3.3
724	SLV FO 6	396	1187	6618	-124.06	0.51	5.45
724	SLV FO 7	361	-1077	6826	92.54	1.03	-7.01
724	SLV FO 8	362	-905	6825	90.05	1.04	-4.87
724	SLV FO 9	-155	947	8185	-119.55	-3.42	4.06
724	SLV FO 10	-154	1119	8184	-122.03	-3.4	6.21
724	SLV FO 11	-188	-1145	8392	94.56	-2.89	-6.25
724	SLV FO 12	-187	-973	8390	92.08	-2.87	-4.11
724	SLV FO 13	-808	94	10085	-41.64	-7.8	0.82
724	SLV FO 14	-805	349	10083	-45.33	-7.78	4.01
724	SLV FO 15	-818	-534	10146	22.59	-7.65	-2.27
724	SLV FO 16	-815	-279	10145	18.9	-7.62	0.91
724	CRTFP Ux+	0	0	0	0	0	0
724	CRTFP Ux-	0	0	0	0	0	0
724	CRTFP Uy+	0	0	0	0	0	0
724	CRTFP Uy-	0	0	0	0	0	0
725	SLU 1	100	19	6962	-13.26	-1.11	-0.35
725	SLU 2	100	53	6962	-16.09	-1.11	-0.14
725	SLU 3	103	19	7133	-12.53	-1.14	-0.36
725	SLU 4	103	40	7133	-14.23	-1.14	-0.23
725	SLU 5	102	54	7074	-15.46	-1.14	-0.13
725	SLU 6	104	19	7245	-11.91	-1.16	-0.35
725	SLU 7	104	40	7245	-13.6	-1.17	-0.22
725	SLU 8	103	20	7186	-12.02	-1.15	-0.33
725	SLU 9	104	40	7186	-13.71	-1.16	-0.21
725	SLU 10	106	55	7872	-17.77	-1.06	-0.25
725	SLU 11	108	21	8044	-14.21	-1.09	-0.47
725	SLU 12	108	41	8044	-15.9	-1.09	-0.35
725	SLU 13	107	56	7984	-17.14	-1.09	-0.25
725	SLU 14	110	21	8156	-13.59	-1.11	-0.46
725	SLU 15	110	42	8155	-15.28	-1.12	-0.34
725	SLU 16	109	22	8096	-13.69	-1.1	-0.45
725	SLU 17	109	42	8096	-15.39	-1.11	-0.32
725	SLU 18	108	22	8263	-15.66	-1.03	-0.51
725	SLU 19	108	42	8262	-17.35	-1.04	-0.39
725	SLU 20	110	22	8374	-15.04	-1.06	-0.5
725	SLU 21	110	43	8374	-16.73	-1.06	-0.38
725	SLU 22	111	17	8078	-12.94	-1.11	-0.52
725	SLU 23	111	51	8078	-15.77	-1.12	-0.31
725	SLU 24	114	17	8249	-12.21	-1.14	-0.53
725	SLU 25	114	38	8249	-13.91	-1.15	-0.41
725	SLU 26	113	52	8190	-15.14	-1.14	-0.31
725	SLU 27	115	17	8361	-11.59	-1.17	-0.52
725	SLU 28	115	38	8361	-13.28	-1.17	-0.4
725	SLU 29	115	18	8302	-11.7	-1.16	-0.51
725	SLU 30	115	38	8302	-13.39	-1.16	-0.38
725	SLU 31	117	53	8988	-17.45	-1.06	-0.43
725	SLU 32	119	19	9160	-13.89	-1.09	-0.64
725	SLU 33	119	39	9160	-15.58	-1.1	-0.52
725	SLU 34	118	54	9100	-16.82	-1.09	-0.42
725	SLU 35	121	19	9272	-13.27	-1.12	-0.64
725	SLU 36	121	40	9271	-14.96	-1.12	-0.51
725	SLU 37	120	20	9212	-13.37	-1.11	-0.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
725	SLU 38	120	40	9212	-15.07	-1.11	-0.49
725	SLU 39	119	20	9379	-15.34	-1.04	-0.68
725	SLU 40	119	40	9378	-17.03	-1.04	-0.56
725	SLU 41	121	20	9491	-14.72	-1.06	-0.68
725	SLU 42	121	41	9490	-16.41	-1.06	-0.55
725	SLU 43	126	25	8668	-17.35	-1.44	-0.39
725	SLU 44	126	60	8668	-20.18	-1.44	-0.19
725	SLU 45	129	25	8839	-16.62	-1.47	-0.4
725	SLU 46	129	46	8839	-18.31	-1.48	-0.28
725	SLU 47	128	60	8780	-19.55	-1.47	-0.18
725	SLU 48	131	26	8951	-16	-1.5	-0.39
725	SLU 49	131	46	8951	-17.69	-1.5	-0.27
725	SLU 50	130	26	8892	-16.1	-1.48	-0.38
725	SLU 51	130	47	8892	-17.8	-1.49	-0.25
725	SLU 52	132	61	9578	-21.85	-1.39	-0.3
725	SLU 53	135	27	9750	-18.3	-1.42	-0.52
725	SLU 54	135	48	9749	-19.99	-1.43	-0.39
725	SLU 55	134	62	9690	-21.23	-1.42	-0.29
725	SLU 56	136	28	9862	-17.67	-1.45	-0.51
725	SLU 57	136	48	9861	-19.37	-1.45	-0.38
725	SLU 58	135	28	9802	-17.78	-1.43	-0.49
725	SLU 59	135	49	9802	-19.48	-1.44	-0.37
725	SLU 60	134	28	9969	-19.75	-1.37	-0.56
725	SLU 61	134	49	9968	-21.44	-1.37	-0.43
725	SLU 62	136	28	10080	-19.12	-1.39	-0.55
725	SLU 63	136	49	10080	-20.82	-1.39	-0.42
725	SLU 64	137	23	9784	-17.03	-1.44	-0.57
725	SLU 65	137	58	9784	-19.86	-1.45	-0.36
725	SLU 66	140	23	9955	-16.3	-1.48	-0.58
725	SLU 67	140	44	9955	-17.99	-1.48	-0.45
725	SLU 68	139	58	9896	-19.23	-1.47	-0.35
725	SLU 69	142	24	10067	-15.68	-1.5	-0.57
725	SLU 70	142	44	10067	-17.37	-1.5	-0.44
725	SLU 71	141	24	10008	-15.78	-1.49	-0.55
725	SLU 72	141	45	10008	-17.48	-1.49	-0.43
725	SLU 73	143	59	10694	-21.53	-1.4	-0.47
725	SLU 74	146	25	10866	-17.98	-1.42	-0.69
725	SLU 75	146	46	10866	-19.67	-1.43	-0.56
725	SLU 76	145	60	10806	-20.91	-1.42	-0.46
725	SLU 77	147	26	10978	-17.35	-1.45	-0.68
725	SLU 78	147	46	10977	-19.05	-1.45	-0.56
725	SLU 79	146	26	10918	-17.46	-1.44	-0.66
725	SLU 80	146	47	10918	-19.16	-1.44	-0.54
725	SLU 81	145	26	11085	-19.43	-1.37	-0.73
725	SLU 82	145	47	11084	-21.12	-1.37	-0.6
725	SLU 83	147	26	11197	-18.8	-1.39	-0.72
725	SLU 84	147	47	11196	-20.5	-1.4	-0.6
725	SLE RA 1	103	18	7281	-13.17	-1.11	-0.4
725	SLE RA 2	103	41	7281	-15.05	-1.11	-0.26
725	SLE RA 3	105	18	7395	-12.68	-1.13	-0.4
725	SLE RA 4	105	32	7395	-13.81	-1.13	-0.32
725	SLE RA 5	104	41	7355	-14.64	-1.13	-0.25
725	SLE RA 6	106	19	7470	-12.27	-1.15	-0.4
725	SLE RA 7	106	32	7470	-13.4	-1.15	-0.32
725	SLE RA 8	106	19	7430	-12.34	-1.14	-0.39
725	SLE RA 9	106	33	7430	-13.47	-1.14	-0.3
725	SLE RA 10	107	42	7888	-16.17	-1.08	-0.33
725	SLE RA 11	109	20	8002	-13.8	-1.1	-0.48
725	SLE RA 12	109	33	8002	-14.93	-1.1	-0.4
725	SLE RA 13	108	43	7962	-15.76	-1.09	-0.33
725	SLE RA 14	110	20	8077	-13.39	-1.11	-0.47
725	SLE RA 15	110	34	8077	-14.52	-1.12	-0.39
725	SLE RA 16	109	20	8037	-13.46	-1.1	-0.46
725	SLE RA 17	109	34	8037	-14.59	-1.11	-0.38
725	SLE RA 18	109	20	8148	-14.77	-1.06	-0.51
725	SLE RA 19	109	34	8148	-15.9	-1.06	-0.42
725	SLE RA 20	110	20	8223	-14.35	-1.07	-0.5
725	SLE RA 21	110	34	8222	-15.48	-1.08	-0.42
725	SLE FR 1	103	18	7281	-13.17	-1.11	-0.4
725	SLE FR 2	103	23	7281	-13.55	-1.11	-0.37
725	SLE FR 3	104	18	7311	-13	-1.11	-0.4
725	SLE FR 4	105	23	7541	-14.03	-1.09	-0.4
725	SLE FR 5	105	19	7571	-13.48	-1.1	-0.43
725	SLE FR 6	106	19	7714	-13.97	-1.08	-0.45
725	SLE QP 1	103	18	7281	-13.17	-1.11	-0.4
725	SLE QP 2	105	19	7541	-13.65	-1.09	-0.43
725	SLD 1	637	191	5882	-32.92	2.71	-1.26
725	SLD 2	638	349	5880	-35.27	2.72	0.71
725	SLD 3	631	-171	5915	4.27	2.81	-3.2
725	SLD 4	633	-13	5913	1.91	2.82	-1.23
725	SLD 5	273	591	6994	-75.4	-0.11	1.91
725	SLD 6	274	695	6993	-76.96	-0.1	3.21
725	SLD 7	254	-616	7103	48.55	0.23	-4.56
725	SLD 8	255	-511	7102	46.99	0.24	-3.26
725	SLD 9	-45	549	7980	-74.29	-2.42	2.4
725	SLD 10	-44	653	7979	-75.84	-2.41	3.7
725	SLD 11	-64	-658	8089	49.66	-2.09	-4.07
725	SLD 12	-63	-553	8088	48.1	-2.08	-2.77
725	SLD 13	-423	51	9169	-29.21	-5	0.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
725	SLD 14	-422	209	9168	-31.56	-4.99	2.34
725	SLD 15	-429	-311	9202	7.97	-4.9	-1.58
725	SLD 16	-427	-153	9200	5.62	-4.89	0.4
725	SLV 1	939	297	4952	-44.81	4.83	-1.67
725	SLV 2	941	545	4950	-48.5	4.85	1.43
725	SLV 3	930	-289	5005	15.36	4.99	-4.83
725	SLV 4	932	-41	5002	11.68	5.01	-1.73
725	SLV 5	368	945	6685	-113.57	0.43	3.41
725	SLV 6	370	1112	6683	-116.06	0.45	5.49
725	SLV 7	338	-1009	6861	87.01	0.97	-7.12
725	SLV 8	340	-842	6859	84.53	0.99	-5.03
725	SLV 9	-130	880	8223	-111.82	-3.17	4.17
725	SLV 10	-128	1046	8222	-114.31	-3.16	6.26
725	SLV 11	-160	-1074	8399	88.76	-2.63	-6.36
725	SLV 12	-159	-908	8397	86.28	-2.62	-4.27
725	SLV 13	-722	79	10080	-38.97	-7.2	0.87
725	SLV 14	-720	326	10077	-42.66	-7.18	3.97
725	SLV 15	-731	-507	10132	21.2	-7.03	-2.29
725	SLV 16	-729	-260	10130	17.51	-7.01	0.81
725	SLV FO 1	1022	325	4693	-47.93	5.42	-1.79
725	SLV FO 2	1025	598	4691	-51.98	5.44	1.61
725	SLV FO 3	1012	-320	4751	18.27	5.6	-5.27
725	SLV FO 4	1015	-47	4749	14.21	5.62	-1.86
725	SLV FO 5	395	1038	6599	-123.57	0.59	3.79
725	SLV FO 6	396	1221	6598	-126.3	0.6	6.09
725	SLV FO 7	361	-1111	6792	97.07	1.18	-7.79
725	SLV FO 8	363	-928	6791	94.34	1.2	-5.49
725	SLV FO 9	-153	966	8291	-121.64	-3.38	4.63
725	SLV FO 10	-152	1149	8290	-124.37	-3.37	6.93
725	SLV FO 11	-187	-1184	8485	99	-2.79	-6.95
725	SLV FO 12	-185	-1000	8483	96.27	-2.77	-4.66
725	SLV FO 13	-805	85	10334	-41.51	-7.81	1
725	SLV FO 14	-802	357	10331	-45.56	-7.78	4.41
725	SLV FO 15	-815	-560	10391	24.69	-7.63	-2.47
725	SLV FO 16	-812	-288	10389	20.63	-7.61	0.93
725	CRTFP Ux+	0	0	0	0	0	0
725	CRTFP Ux-	0	0	0	0	0	0
725	CRTFP Uy+	0	0	0	0	0	0
725	CRTFP Uy-	0	0	0	0	0	0
726	SLU 1	101	17	7002	-12.27	-1.45	-0.39
726	SLU 2	101	52	7002	-15.2	-1.46	-0.17
726	SLU 3	104	17	7174	-11.52	-1.49	-0.4
726	SLU 4	104	38	7174	-13.27	-1.5	-0.27
726	SLU 5	103	53	7115	-14.56	-1.49	-0.17
726	SLU 6	106	18	7287	-10.88	-1.52	-0.39
726	SLU 7	106	39	7287	-12.64	-1.53	-0.27
726	SLU 8	105	18	7227	-11	-1.51	-0.38
726	SLU 9	105	39	7227	-12.75	-1.51	-0.25
726	SLU 10	107	54	7911	-16.73	-1.44	-0.29
726	SLU 11	109	18	8084	-13.05	-1.48	-0.51
726	SLU 12	110	40	8084	-14.8	-1.48	-0.39
726	SLU 13	109	54	8024	-16.09	-1.47	-0.28
726	SLU 14	111	19	8196	-12.41	-1.51	-0.51
726	SLU 15	111	40	8196	-14.17	-1.51	-0.38
726	SLU 16	110	19	8137	-12.53	-1.49	-0.49
726	SLU 17	110	41	8137	-14.28	-1.5	-0.36
726	SLU 18	109	19	8301	-14.46	-1.43	-0.55
726	SLU 19	109	40	8301	-16.21	-1.43	-0.42
726	SLU 20	111	19	8413	-13.82	-1.46	-0.55
726	SLU 21	111	41	8413	-15.58	-1.46	-0.42
726	SLU 22	112	14	8119	-11.78	-1.5	-0.56
726	SLU 23	112	50	8119	-14.71	-1.5	-0.34
726	SLU 24	115	14	8291	-11.03	-1.54	-0.57
726	SLU 25	115	35	8291	-12.79	-1.55	-0.44
726	SLU 26	114	50	8231	-14.07	-1.53	-0.34
726	SLU 27	117	15	8404	-10.39	-1.57	-0.56
726	SLU 28	117	36	8404	-12.15	-1.58	-0.44
726	SLU 29	116	15	8344	-10.51	-1.56	-0.55
726	SLU 30	116	36	8344	-12.27	-1.56	-0.42
726	SLU 31	118	51	9028	-16.24	-1.49	-0.46
726	SLU 32	121	15	9200	-12.56	-1.53	-0.68
726	SLU 33	121	37	9200	-14.31	-1.53	-0.56
726	SLU 34	120	51	9140	-15.6	-1.52	-0.45
726	SLU 35	122	16	9313	-11.92	-1.56	-0.68
726	SLU 36	122	37	9313	-13.68	-1.56	-0.55
726	SLU 37	121	17	9253	-12.04	-1.54	-0.66
726	SLU 38	121	38	9253	-13.8	-1.54	-0.53
726	SLU 39	120	16	9417	-13.97	-1.47	-0.72
726	SLU 40	120	37	9417	-15.72	-1.48	-0.59
726	SLU 41	122	17	9530	-13.33	-1.5	-0.72
726	SLU 42	122	38	9530	-15.09	-1.51	-0.59
726	SLU 43	128	23	8720	-16.12	-1.87	-0.44
726	SLU 44	128	59	8720	-19.05	-1.87	-0.23
726	SLU 45	131	23	8892	-15.37	-1.91	-0.46
726	SLU 46	131	44	8892	-17.12	-1.92	-0.33
726	SLU 47	130	59	8832	-18.41	-1.9	-0.23
726	SLU 48	132	24	9005	-14.73	-1.94	-0.45
726	SLU 49	132	45	9005	-16.49	-1.95	-0.32
726	SLU 50	131	24	8945	-14.85	-1.93	-0.43



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
726	SLU 51	131	45	8945	-16.6	-1.93	-0.31
726	SLU 52	134	60	9629	-20.58	-1.86	-0.35
726	SLU 53	136	24	9801	-16.9	-1.9	-0.57
726	SLU 54	136	46	9801	-18.65	-1.9	-0.44
726	SLU 55	135	60	9741	-19.94	-1.89	-0.34
726	SLU 56	138	25	9914	-16.26	-1.93	-0.57
726	SLU 57	138	46	9914	-18.02	-1.93	-0.44
726	SLU 58	137	25	9854	-16.38	-1.91	-0.55
726	SLU 59	137	47	9854	-18.13	-1.92	-0.42
726	SLU 60	136	25	10018	-18.31	-1.84	-0.61
726	SLU 61	136	46	10018	-20.06	-1.85	-0.48
726	SLU 62	138	26	10131	-17.67	-1.88	-0.6
726	SLU 63	138	47	10131	-19.43	-1.88	-0.48
726	SLU 64	139	20	9836	-15.63	-1.92	-0.62
726	SLU 65	139	56	9836	-18.56	-1.92	-0.4
726	SLU 66	142	20	10009	-14.88	-1.96	-0.63
726	SLU 67	142	41	10009	-16.63	-1.96	-0.5
726	SLU 68	141	56	9949	-17.92	-1.95	-0.4
726	SLU 69	143	21	10122	-14.24	-1.99	-0.62
726	SLU 70	143	42	10122	-16	-1.99	-0.49
726	SLU 71	142	21	10062	-14.36	-1.98	-0.6
726	SLU 72	142	43	10062	-16.12	-1.98	-0.48
726	SLU 73	145	57	10745	-20.09	-1.91	-0.52
726	SLU 74	147	22	10918	-16.41	-1.94	-0.74
726	SLU 75	147	43	10918	-18.16	-1.95	-0.61
726	SLU 76	146	58	10858	-19.45	-1.94	-0.51
726	SLU 77	149	22	11031	-15.77	-1.97	-0.74
726	SLU 78	149	43	11031	-17.53	-1.98	-0.61
726	SLU 79	148	23	10971	-15.89	-1.96	-0.72
726	SLU 80	148	44	10971	-17.64	-1.96	-0.59
726	SLU 81	147	22	11135	-17.82	-1.89	-0.78
726	SLU 82	147	43	11135	-19.57	-1.9	-0.65
726	SLU 83	149	23	11248	-17.18	-1.92	-0.77
726	SLU 84	149	44	11248	-18.94	-1.93	-0.65
726	SLE RA 1	104	16	7321	-12.13	-1.46	-0.44
726	SLE RA 2	105	40	7321	-14.08	-1.47	-0.29
726	SLE RA 3	106	16	7436	-11.63	-1.49	-0.44
726	SLE RA 4	106	30	7436	-12.8	-1.5	-0.36
726	SLE RA 5	106	40	7396	-13.66	-1.49	-0.29
726	SLE RA 6	107	17	7511	-11.21	-1.51	-0.44
726	SLE RA 7	107	31	7511	-12.38	-1.52	-0.35
726	SLE RA 8	107	17	7471	-11.28	-1.5	-0.43
726	SLE RA 9	107	31	7471	-12.45	-1.51	-0.34
726	SLE RA 10	108	41	7927	-15.1	-1.46	-0.37
726	SLE RA 11	110	17	8042	-12.65	-1.48	-0.52
726	SLE RA 12	110	31	8042	-13.82	-1.48	-0.43
726	SLE RA 13	109	41	8002	-14.68	-1.48	-0.37
726	SLE RA 14	111	17	8117	-12.23	-1.5	-0.52
726	SLE RA 15	111	32	8117	-13.4	-1.5	-0.43
726	SLE RA 16	110	18	8077	-12.3	-1.49	-0.51
726	SLE RA 17	110	32	8077	-13.47	-1.49	-0.42
726	SLE RA 18	110	17	8187	-13.59	-1.45	-0.55
726	SLE RA 19	110	32	8187	-14.76	-1.45	-0.46
726	SLE RA 20	111	18	8262	-13.16	-1.47	-0.54
726	SLE RA 21	111	32	8262	-14.34	-1.47	-0.46
726	SLE FR 1	104	16	7321	-12.13	-1.46	-0.44
726	SLE FR 2	104	21	7321	-12.52	-1.46	-0.41
726	SLE FR 3	105	16	7351	-11.96	-1.47	-0.43
726	SLE FR 4	106	21	7581	-12.96	-1.46	-0.44
726	SLE FR 5	107	17	7611	-12.4	-1.47	-0.47
726	SLE FR 6	107	17	7754	-12.86	-1.46	-0.49
726	SLE QP 1	104	16	7321	-12.13	-1.46	-0.44
726	SLE QP 2	106	17	7581	-12.57	-1.46	-0.47
726	SLD 1	637	193	5797	-32.26	2.51	0.4
726	SLD 2	638	361	5795	-34.83	2.52	2.46
726	SLD 3	631	-180	5827	6.08	2.62	-1.64
726	SLD 4	633	-11	5825	3.51	2.63	0.42
726	SLD 5	273	604	7000	-76.15	-0.43	2.52
726	SLD 6	274	715	6999	-77.85	-0.43	3.88
726	SLD 7	255	-637	7101	51.63	-0.07	-4.29
726	SLD 8	256	-526	7100	49.93	-0.07	-2.93
726	SLD 9	-44	559	8062	-75.07	-2.85	1.99
726	SLD 10	-43	671	8060	-76.77	-2.84	3.35
726	SLD 11	-62	-682	8163	52.71	-2.49	-4.82
726	SLD 12	-61	-571	8162	51.01	-2.48	-3.46
726	SLD 13	-421	44	9336	-28.65	-5.55	-1.36
726	SLD 14	-419	213	9334	-31.22	-5.54	0.7
726	SLD 15	-426	-328	9367	9.69	-5.44	-3.4
726	SLD 16	-425	-160	9365	7.12	-5.43	-1.34
726	SLV 1	938	302	4797	-44.41	4.73	0.96
726	SLV 2	940	566	4794	-48.44	4.75	4.18
726	SLV 3	929	-301	4846	17.62	4.9	-2.37
726	SLV 4	931	-37	4843	13.59	4.92	0.86
726	SLV 5	369	968	6672	-115.45	0.13	4.39
726	SLV 6	370	1145	6670	-118.16	0.14	6.57
726	SLV 7	339	-1043	6835	91.32	0.71	-6.68
726	SLV 8	340	-865	6833	88.61	0.72	-4.51
726	SLV 9	-128	898	8328	-113.75	-3.64	3.57
726	SLV 10	-127	1076	8326	-116.46	-3.63	5.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
726	SLV 11	-158	-1112	8491	93.02	-3.06	-7.5
726	SLV 12	-157	-935	8489	90.31	-3.05	-5.33
726	SLV 13	-719	70	10318	-38.73	-7.84	-1.8
726	SLV 14	-717	334	10315	-42.76	-7.82	1.43
726	SLV 15	-728	-533	10367	23.3	-7.66	-5.12
726	SLV 16	-726	-269	10364	19.27	-7.65	-1.89
726	SLV FO 1	1021	331	4519	-47.59	5.35	1.1
726	SLV FO 2	1024	621	4515	-52.02	5.37	4.65
726	SLV FO 3	1011	-333	4573	20.64	5.54	-2.56
726	SLV FO 4	1014	-42	4569	16.21	5.56	0.99
726	SLV FO 5	395	1063	6581	-125.74	0.29	4.88
726	SLV FO 6	397	1258	6579	-128.72	0.3	7.27
726	SLV FO 7	362	-1149	6760	101.71	0.93	-7.3
726	SLV FO 8	364	-953	6758	98.72	0.94	-4.91
726	SLV FO 9	-152	986	8403	-123.86	-3.86	3.97
726	SLV FO 10	-150	1182	8401	-126.85	-3.84	6.36
726	SLV FO 11	-185	-1225	8583	103.58	-3.22	-8.21
726	SLV FO 12	-183	-1030	8580	100.6	-3.21	-5.82
726	SLV FO 13	-802	75	10592	-41.35	-8.48	-1.93
726	SLV FO 14	-799	366	10589	-45.78	-8.46	1.62
726	SLV FO 15	-812	-588	10646	26.88	-8.28	-5.58
726	SLV FO 16	-809	-298	10643	22.45	-8.26	-2.04
726	CRTFP Ux+	0	0	0	0	0	0
726	CRTFP Ux-	0	0	0	0	0	0
726	CRTFP Uy+	0	0	0	0	0	0
726	CRTFP Uy-	0	0	0	0	0	0
727	SLU 1	102	15	7065	-11.3	-2.6	-0.44
727	SLU 2	102	51	7065	-14.33	-2.61	-0.24
727	SLU 3	105	15	7239	-10.52	-2.68	-0.45
727	SLU 4	105	37	7239	-12.34	-2.68	-0.33
727	SLU 5	104	52	7179	-13.68	-2.66	-0.23
727	SLU 6	107	15	7353	-9.87	-2.73	-0.45
727	SLU 7	107	37	7353	-11.69	-2.73	-0.33
727	SLU 8	106	16	7293	-10	-2.7	-0.44
727	SLU 9	106	38	7293	-11.82	-2.71	-0.31
727	SLU 10	108	52	7976	-15.71	-2.74	-0.35
727	SLU 11	111	16	8150	-11.9	-2.81	-0.57
727	SLU 12	111	38	8150	-13.72	-2.81	-0.45
727	SLU 13	110	53	8090	-15.06	-2.79	-0.35
727	SLU 14	112	16	8264	-11.25	-2.86	-0.57
727	SLU 15	112	38	8264	-13.07	-2.86	-0.45
727	SLU 16	111	17	8203	-11.38	-2.84	-0.55
727	SLU 17	111	39	8204	-13.2	-2.84	-0.43
727	SLU 18	110	16	8366	-13.27	-2.79	-0.6
727	SLU 19	110	38	8366	-15.09	-2.79	-0.48
727	SLU 20	112	17	8480	-12.62	-2.84	-0.6
727	SLU 21	112	38	8480	-14.44	-2.85	-0.48
727	SLU 22	113	11	8186	-10.64	-2.83	-0.6
727	SLU 23	114	48	8186	-13.67	-2.84	-0.4
727	SLU 24	116	11	8360	-9.86	-2.91	-0.62
727	SLU 25	116	33	8360	-11.68	-2.91	-0.5
727	SLU 26	115	48	8300	-13.02	-2.89	-0.4
727	SLU 27	118	12	8474	-9.21	-2.96	-0.62
727	SLU 28	118	34	8474	-11.03	-2.96	-0.49
727	SLU 29	117	12	8414	-9.34	-2.94	-0.6
727	SLU 30	117	34	8414	-11.16	-2.94	-0.48
727	SLU 31	119	48	9096	-15.05	-2.97	-0.52
727	SLU 32	122	12	9271	-11.25	-3.04	-0.73
727	SLU 33	122	34	9271	-13.06	-3.05	-0.61
727	SLU 34	121	49	9210	-14.4	-3.02	-0.52
727	SLU 35	123	12	9385	-10.59	-3.09	-0.73
727	SLU 36	123	34	9385	-12.41	-3.1	-0.61
727	SLU 37	123	13	9324	-10.72	-3.07	-0.72
727	SLU 38	123	35	9324	-12.54	-3.07	-0.6
727	SLU 39	121	12	9486	-12.62	-3.02	-0.77
727	SLU 40	122	34	9487	-14.43	-3.03	-0.65
727	SLU 41	123	13	9601	-11.97	-3.08	-0.77
727	SLU 42	123	35	9601	-13.78	-3.08	-0.65
727	SLU 43	129	21	8800	-14.92	-3.3	-0.51
727	SLU 44	129	57	8800	-17.95	-3.31	-0.31
727	SLU 45	132	21	8974	-14.14	-3.38	-0.53
727	SLU 46	132	43	8974	-15.96	-3.38	-0.4
727	SLU 47	131	58	8914	-17.29	-3.36	-0.31
727	SLU 48	134	21	9088	-13.49	-3.43	-0.52
727	SLU 49	134	43	9088	-15.3	-3.43	-0.4
727	SLU 50	133	22	9028	-13.61	-3.4	-0.51
727	SLU 51	133	44	9028	-15.43	-3.41	-0.39
727	SLU 52	135	58	9711	-19.33	-3.44	-0.43
727	SLU 53	137	21	9885	-15.52	-3.51	-0.64
727	SLU 54	138	43	9885	-17.34	-3.51	-0.52
727	SLU 55	137	58	9825	-18.68	-3.49	-0.43
727	SLU 56	139	22	9999	-14.87	-3.56	-0.64
727	SLU 57	139	44	9999	-16.69	-3.56	-0.52
727	SLU 58	138	23	9939	-15	-3.54	-0.63
727	SLU 59	138	44	9939	-16.81	-3.54	-0.51
727	SLU 60	137	22	10101	-16.89	-3.49	-0.68
727	SLU 61	137	44	10101	-18.71	-3.5	-0.56
727	SLU 62	139	22	10215	-16.24	-3.54	-0.68
727	SLU 63	139	44	10215	-18.06	-3.55	-0.56



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
727	SLU 64	140	17	9921	-14.26	-3.53	-0.68
727	SLU 65	140	53	9921	-17.29	-3.54	-0.48
727	SLU 66	143	17	10095	-13.48	-3.61	-0.69
727	SLU 67	143	39	10095	-15.3	-3.61	-0.57
727	SLU 68	142	54	10035	-16.64	-3.59	-0.47
727	SLU 69	145	17	10209	-12.83	-3.66	-0.69
727	SLU 70	145	39	10209	-14.65	-3.66	-0.57
727	SLU 71	144	18	10149	-12.95	-3.64	-0.68
727	SLU 72	144	40	10149	-14.77	-3.64	-0.55
727	SLU 73	146	54	10831	-18.67	-3.67	-0.59
727	SLU 74	149	18	11006	-14.86	-3.74	-0.81
727	SLU 75	149	40	11006	-16.68	-3.75	-0.69
727	SLU 76	148	55	10946	-18.02	-3.72	-0.59
727	SLU 77	150	18	11120	-14.21	-3.79	-0.81
727	SLU 78	150	40	11120	-16.03	-3.8	-0.69
727	SLU 79	149	19	11059	-14.34	-3.77	-0.79
727	SLU 80	149	41	11060	-16.16	-3.77	-0.67
727	SLU 81	148	18	11222	-16.23	-3.72	-0.84
727	SLU 82	148	40	11222	-18.05	-3.73	-0.72
727	SLU 83	150	19	11336	-15.58	-3.78	-0.84
727	SLU 84	150	40	11336	-17.4	-3.78	-0.72
727	SLE RA 1	106	14	7385	-11.11	-2.67	-0.48
727	SLE RA 2	106	38	7385	-13.13	-2.67	-0.35
727	SLE RA 3	107	14	7501	-10.59	-2.72	-0.49
727	SLE RA 4	107	28	7501	-11.8	-2.72	-0.41
727	SLE RA 5	107	39	7461	-12.7	-2.71	-0.35
727	SLE RA 6	108	14	7577	-10.16	-2.75	-0.49
727	SLE RA 7	108	29	7577	-11.37	-2.75	-0.41
727	SLE RA 8	108	15	7537	-10.24	-2.74	-0.48
727	SLE RA 9	108	29	7537	-11.46	-2.74	-0.4
727	SLE RA 10	109	39	7992	-14.05	-2.76	-0.43
727	SLE RA 11	111	14	8108	-11.51	-2.81	-0.57
727	SLE RA 12	111	29	8108	-12.73	-2.81	-0.49
727	SLE RA 13	110	39	8068	-13.62	-2.79	-0.43
727	SLE RA 14	112	15	8184	-11.08	-2.84	-0.57
727	SLE RA 15	112	29	8184	-12.29	-2.84	-0.49
727	SLE RA 16	112	15	8144	-11.16	-2.82	-0.56
727	SLE RA 17	112	30	8144	-12.38	-2.83	-0.48
727	SLE RA 18	111	15	8252	-12.43	-2.79	-0.6
727	SLE RA 19	111	29	8252	-13.64	-2.8	-0.51
727	SLE RA 20	112	15	8328	-11.99	-2.83	-0.59
727	SLE RA 21	112	30	8328	-13.21	-2.83	-0.51
727	SLE FR 1	106	14	7385	-11.11	-2.67	-0.48
727	SLE FR 2	106	19	7385	-11.52	-2.67	-0.46
727	SLE FR 3	106	14	7415	-10.94	-2.68	-0.48
727	SLE FR 4	107	19	7645	-11.91	-2.71	-0.49
727	SLE FR 5	108	14	7676	-11.33	-2.72	-0.52
727	SLE FR 6	108	14	7819	-11.77	-2.73	-0.54
727	SLE QP 1	106	14	7385	-11.11	-2.67	-0.48
727	SLE QP 2	107	14	7645	-11.51	-2.71	-0.52
727	SLD 1	637	195	5727	-31.68	1.67	0.38
727	SLD 2	638	374	5725	-34.47	1.68	2.46
727	SLD 3	631	-188	5755	7.85	1.78	-1.61
727	SLD 4	633	-9	5753	5.06	1.79	0.47
727	SLD 5	274	617	7027	-77.01	-1.57	2.39
727	SLD 6	275	735	7026	-78.85	-1.56	3.77
727	SLD 7	256	-660	7121	54.76	-1.19	-4.24
727	SLD 8	257	-541	7120	52.92	-1.18	-2.86
727	SLD 9	-42	570	8170	-75.93	-4.23	1.83
727	SLD 10	-41	688	8169	-77.77	-4.22	3.2
727	SLD 11	-61	-707	8265	55.84	-3.85	-4.8
727	SLD 12	-60	-589	8263	54	-3.85	-3.43
727	SLD 13	-418	37	9537	-28.07	-7.2	-1.51
727	SLD 14	-417	216	9535	-30.86	-7.19	0.58
727	SLD 15	-424	-346	9566	11.46	-7.09	-3.5
727	SLD 16	-423	-167	9563	8.67	-7.08	-1.41
727	SLV 1	937	307	4653	-44.13	4.11	0.94
727	SLV 2	939	588	4649	-48.51	4.13	4.2
727	SLV 3	928	-313	4698	19.83	4.29	-2.3
727	SLV 4	930	-32	4694	15.46	4.31	0.97
727	SLV 5	369	991	6679	-117.49	-0.94	4.22
727	SLV 6	371	1180	6677	-120.43	-0.92	6.41
727	SLV 7	339	-1078	6830	95.72	-0.34	-6.56
727	SLV 8	341	-888	6828	92.77	-0.32	-4.37
727	SLV 9	-127	916	8462	-115.79	-5.09	3.33
727	SLV 10	-125	1106	8460	-118.73	-5.08	5.53
727	SLV 11	-157	-1152	8613	97.42	-4.49	-7.45
727	SLV 12	-155	-962	8611	94.47	-4.48	-5.25
727	SLV 13	-716	60	10596	-38.47	-9.72	-2
727	SLV 14	-714	341	10592	-42.84	-9.71	1.26
727	SLV 15	-725	-560	10641	25.49	-9.54	-5.24
727	SLV 16	-723	-279	10638	21.12	-9.53	-1.97
727	SLV FO 1	1020	337	4353	-47.4	4.8	1.08
727	SLV FO 2	1023	646	4349	-52.21	4.82	4.67
727	SLV FO 3	1010	-346	4403	22.96	4.99	-2.47
727	SLV FO 4	1013	-37	4399	18.15	5.01	1.12
727	SLV FO 5	395	1088	6583	-128.08	-0.76	4.69
727	SLV FO 6	397	1296	6580	-131.32	-0.75	7.11
727	SLV FO 7	363	-1187	6749	106.44	-0.1	-7.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
727	SLV FO 8	364	-979	6746	103.2	-0.09	-4.75
727	SLV FO 9	-150	1007	8544	-126.21	-5.32	3.72
727	SLV FO 10	-148	1215	8541	-129.45	-5.31	6.13
727	SLV FO 11	-183	-1268	8710	108.31	-4.67	-8.14
727	SLV FO 12	-181	-1060	8708	105.07	-4.65	-5.72
727	SLV FO 13	-798	65	10891	-41.16	-10.42	-2.15
727	SLV FO 14	-796	374	10887	-45.97	-10.41	1.44
727	SLV FO 15	-808	-617	10941	29.19	-10.23	-5.71
727	SLV FO 16	-806	-308	10937	24.38	-10.21	-2.12
727	CRTFP Ux+	0	0	0	0	0	0
727	CRTFP Ux-	0	0	0	0	0	0
727	CRTFP Uy+	0	0	0	0	0	0
727	CRTFP Uy-	0	0	0	0	0	0
728	SLU 1	88	11	6116	-8.94	167.68	-0.71
728	SLU 2	88	43	6117	-11.62	167.68	-1.46
728	SLU 3	90	11	6268	-8.26	171.82	-0.72
728	SLU 4	90	30	6268	-9.86	171.82	-1.17
728	SLU 5	89	43	6216	-11.05	170.39	-1.47
728	SLU 6	92	11	6367	-7.69	174.53	-0.74
728	SLU 7	92	30	6367	-9.29	174.53	-1.19
728	SLU 8	91	12	6314	-7.8	173.09	-0.74
728	SLU 9	91	31	6315	-9.41	173.1	-1.19
728	SLU 10	93	43	6900	-12.7	189.27	-1.56
728	SLU 11	95	11	7051	-9.33	193.41	-0.82
728	SLU 12	95	30	7051	-10.94	193.41	-1.27
728	SLU 13	94	43	6999	-12.13	191.98	-1.58
728	SLU 14	96	11	7150	-8.76	196.12	-0.84
728	SLU 15	96	31	7150	-10.37	196.12	-1.29
728	SLU 16	96	12	7098	-8.88	194.68	-0.84
728	SLU 17	96	31	7098	-10.48	194.69	-1.29
728	SLU 18	95	11	7236	-10.48	198.52	-0.85
728	SLU 19	95	30	7236	-12.08	198.53	-1.3
728	SLU 20	96	12	7335	-9.9	201.23	-0.87
728	SLU 21	96	31	7335	-11.51	201.23	-1.32
728	SLU 22	97	7	7082	-8.25	194.26	-0.73
728	SLU 23	97	39	7083	-10.93	194.26	-1.48
728	SLU 24	100	7	7234	-7.56	198.4	-0.74
728	SLU 25	100	26	7234	-9.17	198.4	-1.19
728	SLU 26	99	39	7182	-10.36	196.97	-1.49
728	SLU 27	101	7	7333	-6.99	201.1	-0.76
728	SLU 28	101	27	7333	-8.6	201.11	-1.21
728	SLU 29	100	8	7280	-7.11	199.67	-0.76
728	SLU 30	100	27	7281	-8.71	199.67	-1.21
728	SLU 31	102	39	7866	-12	215.85	-1.58
728	SLU 32	105	7	8017	-8.63	219.99	-0.84
728	SLU 33	105	26	8017	-10.24	219.99	-1.29
728	SLU 34	104	40	7965	-11.43	218.56	-1.6
728	SLU 35	106	8	8116	-8.06	222.69	-0.86
728	SLU 36	106	27	8116	-9.67	222.7	-1.31
728	SLU 37	105	8	8064	-8.18	221.26	-0.86
728	SLU 38	105	27	8064	-9.79	221.26	-1.31
728	SLU 39	104	7	8202	-9.78	225.1	-0.87
728	SLU 40	104	26	8202	-11.39	225.1	-1.32
728	SLU 41	106	8	8301	-9.21	227.81	-0.89
728	SLU 42	106	27	8301	-10.82	227.81	-1.34
728	SLU 43	111	15	7620	-11.86	208.87	-0.91
728	SLU 44	111	47	7620	-14.54	208.88	-1.66
728	SLU 45	113	15	7772	-11.18	213.01	-0.92
728	SLU 46	113	34	7772	-12.79	213.01	-1.37
728	SLU 47	112	48	7719	-13.97	211.58	-1.68
728	SLU 48	115	16	7871	-10.61	215.72	-0.94
728	SLU 49	115	35	7871	-12.22	215.72	-1.39
728	SLU 50	114	16	7818	-10.72	214.29	-0.94
728	SLU 51	114	35	7818	-12.33	214.29	-1.4
728	SLU 52	116	48	8404	-15.62	230.47	-1.76
728	SLU 53	118	15	8555	-12.25	234.6	-1.02
728	SLU 54	118	35	8555	-13.86	234.6	-1.48
728	SLU 55	117	48	8503	-15.05	233.17	-1.78
728	SLU 56	120	16	8654	-11.68	237.31	-1.04
728	SLU 57	120	35	8654	-13.29	237.31	-1.49
728	SLU 58	119	17	8602	-11.8	235.88	-1.05
728	SLU 59	119	36	8602	-13.4	235.88	-1.5
728	SLU 60	118	16	8739	-13.4	239.72	-1.06
728	SLU 61	118	35	8740	-15	239.72	-1.51
728	SLU 62	119	16	8838	-12.83	242.42	-1.07
728	SLU 63	119	35	8839	-14.43	242.42	-1.52
728	SLU 64	121	12	8586	-11.17	235.45	-0.93
728	SLU 65	121	43	8586	-13.85	235.45	-1.68
728	SLU 66	123	11	8738	-10.48	239.59	-0.94
728	SLU 67	123	31	8738	-12.09	239.59	-1.39
728	SLU 68	122	44	8685	-13.28	238.16	-1.7
728	SLU 69	124	12	8837	-9.91	242.3	-0.96
728	SLU 70	124	31	8837	-11.52	242.3	-1.41
728	SLU 71	123	12	8784	-10.03	240.86	-0.97
728	SLU 72	123	32	8784	-11.64	240.86	-1.42
728	SLU 73	125	44	9370	-14.92	257.04	-1.78
728	SLU 74	128	12	9521	-11.55	261.18	-1.05
728	SLU 75	128	31	9521	-13.16	261.18	-1.5
728	SLU 76	127	44	9469	-14.35	259.75	-1.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
728	SLU 77	129	12	9620	-10.98	263.89	-1.06
728	SLU 78	129	31	9620	-12.59	263.89	-1.51
728	SLU 79	128	13	9568	-11.1	262.45	-1.07
728	SLU 80	128	32	9568	-12.71	262.45	-1.52
728	SLU 81	127	12	9705	-12.7	266.29	-1.08
728	SLU 82	127	31	9706	-14.31	266.29	-1.53
728	SLU 83	129	12	9804	-12.13	269	-1.09
728	SLU 84	129	31	9805	-13.74	269	-1.54
728	SLE RA 1	91	10	6392	-8.74	175.27	-0.71
728	SLE RA 2	91	31	6393	-10.53	175.28	-1.21
728	SLE RA 3	92	10	6493	-8.29	178.03	-0.72
728	SLE RA 4	92	22	6493	-9.36	178.04	-1.02
728	SLE RA 5	92	31	6459	-10.15	177.08	-1.22
728	SLE RA 6	93	10	6559	-7.91	179.84	-0.73
728	SLE RA 7	93	23	6559	-8.98	179.84	-1.03
728	SLE RA 8	93	10	6524	-7.98	178.88	-0.73
728	SLE RA 9	93	23	6525	-9.06	178.88	-1.03
728	SLE RA 10	94	31	6915	-11.25	189.67	-1.28
728	SLE RA 11	95	10	7016	-9	192.43	-0.79
728	SLE RA 12	95	23	7016	-10.07	192.43	-1.09
728	SLE RA 13	95	31	6981	-10.87	191.47	-1.29
728	SLE RA 14	96	10	7082	-8.62	194.23	-0.8
728	SLE RA 15	96	23	7082	-9.69	194.23	-1.1
728	SLE RA 16	96	10	7047	-8.7	193.28	-0.8
728	SLE RA 17	96	23	7047	-9.77	193.28	-1.1
728	SLE RA 18	95	10	7139	-9.77	195.84	-0.81
728	SLE RA 19	95	23	7139	-10.84	195.84	-1.11
728	SLE RA 20	96	10	7205	-9.39	197.64	-0.82
728	SLE RA 21	96	23	7205	-10.46	197.64	-1.12
728	SLE FR 1	91	10	6392	-8.74	175.27	-0.71
728	SLE FR 2	91	14	6392	-9.1	175.27	-0.81
728	SLE FR 3	91	10	6419	-8.59	176	-0.72
728	SLE FR 4	92	14	6616	-9.41	181.44	-0.84
728	SLE FR 5	92	10	6643	-8.9	182.16	-0.75
728	SLE FR 6	93	10	6766	-9.25	185.56	-0.76
728	SLE QP 1	91	10	6392	-8.74	175.27	-0.71
728	SLE QP 2	92	10	6616	-9.05	181.44	-0.74
728	SLD 1	543	168	4860	-26.77	135.62	-4.47
728	SLD 2	544	329	4858	-29.34	135.56	-7.32
728	SLD 3	538	-167	4883	8.07	136.28	3.43
728	SLD 4	539	-5	4881	5.51	136.23	0.59
728	SLD 5	234	535	6056	-66.75	166.7	-13.33
728	SLD 6	235	642	6054	-68.45	166.66	-15.21
728	SLD 7	218	-580	6131	49.4	168.91	13.01
728	SLD 8	219	-473	6130	47.71	168.87	11.13
728	SLD 9	-35	493	7103	-65.81	194.01	-12.61
728	SLD 10	-34	599	7101	-67.5	193.98	-14.49
728	SLD 11	-51	-622	7179	50.35	196.22	13.73
728	SLD 12	-50	-516	7177	48.65	196.19	11.85
728	SLD 13	-355	25	8352	-23.61	226.66	-2.07
728	SLD 14	-354	186	8349	-26.17	226.61	-4.92
728	SLD 15	-360	-310	8374	11.24	227.32	5.83
728	SLD 16	-359	-148	8372	8.67	227.27	2.99
728	SLV 1	798	266	3877	-37.71	109.95	-6.78
728	SLV 2	800	519	3874	-41.73	109.86	-11.24
728	SLV 3	790	-276	3913	18.67	111.01	6.01
728	SLV 4	792	-23	3910	14.65	110.93	1.55
728	SLV 5	315	861	5740	-102.4	158.39	-21.13
728	SLV 6	316	1032	5738	-105.11	158.34	-24.13
728	SLV 7	290	-945	5861	85.52	161.95	21.52
728	SLV 8	291	-775	5859	82.81	161.89	18.52
728	SLV 9	-107	794	7374	-100.91	201	-20
728	SLV 10	-106	965	7371	-103.62	200.94	-23
728	SLV 11	-132	-1012	7495	87.01	204.55	22.64
728	SLV 12	-131	-842	7493	84.3	204.49	19.64
728	SLV 13	-608	43	9323	-32.75	251.96	-3.03
728	SLV 14	-606	296	9319	-36.77	251.87	-7.49
728	SLV 15	-616	-499	9359	23.63	253.02	9.76
728	SLV 16	-614	-246	9356	19.61	252.94	5.3
728	SLV FO 1	869	291	3603	-40.58	102.8	-7.39
728	SLV FO 2	871	569	3599	-45	102.7	-12.29
728	SLV FO 3	860	-305	3643	21.44	103.97	6.68
728	SLV FO 4	862	-27	3639	17.02	103.88	1.78
728	SLV FO 5	337	946	5652	-111.74	156.09	-23.16
728	SLV FO 6	339	1134	5650	-114.71	156.02	-26.47
728	SLV FO 7	309	-1041	5786	94.98	160	23.74
728	SLV FO 8	311	-853	5783	92	159.93	20.44
728	SLV FO 9	-127	873	7449	-110.1	202.95	-21.93
728	SLV FO 10	-125	1060	7447	-113.08	202.89	-25.23
728	SLV FO 11	-155	-1114	7583	96.61	206.86	24.98
728	SLV FO 12	-153	-927	7580	93.64	206.8	21.68
728	SLV FO 13	-678	46	9593	-35.12	259.01	-3.26
728	SLV FO 14	-676	324	9589	-39.54	258.92	-8.17
728	SLV FO 15	-687	-550	9633	26.9	260.18	10.81
728	SLV FO 16	-685	-272	9629	22.48	260.09	5.91
728	CRTFP Ux+	0	0	0	0	0	0
728	CRTFP Ux-	0	0	0	0	0	0
728	CRTFP Uy+	0	0	0	0	0	0
728	CRTFP Uy-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
730	SLU 1	150	17	10502	31.78	2499.19	-5.38
730	SLU 2	150	72	10503	29.33	2499.25	-18.91
730	SLU 3	154	17	10762	33.39	2560.81	-5.36
730	SLU 4	154	50	10763	31.92	2560.85	-13.48
730	SLU 5	152	73	10673	30.49	2539.55	-19.13
730	SLU 6	156	17	10933	34.55	2601.11	-5.57
730	SLU 7	156	50	10933	33.07	2601.15	-13.69
730	SLU 8	155	18	10843	34.1	2579.78	-5.8
730	SLU 9	155	51	10843	32.63	2579.82	-13.92
730	SLU 10	158	72	11844	33.47	2819.96	-19.06
730	SLU 11	162	17	12104	37.52	2881.52	-5.5
730	SLU 12	162	50	12104	36.05	2881.56	-13.63
730	SLU 13	161	73	12015	34.63	2860.26	-19.27
730	SLU 14	164	17	12274	38.68	2921.82	-5.72
730	SLU 15	164	50	12275	37.21	2921.86	-13.84
730	SLU 16	163	18	12184	38.23	2900.49	-5.95
730	SLU 17	163	51	12185	36.76	2900.53	-14.07
730	SLU 18	162	17	12419	37.69	2957.35	-5.58
730	SLU 19	162	50	12419	36.22	2957.38	-13.7
730	SLU 20	164	18	12589	38.85	2997.64	-5.79
730	SLU 21	164	51	12589	37.38	2997.68	-13.92
730	SLU 22	166	10	12158	38.7	2894.2	-3.84
730	SLU 23	166	65	12158	36.25	2894.26	-17.38
730	SLU 24	170	10	12418	40.3	2955.82	-3.82
730	SLU 25	170	43	12418	38.83	2955.86	-11.95
730	SLU 26	169	66	12329	37.41	2934.56	-17.59
730	SLU 27	172	10	12588	41.46	2996.12	-4.04
730	SLU 28	172	43	12589	39.99	2996.16	-12.16
730	SLU 29	171	11	12498	41.02	2974.79	-4.27
730	SLU 30	171	44	12499	39.55	2974.83	-12.39
730	SLU 31	174	65	13500	40.38	3214.97	-17.52
730	SLU 32	178	10	13760	44.44	3276.53	-3.97
730	SLU 33	178	43	13760	42.97	3276.57	-12.09
730	SLU 34	177	66	13670	41.54	3255.27	-17.73
730	SLU 35	181	10	13930	45.6	3316.83	-4.18
730	SLU 36	181	43	13930	44.13	3316.87	-12.3
730	SLU 37	179	11	13840	45.15	3295.5	-4.41
730	SLU 38	179	44	13840	43.68	3295.54	-12.53
730	SLU 39	178	10	14075	44.61	3352.36	-4.05
730	SLU 40	178	43	14075	43.14	3352.39	-12.17
730	SLU 41	180	11	14245	45.77	3392.65	-4.26
730	SLU 42	180	44	14245	44.3	3392.69	-12.38
730	SLU 43	189	24	13085	38.94	3113.51	-7.52
730	SLU 44	189	79	13086	36.49	3113.58	-21.05
730	SLU 45	193	24	13346	40.55	3175.14	-7.5
730	SLU 46	193	57	13346	39.08	3175.18	-15.62
730	SLU 47	192	80	13256	37.65	3153.87	-21.27
730	SLU 48	196	25	13516	41.71	3215.44	-7.71
730	SLU 49	196	58	13516	40.24	3215.47	-15.83
730	SLU 50	194	26	13426	41.26	3194.11	-7.94
730	SLU 51	194	59	13426	39.79	3194.15	-16.06
730	SLU 52	197	79	14427	40.63	3434.29	-21.2
730	SLU 53	201	24	14687	44.68	3495.85	-7.64
730	SLU 54	201	57	14687	43.21	3495.89	-15.77
730	SLU 55	200	80	14598	41.79	3474.58	-21.41
730	SLU 56	204	25	14857	45.84	3536.15	-7.86
730	SLU 57	204	58	14858	44.37	3536.18	-15.98
730	SLU 58	202	26	14767	45.4	3514.82	-8.09
730	SLU 59	202	59	14768	43.93	3514.86	-16.21
730	SLU 60	201	24	15002	44.85	3571.67	-7.72
730	SLU 61	201	57	15002	43.38	3571.71	-15.84
730	SLU 62	203	25	15172	46.01	3611.97	-7.93
730	SLU 63	203	58	15172	44.54	3612.01	-16.06
730	SLU 64	205	17	14741	45.86	3508.52	-5.98
730	SLU 65	205	72	14741	43.41	3508.59	-19.52
730	SLU 66	209	17	15001	47.47	3570.15	-5.96
730	SLU 67	209	50	15001	46	3570.19	-14.09
730	SLU 68	208	73	14912	44.57	3548.88	-19.73
730	SLU 69	212	18	15171	48.63	3610.45	-6.18
730	SLU 70	212	51	15172	47.16	3610.48	-14.3
730	SLU 71	210	19	15081	48.18	3589.12	-6.41
730	SLU 72	210	52	15082	46.71	3589.16	-14.53
730	SLU 73	214	72	16083	47.55	3829.3	-19.66
730	SLU 74	218	17	16343	51.6	3890.86	-6.11
730	SLU 75	218	50	16343	50.13	3890.9	-14.23
730	SLU 76	216	73	16253	48.71	3869.59	-19.87
730	SLU 77	220	18	16513	52.76	3931.16	-6.32
730	SLU 78	220	51	16513	51.29	3931.19	-14.44
730	SLU 79	219	19	16423	52.31	3909.83	-6.55
730	SLU 80	219	52	16423	50.84	3909.87	-14.67
730	SLU 81	217	17	16658	51.77	3966.68	-6.19
730	SLU 82	217	50	16658	50.3	3966.72	-14.31
730	SLU 83	220	18	16828	52.93	4006.98	-6.4
730	SLU 84	220	51	16828	51.46	4007.02	-14.52
730	SLE RA 1	154	15	10975	33.76	2612.05	-4.94
730	SLE RA 2	154	52	10976	32.12	2612.09	-13.96
730	SLE RA 3	157	15	11149	34.83	2653.13	-4.93
730	SLE RA 4	157	37	11149	33.85	2653.16	-10.34
730	SLE RA 5	156	52	11089	32.9	2638.96	-14.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
730	SLE RA 6	159	15	11262	35.6	2680	-5.07
730	SLE RA 7	159	37	11262	34.62	2680.02	-10.48
730	SLE RA 8	158	16	11202	35.3	2665.78	-5.22
730	SLE RA 9	158	38	11202	34.32	2665.8	-10.64
730	SLE RA 10	160	52	11870	34.88	2825.9	-14.06
730	SLE RA 11	163	15	12043	37.58	2866.94	-5.02
730	SLE RA 12	163	37	12043	36.6	2866.96	-10.44
730	SLE RA 13	162	52	11983	35.65	2852.76	-14.2
730	SLE RA 14	164	15	12157	38.36	2893.8	-5.16
730	SLE RA 15	164	37	12157	37.38	2893.83	-10.58
730	SLE RA 16	163	16	12097	38.06	2879.59	-5.32
730	SLE RA 17	163	38	12097	37.08	2879.61	-10.73
730	SLE RA 18	162	15	12253	37.7	2917.49	-5.08
730	SLE RA 19	162	37	12253	36.72	2917.51	-10.49
730	SLE RA 20	164	15	12367	38.47	2944.35	-5.22
730	SLE RA 21	164	37	12367	37.49	2944.38	-10.63
730	SLE FR 1	154	15	10975	33.76	2612.05	-4.94
730	SLE FR 2	154	22	10975	33.43	2612.06	-6.74
730	SLE FR 3	155	15	11021	34.07	2622.8	-5
730	SLE FR 4	157	22	11359	34.61	2703.69	-6.78
730	SLE FR 5	157	15	11404	35.25	2714.43	-5.04
730	SLE FR 6	158	15	11614	35.73	2764.77	-5.01
730	SLE QP 1	154	15	10975	33.76	2612.05	-4.94
730	SLE QP 2	157	15	11359	34.94	2703.68	-4.98
730	SLD 1	923	287	8270	8.48	2010.49	-73.16
730	SLD 2	925	568	8266	6.08	2009.64	-141.1
730	SLD 3	915	-289	8309	40.42	2020.22	68.54
730	SLD 4	917	-8	8305	38.02	2019.38	0.6
730	SLD 5	398	918	10374	-21.01	2481.11	-228.1
730	SLD 6	400	1104	10371	-22.59	2480.55	-272.96
730	SLD 7	372	-1000	10503	85.46	2513.57	244.23
730	SLD 8	373	-814	10501	83.87	2513.01	199.36
730	SLD 9	-60	844	12217	-13.99	2894.36	-209.32
730	SLD 10	-58	1029	12214	-15.58	2893.8	-254.18
730	SLD 11	-86	-1074	12346	92.47	2926.81	263
730	SLD 12	-85	-889	12343	90.89	2926.26	218.14
730	SLD 13	-603	37	14413	31.86	3387.98	-10.56
730	SLD 14	-601	319	14409	29.46	3387.14	-78.5
730	SLD 15	-611	-538	14451	63.8	3397.72	131.14
730	SLD 16	-609	-257	14447	61.4	3396.88	63.2
730	SLV 1	1357	455	6540	-7.25	1622.21	-115.4
730	SLV 2	1360	896	6534	-11.01	1620.88	-221.85
730	SLV 3	1344	-477	6602	44.42	1637.85	114.13
730	SLV 4	1347	-36	6596	40.66	1636.52	7.69
730	SLV 5	536	1479	9820	-55.39	2355.77	-366.37
730	SLV 6	538	1775	9816	-57.92	2354.87	-438.04
730	SLV 7	493	-1629	10027	116.86	2407.9	398.75
730	SLV 8	495	-1332	10023	114.32	2407.01	327.08
730	SLV 9	-181	1362	12694	-44.45	3000.36	-337.04
730	SLV 10	-179	1658	12690	-46.98	2999.46	-408.71
730	SLV 11	-224	-1745	12901	127.8	3052.49	428.08
730	SLV 12	-222	-1449	12897	125.27	3051.6	356.41
730	SLV 13	-1034	66	16121	29.22	3770.84	-17.65
730	SLV 14	-1030	507	16115	25.46	3769.51	-124.09
730	SLV 15	-1046	-866	16183	80.89	3786.48	211.89
730	SLV 16	-1043	-425	16177	77.13	3785.15	105.44
730	SLV FO 1	1477	499	6058	-11.47	1514.06	-126.45
730	SLV FO 2	1480	984	6051	-15.61	1512.6	-243.54
730	SLV FO 3	1463	-526	6127	45.37	1531.27	126.04
730	SLV FO 4	1466	-41	6120	41.23	1529.81	8.95
730	SLV FO 5	574	1625	9666	-64.42	2320.97	-402.51
730	SLV FO 6	576	1951	9662	-67.21	2319.99	-481.35
730	SLV FO 7	526	-1793	9894	125.05	2378.32	439.12
730	SLV FO 8	529	-1467	9889	122.26	2377.34	360.29
730	SLV FO 9	-215	1496	12828	-52.38	3030.02	-370.25
730	SLV FO 10	-213	1823	12823	-55.17	3029.04	-449.08
730	SLV FO 11	-262	-1922	13056	137.08	3087.37	471.39
730	SLV FO 12	-260	-1595	13051	134.3	3086.39	392.55
730	SLV FO 13	-1153	71	16598	28.65	3877.56	-18.91
730	SLV FO 14	-1149	556	16591	24.51	3876.1	-136
730	SLV FO 15	-1167	-954	16666	85.49	3894.76	233.58
730	SLV FO 16	-1163	-469	16659	81.35	3893.3	116.49
730	CRTFP Ux+	0	0	0	0	0.01	0
730	CRTFP Ux-	0	0	0	0	-0.01	0
730	CRTFP Uy+	0	0	0	0	0	0
730	CRTFP Uy-	0	0	0	0	0	0
787	SLU 1	-37	42	3304	90.08	-727.96	11.5
787	SLU 2	-36	61	3302	89.92	-728.73	16.14
787	SLU 3	-37	43	3381	92.19	-744.54	11.64
787	SLU 4	-37	54	3379	92.1	-745	14.42
787	SLU 5	-37	61	3350	91.26	-739.17	16.24
787	SLU 6	-38	43	3429	93.52	-754.98	11.73
787	SLU 7	-37	54	3428	93.43	-755.44	14.52
787	SLU 8	-37	43	3401	92.75	-748.85	11.69
787	SLU 9	-37	54	3400	92.65	-749.31	14.47
787	SLU 10	-37	67	3721	101.32	-821.36	17.63
787	SLU 11	-38	49	3799	103.59	-837.17	13.13
787	SLU 12	-37	60	3798	103.49	-837.63	15.91
787	SLU 13	-37	67	3769	102.65	-831.8	17.73



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
787	SLU 14	-38	49	3848	104.92	-847.61	13.22
787	SLU 15	-38	60	3847	104.83	-848.07	16.01
787	SLU 16	-38	49	3819	104.14	-841.48	13.18
787	SLU 17	-38	60	3818	104.05	-841.94	15.96
787	SLU 18	-37	51	3902	106.36	-860.29	13.63
787	SLU 19	-37	62	3901	106.27	-860.75	16.41
787	SLU 20	-38	51	3951	107.7	-870.73	13.72
787	SLU 21	-37	62	3949	107.6	-871.2	16.51
787	SLU 22	-39	47	3824	104.3	-842.12	12.63
787	SLU 23	-39	65	3822	104.14	-842.88	17.28
787	SLU 24	-40	47	3901	106.41	-858.69	12.77
787	SLU 25	-39	58	3899	106.32	-859.15	15.56
787	SLU 26	-39	66	3870	105.48	-853.33	17.37
787	SLU 27	-40	47	3949	107.74	-869.13	12.86
787	SLU 28	-40	59	3948	107.65	-869.6	15.65
787	SLU 29	-40	47	3921	106.97	-863	12.82
787	SLU 30	-40	58	3919	106.87	-863.46	15.61
787	SLU 31	-39	71	4241	115.54	-935.52	18.77
787	SLU 32	-40	53	4319	117.81	-951.32	14.26
787	SLU 33	-40	64	4318	117.71	-951.79	17.05
787	SLU 34	-39	72	4289	116.87	-945.96	18.86
787	SLU 35	-41	53	4368	119.14	-961.77	14.35
787	SLU 36	-40	65	4366	119.05	-962.23	17.14
787	SLU 37	-40	53	4339	118.36	-955.63	14.31
787	SLU 38	-40	64	4338	118.27	-956.09	17.09
787	SLU 39	-40	55	4422	120.58	-974.45	14.76
787	SLU 40	-39	66	4421	120.49	-974.91	17.55
787	SLU 41	-40	55	4471	121.92	-984.89	14.85
787	SLU 42	-40	67	4469	121.82	-985.35	17.64
787	SLU 43	-47	54	4117	112.23	-907.21	14.56
787	SLU 44	-46	72	4115	112.07	-907.98	19.21
787	SLU 45	-47	54	4194	114.34	-923.79	14.7
787	SLU 46	-47	65	4192	114.24	-924.25	17.49
787	SLU 47	-47	73	4163	113.4	-918.42	19.3
787	SLU 48	-48	54	4242	115.67	-934.23	14.79
787	SLU 49	-48	66	4241	115.58	-934.69	17.58
787	SLU 50	-47	54	4214	114.89	-928.1	14.75
787	SLU 51	-47	65	4212	114.8	-928.56	17.54
787	SLU 52	-47	78	4534	123.47	-1000.61	20.7
787	SLU 53	-48	60	4612	125.74	-1016.42	16.19
787	SLU 54	-47	71	4611	125.64	-1016.88	18.97
787	SLU 55	-47	78	4582	124.8	-1011.05	20.79
787	SLU 56	-48	60	4661	127.07	-1026.86	16.28
787	SLU 57	-48	71	4660	126.97	-1027.32	19.07
787	SLU 58	-48	60	4632	126.29	-1020.73	16.24
787	SLU 59	-48	71	4631	126.2	-1021.19	19.02
787	SLU 60	-47	62	4715	128.51	-1039.54	16.69
787	SLU 61	-47	73	4714	128.42	-1040	19.47
787	SLU 62	-48	62	4764	129.84	-1049.98	16.78
787	SLU 63	-47	74	4762	129.75	-1050.45	19.57
787	SLU 64	-49	58	4637	126.45	-1021.37	15.69
787	SLU 65	-49	76	4635	126.29	-1022.13	20.34
787	SLU 66	-50	58	4713	128.56	-1037.94	15.83
787	SLU 67	-50	69	4712	128.46	-1038.4	18.62
787	SLU 68	-49	77	4683	127.62	-1032.58	20.43
787	SLU 69	-50	59	4762	129.89	-1048.38	15.92
787	SLU 70	-50	70	4761	129.8	-1048.85	18.71
787	SLU 71	-50	58	4733	129.11	-1042.25	15.88
787	SLU 72	-50	70	4732	129.02	-1042.71	18.67
787	SLU 73	-49	82	5054	137.69	-1114.77	21.83
787	SLU 74	-50	64	5132	139.96	-1130.57	17.32
787	SLU 75	-50	75	5131	139.86	-1131.04	20.11
787	SLU 76	-50	83	5102	139.02	-1125.21	21.92
787	SLU 77	-51	65	5181	141.29	-1141.02	17.41
787	SLU 78	-50	76	5179	141.2	-1141.48	20.2
787	SLU 79	-50	64	5152	140.51	-1134.88	17.37
787	SLU 80	-50	76	5151	140.42	-1135.34	20.16
787	SLU 81	-50	66	5235	142.73	-1153.7	17.82
787	SLU 82	-49	78	5234	142.64	-1154.16	20.61
787	SLU 83	-50	67	5283	144.06	-1164.14	17.91
787	SLU 84	-50	78	5282	143.97	-1164.6	20.7
787	SLE RA 1	-37	44	3453	94.14	-760.58	11.82
787	SLE RA 2	-37	56	3451	94.04	-761.09	14.92
787	SLE RA 3	-38	44	3504	95.55	-771.63	11.91
787	SLE RA 4	-38	51	3503	95.49	-771.94	13.77
787	SLE RA 5	-37	56	3484	94.93	-768.05	14.98
787	SLE RA 6	-38	44	3536	96.44	-778.59	11.98
787	SLE RA 7	-38	52	3535	96.38	-778.9	13.84
787	SLE RA 8	-38	44	3517	95.92	-774.5	11.95
787	SLE RA 9	-38	51	3516	95.86	-774.81	13.81
787	SLE RA 10	-37	60	3731	101.64	-822.84	15.91
787	SLE RA 11	-38	48	3783	103.15	-833.38	12.91
787	SLE RA 12	-38	55	3782	103.09	-833.69	14.77
787	SLE RA 13	-38	60	3763	102.52	-829.81	15.97
787	SLE RA 14	-38	48	3815	104.04	-840.34	12.97
787	SLE RA 15	-38	56	3814	103.97	-840.65	14.83
787	SLE RA 16	-38	48	3796	103.52	-836.25	12.94
787	SLE RA 17	-38	55	3795	103.46	-836.56	14.8
787	SLE RA 18	-38	49	3851	105	-848.8	13.24



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
787	SLE RA 19	-37	57	3851	104.93	-849.1	15.1
787	SLE RA 20	-38	49	3884	105.89	-855.76	13.3
787	SLE RA 21	-38	57	3883	105.82	-856.07	15.16
787	SLE FR 1	-37	44	3453	94.14	-760.58	11.82
787	SLE FR 2	-37	46	3452	94.12	-760.68	12.44
787	SLE FR 3	-37	44	3465	94.5	-763.36	11.85
787	SLE FR 4	-37	48	3572	97.38	-787.15	12.87
787	SLE FR 5	-38	45	3585	97.75	-789.83	12.27
787	SLE FR 6	-37	46	3652	99.57	-804.69	12.53
787	SLE QP 1	-37	44	3453	94.14	-760.58	11.82
787	SLE QP 2	-37	45	3572	97.4	-787.04	12.25
787	SLD 1	211	161	4538	123.01	-996.9	36.74
787	SLD 2	206	69	4538	123.14	-995.46	13.94
787	SLD 3	206	-52	4571	125.3	-988.84	-16.29
787	SLD 4	201	-144	4572	125.42	-987.4	-39.09
787	SLD 5	46	420	3811	101.59	-862.49	104.15
787	SLD 6	43	359	3811	101.67	-861.54	89.09
787	SLD 7	29	-291	3923	109.22	-835.61	-72.65
787	SLD 8	26	-352	3923	109.3	-834.66	-87.71
787	SLD 9	-100	442	3221	85.5	-739.42	112.2
787	SLD 10	-104	381	3222	85.58	-738.47	97.15
787	SLD 11	-117	-269	3333	93.13	-712.55	-64.6
787	SLD 12	-121	-330	3334	93.21	-711.6	-79.65
787	SLD 13	-276	235	2573	69.37	-586.68	63.59
787	SLD 14	-281	142	2573	69.5	-585.25	40.79
787	SLD 15	-281	21	2606	71.66	-578.62	10.55
787	SLD 16	-286	-71	2607	71.78	-577.19	-12.25
787	SLV 1	352	233	5077	137.29	-1114.6	51.96
787	SLV 2	345	88	5078	137.48	-1112.35	16.24
787	SLV 3	344	-112	5131	140.98	-1101.58	-33.71
787	SLV 4	337	-256	5132	141.17	-1099.33	-69.43
787	SLV 5	94	651	3942	103.73	-905.48	160.76
787	SLV 6	88	553	3942	103.86	-903.96	136.71
787	SLV 7	66	-497	4122	116.04	-862.08	-124.8
787	SLV 8	61	-595	4122	116.17	-860.56	-148.85
787	SLV 9	-136	685	3022	78.63	-713.53	173.35
787	SLV 10	-141	588	3023	78.76	-712.01	149.3
787	SLV 11	-163	-463	3202	90.94	-670.12	-112.21
787	SLV 12	-168	-560	3203	91.07	-668.61	-136.26
787	SLV 13	-411	347	2012	53.63	-474.76	93.93
787	SLV 14	-419	202	2013	53.82	-472.51	58.2
787	SLV 15	-420	2	2067	57.32	-461.74	8.26
787	SLV 16	-427	-142	2067	57.51	-459.49	-27.46
787	SLV FO 1	391	251	5228	141.28	-1147.36	55.93
787	SLV FO 2	383	92	5229	141.49	-1144.88	16.64
787	SLV FO 3	382	-128	5287	145.34	-1133.03	-38.3
787	SLV FO 4	374	-287	5288	145.55	-1130.56	-77.6
787	SLV FO 5	107	711	3979	104.36	-917.32	175.61
787	SLV FO 6	101	604	3979	104.51	-915.65	149.16
787	SLV FO 7	76	-552	4177	117.9	-869.58	-138.51
787	SLV FO 8	71	-659	4177	118.04	-867.91	-164.96
787	SLV FO 9	-145	749	2967	76.76	-706.17	189.46
787	SLV FO 10	-151	642	2968	76.9	-704.51	163.01
787	SLV FO 11	-176	-514	3165	90.29	-658.43	-124.66
787	SLV FO 12	-181	-621	3166	90.43	-656.76	-151.12
787	SLV FO 13	-449	377	1856	49.25	-443.53	102.09
787	SLV FO 14	-457	218	1857	49.46	-441.05	62.8
787	SLV FO 15	-458	-2	1916	53.31	-429.21	7.86
787	SLV FO 16	-466	-161	1917	53.52	-426.73	-31.44
787	CRTFP Ux+	0	0	0	0	0	0
787	CRTFP Ux-	0	0	0	0	0	0
787	CRTFP Uy+	0	0	0	0	0	0
787	CRTFP Uy-	0	0	0	0	0	0
790	SLU 1	59	8	3982	108.09	1223.38	-4.32
790	SLU 2	58	29	3977	107.82	1223.82	-11.75
790	SLU 3	60	8	4082	110.85	1253.3	-4.34
790	SLU 4	60	20	4079	110.68	1253.56	-8.8
790	SLU 5	59	29	4042	109.63	1243.39	-11.89
790	SLU 6	61	8	4147	112.66	1272.86	-4.48
790	SLU 7	61	21	4144	112.5	1273.13	-8.94
790	SLU 8	61	8	4113	111.72	1262.52	-4.6
790	SLU 9	60	21	4110	111.55	1262.78	-9.06
790	SLU 10	62	29	4485	121.6	1380.25	-11.9
790	SLU 11	64	8	4591	124.63	1409.73	-4.49
790	SLU 12	63	21	4588	124.46	1409.99	-8.95
790	SLU 13	63	30	4551	123.41	1399.82	-12.04
790	SLU 14	65	8	4656	126.44	1429.29	-4.63
790	SLU 15	64	21	4653	126.27	1429.56	-9.09
790	SLU 16	64	9	4622	125.5	1418.95	-4.75
790	SLU 17	64	21	4619	125.33	1419.21	-9.2
790	SLU 18	64	8	4708	127.78	1446.85	-4.53
790	SLU 19	63	21	4705	127.61	1447.12	-8.99
790	SLU 20	65	8	4774	129.59	1466.42	-4.67
790	SLU 21	64	21	4771	129.42	1466.68	-9.13
790	SLU 22	65	5	4613	125.28	1415.96	-3.61
790	SLU 23	65	26	4608	125.01	1416.4	-11.04
790	SLU 24	67	5	4713	128.04	1445.88	-3.63
790	SLU 25	67	18	4710	127.87	1446.14	-8.09
790	SLU 26	66	27	4674	126.82	1435.97	-11.18



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
790	SLU 27	68	5	4779	129.85	1465.44	-3.77
790	SLU 28	68	18	4776	129.69	1465.71	-8.23
790	SLU 29	67	6	4744	128.91	1455.1	-3.89
790	SLU 30	67	19	4741	128.75	1455.36	-8.34
790	SLU 31	68	27	5117	138.79	1572.83	-11.18
790	SLU 32	70	5	5222	141.82	1602.31	-3.78
790	SLU 33	70	18	5219	141.65	1602.57	-8.24
790	SLU 34	69	27	5182	140.6	1592.4	-11.32
790	SLU 35	71	6	5288	143.63	1621.87	-3.92
790	SLU 36	71	18	5285	143.47	1622.14	-8.37
790	SLU 37	71	6	5253	142.69	1611.53	-4.03
790	SLU 38	71	19	5250	142.53	1611.79	-8.49
790	SLU 39	70	5	5340	144.97	1639.43	-3.82
790	SLU 40	70	18	5337	144.8	1639.7	-8.28
790	SLU 41	71	6	5405	146.78	1659	-3.96
790	SLU 42	71	18	5402	146.62	1659.26	-8.41
790	SLU 43	74	11	4960	134.63	1524.37	-5.86
790	SLU 44	74	32	4955	134.35	1524.81	-13.29
790	SLU 45	76	11	5060	137.38	1554.29	-5.89
790	SLU 46	75	24	5057	137.22	1554.55	-10.34
790	SLU 47	75	33	5020	136.16	1544.38	-13.43
790	SLU 48	77	11	5126	139.19	1573.85	-6.02
790	SLU 49	76	24	5122	139.03	1574.12	-10.48
790	SLU 50	76	12	5091	138.25	1563.5	-6.14
790	SLU 51	76	24	5088	138.09	1563.77	-10.6
790	SLU 52	77	32	5463	148.13	1681.24	-13.44
790	SLU 53	79	11	5569	151.16	1710.71	-6.03
790	SLU 54	79	24	5566	150.99	1710.98	-10.49
790	SLU 55	78	33	5529	149.94	1700.81	-13.58
790	SLU 56	80	11	5634	152.97	1730.28	-6.17
790	SLU 57	80	24	5631	152.81	1730.55	-10.63
790	SLU 58	79	12	5600	152.03	1719.93	-6.29
790	SLU 59	79	25	5597	151.87	1720.2	-10.74
790	SLU 60	79	11	5687	154.31	1747.84	-6.07
790	SLU 61	79	24	5683	154.14	1748.11	-10.53
790	SLU 62	80	11	5752	156.12	1767.41	-6.21
790	SLU 63	80	24	5749	155.96	1767.67	-10.67
790	SLU 64	81	8	5591	151.82	1716.95	-5.15
790	SLU 65	80	30	5586	151.54	1717.39	-12.58
790	SLU 66	82	8	5691	154.57	1746.86	-5.17
790	SLU 67	82	21	5688	154.41	1747.13	-9.63
790	SLU 68	81	30	5652	153.36	1736.96	-12.72
790	SLU 69	83	9	5757	156.39	1766.43	-5.31
790	SLU 70	83	21	5754	156.22	1766.7	-9.77
790	SLU 71	83	9	5722	155.44	1756.08	-5.43
790	SLU 72	82	22	5719	155.28	1756.35	-9.89
790	SLU 73	84	30	6095	165.32	1873.82	-12.73
790	SLU 74	86	8	6200	168.35	1903.29	-5.32
790	SLU 75	85	21	6197	168.19	1903.56	-9.78
790	SLU 76	85	30	6160	167.14	1893.39	-12.86
790	SLU 77	87	9	6266	170.16	1922.86	-5.46
790	SLU 78	86	22	6263	170	1923.13	-9.91
790	SLU 79	86	9	6231	169.22	1912.51	-5.57
790	SLU 80	86	22	6228	169.06	1912.78	-10.03
790	SLU 81	86	9	6318	171.5	1940.42	-5.36
790	SLU 82	85	21	6315	171.34	1940.69	-9.82
790	SLU 83	87	9	6384	173.31	1959.99	-5.5
790	SLU 84	86	22	6380	173.15	1960.25	-9.95
790	SLE RA 1	61	7	4162	113	1278.41	-4.12
790	SLE RA 2	60	21	4159	112.82	1278.7	-9.07
790	SLE RA 3	62	7	4229	114.84	1298.35	-4.13
790	SLE RA 4	61	16	4227	114.73	1298.53	-7.1
790	SLE RA 5	61	21	4202	114.03	1291.74	-9.16
790	SLE RA 6	62	7	4273	116.05	1311.39	-4.23
790	SLE RA 7	62	16	4271	115.94	1311.57	-7.2
790	SLE RA 8	62	7	4250	115.42	1304.49	-4.3
790	SLE RA 9	62	16	4248	115.31	1304.67	-7.27
790	SLE RA 10	63	21	4498	122.01	1382.99	-9.17
790	SLE RA 11	64	7	4568	124.03	1402.64	-4.23
790	SLE RA 12	64	16	4566	123.92	1402.81	-7.2
790	SLE RA 13	63	22	4542	123.22	1396.03	-9.26
790	SLE RA 14	65	7	4612	125.24	1415.68	-4.32
790	SLE RA 15	64	16	4610	125.13	1415.86	-7.29
790	SLE RA 16	64	8	4589	124.61	1408.78	-4.4
790	SLE RA 17	64	16	4587	124.5	1408.96	-7.37
790	SLE RA 18	64	7	4647	126.13	1427.39	-4.26
790	SLE RA 19	64	16	4645	126.02	1427.56	-7.23
790	SLE RA 20	65	7	4690	127.34	1440.43	-4.35
790	SLE RA 21	64	16	4688	127.23	1440.61	-7.32
790	SLE FR 1	61	7	4162	113	1278.41	-4.12
790	SLE FR 2	61	10	4161	112.97	1278.46	-5.11
790	SLE FR 3	61	7	4180	113.49	1283.62	-4.16
790	SLE FR 4	62	10	4307	116.9	1323.16	-5.15
790	SLE FR 5	62	7	4325	117.42	1328.32	-4.2
790	SLE FR 6	62	7	4404	119.57	1352.9	-4.19
790	SLE QP 1	61	7	4162	113	1278.41	-4.12
790	SLE QP 2	62	7	4307	116.94	1323.1	-4.16
790	SLD 1	357	112	3121	83.91	993.69	-45.67
790	SLD 2	351	220	3115	83.58	994.22	-83.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
790	SLD 3	361	-111	3200	87.79	990.54	32.21
790	SLD 4	355	-3	3193	87.46	991.07	-5.31
790	SLD 5	144	357	3833	101.2	1228.96	-127.98
790	SLD 6	141	429	3829	100.98	1229.31	-152.76
790	SLD 7	159	-386	4096	114.15	1218.46	131.64
790	SLD 8	155	-315	4091	113.93	1218.81	106.86
790	SLD 9	-32	329	4523	119.95	1427.39	-115.18
790	SLD 10	-36	400	4519	119.73	1427.74	-139.96
790	SLD 11	-18	-415	4786	132.9	1416.89	144.44
790	SLD 12	-21	-343	4781	132.69	1417.24	119.66
790	SLD 13	-232	17	5421	146.42	1655.13	-3.01
790	SLD 14	-238	125	5415	146.09	1655.65	-40.53
790	SLD 15	-228	-206	5500	150.3	1651.98	74.88
790	SLD 16	-233	-98	5493	149.98	1652.51	37.35
790	SLV 1	524	177	2455	65.3	809.33	-71.17
790	SLV 2	515	347	2445	64.79	810.15	-129.96
790	SLV 3	531	-184	2583	71.59	804.34	55
790	SLV 4	522	-15	2572	71.07	805.16	-3.79
790	SLV 5	191	575	3560	92.01	1176.39	-204.64
790	SLV 6	185	689	3553	91.66	1176.94	-244.23
790	SLV 7	215	-630	3985	112.97	1159.75	215.92
790	SLV 8	209	-516	3978	112.62	1160.3	176.33
790	SLV 9	-86	530	4636	121.26	1485.9	-184.65
790	SLV 10	-92	644	4629	120.91	1486.45	-224.24
790	SLV 11	-62	-674	5062	142.22	1469.26	235.91
790	SLV 12	-68	-560	5055	141.87	1469.81	196.33
790	SLV 13	-399	29	6043	162.81	1841.04	-4.53
790	SLV 14	-408	198	6032	162.29	1841.86	-63.32
790	SLV 15	-392	-333	6170	169.09	1836.05	121.64
790	SLV 16	-400	-163	6160	168.58	1836.87	62.85
790	SLV FO 1	570	194	2270	60.14	757.96	-77.87
790	SLV FO 2	560	381	2258	59.57	758.86	-142.54
790	SLV FO 3	578	-203	2410	67.05	752.47	60.92
790	SLV FO 4	568	-17	2399	66.49	753.37	-3.75
790	SLV FO 5	204	631	3485	89.52	1161.71	-224.69
790	SLV FO 6	197	757	3478	89.13	1162.32	-268.23
790	SLV FO 7	230	-694	3953	112.57	1143.41	237.92
790	SLV FO 8	224	-568	3945	112.19	1144.02	194.38
790	SLV FO 9	-100	582	4669	121.69	1502.18	-202.7
790	SLV FO 10	-107	708	4662	121.31	1502.78	-246.24
790	SLV FO 11	-74	-743	5137	144.75	1483.88	259.91
790	SLV FO 12	-81	-617	5129	144.37	1484.49	216.37
790	SLV FO 13	-445	31	6216	167.39	1892.83	-4.57
790	SLV FO 14	-455	217	6205	166.83	1893.73	-69.24
790	SLV FO 15	-437	-367	6357	174.31	1887.34	134.22
790	SLV FO 16	-447	-180	6345	173.75	1888.24	69.55
790	CRTFP Ux+	0	0	0	0	0	0
790	CRTFP Ux-	0	0	0	0	0	0
790	CRTFP Uy+	0	0	0	0	0	0
790	CRTFP Uy-	0	0	0	0	0	0
791	SLU 1	-39	49	3716	-5.14	-745.68	12.25
791	SLU 2	-38	71	3709	-5.32	-746.61	17.67
791	SLU 3	-40	50	3803	-5.23	-762.55	12.39
791	SLU 4	-39	63	3799	-5.33	-763.11	15.64
791	SLU 5	-38	72	3764	-5.37	-757.24	17.76
791	SLU 6	-40	50	3858	-5.28	-773.18	12.48
791	SLU 7	-39	63	3854	-5.38	-773.74	15.73
791	SLU 8	-40	50	3826	-5.24	-766.94	12.44
791	SLU 9	-39	63	3822	-5.35	-767.49	15.69
791	SLU 10	-38	78	4179	-6.03	-840.87	19.4
791	SLU 11	-40	57	4273	-5.93	-856.81	14.12
791	SLU 12	-39	70	4269	-6.04	-857.36	17.37
791	SLU 13	-39	78	4234	-6.08	-851.49	19.5
791	SLU 14	-40	57	4328	-5.98	-867.44	14.22
791	SLU 15	-40	70	4324	-6.09	-867.99	17.47
791	SLU 16	-40	57	4296	-5.95	-861.19	14.17
791	SLU 17	-39	70	4292	-6.05	-861.75	17.43
791	SLU 18	-39	59	4387	-6.15	-880.34	14.73
791	SLU 19	-39	72	4383	-6.26	-880.89	17.98
791	SLU 20	-40	60	4442	-6.2	-890.96	14.82
791	SLU 21	-39	73	4438	-6.31	-891.52	18.07
791	SLU 22	-42	54	4302	-5.9	-861.88	13.49
791	SLU 23	-41	76	4295	-6.08	-862.8	18.91
791	SLU 24	-42	55	4390	-5.99	-878.75	13.63
791	SLU 25	-42	68	4385	-6.09	-879.3	16.88
791	SLU 26	-41	76	4350	-6.13	-873.43	19.01
791	SLU 27	-43	55	4445	-6.03	-889.38	13.72
791	SLU 28	-42	68	4440	-6.14	-889.93	16.98
791	SLU 29	-42	55	4412	-6	-883.13	13.68
791	SLU 30	-42	68	4408	-6.11	-883.69	16.94
791	SLU 31	-41	83	4765	-6.79	-957.06	20.65
791	SLU 32	-43	62	4859	-6.69	-973	15.36
791	SLU 33	-42	75	4855	-6.8	-973.56	18.61
791	SLU 34	-41	83	4820	-6.84	-967.69	20.74
791	SLU 35	-43	62	4914	-6.74	-983.63	15.46
791	SLU 36	-43	75	4910	-6.85	-984.19	18.71
791	SLU 37	-43	62	4882	-6.71	-977.39	15.42
791	SLU 38	-42	75	4878	-6.81	-977.94	18.67
791	SLU 39	-42	64	4974	-6.91	-996.53	15.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
791	SLU 40	-41	77	4969	-7.02	-997.09	19.22
791	SLU 41	-42	65	5029	-6.96	-1007.16	16.06
791	SLU 42	-42	78	5024	-7.07	-1007.71	19.32
791	SLU 43	-50	63	4630	-6.43	-929.55	15.5
791	SLU 44	-49	84	4623	-6.6	-930.48	20.92
791	SLU 45	-50	63	4717	-6.51	-946.42	15.63
791	SLU 46	-50	76	4713	-6.62	-946.98	18.89
791	SLU 47	-49	85	4678	-6.65	-941.1	21.01
791	SLU 48	-51	63	4772	-6.56	-957.05	15.73
791	SLU 49	-50	76	4768	-6.67	-957.6	18.98
791	SLU 50	-50	63	4740	-6.52	-950.8	15.69
791	SLU 51	-50	76	4736	-6.63	-951.36	18.94
791	SLU 52	-49	91	5093	-7.31	-1024.73	22.65
791	SLU 53	-51	70	5187	-7.21	-1040.68	17.37
791	SLU 54	-50	83	5182	-7.32	-1041.23	20.62
791	SLU 55	-49	92	5148	-7.36	-1035.36	22.75
791	SLU 56	-51	70	5242	-7.26	-1051.3	17.46
791	SLU 57	-51	83	5237	-7.37	-1051.86	20.72
791	SLU 58	-51	70	5210	-7.23	-1045.06	17.42
791	SLU 59	-50	83	5205	-7.34	-1045.62	20.67
791	SLU 60	-50	72	5301	-7.43	-1064.2	17.97
791	SLU 61	-49	85	5297	-7.54	-1064.76	21.23
791	SLU 62	-50	73	5356	-7.48	-1074.83	18.07
791	SLU 63	-50	86	5352	-7.59	-1075.39	21.32
791	SLU 64	-52	68	5216	-7.18	-1045.75	16.74
791	SLU 65	-51	89	5209	-7.36	-1046.67	22.16
791	SLU 66	-53	68	5303	-7.27	-1062.62	16.88
791	SLU 67	-52	81	5299	-7.37	-1063.17	20.13
791	SLU 68	-52	90	5264	-7.41	-1057.3	22.26
791	SLU 69	-53	68	5358	-7.32	-1073.24	16.97
791	SLU 70	-53	81	5354	-7.42	-1073.8	20.22
791	SLU 71	-53	68	5326	-7.28	-1067	16.93
791	SLU 72	-53	81	5322	-7.39	-1067.55	20.18
791	SLU 73	-52	96	5679	-8.07	-1140.93	23.89
791	SLU 74	-53	75	5773	-7.97	-1156.87	18.61
791	SLU 75	-53	88	5769	-8.08	-1157.43	21.86
791	SLU 76	-52	97	5734	-8.12	-1151.55	23.99
791	SLU 77	-54	75	5828	-8.02	-1167.5	18.71
791	SLU 78	-53	88	5824	-8.13	-1168.05	21.96
791	SLU 79	-54	75	5796	-7.99	-1161.26	18.67
791	SLU 80	-53	88	5792	-8.1	-1161.81	21.92
791	SLU 81	-53	77	5887	-8.19	-1180.4	19.22
791	SLU 82	-52	90	5883	-8.3	-1180.95	22.47
791	SLU 83	-53	78	5942	-8.24	-1191.03	19.31
791	SLU 84	-53	91	5938	-8.35	-1191.58	22.57
791	SLE RA 1	-40	51	3884	-5.36	-778.88	12.6
791	SLE RA 2	-39	65	3879	-5.48	-779.5	16.22
791	SLE RA 3	-40	51	3942	-5.42	-790.13	12.7
791	SLE RA 4	-40	60	3939	-5.49	-790.5	14.86
791	SLE RA 5	-39	66	3916	-5.51	-786.58	16.28
791	SLE RA 6	-40	51	3978	-5.45	-797.21	12.76
791	SLE RA 7	-40	60	3976	-5.52	-797.58	14.93
791	SLE RA 8	-40	51	3957	-5.43	-793.05	12.73
791	SLE RA 9	-40	60	3954	-5.5	-793.42	14.9
791	SLE RA 10	-39	70	4192	-5.95	-842.34	17.37
791	SLE RA 11	-40	56	4255	-5.89	-852.97	13.85
791	SLE RA 12	-40	65	4252	-5.96	-853.34	16.02
791	SLE RA 13	-40	70	4229	-5.98	-849.42	17.44
791	SLE RA 14	-41	56	4292	-5.92	-860.05	13.91
791	SLE RA 15	-40	65	4289	-5.99	-860.42	16.08
791	SLE RA 16	-40	56	4270	-5.9	-855.89	13.89
791	SLE RA 17	-40	65	4267	-5.97	-856.26	16.06
791	SLE RA 18	-40	57	4331	-6.03	-868.65	14.26
791	SLE RA 19	-40	66	4328	-6.1	-869.02	16.42
791	SLE RA 20	-40	58	4368	-6.06	-875.74	14.32
791	SLE RA 21	-40	66	4365	-6.14	-876.11	16.49
791	SLE FR 1	-40	51	3884	-5.36	-778.88	12.6
791	SLE FR 2	-39	54	3883	-5.38	-779.01	13.33
791	SLE FR 3	-40	51	3898	-5.37	-781.72	12.63
791	SLE FR 4	-40	56	4017	-5.58	-805.94	13.82
791	SLE FR 5	-40	53	4032	-5.57	-808.65	13.12
791	SLE FR 6	-40	54	4107	-5.7	-823.77	13.43
791	SLE QP 1	-40	51	3884	-5.36	-778.88	12.6
791	SLE QP 2	-40	53	4018	-5.56	-805.81	13.1
791	SLD 1	249	188	5069	-8.38	-1021.82	46.92
791	SLD 2	239	81	5075	-8.18	-1019.95	20.23
791	SLD 3	238	-60	5171	-6.06	-1012.08	-15.01
791	SLD 4	228	-168	5177	-5.86	-1010.21	-41.7
791	SLD 5	65	489	4178	-9.96	-885.73	121.99
791	SLD 6	58	419	4182	-9.83	-884.49	104.36
791	SLD 7	29	-338	4517	-2.22	-853.25	-84.46
791	SLD 8	22	-409	4521	-2.09	-852.02	-102.08
791	SLD 9	-102	515	3515	-9.03	-759.61	128.28
791	SLD 10	-109	444	3519	-8.9	-758.37	110.66
791	SLD 11	-138	-313	3854	-1.29	-727.13	-78.16
791	SLD 12	-145	-384	3858	-1.16	-725.9	-95.79
791	SLD 13	-307	273	2859	-5.26	-601.42	67.9
791	SLD 14	-318	166	2865	-5.06	-599.55	41.21
791	SLD 15	-318	25	2961	-2.94	-591.67	5.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
791	SLD 16	-329	-83	2966	-2.74	-589.81	-20.72
791	SLV 1	413	271	5655	-10.02	-1143	67.64
791	SLV 2	397	103	5664	-9.71	-1140.07	25.82
791	SLV 3	396	-130	5819	-6.27	-1127.28	-32.4
791	SLV 4	379	-298	5828	-5.96	-1124.36	-74.21
791	SLV 5	126	758	4258	-12.65	-931.35	188.98
791	SLV 6	115	645	4264	-12.44	-929.38	160.83
791	SLV 7	67	-579	4806	-0.14	-878.96	-144.47
791	SLV 8	56	-692	4812	0.07	-876.99	-172.62
791	SLV 9	-136	798	3224	-11.19	-734.63	198.82
791	SLV 10	-147	685	3230	-10.98	-732.66	170.66
791	SLV 11	-194	-539	3771	1.32	-682.24	-134.63
791	SLV 12	-205	-652	3777	1.53	-680.27	-162.79
791	SLV 13	-459	404	2207	-5.16	-487.27	100.41
791	SLV 14	-475	236	2216	-4.85	-484.34	58.6
791	SLV 15	-476	3	2371	-1.41	-471.55	0.38
791	SLV 16	-493	-166	2381	-1.1	-468.63	-41.44
791	SLV FO 1	459	293	5819	-10.47	-1176.72	73.09
791	SLV FO 2	440	108	5829	-10.13	-1173.5	27.09
791	SLV FO 3	439	-148	5999	-6.34	-1159.43	-36.95
791	SLV FO 4	421	-333	6009	-6	-1156.21	-82.95
791	SLV FO 5	143	829	4282	-13.36	-943.91	206.57
791	SLV FO 6	130	704	4289	-13.13	-941.74	175.6
791	SLV FO 7	78	-642	4884	0.4	-886.28	-160.22
791	SLV FO 8	66	-767	4891	0.63	-884.11	-191.19
791	SLV FO 9	-145	872	3145	-11.75	-727.52	217.39
791	SLV FO 10	-157	748	3151	-11.52	-725.35	186.42
791	SLV FO 11	-210	-598	3747	2.01	-669.89	-149.41
791	SLV FO 12	-222	-723	3753	2.24	-667.72	-180.37
791	SLV FO 13	-500	439	2026	-5.12	-455.41	109.14
791	SLV FO 14	-519	254	2036	-4.78	-452.19	63.15
791	SLV FO 15	-520	-2	2207	-0.99	-438.13	-0.89
791	SLV FO 16	-538	-187	2217	-0.65	-434.91	-46.89
791	CRTFP Ux+	0	0	0	0	0	0
791	CRTFP Ux-	0	0	0	0	0	0
791	CRTFP Uy+	0	0	0	0	0	0
791	CRTFP Uy-	0	0	0	0	0	0
794	SLU 1	66	9	4428	-7.22	1249.02	-3.12
794	SLU 2	65	34	4416	-7.44	1249.8	-11.71
794	SLU 3	68	9	4541	-7.35	1279.22	-3.09
794	SLU 4	67	24	4534	-7.48	1279.69	-8.25
794	SLU 5	66	34	4491	-7.52	1269.56	-11.84
794	SLU 6	69	9	4615	-7.42	1298.98	-3.22
794	SLU 7	68	24	4608	-7.56	1299.44	-8.37
794	SLU 8	68	10	4577	-7.37	1288.54	-3.37
794	SLU 9	68	25	4570	-7.51	1289	-8.53
794	SLU 10	69	34	4980	-8.45	1408.05	-11.77
794	SLU 11	72	9	5105	-8.36	1437.47	-3.15
794	SLU 12	71	24	5098	-8.49	1437.94	-8.3
794	SLU 13	70	34	5055	-8.53	1427.81	-11.89
794	SLU 14	73	10	5179	-8.43	1457.23	-3.27
794	SLU 15	72	24	5172	-8.57	1457.7	-8.43
794	SLU 16	72	10	5140	-8.38	1446.79	-3.43
794	SLU 17	72	25	5133	-8.52	1447.25	-8.58
794	SLU 18	72	9	5234	-8.66	1475.1	-3.2
794	SLU 19	71	24	5227	-8.8	1475.57	-8.35
794	SLU 20	73	10	5308	-8.74	1494.86	-3.32
794	SLU 21	72	24	5301	-8.87	1495.32	-8.48
794	SLU 22	73	6	5132	-8.32	1443.82	-2.07
794	SLU 23	73	31	5120	-8.54	1444.6	-10.66
794	SLU 24	75	6	5245	-8.45	1474.02	-2.04
794	SLU 25	75	21	5238	-8.58	1474.49	-7.19
794	SLU 26	74	31	5194	-8.62	1464.36	-10.79
794	SLU 27	76	6	5319	-8.53	1493.78	-2.17
794	SLU 28	76	21	5312	-8.66	1494.24	-7.32
794	SLU 29	76	7	5280	-8.47	1483.34	-2.32
794	SLU 30	75	22	5273	-8.61	1483.8	-7.48
794	SLU 31	77	31	5684	-9.56	1602.85	-10.71
794	SLU 32	79	6	5808	-9.46	1632.27	-2.09
794	SLU 33	79	21	5801	-9.59	1632.74	-7.25
794	SLU 34	78	31	5758	-9.63	1622.61	-10.84
794	SLU 35	80	7	5883	-9.54	1652.03	-2.22
794	SLU 36	80	21	5876	-9.67	1652.5	-7.38
794	SLU 37	80	7	5844	-9.48	1641.59	-2.38
794	SLU 38	79	22	5837	-9.62	1642.05	-7.53
794	SLU 39	79	6	5937	-9.77	1669.9	-2.15
794	SLU 40	79	21	5930	-9.9	1670.37	-7.3
794	SLU 41	80	7	6012	-9.84	1689.66	-2.27
794	SLU 42	80	21	6005	-9.97	1690.12	-7.43
794	SLU 43	83	13	5515	-9.01	1556.94	-4.41
794	SLU 44	82	38	5504	-9.23	1557.72	-13.01
794	SLU 45	85	13	5628	-9.14	1587.14	-4.39
794	SLU 46	84	28	5621	-9.27	1587.61	-9.54
794	SLU 47	83	38	5578	-9.31	1577.47	-13.13
794	SLU 48	86	13	5702	-9.21	1606.9	-4.51
794	SLU 49	85	28	5695	-9.35	1607.36	-9.67
794	SLU 50	85	14	5664	-9.16	1596.45	-4.67
794	SLU 51	85	28	5657	-9.29	1596.92	-9.82
794	SLU 52	86	38	6067	-10.24	1715.97	-13.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
794	SLU 53	89	13	6192	-10.15	1745.39	-4.44
794	SLU 54	88	28	6185	-10.28	1745.86	-9.6
794	SLU 55	87	38	6142	-10.32	1735.73	-13.19
794	SLU 56	90	13	6266	-10.22	1765.15	-4.57
794	SLU 57	89	28	6259	-10.36	1765.61	-9.72
794	SLU 58	89	14	6228	-10.17	1754.71	-4.72
794	SLU 59	89	29	6221	-10.3	1755.17	-9.88
794	SLU 60	89	13	6321	-10.45	1783.02	-4.49
794	SLU 61	88	28	6314	-10.59	1783.48	-9.65
794	SLU 62	90	14	6395	-10.53	1802.77	-4.62
794	SLU 63	89	28	6388	-10.66	1803.24	-9.78
794	SLU 64	90	10	6219	-10.11	1751.74	-3.36
794	SLU 65	90	35	6207	-10.33	1752.52	-11.95
794	SLU 66	92	10	6332	-10.24	1781.94	-3.34
794	SLU 67	92	25	6325	-10.37	1782.41	-8.49
794	SLU 68	91	35	6282	-10.41	1772.27	-12.08
794	SLU 69	93	10	6406	-10.31	1801.7	-3.46
794	SLU 70	93	25	6399	-10.45	1802.16	-8.62
794	SLU 71	93	11	6367	-10.26	1791.25	-3.62
794	SLU 72	92	25	6360	-10.4	1791.72	-8.77
794	SLU 73	94	35	6771	-11.34	1910.77	-12.01
794	SLU 74	96	10	6896	-11.25	1940.19	-3.39
794	SLU 75	96	25	6889	-11.38	1940.66	-8.55
794	SLU 76	95	35	6845	-11.42	1930.53	-12.14
794	SLU 77	97	10	6970	-11.32	1959.95	-3.52
794	SLU 78	97	25	6963	-11.46	1960.41	-8.67
794	SLU 79	97	11	6931	-11.27	1949.51	-3.67
794	SLU 80	96	26	6924	-11.41	1949.97	-8.83
794	SLU 81	96	10	7024	-11.55	1977.82	-3.44
794	SLU 82	96	25	7017	-11.69	1978.28	-8.6
794	SLU 83	97	11	7099	-11.63	1997.57	-3.57
794	SLU 84	97	25	7092	-11.76	1998.04	-8.72
794	SLE RA 1	68	8	4629	-7.53	1304.68	-2.82
794	SLE RA 2	67	25	4621	-7.68	1305.2	-8.55
794	SLE RA 3	69	8	4704	-7.62	1324.81	-2.8
794	SLE RA 4	69	18	4700	-7.71	1325.12	-6.24
794	SLE RA 5	68	25	4671	-7.73	1318.37	-8.63
794	SLE RA 6	70	8	4754	-7.67	1337.98	-2.88
794	SLE RA 7	70	18	4749	-7.76	1338.29	-6.32
794	SLE RA 8	69	9	4728	-7.64	1331.02	-2.99
794	SLE RA 9	69	19	4723	-7.72	1331.33	-6.42
794	SLE RA 10	70	25	4997	-8.36	1410.7	-8.58
794	SLE RA 11	72	8	5080	-8.29	1430.31	-2.84
794	SLE RA 12	71	18	5076	-8.38	1430.63	-6.27
794	SLE RA 13	71	25	5047	-8.41	1423.87	-8.67
794	SLE RA 14	73	9	5130	-8.34	1443.48	-2.92
794	SLE RA 15	72	18	5125	-8.43	1443.8	-6.36
794	SLE RA 16	72	9	5104	-8.31	1436.52	-3.02
794	SLE RA 17	72	19	5099	-8.4	1436.83	-6.46
794	SLE RA 18	72	8	5166	-8.5	1455.4	-2.87
794	SLE RA 19	71	18	5161	-8.59	1455.71	-6.31
794	SLE RA 20	73	9	5216	-8.55	1468.57	-2.96
794	SLE RA 21	72	19	5211	-8.64	1468.88	-6.39
794	SLE FR 1	68	8	4629	-7.53	1304.68	-2.82
794	SLE FR 2	68	12	4628	-7.56	1304.78	-3.96
794	SLE FR 3	68	8	4649	-7.56	1309.95	-2.85
794	SLE FR 4	69	12	4789	-7.85	1350	-3.98
794	SLE FR 5	69	8	4810	-7.84	1355.16	-2.87
794	SLE FR 6	70	8	4898	-8.02	1380.04	-2.84
794	SLE QP 1	68	8	4629	-7.53	1304.68	-2.82
794	SLE QP 2	69	8	4790	-7.82	1349.9	-2.83
794	SLD 1	409	130	3436	-6.97	1015.06	-45.25
794	SLD 2	396	255	3422	-7.21	1016.27	-88.75
794	SLD 3	417	-128	3600	-4.17	1009.74	44.88
794	SLD 4	404	-3	3586	-4.41	1010.96	1.38
794	SLD 5	161	413	4138	-11.76	1257.28	-144.42
794	SLD 6	153	496	4128	-11.92	1258.09	-173.14
794	SLD 7	188	-446	4685	-2.44	1239.57	156.01
794	SLD 8	179	-364	4675	-2.6	1240.38	127.29
794	SLD 9	-41	380	4905	-13.04	1459.41	-132.96
794	SLD 10	-50	463	4896	-13.2	1460.22	-161.68
794	SLD 11	-15	-479	5452	-3.72	1441.71	167.47
794	SLD 12	-23	-397	5443	-3.88	1442.51	138.75
794	SLD 13	-266	20	5994	-11.23	1688.83	-7.05
794	SLD 14	-278	145	5980	-11.48	1690.05	-50.55
794	SLD 15	-258	-238	6158	-8.44	1683.52	83.08
794	SLD 16	-270	-113	6144	-8.68	1684.73	39.58
794	SLV 1	601	205	2674	-6.57	827.74	-71.59
794	SLV 2	581	401	2651	-6.95	829.64	-139.74
794	SLV 3	614	-213	2939	-2.04	819.22	74.41
794	SLV 4	594	-17	2917	-2.43	821.12	6.26
794	SLV 5	213	664	3757	-14.23	1205.81	-232.18
794	SLV 6	199	796	3742	-14.49	1207.09	-278.06
794	SLV 7	256	-728	4642	0.84	1177.42	254.5
794	SLV 8	242	-596	4627	0.58	1178.7	208.61
794	SLV 9	-104	613	4954	-16.23	1521.09	-214.28
794	SLV 10	-118	745	4939	-16.49	1522.37	-260.17
794	SLV 11	-61	-779	5839	-1.16	1492.7	272.4
794	SLV 12	-74	-648	5824	-1.41	1493.98	226.51



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
794	SLV 13	-456	34	6663	-13.22	1878.67	-11.93
794	SLV 14	-475	229	6641	-13.6	1880.57	-80.08
794	SLV 15	-443	-384	6929	-8.7	1870.15	134.08
794	SLV 16	-462	-188	6907	-9.08	1872.06	65.92
794	SLV FO 1	654	225	2462	-6.44	775.52	-78.47
794	SLV FO 2	632	440	2438	-6.86	777.62	-153.44
794	SLV FO 3	668	-235	2754	-1.47	766.15	82.14
794	SLV FO 4	646	-19	2730	-1.89	768.25	7.17
794	SLV FO 5	227	730	3653	-14.87	1191.4	-255.11
794	SLV FO 6	212	875	3637	-15.16	1192.81	-305.59
794	SLV FO 7	274	-802	4627	1.71	1160.17	280.23
794	SLV FO 8	260	-657	4610	1.42	1161.58	229.76
794	SLV FO 9	-122	673	4970	-17.07	1538.21	-235.42
794	SLV FO 10	-136	818	4954	-17.35	1539.62	-285.9
794	SLV FO 11	-74	-858	5943	-0.49	1506.98	299.92
794	SLV FO 12	-89	-713	5927	-0.77	1508.39	249.44
794	SLV FO 13	-508	36	6851	-13.76	1931.54	-12.84
794	SLV FO 14	-530	251	6827	-14.18	1933.64	-87.81
794	SLV FO 15	-494	-423	7143	-8.79	1922.18	147.77
794	SLV FO 16	-516	-208	7119	-9.21	1924.27	72.8
794	CRTFP Ux+	0	0	0	0	0	0
794	CRTFP Ux-	0	0	0	0	0	0
794	CRTFP Uy+	0	0	0	0	0	0
794	CRTFP Uy-	0	0	0	0	0	0
796	SLU 1	-95	-42	9654	-974.33	269.32	-10.12
796	SLU 2	-95	3	9630	-973.03	270.7	-11.44
796	SLU 3	-97	-43	9890	-997.84	275.2	-10.3
796	SLU 4	-97	-16	9876	-997.06	276.03	-11.09
796	SLU 5	-96	2	9781	-988.03	274.38	-11.54
796	SLU 6	-98	-44	10042	-1012.84	278.87	-10.39
796	SLU 7	-98	-17	10027	-1012.06	279.7	-11.19
796	SLU 8	-97	-44	9956	-1004.34	276.67	-10.32
796	SLU 9	-97	-17	9942	-1003.55	277.5	-11.11
796	SLU 10	-96	-1	10935	-1104.67	305.42	-11.66
796	SLU 11	-98	-48	11195	-1129.48	309.92	-10.51
796	SLU 12	-98	-21	11181	-1128.7	310.75	-11.3
796	SLU 13	-97	-2	11086	-1119.67	309.09	-11.76
796	SLU 14	-99	-49	11346	-1144.49	313.59	-10.61
796	SLU 15	-99	-22	11332	-1143.7	314.42	-11.4
796	SLU 16	-98	-49	11261	-1135.98	311.39	-10.54
796	SLU 17	-98	-21	11246	-1135.2	312.22	-11.33
796	SLU 18	-97	-49	11518	-1162.39	318.92	-10.43
796	SLU 19	-97	-21	11503	-1161.61	319.75	-11.23
796	SLU 20	-98	-50	11669	-1177.39	322.59	-10.53
796	SLU 21	-98	-22	11654	-1176.61	323.42	-11.32
796	SLU 22	-103	-50	11257	-1135.2	312.02	-10.92
796	SLU 23	-103	-4	11233	-1133.9	313.4	-12.24
796	SLU 24	-105	-51	11493	-1158.71	317.9	-11.09
796	SLU 25	-105	-24	11479	-1157.93	318.73	-11.88
796	SLU 26	-104	-5	11384	-1148.9	317.08	-12.34
796	SLU 27	-106	-52	11644	-1173.72	321.58	-11.19
796	SLU 28	-106	-25	11630	-1172.93	322.41	-11.98
796	SLU 29	-105	-52	11559	-1165.21	319.37	-11.12
796	SLU 30	-105	-24	11545	-1164.43	320.2	-11.91
796	SLU 31	-104	-9	12538	-1265.54	348.12	-12.46
796	SLU 32	-106	-56	12798	-1290.35	352.62	-11.31
796	SLU 33	-106	-29	12783	-1289.57	353.45	-12.1
796	SLU 34	-105	-10	12689	-1280.54	351.8	-12.56
796	SLU 35	-107	-57	12949	-1305.36	356.29	-11.41
796	SLU 36	-107	-30	12935	-1304.57	357.12	-12.2
796	SLU 37	-106	-56	12864	-1296.85	354.09	-11.34
796	SLU 38	-106	-29	12849	-1296.07	354.92	-12.13
796	SLU 39	-105	-56	13121	-1323.26	361.62	-11.23
796	SLU 40	-105	-29	13106	-1322.48	362.45	-12.02
796	SLU 41	-106	-57	13272	-1338.27	365.29	-11.33
796	SLU 42	-106	-30	13257	-1337.48	366.12	-12.12
796	SLU 43	-120	-52	12001	-1211.48	335.47	-12.89
796	SLU 44	-120	-6	11977	-1210.17	336.86	-14.2
796	SLU 45	-122	-53	12237	-1234.98	341.35	-13.06
796	SLU 46	-122	-26	12223	-1234.2	342.18	-13.85
796	SLU 47	-121	-7	12128	-1225.17	340.53	-14.3
796	SLU 48	-123	-54	12388	-1249.99	345.03	-13.16
796	SLU 49	-123	-27	12374	-1249.2	345.86	-13.95
796	SLU 50	-122	-54	12303	-1241.48	342.82	-13.08
796	SLU 51	-122	-27	12289	-1240.7	343.65	-13.87
796	SLU 52	-122	-11	13281	-1341.81	371.57	-14.42
796	SLU 53	-124	-58	13542	-1366.63	376.07	-13.28
796	SLU 54	-124	-31	13527	-1365.84	376.9	-14.07
796	SLU 55	-123	-12	13432	-1356.81	375.25	-14.52
796	SLU 56	-125	-59	13693	-1381.63	379.75	-13.38
796	SLU 57	-125	-32	13678	-1380.85	380.57	-14.17
796	SLU 58	-124	-59	13607	-1373.12	377.54	-13.3
796	SLU 59	-124	-31	13593	-1372.34	378.37	-14.09
796	SLU 60	-122	-59	13864	-1399.53	385.07	-13.2
796	SLU 61	-122	-31	13850	-1398.75	385.9	-13.99
796	SLU 62	-123	-60	14015	-1414.54	388.75	-13.3
796	SLU 63	-124	-32	14001	-1413.75	389.57	-14.09
796	SLU 64	-128	-60	13604	-1372.35	378.18	-13.68
796	SLU 65	-128	-14	13580	-1371.04	379.56	-15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
796	SLU 66	-130	-61	13840	-1395.86	384.06	-13.86
796	SLU 67	-130	-34	13826	-1395.07	384.89	-14.65
796	SLU 68	-130	-15	13731	-1386.04	383.23	-15.1
796	SLU 69	-131	-62	13991	-1410.86	387.73	-13.96
796	SLU 70	-131	-35	13977	-1410.08	388.56	-14.75
796	SLU 71	-131	-62	13906	-1402.35	385.53	-13.88
796	SLU 72	-131	-34	13891	-1401.57	386.36	-14.67
796	SLU 73	-130	-19	14884	-1502.68	414.28	-15.22
796	SLU 74	-132	-66	15144	-1527.5	418.77	-14.07
796	SLU 75	-132	-38	15130	-1526.71	419.6	-14.87
796	SLU 76	-131	-20	15035	-1517.69	417.95	-15.32
796	SLU 77	-133	-67	15296	-1542.5	422.45	-14.17
796	SLU 78	-133	-39	15281	-1541.72	423.28	-14.96
796	SLU 79	-132	-66	15210	-1533.99	420.24	-14.1
796	SLU 80	-132	-39	15196	-1533.21	421.07	-14.89
796	SLU 81	-130	-66	15467	-1560.41	427.77	-14
796	SLU 82	-131	-39	15453	-1559.62	428.6	-14.79
796	SLU 83	-132	-67	15618	-1575.41	431.45	-14.09
796	SLU 84	-132	-40	15604	-1574.63	432.28	-14.89
796	SLE RA 1	-97	-44	10112	-1020.3	281.52	-10.35
796	SLE RA 2	-97	-14	10096	-1019.42	282.44	-11.23
796	SLE RA 3	-98	-45	10270	-1035.97	285.44	-10.47
796	SLE RA 4	-98	-27	10260	-1035.45	285.99	-10.99
796	SLE RA 5	-98	-15	10197	-1029.43	284.89	-11.29
796	SLE RA 6	-99	-46	10370	-1045.97	287.89	-10.53
796	SLE RA 7	-99	-28	10361	-1045.45	288.44	-11.06
796	SLE RA 8	-98	-45	10314	-1040.3	286.42	-10.48
796	SLE RA 9	-98	-27	10304	-1039.78	286.97	-11.01
796	SLE RA 10	-98	-17	10966	-1107.19	305.59	-11.37
796	SLE RA 11	-99	-48	11139	-1123.73	308.58	-10.61
796	SLE RA 12	-99	-30	11130	-1123.21	309.14	-11.14
796	SLE RA 13	-99	-18	11066	-1117.19	308.04	-11.44
796	SLE RA 14	-100	-49	11240	-1133.73	311.03	-10.68
796	SLE RA 15	-100	-31	11230	-1133.21	311.59	-11.2
796	SLE RA 16	-99	-49	11183	-1128.06	309.56	-10.63
796	SLE RA 17	-99	-30	11174	-1127.54	310.12	-11.16
796	SLE RA 18	-98	-49	11354	-1145.67	314.58	-10.56
796	SLE RA 19	-98	-30	11345	-1145.15	315.14	-11.09
796	SLE RA 20	-99	-49	11455	-1155.67	317.03	-10.62
796	SLE RA 21	-99	-31	11446	-1155.15	317.59	-11.15
796	SLE FR 1	-97	-44	10112	-1020.3	281.52	-10.35
796	SLE FR 2	-97	-38	10109	-1020.12	281.7	-10.53
796	SLE FR 3	-97	-44	10152	-1024.3	282.5	-10.38
796	SLE FR 4	-97	-39	10482	-1057.73	291.62	-10.59
796	SLE FR 5	-98	-46	10525	-1061.91	292.42	-10.44
796	SLE FR 6	-98	-46	10733	-1082.98	298.05	-10.45
796	SLE QP 1	-97	-44	10112	-1020.3	281.52	-10.35
796	SLE QP 2	-97	-45	10485	-1057.91	291.44	-10.41
796	SLD 1	750	222	11619	-1180.33	359.09	65.81
796	SLD 2	727	79	11618	-1179.55	357.39	70.27
796	SLD 3	758	-309	11972	-1201.37	343.83	81.59
796	SLD 4	735	-452	11971	-1200.59	342.14	86.05
796	SLD 5	149	867	10291	-1062.87	335.17	-12.28
796	SLD 6	134	772	10290	-1062.35	334.05	-9.34
796	SLD 7	175	-905	11466	-1132.99	284.33	40.32
796	SLD 8	160	-999	11465	-1132.48	283.21	43.26
796	SLD 9	-355	908	9505	-983.34	299.67	-64.09
796	SLD 10	-370	814	9504	-982.82	298.55	-61.14
796	SLD 11	-329	-863	10679	-1053.46	248.83	-11.49
796	SLD 12	-344	-958	10679	-1052.94	247.71	-8.54
796	SLD 13	-930	361	8999	-915.23	240.74	-106.88
796	SLD 14	-953	218	8998	-914.45	239.05	-102.42
796	SLD 15	-922	-170	9351	-936.26	225.49	-91.1
796	SLD 16	-945	-313	9350	-935.48	223.79	-86.64
796	SLV 1	1230	387	12245	-1248.31	397.47	108.58
796	SLV 2	1194	163	12243	-1247.09	394.81	115.57
796	SLV 3	1242	-471	12814	-1282.31	372.81	134.04
796	SLV 4	1207	-695	12813	-1281.09	370.15	141.03
796	SLV 5	288	1428	10149	-1063.69	361.14	-14.63
796	SLV 6	264	1277	10148	-1062.86	359.35	-9.93
796	SLV 7	331	-1433	12048	-1177.03	278.95	70.24
796	SLV 8	307	-1584	12047	-1176.2	277.16	74.94
796	SLV 9	-502	1493	8923	-939.61	305.72	-95.77
796	SLV 10	-526	1342	8921	-938.79	303.93	-91.06
796	SLV 11	-459	-1368	10822	-1052.95	223.53	-10.9
796	SLV 12	-482	-1519	10821	-1052.13	221.74	-6.19
796	SLV 13	-1402	604	8157	-834.72	212.73	-161.86
796	SLV 14	-1437	380	8155	-833.5	210.07	-154.87
796	SLV 15	-1389	-254	8726	-868.73	188.07	-136.4
796	SLV 16	-1424	-478	8725	-867.5	185.41	-129.41
796	SLV FO 1	1362	430	12421	-1267.35	408.07	120.48
796	SLV FO 2	1323	184	12419	-1266.01	405.15	128.17
796	SLV FO 3	1376	-514	13047	-1304.75	380.94	148.49
796	SLV FO 4	1337	-760	13046	-1303.41	378.02	156.18
796	SLV FO 5	326	1575	10115	-1064.26	368.11	-15.06
796	SLV FO 6	300	1409	10114	-1063.36	366.14	-9.88
796	SLV FO 7	374	-1572	12204	-1188.94	277.7	78.3
796	SLV FO 8	347	-1738	12203	-1188.03	275.73	83.48
796	SLV FO 9	-542	1647	8766	-927.78	307.15	-104.3



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
796	SLV FO 10	-568	1481	8765	-926.88	305.18	-99.13
796	SLV FO 11	-495	-1500	10855	-1052.45	216.73	-10.94
796	SLV FO 12	-521	-1666	10854	-1051.55	214.77	-5.77
796	SLV FO 13	-1532	669	7924	-812.4	204.86	-177
796	SLV FO 14	-1571	423	7922	-811.06	201.93	-169.32
796	SLV FO 15	-1518	-275	8551	-849.81	177.73	-148.99
796	SLV FO 16	-1557	-521	8549	-848.46	174.81	-141.31
796	CRTFP Ux+	0	0	0	0	0	0
796	CRTFP Ux-	0	0	0	0	0	0
796	CRTFP Uy+	0	0	0	0	0	0
796	CRTFP Uy-	0	0	0	0	0	0
799	SLU 1	-43	-40	12035	-268.32	-723.7	-12.13
799	SLU 2	-45	24	12014	-269.18	-720.38	-7.87
799	SLU 3	-44	-42	12328	-274.65	-741.58	-12.34
799	SLU 4	-45	-3	12315	-275.16	-739.59	-9.78
799	SLU 5	-46	23	12202	-273.26	-731.91	-8.02
799	SLU 6	-45	-43	12516	-278.72	-753.11	-12.48
799	SLU 7	-46	-4	12504	-279.24	-751.12	-9.93
799	SLU 8	-45	-43	12411	-276.48	-746.76	-12.43
799	SLU 9	-46	-4	12399	-276.99	-744.77	-9.87
799	SLU 10	-46	14	13694	-307.86	-821.79	-9
799	SLU 11	-46	-52	14007	-313.32	-842.99	-13.46
799	SLU 12	-47	-13	13995	-313.84	-841	-10.9
799	SLU 13	-47	13	13882	-311.94	-833.32	-9.15
799	SLU 14	-46	-53	14195	-317.4	-854.52	-13.61
799	SLU 15	-48	-15	14183	-317.92	-852.53	-11.05
799	SLU 16	-46	-53	14091	-315.15	-848.17	-13.55
799	SLU 17	-47	-14	14078	-315.67	-846.18	-11
799	SLU 18	-45	-55	14434	-323.57	-868.57	-13.74
799	SLU 19	-46	-16	14422	-324.09	-866.58	-11.18
799	SLU 20	-45	-56	14622	-327.65	-880.1	-13.88
799	SLU 21	-47	-17	14610	-328.16	-878.11	-11.33
799	SLU 22	-50	-47	14029	-311.66	-841.93	-13.18
799	SLU 23	-52	17	14009	-312.53	-838.62	-8.92
799	SLU 24	-51	-49	14322	-317.99	-859.81	-13.38
799	SLU 25	-53	-10	14310	-318.51	-857.82	-10.83
799	SLU 26	-53	16	14197	-316.61	-850.15	-9.07
799	SLU 27	-52	-50	14510	-322.07	-871.34	-13.53
799	SLU 28	-54	-11	14498	-322.59	-869.35	-10.97
799	SLU 29	-52	-50	14406	-319.82	-864.99	-13.47
799	SLU 30	-53	-11	14393	-320.34	-863	-10.92
799	SLU 31	-53	7	15688	-351.2	-940.03	-10.04
799	SLU 32	-53	-59	16001	-356.66	-961.22	-14.5
799	SLU 33	-54	-20	15989	-357.18	-959.23	-11.95
799	SLU 34	-54	6	15876	-355.28	-951.56	-10.19
799	SLU 35	-54	-60	16190	-360.74	-972.75	-14.65
799	SLU 36	-55	-22	16177	-361.26	-970.76	-12.1
799	SLU 37	-53	-60	16085	-358.49	-966.4	-14.6
799	SLU 38	-54	-21	16072	-359.01	-964.41	-12.04
799	SLU 39	-52	-62	16428	-366.91	-986.8	-14.78
799	SLU 40	-53	-23	16416	-367.43	-984.81	-12.23
799	SLU 41	-53	-63	16616	-370.99	-998.33	-14.93
799	SLU 42	-54	-24	16604	-371.51	-996.34	-12.38
799	SLU 43	-53	-50	14962	-333.95	-900.27	-15.41
799	SLU 44	-55	15	14941	-334.82	-896.95	-11.16
799	SLU 45	-55	-52	15255	-340.28	-918.15	-15.62
799	SLU 46	-56	-13	15242	-340.8	-916.16	-13.06
799	SLU 47	-56	13	15129	-338.89	-908.48	-11.3
799	SLU 48	-56	-53	15443	-344.36	-929.68	-15.76
799	SLU 49	-57	-14	15430	-344.88	-927.69	-13.21
799	SLU 50	-55	-53	15338	-342.11	-923.33	-15.71
799	SLU 51	-56	-14	15326	-342.63	-921.34	-13.15
799	SLU 52	-56	4	16620	-373.49	-998.36	-12.28
799	SLU 53	-56	-62	16934	-378.95	-1019.56	-16.74
799	SLU 54	-57	-23	16922	-379.47	-1017.57	-14.18
799	SLU 55	-57	3	16809	-377.57	-1009.89	-12.43
799	SLU 56	-57	-63	17122	-383.03	-1031.09	-16.89
799	SLU 57	-58	-24	17110	-383.55	-1029.1	-14.33
799	SLU 58	-56	-63	17017	-380.78	-1024.74	-16.83
799	SLU 59	-57	-24	17005	-381.3	-1022.75	-14.28
799	SLU 60	-55	-65	17361	-389.2	-1045.14	-17.02
799	SLU 61	-56	-26	17348	-389.72	-1043.15	-14.46
799	SLU 62	-56	-66	17549	-393.28	-1056.67	-17.17
799	SLU 63	-57	-27	17537	-393.8	-1054.68	-14.61
799	SLU 64	-60	-57	16956	-377.3	-1018.51	-16.46
799	SLU 65	-62	8	16935	-378.16	-1015.19	-12.2
799	SLU 66	-62	-59	17249	-383.62	-1036.38	-16.66
799	SLU 67	-63	-20	17236	-384.14	-1034.39	-14.11
799	SLU 68	-63	6	17123	-382.24	-1026.72	-12.35
799	SLU 69	-63	-60	17437	-387.7	-1047.91	-16.81
799	SLU 70	-64	-21	17425	-388.22	-1045.92	-14.26
799	SLU 71	-62	-60	17332	-385.45	-1041.56	-16.75
799	SLU 72	-63	-21	17320	-385.97	-1039.57	-14.2
799	SLU 73	-64	-3	18615	-416.84	-1116.6	-13.32
799	SLU 74	-63	-69	18928	-422.3	-1137.79	-17.79
799	SLU 75	-64	-30	18916	-422.82	-1135.8	-15.23
799	SLU 76	-64	-4	18803	-420.91	-1128.13	-13.47
799	SLU 77	-64	-70	19116	-426.38	-1149.32	-17.93
799	SLU 78	-65	-31	19104	-426.9	-1147.33	-15.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
799	SLU 79	-63	-70	19012	-424.13	-1142.97	-17.88
799	SLU 80	-65	-31	18999	-424.65	-1140.98	-15.32
799	SLU 81	-62	-72	19355	-432.55	-1163.38	-18.06
799	SLU 82	-63	-33	19343	-433.07	-1161.39	-15.51
799	SLU 83	-63	-73	19543	-436.63	-1174.91	-18.21
799	SLU 84	-64	-34	19531	-437.14	-1172.92	-15.66
799	SLE RA 1	-45	-42	12605	-280.7	-757.48	-12.43
799	SLE RA 2	-46	1	12591	-281.28	-755.27	-9.59
799	SLE RA 3	-46	-43	12800	-284.92	-769.4	-12.57
799	SLE RA 4	-47	-18	12792	-285.27	-768.07	-10.86
799	SLE RA 5	-47	0	12716	-284	-762.96	-9.69
799	SLE RA 6	-46	-44	12926	-287.64	-777.08	-12.66
799	SLE RA 7	-47	-18	12917	-287.99	-775.76	-10.96
799	SLE RA 8	-46	-44	12856	-286.14	-772.85	-12.63
799	SLE RA 9	-47	-18	12847	-286.49	-771.53	-10.92
799	SLE RA 10	-47	-6	13711	-307.06	-822.88	-10.34
799	SLE RA 11	-47	-50	13920	-310.7	-837	-13.32
799	SLE RA 12	-47	-24	13911	-311.05	-835.68	-11.61
799	SLE RA 13	-48	-7	13836	-309.78	-830.56	-10.44
799	SLE RA 14	-47	-51	14045	-313.42	-844.69	-13.41
799	SLE RA 15	-48	-25	14037	-313.77	-843.36	-11.71
799	SLE RA 16	-47	-51	13975	-311.92	-840.46	-13.38
799	SLE RA 17	-48	-25	13967	-312.27	-839.13	-11.67
799	SLE RA 18	-46	-52	14204	-317.54	-854.06	-13.5
799	SLE RA 19	-47	-26	14196	-317.88	-852.73	-11.8
799	SLE RA 20	-47	-53	14330	-320.25	-861.75	-13.6
799	SLE RA 21	-47	-27	14321	-320.6	-860.42	-11.9
799	SLE FR 1	-45	-42	12605	-280.7	-757.48	-12.43
799	SLE FR 2	-45	-34	12602	-280.82	-757.04	-11.86
799	SLE FR 3	-45	-43	12655	-281.79	-760.55	-12.47
799	SLE FR 4	-45	-37	13082	-291.87	-786.01	-12.18
799	SLE FR 5	-45	-46	13135	-292.84	-789.53	-12.79
799	SLE FR 6	-45	-47	13404	-299.12	-805.77	-12.97
799	SLE QP 1	-45	-42	12605	-280.7	-757.48	-12.43
799	SLE QP 2	-45	-45	13085	-291.75	-786.45	-12.75
799	SLD 1	1137	397	13172	-288.2	-734.07	30.85
799	SLD 2	1105	330	13152	-287.97	-732.67	31.25
799	SLD 3	1160	-371	13492	-276.94	-778.35	-19.01
799	SLD 4	1129	-438	13472	-276.72	-776.94	-18.61
799	SLD 5	279	1264	12629	-307.8	-703.85	75.87
799	SLD 6	259	1220	12615	-307.65	-702.92	76.14
799	SLD 7	358	-1295	13696	-270.28	-851.42	-90.32
799	SLD 8	337	-1339	13683	-270.13	-850.49	-90.05
799	SLD 9	-427	1249	12486	-313.37	-722.42	64.55
799	SLD 10	-448	1205	12473	-313.23	-721.49	64.81
799	SLD 11	-349	-1310	13554	-275.86	-869.99	-101.64
799	SLD 12	-370	-1354	13540	-275.71	-869.06	-101.37
799	SLD 13	-1219	347	12697	-306.79	-795.97	-6.9
799	SLD 14	-1251	280	12677	-306.56	-794.56	-6.49
799	SLD 15	-1196	-421	13018	-295.53	-840.24	-56.75
799	SLD 16	-1227	-488	12997	-295.31	-838.83	-56.35
799	SLV 1	1804	667	13212	-286.46	-703.47	56.88
799	SLV 2	1755	562	13180	-286.11	-701.26	57.51
799	SLV 3	1842	-573	13731	-268.22	-775.08	-23.69
799	SLV 4	1793	-678	13698	-267.86	-772.88	-23.06
799	SLV 5	461	2069	12342	-317.91	-653.36	130.22
799	SLV 6	428	1998	12321	-317.67	-651.87	130.64
799	SLV 7	588	-2065	14071	-257.08	-892.07	-138.35
799	SLV 8	555	-2135	14049	-256.84	-890.58	-137.92
799	SLV 9	-645	2045	12120	-326.66	-682.32	112.42
799	SLV 10	-678	1974	12098	-326.42	-680.84	112.85
799	SLV 11	-519	-2089	13848	-265.83	-921.04	-156.15
799	SLV 12	-552	-2159	13827	-265.6	-919.55	-155.72
799	SLV 13	-1884	587	12471	-315.64	-800.03	-2.45
799	SLV 14	-1933	482	12439	-315.29	-797.82	-1.82
799	SLV 15	-1846	-653	12989	-297.39	-871.65	-83.02
799	SLV 16	-1895	-758	12957	-297.04	-869.44	-82.39
799	SLV FO 1	1989	738	13225	-285.93	-695.17	63.84
799	SLV FO 2	1936	623	13189	-285.55	-692.74	64.54
799	SLV FO 3	2031	-626	13795	-265.86	-773.95	-24.78
799	SLV FO 4	1977	-741	13760	-265.47	-771.52	-24.09
799	SLV FO 5	512	2280	12268	-320.52	-640.05	144.52
799	SLV FO 6	476	2203	12244	-320.26	-638.41	144.98
799	SLV FO 7	651	-2267	14169	-253.61	-902.63	-150.91
799	SLV FO 8	615	-2344	14146	-253.35	-901	-150.44
799	SLV FO 9	-705	2254	12024	-330.15	-671.91	124.94
799	SLV FO 10	-741	2176	12000	-329.89	-670.28	125.4
799	SLV FO 11	-566	-2293	13925	-263.24	-934.5	-170.49
799	SLV FO 12	-602	-2371	13901	-262.98	-932.86	-170.02
799	SLV FO 13	-2068	650	12409	-318.03	-801.39	-1.42
799	SLV FO 14	-2122	535	12374	-317.64	-798.96	-0.72
799	SLV FO 15	-2026	-714	12980	-297.96	-880.16	-90.04
799	SLV FO 16	-2080	-829	12944	-297.57	-877.74	-89.35
799	CRTFP Ux+	0	0	0	0	0	0
799	CRTFP Ux-	0	0	0	0	0	0
799	CRTFP Uy+	0	0	0	0	0	0
799	CRTFP Uy-	0	0	0	0	0	0
802	SLU 1	26	250	8038	-1068.68	-77.65	7.74
802	SLU 2	27	302	8035	-1067.67	-77.33	7.87



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
802	SLU 3	27	254	8213	-1092.5	-79.92	7.9
802	SLU 4	27	285	8211	-1091.89	-79.73	7.98
802	SLU 5	27	303	8148	-1083.08	-78.83	7.96
802	SLU 6	27	255	8326	-1107.91	-81.42	7.99
802	SLU 7	27	286	8324	-1107.31	-81.23	8.07
802	SLU 8	27	253	8265	-1099.51	-80.65	7.92
802	SLU 9	27	284	8262	-1098.9	-80.46	8
802	SLU 10	26	326	9135	-1213.99	-87.73	8.29
802	SLU 11	26	278	9314	-1238.82	-90.32	8.32
802	SLU 12	26	309	9312	-1238.22	-90.13	8.4
802	SLU 13	26	327	9249	-1229.41	-89.23	8.38
802	SLU 14	26	279	9427	-1254.23	-91.82	8.41
802	SLU 15	27	310	9425	-1253.63	-91.63	8.49
802	SLU 16	26	277	9366	-1245.83	-91.05	8.34
802	SLU 17	26	308	9363	-1245.22	-90.86	8.42
802	SLU 18	25	284	9611	-1277.71	-92.51	8.34
802	SLU 19	26	315	9609	-1277.11	-92.32	8.41
802	SLU 20	26	286	9724	-1293.13	-94.01	8.43
802	SLU 21	26	317	9722	-1292.52	-93.82	8.5
802	SLU 22	28	281	9310	-1237.57	-90.74	8.78
802	SLU 23	28	333	9306	-1236.56	-90.42	8.91
802	SLU 24	28	285	9485	-1261.38	-93.01	8.95
802	SLU 25	29	316	9483	-1260.78	-92.81	9.03
802	SLU 26	29	334	9419	-1251.97	-91.92	9
802	SLU 27	28	286	9598	-1276.8	-94.51	9.04
802	SLU 28	29	317	9596	-1276.19	-94.31	9.12
802	SLU 29	28	284	9536	-1268.39	-93.74	8.97
802	SLU 30	29	315	9534	-1267.79	-93.54	9.04
802	SLU 31	28	357	10407	-1382.88	-100.82	9.33
802	SLU 32	28	309	10586	-1407.71	-103.41	9.37
802	SLU 33	28	340	10584	-1407.1	-103.21	9.44
802	SLU 34	28	358	10520	-1398.29	-102.32	9.42
802	SLU 35	28	310	10699	-1423.12	-104.91	9.46
802	SLU 36	28	341	10697	-1422.51	-104.71	9.54
802	SLU 37	28	308	10637	-1414.71	-104.14	9.39
802	SLU 38	28	339	10635	-1414.11	-103.95	9.46
802	SLU 39	27	315	10883	-1446.6	-105.6	9.38
802	SLU 40	27	347	10880	-1445.99	-105.4	9.46
802	SLU 41	27	317	10996	-1462.01	-107.1	9.47
802	SLU 42	28	348	10994	-1461.41	-106.9	9.55
802	SLU 43	33	314	10014	-1331.38	-96.46	9.7
802	SLU 44	34	366	10010	-1330.37	-96.14	9.83
802	SLU 45	34	318	10189	-1355.2	-98.73	9.87
802	SLU 46	34	349	10187	-1354.59	-98.54	9.94
802	SLU 47	34	367	10123	-1345.79	-97.64	9.92
802	SLU 48	34	319	10302	-1370.61	-100.23	9.96
802	SLU 49	34	351	10300	-1370.01	-100.04	10.03
802	SLU 50	34	317	10240	-1362.21	-99.46	9.88
802	SLU 51	34	348	10238	-1361.6	-99.27	9.96
802	SLU 52	34	390	11111	-1476.7	-106.54	10.25
802	SLU 53	33	342	11290	-1501.52	-109.13	10.28
802	SLU 54	34	373	11287	-1500.92	-108.94	10.36
802	SLU 55	34	391	11224	-1492.11	-108.04	10.34
802	SLU 56	33	343	11403	-1516.93	-110.63	10.38
802	SLU 57	34	375	11401	-1516.33	-110.44	10.45
802	SLU 58	33	341	11341	-1508.53	-109.86	10.3
802	SLU 59	34	372	11339	-1507.92	-109.67	10.38
802	SLU 60	33	349	11587	-1540.41	-111.32	10.3
802	SLU 61	33	380	11584	-1539.81	-111.13	10.38
802	SLU 62	33	350	11700	-1555.83	-112.82	10.39
802	SLU 63	33	381	11697	-1555.22	-112.63	10.47
802	SLU 64	35	345	11286	-1500.27	-109.55	10.75
802	SLU 65	36	397	11282	-1499.26	-109.23	10.88
802	SLU 66	35	349	11460	-1524.08	-111.82	10.91
802	SLU 67	36	380	11458	-1523.48	-111.62	10.99
802	SLU 68	36	399	11395	-1514.67	-110.73	10.97
802	SLU 69	36	351	11574	-1539.5	-113.31	11
802	SLU 70	36	382	11571	-1538.89	-113.12	11.08
802	SLU 71	36	348	11512	-1531.09	-112.55	10.93
802	SLU 72	36	379	11510	-1530.49	-112.35	11.01
802	SLU 73	35	421	12383	-1645.58	-119.63	11.29
802	SLU 74	35	373	12561	-1670.41	-122.22	11.33
802	SLU 75	35	404	12559	-1669.8	-122.02	11.41
802	SLU 76	35	423	12496	-1660.99	-121.13	11.39
802	SLU 77	35	375	12674	-1685.82	-123.72	11.42
802	SLU 78	36	406	12672	-1685.21	-123.52	11.5
802	SLU 79	35	372	12613	-1677.41	-122.95	11.35
802	SLU 80	35	403	12610	-1676.81	-122.75	11.43
802	SLU 81	34	380	12858	-1709.3	-124.41	11.34
802	SLU 82	35	411	12856	-1708.69	-124.21	11.42
802	SLU 83	35	381	12971	-1724.71	-125.91	11.44
802	SLU 84	35	412	12969	-1724.11	-125.71	11.51
802	SLE RA 1	27	259	8402	-1116.93	-81.39	8.04
802	SLE RA 2	27	293	8399	-1116.26	-81.18	8.12
802	SLE RA 3	27	261	8518	-1132.81	-82.9	8.15
802	SLE RA 4	27	282	8517	-1132.41	-82.78	8.2
802	SLE RA 5	27	294	8475	-1126.54	-82.18	8.18
802	SLE RA 6	27	262	8594	-1143.09	-83.9	8.21
802	SLE RA 7	27	283	8592	-1142.68	-83.77	8.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
802	SLE RA 8	27	261	8553	-1137.48	-83.39	8.16
802	SLE RA 9	27	281	8551	-1137.08	-83.26	8.21
802	SLE RA 10	27	309	9133	-1213.81	-88.11	8.4
802	SLE RA 11	27	277	9252	-1230.36	-89.84	8.43
802	SLE RA 12	27	298	9251	-1229.96	-89.71	8.48
802	SLE RA 13	27	310	9209	-1224.08	-89.11	8.46
802	SLE RA 14	27	278	9328	-1240.64	-90.84	8.49
802	SLE RA 15	27	299	9326	-1240.23	-90.71	8.54
802	SLE RA 16	27	277	9286	-1235.03	-90.32	8.44
802	SLE RA 17	27	297	9285	-1234.63	-90.2	8.49
802	SLE RA 18	26	282	9450	-1256.29	-91.3	8.44
802	SLE RA 19	26	302	9449	-1255.89	-91.17	8.49
802	SLE RA 20	26	283	9526	-1266.56	-92.3	8.5
802	SLE RA 21	27	303	9524	-1266.16	-92.17	8.55
802	SLE FR 1	27	259	8402	-1116.93	-81.39	8.04
802	SLE FR 2	27	266	8401	-1116.8	-81.35	8.05
802	SLE FR 3	27	259	8432	-1121.04	-81.79	8.06
802	SLE FR 4	27	273	8716	-1158.61	-84.32	8.17
802	SLE FR 5	27	266	8746	-1162.85	-84.76	8.18
802	SLE FR 6	26	270	8926	-1186.61	-86.34	8.24
802	SLE QP 1	27	259	8402	-1116.93	-81.39	8.04
802	SLE QP 2	26	266	8716	-1158.74	-84.36	8.16
802	SLD 1	993	494	8158	-1094.66	-40.93	125.6
802	SLD 2	969	553	8179	-1096.56	-41.18	126.08
802	SLD 3	978	-109	8243	-1111.32	-45.38	123.64
802	SLD 4	954	-50	8264	-1113.21	-45.63	124.12
802	SLD 5	343	1237	8417	-1113.91	-64.54	46.28
802	SLD 6	327	1276	8430	-1115.17	-64.71	46.6
802	SLD 7	294	-771	8699	-1169.43	-79.37	39.74
802	SLD 8	278	-732	8713	-1170.68	-79.54	40.05
802	SLD 9	-225	1263	8720	-1146.8	-89.19	-23.74
802	SLD 10	-241	1302	8734	-1148.05	-89.36	-23.42
802	SLD 11	-275	-744	9002	-1202.31	-104.02	-30.29
802	SLD 12	-290	-706	9016	-1203.57	-104.18	-29.97
802	SLD 13	-901	581	9169	-1204.27	-123.1	-107.81
802	SLD 14	-925	640	9189	-1206.16	-123.34	-107.32
802	SLD 15	-916	-21	9253	-1220.92	-127.54	-109.77
802	SLD 16	-940	38	9274	-1222.82	-127.79	-109.29
802	SLV 1	1540	638	7843	-1058.25	-16.47	192.09
802	SLV 2	1502	730	7875	-1061.23	-16.86	192.85
802	SLV 3	1516	-336	7981	-1085.28	-23.69	188.89
802	SLV 4	1478	-244	8014	-1088.25	-24.08	189.65
802	SLV 5	524	1837	8238	-1087.06	-52.98	68.04
802	SLV 6	499	1899	8260	-1089.06	-53.24	68.55
802	SLV 7	444	-1409	8700	-1177.13	-77.03	57.39
802	SLV 8	419	-1347	8722	-1179.13	-77.3	57.9
802	SLV 9	-366	1878	8711	-1138.35	-91.43	-41.58
802	SLV 10	-391	1940	8733	-1140.35	-91.69	-41.07
802	SLV 11	-446	-1367	9173	-1228.42	-115.49	-52.24
802	SLV 12	-471	-1305	9195	-1230.42	-115.75	-51.73
802	SLV 13	-1425	775	9419	-1229.23	-144.65	-173.34
802	SLV 14	-1463	867	9451	-1232.2	-145.04	-172.58
802	SLV 15	-1449	-199	9557	-1256.25	-151.87	-176.53
802	SLV 16	-1487	-107	9590	-1259.23	-152.26	-175.78
802	SLV FO 1	1691	675	7755	-1048.21	-9.68	210.48
802	SLV FO 2	1650	776	7791	-1051.48	-10.11	211.31
802	SLV FO 3	1664	-396	7908	-1077.93	-17.62	206.97
802	SLV FO 4	1624	-295	7944	-1081.2	-18.05	207.8
802	SLV FO 5	574	1994	8190	-1079.89	-49.84	74.03
802	SLV FO 6	546	2062	8214	-1082.09	-50.13	74.59
802	SLV FO 7	485	-1576	8698	-1178.97	-76.3	62.31
802	SLV FO 8	458	-1508	8722	-1181.17	-76.59	62.87
802	SLV FO 9	-405	2039	8710	-1136.31	-92.14	-46.56
802	SLV FO 10	-432	2107	8734	-1138.51	-92.43	-46
802	SLV FO 11	-493	-1531	9218	-1235.39	-118.6	-58.28
802	SLV FO 12	-521	-1463	9242	-1237.59	-118.89	-57.72
802	SLV FO 13	-1571	826	9489	-1236.28	-150.68	-191.48
802	SLV FO 14	-1611	927	9525	-1239.55	-151.11	-190.65
802	SLV FO 15	-1597	-245	9641	-1266	-158.62	-195
802	SLV FO 16	-1638	-144	9677	-1269.27	-159.05	-194.17
802	CRTFP Ux+	0	0	0	0	0	0
802	CRTFP Ux-	0	0	0	0	0	0
802	CRTFP Uy+	0	0	0	0	0	0
802	CRTFP Uy-	0	0	0	0	0	0
805	SLU 1	135	57	9262	-960.2	-262.1	13.47
805	SLU 2	133	102	9231	-958.03	-263.35	14.74
805	SLU 3	139	58	9499	-984.36	-268.13	13.81
805	SLU 4	138	85	9481	-983.06	-268.87	14.57
805	SLU 5	136	103	9388	-973.95	-267.36	14.95
805	SLU 6	142	59	9655	-1000.28	-272.14	14.01
805	SLU 7	141	86	9637	-998.98	-272.89	14.78
805	SLU 8	140	59	9575	-992.04	-270.13	13.89
805	SLU 9	139	86	9557	-990.74	-270.88	14.65
805	SLU 10	143	112	10480	-1087.43	-297.27	15.72
805	SLU 11	148	69	10748	-1113.76	-302.05	14.79
805	SLU 12	147	96	10729	-1112.46	-302.8	15.55
805	SLU 13	145	113	10637	-1103.35	-301.29	15.93
805	SLU 14	151	69	10904	-1129.68	-306.07	15
805	SLU 15	150	96	10886	-1128.38	-306.82	15.76



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
805	SLU 16	150	69	10824	-1121.44	-304.06	14.87
805	SLU 17	149	96	10806	-1120.14	-304.81	15.63
805	SLU 18	148	72	11046	-1145.06	-310.56	14.87
805	SLU 19	147	99	11028	-1143.76	-311.31	15.64
805	SLU 20	151	73	11203	-1160.97	-314.58	15.08
805	SLU 21	150	100	11184	-1159.67	-315.33	15.84
805	SLU 22	153	66	10799	-1118.62	-303.36	15.19
805	SLU 23	152	111	10769	-1116.46	-304.61	16.46
805	SLU 24	158	68	11036	-1142.79	-309.38	15.53
805	SLU 25	157	95	11018	-1141.49	-310.13	16.29
805	SLU 26	155	112	10926	-1132.38	-308.62	16.67
805	SLU 27	160	68	11193	-1158.71	-313.4	15.74
805	SLU 28	159	95	11175	-1157.41	-314.15	16.5
805	SLU 29	159	68	11113	-1150.46	-311.39	15.61
805	SLU 30	158	95	11094	-1149.16	-312.14	16.37
805	SLU 31	161	122	12018	-1245.86	-338.53	17.45
805	SLU 32	167	78	12285	-1272.19	-343.31	16.51
805	SLU 33	166	105	12267	-1270.89	-344.06	17.27
805	SLU 34	164	122	12174	-1261.78	-342.55	17.66
805	SLU 35	170	79	12442	-1288.1	-347.33	16.72
805	SLU 36	169	106	12424	-1286.8	-348.08	17.48
805	SLU 37	168	78	12362	-1279.86	-345.32	16.59
805	SLU 38	167	105	12343	-1278.56	-346.07	17.36
805	SLU 39	167	81	12584	-1303.48	-351.82	16.6
805	SLU 40	166	108	12565	-1302.18	-352.57	17.36
805	SLU 41	170	82	12740	-1319.4	-355.84	16.8
805	SLU 42	169	109	12722	-1318.1	-356.59	17.57
805	SLU 43	169	71	11513	-1193.94	-326.58	16.92
805	SLU 44	167	116	11483	-1191.78	-327.83	18.19
805	SLU 45	173	72	11750	-1218.11	-332.61	17.26
805	SLU 46	172	99	11732	-1216.81	-333.36	18.02
805	SLU 47	170	117	11639	-1207.7	-331.85	18.4
805	SLU 48	176	73	11907	-1234.02	-336.63	17.46
805	SLU 49	175	100	11888	-1232.72	-337.38	18.23
805	SLU 50	174	72	11826	-1225.78	-334.62	17.34
805	SLU 51	174	100	11808	-1224.48	-335.37	18.1
805	SLU 52	177	126	12732	-1321.18	-361.75	19.17
805	SLU 53	182	83	12999	-1347.5	-366.53	18.24
805	SLU 54	182	110	12981	-1346.21	-367.28	19
805	SLU 55	180	127	12888	-1337.09	-365.77	19.38
805	SLU 56	185	83	13156	-1363.42	-370.55	18.45
805	SLU 57	184	110	13137	-1362.12	-371.3	19.21
805	SLU 58	184	83	13075	-1355.18	-368.54	18.32
805	SLU 59	183	110	13057	-1353.88	-369.29	19.08
805	SLU 60	182	86	13297	-1378.8	-375.05	18.32
805	SLU 61	181	113	13279	-1377.5	-375.79	19.09
805	SLU 62	185	86	13454	-1394.72	-379.06	18.53
805	SLU 63	184	114	13436	-1393.42	-379.81	19.29
805	SLU 64	187	80	13051	-1352.37	-367.84	18.64
805	SLU 65	186	125	13020	-1350.2	-369.09	19.91
805	SLU 66	192	81	13288	-1376.53	-373.87	18.98
805	SLU 67	191	109	13269	-1375.23	-374.62	19.74
805	SLU 68	189	126	13177	-1366.12	-373.11	20.12
805	SLU 69	194	82	13444	-1392.45	-377.89	19.19
805	SLU 70	193	109	13426	-1391.15	-378.63	19.95
805	SLU 71	193	82	13364	-1384.2	-375.88	19.06
805	SLU 72	192	109	13346	-1382.9	-376.62	19.82
805	SLU 73	195	136	14269	-1479.6	-403.01	20.9
805	SLU 74	201	92	14537	-1505.93	-407.79	19.96
805	SLU 75	200	119	14518	-1504.63	-408.54	20.72
805	SLU 76	198	136	14426	-1495.52	-407.03	21.11
805	SLU 77	204	93	14693	-1521.85	-411.81	20.17
805	SLU 78	203	120	14675	-1520.55	-412.56	20.93
805	SLU 79	202	92	14613	-1513.6	-409.8	20.04
805	SLU 80	201	119	14595	-1512.3	-410.55	20.81
805	SLU 81	201	95	14835	-1537.22	-416.3	20.05
805	SLU 82	200	122	14817	-1535.92	-417.05	20.81
805	SLU 83	204	96	14992	-1553.14	-420.32	20.25
805	SLU 84	203	123	14973	-1551.84	-421.07	21.02
805	SLE RA 1	140	60	9701	-1005.46	-273.89	13.96
805	SLE RA 2	139	90	9681	-1004.02	-274.72	14.81
805	SLE RA 3	143	61	9859	-1021.57	-277.9	14.19
805	SLE RA 4	142	79	9847	-1020.71	-278.4	14.69
805	SLE RA 5	141	90	9785	-1014.63	-277.4	14.95
805	SLE RA 6	145	61	9964	-1032.18	-280.58	14.32
805	SLE RA 7	144	79	9951	-1031.32	-281.08	14.83
805	SLE RA 8	144	61	9910	-1026.69	-279.24	14.24
805	SLE RA 9	143	79	9898	-1025.82	-279.74	14.75
805	SLE RA 10	145	97	10513	-1090.29	-297.34	15.46
805	SLE RA 11	149	67	10692	-1107.84	-300.52	14.84
805	SLE RA 12	149	85	10680	-1106.97	-301.02	15.35
805	SLE RA 13	147	97	10618	-1100.9	-300.01	15.6
805	SLE RA 14	151	68	10796	-1118.45	-303.2	14.98
805	SLE RA 15	150	86	10784	-1117.58	-303.7	15.49
805	SLE RA 16	150	68	10743	-1112.95	-301.86	14.89
805	SLE RA 17	149	86	10730	-1112.09	-302.36	15.4
805	SLE RA 18	149	69	10890	-1128.7	-306.2	14.9
805	SLE RA 19	148	88	10878	-1127.84	-306.7	15.41
805	SLE RA 20	151	70	10995	-1139.31	-308.87	15.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
805	SLE RA 21	150	88	10983	-1138.45	-309.37	15.55
805	SLE FR 1	140	60	9701	-1005.46	-273.89	13.96
805	SLE FR 2	140	66	9697	-1005.18	-274.05	14.13
805	SLE FR 3	141	60	9743	-1009.71	-274.96	14.02
805	SLE FR 4	143	69	10054	-1042.15	-283.75	14.41
805	SLE FR 5	144	63	10100	-1046.68	-284.65	14.3
805	SLE FR 6	145	65	10296	-1067.08	-290.04	14.43
805	SLE QP 1	140	60	9701	-1005.46	-273.89	13.96
805	SLE QP 2	143	63	10058	-1042.44	-283.58	14.24
805	SLD 1	951	308	8771	-916.99	-253.1	104.92
805	SLD 2	927	449	8765	-916.77	-252.19	109.26
805	SLD 3	968	-189	9205	-948.9	-239.17	90.71
805	SLD 4	945	-48	9198	-948.68	-238.26	95.05
805	SLD 5	363	865	9016	-956.44	-295.73	62.22
805	SLD 6	347	958	9011	-956.3	-295.13	65.08
805	SLD 7	421	-792	10461	-1062.81	-249.29	14.85
805	SLD 8	406	-699	10456	-1062.67	-248.69	17.71
805	SLD 9	-120	824	9659	-1022.2	-318.47	10.77
805	SLD 10	-136	918	9655	-1022.06	-317.87	13.64
805	SLD 11	-62	-833	11104	-1128.57	-272.03	-36.6
805	SLD 12	-77	-739	11100	-1128.43	-271.43	-33.74
805	SLD 13	-660	174	10917	-1136.19	-328.9	-66.56
805	SLD 14	-683	315	10911	-1135.97	-327.99	-62.23
805	SLD 15	-642	-324	11351	-1168.1	-314.97	-80.77
805	SLD 16	-665	-182	11344	-1167.88	-314.06	-76.44
805	SLV 1	1408	459	8038	-845.76	-236.28	156.62
805	SLV 2	1371	680	8028	-845.41	-234.86	163.41
805	SLV 3	1436	-345	8740	-897.4	-213.76	133.62
805	SLV 4	1400	-124	8729	-897.05	-212.33	140.41
805	SLV 5	486	1360	8390	-905.18	-303.82	90.57
805	SLV 6	461	1509	8383	-904.94	-302.86	95.15
805	SLV 7	581	-1321	10728	-1077.31	-228.74	13.9
805	SLV 8	556	-1172	10721	-1077.08	-227.78	18.47
805	SLV 9	-271	1297	9395	-1007.79	-339.38	10.01
805	SLV 10	-295	1446	9388	-1007.56	-338.42	14.59
805	SLV 11	-176	-1384	11733	-1179.93	-264.3	-66.67
805	SLV 12	-200	-1235	11726	-1179.7	-263.34	-62.09
805	SLV 13	-1114	249	11386	-1187.82	-354.83	-111.93
805	SLV 14	-1151	470	11376	-1187.47	-353.4	-105.13
805	SLV 15	-1086	-555	12088	-1239.46	-332.3	-134.93
805	SLV 16	-1122	-334	12078	-1239.11	-330.88	-128.14
805	SLV FO 1	1535	499	7836	-826.09	-231.55	170.86
805	SLV FO 2	1494	742	7825	-825.71	-229.98	178.33
805	SLV FO 3	1566	-386	8608	-882.89	-206.77	145.55
805	SLV FO 4	1525	-143	8596	-882.51	-205.21	153.03
805	SLV FO 5	520	1490	8223	-891.45	-305.84	98.21
805	SLV FO 6	493	1653	8216	-891.19	-304.79	103.24
805	SLV FO 7	625	-1459	10795	-1080.8	-223.25	13.86
805	SLV FO 8	598	-1295	10788	-1080.54	-222.2	18.9
805	SLV FO 9	-312	1420	9328	-1004.33	-344.96	9.59
805	SLV FO 10	-339	1584	9321	-1004.07	-343.91	14.62
805	SLV FO 11	-208	-1528	11900	-1193.68	-262.37	-74.76
805	SLV FO 12	-235	-1364	11892	-1193.42	-261.32	-69.72
805	SLV FO 13	-1240	268	11519	-1202.36	-361.95	-124.54
805	SLV FO 14	-1280	511	11508	-1201.98	-360.38	-117.07
805	SLV FO 15	-1209	-617	12291	-1259.16	-337.18	-149.85
805	SLV FO 16	-1249	-373	12280	-1258.78	-335.61	-142.37
805	CRTFP Ux+	0	0	0	0	0	0
805	CRTFP Ux-	0	0	0	0	0	0
805	CRTFP Uy+	0	0	0	0	0	0
805	CRTFP Uy-	0	0	0	0	0	0
807	SLU 1	-37	49	3550	-5.56	-632.31	12.31
807	SLU 2	-36	71	3537	-5.76	-633.01	17.74
807	SLU 3	-38	50	3634	-5.66	-646.5	12.45
807	SLU 4	-37	63	3627	-5.77	-646.92	15.7
807	SLU 5	-36	71	3591	-5.81	-641.95	17.83
807	SLU 6	-38	50	3688	-5.71	-655.45	12.54
807	SLU 7	-37	63	3680	-5.83	-655.86	15.8
807	SLU 8	-38	50	3657	-5.67	-650.2	12.5
807	SLU 9	-37	63	3649	-5.79	-650.62	15.76
807	SLU 10	-36	78	3984	-6.52	-711.98	19.48
807	SLU 11	-38	57	4081	-6.42	-725.47	14.19
807	SLU 12	-37	70	4074	-6.54	-725.89	17.45
807	SLU 13	-37	78	4038	-6.58	-720.93	19.58
807	SLU 14	-39	57	4135	-6.48	-734.42	14.29
807	SLU 15	-38	70	4127	-6.59	-734.84	17.54
807	SLU 16	-38	57	4104	-6.44	-729.17	14.25
807	SLU 17	-38	70	4096	-6.55	-729.59	17.5
807	SLU 18	-38	59	4189	-6.66	-745.13	14.81
807	SLU 19	-37	72	4181	-6.77	-745.55	18.06
807	SLU 20	-38	60	4242	-6.71	-754.07	14.9
807	SLU 21	-37	73	4234	-6.83	-754.49	18.16
807	SLU 22	-40	54	4112	-6.39	-729.8	13.56
807	SLU 23	-39	76	4099	-6.59	-730.5	18.99
807	SLU 24	-40	55	4196	-6.49	-743.99	13.69
807	SLU 25	-40	68	4188	-6.6	-744.41	16.95
807	SLU 26	-39	76	4152	-6.64	-739.44	19.08
807	SLU 27	-41	55	4250	-6.54	-752.93	13.79
807	SLU 28	-40	68	4242	-6.66	-753.35	17.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
807	SLU 29	-41	55	4219	-6.5	-747.69	13.75
807	SLU 30	-40	68	4211	-6.62	-748.11	17
807	SLU 31	-39	83	4546	-7.35	-809.47	20.73
807	SLU 32	-41	62	4643	-7.25	-822.96	15.44
807	SLU 33	-40	75	4635	-7.37	-823.38	18.7
807	SLU 34	-40	83	4599	-7.4	-818.41	20.83
807	SLU 35	-41	62	4697	-7.3	-831.9	15.54
807	SLU 36	-41	75	4689	-7.42	-832.32	18.79
807	SLU 37	-41	62	4666	-7.27	-826.66	15.5
807	SLU 38	-40	75	4658	-7.38	-827.08	18.75
807	SLU 39	-41	64	4750	-7.48	-842.62	16.05
807	SLU 40	-40	77	4743	-7.6	-843.04	19.31
807	SLU 41	-41	65	4804	-7.54	-851.56	16.15
807	SLU 42	-40	78	4796	-7.66	-851.98	19.41
807	SLU 43	-47	62	4423	-6.95	-788.58	15.58
807	SLU 44	-46	84	4410	-7.14	-789.28	21
807	SLU 45	-48	63	4507	-7.04	-802.77	15.71
807	SLU 46	-47	76	4499	-7.16	-803.19	18.97
807	SLU 47	-46	85	4463	-7.2	-798.22	21.1
807	SLU 48	-48	63	4560	-7.1	-811.72	15.81
807	SLU 49	-47	76	4553	-7.21	-812.13	19.06
807	SLU 50	-48	63	4529	-7.06	-806.47	15.77
807	SLU 51	-47	76	4522	-7.17	-806.89	19.02
807	SLU 52	-46	91	4857	-7.91	-868.25	22.75
807	SLU 53	-48	70	4954	-7.81	-881.74	17.46
807	SLU 54	-47	83	4946	-7.92	-882.16	20.71
807	SLU 55	-47	92	4910	-7.96	-877.2	22.85
807	SLU 56	-49	70	5007	-7.86	-890.69	17.55
807	SLU 57	-48	83	5000	-7.98	-891.11	20.81
807	SLU 58	-48	70	4976	-7.82	-885.44	17.51
807	SLU 59	-48	83	4969	-7.94	-885.86	20.77
807	SLU 60	-48	72	5061	-8.04	-901.4	18.07
807	SLU 61	-47	85	5053	-8.16	-901.82	21.33
807	SLU 62	-48	73	5114	-8.1	-910.34	18.17
807	SLU 63	-47	86	5107	-8.21	-910.76	21.42
807	SLU 64	-50	67	4984	-7.78	-886.07	16.82
807	SLU 65	-49	89	4971	-7.97	-886.77	22.25
807	SLU 66	-50	68	5069	-7.87	-900.26	16.96
807	SLU 67	-50	81	5061	-7.99	-900.68	20.21
807	SLU 68	-49	90	5025	-8.03	-895.71	22.35
807	SLU 69	-51	68	5122	-7.92	-909.2	17.05
807	SLU 70	-50	81	5114	-8.04	-909.62	20.31
807	SLU 71	-51	68	5091	-7.89	-903.96	17.01
807	SLU 72	-50	81	5083	-8	-904.37	20.27
807	SLU 73	-49	96	5418	-8.73	-965.74	24
807	SLU 74	-51	75	5516	-8.63	-979.23	18.71
807	SLU 75	-50	88	5508	-8.75	-979.65	21.96
807	SLU 76	-50	96	5472	-8.79	-974.68	24.09
807	SLU 77	-51	75	5569	-8.69	-988.17	18.8
807	SLU 78	-51	88	5561	-8.8	-988.59	22.06
807	SLU 79	-51	75	5538	-8.65	-982.93	18.76
807	SLU 80	-50	88	5530	-8.77	-983.35	22.02
807	SLU 81	-51	77	5623	-8.87	-998.89	19.32
807	SLU 82	-50	90	5615	-8.99	-999.31	22.58
807	SLU 83	-51	78	5676	-8.92	-1007.83	19.41
807	SLU 84	-50	91	5668	-9.04	-1008.25	22.67
807	SLE RA 1	-38	51	3711	-5.8	-660.17	12.67
807	SLE RA 2	-37	65	3702	-5.93	-660.63	16.28
807	SLE RA 3	-38	51	3767	-5.86	-669.63	12.76
807	SLE RA 4	-38	60	3762	-5.94	-669.91	14.93
807	SLE RA 5	-37	66	3738	-5.97	-666.59	16.35
807	SLE RA 6	-38	51	3802	-5.9	-675.59	12.82
807	SLE RA 7	-38	60	3797	-5.98	-675.87	14.99
807	SLE RA 8	-38	51	3782	-5.87	-672.09	12.79
807	SLE RA 9	-38	60	3777	-5.95	-672.37	14.96
807	SLE RA 10	-37	70	4000	-6.44	-713.28	17.45
807	SLE RA 11	-38	56	4065	-6.37	-722.27	13.92
807	SLE RA 12	-38	64	4060	-6.45	-722.55	16.09
807	SLE RA 13	-38	70	4036	-6.48	-719.24	17.51
807	SLE RA 14	-39	56	4100	-6.41	-728.24	13.99
807	SLE RA 15	-38	65	4095	-6.49	-728.52	16.16
807	SLE RA 16	-39	56	4080	-6.38	-724.74	13.96
807	SLE RA 17	-38	65	4075	-6.46	-725.02	16.13
807	SLE RA 18	-38	57	4136	-6.53	-735.38	14.33
807	SLE RA 19	-38	66	4131	-6.61	-735.66	16.5
807	SLE RA 20	-38	58	4172	-6.57	-741.34	14.39
807	SLE RA 21	-38	66	4167	-6.64	-741.62	16.57
807	SLE FR 1	-38	51	3711	-5.8	-660.17	12.67
807	SLE FR 2	-37	54	3709	-5.83	-660.26	13.39
807	SLE FR 3	-38	51	3725	-5.82	-662.55	12.69
807	SLE FR 4	-38	56	3837	-6.04	-682.82	13.89
807	SLE FR 5	-38	53	3852	-6.03	-685.11	13.19
807	SLE FR 6	-38	54	3923	-6.16	-697.77	13.5
807	SLE QP 1	-38	51	3711	-5.8	-660.17	12.67
807	SLE QP 2	-38	53	3838	-6.02	-682.73	13.17
807	SLD 1	249	188	4799	-9.09	-864.09	47.09
807	SLD 2	234	81	4811	-8.87	-862.43	20.34
807	SLD 3	235	-60	4974	-6.6	-857.04	-15
807	SLD 4	220	-168	4986	-6.39	-855.39	-41.75



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
807	SLD 5	73	490	3859	-10.74	-748.12	122.34
807	SLD 6	63	419	3867	-10.6	-747.03	104.67
807	SLD 7	25	-339	4442	-2.47	-724.63	-84.64
807	SLD 8	15	-410	4450	-2.32	-723.54	-102.3
807	SLD 9	-90	516	3227	-9.71	-641.92	128.63
807	SLD 10	-100	445	3235	-9.57	-640.83	110.97
807	SLD 11	-138	-314	3809	-1.44	-618.43	-78.34
807	SLD 12	-148	-385	3817	-1.29	-617.34	-96
807	SLD 13	-295	273	2690	-5.65	-510.07	68.08
807	SLD 14	-310	166	2703	-5.43	-508.42	41.33
807	SLD 15	-309	25	2865	-3.17	-503.03	5.99
807	SLD 16	-325	-83	2877	-2.95	-501.37	-20.76
807	SLV 1	412	272	5332	-10.87	-965.79	67.87
807	SLV 2	388	103	5351	-10.53	-963.2	25.96
807	SLV 3	389	-130	5615	-6.86	-954.46	-32.42
807	SLV 4	365	-299	5633	-6.52	-951.87	-74.33
807	SLV 5	137	759	3855	-13.62	-785.32	189.51
807	SLV 6	121	646	3868	-13.39	-783.57	161.29
807	SLV 7	59	-580	4795	-0.25	-747.54	-144.8
807	SLV 8	43	-693	4808	-0.02	-745.8	-173.01
807	SLV 9	-119	799	2868	-12.02	-619.66	199.34
807	SLV 10	-135	686	2881	-11.79	-617.12	171.13
807	SLV 11	-197	-540	3809	1.36	-581.89	-134.96
807	SLV 12	-213	-654	3821	1.58	-580.14	-163.18
807	SLV 13	-440	404	2043	-5.52	-413.59	100.66
807	SLV 14	-464	236	2062	-5.18	-411	58.75
807	SLV 15	-464	2	2325	-1.51	-402.26	0.37
807	SLV 16	-488	-166	2344	-1.16	-399.67	-41.54
807	SLV FO 1	457	293	5482	-11.36	-994.09	73.34
807	SLV FO 2	431	108	5503	-10.98	-991.24	27.24
807	SLV FO 3	431	-148	5792	-6.95	-981.63	-36.98
807	SLV FO 4	405	-334	5813	-6.57	-978.78	-83.08
807	SLV FO 5	155	830	3857	-14.38	-795.58	207.14
807	SLV FO 6	137	705	3871	-14.13	-793.66	176.11
807	SLV FO 7	69	-643	4891	0.32	-754.02	-160.6
807	SLV FO 8	51	-768	4905	0.58	-752.11	-191.63
807	SLV FO 9	-127	874	2771	-12.62	-613.35	217.96
807	SLV FO 10	-144	749	2785	-12.36	-611.43	186.93
807	SLV FO 11	-212	-599	3806	2.09	-571.8	-149.78
807	SLV FO 12	-230	-724	3820	2.35	-569.88	-180.81
807	SLV FO 13	-481	439	1864	-5.47	-386.68	109.41
807	SLV FO 14	-507	254	1884	-5.09	-383.83	63.31
807	SLV FO 15	-506	-3	2174	-1.05	-374.21	-0.91
807	SLV FO 16	-533	-188	2195	-0.68	-371.37	-47.01
807	CRTFP Ux+	0	0	0	0	0	0
807	CRTFP Ux-	0	0	0	0	0	0
807	CRTFP Uy+	0	0	0	0	0	0
807	CRTFP Uy-	0	0	0	0	0	0
810	SLU 1	64	9	4205	-7.8	1062.09	-3.05
810	SLU 2	62	33	4187	-8.05	1062.71	-11.65
810	SLU 3	65	9	4314	-7.94	1087.37	-3.02
810	SLU 4	65	24	4303	-8.09	1087.74	-8.18
810	SLU 5	64	34	4259	-8.13	1079.26	-11.78
810	SLU 6	66	9	4386	-8.03	1103.92	-3.14
810	SLU 7	66	24	4375	-8.17	1104.29	-8.3
810	SLU 8	66	10	4349	-7.97	1095.19	-3.3
810	SLU 9	65	24	4338	-8.12	1095.56	-8.46
810	SLU 10	67	34	4720	-9.14	1195.15	-11.69
810	SLU 11	69	9	4847	-9.04	1219.82	-3.06
810	SLU 12	69	24	4836	-9.18	1220.19	-8.22
810	SLU 13	68	34	4791	-9.22	1211.7	-11.82
810	SLU 14	71	9	4919	-9.12	1236.37	-3.19
810	SLU 15	70	24	4908	-9.27	1236.74	-8.34
810	SLU 16	70	10	4882	-9.06	1227.64	-3.35
810	SLU 17	69	24	4871	-9.21	1228.01	-8.5
810	SLU 18	69	9	4966	-9.37	1251.3	-3.12
810	SLU 19	69	24	4955	-9.51	1251.67	-8.27
810	SLU 20	71	9	5038	-9.45	1267.85	-3.24
810	SLU 21	70	24	5027	-9.6	1268.22	-8.4
810	SLU 22	71	6	4875	-9	1225.24	-1.98
810	SLU 23	70	30	4856	-9.25	1225.85	-10.57
810	SLU 24	73	6	4984	-9.14	1250.52	-1.94
810	SLU 25	72	20	4973	-9.29	1250.89	-7.1
810	SLU 26	71	31	4928	-9.33	1242.4	-10.7
810	SLU 27	74	6	5056	-9.23	1267.07	-2.06
810	SLU 28	73	21	5044	-9.37	1267.44	-7.22
810	SLU 29	73	7	5019	-9.17	1258.34	-2.22
810	SLU 30	73	21	5008	-9.32	1258.71	-7.38
810	SLU 31	74	31	5389	-10.34	1358.3	-10.61
810	SLU 32	77	6	5516	-10.24	1382.97	-1.98
810	SLU 33	76	21	5505	-10.38	1383.34	-7.14
810	SLU 34	75	31	5461	-10.42	1374.85	-10.74
810	SLU 35	78	6	5588	-10.32	1399.52	-2.11
810	SLU 36	77	21	5577	-10.47	1399.89	-7.26
810	SLU 37	78	7	5551	-10.26	1390.79	-2.27
810	SLU 38	77	21	5540	-10.41	1391.16	-7.42
810	SLU 39	77	6	5636	-10.56	1414.45	-2.04
810	SLU 40	76	21	5625	-10.71	1414.82	-7.19
810	SLU 41	78	6	5708	-10.65	1431	-2.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
810	SLU 42	77	21	5697	-10.8	1431.37	-7.32
810	SLU 43	80	13	5237	-9.73	1324.78	-4.34
810	SLU 44	79	37	5219	-9.98	1325.4	-12.94
810	SLU 45	82	13	5346	-9.87	1350.06	-4.31
810	SLU 46	81	27	5335	-10.02	1350.43	-9.46
810	SLU 47	80	38	5291	-10.06	1341.95	-13.06
810	SLU 48	83	13	5418	-9.96	1366.61	-4.43
810	SLU 49	82	28	5407	-10.1	1366.98	-9.59
810	SLU 50	82	13	5381	-9.9	1357.88	-4.59
810	SLU 51	82	28	5370	-10.05	1358.25	-9.75
810	SLU 52	83	37	5752	-11.07	1457.84	-12.98
810	SLU 53	86	13	5879	-10.97	1482.51	-4.35
810	SLU 54	85	27	5868	-11.11	1482.88	-9.51
810	SLU 55	84	38	5824	-11.15	1474.4	-13.1
810	SLU 56	87	13	5951	-11.05	1499.06	-4.47
810	SLU 57	86	28	5940	-11.2	1499.43	-9.63
810	SLU 58	86	13	5914	-10.99	1490.33	-4.63
810	SLU 59	86	28	5903	-11.14	1490.7	-9.79
810	SLU 60	86	13	5998	-11.29	1513.99	-4.4
810	SLU 61	85	28	5987	-11.44	1514.36	-9.56
810	SLU 62	87	13	6070	-11.38	1530.54	-4.53
810	SLU 63	86	28	6059	-11.53	1530.91	-9.68
810	SLU 64	88	10	5907	-10.93	1487.93	-3.26
810	SLU 65	86	34	5888	-11.18	1488.54	-11.86
810	SLU 66	89	9	6016	-11.07	1513.21	-3.23
810	SLU 67	89	24	6005	-11.22	1513.58	-8.38
810	SLU 68	88	34	5960	-11.26	1505.09	-11.98
810	SLU 69	90	10	6088	-11.16	1529.76	-3.35
810	SLU 70	90	25	6077	-11.3	1530.13	-8.51
810	SLU 71	90	10	6051	-11.1	1521.03	-3.51
810	SLU 72	89	25	6040	-11.25	1521.4	-8.67
810	SLU 73	91	34	6421	-12.27	1620.99	-11.9
810	SLU 74	93	10	6548	-12.17	1645.66	-3.27
810	SLU 75	93	24	6537	-12.31	1646.03	-8.43
810	SLU 76	92	35	6493	-12.35	1637.54	-12.02
810	SLU 77	95	10	6620	-12.25	1662.21	-3.39
810	SLU 78	94	25	6609	-12.4	1662.58	-8.55
810	SLU 79	94	10	6583	-12.19	1653.48	-3.55
810	SLU 80	93	25	6572	-12.34	1653.85	-8.71
810	SLU 81	93	10	6668	-12.49	1677.14	-3.32
810	SLU 82	93	24	6657	-12.64	1677.51	-8.48
810	SLU 83	95	10	6740	-12.58	1693.69	-3.45
810	SLU 84	94	25	6729	-12.72	1694.06	-8.6
810	SLE RA 1	66	8	4397	-8.14	1108.7	-2.75
810	SLE RA 2	65	24	4384	-8.31	1109.11	-8.48
810	SLE RA 3	67	8	4469	-8.24	1125.56	-2.72
810	SLE RA 4	66	18	4462	-8.34	1125.8	-6.16
810	SLE RA 5	66	25	4432	-8.36	1120.15	-8.56
810	SLE RA 6	68	8	4517	-8.3	1136.59	-2.81
810	SLE RA 7	67	18	4510	-8.39	1136.84	-6.24
810	SLE RA 8	67	8	4493	-8.26	1130.77	-2.91
810	SLE RA 9	67	18	4485	-8.35	1131.02	-6.35
810	SLE RA 10	68	24	4739	-9.04	1197.41	-8.51
810	SLE RA 11	70	8	4824	-8.97	1213.86	-2.75
810	SLE RA 12	69	18	4817	-9.07	1214.1	-6.19
810	SLE RA 13	68	25	4787	-9.09	1208.45	-8.59
810	SLE RA 14	70	8	4872	-9.02	1224.89	-2.83
810	SLE RA 15	70	18	4865	-9.12	1225.14	-6.27
810	SLE RA 16	70	9	4848	-8.99	1219.07	-2.94
810	SLE RA 17	70	18	4840	-9.08	1219.32	-6.38
810	SLE RA 18	70	8	4904	-9.19	1234.84	-2.79
810	SLE RA 19	69	18	4897	-9.28	1235.09	-6.23
810	SLE RA 20	70	8	4952	-9.24	1245.88	-2.87
810	SLE RA 21	70	18	4944	-9.34	1246.12	-6.31
810	SLE FR 1	66	8	4397	-8.14	1108.7	-2.75
810	SLE FR 2	66	11	4394	-8.18	1108.79	-3.89
810	SLE FR 3	66	8	4416	-8.17	1113.12	-2.78
810	SLE FR 4	67	11	4546	-8.49	1146.63	-3.9
810	SLE FR 5	67	8	4568	-8.48	1150.96	-2.79
810	SLE FR 6	68	8	4650	-8.67	1171.77	-2.77
810	SLE QP 1	66	8	4397	-8.14	1108.7	-2.75
810	SLE QP 2	67	8	4549	-8.46	1146.55	-2.76
810	SLD 1	406	130	3222	-7.5	864.66	-45.24
810	SLD 2	387	255	3201	-7.77	865.86	-88.8
810	SLD 3	417	-129	3471	-4.45	860.62	45.03
810	SLD 4	398	-4	3450	-4.73	861.83	1.47
810	SLD 5	156	414	3778	-12.73	1067.89	-144.57
810	SLD 6	143	496	3763	-12.92	1068.68	-173.33
810	SLD 7	191	-447	4607	-2.59	1054.43	156.34
810	SLD 8	179	-364	4592	-2.77	1055.22	127.58
810	SLD 9	-45	381	4505	-14.14	1237.87	-133.09
810	SLD 10	-58	463	4491	-14.32	1238.66	-161.86
810	SLD 11	-10	-480	5334	-4	1224.41	167.81
810	SLD 12	-22	-397	5320	-4.18	1225.2	139.05
810	SLD 13	-264	20	5648	-12.18	1431.26	-6.99
810	SLD 14	-283	145	5626	-12.46	1432.47	-50.55
810	SLD 15	-253	-238	5897	-9.14	1427.23	83.28
810	SLD 16	-272	-113	5875	-9.42	1428.43	39.72
810	SLV 1	598	205	2473	-7.05	706.98	-71.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
810	SLV 2	568	401	2439	-7.48	708.86	-139.87
810	SLV 3	615	-213	2875	-2.12	700.47	74.61
810	SLV 4	586	-17	2841	-2.56	702.36	6.37
810	SLV 5	205	665	3322	-15.42	1024.19	-232.47
810	SLV 6	185	797	3299	-15.71	1025.45	-278.42
810	SLV 7	263	-729	4664	0.99	1002.51	254.98
810	SLV 8	243	-597	4641	0.69	1003.78	209.03
810	SLV 9	-110	613	4457	-17.61	1289.31	-214.55
810	SLV 10	-130	745	4434	-17.9	1290.58	-260.49
810	SLV 11	-52	-781	5799	-1.21	1267.64	272.9
810	SLV 12	-72	-649	5776	-1.5	1268.91	226.95
810	SLV 13	-452	33	6256	-14.36	1590.73	-11.89
810	SLV 14	-481	229	6222	-14.79	1592.62	-80.13
810	SLV 15	-434	-385	6659	-9.44	1584.23	134.35
810	SLV 16	-464	-189	6625	-9.87	1586.12	66.11
810	SLV FO 1	651	225	2265	-6.9	663.02	-78.51
810	SLV FO 2	618	440	2228	-7.38	665.09	-153.58
810	SLV FO 3	670	-235	2708	-1.49	655.87	82.35
810	SLV FO 4	637	-20	2671	-1.97	657.94	7.28
810	SLV FO 5	219	731	3199	-16.11	1011.95	-255.44
810	SLV FO 6	197	876	3174	-16.43	1013.35	-305.98
810	SLV FO 7	283	-803	4675	1.93	988.11	280.75
810	SLV FO 8	261	-658	4650	1.61	989.5	230.21
810	SLV FO 9	-127	674	4448	-18.52	1303.59	-235.73
810	SLV FO 10	-149	819	4423	-18.85	1304.99	-286.27
810	SLV FO 11	-64	-860	5924	-0.48	1279.75	300.46
810	SLV FO 12	-85	-714	5898	-0.8	1281.14	249.92
810	SLV FO 13	-504	36	6427	-14.95	1635.15	-12.8
810	SLV FO 14	-536	251	6390	-15.42	1637.23	-87.87
810	SLV FO 15	-485	-424	6870	-9.53	1628	148.06
810	SLV FO 16	-517	-209	6832	-10.01	1630.07	72.99
810	CRTFP Ux+	0	0	0	0	0	0
810	CRTFP Ux-	0	0	0	0	0	0
810	CRTFP Uy+	0	0	0	0	0	0
810	CRTFP Uy-	0	0	0	0	0	0
812	SLU 1	-4	-1	2226	-1.14	524.58	0.18
812	SLU 2	-5	11	2222	-1.18	522.37	-2.86
812	SLU 3	-4	-1	2280	-1.16	537.6	0.22
812	SLU 4	-5	6	2278	-1.18	536.27	-1.6
812	SLU 5	-5	11	2257	-1.19	530.75	-2.81
812	SLU 6	-5	-1	2315	-1.18	545.98	0.27
812	SLU 7	-5	6	2312	-1.2	544.65	-1.55
812	SLU 8	-4	-1	2295	-1.17	541.34	0.27
812	SLU 9	-5	6	2293	-1.19	540.01	-1.55
812	SLU 10	-5	10	2531	-1.36	594.97	-2.49
812	SLU 11	-4	-3	2589	-1.35	610.2	0.59
812	SLU 12	-5	5	2587	-1.37	608.87	-1.23
812	SLU 13	-5	10	2566	-1.37	603.35	-2.45
812	SLU 14	-5	-3	2624	-1.36	618.57	0.64
812	SLU 15	-5	5	2622	-1.38	617.25	-1.18
812	SLU 16	-5	-3	2604	-1.35	613.93	0.64
812	SLU 17	-5	5	2602	-1.37	612.61	-1.18
812	SLU 18	-4	-3	2667	-1.4	628.29	0.69
812	SLU 19	-5	4	2665	-1.42	626.97	-1.13
812	SLU 20	-4	-3	2702	-1.42	636.67	0.74
812	SLU 21	-5	4	2700	-1.44	635.34	-1.08
812	SLU 22	-5	-2	2597	-1.29	612.15	0.38
812	SLU 23	-6	10	2593	-1.33	609.94	-2.66
812	SLU 24	-6	-2	2651	-1.32	625.16	0.43
812	SLU 25	-6	5	2649	-1.34	623.84	-1.39
812	SLU 26	-6	10	2628	-1.34	618.32	-2.61
812	SLU 27	-6	-2	2686	-1.33	633.54	0.48
812	SLU 28	-6	5	2683	-1.35	632.22	-1.34
812	SLU 29	-6	-2	2666	-1.32	628.9	0.48
812	SLU 30	-6	5	2664	-1.34	627.58	-1.34
812	SLU 31	-6	9	2902	-1.51	682.54	-2.29
812	SLU 32	-6	-3	2960	-1.5	697.76	0.79
812	SLU 33	-6	4	2958	-1.52	696.44	-1.03
812	SLU 34	-6	9	2937	-1.53	690.91	-2.24
812	SLU 35	-6	-4	2995	-1.51	706.14	0.84
812	SLU 36	-6	4	2992	-1.53	704.82	-0.98
812	SLU 37	-6	-4	2975	-1.5	701.5	0.84
812	SLU 38	-6	4	2973	-1.53	700.18	-0.98
812	SLU 39	-5	-4	3038	-1.56	715.86	0.9
812	SLU 40	-6	4	3036	-1.58	714.53	-0.92
812	SLU 41	-6	-4	3073	-1.57	724.24	0.95
812	SLU 42	-6	3	3071	-1.59	722.91	-0.87
812	SLU 43	-5	-1	2766	-1.43	651.93	0.16
812	SLU 44	-5	11	2762	-1.47	649.72	-2.87
812	SLU 45	-5	-1	2821	-1.45	664.95	0.21
812	SLU 46	-5	6	2818	-1.47	663.62	-1.61
812	SLU 47	-6	11	2797	-1.48	658.1	-2.83
812	SLU 48	-5	-1	2855	-1.47	673.33	0.26
812	SLU 49	-6	6	2853	-1.49	672	-1.56
812	SLU 50	-5	-1	2836	-1.46	668.69	0.26
812	SLU 51	-6	6	2834	-1.48	667.36	-1.56
812	SLU 52	-5	10	3072	-1.65	722.32	-2.51
812	SLU 53	-5	-3	3130	-1.64	737.55	0.57
812	SLU 54	-6	5	3127	-1.66	736.22	-1.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
812	SLU 55	-6	10	3106	-1.66	730.7	-2.46
812	SLU 56	-5	-3	3164	-1.65	745.93	0.62
812	SLU 57	-6	5	3162	-1.67	744.6	-1.2
812	SLU 58	-5	-3	3145	-1.64	741.29	0.62
812	SLU 59	-6	5	3143	-1.66	739.96	-1.2
812	SLU 60	-5	-3	3208	-1.69	755.64	0.68
812	SLU 61	-5	4	3206	-1.71	754.32	-1.14
812	SLU 62	-5	-3	3243	-1.71	764.02	0.73
812	SLU 63	-6	4	3240	-1.73	762.7	-1.09
812	SLU 64	-6	-2	3137	-1.58	739.5	0.36
812	SLU 65	-7	10	3133	-1.62	737.29	-2.67
812	SLU 66	-6	-2	3191	-1.61	752.52	0.41
812	SLU 67	-7	5	3189	-1.63	751.19	-1.41
812	SLU 68	-7	10	3168	-1.63	745.67	-2.62
812	SLU 69	-7	-2	3226	-1.62	760.89	0.46
812	SLU 70	-7	5	3224	-1.64	759.57	-1.36
812	SLU 71	-6	-2	3207	-1.61	756.25	0.46
812	SLU 72	-7	5	3205	-1.63	754.93	-1.36
812	SLU 73	-7	9	3443	-1.8	809.89	-2.31
812	SLU 74	-6	-3	3501	-1.79	825.11	0.77
812	SLU 75	-7	4	3498	-1.81	823.79	-1.05
812	SLU 76	-7	9	3477	-1.82	818.27	-2.26
812	SLU 77	-7	-4	3535	-1.8	833.49	0.82
812	SLU 78	-7	4	3533	-1.82	832.17	-1
812	SLU 79	-7	-4	3516	-1.79	828.85	0.82
812	SLU 80	-7	4	3514	-1.82	827.53	-1
812	SLU 81	-6	-4	3579	-1.85	843.21	0.88
812	SLU 82	-7	4	3577	-1.87	841.88	-0.94
812	SLU 83	-6	-4	3614	-1.86	851.59	0.93
812	SLU 84	-7	3	3611	-1.88	850.26	-0.89
812	SLE RA 1	-4	-1	2332	-1.19	549.6	0.23
812	SLE RA 2	-5	7	2329	-1.21	548.13	-1.79
812	SLE RA 3	-5	-1	2368	-1.2	558.28	0.27
812	SLE RA 4	-5	4	2366	-1.21	557.39	-0.95
812	SLE RA 5	-5	7	2352	-1.22	553.71	-1.76
812	SLE RA 6	-5	-1	2391	-1.21	563.86	0.3
812	SLE RA 7	-5	3	2390	-1.22	562.98	-0.91
812	SLE RA 8	-5	-1	2378	-1.2	560.77	0.3
812	SLE RA 9	-5	3	2377	-1.22	559.89	-0.91
812	SLE RA 10	-5	6	2535	-1.33	596.53	-1.55
812	SLE RA 11	-5	-2	2574	-1.32	606.68	0.51
812	SLE RA 12	-5	3	2572	-1.34	605.79	-0.71
812	SLE RA 13	-5	6	2558	-1.34	602.11	-1.51
812	SLE RA 14	-5	-2	2597	-1.33	612.26	0.54
812	SLE RA 15	-5	3	2596	-1.34	611.38	-0.67
812	SLE RA 16	-5	-2	2584	-1.33	609.17	0.54
812	SLE RA 17	-5	3	2583	-1.34	608.29	-0.67
812	SLE RA 18	-5	-3	2626	-1.36	618.74	0.58
812	SLE RA 19	-5	2	2625	-1.37	617.86	-0.63
812	SLE RA 20	-5	-3	2649	-1.37	624.32	0.61
812	SLE RA 21	-5	2	2648	-1.38	623.44	-0.6
812	SLE FR 1	-4	-1	2332	-1.19	549.6	0.23
812	SLE FR 2	-5	0	2331	-1.19	549.3	-0.17
812	SLE FR 3	-4	-1	2341	-1.19	551.83	0.25
812	SLE FR 4	-5	0	2420	-1.24	570.05	-0.07
812	SLE FR 5	-5	-2	2429	-1.24	572.57	0.35
812	SLE FR 6	-5	-2	2479	-1.27	584.17	0.41
812	SLE QP 1	-4	-1	2332	-1.19	549.6	0.23
812	SLE QP 2	-4	-2	2420	-1.24	570.34	0.34
812	SLD 1	219	83	2477	-1.05	574.22	-20.92
812	SLD 2	210	68	2473	-1.05	574.36	-17.11
812	SLD 3	224	-61	2539	-0.57	604.36	15.13
812	SLD 4	215	-76	2535	-0.56	604.51	18.94
812	SLD 5	57	245	2345	-1.91	525.76	-61.4
812	SLD 6	51	235	2342	-1.91	525.85	-58.89
812	SLD 7	73	-235	2550	-0.31	626.24	58.77
812	SLD 8	67	-245	2547	-0.3	626.34	61.28
812	SLD 9	-76	242	2293	-2.17	514.34	-60.61
812	SLD 10	-82	232	2290	-2.17	514.44	-58.1
812	SLD 11	-60	-239	2498	-0.57	614.83	59.57
812	SLD 12	-66	-248	2496	-0.56	614.92	62.08
812	SLD 13	-224	73	2305	-1.91	536.17	-18.26
812	SLD 14	-233	58	2301	-1.9	536.32	-14.46
812	SLD 15	-219	-71	2367	-1.43	566.32	17.79
812	SLD 16	-228	-86	2363	-1.42	566.46	21.59
812	SLV 1	345	135	2507	-0.96	575.55	-33.87
812	SLV 2	332	112	2501	-0.95	575.78	-27.91
812	SLV 3	353	-98	2607	-0.18	624.28	24.36
812	SLV 4	339	-121	2601	-0.17	624.51	30.32
812	SLV 5	91	397	2296	-2.34	497.95	-99.36
812	SLV 6	82	381	2292	-2.33	498.1	-95.35
812	SLV 7	117	-379	2629	0.26	660.39	94.75
812	SLV 8	108	-395	2624	0.26	660.54	98.76
812	SLV 9	-117	392	2216	-2.74	480.14	-98.09
812	SLV 10	-126	376	2212	-2.73	480.29	-94.08
812	SLV 11	-91	-384	2548	-0.14	642.58	96.02
812	SLV 12	-100	-400	2544	-0.14	642.73	100.03
812	SLV 13	-348	118	2239	-2.3	516.17	-29.64
812	SLV 14	-362	95	2233	-2.29	516.4	-23.69



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
812	SLV 15	-341	-115	2339	-1.52	564.9	28.59
812	SLV 16	-354	-138	2333	-1.51	565.13	34.55
812	SLV FO 1	380	149	2516	-0.93	576.07	-37.29
812	SLV FO 2	365	123	2509	-0.92	576.32	-30.74
812	SLV FO 3	388	-108	2626	-0.08	629.68	26.76
812	SLV FO 4	374	-133	2619	-0.07	629.93	33.32
812	SLV FO 5	101	437	2284	-2.45	490.71	-109.33
812	SLV FO 6	91	420	2279	-2.44	490.88	-104.92
812	SLV FO 7	129	-417	2649	0.41	669.4	104.19
812	SLV FO 8	119	-434	2645	0.41	669.56	108.61
812	SLV FO 9	-128	431	2195	-2.89	471.12	-107.93
812	SLV FO 10	-138	414	2191	-2.88	471.28	-103.52
812	SLV FO 11	-100	-423	2561	-0.03	649.8	105.59
812	SLV FO 12	-110	-440	2556	-0.03	649.97	110
812	SLV FO 13	-383	130	2221	-2.41	510.75	-32.64
812	SLV FO 14	-397	105	2214	-2.4	511	-26.09
812	SLV FO 15	-374	-126	2331	-1.55	564.36	31.41
812	SLV FO 16	-389	-152	2324	-1.54	564.61	37.97
812	CRTFP Ux+	0	0	0	0	0	0
812	CRTFP Ux-	0	0	0	0	0	0
812	CRTFP Uy+	0	0	0	0	0	0
812	CRTFP Uy-	0	0	0	0	0	0
814	SLU 1	97	42	6095	1.38	1.57	-1.47
814	SLU 2	95	71	6063	1.03	0.2	-1.33
814	SLU 3	100	42	6256	1.53	2.08	-1.56
814	SLU 4	99	60	6236	1.32	1.26	-1.47
814	SLU 5	97	72	6170	1.15	0.49	-1.4
814	SLU 6	102	43	6362	1.64	2.38	-1.63
814	SLU 7	101	61	6343	1.44	1.55	-1.54
814	SLU 8	101	43	6308	1.6	2.16	-1.61
814	SLU 9	100	60	6289	1.4	1.34	-1.52
814	SLU 10	102	78	6886	1.25	1.58	-1.52
814	SLU 11	107	50	7078	1.74	3.47	-1.75
814	SLU 12	106	67	7059	1.54	2.64	-1.67
814	SLU 13	104	79	6993	1.36	1.88	-1.59
814	SLU 14	110	50	7185	1.86	3.76	-1.82
814	SLU 15	108	68	7166	1.65	2.94	-1.73
814	SLU 16	108	50	7131	1.82	3.55	-1.8
814	SLU 17	107	68	7112	1.61	2.72	-1.71
814	SLU 18	107	52	7270	1.68	3.55	-1.74
814	SLU 19	106	70	7251	1.48	2.73	-1.66
814	SLU 20	109	52	7377	1.79	3.85	-1.81
814	SLU 21	108	70	7358	1.59	3.02	-1.73
814	SLU 22	111	48	7118	1.9	3.61	-1.76
814	SLU 23	109	78	7086	1.56	2.24	-1.62
814	SLU 24	114	49	7279	2.06	4.13	-1.85
814	SLU 25	113	67	7260	1.85	3.3	-1.77
814	SLU 26	111	78	7193	1.68	2.54	-1.69
814	SLU 27	116	50	7385	2.17	4.42	-1.92
814	SLU 28	115	67	7366	1.97	3.6	-1.83
814	SLU 29	115	49	7331	2.13	4.21	-1.9
814	SLU 30	114	67	7312	1.93	3.38	-1.81
814	SLU 31	116	85	7909	1.78	3.63	-1.81
814	SLU 32	121	56	8101	2.27	5.51	-2.04
814	SLU 33	120	74	8082	2.07	4.69	-1.96
814	SLU 34	118	86	8016	1.89	3.92	-1.88
814	SLU 35	123	57	8208	2.38	5.81	-2.11
814	SLU 36	122	75	8189	2.18	4.98	-2.02
814	SLU 37	122	56	8154	2.34	5.59	-2.09
814	SLU 38	121	74	8135	2.14	4.77	-2
814	SLU 39	121	58	8293	2.21	5.59	-2.04
814	SLU 40	120	76	8274	2	4.77	-1.95
814	SLU 41	123	59	8400	2.32	5.89	-2.1
814	SLU 42	122	77	8381	2.12	5.07	-2.02
814	SLU 43	121	52	7573	1.61	1.34	-1.81
814	SLU 44	119	81	7541	1.27	-0.03	-1.67
814	SLU 45	124	53	7733	1.76	1.85	-1.9
814	SLU 46	123	70	7714	1.56	1.03	-1.82
814	SLU 47	121	82	7647	1.38	0.26	-1.74
814	SLU 48	127	53	7840	1.87	2.15	-1.97
814	SLU 49	125	71	7821	1.67	1.33	-1.89
814	SLU 50	125	53	7786	1.83	1.93	-1.95
814	SLU 51	124	71	7767	1.63	1.11	-1.87
814	SLU 52	126	89	8364	1.48	1.35	-1.86
814	SLU 53	132	60	8556	1.98	3.24	-2.09
814	SLU 54	130	78	8537	1.77	2.42	-2.01
814	SLU 55	129	89	8470	1.59	1.65	-1.93
814	SLU 56	134	60	8663	2.09	3.54	-2.16
814	SLU 57	133	78	8644	1.88	2.71	-2.08
814	SLU 58	133	60	8609	2.05	3.32	-2.14
814	SLU 59	132	78	8590	1.84	2.49	-2.06
814	SLU 60	131	62	8748	1.91	3.32	-2.09
814	SLU 61	130	80	8729	1.71	2.5	-2
814	SLU 62	134	63	8855	2.03	3.62	-2.16
814	SLU 63	132	80	8836	1.82	2.79	-2.07
814	SLU 64	135	58	8596	2.14	3.38	-2.11
814	SLU 65	133	88	8564	1.79	2.01	-1.96
814	SLU 66	138	59	8756	2.29	3.9	-2.19
814	SLU 67	137	77	8737	2.08	3.07	-2.11



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
814	SLU 68	135	88	8671	1.91	2.31	-2.03
814	SLU 69	140	60	8863	2.4	4.19	-2.26
814	SLU 70	139	78	8844	2.2	3.37	-2.18
814	SLU 71	139	59	8809	2.36	3.98	-2.24
814	SLU 72	138	77	8790	2.16	3.15	-2.16
814	SLU 73	140	95	9387	2.01	3.4	-2.15
814	SLU 74	145	66	9579	2.5	5.28	-2.38
814	SLU 75	144	84	9560	2.3	4.46	-2.3
814	SLU 76	143	96	9493	2.12	3.69	-2.22
814	SLU 77	148	67	9686	2.62	5.58	-2.45
814	SLU 78	147	85	9667	2.41	4.75	-2.37
814	SLU 79	147	67	9632	2.58	5.36	-2.43
814	SLU 80	145	84	9613	2.37	4.54	-2.35
814	SLU 81	145	69	9771	2.44	5.36	-2.38
814	SLU 82	144	86	9752	2.24	4.54	-2.29
814	SLU 83	147	69	9878	2.55	5.66	-2.45
814	SLU 84	146	87	9859	2.35	4.84	-2.36
814	SLE RA 1	101	43	6387	1.53	2.15	-1.56
814	SLE RA 2	99	63	6366	1.3	1.24	-1.46
814	SLE RA 3	103	44	6494	1.63	2.5	-1.61
814	SLE RA 4	102	56	6482	1.49	1.95	-1.56
814	SLE RA 5	101	64	6437	1.37	1.44	-1.51
814	SLE RA 6	104	44	6565	1.7	2.69	-1.66
814	SLE RA 7	104	56	6553	1.57	2.14	-1.6
814	SLE RA 8	104	44	6529	1.68	2.55	-1.65
814	SLE RA 9	103	56	6517	1.54	2	-1.59
814	SLE RA 10	104	68	6915	1.44	2.16	-1.59
814	SLE RA 11	108	49	7043	1.77	3.42	-1.74
814	SLE RA 12	107	61	7030	1.64	2.87	-1.68
814	SLE RA 13	106	68	6986	1.52	2.36	-1.63
814	SLE RA 14	109	49	7114	1.85	3.62	-1.79
814	SLE RA 15	108	61	7101	1.71	3.07	-1.73
814	SLE RA 16	109	49	7078	1.82	3.47	-1.77
814	SLE RA 17	108	61	7065	1.68	2.92	-1.72
814	SLE RA 18	108	50	7171	1.73	3.47	-1.74
814	SLE RA 19	107	62	7158	1.59	2.92	-1.68
814	SLE RA 20	109	51	7242	1.81	3.67	-1.78
814	SLE RA 21	108	63	7229	1.67	3.12	-1.73
814	SLE FR 1	101	43	6387	1.53	2.15	-1.56
814	SLE FR 2	100	47	6383	1.48	1.97	-1.54
814	SLE FR 3	101	44	6416	1.56	2.23	-1.57
814	SLE FR 4	103	49	6618	1.54	2.37	-1.59
814	SLE FR 5	103	46	6651	1.62	2.63	-1.63
814	SLE FR 6	104	47	6779	1.63	2.81	-1.65
814	SLE QP 1	101	43	6387	1.53	2.15	-1.56
814	SLE QP 2	103	45	6622	1.59	2.55	-1.61
814	SLD 1	628	206	5682	-1.16	-1.81	-0.81
814	SLD 2	601	297	5670	-1.41	-1.01	1.02
814	SLD 3	649	-121	6120	3.21	15.1	-2.49
814	SLD 4	622	-29	6108	2.96	15.9	-0.66
814	SLD 5	233	572	5679	-5.82	-24.54	0.86
814	SLD 6	215	633	5671	-5.98	-24.01	2.06
814	SLD 7	303	-516	7137	8.75	31.81	-4.76
814	SLD 8	286	-455	7129	8.58	32.34	-3.55
814	SLD 9	-80	546	6115	-5.4	-27.24	0.33
814	SLD 10	-98	607	6108	-5.57	-26.71	1.54
814	SLD 11	-10	-542	7573	9.16	29.11	-5.28
814	SLD 12	-27	-481	7566	8.99	29.64	-4.08
814	SLD 13	-417	120	7137	0.22	-10.8	-2.56
814	SLD 14	-443	212	7125	-0.03	-10	-0.73
814	SLD 15	-396	-207	7574	4.59	6.11	-4.24
814	SLD 16	-422	-115	7563	4.34	6.91	-2.42
814	SLV 1	924	304	5143	-2.82	-4.43	-0.31
814	SLV 2	883	449	5124	-3.22	-3.18	2.56
814	SLV 3	958	-223	5851	4.24	22.9	-3.04
814	SLV 4	917	-79	5832	3.85	24.15	-0.17
814	SLV 5	305	897	5108	-10.38	-41.23	2.39
814	SLV 6	277	994	5096	-10.65	-40.38	4.32
814	SLV 7	419	-863	7468	13.18	49.87	-6.72
814	SLV 8	391	-766	7455	12.91	50.71	-4.79
814	SLV 9	-185	857	5789	-9.73	-45.61	1.57
814	SLV 10	-214	954	5777	-10	-44.77	3.5
814	SLV 11	-72	-903	8149	13.82	45.48	-7.54
814	SLV 12	-100	-806	8136	13.56	46.33	-5.61
814	SLV 13	-711	170	7412	-0.67	-19.05	-3.05
814	SLV 14	-753	314	7394	-1.07	-17.8	-0.18
814	SLV 15	-677	-358	8120	6.4	8.28	-5.78
814	SLV 16	-719	-214	8102	6	9.53	-2.91
814	SLV FO 1	1006	330	4995	-3.26	-5.13	-0.18
814	SLV FO 2	961	489	4975	-3.7	-3.75	2.98
814	SLV FO 3	1044	-250	5773	4.51	24.93	-3.18
814	SLV FO 4	998	-92	5753	4.07	26.31	-0.03
814	SLV FO 5	325	982	4957	-11.58	-45.6	2.79
814	SLV FO 6	295	1089	4943	-11.87	-44.68	4.91
814	SLV FO 7	451	-953	7552	14.34	54.6	-7.23
814	SLV FO 8	420	-847	7539	14.04	55.53	-5.11
814	SLV FO 9	-214	938	5706	-10.86	-50.43	1.89
814	SLV FO 10	-245	1044	5692	-11.16	-49.5	4.01
814	SLV FO 11	-89	-998	8301	15.05	49.78	-8.13



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
814	SLV FO 12	-120	-891	8288	14.75	50.7	-6.01
814	SLV FO 13	-793	183	7491	-0.9	-21.21	-3.19
814	SLV FO 14	-838	341	7471	-1.33	-19.83	-0.04
814	SLV FO 15	-755	-398	8270	6.88	8.85	-6.2
814	SLV FO 16	-801	-239	8250	6.44	10.23	-3.04
814	CRTFP Ux+	0	0	0	0	0	0
814	CRTFP Ux-	0	0	0	0	0	0
814	CRTFP Uy+	0	0	0	0	0	0
814	CRTFP Uy-	0	0	0	0	0	0
817	SLU 1	-59	-26	6412	-1.25	2.88	-0.44
817	SLU 2	-58	4	6383	-1.63	4.18	-0.52
817	SLU 3	-60	-27	6572	-1.18	2.49	-0.44
817	SLU 4	-60	-9	6555	-1.4	3.27	-0.49
817	SLU 5	-59	3	6486	-1.57	3.88	-0.53
817	SLU 6	-61	-28	6675	-1.13	2.18	-0.45
817	SLU 7	-60	-10	6658	-1.35	2.96	-0.5
817	SLU 8	-60	-28	6618	-1.14	2.27	-0.45
817	SLU 9	-60	-9	6600	-1.37	3.05	-0.5
817	SLU 10	-59	1	7249	-1.8	3.32	-0.57
817	SLU 11	-61	-30	7438	-1.36	1.62	-0.49
817	SLU 12	-60	-12	7421	-1.58	2.4	-0.54
817	SLU 13	-60	0	7352	-1.75	3.01	-0.58
817	SLU 14	-61	-31	7541	-1.3	1.32	-0.5
817	SLU 15	-61	-13	7524	-1.53	2.1	-0.55
817	SLU 16	-61	-31	7484	-1.32	1.41	-0.5
817	SLU 17	-60	-12	7466	-1.55	2.19	-0.55
817	SLU 18	-60	-31	7649	-1.5	1.65	-0.51
817	SLU 19	-59	-12	7631	-1.73	2.43	-0.56
817	SLU 20	-60	-31	7752	-1.45	1.34	-0.51
817	SLU 21	-60	-13	7735	-1.68	2.12	-0.57
817	SLU 22	-64	-32	7486	-1.18	1.94	-0.49
817	SLU 23	-63	-1	7457	-1.56	3.23	-0.57
817	SLU 24	-65	-32	7647	-1.11	1.54	-0.49
817	SLU 25	-65	-14	7629	-1.34	2.32	-0.54
817	SLU 26	-64	-2	7560	-1.51	2.93	-0.58
817	SLU 27	-66	-33	7750	-1.06	1.23	-0.5
817	SLU 28	-65	-15	7733	-1.29	2.01	-0.55
817	SLU 29	-65	-33	7692	-1.08	1.32	-0.5
817	SLU 30	-65	-15	7675	-1.31	2.1	-0.55
817	SLU 31	-64	-4	8323	-1.74	2.37	-0.62
817	SLU 32	-65	-36	8513	-1.29	0.68	-0.54
817	SLU 33	-65	-17	8496	-1.52	1.45	-0.59
817	SLU 34	-64	-5	8426	-1.69	2.06	-0.63
817	SLU 35	-66	-36	8616	-1.24	0.37	-0.55
817	SLU 36	-66	-18	8599	-1.47	1.15	-0.6
817	SLU 37	-66	-36	8558	-1.26	0.46	-0.55
817	SLU 38	-65	-18	8541	-1.48	1.24	-0.6
817	SLU 39	-64	-36	8723	-1.44	0.7	-0.56
817	SLU 40	-64	-18	8706	-1.66	1.48	-0.61
817	SLU 41	-65	-36	8826	-1.39	0.39	-0.56
817	SLU 42	-65	-18	8809	-1.61	1.17	-0.61
817	SLU 43	-75	-33	7967	-1.64	4.08	-0.55
817	SLU 44	-74	-2	7938	-2.02	5.37	-0.64
817	SLU 45	-76	-34	8127	-1.57	3.68	-0.56
817	SLU 46	-76	-15	8110	-1.8	4.46	-0.61
817	SLU 47	-75	-3	8041	-1.97	5.07	-0.64
817	SLU 48	-77	-34	8230	-1.52	3.37	-0.56
817	SLU 49	-76	-16	8213	-1.75	4.15	-0.61
817	SLU 50	-76	-34	8173	-1.54	3.46	-0.56
817	SLU 51	-76	-16	8155	-1.77	4.24	-0.61
817	SLU 52	-75	-5	8804	-2.2	4.51	-0.69
817	SLU 53	-76	-37	8993	-1.75	2.82	-0.61
817	SLU 54	-76	-18	8976	-1.98	3.59	-0.66
817	SLU 55	-76	-6	8907	-2.15	4.2	-0.69
817	SLU 56	-77	-37	9097	-1.7	2.51	-0.61
817	SLU 57	-77	-19	9079	-1.93	3.29	-0.66
817	SLU 58	-77	-37	9039	-1.72	2.6	-0.61
817	SLU 59	-76	-19	9022	-1.94	3.38	-0.66
817	SLU 60	-75	-37	9204	-1.9	2.84	-0.63
817	SLU 61	-75	-19	9187	-2.13	3.62	-0.68
817	SLU 62	-76	-38	9307	-1.85	2.53	-0.63
817	SLU 63	-76	-19	9290	-2.07	3.31	-0.68
817	SLU 64	-80	-38	9041	-1.58	3.13	-0.6
817	SLU 65	-79	-7	9012	-1.96	4.42	-0.69
817	SLU 66	-81	-39	9202	-1.51	2.73	-0.61
817	SLU 67	-81	-20	9185	-1.74	3.51	-0.66
817	SLU 68	-80	-8	9115	-1.91	4.12	-0.69
817	SLU 69	-82	-39	9305	-1.46	2.43	-0.61
817	SLU 70	-81	-21	9288	-1.68	3.2	-0.66
817	SLU 71	-81	-39	9247	-1.47	2.52	-0.61
817	SLU 72	-81	-21	9230	-1.7	3.29	-0.66
817	SLU 73	-80	-10	9878	-2.14	3.56	-0.74
817	SLU 74	-81	-42	10068	-1.69	1.87	-0.66
817	SLU 75	-81	-23	10051	-1.91	2.65	-0.71
817	SLU 76	-80	-11	9981	-2.08	3.25	-0.74
817	SLU 77	-82	-42	10171	-1.64	1.56	-0.66
817	SLU 78	-82	-24	10154	-1.86	2.34	-0.71
817	SLU 79	-82	-42	10113	-1.65	1.65	-0.66
817	SLU 80	-81	-24	10096	-1.88	2.43	-0.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
817	SLU 81	-80	-42	10278	-1.83	1.89	-0.68
817	SLU 82	-80	-24	10261	-2.06	2.67	-0.73
817	SLU 83	-81	-43	10382	-1.78	1.59	-0.68
817	SLU 84	-81	-24	10364	-2.01	2.36	-0.73
817	SLE RA 1	-60	-28	6719	-1.23	2.61	-0.45
817	SLE RA 2	-60	-8	6699	-1.48	3.48	-0.51
817	SLE RA 3	-61	-29	6826	-1.18	2.35	-0.46
817	SLE RA 4	-61	-16	6814	-1.33	2.87	-0.49
817	SLE RA 5	-60	-8	6768	-1.45	3.28	-0.51
817	SLE RA 6	-61	-29	6894	-1.15	2.15	-0.46
817	SLE RA 7	-61	-17	6883	-1.3	2.67	-0.49
817	SLE RA 8	-61	-29	6856	-1.16	2.21	-0.46
817	SLE RA 9	-61	-17	6844	-1.31	2.73	-0.49
817	SLE RA 10	-60	-10	7277	-1.6	2.9	-0.54
817	SLE RA 11	-61	-31	7403	-1.3	1.77	-0.49
817	SLE RA 12	-61	-18	7392	-1.45	2.29	-0.52
817	SLE RA 13	-61	-10	7345	-1.57	2.7	-0.55
817	SLE RA 14	-62	-31	7472	-1.27	1.57	-0.49
817	SLE RA 15	-62	-19	7460	-1.42	2.09	-0.53
817	SLE RA 16	-61	-31	7433	-1.28	1.63	-0.49
817	SLE RA 17	-61	-19	7422	-1.43	2.15	-0.53
817	SLE RA 18	-61	-31	7543	-1.4	1.79	-0.5
817	SLE RA 19	-61	-19	7532	-1.55	2.31	-0.54
817	SLE RA 20	-61	-31	7612	-1.36	1.59	-0.5
817	SLE RA 21	-61	-19	7601	-1.52	2.11	-0.54
817	SLE FR 1	-60	-28	6719	-1.23	2.61	-0.45
817	SLE FR 2	-60	-24	6715	-1.28	2.79	-0.47
817	SLE FR 3	-60	-28	6746	-1.21	2.53	-0.45
817	SLE FR 4	-60	-25	6962	-1.33	2.54	-0.48
817	SLE FR 5	-61	-29	6994	-1.27	2.29	-0.47
817	SLE FR 6	-60	-29	7131	-1.31	2.2	-0.48
817	SLE QP 1	-60	-28	6719	-1.23	2.61	-0.45
817	SLE QP 2	-60	-29	6966	-1.28	2.37	-0.47
817	SLD 1	518	152	7635	-3.98	27.08	-2.83
817	SLD 2	491	57	7643	-3.68	26	-0.94
817	SLD 3	508	-205	8039	0.89	11.45	-1.43
817	SLD 4	481	-300	8047	1.19	10.37	0.46
817	SLD 5	133	583	6553	-9.53	33.68	-3.63
817	SLD 6	116	521	6558	-9.33	32.97	-2.39
817	SLD 7	99	-605	7899	6.7	-18.42	1.02
817	SLD 8	82	-668	7905	6.9	-19.13	2.27
817	SLD 9	-202	611	6028	-9.46	23.87	-3.2
817	SLD 10	-220	548	6033	-9.26	23.15	-1.96
817	SLD 11	-237	-578	7374	6.77	-28.23	1.45
817	SLD 12	-254	-641	7380	6.97	-28.95	2.7
817	SLD 13	-602	243	5885	-3.75	-5.63	-1.39
817	SLD 14	-629	147	5894	-3.45	-6.71	0.49
817	SLD 15	-612	-114	6289	1.12	-21.26	0
817	SLD 16	-639	-209	6297	1.42	-22.34	1.89
817	SLV 1	846	263	7998	-5.63	41.41	-4.19
817	SLV 2	804	114	8011	-5.16	39.72	-1.23
817	SLV 3	829	-313	8651	2.24	16.15	-1.94
817	SLV 4	787	-462	8664	2.72	14.46	1.02
817	SLV 5	244	960	6283	-14.61	52.7	-5.54
817	SLV 6	216	859	6292	-14.29	51.56	-3.55
817	SLV 7	189	-960	8459	11.62	-31.49	1.94
817	SLV 8	161	-1060	8468	11.95	-32.63	3.94
817	SLV 9	-282	1002	5464	-14.51	37.36	-4.87
817	SLV 10	-310	902	5473	-14.18	36.22	-2.88
817	SLV 11	-337	-917	7640	11.73	-46.83	2.61
817	SLV 12	-365	-1017	7649	12.05	-47.97	4.61
817	SLV 13	-908	405	5268	-5.27	-9.73	-1.95
817	SLV 14	-950	256	5281	-4.8	-11.42	1
817	SLV 15	-925	-171	5921	2.6	-34.98	0.29
817	SLV 16	-967	-320	5934	3.08	-36.68	3.25
817	SLV FO 1	936	292	8101	-6.07	45.31	-4.56
817	SLV FO 2	890	128	8116	-5.54	43.45	-1.31
817	SLV FO 3	918	-342	8819	2.59	17.53	-2.09
817	SLV FO 4	872	-506	8834	3.12	15.67	1.17
817	SLV FO 5	275	1059	6215	-15.95	57.73	-6.05
817	SLV FO 6	244	948	6224	-15.59	56.48	-3.86
817	SLV FO 7	214	-1053	8609	12.91	-34.87	2.19
817	SLV FO 8	183	-1163	8618	13.27	-36.13	4.38
817	SLV FO 9	-304	1106	5314	-15.83	40.86	-5.31
817	SLV FO 10	-335	995	5324	-15.47	39.61	-3.12
817	SLV FO 11	-365	-1006	7708	13.03	-51.75	2.92
817	SLV FO 12	-396	-1116	7718	13.39	-53	5.11
817	SLV FO 13	-993	448	5098	-5.67	-10.94	-2.1
817	SLV FO 14	-1039	284	5113	-5.15	-12.8	1.15
817	SLV FO 15	-1011	-185	5817	2.98	-38.72	0.37
817	SLV FO 16	-1057	-349	5831	3.51	-40.58	3.62
817	CRTFP Ux+	0	0	0	0	0	0
817	CRTFP Ux-	0	0	0	0	0	0
817	CRTFP Uy+	0	0	0	0	0	0
817	CRTFP Uy-	0	0	0	0	0	0
820	SLU 1	3	160	4469	-9.68	-41.45	1.61
820	SLU 2	3	193	4468	-9.8	-41.28	1.65
820	SLU 3	3	163	4563	-9.93	-42.71	1.65
820	SLU 4	3	182	4562	-10	-42.61	1.68



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
820	SLU 5	3	194	4528	-9.96	-42.11	1.68
820	SLU 6	3	164	4623	-10.1	-43.55	1.67
820	SLU 7	3	183	4622	-10.17	-43.44	1.7
820	SLU 8	3	162	4590	-10.01	-43.12	1.65
820	SLU 9	3	182	4589	-10.08	-43.02	1.68
820	SLU 10	1	208	5080	-11.13	-46.69	1.81
820	SLU 11	1	178	5175	-11.26	-48.13	1.81
820	SLU 12	1	198	5174	-11.33	-48.02	1.84
820	SLU 13	1	209	5140	-11.29	-47.53	1.83
820	SLU 14	1	179	5235	-11.43	-48.96	1.83
820	SLU 15	1	199	5234	-11.5	-48.86	1.86
820	SLU 16	1	178	5202	-11.34	-48.54	1.81
820	SLU 17	1	197	5201	-11.41	-48.43	1.84
820	SLU 18	1	183	5344	-11.58	-49.19	1.83
820	SLU 19	1	202	5343	-11.65	-49.08	1.86
820	SLU 20	0	183	5404	-11.74	-50.03	1.85
820	SLU 21	1	203	5403	-11.81	-49.92	1.88
820	SLU 22	1	180	5180	-11.05	-48.3	1.92
820	SLU 23	2	213	5178	-11.17	-48.12	1.96
820	SLU 24	1	183	5273	-11.3	-49.56	1.96
820	SLU 25	1	202	5272	-11.38	-49.45	1.99
820	SLU 26	2	214	5239	-11.34	-48.96	1.99
820	SLU 27	1	184	5334	-11.47	-50.39	1.98
820	SLU 28	1	203	5333	-11.54	-50.29	2.01
820	SLU 29	1	182	5301	-11.38	-49.97	1.96
820	SLU 30	1	202	5300	-11.45	-49.86	1.99
820	SLU 31	0	228	5790	-12.5	-53.54	2.12
820	SLU 32	0	199	5885	-12.63	-54.97	2.12
820	SLU 33	0	218	5884	-12.71	-54.87	2.15
820	SLU 34	0	229	5851	-12.67	-54.37	2.14
820	SLU 35	0	199	5946	-12.8	-55.81	2.14
820	SLU 36	0	219	5945	-12.87	-55.7	2.17
820	SLU 37	0	198	5913	-12.71	-55.38	2.12
820	SLU 38	0	217	5912	-12.78	-55.28	2.15
820	SLU 39	-1	203	6054	-12.95	-56.04	2.14
820	SLU 40	-1	222	6053	-13.02	-55.93	2.17
820	SLU 41	-1	204	6115	-13.11	-56.87	2.16
820	SLU 42	-1	223	6114	-13.19	-56.76	2.19
820	SLU 43	4	202	5566	-12.11	-51.54	1.98
820	SLU 44	5	234	5565	-12.23	-51.37	2.03
820	SLU 45	4	204	5660	-12.36	-52.8	2.03
820	SLU 46	4	223	5659	-12.44	-52.7	2.05
820	SLU 47	5	235	5625	-12.4	-52.2	2.05
820	SLU 48	4	205	5720	-12.53	-53.64	2.05
820	SLU 49	4	224	5719	-12.6	-53.53	2.08
820	SLU 50	4	203	5687	-12.44	-53.21	2.03
820	SLU 51	4	223	5686	-12.51	-53.11	2.06
820	SLU 52	3	250	6177	-13.56	-56.78	2.19
820	SLU 53	3	220	6272	-13.69	-58.22	2.18
820	SLU 54	3	239	6271	-13.77	-58.11	2.21
820	SLU 55	3	250	6237	-13.73	-57.62	2.21
820	SLU 56	2	221	6332	-13.86	-59.05	2.21
820	SLU 57	3	240	6331	-13.93	-58.95	2.23
820	SLU 58	3	219	6299	-13.77	-58.63	2.18
820	SLU 59	3	238	6298	-13.84	-58.52	2.21
820	SLU 60	2	224	6441	-14.01	-59.28	2.21
820	SLU 61	2	243	6440	-14.08	-59.17	2.23
820	SLU 62	2	225	6501	-14.17	-60.11	2.23
820	SLU 63	2	244	6500	-14.25	-60.01	2.26
820	SLU 64	3	222	6277	-13.48	-58.39	2.29
820	SLU 65	3	254	6275	-13.6	-58.21	2.34
820	SLU 66	3	224	6370	-13.74	-59.65	2.34
820	SLU 67	3	244	6369	-13.81	-59.54	2.36
820	SLU 68	3	255	6336	-13.77	-59.05	2.36
820	SLU 69	3	225	6431	-13.9	-60.48	2.36
820	SLU 70	3	244	6430	-13.97	-60.38	2.39
820	SLU 71	3	223	6398	-13.81	-60.06	2.34
820	SLU 72	3	243	6397	-13.89	-59.95	2.37
820	SLU 73	1	270	6887	-14.93	-63.63	2.5
820	SLU 74	1	240	6982	-15.07	-65.06	2.49
820	SLU 75	1	259	6982	-15.14	-64.96	2.52
820	SLU 76	1	271	6948	-15.1	-64.46	2.52
820	SLU 77	1	241	7043	-15.23	-65.9	2.52
820	SLU 78	1	260	7042	-15.3	-65.79	2.54
820	SLU 79	1	239	7010	-15.14	-65.47	2.49
820	SLU 80	1	258	7009	-15.22	-65.37	2.52
820	SLU 81	0	244	7151	-15.38	-66.12	2.52
820	SLU 82	1	263	7150	-15.45	-66.02	2.54
820	SLU 83	0	245	7212	-15.55	-66.96	2.54
820	SLU 84	0	264	7211	-15.62	-66.85	2.57
820	SLE RA 1	3	166	4672	-10.07	-43.41	1.69
820	SLE RA 2	3	188	4671	-10.15	-43.29	1.73
820	SLE RA 3	2	168	4734	-10.24	-44.25	1.72
820	SLE RA 4	3	181	4734	-10.29	-44.18	1.74
820	SLE RA 5	3	188	4711	-10.26	-43.85	1.74
820	SLE RA 6	2	168	4775	-10.35	-44.81	1.74
820	SLE RA 7	2	181	4774	-10.4	-44.73	1.76
820	SLE RA 8	2	167	4753	-10.29	-44.52	1.72
820	SLE RA 9	3	180	4752	-10.34	-44.45	1.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
820	SLE RA 10	2	198	5079	-11.04	-46.9	1.83
820	SLE RA 11	1	178	5143	-11.13	-47.86	1.83
820	SLE RA 12	1	191	5142	-11.17	-47.79	1.85
820	SLE RA 13	1	199	5119	-11.15	-47.46	1.85
820	SLE RA 14	1	179	5183	-11.24	-48.42	1.84
820	SLE RA 15	1	192	5182	-11.28	-48.35	1.86
820	SLE RA 16	1	178	5161	-11.18	-48.13	1.83
820	SLE RA 17	1	191	5160	-11.23	-48.06	1.85
820	SLE RA 18	1	181	5255	-11.34	-48.57	1.84
820	SLE RA 19	1	194	5254	-11.38	-48.5	1.86
820	SLE RA 20	1	182	5295	-11.45	-49.12	1.86
820	SLE RA 21	1	194	5295	-11.49	-49.05	1.88
820	SLE FR 1	3	166	4672	-10.07	-43.41	1.69
820	SLE FR 2	3	170	4672	-10.09	-43.39	1.7
820	SLE FR 3	3	166	4688	-10.11	-43.63	1.7
820	SLE FR 4	2	175	4847	-10.47	-44.93	1.75
820	SLE FR 5	2	171	4863	-10.49	-45.18	1.74
820	SLE FR 6	2	173	4964	-10.7	-45.99	1.77
820	SLE QP 1	3	166	4672	-10.07	-43.41	1.69
820	SLE QP 2	2	171	4847	-10.45	-44.96	1.74
820	SLD 1	614	313	4433	-12.69	-15.71	-0.04
820	SLD 2	587	350	4450	-12.65	-15.93	1.7
820	SLD 3	605	-64	4481	-11.17	-18.18	-0.44
820	SLD 4	579	-27	4498	-11.14	-18.39	1.3
820	SLD 5	203	778	4647	-13.43	-32.41	1.5
820	SLD 6	186	802	4659	-13.41	-32.55	2.65
820	SLD 7	175	-478	4807	-8.37	-40.62	0.16
820	SLD 8	157	-453	4818	-8.35	-40.77	1.31
820	SLD 9	-153	794	4876	-12.55	-49.15	2.16
820	SLD 10	-171	819	4887	-12.53	-49.29	3.31
820	SLD 11	-182	-461	5035	-7.49	-57.37	0.83
820	SLD 12	-199	-437	5047	-7.47	-57.51	1.98
820	SLD 13	-575	368	5196	-9.76	-71.52	2.17
820	SLD 14	-601	405	5213	-9.73	-71.73	3.92
820	SLD 15	-583	-9	5244	-8.24	-73.99	1.77
820	SLD 16	-610	28	5261	-8.21	-74.2	3.52
820	SLV 1	960	403	4199	-13.98	0.74	-1.03
820	SLV 2	918	460	4226	-13.93	0.41	1.71
820	SLV 3	946	-206	4279	-11.53	-3.26	-1.69
820	SLV 4	904	-148	4305	-11.48	-3.6	1.04
820	SLV 5	318	1153	4528	-15.24	-25.11	1.4
820	SLV 6	290	1192	4546	-15.21	-25.34	3.24
820	SLV 7	272	-877	4792	-7.06	-38.46	-0.8
820	SLV 8	244	-838	4809	-7.03	-38.69	1.04
820	SLV 9	-240	1179	4885	-13.87	-51.23	2.44
820	SLV 10	-268	1218	4902	-13.84	-51.45	4.28
820	SLV 11	-286	-851	5148	-5.69	-64.58	0.24
820	SLV 12	-314	-812	5166	-5.66	-64.8	2.08
820	SLV 13	-900	489	5389	-9.42	-86.32	2.43
820	SLV 14	-942	547	5415	-9.37	-86.65	5.16
820	SLV 15	-914	-119	5468	-6.97	-90.32	1.77
820	SLV 16	-956	-62	5495	-6.91	-90.66	4.5
820	SLV FO 1	1056	426	4135	-14.34	5.31	-1.3
820	SLV FO 2	1010	489	4164	-14.28	4.95	1.7
820	SLV FO 3	1041	-244	4222	-11.64	0.91	-2.03
820	SLV FO 4	995	-180	4251	-11.58	0.54	0.98
820	SLV FO 5	350	1251	4496	-15.72	-23.12	1.37
820	SLV FO 6	319	1294	4515	-15.68	-23.37	3.39
820	SLV FO 7	299	-981	4786	-6.72	-37.81	-1.06
820	SLV FO 8	268	-938	4806	-6.69	-38.06	0.97
820	SLV FO 9	-264	1280	4888	-14.21	-51.86	2.51
820	SLV FO 10	-295	1322	4908	-14.18	-52.1	4.53
820	SLV FO 11	-315	-953	5179	-5.22	-66.54	0.09
820	SLV FO 12	-346	-910	5198	-5.18	-66.79	2.11
820	SLV FO 13	-990	521	5443	-9.32	-90.45	2.5
820	SLV FO 14	-1037	585	5472	-9.26	-90.82	5.51
820	SLV FO 15	-1006	-148	5530	-6.62	-94.86	1.78
820	SLV FO 16	-1052	-85	5559	-6.56	-95.23	4.78
820	CRTFP Ux+	0	0	0	0	0	0
820	CRTFP Ux-	0	0	0	0	0	0
820	CRTFP Uy+	0	0	0	0	0	0
820	CRTFP Uy-	0	0	0	0	0	0
822	SLU 1	-37	49	3387	-4.99	-526.74	12.33
822	SLU 2	-35	71	3369	-5.2	-527	17.77
822	SLU 3	-37	50	3469	-5.07	-538.47	12.47
822	SLU 4	-37	63	3458	-5.19	-538.62	15.73
822	SLU 5	-36	71	3420	-5.24	-534.39	17.86
822	SLU 6	-38	50	3521	-5.11	-545.87	12.56
822	SLU 7	-37	63	3510	-5.24	-546.02	15.82
822	SLU 8	-37	50	3491	-5.08	-541.54	12.52
822	SLU 9	-37	63	3480	-5.21	-541.69	15.78
822	SLU 10	-36	78	3793	-5.88	-591.64	19.52
822	SLU 11	-38	57	3894	-5.75	-603.11	14.22
822	SLU 12	-38	70	3882	-5.88	-603.27	17.48
822	SLU 13	-37	78	3845	-5.93	-599.04	19.62
822	SLU 14	-39	57	3946	-5.8	-610.51	14.32
822	SLU 15	-38	70	3934	-5.92	-610.66	17.58
822	SLU 16	-39	57	3916	-5.77	-606.18	14.28
822	SLU 17	-38	70	3904	-5.89	-606.33	17.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
822	SLU 18	-38	59	3994	-5.97	-619.09	14.84
822	SLU 19	-37	72	3983	-6.1	-619.24	18.1
822	SLU 20	-39	60	4046	-6.02	-626.49	14.94
822	SLU 21	-38	73	4034	-6.14	-626.64	18.2
822	SLU 22	-40	54	3925	-5.72	-606.8	13.58
822	SLU 23	-39	76	3906	-5.93	-607.05	19.01
822	SLU 24	-41	55	4007	-5.8	-618.52	13.72
822	SLU 25	-40	68	3995	-5.92	-618.67	16.98
822	SLU 26	-39	76	3958	-5.97	-614.45	19.11
822	SLU 27	-41	55	4059	-5.84	-625.92	13.81
822	SLU 28	-40	68	4047	-5.97	-626.07	17.07
822	SLU 29	-41	55	4029	-5.81	-621.59	13.77
822	SLU 30	-40	68	4017	-5.93	-621.74	17.03
822	SLU 31	-40	83	4331	-6.61	-671.69	20.77
822	SLU 32	-42	62	4431	-6.48	-683.17	15.47
822	SLU 33	-41	75	4420	-6.61	-683.32	18.73
822	SLU 34	-40	83	4383	-6.66	-679.09	20.86
822	SLU 35	-42	62	4483	-6.53	-690.56	15.57
822	SLU 36	-42	75	4472	-6.65	-690.71	18.83
822	SLU 37	-42	62	4453	-6.5	-686.23	15.53
822	SLU 38	-41	75	4442	-6.62	-686.38	18.79
822	SLU 39	-42	64	4532	-6.7	-699.14	16.09
822	SLU 40	-41	77	4520	-6.82	-699.29	19.35
822	SLU 41	-42	64	4583	-6.74	-706.54	16.19
822	SLU 42	-41	78	4572	-6.87	-706.69	19.44
822	SLU 43	-46	62	4219	-6.24	-657.32	15.61
822	SLU 44	-45	84	4200	-6.45	-657.57	21.04
822	SLU 45	-47	63	4301	-6.32	-669.05	15.74
822	SLU 46	-46	76	4290	-6.44	-669.2	19
822	SLU 47	-46	84	4252	-6.49	-664.97	21.13
822	SLU 48	-48	63	4353	-6.36	-676.45	15.84
822	SLU 49	-47	76	4341	-6.49	-676.6	19.09
822	SLU 50	-47	63	4323	-6.33	-672.12	15.8
822	SLU 51	-46	76	4312	-6.45	-672.27	19.05
822	SLU 52	-46	91	4625	-7.13	-722.22	22.79
822	SLU 53	-48	70	4726	-7	-733.69	17.5
822	SLU 54	-48	83	4714	-7.13	-733.84	20.75
822	SLU 55	-47	91	4677	-7.18	-729.61	22.89
822	SLU 56	-49	70	4777	-7.05	-741.09	17.59
822	SLU 57	-48	83	4766	-7.17	-741.24	20.85
822	SLU 58	-48	70	4747	-7.02	-736.76	17.55
822	SLU 59	-48	83	4736	-7.14	-736.91	20.81
822	SLU 60	-48	72	4826	-7.22	-749.67	18.12
822	SLU 61	-47	85	4814	-7.34	-749.82	21.37
822	SLU 62	-48	73	4878	-7.27	-757.07	18.21
822	SLU 63	-48	86	4866	-7.39	-757.22	21.47
822	SLU 64	-50	67	4757	-6.97	-737.37	16.86
822	SLU 65	-48	89	4738	-7.17	-737.63	22.29
822	SLU 66	-50	68	4839	-7.05	-749.1	16.99
822	SLU 67	-50	81	4827	-7.17	-749.25	20.25
822	SLU 68	-49	89	4790	-7.22	-745.02	22.38
822	SLU 69	-51	68	4890	-7.09	-756.5	17.08
822	SLU 70	-50	81	4879	-7.21	-756.65	20.34
822	SLU 71	-51	68	4861	-7.06	-752.17	17.05
822	SLU 72	-50	81	4849	-7.18	-752.32	20.3
822	SLU 73	-50	96	5163	-7.86	-802.27	24.04
822	SLU 74	-52	75	5263	-7.73	-813.74	18.75
822	SLU 75	-51	88	5252	-7.85	-813.89	22
822	SLU 76	-50	96	5214	-7.91	-809.67	24.14
822	SLU 77	-52	75	5315	-7.78	-821.14	18.84
822	SLU 78	-51	88	5304	-7.9	-821.29	22.1
822	SLU 79	-52	75	5285	-7.74	-816.81	18.8
822	SLU 80	-51	88	5274	-7.87	-816.96	22.06
822	SLU 81	-51	77	5363	-7.95	-829.72	19.36
822	SLU 82	-51	90	5352	-8.07	-829.87	22.62
822	SLU 83	-52	78	5415	-7.99	-837.12	19.46
822	SLU 84	-51	91	5404	-8.12	-837.27	22.72
822	SLE RA 1	-37	51	3541	-5.2	-549.62	12.69
822	SLE RA 2	-37	65	3528	-5.34	-549.78	16.31
822	SLE RA 3	-38	51	3595	-5.25	-557.43	12.78
822	SLE RA 4	-38	60	3588	-5.33	-557.54	14.95
822	SLE RA 5	-37	65	3563	-5.37	-554.72	16.37
822	SLE RA 6	-38	51	3630	-5.28	-562.37	12.84
822	SLE RA 7	-38	60	3622	-5.36	-562.47	15.02
822	SLE RA 8	-38	51	3610	-5.26	-559.48	12.82
822	SLE RA 9	-38	60	3603	-5.34	-559.58	14.99
822	SLE RA 10	-37	70	3811	-5.8	-592.88	17.48
822	SLE RA 11	-39	56	3879	-5.71	-600.53	13.95
822	SLE RA 12	-38	64	3871	-5.79	-600.63	16.12
822	SLE RA 13	-38	70	3846	-5.83	-597.81	17.55
822	SLE RA 14	-39	56	3913	-5.74	-605.46	14.01
822	SLE RA 15	-39	65	3906	-5.82	-605.56	16.19
822	SLE RA 16	-39	56	3893	-5.72	-602.57	13.99
822	SLE RA 17	-38	65	3886	-5.8	-602.67	16.16
822	SLE RA 18	-39	57	3945	-5.85	-611.18	14.36
822	SLE RA 19	-38	66	3938	-5.94	-611.28	16.54
822	SLE RA 20	-39	58	3980	-5.88	-616.11	14.43
822	SLE RA 21	-38	66	3972	-5.97	-616.21	16.6
822	SLE FR 1	-37	51	3541	-5.2	-549.62	12.69



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
822	SLE FR 2	-37	54	3538	-5.23	-549.65	13.42
822	SLE FR 3	-38	51	3555	-5.21	-551.59	12.72
822	SLE FR 4	-38	56	3660	-5.42	-568.12	13.92
822	SLE FR 5	-38	53	3676	-5.41	-570.06	13.22
822	SLE FR 6	-38	54	3743	-5.53	-580.4	13.53
822	SLE QP 1	-37	51	3541	-5.2	-549.62	12.69
822	SLE QP 2	-38	53	3662	-5.4	-568.09	13.19
822	SLD 1	248	189	4531	-8.37	-715.54	47.16
822	SLD 2	228	81	4550	-8.14	-714.44	20.38
822	SLD 3	231	-60	4783	-5.73	-712.92	-15.04
822	SLD 4	211	-168	4802	-5.49	-711.82	-41.82
822	SLD 5	76	490	3536	-10.35	-616.5	122.55
822	SLD 6	63	419	3549	-10.19	-615.77	104.86
822	SLD 7	21	-339	4379	-1.52	-607.76	-84.79
822	SLD 8	8	-411	4391	-1.37	-607.03	-102.47
822	SLD 9	-84	516	2933	-9.43	-529.14	128.86
822	SLD 10	-97	445	2946	-9.27	-528.42	111.17
822	SLD 11	-139	-314	3776	-0.6	-520.4	-78.47
822	SLD 12	-152	-385	3788	-0.45	-519.67	-96.16
822	SLD 13	-287	273	2522	-5.3	-424.36	68.2
822	SLD 14	-307	166	2541	-5.07	-423.26	41.42
822	SLD 15	-304	24	2775	-2.65	-421.73	6
822	SLD 16	-323	-83	2794	-2.42	-420.63	-20.78
822	SLV 1	410	272	5010	-10.12	-798.12	67.97
822	SLV 2	379	103	5040	-9.75	-796.39	26.01
822	SLV 3	383	-130	5418	-5.84	-794	-32.5
822	SLV 4	352	-299	5448	-5.47	-792.28	-74.46
822	SLV 5	143	760	3442	-13.37	-643.66	189.83
822	SLV 6	122	646	3462	-13.12	-642.5	161.58
822	SLV 7	54	-581	4803	0.89	-629.94	-145.06
822	SLV 8	33	-694	4823	1.14	-628.78	-173.31
822	SLV 9	-109	800	2502	-11.93	-507.39	199.69
822	SLV 10	-129	686	2522	-11.68	-506.23	171.44
822	SLV 11	-198	-541	3863	2.33	-493.68	-135.19
822	SLV 12	-218	-655	3883	2.57	-492.52	-163.44
822	SLV 13	-428	404	1877	-5.32	-343.89	100.84
822	SLV 14	-459	236	1907	-4.95	-342.17	58.88
822	SLV 15	-455	2	2285	-1.05	-339.78	0.38
822	SLV 16	-485	-167	2315	-0.68	-338.05	-41.58
822	SLV FO 1	454	294	5145	-10.59	-821.12	73.45
822	SLV FO 2	421	108	5177	-10.18	-819.22	27.29
822	SLV FO 3	425	-149	5594	-5.88	-816.6	-37.06
822	SLV FO 4	391	-334	5626	-5.48	-814.7	-83.22
822	SLV FO 5	161	831	3420	-14.17	-651.21	207.49
822	SLV FO 6	138	706	3442	-13.89	-649.94	176.42
822	SLV FO 7	63	-644	4917	1.52	-636.13	-160.88
822	SLV FO 8	40	-769	4939	1.79	-634.85	-191.96
822	SLV FO 9	-116	874	2386	-12.58	-501.32	218.34
822	SLV FO 10	-139	749	2408	-12.31	-500.04	187.27
822	SLV FO 11	-213	-600	3883	3.1	-486.24	-150.03
822	SLV FO 12	-236	-725	3905	3.37	-484.96	-181.11
822	SLV FO 13	-467	440	1698	-5.32	-321.47	109.61
822	SLV FO 14	-501	254	1731	-4.91	-319.58	63.45
822	SLV FO 15	-496	-3	2147	-0.61	-316.95	-0.9
822	SLV FO 16	-530	-188	2180	-0.21	-315.05	-47.06
822	CRTFP Ux+	0	0	0	0	0	0
822	CRTFP Ux-	0	0	0	0	0	0
822	CRTFP Uy+	0	0	0	0	0	0
822	CRTFP Uy-	0	0	0	0	0	0
825	SLU 1	-3	1	2188	-0.73	507.65	-0.19
825	SLU 2	-3	13	2182	-0.79	505.23	-3.23
825	SLU 3	-3	1	2242	-0.74	520.31	-0.15
825	SLU 4	-4	8	2238	-0.77	518.85	-1.97
825	SLU 5	-4	13	2217	-0.8	513.37	-3.18
825	SLU 6	-3	0	2276	-0.74	528.45	-0.1
825	SLU 7	-4	8	2273	-0.78	527	-1.92
825	SLU 8	-3	0	2257	-0.74	523.94	-0.1
825	SLU 9	-4	8	2254	-0.78	522.48	-1.92
825	SLU 10	-4	12	2485	-0.92	575.07	-2.9
825	SLU 11	-4	-1	2545	-0.86	590.15	0.18
825	SLU 12	-4	7	2541	-0.9	588.7	-1.64
825	SLU 13	-4	11	2520	-0.92	583.22	-2.85
825	SLU 14	-4	-1	2579	-0.86	598.3	0.23
825	SLU 15	-4	6	2576	-0.9	596.84	-1.6
825	SLU 16	-4	-1	2560	-0.86	593.78	0.23
825	SLU 17	-4	6	2557	-0.9	592.33	-1.59
825	SLU 18	-4	-1	2621	-0.91	607.42	0.28
825	SLU 19	-4	6	2618	-0.94	605.97	-1.54
825	SLU 20	-4	-1	2656	-0.91	615.57	0.32
825	SLU 21	-4	6	2652	-0.95	614.12	-1.5
825	SLU 22	-4	0	2555	-0.81	592.47	-0.03
825	SLU 23	-5	12	2549	-0.87	590.06	-3.06
825	SLU 24	-5	0	2608	-0.81	605.13	0.02
825	SLU 25	-5	7	2605	-0.85	603.68	-1.81
825	SLU 26	-5	12	2583	-0.87	598.2	-3.02
825	SLU 27	-5	0	2643	-0.82	613.28	0.06
825	SLU 28	-5	7	2639	-0.85	611.83	-1.76
825	SLU 29	-5	0	2623	-0.81	608.76	0.06
825	SLU 30	-5	7	2620	-0.85	607.31	-1.76



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
825	SLU 31	-5	11	2852	-0.99	659.9	-2.73
825	SLU 32	-5	-1	2911	-0.93	674.98	0.34
825	SLU 33	-5	6	2908	-0.97	673.53	-1.48
825	SLU 34	-5	11	2886	-0.99	668.05	-2.69
825	SLU 35	-5	-2	2946	-0.94	683.13	0.39
825	SLU 36	-5	6	2942	-0.97	681.67	-1.43
825	SLU 37	-5	-2	2926	-0.94	678.61	0.39
825	SLU 38	-5	6	2923	-0.97	677.16	-1.43
825	SLU 39	-5	-2	2987	-0.98	692.25	0.44
825	SLU 40	-5	6	2984	-1.02	690.8	-1.38
825	SLU 41	-5	-2	3022	-0.98	700.4	0.49
825	SLU 42	-5	5	3018	-1.02	698.95	-1.33
825	SLU 43	-4	1	2719	-0.93	630.85	-0.3
825	SLU 44	-4	13	2713	-0.99	628.44	-3.34
825	SLU 45	-4	1	2773	-0.93	643.51	-0.26
825	SLU 46	-4	8	2769	-0.97	642.06	-2.08
825	SLU 47	-4	13	2748	-0.99	636.58	-3.29
825	SLU 48	-4	1	2807	-0.94	651.66	-0.22
825	SLU 49	-4	8	2804	-0.97	650.21	-2.04
825	SLU 50	-4	1	2788	-0.93	647.14	-0.21
825	SLU 51	-4	8	2785	-0.97	645.69	-2.03
825	SLU 52	-4	12	3016	-1.11	698.28	-3.01
825	SLU 53	-4	0	3076	-1.05	713.36	0.07
825	SLU 54	-4	7	3072	-1.09	711.91	-1.75
825	SLU 55	-4	12	3051	-1.11	706.43	-2.97
825	SLU 56	-4	0	3110	-1.06	721.51	0.11
825	SLU 57	-5	7	3107	-1.09	720.05	-1.71
825	SLU 58	-4	0	3091	-1.06	716.99	0.11
825	SLU 59	-4	7	3088	-1.09	715.54	-1.71
825	SLU 60	-4	-1	3152	-1.1	730.63	0.16
825	SLU 61	-4	7	3148	-1.14	729.18	-1.66
825	SLU 62	-4	-1	3186	-1.1	738.78	0.21
825	SLU 63	-4	6	3183	-1.14	737.33	-1.61
825	SLU 64	-5	1	3085	-1	715.68	-0.14
825	SLU 65	-5	13	3080	-1.06	713.27	-3.18
825	SLU 66	-5	0	3139	-1.01	728.34	-0.1
825	SLU 67	-5	8	3136	-1.04	726.89	-1.92
825	SLU 68	-5	13	3114	-1.07	721.41	-3.13
825	SLU 69	-5	0	3174	-1.01	736.49	-0.05
825	SLU 70	-5	7	3170	-1.05	735.04	-1.87
825	SLU 71	-5	0	3154	-1.01	731.97	-0.05
825	SLU 72	-5	7	3151	-1.04	730.52	-1.87
825	SLU 73	-6	11	3383	-1.18	783.11	-2.85
825	SLU 74	-5	-1	3442	-1.13	798.19	0.23
825	SLU 75	-6	6	3439	-1.17	796.74	-1.59
825	SLU 76	-6	11	3417	-1.19	791.26	-2.8
825	SLU 77	-6	-1	3477	-1.13	806.33	0.28
825	SLU 78	-6	6	3473	-1.17	804.88	-1.55
825	SLU 79	-5	-1	3457	-1.13	801.82	0.28
825	SLU 80	-6	6	3454	-1.17	800.37	-1.54
825	SLU 81	-5	-1	3518	-1.18	815.46	0.33
825	SLU 82	-6	6	3515	-1.21	814.01	-1.49
825	SLU 83	-5	-1	3553	-1.18	823.61	0.37
825	SLU 84	-6	6	3549	-1.22	822.16	-1.45
825	SLE RA 1	-3	1	2293	-0.75	531.88	-0.14
825	SLE RA 2	-4	9	2289	-0.79	530.27	-2.17
825	SLE RA 3	-4	0	2329	-0.76	540.32	-0.12
825	SLE RA 4	-4	5	2326	-0.78	539.35	-1.33
825	SLE RA 5	-4	9	2312	-0.8	535.7	-2.14
825	SLE RA 6	-4	0	2352	-0.76	545.75	-0.09
825	SLE RA 7	-4	5	2349	-0.78	544.79	-1.3
825	SLE RA 8	-4	0	2339	-0.76	542.74	-0.08
825	SLE RA 9	-4	5	2337	-0.78	541.77	-1.3
825	SLE RA 10	-4	8	2491	-0.88	576.83	-1.95
825	SLE RA 11	-4	0	2531	-0.84	586.89	0.1
825	SLE RA 12	-4	4	2528	-0.86	585.92	-1.11
825	SLE RA 13	-4	8	2514	-0.88	582.26	-1.92
825	SLE RA 14	-4	-1	2554	-0.84	592.32	0.13
825	SLE RA 15	-4	4	2551	-0.87	591.35	-1.08
825	SLE RA 16	-4	-1	2541	-0.84	589.31	0.14
825	SLE RA 17	-4	4	2539	-0.86	588.34	-1.08
825	SLE RA 18	-4	-1	2581	-0.87	598.4	0.17
825	SLE RA 19	-4	4	2579	-0.89	597.43	-1.05
825	SLE RA 20	-4	-1	2604	-0.87	603.83	0.2
825	SLE RA 21	-4	4	2602	-0.9	602.86	-1.02
825	SLE FR 1	-3	1	2293	-0.75	531.88	-0.14
825	SLE FR 2	-3	2	2292	-0.76	531.56	-0.55
825	SLE FR 3	-3	1	2302	-0.75	534.05	-0.13
825	SLE FR 4	-4	2	2379	-0.8	551.52	-0.45
825	SLE FR 5	-4	0	2389	-0.79	554.01	-0.04
825	SLE FR 6	-4	0	2437	-0.81	565.14	0.01
825	SLE QP 1	-3	1	2293	-0.75	531.88	-0.14
825	SLE QP 2	-4	0	2379	-0.79	551.84	-0.05
825	SLD 1	222	85	2440	-0.83	557.45	-21.33
825	SLD 2	211	70	2436	-0.82	557.58	-17.51
825	SLD 3	227	-59	2526	-0.06	590.5	14.74
825	SLD 4	216	-74	2522	-0.04	590.62	18.57
825	SLD 5	60	247	2267	-1.98	503.39	-61.84
825	SLD 6	52	237	2265	-1.97	503.47	-59.31



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
825	SLD 7	74	-234	2555	0.6	613.53	58.41
825	SLD 8	67	-244	2552	0.61	613.61	60.93
825	SLD 9	-74	244	2206	-2.19	490.07	-61.04
825	SLD 10	-81	234	2204	-2.18	490.15	-58.51
825	SLD 11	-59	-237	2494	0.39	600.21	59.21
825	SLD 12	-67	-247	2492	0.4	600.29	61.73
825	SLD 13	-223	75	2237	-1.53	513.06	-18.67
825	SLD 14	-234	60	2233	-1.52	513.18	-14.84
825	SLD 15	-218	-70	2323	-0.76	546.1	17.41
825	SLD 16	-229	-85	2319	-0.75	546.22	21.23
825	SLV 1	350	137	2471	-0.88	559.66	-34.31
825	SLV 2	332	113	2465	-0.85	559.85	-28.31
825	SLV 3	357	-96	2610	0.37	613.09	23.96
825	SLV 4	339	-120	2605	0.4	613.28	29.96
825	SLV 5	95	399	2196	-2.72	473.12	-99.82
825	SLV 6	83	383	2192	-2.7	473.25	-95.78
825	SLV 7	119	-378	2662	1.45	651.21	94.41
825	SLV 8	107	-393	2658	1.47	651.34	98.44
825	SLV 9	-114	394	2101	-3.04	452.34	-98.54
825	SLV 10	-126	378	2097	-3.03	452.47	-94.51
825	SLV 11	-90	-383	2567	1.12	630.43	95.68
825	SLV 12	-102	-398	2563	1.14	630.56	99.72
825	SLV 13	-346	120	2154	-1.97	490.4	-30.06
825	SLV 14	-364	97	2149	-1.95	490.59	-24.06
825	SLV 15	-339	-113	2294	-0.72	543.82	28.21
825	SLV 16	-357	-136	2288	-0.7	544.02	34.2
825	SLV FO 1	385	150	2480	-0.89	560.44	-37.73
825	SLV FO 2	366	125	2474	-0.86	560.65	-31.14
825	SLV FO 3	393	-106	2633	0.49	619.21	26.36
825	SLV FO 4	374	-132	2627	0.52	619.42	32.96
825	SLV FO 5	105	439	2178	-2.91	465.25	-109.8
825	SLV FO 6	92	421	2173	-2.89	465.39	-105.36
825	SLV FO 7	131	-415	2690	1.68	661.14	103.85
825	SLV FO 8	118	-433	2686	1.69	661.29	108.29
825	SLV FO 9	-125	433	2073	-3.27	442.39	-108.39
825	SLV FO 10	-138	416	2069	-3.25	442.53	-103.95
825	SLV FO 11	-99	-421	2585	1.31	638.29	105.26
825	SLV FO 12	-112	-438	2581	1.33	638.43	109.69
825	SLV FO 13	-381	132	2132	-2.09	484.25	-33.06
825	SLV FO 14	-400	106	2126	-2.07	484.47	-26.46
825	SLV FO 15	-373	-124	2285	-0.72	543.02	31.04
825	SLV FO 16	-392	-150	2279	-0.69	543.23	37.63
825	CRTFP Ux+	0	0	0	0	0	0
825	CRTFP Ux-	0	0	0	0	0	0
825	CRTFP Uy+	0	0	0	0	0	0
825	CRTFP Uy-	0	0	0	0	0	0
827	SLU 1	62	8	3990	-6.82	888.53	-2.93
827	SLU 2	61	33	3964	-7.1	888.49	-11.53
827	SLU 3	64	8	4095	-6.94	909.33	-2.89
827	SLU 4	63	23	4079	-7.1	909.31	-8.05
827	SLU 5	62	33	4033	-7.16	902.14	-11.65
827	SLU 6	65	9	4164	-7	922.97	-3.01
827	SLU 7	65	23	4149	-7.16	922.95	-8.16
827	SLU 8	65	9	4129	-6.95	915.81	-3.17
827	SLU 9	64	24	4113	-7.11	915.79	-8.33
827	SLU 10	65	33	4466	-8.05	996.85	-11.55
827	SLU 11	69	8	4597	-7.89	1017.69	-2.91
827	SLU 12	68	23	4581	-8.05	1017.67	-8.07
827	SLU 13	67	33	4536	-8.12	1010.5	-11.67
827	SLU 14	70	9	4667	-7.96	1031.33	-3.03
827	SLU 15	69	23	4651	-8.12	1031.31	-8.19
827	SLU 16	69	9	4631	-7.91	1024.17	-3.19
827	SLU 17	68	24	4616	-8.07	1024.15	-8.35
827	SLU 18	69	8	4707	-8.19	1043.33	-2.97
827	SLU 19	68	23	4692	-8.35	1043.31	-8.12
827	SLU 20	70	9	4777	-8.25	1056.97	-3.08
827	SLU 21	69	24	4761	-8.42	1056.95	-8.24
827	SLU 22	70	5	4626	-7.84	1022.34	-1.82
827	SLU 23	69	30	4600	-8.12	1022.31	-10.41
827	SLU 24	72	5	4731	-7.96	1043.14	-1.77
827	SLU 25	71	20	4716	-8.12	1043.12	-6.93
827	SLU 26	70	30	4670	-8.18	1035.95	-10.53
827	SLU 27	73	5	4801	-8.02	1056.78	-1.89
827	SLU 28	72	20	4785	-8.18	1056.76	-7.05
827	SLU 29	73	6	4766	-7.97	1049.63	-2.05
827	SLU 30	72	21	4750	-8.13	1049.61	-7.21
827	SLU 31	73	30	5103	-9.07	1130.67	-10.44
827	SLU 32	76	5	5234	-8.91	1151.5	-1.8
827	SLU 33	76	20	5218	-9.08	1151.48	-6.96
827	SLU 34	74	30	5172	-9.14	1144.31	-10.56
827	SLU 35	78	5	5303	-8.98	1165.14	-1.92
827	SLU 36	77	20	5288	-9.14	1165.12	-7.08
827	SLU 37	77	6	5268	-8.93	1157.99	-2.08
827	SLU 38	76	21	5253	-9.09	1157.97	-7.24
827	SLU 39	76	5	5344	-9.21	1177.15	-1.85
827	SLU 40	76	20	5328	-9.37	1177.12	-7.01
827	SLU 41	78	6	5414	-9.27	1190.79	-1.97
827	SLU 42	77	20	5398	-9.44	1190.77	-7.13
827	SLU 43	78	12	4968	-8.52	1109.21	-4.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
827	SLU 44	77	37	4942	-8.79	1109.17	-12.79
827	SLU 45	80	12	5073	-8.63	1130.01	-4.15
827	SLU 46	80	27	5058	-8.8	1129.99	-9.31
827	SLU 47	78	37	5012	-8.86	1122.81	-12.91
827	SLU 48	82	12	5143	-8.7	1143.65	-4.27
827	SLU 49	81	27	5127	-8.86	1143.63	-9.43
827	SLU 50	81	13	5108	-8.65	1136.49	-4.43
827	SLU 51	80	27	5092	-8.81	1136.47	-9.59
827	SLU 52	82	37	5445	-9.75	1217.53	-12.81
827	SLU 53	85	12	5576	-9.59	1238.37	-4.17
827	SLU 54	84	27	5560	-9.75	1238.35	-9.33
827	SLU 55	83	37	5514	-9.81	1231.17	-12.93
827	SLU 56	86	12	5645	-9.65	1252.01	-4.29
827	SLU 57	85	27	5630	-9.82	1251.99	-9.45
827	SLU 58	85	13	5610	-9.61	1244.85	-4.45
827	SLU 59	85	27	5594	-9.77	1244.83	-9.61
827	SLU 60	85	12	5686	-9.89	1264.01	-4.23
827	SLU 61	84	27	5670	-10.05	1263.99	-9.39
827	SLU 62	86	12	5756	-9.95	1277.65	-4.35
827	SLU 63	85	27	5740	-10.11	1277.63	-9.5
827	SLU 64	86	9	5605	-9.54	1243.02	-3.08
827	SLU 65	85	33	5579	-9.81	1242.99	-11.68
827	SLU 66	88	9	5710	-9.65	1263.82	-3.03
827	SLU 67	87	23	5694	-9.82	1263.8	-8.19
827	SLU 68	86	34	5649	-9.88	1256.63	-11.79
827	SLU 69	89	9	5780	-9.72	1277.46	-3.15
827	SLU 70	89	24	5764	-9.88	1277.44	-8.31
827	SLU 71	89	9	5744	-9.67	1270.31	-3.32
827	SLU 72	88	24	5729	-9.83	1270.28	-8.47
827	SLU 73	89	33	6081	-10.77	1351.35	-11.7
827	SLU 74	92	9	6212	-10.61	1372.18	-3.06
827	SLU 75	92	23	6197	-10.77	1372.16	-8.22
827	SLU 76	91	34	6151	-10.83	1364.99	-11.82
827	SLU 77	94	9	6282	-10.67	1385.82	-3.18
827	SLU 78	93	24	6266	-10.84	1385.8	-8.34
827	SLU 79	93	10	6247	-10.63	1378.67	-3.34
827	SLU 80	92	24	6231	-10.79	1378.65	-8.5
827	SLU 81	92	9	6323	-10.91	1397.82	-3.11
827	SLU 82	92	24	6307	-11.07	1397.8	-8.27
827	SLU 83	94	9	6392	-10.97	1411.47	-3.23
827	SLU 84	93	24	6377	-11.14	1411.44	-8.39
827	SLE RA 1	65	7	4172	-7.12	926.76	-2.61
827	SLE RA 2	64	24	4154	-7.3	926.74	-8.34
827	SLE RA 3	66	7	4242	-7.19	940.63	-2.58
827	SLE RA 4	65	17	4231	-7.3	940.61	-6.02
827	SLE RA 5	65	24	4201	-7.34	935.83	-8.42
827	SLE RA 6	67	8	4288	-7.23	949.72	-2.66
827	SLE RA 7	66	17	4278	-7.34	949.71	-6.1
827	SLE RA 8	66	8	4264	-7.2	944.95	-2.77
827	SLE RA 9	66	18	4254	-7.31	944.94	-6.21
827	SLE RA 10	67	24	4489	-7.93	998.98	-8.36
827	SLE RA 11	69	7	4577	-7.83	1012.87	-2.6
827	SLE RA 12	68	17	4566	-7.94	1012.85	-6.04
827	SLE RA 13	67	24	4536	-7.98	1008.07	-8.44
827	SLE RA 14	70	8	4623	-7.87	1021.96	-2.68
827	SLE RA 15	69	17	4613	-7.98	1021.95	-6.12
827	SLE RA 16	69	8	4599	-7.84	1017.19	-2.79
827	SLE RA 17	69	18	4589	-7.95	1017.18	-6.23
827	SLE RA 18	69	8	4650	-8.03	1029.96	-2.64
827	SLE RA 19	68	17	4640	-8.14	1029.95	-6.07
827	SLE RA 20	70	8	4696	-8.07	1039.06	-2.72
827	SLE RA 21	69	18	4686	-8.18	1039.04	-6.15
827	SLE FR 1	65	7	4172	-7.12	926.76	-2.61
827	SLE FR 2	64	11	4168	-7.15	926.76	-3.76
827	SLE FR 3	65	8	4190	-7.13	930.4	-2.64
827	SLE FR 4	66	11	4312	-7.42	957.72	-3.77
827	SLE FR 5	66	8	4334	-7.41	961.36	-2.65
827	SLE FR 6	67	8	4411	-7.57	978.36	-2.62
827	SLE QP 1	65	7	4172	-7.12	926.76	-2.61
827	SLE QP 2	66	7	4315	-7.39	957.72	-2.62
827	SLD 1	406	129	3011	-6.86	722.1	-45.17
827	SLD 2	381	254	2981	-7.17	722.62	-88.76
827	SLD 3	420	-129	3353	-3.49	727.51	45.21
827	SLD 4	394	-4	3323	-3.8	728.03	1.62
827	SLD 5	152	413	3411	-12.29	878.74	-144.6
827	SLD 6	136	496	3391	-12.49	879.08	-173.39
827	SLD 7	197	-448	4550	-1.05	896.77	156.65
827	SLD 8	180	-365	4531	-1.26	897.11	127.87
827	SLD 9	-48	380	4100	-13.52	1018.33	-133.11
827	SLD 10	-65	463	4080	-13.72	1018.68	-161.89
827	SLD 11	-4	-481	5239	-2.29	1036.36	168.15
827	SLD 12	-21	-398	5219	-2.49	1036.71	139.36
827	SLD 13	-263	19	5307	-10.97	1187.41	-6.85
827	SLD 14	-288	144	5277	-11.28	1187.94	-50.45
827	SLD 15	-249	-239	5649	-7.6	1192.82	83.52
827	SLD 16	-275	-114	5619	-7.91	1193.35	39.93
827	SLV 1	599	205	2271	-6.66	590.02	-71.59
827	SLV 2	559	401	2224	-7.15	590.84	-139.89
827	SLV 3	620	-214	2824	-1.21	598.84	74.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
827	SLV 4	581	-18	2777	-1.7	599.66	6.51
827	SLV 5	201	665	2872	-15.35	833.88	-232.61
827	SLV 6	174	797	2840	-15.67	834.43	-278.59
827	SLV 7	272	-731	4716	2.82	863.28	255.4
827	SLV 8	246	-599	4684	2.49	863.84	209.42
827	SLV 9	-114	614	3946	-17.27	1051.61	-214.66
827	SLV 10	-140	746	3915	-17.6	1052.16	-260.64
827	SLV 11	-42	-782	5790	0.9	1081.01	273.36
827	SLV 12	-69	-650	5758	0.57	1081.57	227.37
827	SLV 13	-449	33	5853	-13.07	1315.78	-11.75
827	SLV 14	-489	229	5806	-13.56	1316.6	-80.05
827	SLV 15	-428	-386	6406	-7.62	1324.6	134.65
827	SLV 16	-467	-190	6359	-8.11	1325.43	66.35
827	SLV FO 1	652	224	2067	-6.59	553.25	-78.49
827	SLV FO 2	609	440	2015	-7.13	554.15	-153.62
827	SLV FO 3	676	-236	2675	-0.6	562.95	82.55
827	SLV FO 4	632	-21	2623	-1.13	563.86	7.43
827	SLV FO 5	214	731	2728	-16.14	821.49	-255.61
827	SLV FO 6	185	876	2693	-16.5	822.1	-306.19
827	SLV FO 7	293	-804	4756	3.84	853.84	281.21
827	SLV FO 8	264	-659	4721	3.48	854.45	230.62
827	SLV FO 9	-132	674	3910	-18.26	1060.99	-235.86
827	SLV FO 10	-161	819	3875	-18.62	1061.6	-286.44
827	SLV FO 11	-53	-861	5938	1.73	1093.34	300.95
827	SLV FO 12	-82	-716	5903	1.36	1093.95	250.37
827	SLV FO 13	-501	36	6007	-13.64	1351.59	-12.67
827	SLV FO 14	-544	251	5955	-14.18	1352.49	-87.79
827	SLV FO 15	-477	-425	6615	-7.65	1361.29	148.38
827	SLV FO 16	-520	-209	6563	-8.19	1362.2	73.25
827	CRTFP Ux+	0	0	0	0	0	0
827	CRTFP Ux-	0	0	0	0	0	0
827	CRTFP Uy+	0	0	0	0	0	0
827	CRTFP Uy-	0	0	0	0	0	0
829	SLU 1	105	44	6147	1.81	7.26	-1.71
829	SLU 2	103	74	6103	1.4	5.84	-1.56
829	SLU 3	109	45	6313	1.98	7.96	-1.81
829	SLU 4	107	63	6286	1.73	7.1	-1.71
829	SLU 5	105	74	6213	1.52	6.25	-1.63
829	SLU 6	112	46	6423	2.1	8.37	-1.88
829	SLU 7	110	64	6397	1.85	7.51	-1.79
829	SLU 8	110	45	6368	2.05	8.09	-1.86
829	SLU 9	109	63	6341	1.81	7.23	-1.77
829	SLU 10	111	81	6934	1.68	8.08	-1.77
829	SLU 11	117	53	7143	2.26	10.2	-2.03
829	SLU 12	116	70	7117	2.01	9.35	-1.93
829	SLU 13	113	82	7044	1.8	8.5	-1.85
829	SLU 14	120	53	7254	2.38	10.62	-2.1
829	SLU 15	118	71	7227	2.13	9.76	-2.01
829	SLU 16	119	53	7198	2.33	10.33	-2.08
829	SLU 17	117	71	7172	2.08	9.48	-1.99
829	SLU 18	117	55	7334	2.21	10.47	-2.02
829	SLU 19	115	73	7307	1.96	9.62	-1.93
829	SLU 20	120	55	7444	2.33	10.88	-2.1
829	SLU 21	118	73	7418	2.08	10.03	-2.01
829	SLU 22	121	51	7188	2.43	10.44	-2.03
829	SLU 23	118	81	7144	2.02	9.01	-1.87
829	SLU 24	124	52	7354	2.6	11.13	-2.13
829	SLU 25	123	70	7328	2.36	10.28	-2.03
829	SLU 26	121	81	7255	2.14	9.43	-1.95
829	SLU 27	127	53	7465	2.73	11.55	-2.2
829	SLU 28	125	70	7438	2.48	10.69	-2.11
829	SLU 29	126	52	7409	2.68	11.26	-2.18
829	SLU 30	124	70	7383	2.43	10.41	-2.09
829	SLU 31	126	88	7975	2.3	11.26	-2.09
829	SLU 32	133	60	8185	2.88	13.38	-2.35
829	SLU 33	131	77	8159	2.63	12.52	-2.25
829	SLU 34	129	89	8086	2.42	11.67	-2.17
829	SLU 35	135	60	8295	3	13.79	-2.42
829	SLU 36	134	78	8269	2.76	12.94	-2.33
829	SLU 37	134	60	8240	2.96	13.51	-2.4
829	SLU 38	133	78	8214	2.71	12.66	-2.31
829	SLU 39	133	62	8375	2.83	13.65	-2.34
829	SLU 40	131	80	8349	2.58	12.79	-2.25
829	SLU 41	135	62	8486	2.95	14.06	-2.42
829	SLU 42	134	80	8459	2.71	13.21	-2.33
829	SLU 43	131	55	7634	2.14	8.35	-2.11
829	SLU 44	129	85	7590	1.73	6.93	-1.96
829	SLU 45	135	56	7799	2.31	9.05	-2.21
829	SLU 46	134	74	7773	2.06	8.19	-2.12
829	SLU 47	131	85	7700	1.85	7.34	-2.03
829	SLU 48	138	57	7910	2.43	9.46	-2.29
829	SLU 49	136	74	7883	2.18	8.6	-2.19
829	SLU 50	137	56	7854	2.38	9.18	-2.26
829	SLU 51	135	74	7828	2.14	8.32	-2.17
829	SLU 52	137	92	8420	2	9.17	-2.18
829	SLU 53	144	64	8630	2.59	11.29	-2.43
829	SLU 54	142	81	8604	2.34	10.44	-2.34
829	SLU 55	140	93	8531	2.13	9.58	-2.25
829	SLU 56	146	64	8741	2.71	11.71	-2.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
829	SLU 57	145	82	8714	2.46	10.85	-2.41
829	SLU 58	145	64	8685	2.66	11.42	-2.48
829	SLU 59	143	82	8659	2.41	10.57	-2.39
829	SLU 60	143	66	8820	2.53	11.56	-2.43
829	SLU 61	142	84	8794	2.29	10.71	-2.33
829	SLU 62	146	66	8931	2.66	11.97	-2.5
829	SLU 63	144	84	8904	2.41	11.12	-2.41
829	SLU 64	147	62	8675	2.76	11.53	-2.43
829	SLU 65	144	92	8631	2.35	10.1	-2.28
829	SLU 66	151	63	8841	2.93	12.22	-2.53
829	SLU 67	149	81	8815	2.68	11.37	-2.44
829	SLU 68	147	92	8742	2.47	10.52	-2.35
829	SLU 69	153	64	8951	3.05	12.64	-2.61
829	SLU 70	152	81	8925	2.81	11.78	-2.51
829	SLU 71	152	63	8896	3.01	12.35	-2.58
829	SLU 72	151	81	8870	2.76	11.5	-2.49
829	SLU 73	153	99	9462	2.63	12.35	-2.5
829	SLU 74	159	70	9672	3.21	14.47	-2.75
829	SLU 75	157	88	9645	2.96	13.61	-2.66
829	SLU 76	155	100	9573	2.75	12.76	-2.57
829	SLU 77	162	71	9782	3.33	14.88	-2.82
829	SLU 78	160	89	9756	3.09	14.03	-2.73
829	SLU 79	160	71	9727	3.28	14.6	-2.8
829	SLU 80	159	88	9700	3.04	13.74	-2.71
829	SLU 81	159	73	9862	3.16	14.74	-2.74
829	SLU 82	157	90	9836	2.91	13.88	-2.65
829	SLU 83	161	73	9972	3.28	15.15	-2.82
829	SLU 84	160	91	9946	3.03	14.29	-2.73
829	SLE RA 1	110	46	6444	1.99	8.17	-1.8
829	SLE RA 2	108	66	6415	1.71	7.22	-1.7
829	SLE RA 3	112	47	6555	2.1	8.63	-1.87
829	SLE RA 4	111	59	6537	1.94	8.06	-1.8
829	SLE RA 5	110	66	6489	1.79	7.49	-1.75
829	SLE RA 6	114	47	6628	2.18	8.91	-1.92
829	SLE RA 7	113	59	6611	2.02	8.34	-1.85
829	SLE RA 8	113	47	6592	2.15	8.72	-1.9
829	SLE RA 9	112	59	6574	1.99	8.15	-1.84
829	SLE RA 10	113	71	6969	1.9	8.72	-1.84
829	SLE RA 11	118	52	7109	2.29	10.13	-2.01
829	SLE RA 12	117	64	7091	2.12	9.56	-1.95
829	SLE RA 13	115	71	7043	1.98	8.99	-1.89
829	SLE RA 14	119	52	7182	2.37	10.41	-2.06
829	SLE RA 15	118	64	7165	2.2	9.84	-2
829	SLE RA 16	119	52	7145	2.34	10.22	-2.05
829	SLE RA 17	118	64	7128	2.17	9.65	-1.99
829	SLE RA 18	118	53	7236	2.25	10.31	-2.01
829	SLE RA 19	116	65	7218	2.09	9.74	-1.95
829	SLE RA 20	119	54	7309	2.33	10.58	-2.06
829	SLE RA 21	118	66	7292	2.17	10.01	-2
829	SLE FR 1	110	46	6444	1.99	8.17	-1.8
829	SLE FR 2	109	50	6438	1.93	7.98	-1.78
829	SLE FR 3	110	46	6474	2.02	8.28	-1.82
829	SLE FR 4	112	52	6676	2.01	8.62	-1.84
829	SLE FR 5	113	48	6711	2.1	8.92	-1.88
829	SLE FR 6	114	50	6840	2.12	9.24	-1.9
829	SLE QP 1	110	46	6444	1.99	8.17	-1.8
829	SLE QP 2	112	48	6682	2.07	8.81	-1.86
829	SLD 1	635	208	5648	-1.02	2.95	-2.66
829	SLD 2	598	300	5627	-1.36	3.86	-0.68
829	SLD 3	665	-119	6239	4.16	20.59	-4.47
829	SLD 4	629	-27	6217	3.81	21.49	-2.49
829	SLD 5	230	575	5480	-6.64	-19.86	0.29
829	SLD 6	206	636	5466	-6.87	-19.26	1.59
829	SLD 7	330	-514	7448	10.6	38.93	-5.74
829	SLD 8	306	-453	7434	10.37	39.53	-4.44
829	SLD 9	-82	550	5929	-6.24	-21.91	0.71
829	SLD 10	-106	611	5915	-6.47	-21.31	2.02
829	SLD 11	18	-539	7897	11	36.89	-5.32
829	SLD 12	-6	-479	7883	10.77	37.48	-4.01
829	SLD 13	-405	123	7146	0.33	-3.87	-1.24
829	SLD 14	-441	215	7125	-0.02	-2.97	0.74
829	SLD 15	-374	-203	7736	5.5	13.77	-3.04
829	SLD 16	-411	-111	7715	5.15	14.67	-1.07
829	SLV 1	930	307	5053	-2.89	-0.45	-3.06
829	SLV 2	873	451	5019	-3.43	0.96	0.04
829	SLV 3	979	-222	6008	5.47	28.06	-5.99
829	SLV 4	922	-78	5974	4.93	29.47	-2.9
829	SLV 5	294	901	4751	-12	-37.48	1.65
829	SLV 6	256	998	4728	-12.37	-36.52	3.74
829	SLV 7	457	-861	7935	15.87	57.57	-8.13
829	SLV 8	418	-764	7912	15.51	58.52	-6.05
829	SLV 9	-194	861	5451	-11.37	-40.9	2.32
829	SLV 10	-233	958	5429	-11.74	-39.94	4.41
829	SLV 11	-32	-901	8635	16.5	54.15	-7.47
829	SLV 12	-70	-804	8613	16.13	55.1	-5.38
829	SLV 13	-698	174	7389	-0.8	-11.85	-0.83
829	SLV 14	-755	318	7355	-1.34	-10.44	2.27
829	SLV 15	-649	-354	8344	7.57	16.66	-3.77
829	SLV 16	-706	-210	8311	7.02	18.08	-0.67



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
829	SLV FO 1	1012	333	4890	-3.38	-1.38	-3.18
829	SLV FO 2	949	491	4853	-3.98	0.18	0.23
829	SLV FO 3	1066	-249	5941	5.82	29.98	-6.41
829	SLV FO 4	1003	-90	5904	5.21	31.54	-3
829	SLV FO 5	312	986	4557	-13.41	-42.11	2.01
829	SLV FO 6	270	1093	4533	-13.81	-41.06	4.3
829	SLV FO 7	491	-952	8060	17.26	62.44	-8.76
829	SLV FO 8	449	-846	8035	16.85	63.49	-6.47
829	SLV FO 9	-225	942	5328	-12.72	-45.87	2.74
829	SLV FO 10	-267	1049	5304	-13.12	-44.82	5.04
829	SLV FO 11	-46	-996	8831	17.95	58.68	-8.03
829	SLV FO 12	-88	-889	8806	17.54	59.73	-5.73
829	SLV FO 13	-779	187	7460	-1.08	-13.92	-0.73
829	SLV FO 14	-842	345	7423	-1.68	-12.36	2.68
829	SLV FO 15	-725	-395	8510	8.12	17.45	-3.96
829	SLV FO 16	-788	-236	8474	7.52	19	-0.55
829	CRTFP Ux+	0	0	0	0	0	0
829	CRTFP Ux-	0	0	0	0	0	0
829	CRTFP Uy+	0	0	0	0	0	0
829	CRTFP Uy-	0	0	0	0	0	0
832	SLU 1	-58	-25	6374	-1.2	0.06	-0.08
832	SLU 2	-57	5	6333	-1.64	1.38	-0.17
832	SLU 3	-59	-26	6537	-1.12	-0.42	-0.08
832	SLU 4	-58	-8	6512	-1.39	0.37	-0.13
832	SLU 5	-57	5	6437	-1.58	1.02	-0.17
832	SLU 6	-59	-27	6642	-1.06	-0.77	-0.07
832	SLU 7	-59	-8	6617	-1.33	0.02	-0.13
832	SLU 8	-59	-26	6584	-1.08	-0.66	-0.08
832	SLU 9	-58	-8	6559	-1.35	0.14	-0.13
832	SLU 10	-57	2	7193	-1.81	0.11	-0.18
832	SLU 11	-59	-29	7398	-1.29	-1.69	-0.08
832	SLU 12	-59	-11	7373	-1.56	-0.89	-0.14
832	SLU 13	-58	2	7298	-1.75	-0.25	-0.18
832	SLU 14	-60	-30	7503	-1.23	-2.04	-0.08
832	SLU 15	-59	-11	7478	-1.5	-1.25	-0.14
832	SLU 16	-59	-29	7445	-1.25	-1.92	-0.09
832	SLU 17	-59	-11	7420	-1.52	-1.13	-0.14
832	SLU 18	-58	-29	7604	-1.44	-1.76	-0.09
832	SLU 19	-58	-11	7579	-1.71	-0.96	-0.15
832	SLU 20	-59	-30	7709	-1.38	-2.11	-0.09
832	SLU 21	-58	-12	7684	-1.65	-1.32	-0.15
832	SLU 22	-62	-30	7451	-1.11	-1.43	-0.09
832	SLU 23	-61	0	7410	-1.55	-0.11	-0.18
832	SLU 24	-64	-31	7614	-1.03	-1.91	-0.08
832	SLU 25	-63	-13	7589	-1.3	-1.12	-0.14
832	SLU 26	-62	0	7514	-1.5	-0.47	-0.18
832	SLU 27	-64	-32	7719	-0.98	-2.26	-0.08
832	SLU 28	-64	-14	7694	-1.24	-1.47	-0.14
832	SLU 29	-64	-32	7661	-1	-2.14	-0.08
832	SLU 30	-63	-13	7636	-1.26	-1.35	-0.14
832	SLU 31	-62	-3	8270	-1.72	-1.38	-0.19
832	SLU 32	-64	-34	8475	-1.2	-3.18	-0.09
832	SLU 33	-63	-16	8450	-1.47	-2.38	-0.15
832	SLU 34	-62	-3	8375	-1.67	-1.74	-0.19
832	SLU 35	-65	-35	8580	-1.15	-3.53	-0.09
832	SLU 36	-64	-16	8555	-1.41	-2.74	-0.15
832	SLU 37	-64	-34	8522	-1.17	-3.41	-0.09
832	SLU 38	-63	-16	8497	-1.43	-2.62	-0.15
832	SLU 39	-63	-34	8681	-1.35	-3.25	-0.1
832	SLU 40	-62	-16	8656	-1.62	-2.45	-0.15
832	SLU 41	-64	-35	8786	-1.3	-3.6	-0.1
832	SLU 42	-63	-17	8761	-1.56	-2.81	-0.15
832	SLU 43	-73	-31	7917	-1.59	0.58	-0.1
832	SLU 44	-72	0	7876	-2.03	1.9	-0.2
832	SLU 45	-74	-32	8080	-1.51	0.11	-0.1
832	SLU 46	-74	-14	8055	-1.78	0.9	-0.15
832	SLU 47	-73	-1	7980	-1.97	1.55	-0.19
832	SLU 48	-75	-33	8185	-1.45	-0.25	-0.1
832	SLU 49	-75	-14	8160	-1.72	0.55	-0.15
832	SLU 50	-75	-32	8127	-1.47	-0.13	-0.1
832	SLU 51	-74	-14	8102	-1.74	0.66	-0.16
832	SLU 52	-73	-3	8736	-2.2	0.63	-0.2
832	SLU 53	-75	-35	8941	-1.68	-1.16	-0.11
832	SLU 54	-74	-17	8916	-1.95	-0.37	-0.16
832	SLU 55	-73	-4	8841	-2.14	0.28	-0.2
832	SLU 56	-75	-36	9046	-1.62	-1.52	-0.1
832	SLU 57	-75	-17	9021	-1.89	-0.72	-0.16
832	SLU 58	-75	-35	8988	-1.64	-1.4	-0.11
832	SLU 59	-74	-17	8963	-1.91	-0.6	-0.16
832	SLU 60	-74	-35	9147	-1.83	-1.23	-0.11
832	SLU 61	-73	-17	9122	-2.1	-0.44	-0.17
832	SLU 62	-74	-36	9252	-1.77	-1.59	-0.11
832	SLU 63	-74	-18	9227	-2.04	-0.79	-0.17
832	SLU 64	-78	-36	8994	-1.5	-0.91	-0.11
832	SLU 65	-77	-6	8953	-1.94	0.41	-0.2
832	SLU 66	-79	-37	9157	-1.42	-1.38	-0.1
832	SLU 67	-79	-19	9132	-1.69	-0.59	-0.16
832	SLU 68	-78	-6	9057	-1.88	0.06	-0.2
832	SLU 69	-80	-38	9262	-1.37	-1.74	-0.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
832	SLU 70	-79	-19	9237	-1.63	-0.94	-0.16
832	SLU 71	-79	-37	9204	-1.39	-1.62	-0.1
832	SLU 72	-79	-19	9179	-1.65	-0.82	-0.16
832	SLU 73	-77	-9	9813	-2.11	-0.85	-0.21
832	SLU 74	-80	-40	10018	-1.59	-2.65	-0.11
832	SLU 75	-79	-22	9993	-1.86	-1.86	-0.17
832	SLU 76	-78	-9	9918	-2.06	-1.21	-0.21
832	SLU 77	-80	-41	10123	-1.54	-3.01	-0.11
832	SLU 78	-80	-22	10098	-1.8	-2.21	-0.17
832	SLU 79	-80	-40	10065	-1.56	-2.89	-0.11
832	SLU 80	-79	-22	10040	-1.82	-2.09	-0.17
832	SLU 81	-78	-40	10224	-1.74	-2.72	-0.12
832	SLU 82	-78	-22	10199	-2.01	-1.93	-0.18
832	SLU 83	-79	-41	10329	-1.69	-3.08	-0.12
832	SLU 84	-79	-23	10304	-1.95	-2.28	-0.18
832	SLE RA 1	-59	-27	6682	-1.17	-0.37	-0.08
832	SLE RA 2	-58	-6	6654	-1.47	0.51	-0.14
832	SLE RA 3	-60	-27	6791	-1.12	-0.69	-0.08
832	SLE RA 4	-59	-15	6774	-1.3	-0.16	-0.12
832	SLE RA 5	-59	-7	6724	-1.43	0.27	-0.14
832	SLE RA 6	-60	-28	6861	-1.08	-0.92	-0.08
832	SLE RA 7	-60	-15	6844	-1.26	-0.39	-0.12
832	SLE RA 8	-60	-27	6822	-1.1	-0.84	-0.08
832	SLE RA 9	-59	-15	6805	-1.27	-0.32	-0.12
832	SLE RA 10	-59	-8	7228	-1.58	-0.34	-0.15
832	SLE RA 11	-60	-29	7365	-1.23	-1.53	-0.08
832	SLE RA 12	-60	-17	7348	-1.41	-1	-0.12
832	SLE RA 13	-59	-9	7298	-1.54	-0.57	-0.15
832	SLE RA 14	-60	-30	7434	-1.2	-1.77	-0.08
832	SLE RA 15	-60	-17	7418	-1.37	-1.24	-0.12
832	SLE RA 16	-60	-29	7396	-1.21	-1.69	-0.09
832	SLE RA 17	-60	-17	7379	-1.39	-1.16	-0.12
832	SLE RA 18	-59	-29	7502	-1.33	-1.58	-0.09
832	SLE RA 19	-59	-17	7485	-1.51	-1.05	-0.13
832	SLE RA 20	-60	-30	7572	-1.3	-1.82	-0.09
832	SLE RA 21	-59	-18	7555	-1.47	-1.29	-0.13
832	SLE FR 1	-59	-27	6682	-1.17	-0.37	-0.08
832	SLE FR 2	-59	-23	6677	-1.23	-0.19	-0.09
832	SLE FR 3	-59	-27	6710	-1.16	-0.47	-0.08
832	SLE FR 4	-59	-23	6922	-1.28	-0.56	-0.1
832	SLE FR 5	-59	-28	6956	-1.21	-0.83	-0.08
832	SLE FR 6	-59	-28	7092	-1.25	-0.97	-0.08
832	SLE QP 1	-59	-27	6682	-1.17	-0.37	-0.08
832	SLE QP 2	-59	-27	6928	-1.22	-0.73	-0.08
832	SLD 1	528	154	7509	-4.39	23.7	-2.7
832	SLD 2	491	59	7528	-3.98	22.63	-0.64
832	SLD 3	510	-203	8075	1.24	7.75	-1.12
832	SLD 4	473	-298	8095	1.64	6.68	0.95
832	SLD 5	151	585	6239	-10.78	30.98	-3.64
832	SLD 6	126	522	6252	-10.51	30.27	-2.28
832	SLD 7	92	-604	8128	7.98	-22.19	1.63
832	SLD 8	67	-667	8141	8.24	-22.89	3
832	SLD 9	-185	612	5715	-10.69	21.42	-3.16
832	SLD 10	-210	549	5728	-10.42	20.72	-1.8
832	SLD 11	-244	-577	7604	8.07	-31.74	2.11
832	SLD 12	-269	-640	7617	8.33	-32.44	3.47
832	SLD 13	-591	243	5761	-4.09	-8.15	-1.11
832	SLD 14	-629	148	5781	-3.68	-9.22	0.95
832	SLD 15	-609	-114	6328	1.54	-24.1	0.47
832	SLD 16	-646	-209	6347	1.94	-25.17	2.53
832	SLV 1	861	265	7818	-6.32	37.88	-4.21
832	SLV 2	803	116	7848	-5.68	36.21	-0.98
832	SLV 3	833	-311	8734	2.77	12.11	-1.67
832	SLV 4	774	-460	8764	3.41	10.44	1.56
832	SLV 5	271	962	5800	-16.65	50.25	-5.79
832	SLV 6	232	862	5821	-16.23	49.13	-3.61
832	SLV 7	176	-959	8853	13.64	-35.66	2.7
832	SLV 8	137	-1059	8873	14.07	-36.78	4.88
832	SLV 9	-255	1004	4983	-16.51	35.32	-5.04
832	SLV 10	-294	904	5003	-16.09	34.19	-2.86
832	SLV 11	-350	-917	8035	13.79	-50.59	3.44
832	SLV 12	-389	-1017	8056	14.21	-51.72	5.62
832	SLV 13	-892	405	5092	-5.85	-11.91	-1.73
832	SLV 14	-951	256	5123	-5.21	-13.58	1.5
832	SLV 15	-921	-171	6008	3.24	-37.68	0.81
832	SLV 16	-979	-320	6038	3.88	-39.35	4.05
832	SLV FO 1	953	294	7907	-6.83	41.75	-4.63
832	SLV FO 2	889	130	7940	-6.13	39.91	-1.07
832	SLV FO 3	922	-340	8914	3.17	13.4	-1.83
832	SLV FO 4	857	-503	8948	3.87	11.56	1.73
832	SLV FO 5	304	1061	5688	-18.2	55.35	-6.36
832	SLV FO 6	261	951	5710	-17.73	54.11	-3.96
832	SLV FO 7	200	-1052	9045	15.13	-39.15	2.98
832	SLV FO 8	156	-1162	9068	15.6	-40.39	5.37
832	SLV FO 9	-275	1107	4788	-18.04	38.92	-5.54
832	SLV FO 10	-318	997	4811	-17.57	37.68	-3.14
832	SLV FO 11	-379	-1006	8146	15.29	-55.58	3.8
832	SLV FO 12	-422	-1116	8168	15.76	-56.82	6.19
832	SLV FO 13	-976	448	4908	-6.31	-13.02	-1.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
832	SLV FO 14	-1040	285	4942	-5.61	-14.86	1.66
832	SLV FO 15	-1007	-185	5916	3.69	-41.37	0.9
832	SLV FO 16	-1071	-349	5949	4.39	-43.21	4.46
832	CRTFP Ux+	0	0	0	0	0	0
832	CRTFP Ux-	0	0	0	0	0	0
832	CRTFP Uy+	0	0	0	0	0	0
832	CRTFP Uy-	0	0	0	0	0	0
835	SLU 1	-4	149	3883	-75.54	-34.26	1.01
835	SLU 2	-4	179	3876	-75.64	-34.11	1.07
835	SLU 3	-4	152	3964	-77.1	-35.32	1.03
835	SLU 4	-4	170	3960	-77.16	-35.23	1.06
835	SLU 5	-4	180	3929	-76.65	-34.81	1.07
835	SLU 6	-4	153	4017	-78.11	-36.02	1.04
835	SLU 7	-4	170	4012	-78.16	-35.93	1.07
835	SLU 8	-4	151	3988	-77.56	-35.67	1.03
835	SLU 9	-4	169	3984	-77.61	-35.58	1.06
835	SLU 10	-6	194	4408	-86	-38.52	1.12
835	SLU 11	-6	166	4496	-87.46	-39.73	1.08
835	SLU 12	-6	184	4492	-87.51	-39.64	1.12
835	SLU 13	-6	194	4460	-87	-39.22	1.13
835	SLU 14	-7	167	4548	-88.46	-40.44	1.09
835	SLU 15	-7	185	4544	-88.52	-40.35	1.13
835	SLU 16	-6	166	4519	-87.91	-40.08	1.08
835	SLU 17	-6	184	4515	-87.97	-39.99	1.12
835	SLU 18	-7	170	4643	-90.34	-40.56	1.09
835	SLU 19	-7	188	4639	-90.4	-40.47	1.12
835	SLU 20	-7	171	4695	-91.34	-41.27	1.1
835	SLU 21	-7	189	4691	-91.4	-41.18	1.13
835	SLU 22	-7	168	4506	-87.47	-39.85	1.16
835	SLU 23	-7	198	4499	-87.57	-39.7	1.22
835	SLU 24	-7	171	4587	-89.03	-40.91	1.18
835	SLU 25	-7	188	4583	-89.09	-40.82	1.22
835	SLU 26	-7	199	4551	-88.58	-40.4	1.23
835	SLU 27	-7	172	4639	-90.03	-41.62	1.19
835	SLU 28	-7	189	4635	-90.09	-41.53	1.22
835	SLU 29	-7	170	4611	-89.48	-41.26	1.18
835	SLU 30	-7	188	4607	-89.54	-41.17	1.21
835	SLU 31	-9	212	5031	-97.93	-44.11	1.27
835	SLU 32	-9	185	5119	-99.39	-45.32	1.24
835	SLU 33	-9	203	5114	-99.44	-45.23	1.27
835	SLU 34	-9	213	5083	-98.93	-44.82	1.28
835	SLU 35	-9	186	5171	-100.39	-46.03	1.25
835	SLU 36	-9	204	5167	-100.45	-45.94	1.28
835	SLU 37	-9	185	5142	-99.84	-45.67	1.23
835	SLU 38	-9	202	5138	-99.9	-45.58	1.27
835	SLU 39	-10	189	5265	-102.27	-46.15	1.24
835	SLU 40	-10	207	5261	-102.33	-46.06	1.28
835	SLU 41	-10	190	5318	-103.27	-46.86	1.25
835	SLU 42	-10	208	5314	-103.33	-46.77	1.28
835	SLU 43	-4	188	4835	-94.12	-42.61	1.26
835	SLU 44	-4	217	4828	-94.22	-42.46	1.32
835	SLU 45	-4	190	4916	-95.67	-43.68	1.28
835	SLU 46	-4	208	4912	-95.73	-43.59	1.31
835	SLU 47	-4	218	4880	-95.22	-43.17	1.32
835	SLU 48	-5	191	4968	-96.68	-44.28	1.29
835	SLU 49	-5	209	4964	-96.74	-44.29	1.32
835	SLU 50	-4	190	4939	-96.13	-44.03	1.28
835	SLU 51	-4	207	4935	-96.19	-43.94	1.31
835	SLU 52	-6	232	5359	-104.57	-46.88	1.37
835	SLU 53	-7	205	5447	-106.03	-48.09	1.33
835	SLU 54	-7	223	5443	-106.09	-48	1.37
835	SLU 55	-7	233	5412	-105.58	-47.58	1.38
835	SLU 56	-7	206	5500	-107.04	-48.8	1.34
835	SLU 57	-7	223	5495	-107.09	-48.71	1.38
835	SLU 58	-7	204	5471	-106.49	-48.44	1.33
835	SLU 59	-7	222	5467	-106.54	-48.35	1.37
835	SLU 60	-7	209	5594	-108.91	-48.92	1.34
835	SLU 61	-7	226	5590	-108.97	-48.83	1.37
835	SLU 62	-7	210	5646	-109.92	-49.62	1.35
835	SLU 63	-7	227	5642	-109.98	-49.53	1.38
835	SLU 64	-7	207	5457	-106.05	-48.21	1.41
835	SLU 65	-7	236	5451	-106.14	-48.06	1.47
835	SLU 66	-7	209	5538	-107.6	-49.27	1.43
835	SLU 67	-7	227	5534	-107.66	-49.18	1.47
835	SLU 68	-7	237	5503	-107.15	-48.76	1.48
835	SLU 69	-7	210	5591	-108.61	-49.98	1.44
835	SLU 70	-7	228	5587	-108.67	-49.89	1.47
835	SLU 71	-7	209	5562	-108.06	-49.62	1.43
835	SLU 72	-7	226	5558	-108.12	-49.53	1.46
835	SLU 73	-9	251	5982	-116.5	-52.47	1.52
835	SLU 74	-9	224	6070	-117.96	-53.68	1.49
835	SLU 75	-9	241	6066	-118.02	-53.59	1.52
835	SLU 76	-9	252	6035	-117.51	-53.18	1.53
835	SLU 77	-9	225	6122	-118.96	-54.39	1.5
835	SLU 78	-10	242	6118	-119.02	-54.3	1.53
835	SLU 79	-9	223	6094	-118.41	-54.03	1.48
835	SLU 80	-9	241	6090	-118.47	-53.94	1.52
835	SLU 81	-10	228	6217	-120.84	-54.51	1.49
835	SLU 82	-10	245	6213	-120.9	-54.42	1.53



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
835	SLU 83	-10	229	6269	-121.85	-55.22	1.5
835	SLU 84	-10	246	6265	-121.91	-55.13	1.53
835	SLE RA 1	-5	155	4061	-78.95	-35.85	1.05
835	SLE RA 2	-5	174	4057	-79.02	-35.75	1.09
835	SLE RA 3	-5	156	4115	-79.99	-36.56	1.07
835	SLE RA 4	-5	168	4112	-80.03	-36.5	1.09
835	SLE RA 5	-5	175	4091	-79.69	-36.22	1.1
835	SLE RA 6	-5	157	4150	-80.66	-37.03	1.07
835	SLE RA 7	-5	169	4147	-80.7	-36.97	1.09
835	SLE RA 8	-5	156	4131	-80.29	-36.79	1.06
835	SLE RA 9	-5	168	4128	-80.33	-36.73	1.09
835	SLE RA 10	-6	184	4411	-85.92	-38.7	1.13
835	SLE RA 11	-6	166	4470	-86.89	-39.5	1.1
835	SLE RA 12	-6	178	4467	-86.93	-39.44	1.13
835	SLE RA 13	-6	185	4446	-86.59	-39.17	1.13
835	SLE RA 14	-6	167	4504	-87.56	-39.97	1.11
835	SLE RA 15	-6	179	4502	-87.6	-39.91	1.13
835	SLE RA 16	-6	166	4485	-87.2	-39.74	1.1
835	SLE RA 17	-6	178	4483	-87.24	-39.68	1.12
835	SLE RA 18	-7	169	4567	-88.82	-40.06	1.1
835	SLE RA 19	-7	181	4565	-88.85	-40	1.13
835	SLE RA 20	-7	169	4602	-89.49	-40.53	1.11
835	SLE RA 21	-7	181	4600	-89.52	-40.47	1.13
835	SLE FR 1	-5	155	4061	-78.95	-35.85	1.05
835	SLE FR 2	-5	159	4060	-78.97	-35.83	1.06
835	SLE FR 3	-5	155	4075	-79.22	-36.04	1.05
835	SLE FR 4	-5	163	4212	-81.92	-37.09	1.08
835	SLE FR 5	-5	159	4227	-82.18	-37.3	1.07
835	SLE FR 6	-6	162	4314	-83.88	-37.95	1.08
835	SLE QP 1	-5	155	4061	-78.95	-35.85	1.05
835	SLE QP 2	-5	159	4213	-81.91	-37.11	1.07
835	SLD 1	553	288	3773	-75.92	-10.2	10.01
835	SLD 2	520	322	3788	-76.23	-10.42	10.98
835	SLD 3	560	-54	3881	-74.99	-12.28	9.4
835	SLD 4	527	-21	3896	-75.31	-12.5	10.37
835	SLD 5	158	711	3915	-81.46	-25.85	4.5
835	SLD 6	136	734	3925	-81.67	-25.99	5.14
835	SLD 7	180	-431	4274	-78.37	-32.78	2.47
835	SLD 8	159	-409	4284	-78.58	-32.92	3.11
835	SLD 9	-169	727	4143	-85.24	-41.31	-0.97
835	SLD 10	-191	749	4153	-85.45	-41.45	-0.33
835	SLD 11	-147	-416	4501	-82.15	-48.24	-3
835	SLD 12	-168	-393	4511	-82.36	-48.38	-2.37
835	SLD 13	-538	339	4530	-88.52	-61.73	-8.23
835	SLD 14	-570	372	4545	-88.84	-61.95	-7.27
835	SLD 15	-531	-4	4638	-87.59	-63.81	-8.84
835	SLD 16	-563	30	4653	-87.91	-64.03	-7.88
835	SLV 1	868	370	3523	-72.59	4.94	15.09
835	SLV 2	817	423	3547	-73.09	4.6	16.6
835	SLV 3	879	-184	3698	-71.07	1.56	14.1
835	SLV 4	828	-131	3722	-71.57	1.22	15.61
835	SLV 5	250	1052	3737	-81.33	-19.31	6.5
835	SLV 6	215	1088	3753	-81.67	-19.53	7.52
835	SLV 7	286	-794	4319	-76.26	-30.58	3.19
835	SLV 8	252	-758	4335	-76.6	-30.8	4.21
835	SLV 9	-262	1076	4091	-87.23	-43.42	-2.07
835	SLV 10	-297	1112	4107	-87.56	-43.65	-1.05
835	SLV 11	-226	-770	4673	-82.16	-54.7	-5.38
835	SLV 12	-260	-734	4689	-82.49	-54.92	-4.36
835	SLV 13	-839	449	4704	-92.25	-75.45	-13.47
835	SLV 14	-890	502	4728	-92.75	-75.78	-11.96
835	SLV 15	-828	-105	4879	-90.73	-78.83	-14.47
835	SLV 16	-879	-52	4903	-91.23	-79.17	-12.96
835	SLV FO 1	956	391	3455	-71.66	9.14	16.49
835	SLV FO 2	899	449	3481	-72.21	8.77	18.16
835	SLV FO 3	968	-218	3647	-69.99	5.42	15.4
835	SLV FO 4	911	-160	3673	-70.54	5.05	17.06
835	SLV FO 5	275	1142	3689	-81.27	-17.53	7.04
835	SLV FO 6	237	1181	3707	-81.64	-17.77	8.16
835	SLV FO 7	316	-889	4330	-75.69	-29.93	3.4
835	SLV FO 8	278	-850	4347	-76.06	-30.17	4.52
835	SLV FO 9	-288	1168	4079	-87.76	-44.05	-2.38
835	SLV FO 10	-326	1207	4096	-88.13	-44.3	-1.27
835	SLV FO 11	-248	-863	4719	-82.18	-56.45	-6.03
835	SLV FO 12	-286	-824	4737	-82.55	-56.7	-4.91
835	SLV FO 13	-922	478	4753	-93.28	-79.28	-14.93
835	SLV FO 14	-978	536	4779	-93.84	-79.65	-13.27
835	SLV FO 15	-910	-131	4945	-91.61	-83	-16.02
835	SLV FO 16	-966	-73	4972	-92.16	-83.37	-14.36
835	CRTFP Ux+	0	0	0	0	0	0
835	CRTFP Ux-	0	0	0	0	0	0
835	CRTFP Uy+	0	0	0	0	0	0
835	CRTFP Uy-	0	0	0	0	0	0
838	SLU 1	-3	2	1907	-35.65	455.97	-0.55
838	SLU 2	-3	13	1900	-35.57	453.64	-3.22
838	SLU 3	-3	2	1955	-36.52	467.45	-0.53
838	SLU 4	-3	8	1950	-36.47	466.05	-2.13
838	SLU 5	-4	13	1930	-36.13	461.02	-3.19
838	SLU 6	-3	2	1985	-37.08	474.83	-0.49



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
838	SLU 7	-4	8	1981	-37.03	473.43	-2.1
838	SLU 8	-3	2	1968	-36.77	470.73	-0.48
838	SLU 9	-4	8	1964	-36.72	469.33	-2.09
838	SLU 10	-4	12	2164	-40.51	516.23	-2.98
838	SLU 11	-4	1	2218	-41.46	530.04	-0.29
838	SLU 12	-4	7	2214	-41.41	528.65	-1.89
838	SLU 13	-4	12	2194	-41.06	523.62	-2.95
838	SLU 14	-4	1	2249	-42.02	537.43	-0.25
838	SLU 15	-4	7	2244	-41.97	536.03	-1.86
838	SLU 16	-4	1	2232	-41.71	533.32	-0.24
838	SLU 17	-4	7	2227	-41.66	531.93	-1.85
838	SLU 18	-4	1	2284	-42.7	545.39	-0.21
838	SLU 19	-4	7	2279	-42.65	543.99	-1.81
838	SLU 20	-4	1	2314	-43.26	552.77	-0.17
838	SLU 21	-4	7	2310	-43.21	551.37	-1.78
838	SLU 22	-4	2	2228	-41.61	532.56	-0.47
838	SLU 23	-5	12	2221	-41.53	530.24	-3.14
838	SLU 24	-5	2	2276	-42.48	544.05	-0.44
838	SLU 25	-5	8	2271	-42.43	542.65	-2.05
838	SLU 26	-5	12	2251	-42.09	537.62	-3.11
838	SLU 27	-5	1	2306	-43.04	551.43	-0.41
838	SLU 28	-5	8	2302	-42.99	550.03	-2.02
838	SLU 29	-5	1	2289	-42.73	547.33	-0.4
838	SLU 30	-5	8	2285	-42.68	545.93	-2.01
838	SLU 31	-5	11	2485	-46.47	592.83	-2.9
838	SLU 32	-5	1	2539	-47.42	606.64	-0.2
838	SLU 33	-5	7	2535	-47.37	605.24	-1.81
838	SLU 34	-5	11	2515	-47.03	600.21	-2.87
838	SLU 35	-5	0	2570	-47.98	614.02	-0.17
838	SLU 36	-6	7	2565	-47.93	612.62	-1.78
838	SLU 37	-5	0	2553	-47.67	609.92	-0.16
838	SLU 38	-5	7	2548	-47.62	608.52	-1.77
838	SLU 39	-5	0	2605	-48.66	621.99	-0.13
838	SLU 40	-5	7	2600	-48.62	620.59	-1.73
838	SLU 41	-5	0	2635	-49.22	629.37	-0.09
838	SLU 42	-6	7	2631	-49.17	627.97	-1.7
838	SLU 43	-3	3	2370	-44.3	566.5	-0.74
838	SLU 44	-4	13	2362	-44.22	564.17	-3.42
838	SLU 45	-4	3	2417	-45.17	577.98	-0.72
838	SLU 46	-4	9	2412	-45.12	576.58	-2.32
838	SLU 47	-4	13	2393	-44.78	571.55	-3.38
838	SLU 48	-4	3	2447	-45.73	585.36	-0.68
838	SLU 49	-4	9	2443	-45.68	583.96	-2.29
838	SLU 50	-4	3	2430	-45.42	581.26	-0.68
838	SLU 51	-4	9	2426	-45.37	579.86	-2.28
838	SLU 52	-4	12	2626	-49.16	626.76	-3.18
838	SLU 53	-4	2	2680	-50.11	640.57	-0.48
838	SLU 54	-5	8	2676	-50.06	639.18	-2.08
838	SLU 55	-5	12	2656	-49.72	634.14	-3.14
838	SLU 56	-4	2	2711	-50.67	647.95	-0.44
838	SLU 57	-5	8	2706	-50.62	646.56	-2.05
838	SLU 58	-4	2	2694	-50.36	643.85	-0.44
838	SLU 59	-5	8	2689	-50.31	642.46	-2.04
838	SLU 60	-4	1	2746	-51.35	655.92	-0.4
838	SLU 61	-5	8	2742	-51.31	654.52	-2.01
838	SLU 62	-5	1	2776	-51.91	663.3	-0.37
838	SLU 63	-5	8	2772	-51.86	661.9	-1.97
838	SLU 64	-5	2	2691	-50.26	643.09	-0.66
838	SLU 65	-5	13	2683	-50.18	640.76	-3.34
838	SLU 66	-5	2	2738	-51.14	654.57	-0.64
838	SLU 67	-5	9	2733	-51.09	653.18	-2.24
838	SLU 68	-5	13	2714	-50.74	648.15	-3.3
838	SLU 69	-5	2	2768	-51.69	661.96	-0.6
838	SLU 70	-5	9	2764	-51.65	660.56	-2.21
838	SLU 71	-5	2	2751	-51.38	657.85	-0.6
838	SLU 72	-5	9	2747	-51.33	656.46	-2.2
838	SLU 73	-6	12	2947	-55.12	703.36	-3.1
838	SLU 74	-6	1	3001	-56.07	717.17	-0.4
838	SLU 75	-6	8	2997	-56.02	715.77	-2
838	SLU 76	-6	12	2977	-55.68	710.74	-3.06
838	SLU 77	-6	1	3032	-56.63	724.55	-0.36
838	SLU 78	-6	8	3027	-56.58	723.15	-1.97
838	SLU 79	-6	1	3015	-56.32	720.45	-0.36
838	SLU 80	-6	8	3010	-56.27	719.05	-1.96
838	SLU 81	-6	1	3067	-57.32	732.51	-0.32
838	SLU 82	-6	7	3063	-57.27	731.12	-1.92
838	SLU 83	-6	1	3097	-57.87	739.9	-0.29
838	SLU 84	-6	7	3093	-57.83	738.5	-1.89
838	SLE RA 1	-3	2	1999	-37.35	477.85	-0.53
838	SLE RA 2	-4	9	1994	-37.3	476.3	-2.31
838	SLE RA 3	-4	2	2031	-37.94	485.51	-0.51
838	SLE RA 4	-4	6	2028	-37.9	484.58	-1.58
838	SLE RA 5	-4	9	2014	-37.67	481.22	-2.29
838	SLE RA 6	-4	2	2051	-38.31	490.43	-0.49
838	SLE RA 7	-4	6	2048	-38.28	489.5	-1.56
838	SLE RA 8	-4	2	2040	-38.1	487.69	-0.48
838	SLE RA 9	-4	6	2037	-38.07	486.76	-1.55
838	SLE RA 10	-4	8	2170	-40.59	518.03	-2.15
838	SLE RA 11	-4	1	2206	-41.23	527.24	-0.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
838	SLE RA 12	-4	5	2203	-41.19	526.31	-1.42
838	SLE RA 13	-4	8	2190	-40.96	522.95	-2.13
838	SLE RA 14	-4	1	2227	-41.6	532.16	-0.33
838	SLE RA 15	-4	5	2224	-41.57	531.23	-1.4
838	SLE RA 16	-4	1	2215	-41.39	529.42	-0.32
838	SLE RA 17	-4	5	2212	-41.36	528.49	-1.39
838	SLE RA 18	-4	1	2250	-42.06	537.47	-0.3
838	SLE RA 19	-4	5	2247	-42.02	536.54	-1.37
838	SLE RA 20	-4	1	2270	-42.43	542.39	-0.28
838	SLE RA 21	-4	5	2267	-42.4	541.46	-1.35
838	SLE FR 1	-3	2	1999	-37.35	477.85	-0.53
838	SLE FR 2	-3	3	1998	-37.34	477.54	-0.88
838	SLE FR 3	-3	2	2007	-37.5	479.82	-0.52
838	SLE FR 4	-4	3	2073	-38.75	495.43	-0.82
838	SLE FR 5	-4	2	2083	-38.91	497.71	-0.45
838	SLE FR 6	-4	1	2125	-39.7	507.66	-0.41
838	SLE QP 1	-3	2	1999	-37.35	477.85	-0.53
838	SLE QP 2	-4	2	2074	-38.76	495.74	-0.46
838	SLD 1	198	76	2122	-39.85	502.31	-14.15
838	SLD 2	186	63	2119	-39.79	502.25	-11.02
838	SLD 3	201	-50	2227	-41.11	534.26	17.59
838	SLD 4	189	-64	2225	-41.04	534.21	20.72
838	SLD 5	54	219	1929	-37.19	449.25	-53.28
838	SLD 6	46	210	1928	-37.15	449.22	-51.21
838	SLD 7	65	-204	2280	-41.39	555.77	52.54
838	SLD 8	57	-212	2279	-41.35	555.73	54.61
838	SLD 9	-64	216	1870	-36.18	435.74	-55.52
838	SLD 10	-72	207	1869	-36.14	435.71	-53.46
838	SLD 11	-53	-207	2221	-40.38	542.26	50.29
838	SLD 12	-61	-215	2219	-40.34	542.22	52.36
838	SLD 13	-196	67	1924	-36.49	457.27	-21.64
838	SLD 14	-208	54	1922	-36.42	457.21	-18.51
838	SLD 15	-193	-60	2030	-37.74	489.22	10.1
838	SLD 16	-205	-73	2027	-37.68	489.17	13.23
838	SLV 1	312	122	2145	-40.42	505.06	-22.68
838	SLV 2	292	101	2141	-40.32	504.98	-17.78
838	SLV 3	317	-83	2316	-42.46	556.75	28.59
838	SLV 4	298	-104	2312	-42.36	556.66	33.5
838	SLV 5	87	352	1838	-36.19	420.17	-85.81
838	SLV 6	74	338	1835	-36.12	420.11	-82.51
838	SLV 7	104	-330	2406	-42.98	592.44	85.11
838	SLV 8	91	-344	2403	-42.92	592.38	88.42
838	SLV 9	-98	347	1746	-34.61	399.09	-89.33
838	SLV 10	-111	334	1743	-34.55	399.03	-86.03
838	SLV 11	-81	-335	2313	-41.41	571.36	81.59
838	SLV 12	-94	-349	2311	-41.34	571.31	84.89
838	SLV 13	-305	107	1837	-35.17	434.81	-34.42
838	SLV 14	-324	86	1833	-35.07	434.73	-29.51
838	SLV 15	-300	-98	2007	-37.21	486.49	16.86
838	SLV 16	-319	-118	2003	-37.11	486.41	21.76
838	SLV FO 1	343	134	2152	-40.58	506	-24.9
838	SLV FO 2	322	111	2148	-40.47	505.9	-19.51
838	SLV FO 3	349	-91	2340	-42.83	562.85	31.5
838	SLV FO 4	328	-114	2335	-42.72	562.75	36.9
838	SLV FO 5	96	387	1814	-35.93	412.61	-94.35
838	SLV FO 6	81	372	1812	-35.86	412.55	-90.71
838	SLV FO 7	115	-363	2439	-43.4	602.11	93.67
838	SLV FO 8	101	-379	2436	-43.33	602.05	97.3
838	SLV FO 9	-108	382	1713	-34.2	389.43	-98.22
838	SLV FO 10	-122	367	1710	-34.12	389.36	-94.59
838	SLV FO 11	-88	-368	2337	-41.67	578.93	89.8
838	SLV FO 12	-103	-384	2334	-41.6	578.86	93.43
838	SLV FO 13	-335	117	1813	-34.81	428.72	-37.82
838	SLV FO 14	-356	95	1809	-34.7	428.63	-32.42
838	SLV FO 15	-329	-108	2001	-37.06	485.57	18.59
838	SLV FO 16	-350	-130	1996	-36.95	485.48	23.99
838	CRTFP Ux+	0	0	0	0	0	0
838	CRTFP Ux-	0	0	0	0	0	0
838	CRTFP Uy+	0	0	0	0	0	0
838	CRTFP Uy-	0	0	0	0	0	0
839	SLU 1	-37	49	3252	-3.8	-441.09	12.33
839	SLU 2	-36	71	3227	-4.02	-440.64	17.76
839	SLU 3	-38	50	3332	-3.84	-450.88	12.46
839	SLU 4	-38	63	3317	-3.98	-450.61	15.72
839	SLU 5	-37	71	3278	-4.04	-446.82	17.85
839	SLU 6	-39	50	3383	-3.87	-457.06	12.55
839	SLU 7	-38	63	3368	-4	-456.79	15.81
839	SLU 8	-38	50	3354	-3.85	-453.46	12.52
839	SLU 9	-38	63	3338	-3.98	-453.19	15.77
839	SLU 10	-38	78	3633	-4.54	-493.6	19.52
839	SLU 11	-40	57	3738	-4.36	-503.83	14.22
839	SLU 12	-39	70	3723	-4.5	-503.56	17.48
839	SLU 13	-38	78	3684	-4.56	-499.78	19.61
839	SLU 14	-40	57	3789	-4.39	-510.02	14.31
839	SLU 15	-40	70	3774	-4.52	-509.75	17.57
839	SLU 16	-40	57	3760	-4.37	-506.41	14.28
839	SLU 17	-39	70	3745	-4.5	-506.14	17.53
839	SLU 18	-40	59	3832	-4.54	-516.74	14.84
839	SLU 19	-39	72	3817	-4.67	-516.47	18.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
839	SLU 20	-40	59	3883	-4.57	-522.93	14.94
839	SLU 21	-40	72	3868	-4.7	-522.66	18.19
839	SLU 22	-41	54	3771	-4.32	-507.09	13.57
839	SLU 23	-40	76	3745	-4.54	-506.64	19
839	SLU 24	-42	55	3850	-4.36	-516.87	13.71
839	SLU 25	-41	68	3835	-4.49	-516.6	16.96
839	SLU 26	-41	76	3796	-4.56	-512.82	19.1
839	SLU 27	-43	55	3901	-4.38	-523.06	13.8
839	SLU 28	-42	68	3886	-4.52	-522.79	17.06
839	SLU 29	-42	55	3872	-4.36	-519.46	13.76
839	SLU 30	-42	68	3857	-4.5	-519.19	17.02
839	SLU 31	-42	83	4151	-5.06	-559.59	20.76
839	SLU 32	-44	62	4257	-4.88	-569.83	15.47
839	SLU 33	-43	75	4241	-5.01	-569.56	18.72
839	SLU 34	-42	83	4202	-5.08	-565.78	20.86
839	SLU 35	-44	62	4307	-4.9	-576.01	15.56
839	SLU 36	-44	75	4292	-5.04	-575.74	18.82
839	SLU 37	-44	62	4278	-4.88	-572.41	15.52
839	SLU 38	-43	75	4263	-5.02	-572.14	18.78
839	SLU 39	-44	64	4351	-5.06	-582.74	16.09
839	SLU 40	-43	77	4336	-5.19	-582.47	19.35
839	SLU 41	-44	64	4401	-5.08	-588.92	16.18
839	SLU 42	-44	77	4386	-5.21	-588.65	19.44
839	SLU 43	-47	62	4050	-4.76	-550.79	15.6
839	SLU 44	-46	84	4025	-4.98	-550.34	21.03
839	SLU 45	-48	63	4130	-4.81	-560.57	15.73
839	SLU 46	-47	76	4115	-4.94	-560.3	18.99
839	SLU 47	-47	84	4075	-5.01	-556.52	21.12
839	SLU 48	-49	63	4181	-4.83	-566.76	15.82
839	SLU 49	-48	76	4165	-4.96	-566.49	19.08
839	SLU 50	-48	63	4152	-4.81	-563.16	15.79
839	SLU 51	-48	76	4136	-4.94	-562.89	19.04
839	SLU 52	-48	91	4431	-5.5	-603.29	22.79
839	SLU 53	-50	70	4536	-5.33	-613.53	17.49
839	SLU 54	-49	83	4521	-5.46	-613.26	20.75
839	SLU 55	-48	91	4482	-5.53	-609.48	22.88
839	SLU 56	-50	70	4587	-5.35	-619.71	17.58
839	SLU 57	-50	83	4572	-5.48	-619.44	20.84
839	SLU 58	-50	70	4558	-5.33	-616.11	17.55
839	SLU 59	-49	83	4542	-5.46	-615.84	20.81
839	SLU 60	-50	72	4630	-5.5	-626.44	18.11
839	SLU 61	-49	85	4615	-5.64	-626.17	21.37
839	SLU 62	-50	73	4681	-5.53	-632.62	18.21
839	SLU 63	-50	86	4666	-5.66	-632.35	21.47
839	SLU 64	-51	67	4568	-5.28	-616.79	16.85
839	SLU 65	-50	89	4543	-5.5	-616.34	22.28
839	SLU 66	-52	68	4648	-5.32	-626.57	16.98
839	SLU 67	-51	81	4633	-5.46	-626.3	20.24
839	SLU 68	-51	89	4594	-5.52	-622.52	22.37
839	SLU 69	-53	68	4699	-5.35	-632.76	17.07
839	SLU 70	-52	81	4684	-5.48	-632.49	20.33
839	SLU 71	-52	68	4670	-5.33	-629.15	17.03
839	SLU 72	-51	81	4655	-5.46	-628.88	20.29
839	SLU 73	-52	96	4949	-6.02	-669.29	24.04
839	SLU 74	-54	75	5054	-5.84	-679.53	18.74
839	SLU 75	-53	88	5039	-5.97	-679.26	22
839	SLU 76	-52	96	5000	-6.04	-675.48	24.13
839	SLU 77	-54	75	5105	-5.87	-685.71	18.83
839	SLU 78	-54	88	5090	-6	-685.44	22.09
839	SLU 79	-54	75	5076	-5.85	-682.11	18.79
839	SLU 80	-53	88	5061	-5.98	-681.84	22.05
839	SLU 81	-54	77	5149	-6.02	-692.44	19.36
839	SLU 82	-53	90	5133	-6.15	-692.17	22.62
839	SLU 83	-54	77	5199	-6.04	-698.62	19.45
839	SLU 84	-54	90	5184	-6.18	-698.35	22.71
839	SLE RA 1	-39	51	3400	-3.95	-459.95	12.68
839	SLE RA 2	-38	65	3383	-4.09	-459.65	16.3
839	SLE RA 3	-39	51	3453	-3.98	-466.47	12.77
839	SLE RA 4	-39	60	3443	-4.06	-466.29	14.94
839	SLE RA 5	-38	65	3417	-4.11	-463.77	16.37
839	SLE RA 6	-39	51	3487	-3.99	-470.59	12.83
839	SLE RA 7	-39	60	3477	-4.08	-470.41	15.01
839	SLE RA 8	-39	51	3468	-3.98	-468.19	12.81
839	SLE RA 9	-39	60	3458	-4.07	-468.01	14.98
839	SLE RA 10	-39	70	3654	-4.44	-494.95	17.48
839	SLE RA 11	-40	56	3724	-4.32	-501.77	13.95
839	SLE RA 12	-40	64	3714	-4.41	-501.59	16.12
839	SLE RA 13	-39	70	3688	-4.46	-499.07	17.54
839	SLE RA 14	-41	56	3758	-4.34	-505.9	14.01
839	SLE RA 15	-40	64	3748	-4.43	-505.72	16.18
839	SLE RA 16	-40	56	3739	-4.33	-503.5	13.98
839	SLE RA 17	-40	64	3729	-4.41	-503.32	16.15
839	SLE RA 18	-40	57	3787	-4.44	-510.38	14.36
839	SLE RA 19	-40	66	3777	-4.53	-510.2	16.53
839	SLE RA 20	-41	57	3821	-4.46	-514.5	14.42
839	SLE RA 21	-40	66	3811	-4.55	-514.32	16.6
839	SLE FR 1	-39	51	3400	-3.95	-459.95	12.68
839	SLE FR 2	-38	53	3397	-3.98	-459.89	13.41
839	SLE FR 3	-39	51	3414	-3.95	-461.6	12.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
839	SLE FR 4	-39	55	3513	-4.12	-475.02	13.91
839	SLE FR 5	-39	53	3530	-4.1	-476.73	13.21
839	SLE FR 6	-39	54	3594	-4.19	-485.16	13.52
839	SLE QP 1	-39	51	3400	-3.95	-459.95	12.68
839	SLE QP 2	-39	53	3516	-4.09	-475.08	13.19
839	SLD 1	247	189	4298	-6.78	-591.15	47.16
839	SLD 2	223	81	4325	-6.53	-590.92	20.36
839	SLD 3	230	-60	4634	-3.94	-599.33	-15.1
839	SLD 4	206	-168	4661	-3.69	-599.1	-41.89
839	SLD 5	78	491	3236	-9.26	-497.53	122.63
839	SLD 6	62	419	3253	-9.09	-497.38	104.94
839	SLD 7	19	-340	4357	0.22	-524.8	-84.89
839	SLD 8	3	-411	4374	0.39	-524.65	-102.59
839	SLD 9	-81	516	2658	-8.58	-425.51	128.96
839	SLD 10	-97	445	2676	-8.41	-425.36	111.27
839	SLD 11	-140	-314	3779	0.9	-452.77	-78.56
839	SLD 12	-156	-386	3797	1.07	-452.62	-96.25
839	SLD 13	-284	273	2372	-4.5	-351.05	68.27
839	SLD 14	-308	166	2398	-4.25	-350.83	41.47
839	SLD 15	-302	24	2708	-1.66	-359.23	6.01
839	SLD 16	-326	-84	2734	-1.41	-359.01	-20.79
839	SLV 1	410	272	4726	-8.37	-655.94	67.97
839	SLV 2	373	103	4768	-7.97	-655.59	25.99
839	SLV 3	382	-130	5270	-3.77	-669.15	-32.59
839	SLV 4	344	-299	5311	-3.38	-668.8	-74.57
839	SLV 5	146	760	3048	-12.42	-509.36	189.97
839	SLV 6	120	646	3076	-12.15	-509.13	161.7
839	SLV 7	51	-581	4858	2.9	-553.4	-145.22
839	SLV 8	26	-695	4886	3.17	-553.17	-173.49
839	SLV 9	-104	800	2146	-11.35	-396.99	199.86
839	SLV 10	-129	686	2174	-11.09	-396.75	171.6
839	SLV 11	-199	-541	3957	3.96	-441.03	-135.33
839	SLV 12	-224	-655	3985	4.23	-440.79	-163.59
839	SLV 13	-422	404	1722	-4.81	-281.35	100.94
839	SLV 14	-460	236	1763	-4.42	-281	58.96
839	SLV 15	-451	2	2265	-0.22	-294.56	0.39
839	SLV 16	-488	-167	2306	0.18	-294.21	-41.6
839	SLV FO 1	455	294	4847	-8.8	-674.03	73.45
839	SLV FO 2	414	108	4893	-8.36	-673.64	27.27
839	SLV FO 3	424	-149	5445	-3.74	-688.56	-37.16
839	SLV FO 4	382	-334	5490	-3.3	-688.17	-83.35
839	SLV FO 5	164	831	3001	-13.25	-512.79	207.65
839	SLV FO 6	136	706	3032	-12.96	-512.53	176.56
839	SLV FO 7	60	-644	4993	3.6	-561.24	-161.06
839	SLV FO 8	32	-770	5023	3.89	-560.97	-192.15
839	SLV FO 9	-110	875	2009	-12.08	-389.18	218.53
839	SLV FO 10	-138	750	2040	-11.79	-388.92	187.44
839	SLV FO 11	-214	-601	4001	4.77	-437.62	-150.18
839	SLV FO 12	-242	-726	4032	5.06	-437.36	-181.27
839	SLV FO 13	-461	440	1542	-4.89	-261.98	109.72
839	SLV FO 14	-502	254	1588	-4.45	-261.59	63.54
839	SLV FO 15	-492	-3	2140	0.17	-276.51	-0.89
839	SLV FO 16	-533	-189	2185	0.61	-276.13	-47.07
839	CRTFP Ux+	0	0	0	0	0	0
839	CRTFP Ux-	0	0	0	0	0	0
839	CRTFP Uy+	0	0	0	0	0	0
839	CRTFP Uy-	0	0	0	0	0	0
854	SLU 1	63	8	3819	-4.8	753.01	-2.77
854	SLU 2	62	32	3784	-5.11	751.67	-11.37
854	SLU 3	65	8	3921	-4.85	770.48	-2.72
854	SLU 4	64	22	3901	-5.03	769.68	-7.87
854	SLU 5	63	33	3853	-5.13	763.17	-11.48
854	SLU 6	67	8	3990	-4.87	781.98	-2.83
854	SLU 7	66	23	3969	-5.06	781.18	-7.99
854	SLU 8	66	8	3955	-4.85	776.02	-3
854	SLU 9	65	23	3935	-5.03	775.21	-8.15
854	SLU 10	66	32	4263	-5.78	841.15	-11.37
854	SLU 11	70	8	4400	-5.52	859.96	-2.72
854	SLU 12	69	22	4379	-5.7	859.15	-7.88
854	SLU 13	68	33	4331	-5.8	852.65	-11.48
854	SLU 14	71	8	4468	-5.54	871.46	-2.83
854	SLU 15	70	23	4447	-5.73	870.65	-7.99
854	SLU 16	71	8	4434	-5.52	865.49	-3
854	SLU 17	70	23	4413	-5.7	864.69	-8.16
854	SLU 18	70	8	4502	-5.76	880.84	-2.78
854	SLU 19	69	22	4481	-5.94	880.03	-7.93
854	SLU 20	71	8	4570	-5.78	892.34	-2.89
854	SLU 21	70	23	4550	-5.96	891.53	-8.05
854	SLU 22	71	4	4431	-5.45	864.23	-1.62
854	SLU 23	70	29	4396	-5.76	862.89	-10.22
854	SLU 24	73	4	4533	-5.5	881.7	-1.57
854	SLU 25	72	19	4513	-5.69	880.9	-6.72
854	SLU 26	71	29	4465	-5.78	874.39	-10.33
854	SLU 27	75	5	4602	-5.53	893.2	-1.68
854	SLU 28	74	19	4581	-5.71	892.4	-6.84
854	SLU 29	74	5	4567	-5.5	887.24	-1.85
854	SLU 30	73	29	4547	-5.68	886.43	-7
854	SLU 31	75	20	4875	-6.43	952.37	-10.22
854	SLU 32	78	4	5012	-6.17	971.18	-1.57



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
854	SLU 33	77	19	4991	-6.36	970.37	-6.73
854	SLU 34	76	29	4943	-6.45	963.87	-10.33
854	SLU 35	79	4	5080	-6.2	982.68	-1.68
854	SLU 36	78	19	5059	-6.38	981.87	-6.84
854	SLU 37	79	5	5046	-6.17	976.71	-1.85
854	SLU 38	78	20	5025	-6.35	975.91	-7.01
854	SLU 39	78	4	5114	-6.41	992.06	-1.63
854	SLU 40	77	19	5093	-6.6	991.25	-6.78
854	SLU 41	79	5	5182	-6.43	1003.56	-1.74
854	SLU 42	79	19	5162	-6.62	1002.75	-6.9
854	SLU 43	79	11	4754	-6.01	940.79	-3.99
854	SLU 44	78	36	4720	-6.32	939.44	-12.59
854	SLU 45	81	11	4857	-6.07	958.25	-3.94
854	SLU 46	80	26	4836	-6.25	957.45	-9.1
854	SLU 47	79	36	4788	-6.34	950.94	-12.7
854	SLU 48	83	11	4925	-6.09	969.75	-4.05
854	SLU 49	82	26	4905	-6.27	968.95	-9.21
854	SLU 50	82	12	4891	-6.06	963.79	-4.22
854	SLU 51	81	27	4870	-6.24	962.98	-9.38
854	SLU 52	83	36	5198	-6.99	1028.92	-12.6
854	SLU 53	86	11	5335	-6.74	1047.73	-3.95
854	SLU 54	85	26	5315	-6.92	1046.92	-9.1
854	SLU 55	84	36	5267	-7.02	1040.42	-12.71
854	SLU 56	87	11	5404	-6.76	1059.23	-4.06
854	SLU 57	87	26	5383	-6.94	1058.42	-9.22
854	SLU 58	87	12	5369	-6.73	1053.26	-4.22
854	SLU 59	86	27	5349	-6.92	1052.46	-9.38
854	SLU 60	86	11	5438	-6.97	1068.61	-4
854	SLU 61	85	26	5417	-7.16	1067.8	-9.16
854	SLU 62	87	11	5506	-7	1080.11	-4.11
854	SLU 63	87	26	5486	-7.18	1079.3	-9.27
854	SLU 64	87	8	5366	-6.67	1052.01	-2.84
854	SLU 65	86	32	5332	-6.97	1050.66	-11.44
854	SLU 66	89	8	5469	-6.72	1069.47	-2.79
854	SLU 67	89	22	5448	-6.9	1068.67	-7.95
854	SLU 68	87	33	5400	-7	1062.16	-11.55
854	SLU 69	91	8	5537	-6.74	1080.98	-2.9
854	SLU 70	90	23	5517	-6.93	1080.17	-8.06
854	SLU 71	90	8	5503	-6.71	1075.01	-3.07
854	SLU 72	89	23	5482	-6.9	1074.2	-8.23
854	SLU 73	91	32	5810	-7.65	1140.14	-11.45
854	SLU 74	94	8	5947	-7.39	1158.95	-2.8
854	SLU 75	93	22	5927	-7.57	1158.14	-7.95
854	SLU 76	92	33	5879	-7.67	1151.64	-11.56
854	SLU 77	96	8	6016	-7.41	1170.45	-2.91
854	SLU 78	95	23	5995	-7.6	1169.65	-8.07
854	SLU 79	95	8	5981	-7.39	1164.49	-3.08
854	SLU 80	94	23	5961	-7.57	1163.68	-8.23
854	SLU 81	94	8	6050	-7.63	1179.83	-2.85
854	SLU 82	93	23	6029	-7.81	1179.02	-8.01
854	SLU 83	96	8	6118	-7.65	1191.33	-2.96
854	SLU 84	95	23	6097	-7.83	1190.52	-8.12
854	SLE RA 1	65	7	3993	-4.99	784.79	-2.44
854	SLE RA 2	64	23	3970	-5.19	783.9	-8.17
854	SLE RA 3	67	7	4062	-5.02	796.44	-2.4
854	SLE RA 4	66	17	4048	-5.14	795.9	-5.84
854	SLE RA 5	65	23	4016	-5.21	791.56	-8.25
854	SLE RA 6	68	7	4107	-5.03	804.1	-2.48
854	SLE RA 7	67	17	4094	-5.16	803.57	-5.92
854	SLE RA 8	67	7	4085	-5.02	800.13	-2.59
854	SLE RA 9	67	17	4071	-5.14	799.59	-6.03
854	SLE RA 10	68	23	4289	-5.64	843.55	-8.17
854	SLE RA 11	70	7	4381	-5.47	856.09	-2.41
854	SLE RA 12	69	16	4367	-5.59	855.55	-5.85
854	SLE RA 13	69	23	4335	-5.65	851.21	-8.25
854	SLE RA 14	71	7	4426	-5.48	863.75	-2.48
854	SLE RA 15	70	17	4413	-5.61	863.22	-5.92
854	SLE RA 16	70	7	4404	-5.46	859.78	-2.59
854	SLE RA 17	70	17	4390	-5.59	859.24	-6.03
854	SLE RA 18	70	7	4449	-5.62	870.01	-2.44
854	SLE RA 19	69	17	4435	-5.75	869.47	-5.88
854	SLE RA 20	71	7	4495	-5.64	877.67	-2.52
854	SLE RA 21	70	17	4481	-5.76	877.14	-5.96
854	SLE FR 1	65	7	3993	-4.99	784.79	-2.44
854	SLE FR 2	65	10	3989	-5.03	784.61	-3.59
854	SLE FR 3	66	7	4012	-4.99	787.86	-2.47
854	SLE FR 4	67	10	4126	-5.22	810.18	-3.59
854	SLE FR 5	67	7	4148	-5.18	813.42	-2.47
854	SLE FR 6	68	7	4221	-5.31	827.4	-2.44
854	SLE QP 1	65	7	3993	-4.99	784.79	-2.44
854	SLE QP 2	67	7	4130	-5.18	810.36	-2.44
854	SLD 1	411	128	2830	-5.47	607.81	-45.05
854	SLD 2	379	254	2790	-5.83	606.84	-88.66
854	SLD 3	427	-130	3276	-1.67	628.24	45.4
854	SLD 4	395	-5	3236	-2.02	627.26	1.79
854	SLD 5	152	413	3071	-10.97	718.79	-144.54
854	SLD 6	131	496	3044	-11.2	718.15	-173.34
854	SLD 7	205	-449	4558	1.71	786.87	156.94
854	SLD 8	184	-367	4531	1.47	786.23	128.14



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
854	SLD 9	-50	380	3729	-11.83	834.48	-133.03
854	SLD 10	-71	463	3703	-12.06	833.84	-161.82
854	SLD 11	3	-482	5216	0.85	902.56	168.45
854	SLD 12	-18	-399	5190	0.61	901.92	139.66
854	SLD 13	-262	19	5024	-8.33	993.45	-6.67
854	SLD 14	-293	144	4984	-8.69	992.48	-50.28
854	SLD 15	-246	-240	5470	-4.53	1013.87	83.77
854	SLD 16	-277	-115	5430	-4.88	1012.9	40.16
854	SLV 1	605	204	2089	-5.74	493.84	-71.5
854	SLV 2	556	400	2027	-6.3	492.31	-139.83
854	SLV 3	631	-215	2811	0.4	526.92	75.01
854	SLV 4	582	-19	2748	-0.15	525.39	6.69
854	SLV 5	198	665	2435	-14.57	665.51	-232.62
854	SLV 6	165	797	2393	-14.94	664.48	-278.62
854	SLV 7	285	-732	4840	5.93	775.78	255.76
854	SLV 8	251	-600	4798	5.55	774.75	209.76
854	SLV 9	-118	613	3462	-15.91	845.96	-214.64
854	SLV 10	-151	746	3420	-16.28	844.93	-260.64
854	SLV 11	-31	-783	5867	4.59	956.23	273.74
854	SLV 12	-65	-651	5825	4.21	955.2	227.74
854	SLV 13	-448	32	5512	-10.2	1095.32	-11.57
854	SLV 14	-497	229	5449	-10.76	1093.79	-79.89
854	SLV 15	-422	-387	6233	-4.05	1128.4	134.94
854	SLV 16	-472	-190	6171	-4.61	1126.87	66.62
854	SLV FO 1	659	224	1885	-5.8	462.19	-78.41
854	SLV FO 2	605	440	1816	-6.41	460.51	-153.57
854	SLV FO 3	687	-237	2679	0.96	498.58	82.75
854	SLV FO 4	633	-21	2610	0.35	496.9	7.6
854	SLV FO 5	211	731	2266	-15.51	651.03	-255.64
854	SLV FO 6	175	876	2219	-15.92	649.9	-306.24
854	SLV FO 7	306	-806	4911	7.04	772.33	281.58
854	SLV FO 8	270	-661	4865	6.62	771.19	230.98
854	SLV FO 9	-136	674	3395	-16.98	849.52	-235.86
854	SLV FO 10	-173	819	3349	-17.39	848.39	-286.46
854	SLV FO 11	-41	-862	6041	5.57	970.81	301.35
854	SLV FO 12	-78	-717	5995	5.15	969.68	250.75
854	SLV FO 13	-499	35	5650	-10.71	1123.82	-12.48
854	SLV FO 14	-554	251	5581	-11.32	1122.14	-87.64
854	SLV FO 15	-471	-426	6444	-3.94	1160.2	148.68
854	SLV FO 16	-525	-210	6375	-4.55	1158.53	73.53
854	CRTFP Ux+	0	0	0	0	0	0
854	CRTFP Ux-	0	0	0	0	0	0
854	CRTFP Uy+	0	0	0	0	0	0
854	CRTFP Uy-	0	0	0	0	0	0
856	SLU 1	115	46	6207	1.94	12.96	-1.82
856	SLU 2	111	76	6149	1.48	11.48	-1.66
856	SLU 3	119	48	6378	2.11	13.84	-1.92
856	SLU 4	117	65	6344	1.84	12.95	-1.83
856	SLU 5	114	77	6264	1.61	12.01	-1.74
856	SLU 6	122	48	6493	2.24	14.37	-2
856	SLU 7	120	66	6458	1.96	13.48	-1.9
856	SLU 8	121	48	6436	2.19	14.02	-1.98
856	SLU 9	118	66	6401	1.91	13.13	-1.88
856	SLU 10	121	84	6989	1.78	14.59	-1.9
856	SLU 11	128	55	7218	2.41	16.95	-2.15
856	SLU 12	126	73	7184	2.13	16.06	-2.06
856	SLU 13	124	85	7104	1.9	15.12	-1.98
856	SLU 14	131	56	7333	2.53	17.48	-2.23
856	SLU 15	129	74	7298	2.26	16.59	-2.14
856	SLU 16	130	55	7276	2.48	17.13	-2.21
856	SLU 17	128	73	7241	2.21	16.24	-2.12
856	SLU 18	128	58	7407	2.36	17.41	-2.15
856	SLU 19	126	75	7372	2.09	16.52	-2.06
856	SLU 20	131	58	7521	2.48	17.94	-2.23
856	SLU 21	129	76	7487	2.21	17.05	-2.14
856	SLU 22	132	54	7269	2.59	17.28	-2.15
856	SLU 23	128	83	7211	2.13	15.8	-1.99
856	SLU 24	136	55	7441	2.77	18.16	-2.25
856	SLU 25	134	73	7406	2.49	17.27	-2.15
856	SLU 26	131	84	7326	2.26	16.33	-2.07
856	SLU 27	139	55	7555	2.89	18.69	-2.32
856	SLU 28	137	73	7520	2.62	17.8	-2.23
856	SLU 29	138	55	7498	2.84	18.34	-2.3
856	SLU 30	136	73	7463	2.56	17.45	-2.21
856	SLU 31	138	91	8051	2.43	18.91	-2.23
856	SLU 32	146	62	8281	3.06	21.27	-2.48
856	SLU 33	143	80	8246	2.79	20.38	-2.39
856	SLU 34	141	92	8166	2.55	19.44	-2.3
856	SLU 35	149	63	8395	3.18	21.8	-2.56
856	SLU 36	146	81	8360	2.91	20.91	-2.47
856	SLU 37	147	63	8338	3.13	21.45	-2.54
856	SLU 38	145	80	8303	2.86	20.56	-2.44
856	SLU 39	145	65	8469	3.01	21.72	-2.48
856	SLU 40	143	83	8435	2.74	20.83	-2.39
856	SLU 41	148	65	8584	3.13	22.25	-2.56
856	SLU 42	146	83	8549	2.86	21.36	-2.47
856	SLU 43	143	58	7705	2.3	15.37	-2.25
856	SLU 44	140	88	7647	1.84	13.89	-2.1
856	SLU 45	147	59	7876	2.47	16.25	-2.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
856	SLU 46	145	77	7842	2.2	15.36	-2.26
856	SLU 47	143	88	7762	1.96	14.42	-2.18
856	SLU 48	150	60	7991	2.6	16.78	-2.43
856	SLU 49	148	77	7956	2.32	15.89	-2.34
856	SLU 50	149	59	7934	2.55	16.43	-2.41
856	SLU 51	147	77	7899	2.27	15.54	-2.32
856	SLU 52	149	95	8487	2.13	17	-2.33
856	SLU 53	157	67	8716	2.77	19.36	-2.58
856	SLU 54	155	85	8682	2.49	18.47	-2.49
856	SLU 55	152	96	8602	2.26	17.53	-2.41
856	SLU 56	160	67	8831	2.89	19.89	-2.66
856	SLU 57	158	85	8796	2.62	19	-2.57
856	SLU 58	159	67	8774	2.84	19.54	-2.64
856	SLU 59	156	85	8739	2.57	18.65	-2.55
856	SLU 60	157	69	8905	2.72	19.82	-2.58
856	SLU 61	155	87	8870	2.44	18.93	-2.49
856	SLU 62	160	70	9019	2.84	20.35	-2.66
856	SLU 63	158	87	8985	2.57	19.46	-2.57
856	SLU 64	160	65	8767	2.95	19.69	-2.58
856	SLU 65	157	95	8709	2.49	18.21	-2.43
856	SLU 66	164	66	8939	3.12	20.57	-2.68
856	SLU 67	162	84	8904	2.85	19.68	-2.59
856	SLU 68	160	95	8824	2.62	18.74	-2.5
856	SLU 69	167	67	9053	3.25	21.1	-2.76
856	SLU 70	165	85	9018	2.97	20.21	-2.67
856	SLU 71	166	66	8996	3.2	20.75	-2.74
856	SLU 72	164	84	8961	2.92	19.86	-2.64
856	SLU 73	166	103	9549	2.79	21.32	-2.66
856	SLU 74	174	74	9779	3.42	23.68	-2.91
856	SLU 75	172	92	9744	3.14	22.79	-2.82
856	SLU 76	169	103	9664	2.91	21.85	-2.74
856	SLU 77	177	75	9893	3.54	24.21	-2.99
856	SLU 78	175	92	9858	3.27	23.32	-2.9
856	SLU 79	176	74	9836	3.49	23.86	-2.97
856	SLU 80	174	92	9801	3.22	22.97	-2.88
856	SLU 81	174	76	9967	3.37	24.13	-2.91
856	SLU 82	172	94	9933	3.09	23.24	-2.82
856	SLU 83	177	77	10082	3.49	24.66	-2.99
856	SLU 84	175	95	10047	3.22	23.77	-2.9
856	SLE RA 1	119	49	6511	2.13	14.2	-1.91
856	SLE RA 2	117	68	6472	1.82	13.21	-1.81
856	SLE RA 3	122	49	6625	2.24	14.78	-1.98
856	SLE RA 4	121	61	6602	2.06	14.19	-1.92
856	SLE RA 5	119	69	6548	1.9	13.56	-1.86
856	SLE RA 6	124	50	6701	2.32	15.14	-2.03
856	SLE RA 7	123	62	6678	2.14	14.54	-1.97
856	SLE RA 8	123	49	6663	2.29	14.9	-2.02
856	SLE RA 9	122	61	6640	2.11	14.31	-1.96
856	SLE RA 10	123	73	7032	2.02	15.28	-1.97
856	SLE RA 11	129	54	7185	2.44	16.86	-2.13
856	SLE RA 12	127	66	7162	2.26	16.26	-2.07
856	SLE RA 13	125	74	7108	2.1	15.64	-2.02
856	SLE RA 14	131	55	7261	2.52	17.21	-2.19
856	SLE RA 15	129	67	7238	2.34	16.62	-2.12
856	SLE RA 16	130	55	7223	2.49	16.98	-2.17
856	SLE RA 17	128	66	7200	2.3	16.38	-2.11
856	SLE RA 18	128	56	7311	2.41	17.16	-2.13
856	SLE RA 19	127	68	7287	2.22	16.57	-2.07
856	SLE RA 20	131	56	7387	2.49	17.51	-2.19
856	SLE RA 21	129	68	7364	2.31	16.92	-2.13
856	SLE FR 1	119	49	6511	2.13	14.2	-1.91
856	SLE FR 2	119	53	6503	2.06	14	-1.89
856	SLE FR 3	120	49	6541	2.16	14.34	-1.93
856	SLE FR 4	122	55	6743	2.15	14.89	-1.96
856	SLE FR 5	123	51	6781	2.24	15.23	-2
856	SLE FR 6	124	52	6911	2.27	15.68	-2.02
856	SLE QP 1	119	49	6511	2.13	14.2	-1.91
856	SLE QP 2	122	51	6751	2.21	15.08	-1.98
856	SLD 1	646	210	5616	-1.07	7.97	-2.94
856	SLD 2	599	302	5583	-1.48	8.98	-0.85
856	SLD 3	685	-117	6381	4.63	26.36	-4.75
856	SLD 4	638	-25	6347	4.22	27.37	-2.66
856	SLD 5	228	578	5257	-7.35	-15.13	0.1
856	SLD 6	197	639	5234	-7.62	-14.46	1.48
856	SLD 7	360	-512	7806	11.66	46.18	-5.93
856	SLD 8	329	-452	7783	11.39	46.85	-4.55
856	SLD 9	-84	553	5718	-6.97	-16.68	0.59
856	SLD 10	-115	614	5696	-7.24	-16.01	1.98
856	SLD 11	48	-537	8267	12.04	44.63	-5.44
856	SLD 12	17	-477	8245	11.77	45.3	-4.06
856	SLD 13	-394	126	7154	0.2	2.8	-1.3
856	SLD 14	-441	218	7120	-0.21	3.81	0.8
856	SLD 15	-355	-201	7919	5.9	21.19	-3.11
856	SLD 16	-402	-109	7885	5.49	22.2	-1.01
856	SLV 1	942	309	4959	-3.07	3.94	-3.44
856	SLV 2	868	453	4906	-3.72	5.52	-0.16
856	SLV 3	1006	-220	6196	6.15	33.67	-6.38
856	SLV 4	932	-76	6143	5.5	35.25	-3.1
856	SLV 5	284	904	4347	-13.24	-33.65	1.43



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
856	SLV 6	235	1001	4311	-13.67	-32.59	3.64
856	SLV 7	498	-860	8470	17.5	65.46	-8.37
856	SLV 8	449	-763	8435	17.06	66.53	-6.16
856	SLV 9	-204	865	5067	-12.64	-36.36	2.2
856	SLV 10	-254	962	5031	-13.08	-35.29	4.41
856	SLV 11	9	-899	9190	18.09	62.76	-7.59
856	SLV 12	-40	-802	9154	17.66	63.82	-5.39
856	SLV 13	-688	178	7358	-1.09	-5.09	-0.86
856	SLV 14	-761	322	7305	-1.73	-3.5	2.42
856	SLV 15	-624	-351	8595	8.13	24.65	-3.79
856	SLV 16	-697	-207	8542	7.49	26.23	-0.52
856	SLV FO 1	1024	335	4780	-3.6	2.82	-3.59
856	SLV FO 2	943	493	4722	-4.31	4.56	0.02
856	SLV FO 3	1094	-248	6140	6.55	35.53	-6.82
856	SLV FO 4	1013	-89	6082	5.83	37.27	-3.22
856	SLV FO 5	301	989	4107	-14.78	-38.53	1.77
856	SLV FO 6	246	1096	4067	-15.26	-37.36	4.2
856	SLV FO 7	536	-951	8642	19.03	70.5	-9.01
856	SLV FO 8	481	-845	8603	18.55	71.67	-6.58
856	SLV FO 9	-237	946	4898	-14.13	-41.51	2.62
856	SLV FO 10	-292	1053	4859	-14.61	-40.33	5.05
856	SLV FO 11	-2	-995	9434	19.68	67.52	-8.16
856	SLV FO 12	-56	-888	9395	19.2	68.7	-5.73
856	SLV FO 13	-769	190	7419	-1.42	-7.1	-0.74
856	SLV FO 14	-850	349	7361	-2.13	-5.36	2.86
856	SLV FO 15	-698	-392	8779	8.73	25.61	-3.98
856	SLV FO 16	-779	-233	8721	8.01	27.35	-0.37
856	CRTFP Ux+	0	0	0	0	0	0
856	CRTFP Ux-	0	0	0	0	0	0
856	CRTFP Uy+	0	0	0	0	0	0
856	CRTFP Uy-	0	0	0	0	0	0
859	SLU 1	-58	-24	6336	-1.3	-2.77	0.2
859	SLU 2	-57	6	6280	-1.78	-1.43	0.1
859	SLU 3	-59	-25	6501	-1.22	-3.33	0.21
859	SLU 4	-58	-7	6468	-1.51	-2.52	0.15
859	SLU 5	-57	6	6386	-1.72	-1.83	0.11
859	SLU 6	-60	-26	6608	-1.16	-3.73	0.22
859	SLU 7	-59	-8	6574	-1.45	-2.92	0.16
859	SLU 8	-59	-26	6549	-1.18	-3.58	0.21
859	SLU 9	-59	-7	6515	-1.47	-2.78	0.15
859	SLU 10	-57	3	7135	-1.97	-3.1	0.13
859	SLU 11	-60	-28	7357	-1.41	-5	0.24
859	SLU 12	-59	-10	7323	-1.7	-4.2	0.18
859	SLU 13	-58	3	7242	-1.91	-3.51	0.14
859	SLU 14	-60	-29	7463	-1.35	-5.41	0.25
859	SLU 15	-60	-10	7429	-1.64	-4.6	0.19
859	SLU 16	-60	-28	7404	-1.37	-5.26	0.24
859	SLU 17	-59	-10	7371	-1.66	-4.45	0.18
859	SLU 18	-59	-28	7558	-1.57	-5.17	0.25
859	SLU 19	-58	-10	7524	-1.86	-4.36	0.18
859	SLU 20	-59	-29	7664	-1.51	-5.57	0.25
859	SLU 21	-58	-11	7631	-1.8	-4.76	0.19
859	SLU 22	-63	-29	7415	-1.23	-4.81	0.24
859	SLU 23	-61	1	7359	-1.71	-3.46	0.14
859	SLU 24	-64	-30	7581	-1.15	-5.36	0.25
859	SLU 25	-63	-12	7547	-1.44	-4.55	0.18
859	SLU 26	-62	1	7466	-1.65	-3.86	0.14
859	SLU 27	-65	-31	7687	-1.1	-5.76	0.25
859	SLU 28	-64	-13	7654	-1.38	-4.96	0.19
859	SLU 29	-64	-31	7628	-1.12	-5.62	0.25
859	SLU 30	-63	-12	7595	-1.4	-4.81	0.18
859	SLU 31	-62	-2	8215	-1.9	-5.13	0.16
859	SLU 32	-65	-33	8436	-1.34	-7.04	0.27
859	SLU 33	-64	-15	8402	-1.63	-6.23	0.21
859	SLU 34	-63	-2	8321	-1.84	-5.54	0.17
859	SLU 35	-65	-34	8543	-1.29	-7.44	0.28
859	SLU 36	-64	-16	8509	-1.57	-6.63	0.22
859	SLU 37	-65	-33	8484	-1.31	-7.29	0.27
859	SLU 38	-64	-15	8450	-1.59	-6.48	0.21
859	SLU 39	-63	-33	8637	-1.5	-7.2	0.28
859	SLU 40	-63	-15	8604	-1.79	-6.39	0.22
859	SLU 41	-64	-34	8744	-1.44	-7.6	0.28
859	SLU 42	-63	-16	8710	-1.73	-6.8	0.22
859	SLU 43	-74	-30	7867	-1.71	-2.91	0.25
859	SLU 44	-72	1	7811	-2.19	-1.56	0.15
859	SLU 45	-75	-31	8032	-1.63	-3.46	0.26
859	SLU 46	-74	-12	7998	-1.92	-2.66	0.2
859	SLU 47	-73	0	7917	-2.13	-1.97	0.16
859	SLU 48	-76	-31	8138	-1.58	-3.87	0.27
859	SLU 49	-75	-13	8105	-1.86	-3.06	0.21
859	SLU 50	-75	-31	8080	-1.6	-3.72	0.26
859	SLU 51	-74	-13	8046	-1.88	-2.91	0.2
859	SLU 52	-73	-2	8666	-2.38	-3.24	0.18
859	SLU 53	-75	-34	8887	-1.82	-5.14	0.29
859	SLU 54	-75	-15	8854	-2.11	-4.33	0.23
859	SLU 55	-73	-3	8772	-2.32	-3.64	0.19
859	SLU 56	-76	-34	8994	-1.77	-5.54	0.3
859	SLU 57	-75	-16	8960	-2.05	-4.74	0.24
859	SLU 58	-76	-34	8935	-1.79	-5.4	0.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
859	SLU 59	-75	-16	8901	-2.07	-4.59	0.23
859	SLU 60	-74	-34	9088	-1.98	-5.3	0.3
859	SLU 61	-74	-16	9055	-2.27	-4.5	0.23
859	SLU 62	-75	-35	9195	-1.92	-5.71	0.3
859	SLU 63	-74	-16	9161	-2.21	-4.9	0.24
859	SLU 64	-79	-35	8946	-1.64	-4.94	0.29
859	SLU 65	-77	-4	8890	-2.12	-3.59	0.19
859	SLU 66	-80	-36	9111	-1.56	-5.5	0.3
859	SLU 67	-79	-17	9078	-1.85	-4.69	0.24
859	SLU 68	-78	-5	8997	-2.06	-4	0.19
859	SLU 69	-81	-36	9218	-1.51	-5.9	0.3
859	SLU 70	-80	-18	9184	-1.8	-5.09	0.24
859	SLU 71	-80	-36	9159	-1.53	-5.75	0.3
859	SLU 72	-79	-18	9125	-1.82	-4.94	0.24
859	SLU 73	-78	-7	9745	-2.31	-5.27	0.21
859	SLU 74	-80	-39	9967	-1.75	-7.17	0.32
859	SLU 75	-79	-20	9933	-2.04	-6.36	0.26
859	SLU 76	-78	-8	9852	-2.25	-5.68	0.22
859	SLU 77	-81	-39	10073	-1.7	-7.58	0.33
859	SLU 78	-80	-21	10040	-1.99	-6.77	0.27
859	SLU 79	-80	-39	10014	-1.72	-7.43	0.32
859	SLU 80	-80	-21	9981	-2.01	-6.62	0.26
859	SLU 81	-79	-39	10168	-1.91	-7.34	0.33
859	SLU 82	-78	-21	10134	-2.2	-6.53	0.27
859	SLU 83	-80	-40	10274	-1.86	-7.74	0.33
859	SLU 84	-79	-21	10241	-2.14	-6.93	0.27
859	SLE RA 1	-59	-26	6644	-1.28	-3.35	0.21
859	SLE RA 2	-59	-5	6607	-1.6	-2.46	0.15
859	SLE RA 3	-60	-26	6755	-1.23	-3.72	0.22
859	SLE RA 4	-60	-14	6732	-1.42	-3.19	0.18
859	SLE RA 5	-59	-6	6678	-1.56	-2.73	0.15
859	SLE RA 6	-61	-27	6826	-1.19	-3.99	0.22
859	SLE RA 7	-60	-15	6803	-1.38	-3.46	0.18
859	SLE RA 8	-60	-27	6786	-1.2	-3.9	0.22
859	SLE RA 9	-60	-14	6764	-1.39	-3.36	0.18
859	SLE RA 10	-59	-7	7177	-1.72	-3.57	0.17
859	SLE RA 11	-61	-28	7325	-1.35	-4.84	0.24
859	SLE RA 12	-60	-16	7302	-1.54	-4.3	0.2
859	SLE RA 13	-59	-8	7248	-1.69	-3.84	0.17
859	SLE RA 14	-61	-29	7396	-1.32	-5.11	0.24
859	SLE RA 15	-60	-16	7373	-1.51	-4.57	0.2
859	SLE RA 16	-61	-28	7357	-1.33	-5.01	0.24
859	SLE RA 17	-60	-16	7334	-1.52	-4.47	0.2
859	SLE RA 18	-60	-28	7459	-1.46	-4.95	0.24
859	SLE RA 19	-59	-16	7436	-1.65	-4.41	0.2
859	SLE RA 20	-60	-29	7530	-1.42	-5.22	0.24
859	SLE RA 21	-60	-17	7507	-1.61	-4.68	0.2
859	SLE FR 1	-59	-26	6644	-1.28	-3.35	0.21
859	SLE FR 2	-59	-22	6637	-1.34	-3.18	0.2
859	SLE FR 3	-60	-26	6673	-1.26	-3.46	0.21
859	SLE FR 4	-59	-22	6881	-1.39	-3.65	0.21
859	SLE FR 5	-60	-27	6917	-1.32	-3.94	0.22
859	SLE FR 6	-60	-27	7052	-1.37	-4.15	0.23
859	SLE QP 1	-59	-26	6644	-1.28	-3.35	0.21
859	SLE QP 2	-60	-26	6889	-1.33	-3.83	0.22
859	SLD 1	540	155	7370	-4.76	20.34	-2.92
859	SLD 2	492	60	7403	-4.3	19.28	-0.72
859	SLD 3	514	-202	8118	1.3	4.05	-1.25
859	SLD 4	466	-297	8151	1.76	2.99	0.96
859	SLD 5	169	586	5893	-11.63	28.32	-3.66
859	SLD 6	137	524	5915	-11.33	27.62	-2.21
859	SLD 7	82	-603	8386	8.57	-25.99	1.93
859	SLD 8	50	-666	8407	8.87	-26.69	3.38
859	SLD 9	-169	613	5370	-11.53	19.02	-2.94
859	SLD 10	-201	550	5392	-11.23	18.32	-1.48
859	SLD 11	-256	-577	7862	8.67	-35.29	2.65
859	SLD 12	-288	-639	7884	8.97	-35.98	4.11
859	SLD 13	-585	244	5626	-4.42	-10.66	-0.51
859	SLD 14	-633	149	5660	-3.96	-11.71	1.69
859	SLD 15	-611	-113	6374	1.64	-26.95	1.16
859	SLD 16	-660	-208	6407	2.1	-28.01	3.37
859	SLV 1	881	267	7619	-6.85	34.38	-4.74
859	SLV 2	805	118	7671	-6.13	32.73	-1.29
859	SLV 3	839	-309	8827	2.94	8.06	-2.04
859	SLV 4	763	-458	8879	3.66	6.4	1.41
859	SLV 5	301	963	5265	-17.97	47.87	-6
859	SLV 6	249	863	5300	-17.49	46.75	-3.68
859	SLV 7	160	-958	9293	14.67	-39.89	2.99
859	SLV 8	109	-1058	9328	15.15	-41	5.32
859	SLV 9	-228	1005	4449	-17.81	33.33	-4.87
859	SLV 10	-279	905	4484	-17.33	32.22	-2.55
859	SLV 11	-369	-916	8477	14.83	-54.42	4.12
859	SLV 12	-420	-1016	8512	15.31	-55.53	6.45
859	SLV 13	-882	405	4899	-6.32	-14.07	-0.97
859	SLV 14	-958	256	4950	-5.6	-15.72	2.49
859	SLV 15	-924	-171	6107	3.47	-40.4	1.73
859	SLV 16	-1000	-320	6159	4.19	-42.05	5.18
859	SLV FO 1	975	296	7692	-7.41	38.2	-5.24
859	SLV FO 2	891	133	7749	-6.61	36.38	-1.44



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
859	SLV FO 3	929	-338	9021	3.36	9.25	-2.27
859	SLV FO 4	845	-501	9078	4.16	7.43	1.53
859	SLV FO 5	337	1062	5103	-19.64	53.04	-6.63
859	SLV FO 6	280	952	5141	-19.1	51.81	-4.07
859	SLV FO 7	182	-1051	9534	16.27	-43.49	3.27
859	SLV FO 8	126	-1161	9572	16.8	-44.72	5.83
859	SLV FO 9	-245	1108	4205	-19.46	37.05	-5.38
859	SLV FO 10	-301	998	4244	-18.93	35.82	-2.82
859	SLV FO 11	-399	-1005	8636	16.44	-59.48	4.51
859	SLV FO 12	-456	-1115	8674	16.98	-60.7	7.07
859	SLV FO 13	-964	448	4699	-6.82	-15.09	-1.09
859	SLV FO 14	-1048	285	4756	-6.02	-16.91	2.71
859	SLV FO 15	-1010	-186	6029	3.95	-44.05	1.88
859	SLV FO 16	-1094	-349	6086	4.75	-45.87	5.68
859	CRTFP Ux+	0	0	0	0	0	0
859	CRTFP Ux-	0	0	0	0	0	0
859	CRTFP Uy+	0	0	0	0	0	0
859	CRTFP Uy-	0	0	0	0	0	0
862	SLU 1	-34	43	11711	236.4	-1583.72	12.8
862	SLU 2	-35	111	11646	228.15	-1575.47	22.61
862	SLU 3	-36	43	12000	243.96	-1620.94	12.93
862	SLU 4	-36	83	11961	239.01	-1615.99	18.81
862	SLU 5	-36	110	11831	233.04	-1599.35	22.6
862	SLU 6	-37	42	12186	248.85	-1644.82	12.92
862	SLU 7	-37	83	12147	243.9	-1639.87	18.81
862	SLU 8	-36	42	12083	246.19	-1631.49	12.79
862	SLU 9	-37	82	12043	241.24	-1626.54	18.68
862	SLU 10	-41	108	13262	259.9	-1794.41	23.09
862	SLU 11	-42	40	13616	275.71	-1839.88	13.41
862	SLU 12	-43	81	13577	270.76	-1834.93	19.29
862	SLU 13	-42	107	13447	264.79	-1818.29	23.09
862	SLU 14	-43	40	13802	280.6	-1863.76	13.41
862	SLU 15	-44	80	13763	275.65	-1858.81	19.29
862	SLU 16	-42	39	13699	277.93	-1850.42	13.28
862	SLU 17	-43	80	13659	272.98	-1845.47	19.16
862	SLU 18	-43	39	14020	281.75	-1896.49	13.49
862	SLU 19	-44	80	13981	276.8	-1891.54	19.37
862	SLU 20	-44	39	14206	286.65	-1920.37	13.49
862	SLU 21	-45	79	14166	281.7	-1915.42	19.37
862	SLU 22	-44	44	13691	281.03	-1849.59	13.94
862	SLU 23	-46	112	13625	272.79	-1841.34	23.74
862	SLU 24	-46	44	13980	288.59	-1886.81	14.07
862	SLU 25	-47	85	13941	283.65	-1881.86	19.95
862	SLU 26	-47	111	13811	277.68	-1865.22	23.74
862	SLU 27	-47	43	14166	293.49	-1910.69	14.06
862	SLU 28	-48	84	14126	288.54	-1905.74	19.95
862	SLU 29	-47	43	14062	290.82	-1897.36	13.93
862	SLU 30	-47	84	14023	285.87	-1892.4	19.81
862	SLU 31	-52	109	15241	304.53	-2060.28	24.23
862	SLU 32	-53	41	15596	320.34	-2105.75	14.55
862	SLU 33	-53	82	15557	315.39	-2100.8	20.43
862	SLU 34	-53	109	15427	309.43	-2084.16	24.22
862	SLU 35	-54	41	15782	325.24	-2129.63	14.54
862	SLU 36	-55	81	15742	320.29	-2124.68	20.43
862	SLU 37	-53	40	15678	322.57	-2116.29	14.41
862	SLU 38	-54	81	15639	317.62	-2111.34	20.3
862	SLU 39	-54	40	16000	326.39	-2162.36	14.63
862	SLU 40	-54	81	15960	321.44	-2157.41	20.51
862	SLU 41	-55	40	16185	331.28	-2186.24	14.62
862	SLU 42	-55	80	16146	326.33	-2181.29	20.51
862	SLU 43	-40	55	14546	292.02	-1967.68	16.25
862	SLU 44	-41	123	14480	283.77	-1959.43	26.06
862	SLU 45	-42	55	14835	299.58	-2004.9	16.38
862	SLU 46	-43	96	14796	294.63	-1999.95	22.26
862	SLU 47	-42	123	14666	288.66	-1983.32	26.05
862	SLU 48	-43	55	15021	304.47	-2028.79	16.37
862	SLU 49	-44	95	14981	299.52	-2023.84	22.26
862	SLU 50	-42	54	14917	301.8	-2015.45	16.24
862	SLU 51	-43	95	14878	296.85	-2010.5	22.13
862	SLU 52	-48	121	16096	315.51	-2178.37	26.54
862	SLU 53	-48	53	16451	331.32	-2223.84	16.86
862	SLU 54	-49	93	16412	326.37	-2218.89	22.74
862	SLU 55	-49	120	16282	320.41	-2202.25	26.54
862	SLU 56	-49	52	16637	336.22	-2247.72	16.86
862	SLU 57	-50	93	16597	331.27	-2242.77	22.74
862	SLU 58	-49	52	16533	333.55	-2234.39	16.73
862	SLU 59	-49	92	16494	328.6	-2229.44	22.61
862	SLU 60	-49	52	16855	337.37	-2280.45	16.94
862	SLU 61	-50	92	16815	332.42	-2275.5	22.82
862	SLU 62	-50	51	17040	342.26	-2304.33	16.94
862	SLU 63	-51	92	17001	337.31	-2299.38	22.82
862	SLU 64	-51	57	16526	336.65	-2233.55	17.39
862	SLU 65	-52	124	16460	328.4	-2225.3	27.19
862	SLU 66	-53	56	16815	344.21	-2270.77	17.52
862	SLU 67	-53	97	16775	339.26	-2265.82	23.4
862	SLU 68	-53	124	16646	333.3	-2249.18	27.19
862	SLU 69	-54	56	17000	349.11	-2294.65	17.51
862	SLU 70	-55	97	16961	344.16	-2289.7	23.4
862	SLU 71	-53	55	16897	346.44	-2281.32	17.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
862	SLU 72	-54	96	16858	341.49	-2276.37	23.26
862	SLU 73	-59	122	18076	360.15	-2444.24	27.68
862	SLU 74	-59	54	18431	375.96	-2489.71	18
862	SLU 75	-60	94	18391	371.01	-2484.76	23.88
862	SLU 76	-60	121	18262	365.04	-2468.12	27.67
862	SLU 77	-60	53	18616	380.85	-2513.59	17.99
862	SLU 78	-61	94	18577	375.9	-2508.64	23.88
862	SLU 79	-59	53	18513	378.19	-2500.25	17.86
862	SLU 80	-60	93	18473	373.24	-2495.3	23.75
862	SLU 81	-60	53	18834	382	-2546.32	18.08
862	SLU 82	-61	93	18795	377.05	-2541.37	23.96
862	SLU 83	-61	52	19020	386.9	-2570.2	18.07
862	SLU 84	-62	93	18980	381.95	-2565.25	23.96
862	SLE RA 1	-37	43	12277	249.15	-1659.68	13.13
862	SLE RA 2	-38	88	12233	243.65	-1654.18	19.66
862	SLE RA 3	-38	43	12470	254.19	-1684.5	13.21
862	SLE RA 4	-38	70	12443	250.89	-1681.2	17.13
862	SLE RA 5	-38	88	12357	246.92	-1670.11	19.66
862	SLE RA 6	-39	43	12593	257.46	-1700.42	13.21
862	SLE RA 7	-39	70	12567	254.16	-1697.12	17.13
862	SLE RA 8	-38	43	12525	255.68	-1691.53	13.12
862	SLE RA 9	-39	70	12498	252.38	-1688.23	17.04
862	SLE RA 10	-42	87	13311	264.82	-1800.14	19.98
862	SLE RA 11	-42	41	13547	275.36	-1830.46	13.53
862	SLE RA 12	-43	69	13521	272.06	-1827.16	17.45
862	SLE RA 13	-43	86	13434	268.08	-1816.06	19.98
862	SLE RA 14	-43	41	13671	278.62	-1846.38	13.53
862	SLE RA 15	-43	68	13644	275.32	-1843.08	17.45
862	SLE RA 16	-42	41	13602	276.84	-1837.49	13.44
862	SLE RA 17	-43	68	13576	273.54	-1834.19	17.36
862	SLE RA 18	-43	41	13816	279.39	-1868.2	13.59
862	SLE RA 19	-43	68	13790	276.09	-1864.9	17.51
862	SLE RA 20	-44	40	13940	282.65	-1884.12	13.58
862	SLE RA 21	-44	67	13913	279.35	-1880.82	17.51
862	SLE FR 1	-37	43	12277	249.15	-1659.68	13.13
862	SLE FR 2	-37	52	12268	248.05	-1658.58	14.43
862	SLE FR 3	-37	43	12327	250.46	-1666.05	13.13
862	SLE FR 4	-39	52	12730	257.12	-1721.14	14.57
862	SLE FR 5	-39	42	12788	259.53	-1728.61	13.26
862	SLE FR 6	-40	42	13047	264.27	-1763.94	13.36
862	SLE QP 1	-37	43	12277	249.15	-1659.68	13.13
862	SLE QP 2	-39	43	12739	258.22	-1722.24	13.26
862	SLD 1	1299	448	13020	224.04	-1786.86	41.59
862	SLD 2	1200	382	13006	225.55	-1783.72	38.9
862	SLD 3	1315	-354	13914	328.27	-1898.87	-73.4
862	SLD 4	1216	-420	13900	329.79	-1895.72	-76.08
862	SLD 5	357	1393	11469	89.6	-1572.32	196.64
862	SLD 6	292	1349	11460	90.6	-1570.25	194.87
862	SLD 7	409	-1282	14450	437.06	-1945.66	-186.65
862	SLD 8	343	-1325	14441	438.06	-1943.59	-188.42
862	SLD 9	-421	1410	11036	78.39	-1500.89	214.95
862	SLD 10	-486	1367	11027	79.39	-1498.81	213.17
862	SLD 11	-369	-1264	14017	425.85	-1874.23	-168.34
862	SLD 12	-434	-1308	14008	426.85	-1872.15	-170.11
862	SLD 13	-1293	505	11577	186.66	-1548.75	102.61
862	SLD 14	-1392	439	11563	188.17	-1545.61	99.92
862	SLD 15	-1278	-297	12471	290.89	-1660.76	-12.38
862	SLD 16	-1376	-363	12458	292.41	-1657.61	-15.06
862	SLV 1	2054	697	13151	201.94	-1819.85	60.48
862	SLV 2	1900	593	13130	204.32	-1814.92	56.27
862	SLV 3	2080	-599	14598	370.43	-2001.04	-125.31
862	SLV 4	1925	-703	14576	372.8	-1996.11	-129.52
862	SLV 5	580	2224	10673	-14.64	-1477.64	309.99
862	SLV 6	475	2154	10658	-13.04	-1474.32	307.16
862	SLV 7	664	-2097	15494	546.97	-2081.6	-309.3
862	SLV 8	560	-2167	15480	548.57	-2078.28	-312.13
862	SLV 9	-637	2252	9998	-32.13	-1366.19	338.66
862	SLV 10	-742	2182	9983	-30.53	-1362.88	335.83
862	SLV 11	-553	-2069	14819	529.48	-1970.15	-280.63
862	SLV 12	-657	-2139	14805	531.08	-1966.84	-283.46
862	SLV 13	-2002	788	10901	143.65	-1448.36	156.04
862	SLV 14	-2157	684	10880	146.02	-1443.44	151.84
862	SLV 15	-1977	-508	12348	312.13	-1629.55	-29.74
862	SLV 16	-2132	-612	12326	314.5	-1624.63	-33.95
862	SLV FO 1	2264	762	13193	196.31	-1829.61	65.2
862	SLV FO 2	2093	648	13169	198.93	-1824.19	60.57
862	SLV FO 3	2292	-664	14784	381.65	-2028.92	-139.17
862	SLV FO 4	2121	-778	14760	384.26	-2023.5	-143.79
862	SLV FO 5	641	2442	10466	-41.92	-1453.18	339.66
862	SLV FO 6	527	2366	10450	-40.16	-1449.53	336.55
862	SLV FO 7	735	-2311	15770	575.85	-2117.53	-341.56
862	SLV FO 8	620	-2387	15754	577.61	-2113.89	-344.67
862	SLV FO 9	-697	2473	9723	-61.16	-1330.59	371.2
862	SLV FO 10	-812	2396	9707	-59.4	-1326.94	368.08
862	SLV FO 11	-604	-2280	15027	556.61	-1994.94	-310.02
862	SLV FO 12	-719	-2357	15011	558.37	-1991.3	-313.14
862	SLV FO 13	-2199	863	10717	132.19	-1420.98	170.32
862	SLV FO 14	-2369	749	10694	134.8	-1415.56	165.69
862	SLV FO 15	-2171	-563	12309	317.52	-1620.28	-34.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
862	SLV FO 16	-2341	-677	12285	320.13	-1614.86	-38.67
862	CRTFP Ux+	0	0	0	0	0	0
862	CRTFP Uy-	0	0	0	0	0	0
862	CRTFP Uy+	0	0	0	0	0	0
862	CRTFP Uy-	0	0	0	0	0	0
863	SLU 1	-13	-21	4493	-1475.77	-18.69	-3.75
863	SLU 2	-14	5	4477	-1470.8	-19.61	-3.98
863	SLU 3	-14	-22	4604	-1512.16	-19.48	-4
863	SLU 4	-14	-6	4595	-1509.17	-20.03	-4.13
863	SLU 5	-14	4	4548	-1494.16	-20.11	-4.13
863	SLU 6	-14	-22	4676	-1535.52	-19.98	-4.15
863	SLU 7	-15	-7	4666	-1532.53	-20.53	-4.28
863	SLU 8	-14	-22	4636	-1522.49	-19.7	-4.05
863	SLU 9	-15	-7	4626	-1519.51	-20.24	-4.19
863	SLU 10	-16	1	5097	-1674.79	-21.52	-4.5
863	SLU 11	-16	-26	5225	-1716.15	-21.39	-4.52
863	SLU 12	-16	-10	5215	-1713.16	-21.94	-4.65
863	SLU 13	-16	0	5168	-1698.15	-22.02	-4.65
863	SLU 14	-17	-27	5296	-1739.51	-21.89	-4.67
863	SLU 15	-17	-11	5286	-1736.52	-22.44	-4.81
863	SLU 16	-16	-26	5256	-1726.48	-21.61	-4.57
863	SLU 17	-17	-11	5246	-1723.5	-22.15	-4.71
863	SLU 18	-16	-27	5379	-1767.19	-21.42	-4.49
863	SLU 19	-16	-12	5369	-1764.2	-21.97	-4.63
863	SLU 20	-17	-28	5451	-1790.55	-21.92	-4.64
863	SLU 21	-17	-12	5441	-1787.56	-22.47	-4.78
863	SLU 22	-18	-24	5246	-1722.43	-20.98	-5.06
863	SLU 23	-18	2	5229	-1717.46	-21.89	-5.29
863	SLU 24	-18	-25	5357	-1758.82	-21.77	-5.3
863	SLU 25	-19	-9	5347	-1755.83	-22.32	-5.44
863	SLU 26	-19	1	5301	-1740.82	-22.39	-5.44
863	SLU 27	-19	-25	5428	-1782.18	-22.27	-5.46
863	SLU 28	-19	-10	5418	-1779.19	-22.82	-5.59
863	SLU 29	-19	-25	5388	-1769.15	-21.98	-5.36
863	SLU 30	-19	-10	5378	-1766.17	-22.53	-5.5
863	SLU 31	-20	-3	5849	-1921.45	-23.8	-5.81
863	SLU 32	-21	-29	5977	-1962.81	-23.68	-5.83
863	SLU 33	-21	-14	5967	-1959.82	-24.23	-5.96
863	SLU 34	-21	-3	5921	-1944.81	-24.3	-5.96
863	SLU 35	-21	-30	6048	-1986.17	-24.18	-5.98
863	SLU 36	-21	-14	6038	-1983.18	-24.73	-6.11
863	SLU 37	-21	-29	6008	-1973.14	-23.89	-5.88
863	SLU 38	-21	-14	5999	-1970.16	-24.44	-6.02
863	SLU 39	-21	-30	6132	-2013.85	-23.71	-5.8
863	SLU 40	-21	-15	6122	-2010.86	-24.26	-5.94
863	SLU 41	-21	-31	6203	-2037.21	-24.21	-5.95
863	SLU 42	-21	-15	6193	-2034.22	-24.76	-6.09
863	SLU 43	-16	-26	5583	-1833.93	-23.52	-4.42
863	SLU 44	-16	0	5567	-1828.96	-24.43	-4.65
863	SLU 45	-16	-27	5694	-1870.32	-24.31	-4.67
863	SLU 46	-17	-11	5685	-1867.34	-24.86	-4.81
863	SLU 47	-17	-1	5638	-1852.32	-24.93	-4.8
863	SLU 48	-17	-27	5766	-1893.68	-24.81	-4.82
863	SLU 49	-17	-12	5756	-1890.7	-25.36	-4.96
863	SLU 50	-17	-27	5726	-1880.65	-24.52	-4.73
863	SLU 51	-17	-12	5716	-1877.67	-25.07	-4.86
863	SLU 52	-18	-5	6187	-2032.95	-26.34	-5.17
863	SLU 53	-18	-31	6315	-2074.31	-26.22	-5.19
863	SLU 54	-19	-16	6305	-2071.33	-26.77	-5.33
863	SLU 55	-19	-5	6258	-2056.31	-26.84	-5.32
863	SLU 56	-19	-32	6386	-2097.67	-26.72	-5.34
863	SLU 57	-19	-16	6376	-2094.69	-27.27	-5.48
863	SLU 58	-19	-32	6346	-2084.65	-26.43	-5.25
863	SLU 59	-19	-16	6336	-2081.66	-26.98	-5.38
863	SLU 60	-18	-32	6469	-2125.35	-26.25	-5.17
863	SLU 61	-19	-17	6460	-2122.37	-26.8	-5.3
863	SLU 62	-19	-33	6541	-2148.71	-26.75	-5.32
863	SLU 63	-19	-17	6531	-2145.73	-27.3	-5.46
863	SLU 64	-20	-29	6336	-2080.59	-25.81	-5.73
863	SLU 65	-21	-3	6319	-2075.62	-26.72	-5.96
863	SLU 66	-21	-30	6447	-2116.98	-26.59	-5.98
863	SLU 67	-21	-14	6437	-2113.99	-27.14	-6.12
863	SLU 68	-21	-4	6391	-2098.98	-27.22	-6.11
863	SLU 69	-21	-31	6518	-2140.34	-27.09	-6.13
863	SLU 70	-22	-15	6508	-2137.35	-27.64	-6.27
863	SLU 71	-21	-30	6478	-2127.31	-26.81	-6.04
863	SLU 72	-21	-15	6468	-2124.33	-27.35	-6.17
863	SLU 73	-23	-8	6939	-2279.61	-28.63	-6.48
863	SLU 74	-23	-34	7067	-2320.97	-28.5	-6.5
863	SLU 75	-23	-19	7057	-2317.99	-29.05	-6.64
863	SLU 76	-23	-8	7011	-2302.97	-29.13	-6.63
863	SLU 77	-23	-35	7138	-2344.33	-29	-6.65
863	SLU 78	-24	-19	7128	-2341.35	-29.55	-6.79
863	SLU 79	-23	-35	7098	-2331.31	-28.72	-6.56
863	SLU 80	-23	-19	7089	-2328.32	-29.26	-6.69
863	SLU 81	-23	-35	7222	-2372.01	-28.53	-6.48
863	SLU 82	-23	-20	7212	-2369.02	-29.08	-6.61
863	SLU 83	-23	-36	7293	-2395.37	-29.03	-6.63
863	SLU 84	-24	-21	7283	-2392.39	-29.58	-6.77



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
863	SLE RA 1	-14	-22	4708	-1546.25	-19.35	-4.12
863	SLE RA 2	-15	-5	4697	-1542.93	-19.96	-4.27
863	SLE RA 3	-15	-22	4782	-1570.5	-19.87	-4.29
863	SLE RA 4	-15	-12	4776	-1568.51	-20.24	-4.38
863	SLE RA 5	-15	-5	4745	-1558.5	-20.29	-4.38
863	SLE RA 6	-15	-23	4830	-1586.08	-20.21	-4.39
863	SLE RA 7	-16	-12	4823	-1584.09	-20.57	-4.48
863	SLE RA 8	-15	-23	4803	-1577.39	-20.02	-4.32
863	SLE RA 9	-15	-12	4797	-1575.4	-20.38	-4.42
863	SLE RA 10	-16	-8	5111	-1678.92	-21.23	-4.62
863	SLE RA 11	-16	-25	5196	-1706.5	-21.15	-4.63
863	SLE RA 12	-17	-15	5189	-1704.51	-21.51	-4.73
863	SLE RA 13	-17	-8	5158	-1694.5	-21.56	-4.72
863	SLE RA 14	-17	-26	5243	-1722.07	-21.48	-4.74
863	SLE RA 15	-17	-15	5237	-1720.08	-21.85	-4.83
863	SLE RA 16	-16	-25	5217	-1713.39	-21.29	-4.67
863	SLE RA 17	-17	-15	5210	-1711.4	-21.65	-4.76
863	SLE RA 18	-16	-26	5299	-1740.52	-21.17	-4.62
863	SLE RA 19	-17	-16	5292	-1738.53	-21.53	-4.71
863	SLE RA 20	-17	-26	5346	-1756.1	-21.5	-4.72
863	SLE RA 21	-17	-16	5340	-1754.11	-21.87	-4.81
863	SLE FR 1	-14	-22	4708	-1546.25	-19.35	-4.12
863	SLE FR 2	-15	-18	4706	-1545.58	-19.47	-4.15
863	SLE FR 3	-15	-22	4727	-1552.47	-19.48	-4.16
863	SLE FR 4	-15	-20	4883	-1603.87	-20.02	-4.3
863	SLE FR 5	-15	-23	4904	-1610.76	-20.03	-4.31
863	SLE FR 6	-15	-24	5004	-1643.38	-20.26	-4.37
863	SLE QP 1	-14	-22	4708	-1546.25	-19.35	-4.12
863	SLE QP 2	-15	-23	4885	-1604.53	-19.89	-4.27
863	SLD 1	467	151	4925	-1617.46	3.58	152.77
863	SLD 2	439	127	4918	-1615.1	3.64	144.13
863	SLD 3	474	-155	5160	-1689.24	14	155.16
863	SLD 4	446	-179	5153	-1686.88	14.05	146.51
863	SLD 5	125	497	4543	-1499.96	-28.65	40.79
863	SLD 6	106	482	4538	-1498.41	-28.61	35.08
863	SLD 7	147	-522	5325	-1739.24	6.05	48.73
863	SLD 8	128	-538	5320	-1737.68	6.09	43.02
863	SLD 9	-158	492	4451	-1471.38	-45.88	-51.56
863	SLD 10	-177	476	4446	-1469.82	-45.84	-57.27
863	SLD 11	-136	-528	5233	-1710.65	-11.17	-43.62
863	SLD 12	-155	-544	5228	-1709.09	-11.14	-49.33
863	SLD 13	-476	132	4618	-1522.17	-53.84	-155.05
863	SLD 14	-504	109	4611	-1519.81	-53.78	-163.7
863	SLD 15	-469	-174	4853	-1593.96	-43.43	-152.67
863	SLD 16	-498	-197	4846	-1591.6	-43.37	-161.31
863	SLV 1	740	258	4940	-1622.59	16.46	241.44
863	SLV 2	695	221	4930	-1618.9	16.54	227.9
863	SLV 3	751	-236	5320	-1738.8	33.27	245.33
863	SLV 4	706	-274	5309	-1735.1	33.36	231.79
863	SLV 5	203	818	4328	-1434.4	-34.51	66.06
863	SLV 6	173	793	4321	-1431.91	-34.46	56.94
863	SLV 7	240	-830	5594	-1821.74	21.55	79.05
863	SLV 8	210	-855	5586	-1819.25	21.61	69.93
863	SLV 9	-240	809	4184	-1389.81	-61.39	-78.47
863	SLV 10	-270	784	4177	-1387.32	-61.34	-87.59
863	SLV 11	-203	-839	5450	-1777.15	-5.33	-65.48
863	SLV 12	-233	-864	5443	-1774.66	-5.27	-74.6
863	SLV 13	-736	228	4462	-1473.96	-73.15	-240.33
863	SLV 14	-781	190	4451	-1470.26	-73.06	-253.88
863	SLV 15	-725	-267	4841	-1590.16	-56.33	-236.44
863	SLV 16	-770	-304	4830	-1586.46	-56.24	-249.98
863	SLV FO 1	815	286	4946	-1624.4	20.09	266.01
863	SLV FO 2	766	245	4934	-1620.33	20.18	251.11
863	SLV FO 3	828	-258	5364	-1752.22	38.59	270.29
863	SLV FO 4	779	-299	5352	-1748.16	38.68	255.4
863	SLV FO 5	225	902	4272	-1417.38	-35.97	73.09
863	SLV FO 6	192	874	4264	-1414.64	-35.91	63.06
863	SLV FO 7	265	-910	5664	-1843.46	25.69	87.38
863	SLV FO 8	232	-938	5656	-1840.72	25.76	77.35
863	SLV FO 9	-262	892	4114	-1368.33	-65.54	-85.89
863	SLV FO 10	-295	864	4106	-1365.6	-65.48	-95.92
863	SLV FO 11	-222	-920	5506	-1794.41	-3.88	-71.6
863	SLV FO 12	-255	-948	5498	-1791.67	-3.81	-81.63
863	SLV FO 13	-809	253	4419	-1460.9	-78.47	-263.94
863	SLV FO 14	-858	212	4407	-1456.83	-78.38	-278.84
863	SLV FO 15	-796	-291	4837	-1588.72	-59.97	-259.65
863	SLV FO 16	-845	-332	4825	-1584.66	-59.88	-274.55
863	CRTFP Ux+	0	0	0	0	0	0
863	CRTFP Ux-	0	0	0	0	0	0
863	CRTFP Uy+	0	0	0	0	0	0
863	CRTFP Uy-	0	0	0	0	0	0
865	SLU 1	-28	68	8120	7.56	1158.55	-4.34
865	SLU 2	-29	119	8078	-0.09	1152.48	-11.55
865	SLU 3	-30	68	8307	9.52	1186.08	-4.32
865	SLU 4	-30	99	8283	4.92	1182.44	-8.65
865	SLU 5	-30	119	8199	1.19	1170.15	-11.49
865	SLU 6	-31	68	8428	10.8	1203.75	-4.26
865	SLU 7	-31	99	8403	6.21	1200.1	-8.58
865	SLU 8	-30	68	8361	10.13	1193.89	-4.21



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
865	SLU 9	-31	98	8336	5.54	1190.25	-8.54
865	SLU 10	-35	121	9201	0.13	1312.55	-11.24
865	SLU 11	-35	71	9430	9.74	1346.14	-4.01
865	SLU 12	-36	101	9406	5.14	1342.5	-8.34
865	SLU 13	-36	121	9322	1.41	1330.22	-11.18
865	SLU 14	-36	71	9551	11.02	1363.81	-3.95
865	SLU 15	-37	101	9526	6.43	1360.17	-8.27
865	SLU 16	-35	70	9484	10.35	1353.95	-3.9
865	SLU 17	-36	101	9459	5.76	1350.31	-8.23
865	SLU 18	-36	71	9724	7.87	1387.22	-3.9
865	SLU 19	-37	102	9699	3.28	1383.57	-8.23
865	SLU 20	-37	71	9844	9.16	1404.88	-3.83
865	SLU 21	-37	102	9819	4.57	1401.24	-8.16
865	SLU 22	-37	73	9479	14.07	1353.26	-4.43
865	SLU 23	-38	124	9438	6.42	1347.19	-11.64
865	SLU 24	-39	74	9667	16.03	1380.78	-4.4
865	SLU 25	-39	104	9642	11.44	1377.14	-8.73
865	SLU 26	-39	124	9558	7.71	1364.86	-11.58
865	SLU 27	-39	74	9788	17.32	1398.45	-4.34
865	SLU 28	-40	104	9763	12.73	1394.81	-8.67
865	SLU 29	-39	73	9720	16.64	1388.59	-4.3
865	SLU 30	-39	104	9696	12.05	1384.95	-8.63
865	SLU 31	-44	127	10561	6.64	1507.25	-11.33
865	SLU 32	-44	76	10790	16.25	1540.85	-4.09
865	SLU 33	-45	107	10765	11.66	1537.21	-8.42
865	SLU 34	-44	127	10681	7.93	1524.92	-11.27
865	SLU 35	-45	76	10910	17.54	1558.52	-4.03
865	SLU 36	-46	107	10886	12.95	1554.88	-8.36
865	SLU 37	-44	76	10843	16.86	1548.66	-3.99
865	SLU 38	-45	106	10818	12.27	1545.02	-8.32
865	SLU 39	-45	77	11083	14.39	1581.92	-3.98
865	SLU 40	-46	107	11058	9.8	1578.28	-8.31
865	SLU 41	-46	77	11204	15.67	1599.59	-3.92
865	SLU 42	-46	107	11179	11.08	1595.95	-8.25
865	SLU 43	-34	86	10089	7.59	1439.36	-5.61
865	SLU 44	-35	137	10048	-0.06	1433.29	-12.83
865	SLU 45	-35	87	10277	9.55	1466.89	-5.59
865	SLU 46	-36	117	10252	4.96	1463.25	-9.92
865	SLU 47	-35	137	10169	1.22	1450.96	-12.76
865	SLU 48	-36	87	10398	10.83	1484.56	-5.53
865	SLU 49	-37	117	10373	6.24	1480.91	-9.86
865	SLU 50	-35	86	10330	10.16	1474.7	-5.49
865	SLU 51	-36	117	10306	5.57	1471.06	-9.81
865	SLU 52	-40	140	11171	0.16	1593.36	-12.52
865	SLU 53	-41	89	11400	9.77	1626.95	-5.28
865	SLU 54	-41	120	11375	5.18	1623.31	-9.61
865	SLU 55	-41	139	11291	1.44	1611.02	-12.45
865	SLU 56	-41	89	11521	11.05	1644.62	-5.22
865	SLU 57	-42	120	11496	6.46	1640.98	-9.55
865	SLU 58	-41	88	11453	10.38	1634.76	-5.18
865	SLU 59	-41	119	11428	5.79	1631.12	-9.5
865	SLU 60	-41	90	11693	7.9	1668.03	-5.17
865	SLU 61	-42	120	11669	3.31	1664.38	-9.5
865	SLU 62	-42	90	11814	9.19	1685.69	-5.11
865	SLU 63	-43	120	11789	4.6	1682.05	-9.44
865	SLU 64	-43	92	11449	14.11	1634.07	-5.7
865	SLU 65	-44	143	11408	6.46	1628	-12.91
865	SLU 66	-44	92	11637	16.06	1661.59	-5.68
865	SLU 67	-45	123	11612	11.47	1657.95	-10.01
865	SLU 68	-44	142	11528	7.74	1645.67	-12.85
865	SLU 69	-45	92	11757	17.35	1679.26	-5.61
865	SLU 70	-45	123	11733	12.76	1675.62	-9.94
865	SLU 71	-44	91	11690	16.68	1669.4	-5.57
865	SLU 72	-45	122	11665	12.09	1665.76	-9.9
865	SLU 73	-49	145	12530	6.68	1788.06	-12.6
865	SLU 74	-49	95	12760	16.29	1821.66	-5.37
865	SLU 75	-50	125	12735	11.69	1818.02	-9.7
865	SLU 76	-50	145	12651	7.96	1805.73	-12.54
865	SLU 77	-50	95	12880	17.57	1839.33	-5.3
865	SLU 78	-51	125	12855	12.98	1835.68	-9.63
865	SLU 79	-50	94	12813	16.9	1829.47	-5.26
865	SLU 80	-50	125	12788	12.31	1825.83	-9.59
865	SLU 81	-50	95	13053	14.42	1862.73	-5.26
865	SLU 82	-51	126	13028	9.83	1859.09	-9.58
865	SLU 83	-51	95	13173	15.71	1880.4	-5.19
865	SLU 84	-52	126	13149	11.12	1876.76	-9.52
865	SLE RA 1	-31	69	8508	9.42	1214.18	-4.36
865	SLE RA 2	-31	103	8481	4.32	1210.14	-9.17
865	SLE RA 3	-32	70	8633	10.72	1232.53	-4.35
865	SLE RA 4	-32	90	8617	7.66	1230.11	-7.24
865	SLE RA 5	-32	103	8561	5.18	1221.91	-9.13
865	SLE RA 6	-32	70	8714	11.58	1244.31	-4.31
865	SLE RA 7	-33	90	8697	8.52	1241.88	-7.19
865	SLE RA 8	-32	69	8669	11.13	1237.74	-4.28
865	SLE RA 9	-32	90	8652	8.07	1235.31	-7.17
865	SLE RA 10	-35	105	9229	4.47	1316.85	-8.97
865	SLE RA 11	-35	71	9382	10.87	1339.24	-4.14
865	SLE RA 12	-36	92	9365	7.81	1336.82	-7.03
865	SLE RA 13	-36	105	9309	5.32	1328.62	-8.93



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
865	SLE RA 14	-36	71	9462	11.73	1351.02	-4.1
865	SLE RA 15	-36	92	9446	8.67	1348.59	-6.99
865	SLE RA 16	-36	71	9417	11.28	1344.45	-4.07
865	SLE RA 17	-36	91	9401	8.22	1342.02	-6.96
865	SLE RA 18	-36	72	9577	9.63	1366.62	-4.07
865	SLE RA 19	-36	92	9561	6.57	1364.2	-6.96
865	SLE RA 20	-37	72	9658	10.49	1378.4	-4.03
865	SLE RA 21	-37	92	9641	7.43	1375.98	-6.91
865	SLE FR 1	-31	69	8508	9.42	1214.18	-4.36
865	SLE FR 2	-31	76	8503	8.4	1213.37	-5.33
865	SLE FR 3	-31	69	8540	9.76	1218.89	-4.35
865	SLE FR 4	-32	77	8823	8.46	1259.11	-5.24
865	SLE FR 5	-33	70	8861	9.82	1264.63	-4.26
865	SLE FR 6	-33	70	9043	9.52	1290.4	-4.22
865	SLE QP 1	-31	69	8508	9.42	1214.18	-4.36
865	SLE QP 2	-32	70	8829	9.48	1259.91	-4.28
865	SLD 1	1028	356	9191	-39.88	1303.92	-46.83
865	SLD 2	951	327	9176	-39.39	1301.97	-40.24
865	SLD 3	1040	-244	9751	55.22	1386.48	38.47
865	SLD 4	963	-273	9736	55.71	1384.52	45.06
865	SLD 5	281	1070	8090	-149.65	1148.26	-147.6
865	SLD 6	230	1051	8080	-149.32	1146.97	-143.25
865	SLD 7	322	-929	9958	167.35	1423.44	136.73
865	SLD 8	271	-947	9948	167.67	1422.15	141.08
865	SLD 9	-335	1087	7709	-148.71	1097.68	-149.64
865	SLD 10	-387	1069	7700	-148.38	1096.39	-145.28
865	SLD 11	-295	-911	9577	168.29	1372.86	134.69
865	SLD 12	-346	-930	9568	168.61	1371.57	139.05
865	SLD 13	-1028	413	7921	-36.75	1135.31	-53.61
865	SLD 14	-1105	384	7907	-36.26	1133.35	-47.02
865	SLD 15	-1015	-187	8482	58.35	1217.86	31.68
865	SLD 16	-1093	-216	8467	58.84	1215.91	38.28
865	SLV 1	1627	531	9377	-70.2	1326.19	-72.94
865	SLV 2	1506	487	9354	-69.43	1323.13	-62.61
865	SLV 3	1647	-437	10284	83.49	1459.74	64.85
865	SLV 4	1526	-482	10261	84.26	1456.68	75.19
865	SLV 5	458	1686	7623	-247.66	1077.82	-235.79
865	SLV 6	376	1656	7607	-247.14	1075.76	-228.84
865	SLV 7	525	-1543	10645	264.63	1522.98	223.53
865	SLV 8	443	-1573	10629	265.15	1520.92	230.48
865	SLV 9	-508	1713	7029	-246.19	998.91	-239.03
865	SLV 10	-589	1683	7013	-245.67	996.85	-232.08
865	SLV 11	-441	-1516	10051	266.1	1444.07	220.29
865	SLV 12	-522	-1546	10035	266.62	1442.01	227.24
865	SLV 13	-1590	622	7397	-65.29	1063.15	-83.74
865	SLV 14	-1712	577	7374	-64.52	1060.09	-73.41
865	SLV 15	-1570	-347	8304	88.39	1196.7	54.06
865	SLV 16	-1692	-392	8281	89.16	1193.64	64.39
865	SLV FO 1	1793	578	9432	-78.17	1332.82	-79.81
865	SLV FO 2	1660	528	9407	-77.32	1329.45	-68.44
865	SLV FO 3	1815	-488	10429	90.89	1479.72	71.77
865	SLV FO 4	1682	-537	10404	91.74	1476.35	83.13
865	SLV FO 5	507	1848	7502	-273.37	1059.61	-258.95
865	SLV FO 6	417	1815	7485	-272.8	1057.34	-251.29
865	SLV FO 7	580	-1705	10826	290.15	1549.29	246.31
865	SLV FO 8	490	-1738	10809	290.72	1547.02	253.96
865	SLV FO 9	-555	1878	6849	-271.75	972.81	-262.51
865	SLV FO 10	-645	1845	6832	-271.18	970.54	-254.86
865	SLV FO 11	-481	-1675	10173	291.77	1462.49	242.74
865	SLV FO 12	-571	-1708	10156	292.34	1460.22	250.39
865	SLV FO 13	-1746	677	7254	-72.77	1043.48	-91.69
865	SLV FO 14	-1880	628	7229	-71.92	1040.11	-80.32
865	SLV FO 15	-1724	-388	8251	96.28	1190.38	59.89
865	SLV FO 16	-1858	-438	8226	97.13	1187.01	71.26
865	CRTFP Ux+	0	0	0	0	0	0
865	CRTFP Ux-	0	0	0	0	0	0
865	CRTFP Uy+	0	0	0	0	0	0
865	CRTFP Uy-	0	0	0	0	0	0
866	SLU 1	-18	58	4537	2.56	8.7	2.44
866	SLU 2	-18	88	4515	-2.34	8.63	2.34
866	SLU 3	-19	59	4636	3.74	9.02	2.49
866	SLU 4	-19	77	4623	0.8	8.98	2.43
866	SLU 5	-19	89	4579	-1.57	8.84	2.37
866	SLU 6	-19	59	4700	4.51	9.23	2.52
866	SLU 7	-20	77	4687	1.57	9.18	2.46
866	SLU 8	-19	59	4664	4.1	9.11	2.49
866	SLU 9	-19	77	4651	1.16	9.07	2.43
866	SLU 10	-22	92	5143	-2.48	9.81	2.66
866	SLU 11	-22	63	5264	3.59	10.2	2.81
866	SLU 12	-23	81	5251	0.65	10.16	2.75
866	SLU 13	-23	92	5207	-1.71	10.02	2.68
866	SLU 14	-23	63	5328	4.36	10.41	2.83
866	SLU 15	-23	81	5315	1.42	10.37	2.77
866	SLU 16	-22	62	5293	3.95	10.29	2.81
866	SLU 17	-23	80	5280	1.01	10.25	2.75
866	SLU 18	-23	64	5434	2.35	10.39	2.89
866	SLU 19	-23	82	5421	-0.59	10.35	2.83
866	SLU 20	-23	64	5498	3.12	10.6	2.92
866	SLU 21	-24	82	5485	0.18	10.55	2.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
866	SLU 22	-23	64	5291	6.38	10.28	2.78
866	SLU 23	-24	94	5269	1.48	10.21	2.68
866	SLU 24	-24	65	5390	7.55	10.6	2.83
866	SLU 25	-25	83	5377	4.62	10.56	2.77
866	SLU 26	-25	94	5333	2.25	10.42	2.7
866	SLU 27	-25	65	5454	8.32	10.81	2.85
866	SLU 28	-25	83	5441	5.38	10.76	2.79
866	SLU 29	-24	64	5418	7.92	10.69	2.83
866	SLU 30	-25	82	5405	4.98	10.65	2.77
866	SLU 31	-28	98	5897	1.33	11.39	3
866	SLU 32	-28	68	6019	7.41	11.78	3.14
866	SLU 33	-28	87	6006	4.47	11.74	3.08
866	SLU 34	-28	98	5961	2.1	11.6	3.02
866	SLU 35	-28	69	6082	8.18	11.99	3.17
866	SLU 36	-29	87	6069	5.24	11.95	3.11
866	SLU 37	-28	68	6047	7.77	11.87	3.15
866	SLU 38	-28	86	6034	4.83	11.83	3.09
866	SLU 39	-28	69	6189	6.17	11.97	3.23
866	SLU 40	-29	87	6176	3.23	11.93	3.17
866	SLU 41	-29	70	6252	6.94	12.18	3.26
866	SLU 42	-29	88	6239	4	12.13	3.2
866	SLU 43	-21	74	5639	2.02	10.77	3.06
866	SLU 44	-22	104	5617	-2.88	10.7	2.96
866	SLU 45	-22	75	5738	3.2	11.09	3.11
866	SLU 46	-23	93	5725	0.26	11.05	3.05
866	SLU 47	-22	104	5681	-2.11	10.91	2.98
866	SLU 48	-23	75	5802	3.96	11.3	3.13
866	SLU 49	-23	93	5789	1.03	11.25	3.07
866	SLU 50	-22	74	5767	3.56	11.18	3.11
866	SLU 51	-23	92	5754	0.62	11.14	3.05
866	SLU 52	-25	108	6246	-3.02	11.88	3.27
866	SLU 53	-26	78	6367	3.05	12.27	3.42
866	SLU 54	-26	96	6354	0.11	12.23	3.36
866	SLU 55	-26	108	6310	-2.25	12.09	3.3
866	SLU 56	-26	78	6431	3.82	12.48	3.45
866	SLU 57	-27	97	6418	0.88	12.44	3.39
866	SLU 58	-26	78	6395	3.41	12.36	3.43
866	SLU 59	-26	96	6382	0.47	12.32	3.37
866	SLU 60	-26	79	6537	1.81	12.46	3.51
866	SLU 61	-27	97	6524	-1.13	12.42	3.45
866	SLU 62	-27	79	6601	2.58	12.67	3.54
866	SLU 63	-27	97	6588	-0.36	12.62	3.48
866	SLU 64	-27	80	6393	5.84	12.35	3.4
866	SLU 65	-27	110	6371	0.94	12.28	3.29
866	SLU 66	-28	80	6493	7.01	12.67	3.44
866	SLU 67	-28	98	6480	4.07	12.63	3.38
866	SLU 68	-28	110	6435	1.71	12.49	3.32
866	SLU 69	-28	80	6556	7.78	12.88	3.47
866	SLU 70	-29	99	6543	4.84	12.83	3.41
866	SLU 71	-28	80	6521	7.38	12.76	3.45
866	SLU 72	-28	98	6508	4.44	12.72	3.39
866	SLU 73	-31	113	7000	0.79	13.46	3.61
866	SLU 74	-31	84	7121	6.87	13.85	3.76
866	SLU 75	-32	102	7108	3.93	13.81	3.7
866	SLU 76	-32	114	7064	1.56	13.67	3.64
866	SLU 77	-32	84	7185	7.64	14.06	3.79
866	SLU 78	-32	102	7172	4.7	14.01	3.73
866	SLU 79	-31	84	7149	7.23	13.94	3.76
866	SLU 80	-32	102	7136	4.29	13.9	3.7
866	SLU 81	-32	85	7291	5.63	14.04	3.85
866	SLU 82	-32	103	7278	2.69	14	3.79
866	SLU 83	-32	85	7355	6.4	14.25	3.87
866	SLU 84	-33	103	7342	3.46	14.2	3.81
866	SLE RA 1	-19	60	4752	3.65	9.16	2.54
866	SLE RA 2	-20	80	4738	0.39	9.11	2.47
866	SLE RA 3	-20	60	4818	4.43	9.37	2.57
866	SLE RA 4	-20	72	4810	2.48	9.34	2.53
866	SLE RA 5	-20	80	4780	0.9	9.24	2.49
866	SLE RA 6	-20	61	4861	4.95	9.5	2.59
866	SLE RA 7	-21	73	4852	2.99	9.48	2.55
866	SLE RA 8	-20	60	4837	4.68	9.43	2.57
866	SLE RA 9	-20	72	4828	2.72	9.4	2.53
866	SLE RA 10	-22	83	5157	0.29	9.89	2.68
866	SLE RA 11	-22	63	5237	4.34	10.16	2.78
866	SLE RA 12	-23	75	5229	2.38	10.13	2.74
866	SLE RA 13	-23	83	5199	0.8	10.03	2.7
866	SLE RA 14	-23	63	5280	4.85	10.29	2.8
866	SLE RA 15	-23	75	5271	2.89	10.26	2.76
866	SLE RA 16	-23	63	5256	4.58	10.22	2.78
866	SLE RA 17	-23	75	5247	2.62	10.19	2.74
866	SLE RA 18	-23	64	5351	3.51	10.28	2.84
866	SLE RA 19	-23	76	5342	1.55	10.25	2.8
866	SLE RA 20	-23	64	5393	4.02	10.42	2.86
866	SLE RA 21	-23	76	5384	2.07	10.39	2.82
866	SLE FR 1	-19	60	4752	3.65	9.16	2.54
866	SLE FR 2	-20	64	4749	3	9.15	2.52
866	SLE FR 3	-20	60	4769	3.86	9.21	2.54
866	SLE FR 4	-21	65	4929	2.96	9.48	2.61
866	SLE FR 5	-21	61	4949	3.81	9.55	2.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
866	SLE FR 6	-21	62	5051	3.58	9.72	2.69
866	SLE QP 1	-19	60	4752	3.65	9.16	2.54
866	SLE QP 2	-20	61	4932	3.61	9.49	2.63
866	SLD 1	628	224	5166	-28.61	10.19	1.19
866	SLD 2	581	215	5157	-28.6	10.14	2.13
866	SLD 3	635	-129	5460	32.19	11.18	2.48
866	SLD 4	588	-139	5451	32.21	11.14	3.42
866	SLD 5	171	648	4557	-98.27	8.2	0.07
866	SLD 6	140	642	4552	-98.27	8.17	0.68
866	SLD 7	196	-531	5537	104.4	11.52	4.38
866	SLD 8	165	-537	5532	104.41	11.49	5
866	SLD 9	-206	659	4331	-97.19	7.5	0.26
866	SLD 10	-237	653	4326	-97.18	7.47	0.88
866	SLD 11	-181	-520	5311	105.49	10.82	4.57
866	SLD 12	-212	-526	5306	105.49	10.79	5.19
866	SLD 13	-629	261	4412	-24.99	7.85	1.84
866	SLD 14	-676	252	4404	-24.98	7.8	2.77
866	SLD 15	-622	-93	4706	35.81	8.84	3.13
866	SLD 16	-669	-102	4698	35.83	8.8	4.07
866	SLV 1	994	325	5288	-48.36	10.55	0.35
866	SLV 2	920	310	5275	-48.34	10.48	1.81
866	SLV 3	1006	-246	5764	49.9	12.16	2.43
866	SLV 4	932	-262	5751	49.92	12.09	3.9
866	SLV 5	279	1010	4320	-161.01	7.38	-1.49
866	SLV 6	229	1000	4311	-161	7.33	-0.51
866	SLV 7	320	-895	5905	166.52	12.75	5.46
866	SLV 8	270	-905	5896	166.53	12.7	6.45
866	SLV 9	-311	1027	3967	-159.32	6.29	-1.19
866	SLV 10	-361	1017	3958	-159.3	6.24	-0.2
866	SLV 11	-270	-878	5552	168.22	11.65	5.76
866	SLV 12	-320	-888	5544	168.23	11.6	6.75
866	SLV 13	-973	384	4112	-42.7	6.9	1.36
866	SLV 14	-1047	368	4099	-42.68	6.83	2.82
866	SLV 15	-961	-188	4588	55.56	8.51	3.44
866	SLV 16	-1035	-203	4575	55.58	8.44	4.91
866	SLV FO 1	1096	352	5324	-53.56	10.66	0.12
866	SLV FO 2	1014	335	5310	-53.54	10.58	1.73
866	SLV FO 3	1109	-277	5847	54.53	12.43	2.41
866	SLV FO 4	1028	-294	5833	54.55	12.35	4.03
866	SLV FO 5	309	1105	4258	-177.48	7.17	-1.91
866	SLV FO 6	254	1094	4249	-177.46	7.12	-0.82
866	SLV FO 7	354	-991	6003	182.81	13.07	5.74
866	SLV FO 8	299	-1002	5993	182.83	13.02	6.83
866	SLV FO 9	-340	1124	3870	-175.61	5.97	-1.57
866	SLV FO 10	-395	1113	3861	-175.59	5.91	-0.49
866	SLV FO 11	-295	-972	5614	184.68	11.87	6.08
866	SLV FO 12	-350	-983	5605	184.69	11.82	7.16
866	SLV FO 13	-1069	416	4030	-47.33	6.64	1.23
866	SLV FO 14	-1150	399	4016	-47.31	6.56	2.84
866	SLV FO 15	-1055	-213	4553	60.75	8.41	3.52
866	SLV FO 16	-1137	-229	4539	60.78	8.33	5.14
866	CRTFP Ux+	0	0	0	0	0	0
866	CRTFP Ux-	0	0	0	0	0	0
866	CRTFP Uy+	0	0	0	0	0	0
866	CRTFP Uy-	0	0	0	0	0	0
867	SLU 1	-18	72	4333	1.6	5.61	2.57
867	SLU 2	-18	102	4313	-3.27	5.56	2.51
867	SLU 3	-19	73	4425	2.73	5.81	2.62
867	SLU 4	-19	91	4413	-0.18	5.79	2.58
867	SLU 5	-19	102	4372	-2.52	5.69	2.54
867	SLU 6	-19	73	4484	3.48	5.95	2.65
867	SLU 7	-20	91	4472	0.56	5.92	2.61
867	SLU 8	-19	73	4451	3.08	5.87	2.62
867	SLU 9	-19	91	4439	0.16	5.84	2.59
867	SLU 10	-22	107	4913	-3.53	6.33	2.84
867	SLU 11	-22	79	5025	2.47	6.59	2.95
867	SLU 12	-23	97	5013	-0.45	6.56	2.91
867	SLU 13	-23	108	4972	-2.79	6.46	2.86
867	SLU 14	-23	79	5084	3.21	6.72	2.97
867	SLU 15	-23	97	5072	0.29	6.69	2.94
867	SLU 16	-22	78	5051	2.82	6.64	2.95
867	SLU 17	-23	96	5039	-0.1	6.62	2.91
867	SLU 18	-23	80	5191	1.22	6.71	3.04
867	SLU 19	-23	98	5179	-1.7	6.68	3
867	SLU 20	-23	80	5250	1.96	6.84	3.06
867	SLU 21	-24	98	5238	-0.96	6.81	3.03
867	SLU 22	-23	80	5049	5.24	6.64	2.93
867	SLU 23	-24	110	5029	0.38	6.6	2.87
867	SLU 24	-24	81	5141	6.38	6.85	2.98
867	SLU 25	-25	99	5129	3.46	6.82	2.94
867	SLU 26	-24	110	5089	1.12	6.73	2.89
867	SLU 27	-25	81	5201	7.12	6.98	3
867	SLU 28	-25	99	5189	4.2	6.96	2.97
867	SLU 29	-24	80	5168	6.73	6.91	2.98
867	SLU 30	-25	98	5156	3.81	6.88	2.94
867	SLU 31	-28	115	5630	0.12	7.37	3.19
867	SLU 32	-28	86	5742	6.12	7.62	3.3
867	SLU 33	-28	104	5730	3.2	7.59	3.27
867	SLU 34	-28	115	5689	0.86	7.5	3.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
867	SLU 35	-28	87	5801	6.86	7.75	3.33
867	SLU 36	-29	104	5789	3.94	7.73	3.29
867	SLU 37	-28	86	5768	6.46	7.68	3.31
867	SLU 38	-28	104	5756	3.55	7.65	3.27
867	SLU 39	-29	88	5908	4.87	7.75	3.39
867	SLU 40	-29	106	5896	1.95	7.72	3.36
867	SLU 41	-29	88	5967	5.61	7.88	3.42
867	SLU 42	-29	106	5955	2.69	7.85	3.38
867	SLU 43	-21	91	5387	0.83	6.94	3.22
867	SLU 44	-22	121	5367	-4.04	6.89	3.16
867	SLU 45	-22	92	5479	1.96	7.14	3.27
867	SLU 46	-23	110	5467	-0.95	7.11	3.23
867	SLU 47	-22	121	5426	-3.29	7.02	3.18
867	SLU 48	-23	93	5538	2.71	7.27	3.29
867	SLU 49	-23	110	5526	-0.21	7.25	3.26
867	SLU 50	-22	92	5505	2.31	7.2	3.27
867	SLU 51	-23	110	5493	-0.61	7.17	3.23
867	SLU 52	-25	126	5967	-4.3	7.66	3.48
867	SLU 53	-26	98	6079	1.7	7.91	3.6
867	SLU 54	-26	116	6067	-1.22	7.89	3.56
867	SLU 55	-26	127	6026	-3.56	7.79	3.51
867	SLU 56	-26	98	6138	2.44	8.04	3.62
867	SLU 57	-27	116	6126	-0.48	8.02	3.59
867	SLU 58	-26	97	6105	2.05	7.97	3.6
867	SLU 59	-26	115	6093	-0.87	7.94	3.56
867	SLU 60	-26	99	6245	0.45	8.04	3.68
867	SLU 61	-27	117	6233	-2.47	8.01	3.65
867	SLU 62	-27	99	6304	1.19	8.17	3.71
867	SLU 63	-27	117	6292	-1.73	8.14	3.67
867	SLU 64	-27	99	6103	4.47	7.97	3.58
867	SLU 65	-27	129	6083	-0.39	7.93	3.52
867	SLU 66	-28	100	6195	5.61	8.18	3.63
867	SLU 67	-28	118	6183	2.69	8.15	3.59
867	SLU 68	-28	129	6143	0.35	8.06	3.54
867	SLU 69	-28	100	6254	6.35	8.31	3.65
867	SLU 70	-29	118	6242	3.43	8.28	3.62
867	SLU 71	-28	100	6222	5.96	8.24	3.63
867	SLU 72	-28	117	6210	3.04	8.21	3.59
867	SLU 73	-31	134	6684	-0.65	8.7	3.84
867	SLU 74	-31	105	6796	5.35	8.95	3.95
867	SLU 75	-32	123	6784	2.43	8.92	3.92
867	SLU 76	-32	134	6743	0.09	8.83	3.87
867	SLU 77	-32	106	6855	6.09	9.08	3.98
867	SLU 78	-32	124	6843	3.17	9.05	3.94
867	SLU 79	-31	105	6822	5.69	9.01	3.95
867	SLU 80	-32	123	6810	2.78	8.98	3.92
867	SLU 81	-32	107	6962	4.1	9.07	4.04
867	SLU 82	-32	125	6950	1.18	9.05	4.01
867	SLU 83	-32	107	7021	4.84	9.21	4.07
867	SLU 84	-33	125	7009	1.92	9.18	4.03
867	SLE RA 1	-19	74	4537	2.64	5.9	2.67
867	SLE RA 2	-20	94	4524	-0.6	5.87	2.63
867	SLE RA 3	-20	75	4599	3.4	6.04	2.71
867	SLE RA 4	-20	87	4591	1.45	6.02	2.68
867	SLE RA 5	-20	94	4563	-0.11	5.96	2.65
867	SLE RA 6	-20	75	4638	3.89	6.13	2.72
867	SLE RA 7	-21	87	4630	1.95	6.11	2.7
867	SLE RA 8	-20	75	4616	3.63	6.08	2.71
867	SLE RA 9	-20	87	4608	1.68	6.06	2.68
867	SLE RA 10	-22	98	4925	-0.78	6.39	2.85
867	SLE RA 11	-22	79	4999	3.22	6.56	2.92
867	SLE RA 12	-23	91	4991	1.28	6.54	2.9
867	SLE RA 13	-23	98	4964	-0.28	6.48	2.87
867	SLE RA 14	-23	79	5039	3.72	6.64	2.94
867	SLE RA 15	-23	91	5031	1.77	6.63	2.92
867	SLE RA 16	-22	79	5017	3.45	6.59	2.92
867	SLE RA 17	-23	90	5009	1.51	6.58	2.9
867	SLE RA 18	-23	80	5110	2.39	6.64	2.98
867	SLE RA 19	-23	92	5102	0.44	6.62	2.96
867	SLE RA 20	-23	80	5149	2.88	6.73	3
867	SLE RA 21	-23	92	5141	0.94	6.71	2.98
867	SLE FR 1	-19	74	4537	2.64	5.9	2.67
867	SLE FR 2	-19	78	4535	1.99	5.9	2.66
867	SLE FR 3	-20	75	4553	2.84	5.94	2.68
867	SLE FR 4	-21	80	4706	1.92	6.12	2.76
867	SLE FR 5	-21	76	4725	2.76	6.16	2.77
867	SLE FR 6	-21	77	4823	2.51	6.27	2.83
867	SLE QP 1	-19	74	4537	2.64	5.9	2.67
867	SLE QP 2	-20	76	4709	2.57	6.12	2.76
867	SLD 1	629	235	4903	-29.82	8.18	2.33
867	SLD 2	582	230	4896	-29.93	8.1	3.1
867	SLD 3	636	-113	5174	30.54	8.81	3.12
867	SLD 4	589	-118	5167	30.43	8.74	3.89
867	SLD 5	172	652	4358	-98.68	5.79	1.31
867	SLD 6	140	649	4353	-98.75	5.74	1.82
867	SLD 7	196	-507	5260	102.53	7.91	3.92
867	SLD 8	165	-511	5256	102.45	7.86	4.43
867	SLD 9	-206	663	4162	-97.32	4.39	1.1
867	SLD 10	-237	659	4158	-97.4	4.34	1.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
867	SLD 11	-181	-497	5065	103.88	6.51	3.71
867	SLD 12	-212	-500	5060	103.81	6.46	4.22
867	SLD 13	-630	270	4251	-25.3	3.51	1.64
867	SLD 14	-677	265	4244	-25.41	3.43	2.41
867	SLD 15	-623	-78	4522	35.06	4.15	2.43
867	SLD 16	-670	-83	4515	34.95	4.07	3.2
867	SLV 1	995	333	5004	-49.65	9.31	2.07
867	SLV 2	921	325	4994	-49.83	9.19	3.28
867	SLV 3	1008	-229	5442	47.9	10.34	3.33
867	SLV 4	934	-237	5432	47.72	10.22	4.54
867	SLV 5	280	1007	4135	-161.02	5.55	0.42
867	SLV 6	230	1002	4128	-161.13	5.46	1.23
867	SLV 7	320	-867	5596	164.15	8.97	4.63
867	SLV 8	270	-872	5589	164.03	8.89	5.44
867	SLV 9	-311	1024	3830	-158.9	3.36	0.09
867	SLV 10	-361	1019	3823	-159.02	3.28	0.9
867	SLV 11	-271	-850	5290	166.26	6.78	4.3
867	SLV 12	-321	-855	5283	166.15	6.7	5.11
867	SLV 13	-975	389	3986	-42.59	2.03	0.99
867	SLV 14	-1049	381	3976	-42.77	1.91	2.2
867	SLV 15	-962	-173	4424	54.96	3.06	2.25
867	SLV 16	-1036	-181	4414	54.78	2.94	3.46
867	SLV FO 1	1097	359	5033	-54.87	9.63	2
867	SLV FO 2	1016	350	5022	-55.07	9.5	3.33
867	SLV FO 3	1110	-260	5515	52.43	10.76	3.39
867	SLV FO 4	1029	-269	5504	52.23	10.63	4.72
867	SLV FO 5	310	1100	4077	-177.37	5.49	0.18
867	SLV FO 6	255	1094	4070	-177.5	5.4	1.07
867	SLV FO 7	354	-961	5684	180.3	9.25	4.81
867	SLV FO 8	300	-967	5677	180.17	9.16	5.7
867	SLV FO 9	-340	1119	3742	-175.04	3.09	-0.17
867	SLV FO 10	-395	1113	3734	-175.17	3	0.72
867	SLV FO 11	-296	-942	5348	182.63	6.85	4.46
867	SLV FO 12	-351	-948	5341	182.5	6.76	5.35
867	SLV FO 13	-1070	421	3914	-47.1	1.62	0.81
867	SLV FO 14	-1151	412	3903	-47.3	1.49	2.14
867	SLV FO 15	-1057	-198	4396	60.2	2.75	2.2
867	SLV FO 16	-1138	-207	4385	60	2.62	3.53
867	CRTFP Ux+	0	0	0	0	0	0
867	CRTFP Ux-	0	0	0	0	0	0
867	CRTFP Uy+	0	0	0	0	0	0
867	CRTFP Uy-	0	0	0	0	0	0
868	SLU 1	-17	87	4206	0.64	3.29	2.66
868	SLU 2	-18	116	4188	-4.2	3.26	2.65
868	SLU 3	-18	88	4294	1.74	3.41	2.71
868	SLU 4	-19	106	4282	-1.17	3.39	2.71
868	SLU 5	-18	117	4244	-3.48	3.34	2.68
868	SLU 6	-19	88	4350	2.46	3.48	2.74
868	SLU 7	-19	106	4339	-0.45	3.47	2.73
868	SLU 8	-18	88	4319	2.07	3.44	2.71
868	SLU 9	-19	105	4307	-0.83	3.42	2.71
868	SLU 10	-21	124	4771	-4.58	3.73	2.98
868	SLU 11	-22	95	4877	1.36	3.87	3.04
868	SLU 12	-22	113	4866	-1.55	3.86	3.04
868	SLU 13	-22	124	4827	-3.87	3.8	3.01
868	SLU 14	-22	96	4933	2.07	3.95	3.07
868	SLU 15	-23	114	4922	-0.83	3.94	3.06
868	SLU 16	-22	95	4902	1.69	3.91	3.04
868	SLU 17	-22	113	4890	-1.21	3.89	3.04
868	SLU 18	-22	97	5040	0.09	3.96	3.13
868	SLU 19	-23	115	5028	-2.81	3.94	3.13
868	SLU 20	-23	98	5096	0.81	4.03	3.16
868	SLU 21	-23	115	5084	-2.1	4.02	3.15
868	SLU 22	-23	96	4900	4.12	3.92	3.03
868	SLU 23	-23	126	4881	-0.72	3.89	3.02
868	SLU 24	-24	98	4987	5.22	4.04	3.08
868	SLU 25	-24	115	4976	2.31	4.02	3.08
868	SLU 26	-24	126	4937	0	3.97	3.05
868	SLU 27	-24	98	5043	5.94	4.11	3.11
868	SLU 28	-25	116	5032	3.03	4.1	3.1
868	SLU 29	-24	97	5012	5.55	4.07	3.08
868	SLU 30	-24	115	5001	2.65	4.05	3.08
868	SLU 31	-27	133	5464	-1.1	4.36	3.35
868	SLU 32	-27	105	5570	4.84	4.51	3.41
868	SLU 33	-28	123	5559	1.93	4.49	3.41
868	SLU 34	-27	134	5520	-0.39	4.44	3.38
868	SLU 35	-28	106	5626	5.55	4.58	3.44
868	SLU 36	-28	123	5615	2.65	4.57	3.43
868	SLU 37	-27	105	5595	5.17	4.54	3.41
868	SLU 38	-28	122	5584	2.27	4.52	3.41
868	SLU 39	-28	107	5733	3.57	4.59	3.5
868	SLU 40	-28	125	5721	0.67	4.57	3.5
868	SLU 41	-28	107	5789	4.29	4.66	3.53
868	SLU 42	-29	125	5777	1.39	4.65	3.52
868	SLU 43	-21	110	5231	-0.36	4.06	3.33
868	SLU 44	-21	139	5212	-5.2	4.03	3.32
868	SLU 45	-22	111	5318	0.74	4.18	3.38
868	SLU 46	-22	128	5307	-2.17	4.16	3.38
868	SLU 47	-22	139	5268	-4.48	4.11	3.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
868	SLU 48	-22	111	5374	1.45	4.25	3.41
868	SLU 49	-22	129	5363	-1.45	4.24	3.4
868	SLU 50	-22	110	5343	1.07	4.21	3.38
868	SLU 51	-22	128	5332	-1.83	4.19	3.38
868	SLU 52	-25	146	5795	-5.58	4.5	3.65
868	SLU 53	-25	118	5901	0.35	4.64	3.71
868	SLU 54	-25	136	5890	-2.55	4.63	3.71
868	SLU 55	-25	147	5851	-4.87	4.57	3.68
868	SLU 56	-26	119	5957	1.07	4.72	3.74
868	SLU 57	-26	136	5946	-1.83	4.7	3.73
868	SLU 58	-25	118	5926	0.69	4.68	3.71
868	SLU 59	-26	135	5915	-2.22	4.66	3.71
868	SLU 60	-26	120	6064	-0.91	4.72	3.8
868	SLU 61	-26	138	6052	-3.81	4.71	3.8
868	SLU 62	-26	120	6120	-0.19	4.8	3.83
868	SLU 63	-27	138	6108	-3.1	4.78	3.82
868	SLU 64	-26	119	5924	3.12	4.69	3.7
868	SLU 65	-27	149	5905	-1.72	4.66	3.69
868	SLU 66	-27	120	6011	4.22	4.81	3.75
868	SLU 67	-27	138	6000	1.31	4.79	3.75
868	SLU 68	-27	149	5961	-1	4.74	3.72
868	SLU 69	-27	121	6067	4.93	4.88	3.78
868	SLU 70	-28	139	6056	2.03	4.87	3.77
868	SLU 71	-27	120	6036	4.55	4.84	3.75
868	SLU 72	-27	138	6025	1.65	4.82	3.75
868	SLU 73	-30	156	6488	-2.1	5.13	4.02
868	SLU 74	-31	128	6594	3.83	5.28	4.09
868	SLU 75	-31	145	6583	0.93	5.26	4.08
868	SLU 76	-31	156	6544	-1.39	5.21	4.05
868	SLU 77	-31	128	6651	4.55	5.35	4.11
868	SLU 78	-31	146	6639	1.65	5.34	4.1
868	SLU 79	-31	127	6619	4.17	5.31	4.09
868	SLU 80	-31	145	6608	1.27	5.29	4.08
868	SLU 81	-31	130	6757	2.57	5.36	4.18
868	SLU 82	-32	147	6746	-0.33	5.34	4.17
868	SLU 83	-32	130	6813	3.29	5.43	4.2
868	SLU 84	-32	148	6802	0.38	5.42	4.19
868	SLE RA 1	-19	90	4405	1.64	3.47	2.77
868	SLE RA 2	-19	109	4392	-1.59	3.45	2.76
868	SLE RA 3	-19	90	4463	2.37	3.55	2.8
868	SLE RA 4	-20	102	4455	0.43	3.54	2.8
868	SLE RA 5	-20	109	4429	-1.11	3.5	2.78
868	SLE RA 6	-20	91	4500	2.85	3.6	2.82
868	SLE RA 7	-20	102	4493	0.91	3.59	2.81
868	SLE RA 8	-20	90	4479	2.59	3.57	2.8
868	SLE RA 9	-20	102	4472	0.65	3.56	2.8
868	SLE RA 10	-22	114	4781	-1.85	3.76	2.98
868	SLE RA 11	-22	95	4852	2.11	3.86	3.02
868	SLE RA 12	-22	107	4844	0.18	3.85	3.02
868	SLE RA 13	-22	114	4818	-1.37	3.81	3
868	SLE RA 14	-22	96	4889	2.59	3.91	3.04
868	SLE RA 15	-22	107	4881	0.65	3.9	3.03
868	SLE RA 16	-22	95	4868	2.34	3.88	3.02
868	SLE RA 17	-22	107	4861	0.4	3.87	3.02
868	SLE RA 18	-22	97	4960	1.27	3.91	3.08
868	SLE RA 19	-23	108	4952	-0.67	3.9	3.08
868	SLE RA 20	-23	97	4997	1.75	3.96	3.1
868	SLE RA 21	-23	109	4990	-0.19	3.95	3.09
868	SLE FR 1	-19	90	4405	1.64	3.47	2.77
868	SLE FR 2	-19	93	4402	0.99	3.46	2.77
868	SLE FR 3	-19	90	4420	1.83	3.49	2.77
868	SLE FR 4	-20	96	4569	0.88	3.6	2.86
868	SLE FR 5	-20	92	4586	1.72	3.62	2.87
868	SLE FR 6	-21	93	4682	1.45	3.69	2.92
868	SLE QP 1	-19	90	4405	1.64	3.47	2.77
868	SLE QP 2	-20	92	4571	1.53	3.6	2.86
868	SLD 1	630	248	4692	-31.11	6.58	2.82
868	SLD 2	583	247	4688	-31.35	6.48	3.5
868	SLD 3	637	-97	4949	28.92	6.94	3.07
868	SLD 4	590	-98	4945	28.69	6.84	3.75
868	SLD 5	172	662	4219	-99.27	3.96	2.35
868	SLD 6	141	662	4216	-99.43	3.9	2.8
868	SLD 7	197	-488	5075	100.84	5.17	3.18
868	SLD 8	166	-489	5072	100.68	5.11	3.63
868	SLD 9	-206	672	4070	-97.63	2.09	2.1
868	SLD 10	-237	671	4068	-97.79	2.03	2.54
868	SLD 11	-181	-478	4926	102.48	3.31	2.93
868	SLD 12	-212	-479	4924	102.32	3.24	3.37
868	SLD 13	-630	281	4198	-25.63	0.36	1.98
868	SLD 14	-677	280	4194	-25.87	0.26	2.65
868	SLD 15	-623	-64	4454	34.4	0.72	2.22
868	SLD 16	-670	-65	4450	34.16	0.62	2.9
868	SLV 1	997	346	4753	-51.07	8.24	2.8
868	SLV 2	923	344	4746	-51.44	8.08	3.86
868	SLV 3	1009	-212	5168	45.95	8.82	3.2
868	SLV 4	935	-214	5162	45.57	8.67	4.26
868	SLV 5	280	1014	3997	-161.32	4.13	2.03
868	SLV 6	231	1013	3992	-161.58	4.02	2.75
868	SLV 7	321	-845	5381	162.06	6.09	3.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
868	SLV 8	271	-846	5377	161.81	5.99	4.09
868	SLV 9	-311	1030	3765	-158.76	1.22	1.63
868	SLV 10	-361	1028	3761	-159.01	1.11	2.35
868	SLV 11	-270	-829	5150	164.63	3.18	2.98
868	SLV 12	-320	-831	5146	164.38	3.07	3.69
868	SLV 13	-975	397	3981	-42.52	-1.47	1.46
868	SLV 14	-1049	396	3974	-42.89	-1.62	2.52
868	SLV 15	-963	-160	4396	54.5	-0.88	1.87
868	SLV 16	-1037	-162	4390	54.12	-1.04	2.93
868	SLV FO 1	1099	371	4771	-56.33	8.7	2.79
868	SLV FO 2	1017	369	4764	-56.74	8.53	3.96
868	SLV FO 3	1112	-243	5228	50.39	9.35	3.23
868	SLV FO 4	1031	-245	5221	49.98	9.18	4.4
868	SLV FO 5	310	1106	3939	-177.61	4.18	1.95
868	SLV FO 6	256	1105	3935	-177.89	4.07	2.74
868	SLV FO 7	355	-939	5463	178.12	6.34	3.43
868	SLV FO 8	300	-940	5458	177.84	6.22	4.21
868	SLV FO 9	-340	1123	3684	-174.79	0.98	1.51
868	SLV FO 10	-395	1122	3680	-175.07	0.86	2.3
868	SLV FO 11	-295	-922	5208	180.94	3.13	2.99
868	SLV FO 12	-350	-923	5203	180.66	3.02	3.77
868	SLV FO 13	-1070	428	3922	-46.93	-1.98	1.33
868	SLV FO 14	-1152	426	3915	-47.34	-2.15	2.49
868	SLV FO 15	-1057	-185	4379	59.79	-1.33	1.77
868	SLV FO 16	-1138	-188	4372	59.38	-1.5	2.93
868	CRTFP Ux+	0	0	0	0	0	0
868	CRTFP Ux-	0	0	0	0	0	0
868	CRTFP Uy+	0	0	0	0	0	0
868	CRTFP Uy-	0	0	0	0	0	0
869	SLU 1	-16	102	4137	-0.32	1.64	2.7
869	SLU 2	-17	131	4119	-5.14	1.62	2.74
869	SLU 3	-17	103	4222	0.75	1.69	2.75
869	SLU 4	-18	121	4211	-2.15	1.69	2.78
869	SLU 5	-17	132	4173	-4.45	1.66	2.76
869	SLU 6	-18	104	4276	1.44	1.73	2.78
869	SLU 7	-18	122	4265	-1.46	1.72	2.8
869	SLU 8	-17	103	4246	1.07	1.71	2.75
869	SLU 9	-18	121	4235	-1.83	1.7	2.77
869	SLU 10	-21	140	4691	-5.65	1.88	3.07
869	SLU 11	-21	112	4795	0.24	1.95	3.08
869	SLU 12	-21	130	4784	-2.65	1.94	3.1
869	SLU 13	-21	141	4746	-4.95	1.91	3.09
869	SLU 14	-21	113	4849	0.94	1.98	3.11
869	SLU 15	-22	131	4838	-1.96	1.98	3.13
869	SLU 16	-21	112	4819	0.57	1.96	3.08
869	SLU 17	-21	130	4808	-2.33	1.96	3.1
869	SLU 18	-21	115	4955	-1.03	2	3.17
869	SLU 19	-22	133	4944	-3.93	1.99	3.19
869	SLU 20	-22	115	5010	-0.34	2.04	3.19
869	SLU 21	-22	133	4999	-3.24	2.03	3.22
869	SLU 22	-22	114	4816	3.01	1.98	3.08
869	SLU 23	-22	143	4798	-1.82	1.97	3.12
869	SLU 24	-23	115	4901	4.07	2.04	3.13
869	SLU 25	-23	133	4890	1.17	2.03	3.15
869	SLU 26	-23	144	4852	-1.13	2.01	3.14
869	SLU 27	-23	116	4956	4.76	2.08	3.16
869	SLU 28	-23	133	4945	1.86	2.07	3.18
869	SLU 29	-23	115	4925	4.39	2.05	3.13
869	SLU 30	-23	132	4914	1.49	2.05	3.15
869	SLU 31	-26	152	5371	-2.32	2.22	3.44
869	SLU 32	-26	124	5474	3.57	2.29	3.46
869	SLU 33	-26	142	5463	0.67	2.29	3.48
869	SLU 34	-26	153	5425	-1.63	2.26	3.47
869	SLU 35	-27	125	5529	4.26	2.33	3.48
869	SLU 36	-27	143	5518	1.36	2.32	3.51
869	SLU 37	-26	124	5498	3.89	2.31	3.46
869	SLU 38	-27	142	5487	0.99	2.3	3.48
869	SLU 39	-27	127	5635	2.29	2.35	3.55
869	SLU 40	-27	144	5624	-0.61	2.34	3.57
869	SLU 41	-27	127	5689	2.98	2.38	3.57
869	SLU 42	-28	145	5678	0.08	2.37	3.59
869	SLU 43	-20	128	5145	-1.55	2.01	3.38
869	SLU 44	-20	158	5127	-6.38	2	3.42
869	SLU 45	-20	130	5230	-0.49	2.07	3.43
869	SLU 46	-21	147	5219	-3.38	2.06	3.46
869	SLU 47	-21	158	5181	-5.68	2.03	3.45
869	SLU 48	-21	130	5284	0.21	2.1	3.46
869	SLU 49	-21	148	5273	-2.69	2.09	3.48
869	SLU 50	-20	129	5254	-0.16	2.08	3.43
869	SLU 51	-21	147	5243	-3.06	2.07	3.46
869	SLU 52	-24	167	5700	-6.88	2.25	3.75
869	SLU 53	-24	139	5803	-0.99	2.32	3.76
869	SLU 54	-24	157	5792	-3.89	2.31	3.78
869	SLU 55	-24	168	5754	-6.19	2.29	3.77
869	SLU 56	-24	140	5857	-0.3	2.36	3.79
869	SLU 57	-25	157	5846	-3.19	2.35	3.81
869	SLU 58	-24	139	5827	-0.67	2.33	3.76
869	SLU 59	-24	156	5816	-3.56	2.33	3.78
869	SLU 60	-25	141	5964	-2.27	2.37	3.85



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
869	SLU 61	-25	159	5952	-5.16	2.37	3.87
869	SLU 62	-25	142	6018	-1.58	2.41	3.88
869	SLU 63	-25	160	6007	-4.47	2.4	3.9
869	SLU 64	-25	140	5824	1.77	2.35	3.76
869	SLU 65	-25	170	5806	-3.05	2.34	3.8
869	SLU 66	-26	142	5909	2.83	2.41	3.81
869	SLU 67	-26	159	5898	-0.06	2.4	3.83
869	SLU 68	-26	170	5861	-2.36	2.38	3.82
869	SLU 69	-26	142	5964	3.53	2.45	3.84
869	SLU 70	-27	160	5953	0.63	2.44	3.86
869	SLU 71	-26	141	5934	3.16	2.43	3.81
869	SLU 72	-26	159	5922	0.26	2.42	3.83
869	SLU 73	-29	179	6379	-3.56	2.6	4.13
869	SLU 74	-29	151	6482	2.33	2.67	4.14
869	SLU 75	-30	168	6471	-0.56	2.66	4.16
869	SLU 76	-29	179	6433	-2.87	2.63	4.15
869	SLU 77	-30	151	6537	3.02	2.7	4.16
869	SLU 78	-30	169	6526	0.13	2.7	4.19
869	SLU 79	-29	150	6506	2.65	2.68	4.14
869	SLU 80	-30	168	6495	-0.24	2.67	4.16
869	SLU 81	-30	153	6643	1.05	2.72	4.23
869	SLU 82	-30	171	6632	-1.84	2.71	4.25
869	SLU 83	-30	154	6697	1.75	2.75	4.25
869	SLU 84	-31	171	6686	-1.15	2.75	4.28
869	SLE RA 1	-18	105	4331	0.63	1.73	2.81
869	SLE RA 2	-18	125	4319	-2.58	1.73	2.83
869	SLE RA 3	-19	106	4388	1.34	1.77	2.84
869	SLE RA 4	-19	118	4380	-0.59	1.77	2.86
869	SLE RA 5	-19	125	4355	-2.12	1.75	2.85
869	SLE RA 6	-19	107	4424	1.8	1.8	2.86
869	SLE RA 7	-19	118	4417	-0.13	1.79	2.88
869	SLE RA 8	-19	106	4404	1.56	1.78	2.84
869	SLE RA 9	-19	118	4396	-0.37	1.78	2.86
869	SLE RA 10	-21	131	4701	-2.92	1.9	3.05
869	SLE RA 11	-21	112	4770	1.01	1.94	3.06
869	SLE RA 12	-21	124	4762	-0.92	1.94	3.08
869	SLE RA 13	-21	131	4737	-2.46	1.92	3.07
869	SLE RA 14	-21	113	4806	1.47	1.97	3.08
869	SLE RA 15	-21	124	4798	-0.46	1.96	3.09
869	SLE RA 16	-21	112	4786	1.22	1.95	3.06
869	SLE RA 17	-21	124	4778	-0.71	1.95	3.08
869	SLE RA 18	-21	114	4877	0.15	1.98	3.12
869	SLE RA 19	-22	126	4869	-1.78	1.97	3.14
869	SLE RA 20	-22	114	4913	0.62	2	3.14
869	SLE RA 21	-22	126	4906	-1.32	2	3.15
869	SLE FR 1	-18	105	4331	0.63	1.73	2.81
869	SLE FR 2	-18	109	4329	-0.01	1.73	2.81
869	SLE FR 3	-18	105	4346	0.82	1.74	2.82
869	SLE FR 4	-19	112	4492	-0.15	1.81	2.91
869	SLE FR 5	-19	108	4509	0.67	1.82	2.91
869	SLE FR 6	-20	109	4604	0.39	1.86	2.97
869	SLE QP 1	-18	105	4331	0.63	1.73	2.81
869	SLE QP 2	-19	108	4495	0.49	1.81	2.9
869	SLD 1	631	265	4522	-32.47	5.32	3.24
869	SLD 2	584	267	4521	-32.83	5.21	3.9
869	SLD 3	639	-81	4771	27.35	5.49	2.81
869	SLD 4	592	-79	4770	26.98	5.38	3.46
869	SLD 5	173	679	4125	-100.05	2.61	3.55
869	SLD 6	142	680	4124	-100.29	2.54	3.98
869	SLD 7	198	-474	4956	99.33	3.2	2.1
869	SLD 8	167	-472	4955	99.09	3.13	2.53
869	SLD 9	-205	688	4034	-98.11	0.49	3.28
869	SLD 10	-236	689	4034	-98.35	0.42	3.71
869	SLD 11	-180	-465	4865	101.27	1.07	1.83
869	SLD 12	-211	-463	4864	101.03	1	2.26
869	SLD 13	-629	294	4219	-26	-1.77	2.35
869	SLD 14	-677	297	4218	-26.37	-1.88	3
869	SLD 15	-622	-51	4469	33.81	-1.59	1.91
869	SLD 16	-669	-49	4467	33.45	-1.7	2.56
869	SLV 1	999	362	4530	-52.6	7.28	3.45
869	SLV 2	924	365	4529	-53.18	7.11	4.47
869	SLV 3	1011	-197	4934	44.06	7.56	2.74
869	SLV 4	937	-193	4932	43.49	7.39	3.77
869	SLV 5	282	1031	3894	-161.94	3.05	3.95
869	SLV 6	232	1033	3893	-162.32	2.94	4.64
869	SLV 7	322	-832	5239	160.27	3.99	1.59
869	SLV 8	272	-829	5237	159.89	3.88	2.28
869	SLV 9	-310	1045	3752	-158.91	-0.26	3.53
869	SLV 10	-360	1047	3751	-159.29	-0.38	4.22
869	SLV 11	-270	-818	5097	163.3	0.68	1.17
869	SLV 12	-320	-815	5096	162.92	0.56	1.86
869	SLV 13	-975	409	4057	-42.51	-3.78	2.04
869	SLV 14	-1049	412	4056	-43.08	-3.95	3.06
869	SLV 15	-962	-150	4461	54.16	-3.49	1.33
869	SLV 16	-1036	-146	4459	53.59	-3.66	2.36
869	SLV FO 1	1100	387	4534	-57.91	7.83	3.51
869	SLV FO 2	1019	391	4532	-58.54	7.64	4.63
869	SLV FO 3	1114	-227	4978	48.42	8.14	2.73
869	SLV FO 4	1032	-224	4976	47.79	7.95	3.85



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
869	SLV FO 5	312	1123	3834	-178.18	3.18	4.06
869	SLV FO 6	257	1126	3833	-178.6	3.05	4.81
869	SLV FO 7	356	-926	5313	176.25	4.21	1.46
869	SLV FO 8	302	-923	5312	175.83	4.09	2.22
869	SLV FO 9	-339	1139	3678	-174.85	-0.47	3.59
869	SLV FO 10	-394	1141	3677	-175.27	-0.6	4.35
869	SLV FO 11	-295	-910	5157	179.59	0.56	0.99
869	SLV FO 12	-350	-908	5156	179.16	0.44	1.75
869	SLV FO 13	-1070	439	4014	-46.81	-4.33	1.95
869	SLV FO 14	-1152	443	4012	-47.44	-4.52	3.08
869	SLV FO 15	-1057	-176	4457	59.52	-4.02	1.18
869	SLV FO 16	-1138	-172	4456	58.89	-4.21	2.3
869	CRTFP Ux+	0	0	0	0	0	0
869	CRTFP Ux-	0	0	0	0	0	0
869	CRTFP Uy+	0	0	0	0	0	0
869	CRTFP Uy-	0	0	0	0	0	0
870	SLU 1	-15	117	4108	-1.27	0.43	2.68
870	SLU 2	-16	147	4090	-6.1	0.43	2.76
870	SLU 3	-16	119	4192	-0.24	0.44	2.73
870	SLU 4	-16	137	4181	-3.14	0.44	2.78
870	SLU 5	-16	147	4144	-5.43	0.43	2.78
870	SLU 6	-16	119	4246	0.42	0.45	2.75
870	SLU 7	-17	137	4235	-2.47	0.45	2.8
870	SLU 8	-16	118	4216	0.07	0.44	2.72
870	SLU 9	-16	136	4205	-2.83	0.44	2.77
870	SLU 10	-19	158	4658	-6.72	0.53	3.07
870	SLU 11	-20	130	4760	-0.87	0.54	3.04
870	SLU 12	-20	147	4749	-3.76	0.54	3.09
870	SLU 13	-20	158	4712	-6.05	0.53	3.1
870	SLU 14	-20	130	4814	-0.2	0.55	3.07
870	SLU 15	-20	148	4803	-3.09	0.54	3.12
870	SLU 16	-20	129	4784	-0.56	0.54	3.04
870	SLU 17	-20	147	4773	-3.45	0.54	3.09
870	SLU 18	-20	132	4919	-2.16	0.57	3.13
870	SLU 19	-21	150	4908	-5.06	0.57	3.18
870	SLU 20	-21	133	4973	-1.49	0.58	3.15
870	SLU 21	-21	151	4962	-4.39	0.58	3.2
870	SLU 22	-20	131	4781	1.9	0.57	3.05
870	SLU 23	-21	161	4762	-2.93	0.56	3.13
870	SLU 24	-21	132	4864	2.93	0.58	3.1
870	SLU 25	-22	150	4853	0.03	0.58	3.15
870	SLU 26	-21	161	4816	-2.26	0.57	3.16
870	SLU 27	-22	133	4918	3.59	0.58	3.13
870	SLU 28	-22	151	4907	0.7	0.58	3.18
870	SLU 29	-21	132	4888	3.24	0.58	3.1
870	SLU 30	-22	150	4877	0.34	0.58	3.15
870	SLU 31	-24	171	5330	-3.55	0.66	3.45
870	SLU 32	-25	143	5432	2.3	0.68	3.42
870	SLU 33	-25	161	5421	-0.59	0.68	3.47
870	SLU 34	-25	172	5384	-2.88	0.67	3.47
870	SLU 35	-25	144	5486	2.97	0.68	3.44
870	SLU 36	-25	162	5475	0.08	0.68	3.49
870	SLU 37	-25	143	5456	2.61	0.68	3.41
870	SLU 38	-25	161	5445	-0.28	0.68	3.46
870	SLU 39	-25	146	5592	1.01	0.71	3.5
870	SLU 40	-26	164	5581	-1.89	0.71	3.55
870	SLU 41	-26	147	5646	1.68	0.71	3.53
870	SLU 42	-26	165	5635	-1.22	0.71	3.58
870	SLU 43	-18	147	5110	-2.74	0.51	3.35
870	SLU 44	-19	177	5091	-7.56	0.51	3.43
870	SLU 45	-19	149	5194	-1.71	0.52	3.4
870	SLU 46	-19	167	5183	-4.61	0.52	3.45
870	SLU 47	-19	178	5145	-6.9	0.51	3.46
870	SLU 48	-19	150	5247	-1.04	0.53	3.42
870	SLU 49	-20	167	5237	-3.94	0.53	3.47
870	SLU 50	-19	148	5218	-1.4	0.52	3.4
870	SLU 51	-19	166	5207	-4.3	0.52	3.45
870	SLU 52	-22	188	5659	-8.19	0.61	3.75
870	SLU 53	-22	160	5761	-2.34	0.62	3.72
870	SLU 54	-23	178	5751	-5.23	0.62	3.77
870	SLU 55	-23	189	5713	-7.52	0.61	3.77
870	SLU 56	-23	161	5815	-1.67	0.63	3.74
870	SLU 57	-23	178	5804	-4.56	0.63	3.79
870	SLU 58	-22	159	5785	-2.03	0.62	3.71
870	SLU 59	-23	177	5775	-4.92	0.62	3.76
870	SLU 60	-23	163	5921	-3.63	0.65	3.8
870	SLU 61	-23	181	5910	-6.53	0.65	3.85
870	SLU 62	-23	163	5975	-2.96	0.66	3.82
870	SLU 63	-24	181	5964	-5.86	0.66	3.87
870	SLU 64	-23	161	5782	0.43	0.65	3.73
870	SLU 65	-24	191	5764	-4.39	0.65	3.81
870	SLU 66	-24	163	5866	1.46	0.66	3.78
870	SLU 67	-24	181	5855	-1.44	0.66	3.83
870	SLU 68	-24	191	5818	-3.73	0.65	3.83
870	SLU 69	-24	163	5920	2.13	0.67	3.8
870	SLU 70	-25	181	5909	-0.77	0.66	3.85
870	SLU 71	-24	162	5890	1.77	0.66	3.77
870	SLU 72	-24	180	5879	-1.13	0.66	3.82
870	SLU 73	-27	202	6332	-5.02	0.75	4.12



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
870	SLU 74	-27	174	6434	0.83	0.76	4.09
870	SLU 75	-28	192	6423	-2.06	0.76	4.14
870	SLU 76	-28	202	6386	-4.35	0.75	4.15
870	SLU 77	-28	174	6488	1.5	0.77	4.11
870	SLU 78	-28	192	6477	-1.39	0.76	4.16
870	SLU 79	-28	173	6458	1.14	0.76	4.09
870	SLU 80	-28	191	6447	-1.75	0.76	4.14
870	SLU 81	-28	177	6594	-0.46	0.79	4.18
870	SLU 82	-29	195	6583	-3.36	0.79	4.23
870	SLU 83	-29	177	6647	0.21	0.8	4.2
870	SLU 84	-29	195	6637	-2.69	0.79	4.25
870	SLE RA 1	-17	121	4300	-0.37	0.47	2.78
870	SLE RA 2	-17	141	4288	-3.58	0.47	2.84
870	SLE RA 3	-17	122	4356	0.32	0.48	2.82
870	SLE RA 4	-18	134	4349	-1.61	0.48	2.85
870	SLE RA 5	-17	141	4324	-3.14	0.47	2.85
870	SLE RA 6	-18	122	4392	0.76	0.48	2.83
870	SLE RA 7	-18	134	4385	-1.16	0.48	2.87
870	SLE RA 8	-17	122	4372	0.52	0.48	2.81
870	SLE RA 9	-18	134	4365	-1.4	0.48	2.85
870	SLE RA 10	-19	148	4667	-4	0.53	3.05
870	SLE RA 11	-20	129	4735	-0.1	0.54	3.03
870	SLE RA 12	-20	141	4727	-2.03	0.54	3.06
870	SLE RA 13	-20	148	4702	-3.55	0.54	3.06
870	SLE RA 14	-20	130	4771	0.35	0.55	3.04
870	SLE RA 15	-20	142	4763	-1.58	0.55	3.08
870	SLE RA 16	-20	129	4751	0.11	0.54	3.03
870	SLE RA 17	-20	141	4743	-1.82	0.54	3.06
870	SLE RA 18	-20	131	4841	-0.96	0.56	3.08
870	SLE RA 19	-20	143	4834	-2.89	0.56	3.12
870	SLE RA 20	-20	132	4877	-0.52	0.57	3.1
870	SLE RA 21	-21	144	4870	-2.44	0.57	3.13
870	SLE FR 1	-17	121	4300	-0.37	0.47	2.78
870	SLE FR 2	-17	125	4298	-1.01	0.47	2.79
870	SLE FR 3	-17	121	4314	-0.19	0.47	2.79
870	SLE FR 4	-18	128	4460	-1.19	0.5	2.88
870	SLE FR 5	-18	124	4477	-0.37	0.5	2.88
870	SLE FR 6	-18	126	4571	-0.66	0.52	2.93
870	SLE QP 1	-17	121	4300	-0.37	0.47	2.78
870	SLE QP 2	-18	124	4462	-0.55	0.5	2.87
870	SLD 1	633	282	4385	-33.9	4.26	3.4
870	SLD 2	585	288	4387	-34.39	4.15	4.1
870	SLD 3	640	-68	4632	25.81	4.32	2.45
870	SLD 4	593	-62	4634	25.32	4.2	3.15
870	SLD 5	175	701	4065	-101.02	1.56	4.35
870	SLD 6	143	704	4066	-101.34	1.48	4.81
870	SLD 7	199	-465	4887	98	1.75	1.18
870	SLD 8	168	-461	4888	97.68	1.68	1.64
870	SLD 9	-204	709	4037	-98.77	-0.68	4.11
870	SLD 10	-235	713	4038	-99.09	-0.76	4.57
870	SLD 11	-179	-457	4858	100.25	-0.49	0.94
870	SLD 12	-210	-453	4860	99.93	-0.56	1.4
870	SLD 13	-628	310	4291	-26.41	-3.21	2.59
870	SLD 14	-676	315	4293	-26.9	-3.32	3.3
870	SLD 15	-621	-40	4537	33.3	-3.15	1.64
870	SLD 16	-668	-34	4540	32.8	-3.27	2.34
870	SLV 1	1000	380	4335	-54.25	6.37	3.73
870	SLV 2	926	389	4339	-55.02	6.19	4.83
870	SLV 3	1012	-185	4734	42.24	6.46	2.19
870	SLV 4	938	-176	4737	41.47	6.28	3.29
870	SLV 5	283	1056	3819	-162.85	2.15	5.26
870	SLV 6	233	1062	3821	-163.37	2.03	6
870	SLV 7	324	-828	5148	158.78	2.46	0.13
870	SLV 8	274	-821	5151	158.26	2.34	0.87
870	SLV 9	-309	1069	3774	-159.35	-1.35	4.88
870	SLV 10	-359	1075	3776	-159.87	-1.47	5.62
870	SLV 11	-268	-814	5104	162.28	-1.03	-0.26
870	SLV 12	-318	-808	5106	161.76	-1.15	0.48
870	SLV 13	-974	424	4187	-42.56	-5.29	2.46
870	SLV 14	-1048	433	4191	-43.33	-5.47	3.56
870	SLV 15	-961	-141	4586	53.93	-5.2	0.92
870	SLV 16	-1036	-132	4589	53.16	-5.37	2.02
870	SLV FO 1	1102	405	4322	-59.62	6.95	3.82
870	SLV FO 2	1020	416	4326	-60.47	6.76	5.03
870	SLV FO 3	1115	-216	4761	46.52	7.06	2.12
870	SLV FO 4	1034	-206	4765	45.67	6.86	3.33
870	SLV FO 5	313	1149	3754	-179.09	2.31	5.5
870	SLV FO 6	258	1156	3757	-179.66	2.18	6.32
870	SLV FO 7	358	-923	5217	174.71	2.66	-0.15
870	SLV FO 8	303	-916	5219	174.14	2.53	0.67
870	SLV FO 9	-338	1164	3705	-175.23	-1.53	5.08
870	SLV FO 10	-393	1170	3708	-175.8	-1.66	5.89
870	SLV FO 11	-294	-908	5168	178.57	-1.19	-0.57
870	SLV FO 12	-348	-901	5171	178	-1.32	0.25
870	SLV FO 13	-1069	454	4160	-46.76	-5.87	2.42
870	SLV FO 14	-1151	464	4163	-47.61	-6.06	3.62
870	SLV FO 15	-1056	-168	4599	59.38	-5.77	0.72
870	SLV FO 16	-1137	-158	4602	58.53	-5.96	1.93
870	CRTFP Ux+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
870	CRTFP Ux-	0	0	0	0	0	0
870	CRTFP Uy+	0	0	0	0	0	0
870	CRTFP Uy-	0	0	0	0	0	0
871	SLU 1	-14	131	4110	-2.23	-0.54	2.57
871	SLU 2	-15	162	4091	-7.06	-0.53	2.69
871	SLU 3	-15	134	4194	-1.24	-0.56	2.61
871	SLU 4	-15	152	4183	-4.13	-0.56	2.69
871	SLU 5	-15	163	4146	-6.41	-0.55	2.71
871	SLU 6	-15	134	4248	-0.59	-0.58	2.63
871	SLU 7	-15	153	4237	-3.49	-0.57	2.71
871	SLU 8	-15	133	4218	-0.94	-0.57	2.61
871	SLU 9	-15	151	4207	-3.84	-0.57	2.68
871	SLU 10	-18	175	4658	-7.81	-0.56	2.98
871	SLU 11	-18	146	4761	-1.98	-0.59	2.91
871	SLU 12	-18	165	4750	-4.88	-0.58	2.98
871	SLU 13	-18	175	4712	-7.16	-0.58	3
871	SLU 14	-18	147	4815	-1.33	-0.6	2.93
871	SLU 15	-19	165	4804	-4.23	-0.6	3
871	SLU 16	-18	146	4785	-1.68	-0.6	2.9
871	SLU 17	-18	164	4774	-4.58	-0.59	2.97
871	SLU 18	-19	150	4920	-3.3	-0.57	2.98
871	SLU 19	-19	168	4909	-6.19	-0.57	3.06
871	SLU 20	-19	150	4974	-2.65	-0.59	3.01
871	SLU 21	-20	169	4963	-5.55	-0.59	3.08
871	SLU 22	-19	147	4781	0.79	-0.57	2.93
871	SLU 23	-20	178	4763	-4.04	-0.56	3.05
871	SLU 24	-20	149	4865	1.79	-0.59	2.97
871	SLU 25	-20	168	4854	-1.11	-0.59	3.05
871	SLU 26	-20	179	4817	-3.39	-0.58	3.07
871	SLU 27	-20	150	4919	2.44	-0.61	3
871	SLU 28	-20	169	4908	-0.46	-0.6	3.07
871	SLU 29	-20	149	4889	2.09	-0.6	2.97
871	SLU 30	-20	167	4878	-0.81	-0.6	3.04
871	SLU 31	-23	191	5329	-4.78	-0.59	3.34
871	SLU 32	-23	162	5432	1.04	-0.62	3.27
871	SLU 33	-23	180	5421	-1.85	-0.61	3.34
871	SLU 34	-23	191	5384	-4.13	-0.61	3.36
871	SLU 35	-23	163	5486	1.69	-0.63	3.29
871	SLU 36	-24	181	5475	-1.21	-0.63	3.36
871	SLU 37	-23	162	5456	1.34	-0.63	3.26
871	SLU 38	-23	180	5445	-1.56	-0.62	3.34
871	SLU 39	-24	165	5591	-0.27	-0.6	3.35
871	SLU 40	-24	184	5580	-3.17	-0.6	3.42
871	SLU 41	-24	166	5645	0.37	-0.62	3.37
871	SLU 42	-24	185	5634	-2.52	-0.62	3.44
871	SLU 43	-17	165	5113	-3.94	-0.69	3.21
871	SLU 44	-17	196	5094	-8.77	-0.68	3.33
871	SLU 45	-17	167	5197	-2.94	-0.71	3.26
871	SLU 46	-18	186	5186	-5.84	-0.71	3.33
871	SLU 47	-18	197	5148	-8.12	-0.7	3.35
871	SLU 48	-18	168	5251	-2.3	-0.73	3.28
871	SLU 49	-18	187	5240	-5.19	-0.73	3.35
871	SLU 50	-17	167	5221	-2.65	-0.72	3.25
871	SLU 51	-18	185	5210	-5.54	-0.72	3.33
871	SLU 52	-21	209	5661	-9.51	-0.71	3.63
871	SLU 53	-21	180	5764	-3.69	-0.74	3.55
871	SLU 54	-21	198	5753	-6.59	-0.73	3.62
871	SLU 55	-21	209	5715	-8.87	-0.73	3.65
871	SLU 56	-21	181	5818	-3.04	-0.76	3.57
871	SLU 57	-21	199	5807	-5.94	-0.75	3.65
871	SLU 58	-21	180	5788	-3.39	-0.75	3.55
871	SLU 59	-21	198	5777	-6.29	-0.74	3.62
871	SLU 60	-21	184	5922	-5	-0.72	3.63
871	SLU 61	-22	202	5911	-7.9	-0.72	3.7
871	SLU 62	-22	184	5977	-4.36	-0.74	3.65
871	SLU 63	-22	203	5966	-7.25	-0.74	3.72
871	SLU 64	-21	181	5784	-0.92	-0.72	3.57
871	SLU 65	-22	212	5765	-5.74	-0.71	3.69
871	SLU 66	-22	183	5868	0.08	-0.74	3.62
871	SLU 67	-23	202	5857	-2.82	-0.74	3.69
871	SLU 68	-22	213	5820	-5.1	-0.73	3.71
871	SLU 69	-23	184	5922	0.73	-0.76	3.64
871	SLU 70	-23	203	5911	-2.17	-0.76	3.71
871	SLU 71	-22	183	5892	0.38	-0.75	3.61
871	SLU 72	-23	201	5881	-2.52	-0.75	3.69
871	SLU 73	-25	224	6332	-6.49	-0.74	3.99
871	SLU 74	-26	196	6435	-0.66	-0.77	3.91
871	SLU 75	-26	214	6424	-3.56	-0.76	3.99
871	SLU 76	-26	225	6386	-5.84	-0.76	4.01
871	SLU 77	-26	197	6489	-0.02	-0.78	3.93
871	SLU 78	-26	215	6478	-2.91	-0.78	4.01
871	SLU 79	-26	196	6459	-0.37	-0.78	3.91
871	SLU 80	-26	214	6448	-3.26	-0.77	3.98
871	SLU 81	-26	199	6594	-1.98	-0.75	3.99
871	SLU 82	-27	218	6583	-4.88	-0.75	4.06
871	SLU 83	-27	200	6648	-1.33	-0.77	4.01
871	SLU 84	-27	219	6637	-4.23	-0.77	4.09
871	SLE RA 1	-15	136	4302	-1.37	-0.54	2.67
871	SLE RA 2	-16	156	4289	-4.59	-0.54	2.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
871	SLE RA 3	-16	137	4358	-0.7	-0.56	2.7
871	SLE RA 4	-16	150	4350	-2.64	-0.56	2.75
871	SLE RA 5	-16	157	4325	-4.16	-0.55	2.76
871	SLE RA 6	-16	138	4394	-0.27	-0.57	2.71
871	SLE RA 7	-16	150	4386	-2.2	-0.57	2.76
871	SLE RA 8	-16	137	4374	-0.51	-0.57	2.7
871	SLE RA 9	-16	149	4366	-2.44	-0.57	2.75
871	SLE RA 10	-18	165	4667	-5.08	-0.56	2.94
871	SLE RA 11	-18	146	4735	-1.2	-0.58	2.9
871	SLE RA 12	-18	158	4728	-3.13	-0.58	2.94
871	SLE RA 13	-18	165	4703	-4.65	-0.57	2.96
871	SLE RA 14	-18	146	4772	-0.77	-0.59	2.91
871	SLE RA 15	-19	159	4764	-2.7	-0.59	2.96
871	SLE RA 16	-18	146	4752	-1	-0.59	2.89
871	SLE RA 17	-18	158	4744	-2.93	-0.58	2.94
871	SLE RA 18	-19	148	4841	-2.08	-0.57	2.95
871	SLE RA 19	-19	160	4834	-4.01	-0.57	3
871	SLE RA 20	-19	149	4877	-1.65	-0.58	2.96
871	SLE RA 21	-19	161	4870	-3.58	-0.58	3.01
871	SLE FR 1	-15	136	4302	-1.37	-0.54	2.67
871	SLE FR 2	-16	140	4299	-2.01	-0.54	2.68
871	SLE FR 3	-16	136	4316	-1.2	-0.55	2.67
871	SLE FR 4	-16	144	4461	-2.23	-0.55	2.77
871	SLE FR 5	-17	140	4478	-1.41	-0.56	2.76
871	SLE FR 6	-17	142	4571	-1.72	-0.56	2.81
871	SLE QP 1	-15	136	4302	-1.37	-0.54	2.67
871	SLE QP 2	-16	140	4463	-1.58	-0.55	2.75
871	SLD 1	634	299	4275	-35.39	3.32	2.68
871	SLD 2	587	309	4281	-36.01	3.21	3.5
871	SLD 3	642	-57	4522	24.32	3.24	1.31
871	SLD 4	594	-47	4528	23.7	3.13	2.13
871	SLD 5	176	726	4031	-102.17	0.76	4.66
871	SLD 6	145	733	4035	-102.58	0.68	5.2
871	SLD 7	201	-462	4855	96.86	0.48	0.1
871	SLD 8	170	-455	4858	96.45	0.41	0.64
871	SLD 9	-202	734	4069	-99.61	-1.51	4.87
871	SLD 10	-234	741	4072	-100.02	-1.58	5.41
871	SLD 11	-178	-453	4892	99.42	-1.79	0.3
871	SLD 12	-209	-447	4896	99.01	-1.86	0.84
871	SLD 13	-627	326	4399	-26.86	-4.23	3.37
871	SLD 14	-674	336	4405	-27.48	-4.34	4.19
871	SLD 15	-620	-30	4646	32.85	-4.31	2
871	SLD 16	-667	-20	4652	32.23	-4.43	2.82
871	SLV 1	1001	398	4162	-56	5.5	2.68
871	SLV 2	927	414	4171	-56.97	5.32	3.96
871	SLV 3	1014	-178	4562	40.5	5.36	0.46
871	SLV 4	939	-162	4571	39.52	5.18	1.75
871	SLV 5	284	1087	3765	-164.08	1.5	5.85
871	SLV 6	234	1098	3771	-164.73	1.38	6.72
871	SLV 7	325	-832	5098	157.57	1.05	-1.54
871	SLV 8	275	-821	5104	156.92	0.93	-0.67
871	SLV 9	-308	1100	3823	-160.08	-2.03	6.18
871	SLV 10	-358	1111	3829	-160.74	-2.15	7.04
871	SLV 11	-267	-819	5156	161.57	-2.49	-1.22
871	SLV 12	-317	-808	5162	160.91	-2.61	-0.35
871	SLV 13	-972	441	4356	-42.69	-6.29	3.76
871	SLV 14	-1047	457	4365	-43.66	-6.46	5.04
871	SLV 15	-960	-134	4756	53.81	-6.43	1.54
871	SLV 16	-1034	-119	4765	52.84	-6.6	2.83
871	SLV FO 1	1103	424	4132	-61.44	6.1	2.67
871	SLV FO 2	1022	441	4142	-62.51	5.91	4.09
871	SLV FO 3	1117	-210	4572	44.7	5.95	0.23
871	SLV FO 4	1035	-192	4581	43.63	5.76	1.65
871	SLV FO 5	314	1182	3695	-180.32	1.71	6.16
871	SLV FO 6	259	1194	3701	-181.04	1.58	7.12
871	SLV FO 7	359	-929	5162	173.49	1.21	-1.97
871	SLV FO 8	304	-917	5168	172.77	1.08	-1.02
871	SLV FO 9	-337	1197	3759	-175.93	-2.18	6.52
871	SLV FO 10	-392	1208	3765	-176.65	-2.31	7.47
871	SLV FO 11	-292	-915	5226	177.88	-2.68	-1.61
871	SLV FO 12	-347	-903	5232	177.16	-2.81	-0.66
871	SLV FO 13	-1068	472	4346	-46.8	-6.86	3.86
871	SLV FO 14	-1150	489	4355	-47.87	-7.06	5.27
871	SLV FO 15	-1054	-162	4785	59.35	-7.01	1.42
871	SLV FO 16	-1136	-145	4795	58.28	-7.21	2.83
871	CRTFP Ux+	0	0	0	0	0	0
871	CRTFP Ux-	0	0	0	0	0	0
871	CRTFP Uy+	0	0	0	0	0	0
871	CRTFP Uy-	0	0	0	0	0	0
872	SLU 1	-13	145	4137	-3.2	-1.38	2.35
872	SLU 2	-13	176	4119	-8.04	-1.37	2.49
872	SLU 3	-13	148	4223	-2.23	-1.44	2.39
872	SLU 4	-14	166	4212	-5.14	-1.43	2.48
872	SLU 5	-14	177	4174	-7.41	-1.41	2.51
872	SLU 6	-14	149	4278	-1.6	-1.48	2.41
872	SLU 7	-14	167	4266	-4.51	-1.47	2.5
872	SLU 8	-13	147	4247	-1.94	-1.46	2.38
872	SLU 9	-14	166	4236	-4.85	-1.45	2.47
872	SLU 10	-17	191	4688	-8.91	-1.51	2.75



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
872	SLU 11	-17	162	4792	-3.1	-1.58	2.65
872	SLU 12	-17	181	4781	-6	-1.57	2.74
872	SLU 13	-17	192	4743	-8.28	-1.55	2.77
872	SLU 14	-17	163	4847	-2.47	-1.62	2.67
872	SLU 15	-17	182	4836	-5.38	-1.61	2.75
872	SLU 16	-17	161	4817	-2.81	-1.6	2.64
872	SLU 17	-17	180	4805	-5.72	-1.59	2.73
872	SLU 18	-17	166	4951	-4.44	-1.58	2.72
872	SLU 19	-18	184	4940	-7.34	-1.58	2.81
872	SLU 20	-18	167	5006	-3.81	-1.62	2.74
872	SLU 21	-18	185	4995	-6.72	-1.62	2.82
872	SLU 22	-18	163	4812	-0.31	-1.56	2.68
872	SLU 23	-18	194	4793	-5.16	-1.55	2.83
872	SLU 24	-18	165	4897	0.65	-1.62	2.72
872	SLU 25	-18	184	4886	-2.25	-1.61	2.81
872	SLU 26	-18	195	4848	-4.53	-1.59	2.84
872	SLU 27	-18	166	4952	1.28	-1.65	2.74
872	SLU 28	-19	185	4941	-1.63	-1.65	2.83
872	SLU 29	-18	165	4921	0.94	-1.64	2.72
872	SLU 30	-19	184	4910	-1.97	-1.63	2.8
872	SLU 31	-21	209	5362	-6.02	-1.69	3.09
872	SLU 32	-21	180	5466	-0.22	-1.76	2.98
872	SLU 33	-22	198	5455	-3.12	-1.75	3.07
872	SLU 34	-22	210	5417	-5.4	-1.73	3.1
872	SLU 35	-22	181	5521	0.41	-1.79	3
872	SLU 36	-22	199	5510	-2.49	-1.79	3.09
872	SLU 37	-21	179	5491	0.07	-1.78	2.98
872	SLU 38	-22	198	5480	-2.83	-1.77	3.06
872	SLU 39	-22	183	5625	-1.55	-1.76	3.05
872	SLU 40	-22	202	5614	-4.46	-1.76	3.14
872	SLU 41	-22	184	5680	-0.93	-1.8	3.07
872	SLU 42	-23	203	5669	-3.83	-1.79	3.16
872	SLU 43	-15	183	5148	-5.15	-1.74	2.94
872	SLU 44	-16	214	5129	-9.99	-1.73	3.08
872	SLU 45	-16	185	5233	-4.18	-1.79	2.98
872	SLU 46	-16	204	5222	-7.08	-1.79	3.07
872	SLU 47	-16	215	5184	-9.36	-1.76	3.1
872	SLU 48	-16	186	5288	-3.55	-1.83	3
872	SLU 49	-16	205	5277	-6.46	-1.82	3.09
872	SLU 50	-16	185	5257	-3.89	-1.81	2.97
872	SLU 51	-16	203	5246	-6.8	-1.81	3.06
872	SLU 52	-19	228	5698	-10.86	-1.87	3.34
872	SLU 53	-19	199	5802	-5.05	-1.93	3.24
872	SLU 54	-19	218	5791	-7.95	-1.93	3.33
872	SLU 55	-19	229	5753	-10.23	-1.91	3.36
872	SLU 56	-19	200	5857	-4.42	-1.97	3.26
872	SLU 57	-20	219	5846	-7.33	-1.96	3.34
872	SLU 58	-19	199	5827	-4.76	-1.95	3.23
872	SLU 59	-19	218	5816	-7.67	-1.95	3.32
872	SLU 60	-20	203	5961	-6.39	-1.94	3.31
872	SLU 61	-20	222	5950	-9.29	-1.93	3.4
872	SLU 62	-20	204	6016	-5.76	-1.98	3.33
872	SLU 63	-20	223	6005	-8.67	-1.97	3.41
872	SLU 64	-20	201	5822	-2.26	-1.92	3.27
872	SLU 65	-20	232	5803	-7.1	-1.91	3.42
872	SLU 66	-20	203	5907	-1.29	-1.97	3.31
872	SLU 67	-21	222	5896	-4.2	-1.97	3.4
872	SLU 68	-21	233	5858	-6.48	-1.94	3.43
872	SLU 69	-21	204	5962	-0.67	-2.01	3.33
872	SLU 70	-21	223	5951	-3.57	-2	3.42
872	SLU 71	-20	202	5931	-1.01	-1.99	3.31
872	SLU 72	-21	221	5920	-3.91	-1.98	3.39
872	SLU 73	-24	246	6372	-7.97	-2.05	3.68
872	SLU 74	-24	217	6476	-2.16	-2.11	3.57
872	SLU 75	-24	236	6465	-5.07	-2.11	3.66
872	SLU 76	-24	247	6427	-7.35	-2.08	3.69
872	SLU 77	-24	218	6531	-1.54	-2.15	3.59
872	SLU 78	-24	237	6520	-4.44	-2.14	3.68
872	SLU 79	-24	217	6501	-1.88	-2.13	3.57
872	SLU 80	-24	235	6490	-4.78	-2.12	3.65
872	SLU 81	-24	221	6635	-3.5	-2.12	3.64
872	SLU 82	-25	240	6624	-6.41	-2.11	3.73
872	SLU 83	-25	222	6690	-2.88	-2.15	3.66
872	SLU 84	-25	241	6679	-5.78	-2.15	3.75
872	SLE RA 1	-14	150	4330	-2.37	-1.44	2.44
872	SLE RA 2	-15	171	4318	-5.6	-1.43	2.54
872	SLE RA 3	-15	152	4387	-1.73	-1.47	2.47
872	SLE RA 4	-15	164	4379	-3.67	-1.47	2.53
872	SLE RA 5	-15	172	4354	-5.18	-1.45	2.55
872	SLE RA 6	-15	153	4423	-1.31	-1.5	2.48
872	SLE RA 7	-15	165	4416	-3.25	-1.49	2.54
872	SLE RA 8	-15	152	4403	-1.54	-1.48	2.47
872	SLE RA 9	-15	164	4396	-3.47	-1.48	2.53
872	SLE RA 10	-17	181	4697	-6.18	-1.52	2.71
872	SLE RA 11	-17	161	4766	-2.31	-1.57	2.65
872	SLE RA 12	-17	174	4759	-4.25	-1.56	2.7
872	SLE RA 13	-17	181	4734	-5.76	-1.55	2.72
872	SLE RA 14	-17	162	4803	-1.89	-1.59	2.66
872	SLE RA 15	-17	175	4796	-3.83	-1.59	2.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
872	SLE RA 16	-17	161	4783	-2.12	-1.58	2.64
872	SLE RA 17	-17	174	4775	-4.05	-1.57	2.7
872	SLE RA 18	-17	164	4872	-3.2	-1.57	2.69
872	SLE RA 19	-17	176	4865	-5.14	-1.56	2.75
872	SLE RA 20	-17	165	4909	-2.78	-1.59	2.7
872	SLE RA 21	-18	177	4901	-4.72	-1.59	2.76
872	SLE FR 1	-14	150	4330	-2.37	-1.44	2.44
872	SLE FR 2	-14	155	4328	-3.02	-1.43	2.46
872	SLE FR 3	-14	151	4345	-2.21	-1.44	2.45
872	SLE FR 4	-15	159	4490	-3.27	-1.47	2.54
872	SLE FR 5	-15	155	4507	-2.45	-1.49	2.52
872	SLE FR 6	-16	157	4601	-2.79	-1.5	2.57
872	SLE QP 1	-14	150	4330	-2.37	-1.44	2.44
872	SLE QP 2	-15	154	4493	-2.62	-1.48	2.52
872	SLD 1	635	315	4194	-36.96	2.36	2.4
872	SLD 2	588	329	4203	-37.7	2.25	3.41
872	SLD 3	643	-50	4444	22.87	2.21	0.78
872	SLD 4	595	-35	4453	22.12	2.11	1.79
872	SLD 5	177	753	4022	-103.52	-0.08	4.76
872	SLD 6	146	763	4028	-104.01	-0.15	5.43
872	SLD 7	202	-463	4856	95.89	-0.57	-0.65
872	SLD 8	171	-453	4862	95.39	-0.64	0.02
872	SLD 9	-201	762	4124	-100.64	-2.31	5.01
872	SLD 10	-232	772	4129	-101.13	-2.38	5.68
872	SLD 11	-176	-454	4958	98.77	-2.8	-0.39
872	SLD 12	-207	-444	4963	98.27	-2.87	0.27
872	SLD 13	-625	344	4533	-27.36	-5.06	3.24
872	SLD 14	-673	359	4541	-28.11	-5.16	4.25
872	SLD 15	-618	-21	4783	32.46	-5.2	1.62
872	SLD 16	-666	-6	4791	31.71	-5.31	2.63
872	SLV 1	1003	414	4020	-57.86	4.51	2.38
872	SLV 2	928	437	4033	-59.03	4.34	3.96
872	SLV 3	1015	-176	4424	38.82	4.27	-0.25
872	SLV 4	940	-152	4438	37.64	4.11	1.34
872	SLV 5	286	1122	3734	-165.6	0.71	6.17
872	SLV 6	235	1138	3743	-166.39	0.6	7.23
872	SLV 7	326	-843	5084	156.66	-0.08	-2.59
872	SLV 8	276	-828	5093	155.87	-0.19	-1.53
872	SLV 9	-306	1136	3893	-161.11	-2.76	6.56
872	SLV 10	-357	1152	3902	-161.9	-2.87	7.63
872	SLV 11	-266	-829	5242	161.15	-3.55	-2.2
872	SLV 12	-316	-814	5251	160.36	-3.66	-1.13
872	SLV 13	-971	461	4548	-42.89	-7.06	3.7
872	SLV 14	-1045	484	4561	-44.06	-7.22	5.28
872	SLV 15	-958	-129	4952	53.79	-7.29	1.07
872	SLV 16	-1033	-105	4966	52.62	-7.46	2.65
872	SLV FO 1	1104	440	3972	-63.39	5.11	2.37
872	SLV FO 2	1022	466	3987	-64.68	4.93	4.11
872	SLV FO 3	1118	-209	4418	42.96	4.85	-0.52
872	SLV FO 4	1036	-183	4432	41.67	4.66	1.22
872	SLV FO 5	316	1219	3658	-181.9	0.93	6.53
872	SLV FO 6	260	1236	3668	-182.77	0.81	7.7
872	SLV FO 7	360	-943	5143	172.59	0.06	-3.1
872	SLV FO 8	305	-926	5153	171.72	-0.07	-1.93
872	SLV FO 9	-336	1235	3833	-176.96	-2.88	6.96
872	SLV FO 10	-391	1252	3843	-177.83	-3.01	8.14
872	SLV FO 11	-291	-928	5317	177.53	-3.76	-2.67
872	SLV FO 12	-346	-910	5327	176.66	-3.88	-1.49
872	SLV FO 13	-1066	492	4553	-46.91	-7.61	3.82
872	SLV FO 14	-1148	517	4568	-48.2	-7.8	5.56
872	SLV FO 15	-1053	-157	4998	59.43	-7.88	0.93
872	SLV FO 16	-1135	-131	5013	58.14	-8.06	2.67
872	CRTFP Ux+	0	0	0	0	0	0
872	CRTFP Ux-	0	0	0	0	0	0
872	CRTFP Uy+	0	0	0	0	0	0
872	CRTFP Uy-	0	0	0	0	0	0
873	SLU 1	-12	158	4189	-4.17	-2.17	2
873	SLU 2	-12	190	4170	-9.03	-2.15	2.15
873	SLU 3	-12	160	4276	-3.23	-2.25	2.04
873	SLU 4	-13	179	4264	-6.15	-2.24	2.13
873	SLU 5	-13	191	4226	-8.43	-2.21	2.16
873	SLU 6	-13	161	4332	-2.62	-2.3	2.05
873	SLU 7	-13	180	4321	-5.54	-2.29	2.14
873	SLU 8	-12	160	4301	-2.95	-2.27	2.03
873	SLU 9	-13	179	4290	-5.87	-2.27	2.12
873	SLU 10	-15	205	4745	-10.03	-2.4	2.36
873	SLU 11	-15	176	4851	-4.22	-2.5	2.25
873	SLU 12	-16	195	4839	-7.14	-2.49	2.34
873	SLU 13	-16	206	4801	-9.42	-2.46	2.37
873	SLU 14	-16	177	4907	-3.62	-2.55	2.26
873	SLU 15	-16	196	4895	-6.54	-2.54	2.35
873	SLU 16	-15	175	4876	-3.95	-2.52	2.24
873	SLU 17	-16	194	4864	-6.87	-2.51	2.33
873	SLU 18	-16	180	5010	-5.59	-2.52	2.3
873	SLU 19	-17	199	4998	-8.51	-2.51	2.39
873	SLU 20	-16	181	5066	-4.98	-2.58	2.32
873	SLU 21	-17	200	5055	-7.9	-2.57	2.41
873	SLU 22	-16	177	4870	-1.42	-2.49	2.29
873	SLU 23	-17	209	4851	-6.28	-2.47	2.44



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
873	SLU 24	-17	180	4957	-0.48	-2.57	2.33
873	SLU 25	-17	199	4946	-3.4	-2.56	2.42
873	SLU 26	-17	210	4907	-5.68	-2.53	2.45
873	SLU 27	-17	181	5013	0.13	-2.62	2.34
873	SLU 28	-17	200	5002	-2.79	-2.61	2.43
873	SLU 29	-17	179	4982	-0.2	-2.59	2.32
873	SLU 30	-17	199	4971	-3.12	-2.58	2.41
873	SLU 31	-20	225	5426	-7.28	-2.72	2.65
873	SLU 32	-20	195	5532	-1.47	-2.81	2.54
873	SLU 33	-20	215	5520	-4.39	-2.81	2.63
873	SLU 34	-20	226	5482	-6.67	-2.77	2.66
873	SLU 35	-20	196	5588	-0.87	-2.87	2.55
873	SLU 36	-21	216	5577	-3.79	-2.86	2.64
873	SLU 37	-20	195	5557	-1.2	-2.84	2.53
873	SLU 38	-20	214	5546	-4.12	-2.83	2.62
873	SLU 39	-21	199	5691	-2.84	-2.84	2.59
873	SLU 40	-21	219	5680	-5.76	-2.83	2.68
873	SLU 41	-21	200	5747	-2.23	-2.89	2.61
873	SLU 42	-21	220	5736	-5.15	-2.89	2.7
873	SLU 43	-14	198	5211	-6.36	-2.71	2.5
873	SLU 44	-14	230	5193	-11.23	-2.69	2.65
873	SLU 45	-14	201	5299	-5.42	-2.79	2.54
873	SLU 46	-15	220	5287	-8.34	-2.78	2.63
873	SLU 47	-15	231	5249	-10.62	-2.75	2.66
873	SLU 48	-15	202	5355	-4.82	-2.84	2.55
873	SLU 49	-15	221	5343	-7.74	-2.83	2.64
873	SLU 50	-14	200	5324	-5.15	-2.81	2.53
873	SLU 51	-15	219	5313	-8.07	-2.81	2.62
873	SLU 52	-17	246	5768	-12.22	-2.94	2.86
873	SLU 53	-17	216	5873	-6.42	-3.04	2.75
873	SLU 54	-18	235	5862	-9.34	-3.03	2.84
873	SLU 55	-18	247	5824	-11.61	-3	2.88
873	SLU 56	-18	217	5930	-5.81	-3.09	2.76
873	SLU 57	-18	237	5918	-8.73	-3.08	2.85
873	SLU 58	-17	216	5899	-6.14	-3.06	2.74
873	SLU 59	-18	235	5887	-9.06	-3.06	2.83
873	SLU 60	-18	220	6033	-7.78	-3.06	2.8
873	SLU 61	-19	240	6021	-10.7	-3.06	2.89
873	SLU 62	-18	221	6089	-7.18	-3.12	2.82
873	SLU 63	-19	241	6078	-10.09	-3.11	2.91
873	SLU 64	-18	218	5893	-3.61	-3.03	2.79
873	SLU 65	-19	250	5874	-8.48	-3.01	2.94
873	SLU 66	-19	220	5980	-2.67	-3.11	2.83
873	SLU 67	-19	240	5969	-5.59	-3.1	2.92
873	SLU 68	-19	251	5930	-7.87	-3.07	2.95
873	SLU 69	-19	221	6036	-2.07	-3.16	2.84
873	SLU 70	-19	241	6025	-4.99	-3.15	2.93
873	SLU 71	-19	220	6005	-2.4	-3.13	2.82
873	SLU 72	-19	239	5994	-5.32	-3.13	2.91
873	SLU 73	-22	265	6449	-9.47	-3.26	3.15
873	SLU 74	-22	236	6555	-3.67	-3.36	3.04
873	SLU 75	-22	255	6543	-6.59	-3.35	3.13
873	SLU 76	-22	266	6505	-8.86	-3.32	3.17
873	SLU 77	-22	237	6611	-3.06	-3.41	3.05
873	SLU 78	-23	256	6600	-5.98	-3.4	3.14
873	SLU 79	-22	235	6580	-3.39	-3.38	3.03
873	SLU 80	-22	255	6569	-6.31	-3.37	3.12
873	SLU 81	-23	240	6714	-5.03	-3.38	3.09
873	SLU 82	-23	259	6703	-7.95	-3.37	3.18
873	SLU 83	-23	241	6770	-4.43	-3.44	3.11
873	SLU 84	-23	260	6759	-7.34	-3.43	3.2
873	SLE RA 1	-13	163	4383	-3.38	-2.26	2.08
873	SLE RA 2	-13	185	4371	-6.63	-2.25	2.18
873	SLE RA 3	-13	165	4441	-2.76	-2.31	2.11
873	SLE RA 4	-14	178	4434	-4.7	-2.31	2.17
873	SLE RA 5	-14	185	4408	-6.22	-2.28	2.19
873	SLE RA 6	-14	166	4479	-2.35	-2.35	2.12
873	SLE RA 7	-14	178	4471	-4.3	-2.34	2.18
873	SLE RA 8	-13	165	4458	-2.57	-2.33	2.1
873	SLE RA 9	-14	177	4451	-4.52	-2.32	2.16
873	SLE RA 10	-16	195	4754	-7.29	-2.42	2.32
873	SLE RA 11	-15	175	4824	-3.42	-2.48	2.25
873	SLE RA 12	-16	188	4817	-5.37	-2.47	2.31
873	SLE RA 13	-16	196	4791	-6.88	-2.45	2.33
873	SLE RA 14	-16	176	4862	-3.02	-2.51	2.26
873	SLE RA 15	-16	189	4854	-4.96	-2.51	2.32
873	SLE RA 16	-15	175	4841	-3.24	-2.49	2.24
873	SLE RA 17	-16	188	4834	-5.18	-2.49	2.3
873	SLE RA 18	-16	178	4931	-4.33	-2.5	2.28
873	SLE RA 19	-16	191	4923	-6.28	-2.49	2.34
873	SLE RA 20	-16	179	4968	-3.93	-2.53	2.29
873	SLE RA 21	-16	192	4961	-5.87	-2.53	2.35
873	SLE FR 1	-13	163	4383	-3.38	-2.26	2.08
873	SLE FR 2	-13	167	4381	-4.03	-2.26	2.1
873	SLE FR 3	-13	163	4398	-3.22	-2.27	2.09
873	SLE FR 4	-14	172	4545	-4.32	-2.33	2.16
873	SLE FR 5	-14	168	4562	-3.51	-2.34	2.15
873	SLE FR 6	-15	171	4657	-3.86	-2.38	2.18
873	SLE QP 1	-13	163	4383	-3.38	-2.26	2.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
873	SLE QP 2	-14	168	4547	-3.67	-2.33	2.14
873	SLD 1	636	327	4141	-38.59	1.33	1.61
873	SLD 2	589	348	4153	-39.47	1.24	2.88
873	SLD 3	644	-48	4396	21.45	1.14	-0.03
873	SLD 4	596	-26	4407	20.57	1.05	1.24
873	SLD 5	178	779	4037	-105.06	-0.93	4.25
873	SLD 6	147	793	4045	-105.64	-0.99	5.09
873	SLD 7	203	-469	4886	95.1	-1.55	-1.23
873	SLD 8	172	-455	4894	94.52	-1.61	-0.4
873	SLD 9	-200	790	4201	-101.85	-3.04	4.68
873	SLD 10	-231	804	4208	-102.43	-3.1	5.52
873	SLD 11	-175	-458	5050	98.3	-3.67	-0.8
873	SLD 12	-206	-444	5058	97.72	-3.73	0.04
873	SLD 13	-624	362	4687	-27.91	-5.71	3.05
873	SLD 14	-671	383	4699	-28.79	-5.8	4.32
873	SLD 15	-616	-13	4942	32.14	-5.9	1.41
873	SLD 16	-664	8	4954	31.26	-5.99	2.67
873	SLV 1	1003	426	3906	-59.84	3.39	1.36
873	SLV 2	929	459	3924	-61.21	3.24	3.35
873	SLV 3	1015	-179	4319	37.21	3.08	-1.3
873	SLV 4	941	-146	4337	35.83	2.94	0.68
873	SLV 5	287	1157	3726	-167.44	-0.13	5.58
873	SLV 6	236	1179	3738	-168.37	-0.22	6.92
873	SLV 7	327	-860	5101	156.04	-1.14	-3.3
873	SLV 8	277	-838	5113	155.11	-1.24	-1.97
873	SLV 9	-305	1173	3982	-162.44	-3.42	6.26
873	SLV 10	-355	1195	3994	-163.37	-3.52	7.59
873	SLV 11	-264	-844	5356	161.04	-4.43	-2.63
873	SLV 12	-314	-822	5368	160.11	-4.53	-1.3
873	SLV 13	-969	481	4758	-43.16	-7.6	3.61
873	SLV 14	-1043	514	4776	-44.54	-7.74	5.59
873	SLV 15	-957	-124	5171	53.88	-7.9	0.94
873	SLV 16	-1031	-91	5188	52.5	-8.04	2.92
873	SLV FO 1	1105	452	3842	-65.45	3.96	1.29
873	SLV FO 2	1023	488	3862	-66.97	3.8	3.47
873	SLV FO 3	1118	-214	4296	41.29	3.62	-1.65
873	SLV FO 4	1036	-177	4315	39.78	3.46	0.53
873	SLV FO 5	317	1256	3644	-183.82	0.09	5.93
873	SLV FO 6	261	1280	3657	-184.84	-0.01	7.4
873	SLV FO 7	362	-963	5156	172.01	-1.02	-3.85
873	SLV FO 8	306	-939	5169	170.99	-1.13	-2.38
873	SLV FO 9	-334	1274	3925	-178.32	-3.53	6.67
873	SLV FO 10	-389	1298	3939	-179.34	-3.64	8.14
873	SLV FO 11	-289	-945	5437	177.51	-4.64	-3.11
873	SLV FO 12	-344	-920	5451	176.49	-4.75	-1.64
873	SLV FO 13	-1064	512	4779	-47.11	-8.12	3.75
873	SLV FO 14	-1146	549	4799	-48.63	-8.28	5.94
873	SLV FO 15	-1051	-153	5233	59.63	-8.46	0.82
873	SLV FO 16	-1133	-117	5253	58.12	-8.62	3
873	CRTFP Ux+	0	0	0	0	0	0
873	CRTFP Ux-	0	0	0	0	0	0
873	CRTFP Uy+	0	0	0	0	0	0
873	CRTFP Uy-	0	0	0	0	0	0
874	SLU 1	-10	153	3884	-4.66	70.12	-1.49
874	SLU 2	-11	183	3867	-9.15	69.8	-1.94
874	SLU 3	-11	155	3966	-3.82	71.56	-1.52
874	SLU 4	-11	173	3956	-6.52	71.37	-1.78
874	SLU 5	-11	184	3920	-8.61	70.73	-1.95
874	SLU 6	-11	156	4019	-3.28	72.5	-1.53
874	SLU 7	-11	174	4008	-5.98	72.31	-1.79
874	SLU 8	-10	155	3990	-3.58	71.98	-1.52
874	SLU 9	-11	173	3979	-6.27	71.79	-1.78
874	SLU 10	-13	198	4399	-10.17	79.44	-2.09
874	SLU 11	-13	170	4498	-4.84	81.2	-1.67
874	SLU 12	-14	188	4488	-7.54	81.01	-1.93
874	SLU 13	-14	199	4452	-9.63	80.37	-2.1
874	SLU 14	-14	171	4551	-4.3	82.13	-1.68
874	SLU 15	-14	189	4540	-7	81.94	-1.94
874	SLU 16	-13	170	4522	-4.6	81.62	-1.67
874	SLU 17	-14	188	4511	-7.29	81.43	-1.93
874	SLU 18	-14	174	4644	-6.12	83.88	-1.71
874	SLU 19	-14	192	4634	-8.81	83.69	-1.97
874	SLU 20	-14	175	4697	-5.58	84.81	-1.72
874	SLU 21	-15	193	4687	-8.27	84.62	-1.98
874	SLU 22	-14	172	4515	-2.25	81.52	-1.65
874	SLU 23	-14	202	4498	-6.74	81.21	-2.09
874	SLU 24	-14	174	4597	-1.42	82.97	-1.67
874	SLU 25	-15	192	4587	-4.11	82.78	-1.94
874	SLU 26	-15	203	4551	-6.2	82.14	-2.1
874	SLU 27	-15	175	4650	-0.87	83.9	-1.68
874	SLU 28	-15	193	4639	-3.57	83.71	-1.95
874	SLU 29	-14	174	4621	-1.17	83.39	-1.67
874	SLU 30	-15	192	4610	-3.86	83.2	-1.94
874	SLU 31	-17	217	5030	-7.76	90.84	-2.24
874	SLU 32	-17	189	5129	-2.44	92.6	-1.82
874	SLU 33	-18	207	5119	-5.13	92.42	-2.09
874	SLU 34	-17	218	5083	-7.22	91.77	-2.25
874	SLU 35	-17	190	5182	-1.89	93.54	-1.83
874	SLU 36	-18	208	5171	-4.59	93.35	-2.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
874	SLU 37	-17	189	5153	-2.19	93.02	-1.82
874	SLU 38	-17	207	5142	-4.88	92.83	-2.09
874	SLU 39	-18	193	5275	-3.71	95.29	-1.86
874	SLU 40	-18	211	5265	-6.4	95.1	-2.13
874	SLU 41	-18	194	5328	-3.17	96.22	-1.87
874	SLU 42	-18	212	5318	-5.86	96.03	-2.14
874	SLU 43	-12	192	4833	-6.89	87.24	-1.89
874	SLU 44	-12	222	4816	-11.37	86.93	-2.33
874	SLU 45	-12	194	4915	-6.05	88.69	-1.91
874	SLU 46	-12	212	4904	-8.74	88.5	-2.18
874	SLU 47	-12	223	4868	-10.83	87.86	-2.34
874	SLU 48	-12	195	4968	-5.51	89.62	-1.92
874	SLU 49	-13	213	4957	-8.2	89.43	-2.19
874	SLU 50	-12	194	4939	-5.8	89.1	-1.91
874	SLU 51	-12	212	4928	-8.5	88.92	-2.18
874	SLU 52	-15	237	5348	-12.39	96.56	-2.48
874	SLU 53	-15	209	5447	-7.07	98.32	-2.06
874	SLU 54	-15	227	5436	-9.76	98.13	-2.33
874	SLU 55	-15	238	5400	-11.85	97.49	-2.49
874	SLU 56	-15	210	5500	-6.53	99.25	-2.07
874	SLU 57	-16	228	5489	-9.22	99.07	-2.34
874	SLU 58	-15	209	5471	-6.82	98.74	-2.06
874	SLU 59	-15	227	5460	-9.52	98.55	-2.33
874	SLU 60	-16	213	5593	-8.34	101.01	-2.1
874	SLU 61	-16	231	5583	-11.04	100.82	-2.37
874	SLU 62	-16	214	5646	-7.8	101.94	-2.11
874	SLU 63	-16	232	5635	-10.5	101.75	-2.38
874	SLU 64	-16	211	5464	-4.48	98.65	-2.04
874	SLU 65	-16	241	5447	-8.97	98.33	-2.48
874	SLU 66	-16	213	5546	-3.64	100.09	-2.07
874	SLU 67	-16	231	5536	-6.33	99.9	-2.33
874	SLU 68	-16	242	5500	-8.42	99.26	-2.5
874	SLU 69	-16	214	5599	-3.1	101.03	-2.08
874	SLU 70	-17	232	5588	-5.79	100.84	-2.34
874	SLU 71	-16	213	5570	-3.4	100.51	-2.07
874	SLU 72	-16	231	5559	-6.09	100.32	-2.33
874	SLU 73	-19	256	5979	-9.99	107.97	-2.64
874	SLU 74	-19	229	6078	-4.66	109.73	-2.22
874	SLU 75	-19	247	6068	-7.35	109.54	-2.48
874	SLU 76	-19	257	6032	-9.44	108.9	-2.65
874	SLU 77	-19	230	6131	-4.12	110.66	-2.23
874	SLU 78	-19	248	6120	-6.81	110.47	-2.49
874	SLU 79	-19	228	6102	-4.42	110.15	-2.22
874	SLU 80	-19	246	6091	-7.11	109.96	-2.48
874	SLU 81	-20	233	6224	-5.94	112.41	-2.26
874	SLU 82	-20	251	6214	-8.63	112.22	-2.52
874	SLU 83	-20	234	6277	-5.39	113.34	-2.27
874	SLU 84	-20	252	6267	-8.09	113.15	-2.53
874	SLE RA 1	-11	158	4065	-3.97	73.38	-1.54
874	SLE RA 2	-11	178	4053	-6.97	73.17	-1.83
874	SLE RA 3	-11	160	4119	-3.42	74.34	-1.55
874	SLE RA 4	-12	172	4112	-5.21	74.21	-1.73
874	SLE RA 5	-12	179	4088	-6.6	73.79	-1.84
874	SLE RA 6	-12	160	4154	-3.05	74.96	-1.56
874	SLE RA 7	-12	172	4147	-4.85	74.84	-1.74
874	SLE RA 8	-11	159	4135	-3.25	74.62	-1.55
874	SLE RA 9	-12	171	4128	-5.05	74.49	-1.73
874	SLE RA 10	-13	188	4408	-7.65	79.59	-1.93
874	SLE RA 11	-13	170	4474	-4.1	80.76	-1.65
874	SLE RA 12	-14	182	4467	-5.89	80.64	-1.83
874	SLE RA 13	-13	189	4443	-7.28	80.21	-1.94
874	SLE RA 14	-13	170	4509	-3.73	81.38	-1.66
874	SLE RA 15	-14	182	4502	-5.53	81.26	-1.84
874	SLE RA 16	-13	169	4490	-3.93	81.04	-1.65
874	SLE RA 17	-14	181	4483	-5.73	80.92	-1.83
874	SLE RA 18	-14	172	4571	-4.95	82.55	-1.68
874	SLE RA 19	-14	184	4564	-6.74	82.43	-1.86
874	SLE RA 20	-14	173	4606	-4.58	83.17	-1.69
874	SLE RA 21	-14	185	4599	-6.38	83.05	-1.86
874	SLE FR 1	-11	158	4065	-3.97	73.38	-1.54
874	SLE FR 2	-11	162	4062	-4.57	73.33	-1.6
874	SLE FR 3	-11	158	4079	-3.83	73.62	-1.54
874	SLE FR 4	-12	166	4214	-4.86	76.09	-1.64
874	SLE FR 5	-12	163	4231	-4.12	76.38	-1.58
874	SLE FR 6	-12	165	4318	-4.46	77.96	-1.61
874	SLE QP 1	-11	158	4065	-3.97	73.38	-1.54
874	SLE QP 2	-12	162	4217	-4.27	76.13	-1.58
874	SLD 1	581	304	3758	-36.84	70.13	-5.38
874	SLD 2	537	330	3771	-37.76	70.31	-4.47
874	SLD 3	588	-45	3996	18.48	74.39	-0.1
874	SLD 4	544	-19	4008	17.56	74.57	0.81
874	SLD 5	163	730	3717	-97.77	67.83	-10.89
874	SLD 6	135	747	3725	-98.37	67.95	-10.29
874	SLD 7	186	-435	4508	86.62	82.04	6.71
874	SLD 8	157	-417	4516	86.01	82.16	7.31
874	SLD 9	-181	742	3917	-94.54	70.1	-10.47
874	SLD 10	-210	759	3925	-95.15	70.21	-9.87
874	SLD 11	-159	-423	4708	89.84	84.31	7.13
874	SLD 12	-187	-406	4716	89.24	84.43	7.73



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
874	SLD 13	-568	344	4425	-26.09	77.68	-3.97
874	SLD 14	-611	370	4438	-27.01	77.87	-3.06
874	SLD 15	-561	-6	4663	29.23	81.95	1.31
874	SLD 16	-605	20	4675	28.31	82.13	2.22
874	SLV 1	915	393	3495	-56.63	66.64	-7.65
874	SLV 2	847	434	3514	-58.07	66.92	-6.23
874	SLV 3	927	-171	3879	32.77	73.54	0.87
874	SLV 4	858	-131	3898	31.33	73.83	2.29
874	SLV 5	262	1081	3414	-155.3	62.76	-16.6
874	SLV 6	216	1108	3427	-156.27	62.95	-15.64
874	SLV 7	299	-802	4694	142.7	85.77	11.82
874	SLV 8	253	-775	4707	141.73	85.96	12.77
874	SLV 9	-277	1099	3726	-150.26	66.3	-15.94
874	SLV 10	-323	1127	3739	-151.23	66.49	-14.98
874	SLV 11	-240	-783	5006	147.74	89.31	12.48
874	SLV 12	-286	-756	5019	146.77	89.5	13.44
874	SLV 13	-882	455	4535	-39.86	78.43	-5.45
874	SLV 14	-950	496	4555	-41.3	78.71	-4.03
874	SLV 15	-871	-109	4919	49.54	85.33	3.07
874	SLV 16	-939	-69	4939	48.1	85.62	4.49
874	SLV FO 1	1008	417	3423	-61.87	65.69	-8.26
874	SLV FO 2	933	461	3444	-63.45	66	-6.7
874	SLV FO 3	1020	-205	3845	36.47	73.29	1.12
874	SLV FO 4	945	-160	3866	34.89	73.6	2.68
874	SLV FO 5	289	1173	3334	-170.4	61.42	-18.1
874	SLV FO 6	239	1203	3348	-171.47	61.63	-17.05
874	SLV FO 7	330	-898	4742	157.4	86.73	13.16
874	SLV FO 8	280	-868	4756	156.33	86.94	14.21
874	SLV FO 9	-304	1193	3677	-164.86	65.31	-17.37
874	SLV FO 10	-354	1223	3691	-165.93	65.52	-16.32
874	SLV FO 11	-263	-878	5085	162.94	90.62	13.89
874	SLV FO 12	-313	-848	5100	161.87	90.83	14.94
874	SLV FO 13	-969	485	4567	-43.42	78.66	-5.84
874	SLV FO 14	-1044	530	4588	-45	78.97	-4.28
874	SLV FO 15	-957	-136	4990	54.92	86.25	3.54
874	SLV FO 16	-1032	-92	5011	53.34	86.56	5.1
874	CRTFP Ux+	0	0	0	0	0	0
874	CRTFP Ux-	0	0	0	0	0	0
874	CRTFP Uy+	0	0	0	0	0	0
874	CRTFP Uy-	0	0	0	0	0	0
876	SLU 1	-18	294	7339	-43.98	276.94	-11.2
876	SLU 2	-19	350	7306	-47.36	275.68	-13.51
876	SLU 3	-18	299	7495	-44.17	282.39	-11.39
876	SLU 4	-19	333	7475	-46.21	281.64	-12.77
876	SLU 5	-19	352	7407	-47.49	279.18	-13.59
876	SLU 6	-19	300	7596	-44.3	285.89	-11.47
876	SLU 7	-19	334	7576	-46.33	285.13	-12.85
876	SLU 8	-18	298	7541	-44.23	283.93	-11.36
876	SLU 9	-19	332	7521	-46.27	283.18	-12.75
876	SLU 10	-24	379	8310	-53.67	313.94	-14.66
876	SLU 11	-24	328	8499	-50.49	320.65	-12.54
876	SLU 12	-24	362	8479	-52.52	319.9	-13.93
876	SLU 13	-24	381	8410	-53.8	317.44	-14.74
876	SLU 14	-24	330	8599	-50.61	324.15	-12.62
876	SLU 15	-25	363	8580	-52.65	323.39	-14.01
876	SLU 16	-23	327	8544	-50.55	322.19	-12.52
876	SLU 17	-24	361	8524	-52.58	321.44	-13.9
876	SLU 18	-25	335	8772	-52.99	331.59	-12.85
876	SLU 19	-25	369	8753	-55.03	330.84	-14.24
876	SLU 20	-25	337	8873	-53.12	335.09	-12.93
876	SLU 21	-26	371	8854	-55.15	334.34	-14.32
876	SLU 22	-25	331	8531	-48.6	321.94	-12.59
876	SLU 23	-26	388	8498	-51.99	320.69	-14.9
876	SLU 24	-25	336	8687	-48.8	327.39	-12.77
876	SLU 25	-26	370	8667	-50.83	326.64	-14.16
876	SLU 26	-26	390	8599	-52.11	324.18	-14.98
876	SLU 27	-26	338	8788	-48.93	330.89	-12.85
876	SLU 28	-26	372	8768	-50.96	330.14	-14.24
876	SLU 29	-25	335	8732	-48.86	328.93	-12.75
876	SLU 30	-26	369	8713	-50.89	328.18	-14.13
876	SLU 31	-31	417	9501	-58.3	358.94	-16.05
876	SLU 32	-30	365	9690	-55.11	365.65	-13.93
876	SLU 33	-31	399	9671	-57.14	364.9	-15.31
876	SLU 34	-31	419	9602	-58.43	362.44	-16.13
876	SLU 35	-31	367	9791	-55.24	369.15	-14.01
876	SLU 36	-31	401	9771	-57.27	368.4	-15.39
876	SLU 37	-30	364	9736	-55.17	367.19	-13.9
876	SLU 38	-31	398	9716	-57.2	366.44	-15.29
876	SLU 39	-32	373	9964	-57.62	376.59	-14.24
876	SLU 40	-32	407	9945	-59.65	375.84	-15.62
876	SLU 41	-32	374	10065	-57.74	380.09	-14.32
876	SLU 42	-33	408	10045	-59.78	379.34	-15.7
876	SLU 43	-20	369	9132	-55.59	344.59	-14.09
876	SLU 44	-21	426	9099	-58.97	343.34	-16.4
876	SLU 45	-21	374	9288	-55.78	350.04	-14.27
876	SLU 46	-22	408	9268	-57.81	349.29	-15.66
876	SLU 47	-22	428	9200	-59.1	346.83	-16.48
876	SLU 48	-22	376	9389	-55.91	353.54	-14.35
876	SLU 49	-22	410	9369	-57.94	352.79	-15.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
876	SLU 50	-21	373	9334	-55.84	351.58	-14.25
876	SLU 51	-22	407	9314	-57.87	350.83	-15.63
876	SLU 52	-27	455	10103	-65.28	381.59	-17.55
876	SLU 53	-26	403	10292	-62.09	388.3	-15.43
876	SLU 54	-27	437	10272	-64.13	387.55	-16.81
876	SLU 55	-27	457	10203	-65.41	385.09	-17.63
876	SLU 56	-27	405	10392	-62.22	391.8	-15.51
876	SLU 57	-27	439	10373	-64.25	391.05	-16.89
876	SLU 58	-26	402	10337	-62.15	389.84	-15.4
876	SLU 59	-27	436	10317	-64.19	389.09	-16.79
876	SLU 60	-28	411	10566	-64.6	399.24	-15.74
876	SLU 61	-28	445	10546	-66.63	398.49	-17.12
876	SLU 62	-28	412	10666	-64.73	402.74	-15.82
876	SLU 63	-29	446	10647	-66.76	401.99	-17.2
876	SLU 64	-27	406	10324	-60.21	389.59	-15.47
876	SLU 65	-28	463	10291	-63.59	388.34	-17.78
876	SLU 66	-28	411	10480	-60.41	395.04	-15.66
876	SLU 67	-29	445	10460	-62.44	394.29	-17.04
876	SLU 68	-29	465	10392	-63.72	391.83	-17.86
876	SLU 69	-29	413	10581	-60.53	398.54	-15.74
876	SLU 70	-29	447	10561	-62.57	397.79	-17.12
876	SLU 71	-28	410	10526	-60.46	396.58	-15.63
876	SLU 72	-29	444	10506	-62.5	395.83	-17.02
876	SLU 73	-34	492	11294	-69.91	426.6	-18.94
876	SLU 74	-33	440	11483	-66.72	433.3	-16.81
876	SLU 75	-34	474	11464	-68.75	432.55	-18.2
876	SLU 76	-34	494	11395	-70.03	430.09	-19.02
876	SLU 77	-34	442	11584	-66.85	436.8	-16.89
876	SLU 78	-34	476	11564	-68.88	436.05	-18.28
876	SLU 79	-33	439	11529	-66.78	434.84	-16.79
876	SLU 80	-34	473	11509	-68.81	434.09	-18.17
876	SLU 81	-35	448	11757	-69.22	444.25	-17.12
876	SLU 82	-35	482	11738	-71.26	443.49	-18.51
876	SLU 83	-35	450	11858	-69.35	447.74	-17.2
876	SLU 84	-36	484	11838	-71.38	446.99	-18.59
876	SLE RA 1	-20	304	7680	-45.3	289.79	-11.6
876	SLE RA 2	-20	342	7658	-47.56	288.96	-13.14
876	SLE RA 3	-20	308	7784	-45.43	293.43	-11.72
876	SLE RA 4	-21	330	7770	-46.78	292.93	-12.65
876	SLE RA 5	-21	343	7725	-47.64	291.29	-13.19
876	SLE RA 6	-20	309	7851	-45.52	295.76	-11.78
876	SLE RA 7	-21	332	7838	-46.87	295.26	-12.7
876	SLE RA 8	-20	307	7814	-45.47	294.46	-11.71
876	SLE RA 9	-21	330	7801	-46.82	293.96	-12.63
876	SLE RA 10	-24	362	8327	-51.76	314.46	-13.91
876	SLE RA 11	-24	327	8453	-49.64	318.94	-12.49
876	SLE RA 12	-24	350	8439	-50.99	318.43	-13.42
876	SLE RA 13	-24	363	8394	-51.85	316.8	-13.96
876	SLE RA 14	-24	328	8520	-49.72	321.27	-12.55
876	SLE RA 15	-24	351	8507	-51.08	320.77	-13.47
876	SLE RA 16	-24	326	8483	-49.68	319.96	-12.47
876	SLE RA 17	-24	349	8470	-51.03	319.46	-13.4
876	SLE RA 18	-24	332	8635	-51.31	326.23	-12.7
876	SLE RA 19	-25	355	8622	-52.66	325.73	-13.62
876	SLE RA 20	-25	333	8702	-51.39	328.56	-12.75
876	SLE RA 21	-25	356	8689	-52.75	328.06	-13.67
876	SLE FR 1	-20	304	7680	-45.3	289.79	-11.6
876	SLE FR 2	-20	312	7675	-45.75	289.63	-11.91
876	SLE FR 3	-20	305	7706	-45.33	290.73	-11.62
876	SLE FR 4	-21	320	7962	-47.55	300.56	-12.24
876	SLE FR 5	-21	313	7993	-47.14	301.66	-11.95
876	SLE FR 6	-22	318	8157	-48.3	308.01	-12.15
876	SLE QP 1	-20	304	7680	-45.3	289.79	-11.6
876	SLE QP 2	-21	313	7966	-47.1	300.73	-11.93
876	SLD 1	1075	563	6977	-68.26	293.75	-20.82
876	SLD 2	995	626	7002	-69.18	294.53	-20.72
876	SLD 3	1088	-95	7423	-26.75	310.69	6.27
876	SLD 4	1007	-32	7448	-27.67	311.47	6.38
876	SLD 5	303	1374	6989	-116.24	272.8	-55.7
876	SLD 6	250	1416	7005	-116.85	273.32	-55.63
876	SLD 7	345	-819	8475	22.13	329.27	34.6
876	SLD 8	292	-777	8491	21.52	329.79	34.67
876	SLD 9	-334	1403	7441	-115.72	271.66	-58.53
876	SLD 10	-387	1445	7457	-116.33	272.18	-58.46
876	SLD 11	-292	-791	8927	22.64	328.14	31.78
876	SLD 12	-345	-749	8944	22.04	328.66	31.85
876	SLD 13	-1050	658	8484	-66.54	289.98	-30.23
876	SLD 14	-1130	721	8509	-67.45	290.76	-30.13
876	SLD 15	-1037	0	8930	-25.03	306.92	-3.14
876	SLD 16	-1117	63	8955	-25.94	307.71	-3.04
876	SLV 1	1694	721	6410	-81.29	289.35	-26.52
876	SLV 2	1568	820	6450	-82.73	290.58	-26.36
876	SLV 3	1715	-343	7132	-14.21	316.76	17.25
876	SLV 4	1589	-244	7171	-15.64	318	17.41
876	SLV 5	486	2030	6397	-158.84	255.51	-82.73
876	SLV 6	401	2096	6424	-159.8	256.34	-82.62
876	SLV 7	555	-1516	8803	64.78	346.88	63.19
876	SLV 8	470	-1449	8830	63.81	347.71	63.29
876	SLV 9	-512	2074	7103	-158.02	253.74	-87.15



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
876	SLV 10	-597	2141	7129	-158.98	254.57	-87.04
876	SLV 11	-443	-1471	9509	65.6	345.11	58.76
876	SLV 12	-528	-1404	9535	64.63	345.95	58.87
876	SLV 13	-1631	869	8761	-78.56	283.45	-41.26
876	SLV 14	-1757	968	8800	-80	284.69	-41.1
876	SLV 15	-1610	-194	9483	-11.47	310.87	2.51
876	SLV 16	-1736	-95	9522	-12.91	312.1	2.67
876	SLV FO 1	1866	762	6255	-84.71	288.21	-27.98
876	SLV FO 2	1727	870	6298	-86.29	289.57	-27.81
876	SLV FO 3	1889	-408	7049	-10.92	318.37	20.17
876	SLV FO 4	1750	-300	7092	-12.5	319.72	20.34
876	SLV FO 5	536	2202	6241	-170.01	250.98	-89.81
876	SLV FO 6	443	2275	6270	-171.07	251.9	-89.69
876	SLV FO 7	612	-1698	8887	75.97	351.5	70.7
876	SLV FO 8	519	-1625	8916	74.91	352.41	70.82
876	SLV FO 9	-561	2251	7016	-169.11	249.04	-94.67
876	SLV FO 10	-654	2324	7045	-170.17	249.95	-94.55
876	SLV FO 11	-485	-1649	9663	76.87	349.55	65.83
876	SLV FO 12	-579	-1576	9692	75.81	350.47	65.95
876	SLV FO 13	-1792	925	8841	-81.7	281.73	-44.2
876	SLV FO 14	-1931	1034	8884	-83.29	283.09	-44.02
876	SLV FO 15	-1769	-245	9635	-7.91	311.88	3.95
876	SLV FO 16	-1908	-136	9678	-9.49	313.24	4.13
876	CRTFP Ux+	0	0	0	0	0	0
876	CRTFP Ux-	0	0	0	0	0	0
876	CRTFP Uy+	0	0	0	0	0	0
876	CRTFP Uy-	0	0	0	0	0	0
878	SLU 1	-39	49	3160	-2.22	-383.17	12.29
878	SLU 2	-37	71	3127	-2.46	-381.71	17.72
878	SLU 3	-39	50	3239	-2.22	-391.74	12.42
878	SLU 4	-39	63	3219	-2.37	-390.87	15.68
878	SLU 5	-38	71	3178	-2.46	-387.14	17.81
878	SLU 6	-40	50	3289	-2.22	-397.18	12.52
878	SLU 7	-39	63	3270	-2.37	-396.3	15.77
878	SLU 8	-40	50	3260	-2.22	-394.04	12.48
878	SLU 9	-39	63	3241	-2.36	-393.16	15.73
878	SLU 10	-40	78	3521	-2.76	-426.71	19.48
878	SLU 11	-42	57	3632	-2.52	-436.74	14.18
878	SLU 12	-41	70	3613	-2.67	-435.87	17.44
878	SLU 13	-40	78	3571	-2.76	-432.14	19.57
878	SLU 14	-42	57	3683	-2.52	-442.18	14.28
878	SLU 15	-42	70	3663	-2.67	-441.3	17.53
878	SLU 16	-42	57	3654	-2.52	-439.04	14.24
878	SLU 17	-41	70	3634	-2.66	-438.16	17.49
878	SLU 18	-42	59	3722	-2.65	-447.46	14.81
878	SLU 19	-41	72	3702	-2.79	-446.58	18.06
878	SLU 20	-42	59	3772	-2.65	-452.89	14.9
878	SLU 21	-42	72	3753	-2.79	-452.01	18.16
878	SLU 22	-43	54	3666	-2.46	-439.88	13.54
878	SLU 23	-42	76	3634	-2.7	-438.42	18.96
878	SLU 24	-44	54	3746	-2.46	-448.45	13.66
878	SLU 25	-43	67	3726	-2.61	-447.57	16.92
878	SLU 26	-42	76	3684	-2.7	-443.85	19.05
878	SLU 27	-44	55	3796	-2.46	-453.89	13.76
878	SLU 28	-44	68	3777	-2.6	-453.01	17.01
878	SLU 29	-44	55	3767	-2.45	-450.75	13.72
878	SLU 30	-43	68	3748	-2.6	-449.87	16.98
878	SLU 31	-44	83	4028	-3	-483.42	20.72
878	SLU 32	-46	61	4139	-2.76	-493.45	15.42
878	SLU 33	-45	74	4120	-2.9	-492.57	18.68
878	SLU 34	-45	83	4078	-3	-488.85	20.81
878	SLU 35	-47	62	4189	-2.76	-498.89	15.52
878	SLU 36	-46	75	4170	-2.9	-498.01	18.77
878	SLU 37	-46	62	4161	-2.75	-495.75	15.48
878	SLU 38	-46	75	4141	-2.9	-494.87	18.74
878	SLU 39	-46	64	4229	-2.89	-504.17	16.05
878	SLU 40	-46	77	4209	-3.03	-503.29	19.31
878	SLU 41	-47	64	4279	-2.88	-509.6	16.14
878	SLU 42	-46	77	4260	-3.03	-508.72	19.4
878	SLU 43	-49	62	3934	-2.81	-478.68	15.56
878	SLU 44	-48	84	3901	-3.05	-477.22	20.98
878	SLU 45	-50	63	4013	-2.81	-487.25	15.69
878	SLU 46	-49	76	3993	-2.95	-486.37	18.94
878	SLU 47	-48	84	3952	-3.05	-482.65	21.07
878	SLU 48	-50	63	4063	-2.81	-492.69	15.78
878	SLU 49	-49	76	4044	-2.95	-491.81	19.03
878	SLU 50	-50	63	4035	-2.8	-489.55	15.74
878	SLU 51	-49	76	4015	-2.95	-488.67	19
878	SLU 52	-50	91	4295	-3.35	-522.21	22.74
878	SLU 53	-52	70	4406	-3.11	-532.25	17.45
878	SLU 54	-51	83	4387	-3.25	-531.37	20.7
878	SLU 55	-50	91	4345	-3.34	-527.65	22.84
878	SLU 56	-52	70	4457	-3.11	-537.69	17.54
878	SLU 57	-52	83	4437	-3.25	-536.81	20.79
878	SLU 58	-52	70	4428	-3.1	-534.55	17.5
878	SLU 59	-51	83	4409	-3.25	-533.67	20.76
878	SLU 60	-52	72	4496	-3.23	-542.97	18.07
878	SLU 61	-51	85	4476	-3.38	-542.09	21.33
878	SLU 62	-52	72	4546	-3.23	-548.4	18.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
878	SLU 63	-52	85	4527	-3.38	-547.52	21.42
878	SLU 64	-53	67	4441	-3.04	-535.39	16.8
878	SLU 65	-52	89	4408	-3.28	-533.92	22.22
878	SLU 66	-54	67	4520	-3.05	-543.96	16.93
878	SLU 67	-53	81	4500	-3.19	-543.08	20.18
878	SLU 68	-52	89	4459	-3.28	-539.36	22.32
878	SLU 69	-54	68	4570	-3.04	-549.4	17.02
878	SLU 70	-54	81	4551	-3.19	-548.52	20.27
878	SLU 71	-54	68	4541	-3.04	-546.26	16.98
878	SLU 72	-53	81	4522	-3.18	-545.38	20.24
878	SLU 73	-54	96	4802	-3.58	-578.92	23.98
878	SLU 74	-56	74	4913	-3.35	-588.96	18.69
878	SLU 75	-56	87	4894	-3.49	-588.08	21.94
878	SLU 76	-55	96	4852	-3.58	-584.36	24.08
878	SLU 77	-57	75	4964	-3.34	-594.4	18.78
878	SLU 78	-56	88	4944	-3.49	-593.52	22.04
878	SLU 79	-56	75	4935	-3.34	-591.26	18.74
878	SLU 80	-56	88	4915	-3.48	-590.38	22
878	SLU 81	-56	77	5003	-3.47	-599.68	19.31
878	SLU 82	-56	90	4983	-3.62	-598.8	22.57
878	SLU 83	-57	77	5053	-3.47	-605.11	19.41
878	SLU 84	-56	90	5034	-3.61	-604.23	22.66
878	SLE RA 1	-40	50	3304	-2.29	-399.37	12.65
878	SLE RA 2	-39	65	3283	-2.45	-398.4	16.27
878	SLE RA 3	-40	51	3357	-2.29	-405.09	12.73
878	SLE RA 4	-40	59	3344	-2.39	-404.5	14.9
878	SLE RA 5	-39	65	3316	-2.45	-402.02	16.33
878	SLE RA 6	-41	51	3391	-2.29	-408.71	12.8
878	SLE RA 7	-40	60	3378	-2.39	-408.13	14.97
878	SLE RA 8	-41	51	3372	-2.29	-406.62	12.77
878	SLE RA 9	-40	60	3359	-2.38	-406.04	14.94
878	SLE RA 10	-41	70	3545	-2.65	-428.4	17.44
878	SLE RA 11	-42	55	3619	-2.49	-435.09	13.91
878	SLE RA 12	-41	64	3607	-2.59	-434.5	16.08
878	SLE RA 13	-41	70	3579	-2.65	-432.02	17.5
878	SLE RA 14	-42	56	3653	-2.49	-438.71	13.97
878	SLE RA 15	-42	64	3640	-2.59	-438.13	16.14
878	SLE RA 16	-42	56	3634	-2.49	-436.62	13.95
878	SLE RA 17	-42	64	3621	-2.58	-436.04	16.12
878	SLE RA 18	-42	57	3679	-2.57	-442.23	14.33
878	SLE RA 19	-42	66	3666	-2.67	-441.65	16.5
878	SLE RA 20	-42	57	3713	-2.57	-445.86	14.39
878	SLE RA 21	-42	66	3700	-2.67	-445.27	16.56
878	SLE FR 1	-40	50	3304	-2.29	-399.37	12.65
878	SLE FR 2	-40	53	3300	-2.32	-399.18	13.37
878	SLE FR 3	-40	51	3318	-2.29	-400.82	12.67
878	SLE FR 4	-40	55	3413	-2.41	-412.04	13.87
878	SLE FR 5	-41	53	3430	-2.37	-413.68	13.18
878	SLE FR 6	-41	54	3492	-2.43	-420.8	13.49
878	SLE QP 1	-40	50	3304	-2.29	-399.37	12.65
878	SLE QP 2	-40	52	3417	-2.37	-412.23	13.15
878	SLD 1	251	189	4123	-4.67	-504.2	47.1
878	SLD 2	222	81	4157	-4.4	-505.21	20.3
878	SLD 3	233	-61	4549	-1.57	-525.04	-15.17
878	SLD 4	204	-168	4584	-1.3	-526.04	-41.96
878	SLD 5	80	491	2975	-7.81	-408.05	122.6
878	SLD 6	61	419	2998	-7.63	-408.71	104.9
878	SLD 7	19	-340	4398	2.51	-477.49	-84.95
878	SLD 8	0	-411	4420	2.69	-478.15	-102.64
878	SLD 9	-81	516	2413	-7.44	-346.31	128.95
878	SLD 10	-100	445	2436	-7.26	-346.98	111.26
878	SLD 11	-142	-314	3836	2.88	-415.75	-78.6
878	SLD 12	-161	-386	3858	3.06	-416.42	-96.29
878	SLD 13	-285	273	2250	-3.45	-298.42	68.26
878	SLD 14	-314	165	2284	-3.17	-299.43	41.47
878	SLD 15	-303	24	2677	-0.35	-319.25	6
878	SLD 16	-332	-84	2711	-0.08	-320.26	-20.79
878	SLV 1	417	272	4506	-6.04	-555.16	67.89
878	SLV 2	372	103	4560	-5.62	-556.74	25.91
878	SLV 3	387	-130	5195	-1.04	-588.84	-32.68
878	SLV 4	342	-299	5249	-0.61	-590.42	-74.66
878	SLV 5	150	760	2688	-11.14	-403.73	189.94
878	SLV 6	120	646	2724	-10.86	-404.79	161.68
878	SLV 7	51	-581	4986	5.53	-516.01	-145.29
878	SLV 8	21	-695	5022	5.82	-517.07	-173.55
878	SLV 9	-102	800	1812	-10.57	-307.39	199.86
878	SLV 10	-132	686	1848	-10.28	-308.46	171.6
878	SLV 11	-201	-542	4109	6.11	-419.67	-135.37
878	SLV 12	-231	-655	4146	6.39	-420.74	-163.63
878	SLV 13	-423	404	1585	-4.14	-234.04	100.96
878	SLV 14	-468	235	1639	-3.71	-235.62	58.98
878	SLV 15	-453	2	2274	0.87	-267.73	0.39
878	SLV 16	-498	-167	2328	1.3	-269.3	-41.58
878	SLV FO 1	462	294	4615	-6.41	-569.45	73.36
878	SLV FO 2	413	108	4674	-5.94	-571.19	27.19
878	SLV FO 3	430	-149	5373	-0.91	-606.51	-37.26
878	SLV FO 4	381	-334	5432	-0.44	-608.24	-83.44
878	SLV FO 5	169	831	2615	-12.02	-402.88	207.61
878	SLV FO 6	136	706	2655	-11.7	-404.05	176.53



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
878	SLV FO 7	61	-645	5142	6.32	-526.39	-161.14
878	SLV FO 8	27	-770	5182	6.64	-527.55	-192.22
878	SLV FO 9	-108	874	1651	-11.39	-296.91	218.53
878	SLV FO 10	-142	749	1691	-11.07	-298.08	187.44
878	SLV FO 11	-217	-601	4178	6.95	-420.42	-150.22
878	SLV FO 12	-250	-726	4218	7.27	-421.59	-181.31
878	SLV FO 13	-462	439	1401	-4.31	-216.22	109.74
878	SLV FO 14	-511	254	1461	-3.84	-217.96	63.57
878	SLV FO 15	-494	-3	2160	1.19	-253.27	-0.89
878	SLV FO 16	-543	-189	2219	1.66	-255.01	-47.06
878	CRTFP Ux+	0	0	0	0	0	0
878	CRTFP Ux-	0	0	0	0	0	0
878	CRTFP Uy+	0	0	0	0	0	0
878	CRTFP Uy-	0	0	0	0	0	0
893	SLU 1	66	7	3717	-2.09	672	-2.58
893	SLU 2	64	32	3673	-2.44	668.5	-11.17
893	SLU 3	68	7	3819	-2.06	687.78	-2.52
893	SLU 4	67	22	3793	-2.27	685.69	-7.67
893	SLU 5	66	32	3742	-2.41	678.97	-11.28
893	SLU 6	70	7	3888	-2.03	698.25	-2.62
893	SLU 7	69	22	3861	-2.24	696.15	-7.78
893	SLU 8	69	8	3854	-2.03	692.93	-2.79
893	SLU 9	68	22	3828	-2.24	690.84	-7.95
893	SLU 10	70	31	4137	-2.73	746.62	-11.16
893	SLU 11	74	7	4284	-2.35	765.91	-2.5
893	SLU 12	73	21	4257	-2.56	763.81	-7.66
893	SLU 13	71	32	4206	-2.7	757.09	-11.26
893	SLU 14	75	7	4352	-2.32	776.37	-2.61
893	SLU 15	74	22	4326	-2.53	774.28	-7.76
893	SLU 16	75	7	4318	-2.32	771.06	-2.78
893	SLU 17	74	22	4292	-2.53	768.96	-7.93
893	SLU 18	74	7	4380	-2.5	783.6	-2.56
893	SLU 19	73	22	4354	-2.71	781.5	-7.71
893	SLU 20	75	7	4449	-2.47	794.07	-2.66
893	SLU 21	74	22	4422	-2.68	791.97	-7.82
893	SLU 22	75	4	4317	-2.25	770.35	-1.4
893	SLU 23	73	28	4273	-2.6	766.86	-9.99
893	SLU 24	77	3	4419	-2.22	786.14	-1.33
893	SLU 25	76	18	4393	-2.43	784.04	-6.49
893	SLU 26	75	28	4341	-2.57	777.33	-10.09
893	SLU 27	79	4	4488	-2.19	796.61	-1.44
893	SLU 28	78	18	4461	-2.4	794.51	-6.59
893	SLU 29	78	4	4454	-2.19	791.29	-1.61
893	SLU 30	77	19	4428	-2.4	789.19	-6.76
893	SLU 31	78	28	4737	-2.89	844.98	-9.97
893	SLU 32	82	3	4883	-2.51	864.26	-1.32
893	SLU 33	81	18	4857	-2.72	862.17	-6.47
893	SLU 34	80	28	4806	-2.86	855.45	-10.08
893	SLU 35	84	3	4952	-2.48	874.73	-1.42
893	SLU 36	83	18	4926	-2.69	872.63	-6.58
893	SLU 37	83	4	4918	-2.48	869.41	-1.59
893	SLU 38	82	19	4892	-2.69	867.32	-6.75
893	SLU 39	82	3	4980	-2.66	881.96	-1.37
893	SLU 40	81	18	4954	-2.87	879.86	-6.53
893	SLU 41	84	4	5049	-2.63	892.43	-1.48
893	SLU 42	83	18	5022	-2.84	890.33	-6.63
893	SLU 43	83	10	4626	-2.66	839.87	-3.76
893	SLU 44	81	35	4583	-3.01	836.38	-12.36
893	SLU 45	85	10	4729	-2.63	855.66	-3.7
893	SLU 46	84	25	4702	-2.84	853.56	-8.86
893	SLU 47	83	35	4651	-2.98	846.85	-12.46
893	SLU 48	87	10	4797	-2.6	866.13	-3.81
893	SLU 49	86	25	4771	-2.81	864.03	-8.96
893	SLU 50	86	11	4763	-2.6	860.81	-3.98
893	SLU 51	85	26	4737	-2.81	858.71	-9.13
893	SLU 52	86	35	5047	-3.3	914.5	-12.34
893	SLU 53	90	10	5193	-2.92	933.78	-3.68
893	SLU 54	89	25	5167	-3.13	931.69	-8.84
893	SLU 55	88	35	5115	-3.27	924.97	-12.45
893	SLU 56	92	10	5262	-2.89	944.25	-3.79
893	SLU 57	91	25	5235	-3.1	942.15	-8.95
893	SLU 58	91	11	5228	-2.89	938.93	-3.96
893	SLU 59	90	25	5201	-3.1	936.84	-9.12
893	SLU 60	90	10	5290	-3.07	951.48	-3.74
893	SLU 61	89	25	5263	-3.28	949.38	-8.9
893	SLU 62	92	10	5358	-3.04	961.95	-3.85
893	SLU 63	91	25	5332	-3.25	959.85	-9
893	SLU 64	92	7	5226	-2.82	938.23	-2.58
893	SLU 65	90	31	5182	-3.17	934.74	-11.17
893	SLU 66	94	7	5329	-2.79	954.02	-2.51
893	SLU 67	93	21	5302	-3	951.92	-7.67
893	SLU 68	92	32	5251	-3.14	945.2	-11.28
893	SLU 69	95	7	5397	-2.76	964.48	-2.62
893	SLU 70	94	22	5371	-2.97	962.39	-7.78
893	SLU 71	95	7	5363	-2.76	959.17	-2.79
893	SLU 72	94	22	5337	-2.97	957.07	-7.95
893	SLU 73	95	31	5647	-3.46	1012.86	-11.15
893	SLU 74	99	6	5793	-3.08	1032.14	-2.5
893	SLU 75	98	21	5767	-3.29	1030.04	-7.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
893	SLU 76	97	32	5715	-3.43	1023.33	-11.26
893	SLU 77	101	7	5861	-3.05	1042.61	-2.6
893	SLU 78	100	22	5835	-3.26	1040.51	-7.76
893	SLU 79	100	7	5828	-3.05	1037.29	-2.77
893	SLU 80	99	22	5801	-3.26	1035.19	-7.93
893	SLU 81	99	7	5890	-3.24	1049.84	-2.55
893	SLU 82	98	21	5863	-3.45	1047.74	-7.71
893	SLU 83	101	7	5958	-3.2	1060.3	-2.66
893	SLU 84	100	22	5932	-3.41	1058.21	-7.82
893	SLE RA 1	69	6	3888	-2.14	700.1	-2.24
893	SLE RA 2	67	22	3859	-2.37	697.77	-7.97
893	SLE RA 3	70	6	3957	-2.12	710.62	-2.2
893	SLE RA 4	69	16	3939	-2.26	709.23	-5.64
893	SLE RA 5	68	23	3905	-2.35	704.75	-8.04
893	SLE RA 6	71	6	4002	-2.09	717.6	-2.27
893	SLE RA 7	70	16	3985	-2.24	716.2	-5.71
893	SLE RA 8	71	6	3980	-2.09	714.06	-2.38
893	SLE RA 9	70	16	3962	-2.23	712.66	-5.82
893	SLE RA 10	71	22	4169	-2.56	749.85	-7.96
893	SLE RA 11	74	6	4266	-2.31	762.7	-2.19
893	SLE RA 12	73	16	4249	-2.45	761.31	-5.63
893	SLE RA 13	72	22	4214	-2.54	756.83	-8.03
893	SLE RA 14	75	6	4312	-2.29	769.68	-2.26
893	SLE RA 15	74	16	4294	-2.43	768.29	-5.7
893	SLE RA 16	74	6	4289	-2.29	766.14	-2.37
893	SLE RA 17	74	16	4272	-2.43	764.74	-5.81
893	SLE RA 18	74	6	4331	-2.41	774.5	-2.23
893	SLE RA 19	73	16	4313	-2.55	773.1	-5.66
893	SLE RA 20	75	6	4376	-2.39	781.48	-2.3
893	SLE RA 21	74	16	4359	-2.53	780.08	-5.74
893	SLE FR 1	69	6	3888	-2.14	700.1	-2.24
893	SLE FR 2	68	9	3883	-2.18	699.63	-3.39
893	SLE FR 3	69	6	3907	-2.13	702.89	-2.27
893	SLE FR 4	70	9	4015	-2.27	721.95	-3.38
893	SLE FR 5	71	6	4039	-2.21	725.21	-2.27
893	SLE FR 6	71	6	4110	-2.27	737.3	-2.24
893	SLE QP 1	69	6	3888	-2.14	700.1	-2.24
893	SLE QP 2	70	6	4021	-2.22	722.42	-2.24
893	SLD 1	420	128	2696	-3.6	531.81	-44.88
893	SLD 2	382	253	2645	-4	528.33	-88.49
893	SLD 3	439	-131	3261	0.76	578.41	45.6
893	SLD 4	401	-6	3210	0.35	574.94	1.99
893	SLD 5	153	412	2776	-9.17	595.18	-144.4
893	SLD 6	128	495	2743	-9.44	592.88	-173.19
893	SLD 7	217	-450	4659	5.36	750.53	157.19
893	SLD 8	192	-368	4625	5.09	748.23	128.39
893	SLD 9	-51	380	3417	-9.53	696.61	-132.87
893	SLD 10	-77	462	3383	-9.8	694.31	-161.67
893	SLD 11	13	-483	5299	5	851.96	168.71
893	SLD 12	-13	-401	5266	4.73	849.66	139.92
893	SLD 13	-261	18	4832	-4.79	869.9	-6.46
893	SLD 14	-299	143	4781	-5.2	866.43	-50.07
893	SLD 15	-241	-241	5397	-0.43	916.51	84.01
893	SLD 16	-280	-116	5346	-0.84	913.03	40.4
893	SLV 1	617	203	1939	-4.49	423.78	-71.36
893	SLV 2	557	399	1859	-5.13	418.33	-139.68
893	SLV 3	649	-216	2852	2.56	499.19	75.2
893	SLV 4	589	-20	2772	1.92	493.74	6.88
893	SLV 5	198	664	2026	-13.47	519.48	-232.51
893	SLV 6	158	797	1972	-13.9	515.82	-278.51
893	SLV 7	302	-733	5071	10.03	770.83	256.03
893	SLV 8	262	-601	5017	9.59	767.16	210.03
893	SLV 9	-122	613	3025	-14.03	677.68	-214.51
893	SLV 10	-162	745	2972	-14.46	674.01	-260.51
893	SLV 11	-17	-785	6070	9.47	929.03	274.03
893	SLV 12	-58	-653	6016	9.03	925.36	228.03
893	SLV 13	-449	32	5270	-6.36	951.1	-11.36
893	SLV 14	-508	228	5190	-7	945.65	-79.68
893	SLV 15	-417	-388	6183	0.69	1026.51	135.2
893	SLV 16	-477	-191	6104	0.05	1021.06	66.88
893	SLV FO 1	672	223	1730	-4.72	393.92	-78.27
893	SLV FO 2	606	439	1642	-5.42	387.93	-153.42
893	SLV FO 3	706	-238	2735	3.04	476.86	82.95
893	SLV FO 4	641	-22	2647	2.33	470.87	7.8
893	SLV FO 5	211	730	1826	-14.6	499.19	-255.54
893	SLV FO 6	166	876	1767	-15.07	495.15	-306.14
893	SLV FO 7	326	-807	5176	11.25	775.67	281.86
893	SLV FO 8	281	-662	5116	10.78	771.64	231.26
893	SLV FO 9	-141	674	2926	-15.21	673.21	-235.74
893	SLV FO 10	-185	819	2867	-15.69	669.17	-286.34
893	SLV FO 11	-26	-864	6275	10.63	949.69	301.66
893	SLV FO 12	-71	-718	6216	10.16	945.65	251.06
893	SLV FO 13	-500	34	5395	-6.77	973.97	-12.27
893	SLV FO 14	-566	250	5307	-7.47	967.98	-87.43
893	SLV FO 15	-466	-427	6400	0.98	1056.92	148.95
893	SLV FO 16	-532	-211	6312	0.28	1050.92	73.79
893	CRTFP Ux+	0	0	0	0	0	0
893	CRTFP Ux-	0	0	0	0	0	0
893	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
893	CRTFP Uy-	0	0	0	0	0	0
895	SLU 1	124	49	6269	1.91	18.68	-1.79
895	SLU 2	120	78	6196	1.43	17.14	-1.64
895	SLU 3	129	50	6446	2.08	19.74	-1.88
895	SLU 4	126	67	6402	1.8	18.82	-1.8
895	SLU 5	123	79	6314	1.55	17.79	-1.72
895	SLU 6	132	50	6564	2.21	20.39	-1.96
895	SLU 7	130	68	6520	1.92	19.47	-1.87
895	SLU 8	131	50	6505	2.15	19.98	-1.94
895	SLU 9	128	68	6462	1.86	19.05	-1.85
895	SLU 10	131	86	7045	1.71	21.12	-1.88
895	SLU 11	140	58	7295	2.37	23.72	-2.11
895	SLU 12	137	75	7251	2.08	22.8	-2.03
895	SLU 13	134	87	7164	1.83	21.77	-1.95
895	SLU 14	143	58	7413	2.49	24.37	-2.19
895	SLU 15	141	76	7370	2.2	23.45	-2.1
895	SLU 16	142	58	7355	2.44	23.95	-2.17
895	SLU 17	139	76	7311	2.15	23.03	-2.08
895	SLU 18	139	60	7482	2.32	24.36	-2.12
895	SLU 19	137	78	7438	2.03	23.44	-2.03
895	SLU 20	143	60	7600	2.44	25.01	-2.2
895	SLU 21	140	78	7557	2.15	24.09	-2.11
895	SLU 22	143	56	7352	2.55	24.14	-2.1
895	SLU 23	139	86	7279	2.07	22.6	-1.96
895	SLU 24	148	57	7529	2.72	25.2	-2.2
895	SLU 25	145	75	7485	2.43	24.28	-2.11
895	SLU 26	142	86	7397	2.19	23.25	-2.03
895	SLU 27	151	58	7647	2.84	25.85	-2.27
895	SLU 28	149	76	7603	2.55	24.93	-2.19
895	SLU 29	150	57	7588	2.79	25.43	-2.25
895	SLU 30	147	75	7545	2.5	24.51	-2.17
895	SLU 31	149	94	8128	2.35	26.58	-2.19
895	SLU 32	159	65	8378	3.01	29.18	-2.43
895	SLU 33	156	83	8334	2.72	28.26	-2.34
895	SLU 34	153	94	8246	2.47	27.23	-2.27
895	SLU 35	162	66	8496	3.13	29.83	-2.51
895	SLU 36	159	83	8453	2.84	28.9	-2.42
895	SLU 37	161	65	8438	3.08	29.41	-2.49
895	SLU 38	158	83	8394	2.79	28.49	-2.4
895	SLU 39	158	67	8565	2.96	29.82	-2.44
895	SLU 40	156	85	8521	2.67	28.9	-2.35
895	SLU 41	162	68	8683	3.08	30.47	-2.51
895	SLU 42	159	86	8640	2.79	29.55	-2.42
895	SLU 43	155	61	7778	2.27	22.41	-2.22
895	SLU 44	151	90	7705	1.78	20.88	-2.07
895	SLU 45	160	62	7955	2.44	23.48	-2.31
895	SLU 46	157	79	7912	2.15	22.56	-2.22
895	SLU 47	154	91	7824	1.91	21.52	-2.15
895	SLU 48	163	62	8074	2.56	24.13	-2.39
895	SLU 49	161	80	8030	2.27	23.2	-2.3
895	SLU 50	162	62	8015	2.51	23.71	-2.37
895	SLU 51	159	80	7971	2.22	22.79	-2.28
895	SLU 52	161	98	8555	2.07	24.85	-2.3
895	SLU 53	170	70	8805	2.72	27.45	-2.54
895	SLU 54	168	87	8761	2.43	26.53	-2.46
895	SLU 55	165	99	8673	2.19	25.5	-2.38
895	SLU 56	174	70	8923	2.84	28.1	-2.62
895	SLU 57	171	88	8879	2.55	27.18	-2.53
895	SLU 58	172	70	8864	2.79	27.69	-2.6
895	SLU 59	170	88	8820	2.5	26.76	-2.51
895	SLU 60	170	72	8992	2.67	28.1	-2.55
895	SLU 61	168	90	8948	2.38	27.17	-2.46
895	SLU 62	174	73	9110	2.79	28.74	-2.62
895	SLU 63	171	90	9066	2.5	27.82	-2.54
895	SLU 64	174	68	8861	2.91	27.87	-2.53
895	SLU 65	169	98	8788	2.42	26.33	-2.39
895	SLU 66	179	69	9038	3.08	28.94	-2.63
895	SLU 67	176	87	8994	2.79	28.01	-2.54
895	SLU 68	173	98	8907	2.54	26.98	-2.46
895	SLU 69	182	70	9156	3.2	29.58	-2.7
895	SLU 70	179	88	9113	2.91	28.66	-2.61
895	SLU 71	181	69	9098	3.15	29.17	-2.68
895	SLU 72	178	87	9054	2.86	28.24	-2.59
895	SLU 73	180	106	9638	2.71	30.31	-2.62
895	SLU 74	189	77	9887	3.36	32.91	-2.86
895	SLU 75	187	95	9844	3.07	31.99	-2.77
895	SLU 76	184	106	9756	2.83	30.96	-2.69
895	SLU 77	193	78	10006	3.48	33.56	-2.93
895	SLU 78	190	95	9962	3.19	32.64	-2.85
895	SLU 79	191	77	9947	3.43	33.14	-2.91
895	SLU 80	189	95	9903	3.14	32.22	-2.83
895	SLU 81	189	79	10074	3.31	33.55	-2.86
895	SLU 82	187	97	10031	3.02	32.63	-2.78
895	SLU 83	193	80	10193	3.43	34.2	-2.94
895	SLU 84	190	98	10149	3.14	33.28	-2.85
895	SLE RA 1	129	51	6578	2.1	20.24	-1.88
895	SLE RA 2	127	70	6530	1.77	19.22	-1.78
895	SLE RA 3	133	51	6696	2.21	20.95	-1.94
895	SLE RA 4	131	63	6667	2.02	20.33	-1.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
895	SLE RA 5	129	71	6609	1.85	19.65	-1.83
895	SLE RA 6	135	52	6775	2.29	21.38	-1.99
895	SLE RA 7	133	64	6746	2.1	20.77	-1.93
895	SLE RA 8	134	52	6736	2.26	21.1	-1.98
895	SLE RA 9	132	63	6707	2.06	20.49	-1.92
895	SLE RA 10	134	76	7096	1.96	21.87	-1.94
895	SLE RA 11	140	57	7262	2.4	23.6	-2.1
895	SLE RA 12	138	69	7233	2.21	22.99	-2.04
895	SLE RA 13	136	76	7175	2.04	22.3	-1.99
895	SLE RA 14	142	57	7341	2.48	24.03	-2.15
895	SLE RA 15	140	69	7312	2.29	23.42	-2.09
895	SLE RA 16	141	57	7302	2.44	23.76	-2.13
895	SLE RA 17	140	69	7273	2.25	23.14	-2.08
895	SLE RA 18	140	58	7387	2.36	24.03	-2.1
895	SLE RA 19	138	70	7358	2.17	23.41	-2.04
895	SLE RA 20	142	59	7466	2.45	24.46	-2.15
895	SLE RA 21	140	71	7437	2.25	23.84	-2.09
895	SLE FR 1	129	51	6578	2.1	20.24	-1.88
895	SLE FR 2	129	55	6569	2.03	20.04	-1.86
895	SLE FR 3	130	51	6610	2.13	20.41	-1.9
895	SLE FR 4	132	57	6811	2.11	21.17	-1.92
895	SLE FR 5	133	53	6853	2.21	21.55	-1.96
895	SLE FR 6	135	54	6983	2.23	22.13	-1.99
895	SLE QP 1	129	51	6578	2.1	20.24	-1.88
895	SLE QP 2	133	53	6821	2.18	21.38	-1.94
895	SLD 1	661	129	5581	-1.21	13.57	-3.48
895	SLD 2	603	221	5533	-1.66	14.69	-1.31
895	SLD 3	710	-198	6533	4.78	32.74	-5.16
895	SLD 4	652	-106	6485	4.33	33.86	-2.99
895	SLD 5	228	556	5014	-7.84	-10.25	-0.24
895	SLD 6	189	616	4982	-8.14	-9.51	1.19
895	SLD 7	390	-536	8187	12.12	53.66	-5.85
895	SLD 8	352	-475	8155	11.83	54.4	-4.42
895	SLD 9	-87	581	5486	-7.47	-11.65	0.53
895	SLD 10	-125	641	5455	-7.77	-10.91	1.97
895	SLD 11	76	-511	8659	12.49	52.26	-5.08
895	SLD 12	37	-450	8628	12.19	53	-3.64
895	SLD 13	-386	212	7157	0.02	8.89	-0.9
895	SLD 14	-445	304	7109	-0.43	10.01	1.28
895	SLD 15	-338	-115	8108	6.01	28.07	-2.58
895	SLD 16	-396	-23	8061	5.56	29.19	-0.41
895	SLV 1	959	181	4859	-3.27	9.16	-4.31
895	SLV 2	868	325	4785	-3.97	10.91	-0.91
895	SLV 3	1038	-349	6399	6.42	40.16	-7.04
895	SLV 4	947	-205	6325	5.71	41.91	-3.64
895	SLV 5	278	868	3911	-14.01	-29.63	0.86
895	SLV 6	216	965	3861	-14.49	-28.45	3.15
895	SLV 7	541	-898	9043	18.27	73.69	-8.26
895	SLV 8	480	-801	8993	17.79	74.87	-5.97
895	SLV 9	-215	907	4649	-13.44	-32.12	2.08
895	SLV 10	-276	1004	4598	-13.92	-30.94	4.37
895	SLV 11	49	-859	9781	18.84	71.2	-7.04
895	SLV 12	-12	-762	9731	18.36	72.38	-4.75
895	SLV 13	-682	311	7317	-1.36	0.84	-0.25
895	SLV 14	-773	455	7243	-2.06	2.6	3.16
895	SLV 15	-603	-219	8857	8.33	31.84	-2.98
895	SLV 16	-694	-75	8783	7.62	33.59	0.42
895	SLV FO 1	1042	193	4663	-3.81	7.94	-4.55
895	SLV FO 2	941	352	4581	-4.59	9.87	-0.8
895	SLV FO 3	1129	-389	6357	6.84	42.03	-7.55
895	SLV FO 4	1028	-231	6275	6.06	43.96	-3.81
895	SLV FO 5	292	949	3620	-15.63	-34.73	1.14
895	SLV FO 6	225	1056	3565	-16.15	-33.43	3.66
895	SLV FO 7	582	-993	9266	19.88	78.93	-8.89
895	SLV FO 8	515	-886	9211	19.35	80.22	-6.37
895	SLV FO 9	-249	992	4431	-15	-37.47	2.48
895	SLV FO 10	-317	1099	4376	-15.52	-36.17	5
895	SLV FO 11	40	-950	10077	20.51	76.18	-7.55
895	SLV FO 12	-27	-843	10022	19.98	77.48	-5.03
895	SLV FO 13	-763	336	7367	-1.71	-1.21	-0.08
895	SLV FO 14	-863	495	7285	-2.49	0.72	3.67
895	SLV FO 15	-676	-246	9061	8.94	32.89	-3.09
895	SLV FO 16	-776	-88	8979	8.16	34.82	0.66
895	CRTFP Ux+	0	0	0	0	0	0
895	CRTFP Ux-	0	0	0	0	0	0
895	CRTFP Uy+	0	0	0	0	0	0
895	CRTFP Uy-	0	0	0	0	0	0
898	SLU 1	-60	-23	6295	-1.33	-5.61	0.4
898	SLU 2	-58	7	6224	-1.82	-4.23	0.3
898	SLU 3	-61	-24	6463	-1.25	-6.24	0.42
898	SLU 4	-60	-6	6420	-1.55	-5.42	0.36
898	SLU 5	-59	6	6332	-1.77	-4.69	0.31
898	SLU 6	-62	-25	6571	-1.2	-6.7	0.42
898	SLU 7	-61	-7	6528	-1.5	-5.87	0.36
898	SLU 8	-61	-25	6511	-1.22	-6.52	0.42
898	SLU 9	-60	-7	6469	-1.52	-5.7	0.36
898	SLU 10	-59	4	7073	-2.03	-6.32	0.36
898	SLU 11	-62	-27	7312	-1.46	-8.33	0.48
898	SLU 12	-61	-9	7269	-1.76	-7.5	0.42



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
898	SLU 13	-59	3	7181	-1.98	-6.77	0.37
898	SLU 14	-63	-28	7420	-1.41	-8.78	0.48
898	SLU 15	-61	-10	7377	-1.71	-7.96	0.42
898	SLU 16	-62	-28	7360	-1.43	-8.6	0.48
898	SLU 17	-61	-9	7318	-1.73	-7.78	0.42
898	SLU 18	-61	-28	7508	-1.63	-8.59	0.49
898	SLU 19	-60	-9	7465	-1.92	-7.76	0.43
898	SLU 20	-61	-28	7616	-1.57	-9.04	0.5
898	SLU 21	-60	-10	7573	-1.87	-8.22	0.44
898	SLU 22	-65	-29	7376	-1.28	-8.19	0.47
898	SLU 23	-63	2	7305	-1.78	-6.81	0.37
898	SLU 24	-66	-29	7544	-1.21	-8.82	0.48
898	SLU 25	-65	-11	7501	-1.51	-7.99	0.42
898	SLU 26	-64	1	7413	-1.72	-7.27	0.38
898	SLU 27	-67	-30	7652	-1.16	-9.27	0.49
898	SLU 28	-66	-12	7609	-1.45	-8.45	0.43
898	SLU 29	-66	-30	7593	-1.18	-9.1	0.48
898	SLU 30	-65	-12	7550	-1.47	-8.27	0.42
898	SLU 31	-64	-1	8154	-1.99	-8.9	0.43
898	SLU 32	-67	-32	8393	-1.42	-10.9	0.54
898	SLU 33	-66	-14	8350	-1.72	-10.08	0.48
898	SLU 34	-64	-2	8262	-1.93	-9.35	0.44
898	SLU 35	-68	-33	8501	-1.37	-11.36	0.55
898	SLU 36	-66	-15	8458	-1.66	-10.53	0.49
898	SLU 37	-67	-33	8442	-1.39	-11.18	0.54
898	SLU 38	-66	-14	8399	-1.68	-10.36	0.48
898	SLU 39	-66	-33	8589	-1.58	-11.16	0.55
898	SLU 40	-65	-14	8546	-1.88	-10.34	0.49
898	SLU 41	-67	-33	8697	-1.53	-11.62	0.56
898	SLU 42	-65	-15	8655	-1.83	-10.79	0.5
898	SLU 43	-76	-29	7813	-1.74	-6.41	0.5
898	SLU 44	-74	2	7742	-2.23	-5.03	0.4
898	SLU 45	-77	-30	7980	-1.67	-7.04	0.51
898	SLU 46	-76	-11	7938	-1.96	-6.22	0.45
898	SLU 47	-75	1	7850	-2.18	-5.49	0.41
898	SLU 48	-78	-30	8089	-1.61	-7.5	0.52
898	SLU 49	-77	-12	8046	-1.91	-6.67	0.46
898	SLU 50	-78	-30	8029	-1.63	-7.32	0.52
898	SLU 51	-76	-12	7987	-1.93	-6.49	0.46
898	SLU 52	-75	-1	8591	-2.44	-7.12	0.46
898	SLU 53	-78	-33	8829	-1.88	-9.12	0.57
898	SLU 54	-77	-14	8787	-2.17	-8.3	0.51
898	SLU 55	-75	-2	8699	-2.39	-7.57	0.47
898	SLU 56	-79	-33	8938	-1.82	-9.58	0.58
898	SLU 57	-78	-15	8895	-2.12	-8.76	0.52
898	SLU 58	-78	-33	8878	-1.84	-9.4	0.58
898	SLU 59	-77	-15	8836	-2.14	-8.58	0.52
898	SLU 60	-77	-33	9026	-2.04	-9.38	0.59
898	SLU 61	-76	-15	8983	-2.33	-8.56	0.53
898	SLU 62	-78	-34	9134	-1.99	-9.84	0.6
898	SLU 63	-77	-15	9091	-2.28	-9.02	0.54
898	SLU 64	-81	-34	8894	-1.7	-8.98	0.57
898	SLU 65	-79	-3	8823	-2.19	-7.61	0.47
898	SLU 66	-82	-35	9062	-1.62	-9.62	0.58
898	SLU 67	-81	-17	9019	-1.92	-8.79	0.52
898	SLU 68	-80	-4	8931	-2.14	-8.07	0.47
898	SLU 69	-83	-35	9170	-1.57	-10.07	0.59
898	SLU 70	-82	-17	9127	-1.87	-9.25	0.53
898	SLU 71	-83	-35	9110	-1.59	-9.9	0.58
898	SLU 72	-81	-17	9068	-1.89	-9.07	0.52
898	SLU 73	-80	-6	9672	-2.4	-9.69	0.53
898	SLU 74	-83	-38	9911	-1.83	-11.7	0.64
898	SLU 75	-82	-19	9868	-2.13	-10.88	0.58
898	SLU 76	-81	-7	9780	-2.35	-10.15	0.53
898	SLU 77	-84	-38	10019	-1.78	-12.16	0.65
898	SLU 78	-83	-20	9976	-2.08	-11.33	0.59
898	SLU 79	-83	-38	9959	-1.8	-11.98	0.64
898	SLU 80	-82	-20	9917	-2.1	-11.16	0.58
898	SLU 81	-82	-38	10107	-2	-11.96	0.65
898	SLU 82	-81	-20	10064	-2.29	-11.14	0.59
898	SLU 83	-83	-39	10215	-1.94	-12.42	0.66
898	SLU 84	-82	-20	10172	-2.24	-11.59	0.6
898	SLE RA 1	-61	-25	6604	-1.32	-6.34	0.42
898	SLE RA 2	-60	-5	6557	-1.64	-5.43	0.35
898	SLE RA 3	-62	-26	6716	-1.27	-6.77	0.43
898	SLE RA 4	-61	-13	6687	-1.46	-6.22	0.39
898	SLE RA 5	-60	-5	6629	-1.61	-5.73	0.36
898	SLE RA 6	-63	-26	6788	-1.23	-7.07	0.43
898	SLE RA 7	-62	-14	6759	-1.43	-6.52	0.39
898	SLE RA 8	-62	-26	6748	-1.24	-6.95	0.43
898	SLE RA 9	-61	-14	6720	-1.44	-6.4	0.39
898	SLE RA 10	-60	-7	7123	-1.78	-6.82	0.39
898	SLE RA 11	-63	-28	7282	-1.41	-8.16	0.47
898	SLE RA 12	-62	-15	7253	-1.6	-7.61	0.43
898	SLE RA 13	-61	-7	7195	-1.75	-7.12	0.4
898	SLE RA 14	-63	-28	7354	-1.37	-8.46	0.48
898	SLE RA 15	-62	-16	7325	-1.57	-7.91	0.44
898	SLE RA 16	-63	-28	7314	-1.38	-8.34	0.47
898	SLE RA 17	-62	-16	7286	-1.58	-7.79	0.43



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
898	SLE RA 18	-62	-28	7413	-1.51	-8.33	0.48
898	SLE RA 19	-61	-16	7384	-1.71	-7.78	0.44
898	SLE RA 20	-62	-28	7485	-1.48	-8.63	0.48
898	SLE RA 21	-62	-16	7456	-1.68	-8.08	0.44
898	SLE FR 1	-61	-25	6604	-1.32	-6.34	0.42
898	SLE FR 2	-61	-21	6594	-1.38	-6.16	0.41
898	SLE FR 3	-62	-25	6633	-1.3	-6.47	0.42
898	SLE FR 4	-61	-22	6837	-1.44	-6.76	0.42
898	SLE FR 5	-62	-26	6875	-1.36	-7.06	0.44
898	SLE FR 6	-62	-26	7008	-1.41	-7.34	0.45
898	SLE QP 1	-61	-25	6604	-1.32	-6.34	0.42
898	SLE QP 2	-62	-26	6847	-1.37	-6.94	0.44
898	SLD 1	556	156	7224	-4.87	16.99	-3.37
898	SLD 2	495	62	7272	-4.4	15.94	-1.07
898	SLD 3	521	-200	8162	1.32	0.33	-1.69
898	SLD 4	460	-295	8209	1.8	-0.72	0.61
898	SLD 5	188	587	5529	-11.9	25.69	-3.67
898	SLD 6	148	524	5561	-11.59	25	-2.14
898	SLD 7	71	-602	8654	8.74	-29.84	1.93
898	SLD 8	31	-665	8686	9.05	-30.53	3.45
898	SLD 9	-154	613	5007	-11.8	16.65	-2.58
898	SLD 10	-194	551	5039	-11.49	15.96	-1.05
898	SLD 11	-271	-576	8132	8.84	-38.88	3.02
898	SLD 12	-311	-638	8164	9.15	-39.57	4.54
898	SLD 13	-583	244	5484	-4.55	-13.16	0.26
898	SLD 14	-644	149	5531	-4.07	-14.21	2.57
898	SLD 15	-618	-113	6421	1.65	-29.82	1.94
898	SLD 16	-679	-208	6469	2.12	-30.86	4.25
898	SLV 1	906	268	7410	-7	30.9	-5.57
898	SLV 2	811	120	7484	-6.26	29.26	-1.95
898	SLV 3	849	-308	8924	3	3.98	-2.87
898	SLV 4	754	-456	8999	3.75	2.34	0.75
898	SLV 5	332	964	4704	-18.38	45.54	-6.13
898	SLV 6	268	864	4754	-17.87	44.44	-3.7
898	SLV 7	144	-956	9754	14.97	-44.18	2.87
898	SLV 8	80	-1056	9804	15.47	-45.29	5.3
898	SLV 9	-203	1005	3889	-18.22	31.41	-4.42
898	SLV 10	-267	905	3939	-17.72	30.31	-1.99
898	SLV 11	-391	-915	8939	15.12	-58.32	4.58
898	SLV 12	-455	-1015	8989	15.63	-59.42	7.01
898	SLV 13	-878	405	4694	-6.5	-16.22	0.13
898	SLV 14	-972	256	4769	-5.75	-17.86	3.74
898	SLV 15	-934	-171	6209	3.51	-43.14	2.83
898	SLV 16	-1029	-320	6284	4.25	-44.78	6.44
898	SLV FO 1	1003	298	7466	-7.56	34.68	-6.17
898	SLV FO 2	898	134	7548	-6.75	32.88	-2.19
898	SLV FO 3	941	-336	9132	3.44	5.07	-3.2
898	SLV FO 4	836	-499	9214	4.26	3.27	0.78
898	SLV FO 5	371	1063	4489	-20.08	50.79	-6.79
898	SLV FO 6	301	953	4545	-19.52	49.58	-4.11
898	SLV FO 7	164	-1049	10044	16.61	-47.91	3.11
898	SLV FO 8	94	-1159	10100	17.16	-49.12	5.79
898	SLV FO 9	-217	1108	3593	-19.91	35.24	-4.91
898	SLV FO 10	-287	998	3649	-19.36	34.03	-2.23
898	SLV FO 11	-424	-1004	9148	16.77	-63.46	4.99
898	SLV FO 12	-494	-1114	9204	17.33	-64.67	7.67
898	SLV FO 13	-959	448	4479	-7.01	-17.15	0.1
898	SLV FO 14	-1064	285	4561	-6.19	-18.95	4.07
898	SLV FO 15	-1021	-186	6145	4	-46.76	3.07
898	SLV FO 16	-1126	-349	6227	4.82	-48.56	7.04
898	CRTFP Ux+	0	0	0	0	0	0
898	CRTFP Ux-	0	0	0	0	0	0
898	CRTFP Uy+	0	0	0	0	0	0
898	CRTFP Uy-	0	0	0	0	0	0
901	SLU 1	-19	16	4677	88.43	102.95	1.34
901	SLU 2	-19	42	4639	87.43	102.03	1.26
901	SLU 3	-20	16	4796	90.77	106.54	1.38
901	SLU 4	-20	32	4774	90.17	105.99	1.33
901	SLU 5	-20	42	4716	88.93	104.35	1.28
901	SLU 6	-20	16	4873	92.27	108.86	1.39
901	SLU 7	-20	31	4851	91.67	108.31	1.35
901	SLU 8	-20	15	4831	91.44	107.58	1.38
901	SLU 9	-20	31	4808	90.84	107.03	1.33
901	SLU 10	-22	41	5283	99.57	116.01	1.44
901	SLU 11	-23	15	5440	102.91	120.52	1.55
901	SLU 12	-23	31	5418	102.3	119.97	1.51
901	SLU 13	-23	41	5360	101.07	118.33	1.46
901	SLU 14	-24	14	5517	104.41	122.84	1.57
901	SLU 15	-24	30	5494	103.81	122.29	1.52
901	SLU 16	-23	14	5474	103.58	121.56	1.56
901	SLU 17	-23	30	5452	102.98	121.01	1.51
901	SLU 18	-24	14	5597	105.77	122.91	1.6
901	SLU 19	-24	30	5574	105.17	122.36	1.55
901	SLU 20	-24	14	5673	107.28	125.23	1.61
901	SLU 21	-24	30	5651	106.68	124.68	1.57
901	SLU 22	-24	16	5476	103.73	121.39	1.55
901	SLU 23	-24	43	5438	102.73	120.48	1.47
901	SLU 24	-25	16	5595	106.06	124.99	1.58
901	SLU 25	-25	32	5573	105.46	124.44	1.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
901	SLU 26	-24	42	5515	104.23	122.8	1.49
901	SLU 27	-25	16	5672	107.56	127.31	1.6
901	SLU 28	-25	32	5650	106.96	126.76	1.55
901	SLU 29	-25	16	5630	106.73	126.03	1.59
901	SLU 30	-25	32	5607	106.13	125.48	1.54
901	SLU 31	-27	42	6082	114.87	134.45	1.65
901	SLU 32	-28	15	6239	118.2	138.96	1.76
901	SLU 33	-28	31	6217	117.6	138.42	1.71
901	SLU 34	-28	41	6159	116.37	136.77	1.67
901	SLU 35	-28	15	6316	119.7	141.28	1.78
901	SLU 36	-29	31	6293	119.1	140.73	1.73
901	SLU 37	-28	15	6273	118.87	140	1.76
901	SLU 38	-28	31	6251	118.27	139.46	1.72
901	SLU 39	-29	15	6396	121.07	141.36	1.8
901	SLU 40	-29	30	6373	120.47	140.81	1.76
901	SLU 41	-29	14	6472	122.57	143.68	1.82
901	SLU 42	-29	30	6450	121.97	143.13	1.78
901	SLU 43	-23	21	5806	109.72	127.51	1.67
901	SLU 44	-23	47	5769	108.72	126.59	1.59
901	SLU 45	-24	20	5926	112.05	131.1	1.71
901	SLU 46	-24	36	5903	111.45	130.55	1.66
901	SLU 47	-24	47	5845	110.22	128.91	1.61
901	SLU 48	-24	20	6002	113.56	133.42	1.72
901	SLU 49	-24	36	5980	112.95	132.87	1.68
901	SLU 50	-24	20	5960	112.72	132.14	1.71
901	SLU 51	-24	36	5937	112.12	131.59	1.66
901	SLU 52	-26	46	6412	120.86	140.57	1.77
901	SLU 53	-27	19	6569	124.19	145.08	1.88
901	SLU 54	-27	35	6547	123.59	144.53	1.84
901	SLU 55	-27	46	6489	122.36	142.89	1.79
901	SLU 56	-28	19	6646	125.69	147.4	1.9
901	SLU 57	-28	35	6624	125.09	146.85	1.86
901	SLU 58	-27	19	6603	124.86	146.12	1.89
901	SLU 59	-27	35	6581	124.26	145.57	1.84
901	SLU 60	-28	19	6726	127.06	147.47	1.93
901	SLU 61	-28	35	6703	126.46	146.92	1.88
901	SLU 62	-28	19	6803	128.56	149.79	1.95
901	SLU 63	-28	35	6780	127.96	149.24	1.9
901	SLU 64	-28	21	6605	125.02	145.95	1.88
901	SLU 65	-28	47	6568	124.01	145.04	1.8
901	SLU 66	-29	21	6725	127.35	149.55	1.92
901	SLU 67	-29	37	6702	126.75	149	1.87
901	SLU 68	-28	47	6644	125.51	147.36	1.82
901	SLU 69	-29	21	6801	128.85	151.87	1.93
901	SLU 70	-29	36	6779	128.25	151.32	1.89
901	SLU 71	-29	20	6759	128.02	150.59	1.92
901	SLU 72	-29	36	6736	127.42	150.04	1.87
901	SLU 73	-31	46	7211	136.15	159.01	1.98
901	SLU 74	-32	20	7368	139.49	163.52	2.09
901	SLU 75	-32	36	7346	138.89	162.98	2.05
901	SLU 76	-32	46	7288	137.65	161.33	2
901	SLU 77	-33	19	7445	140.99	165.84	2.11
901	SLU 78	-33	35	7423	140.39	165.29	2.06
901	SLU 79	-32	19	7403	140.16	164.56	2.1
901	SLU 80	-32	35	7380	139.56	164.02	2.05
901	SLU 81	-33	19	7525	142.36	165.92	2.14
901	SLU 82	-33	35	7502	141.75	165.37	2.09
901	SLU 83	-33	19	7602	143.86	168.24	2.15
901	SLU 84	-33	35	7579	143.26	167.69	2.11
901	SLE RA 1	-20	16	4905	92.8	108.22	1.4
901	SLE RA 2	-20	34	4880	92.14	107.61	1.35
901	SLE RA 3	-21	16	4985	94.36	110.61	1.42
901	SLE RA 4	-21	27	4970	93.96	110.25	1.39
901	SLE RA 5	-21	33	4931	93.14	109.15	1.36
901	SLE RA 6	-21	16	5036	95.36	112.16	1.44
901	SLE RA 7	-21	26	5021	94.96	111.79	1.4
901	SLE RA 8	-21	16	5008	94.81	111.31	1.43
901	SLE RA 9	-21	26	4993	94.41	110.94	1.39
901	SLE RA 10	-23	33	5309	100.23	116.93	1.47
901	SLE RA 11	-23	15	5414	102.45	119.93	1.54
901	SLE RA 12	-23	26	5399	102.05	119.57	1.51
901	SLE RA 13	-23	33	5361	101.23	118.47	1.48
901	SLE RA 14	-23	15	5465	103.45	121.48	1.55
901	SLE RA 15	-23	26	5450	103.05	121.11	1.52
901	SLE RA 16	-23	15	5437	102.9	120.63	1.54
901	SLE RA 17	-23	26	5422	102.5	120.26	1.51
901	SLE RA 18	-24	15	5518	104.36	121.53	1.57
901	SLE RA 19	-24	25	5503	103.96	121.16	1.54
901	SLE RA 20	-24	15	5570	105.37	123.07	1.58
901	SLE RA 21	-24	25	5555	104.96	122.71	1.55
901	SLE FR 1	-20	16	4905	92.8	108.22	1.4
901	SLE FR 2	-20	20	4900	92.67	108.09	1.39
901	SLE FR 3	-21	16	4926	93.2	108.83	1.41
901	SLE FR 4	-21	19	5084	96.14	112.09	1.44
901	SLE FR 5	-22	16	5110	96.67	112.83	1.46
901	SLE FR 6	-22	15	5212	98.58	114.87	1.49
901	SLE QP 1	-20	16	4905	92.8	108.22	1.4
901	SLE QP 2	-21	16	5089	96.27	112.21	1.45
901	SLE D 1	515	197	5119	94.98	100.13	-11.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
901	SLD 2	468	169	5117	95.06	100.81	-9.1
901	SLD 3	505	-116	5619	108.03	112.79	-10.26
901	SLD 4	459	-144	5617	108.11	113.46	-7.74
901	SLD 5	162	551	4340	76.07	89.27	-4.99
901	SLD 6	131	532	4339	76.12	89.72	-3.32
901	SLD 7	131	-494	6006	119.59	131.46	-0.45
901	SLD 8	101	-513	6006	119.64	131.9	1.21
901	SLD 9	-143	544	4173	72.91	92.52	1.69
901	SLD 10	-174	525	4172	72.96	92.96	3.36
901	SLD 11	-174	-501	5839	116.42	134.7	6.23
901	SLD 12	-204	-519	5838	116.47	135.15	7.89
901	SLD 13	-502	176	4561	84.43	110.96	10.65
901	SLD 14	-548	147	4560	84.51	111.63	13.17
901	SLD 15	-511	-138	5061	97.49	123.61	12.01
901	SLD 16	-557	-166	5060	97.57	124.29	14.53
901	SLV 1	818	308	5121	93.88	92.82	-19.04
901	SLV 2	745	264	5119	94	93.87	-15.1
901	SLV 3	803	-198	5929	114.98	113.28	-16.86
901	SLV 4	730	-242	5927	115.11	114.33	-12.91
901	SLV 5	266	880	3873	63.52	75.16	-8.75
901	SLV 6	217	850	3872	63.6	75.87	-6.09
901	SLV 7	217	-808	6568	133.87	143.37	-1.46
901	SLV 8	168	-838	6566	133.96	144.08	1.2
901	SLV 9	-211	869	3612	58.59	80.34	1.71
901	SLV 10	-260	839	3611	58.67	81.05	4.36
901	SLV 11	-260	-818	6307	128.94	148.55	9
901	SLV 12	-309	-848	6305	129.02	149.26	11.66
901	SLV 13	-773	274	4251	77.44	110.09	15.82
901	SLV 14	-846	229	4249	77.56	111.14	19.76
901	SLV 15	-788	-233	5060	98.54	130.55	18
901	SLV 16	-860	-277	5058	98.67	131.6	21.95
901	SLV FO 1	901	338	5124	93.64	90.88	-21.09
901	SLV FO 2	821	289	5122	93.77	92.04	-16.75
901	SLV FO 3	885	-219	6013	116.86	113.39	-18.69
901	SLV FO 4	805	-268	6011	116.99	114.55	-14.35
901	SLV FO 5	295	966	3751	60.24	71.45	-9.77
901	SLV FO 6	241	933	3750	60.34	72.23	-6.85
901	SLV FO 7	241	-890	6715	137.63	146.49	-1.75
901	SLV FO 8	187	-923	6714	137.72	147.27	1.17
901	SLV FO 9	-230	955	3464	54.82	77.15	1.73
901	SLV FO 10	-284	922	3463	54.91	77.93	4.65
901	SLV FO 11	-284	-902	6429	132.21	152.19	9.75
901	SLV FO 12	-338	-935	6427	132.3	152.97	12.68
901	SLV FO 13	-848	299	4168	75.55	109.87	17.25
901	SLV FO 14	-928	251	4165	75.69	111.03	21.59
901	SLV FO 15	-864	-257	5057	98.77	132.38	19.66
901	SLV FO 16	-944	-306	5055	98.9	133.54	24
901	CRTFP Ux+	0	0	0	0	0	0
901	CRTFP Ux-	0	0	0	0	0	0
901	CRTFP Uy+	0	0	0	0	0	0
901	CRTFP Uy-	0	0	0	0	0	0
904	SLU 1	-11	143	3495	66.03	-28.04	0.35
904	SLU 2	-12	170	3469	65.26	-27.91	0.42
904	SLU 3	-11	146	3572	67.55	-28.92	0.35
904	SLU 4	-12	162	3556	67.09	-28.85	0.39
904	SLU 5	-12	171	3519	66.24	-28.5	0.41
904	SLU 6	-11	147	3622	68.54	-29.51	0.35
904	SLU 7	-12	163	3606	68.07	-29.44	0.39
904	SLU 8	-11	145	3595	68	-29.22	0.34
904	SLU 9	-12	161	3579	67.54	-29.14	0.38
904	SLU 10	-14	184	3946	74.24	-31.47	0.46
904	SLU 11	-14	160	4049	76.53	-32.48	0.39
904	SLU 12	-14	176	4033	76.07	-32.4	0.43
904	SLU 13	-14	185	3995	75.22	-32.06	0.45
904	SLU 14	-14	161	4099	77.52	-33.07	0.39
904	SLU 15	-14	177	4083	77.05	-32.99	0.43
904	SLU 16	-14	159	4072	76.98	-32.77	0.38
904	SLU 17	-14	176	4056	76.52	-32.7	0.42
904	SLU 18	-14	164	4177	78.86	-33.12	0.41
904	SLU 19	-15	180	4161	78.4	-33.04	0.45
904	SLU 20	-15	165	4226	79.84	-33.71	0.4
904	SLU 21	-15	181	4210	79.38	-33.63	0.44
904	SLU 22	-15	162	4070	77.07	-32.56	0.44
904	SLU 23	-15	188	4044	76.3	-32.43	0.51
904	SLU 24	-15	164	4147	78.6	-33.44	0.44
904	SLU 25	-15	180	4131	78.13	-33.37	0.48
904	SLU 26	-16	189	4094	77.29	-33.02	0.5
904	SLU 27	-15	165	4197	79.58	-34.03	0.43
904	SLU 28	-16	181	4181	79.12	-33.96	0.47
904	SLU 29	-15	164	4170	79.04	-33.74	0.42
904	SLU 30	-15	180	4154	78.58	-33.66	0.46
904	SLU 31	-18	203	4521	85.28	-35.99	0.55
904	SLU 32	-17	178	4624	87.58	-37	0.48
904	SLU 33	-18	194	4608	87.11	-36.92	0.52
904	SLU 34	-18	204	4570	86.27	-36.58	0.54
904	SLU 35	-18	179	4674	88.56	-37.59	0.47
904	SLU 36	-18	195	4658	88.1	-37.51	0.51
904	SLU 37	-17	178	4647	88.02	-37.29	0.46
904	SLU 38	-18	194	4631	87.56	-37.22	0.5



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
904	SLU 39	-18	182	4752	89.9	-37.64	0.49
904	SLU 40	-19	198	4736	89.44	-37.56	0.54
904	SLU 41	-18	183	4801	90.89	-38.23	0.49
904	SLU 42	-19	199	4785	90.42	-38.15	0.53
904	SLU 43	-13	180	4347	82.05	-34.9	0.43
904	SLU 44	-14	207	4320	81.28	-34.78	0.5
904	SLU 45	-13	182	4424	83.57	-35.79	0.43
904	SLU 46	-14	198	4408	83.11	-35.71	0.47
904	SLU 47	-14	208	4370	82.27	-35.37	0.49
904	SLU 48	-13	183	4473	84.56	-36.38	0.42
904	SLU 49	-14	199	4458	84.1	-36.3	0.46
904	SLU 50	-13	182	4446	84.02	-36.08	0.41
904	SLU 51	-14	198	4430	83.56	-36.01	0.45
904	SLU 52	-16	221	4797	90.26	-38.33	0.54
904	SLU 53	-16	197	4901	92.55	-39.34	0.47
904	SLU 54	-16	213	4885	92.09	-39.27	0.51
904	SLU 55	-16	222	4847	91.25	-38.92	0.53
904	SLU 56	-16	198	4950	93.54	-39.93	0.46
904	SLU 57	-16	214	4934	93.08	-39.86	0.5
904	SLU 58	-16	196	4923	93	-39.64	0.45
904	SLU 59	-16	212	4907	92.54	-39.56	0.49
904	SLU 60	-16	200	5028	94.88	-39.98	0.48
904	SLU 61	-17	216	5012	94.42	-39.91	0.53
904	SLU 62	-17	201	5078	95.86	-40.57	0.48
904	SLU 63	-17	217	5062	95.4	-40.5	0.52
904	SLU 64	-17	198	4922	93.09	-39.42	0.51
904	SLU 65	-17	225	4895	92.33	-39.3	0.58
904	SLU 66	-17	201	4999	94.62	-40.31	0.51
904	SLU 67	-17	217	4983	94.16	-40.23	0.56
904	SLU 68	-17	226	4945	93.31	-39.89	0.57
904	SLU 69	-17	202	5048	95.6	-40.9	0.51
904	SLU 70	-18	218	5033	95.14	-40.82	0.55
904	SLU 71	-17	200	5021	95.06	-40.6	0.5
904	SLU 72	-17	216	5005	94.6	-40.53	0.54
904	SLU 73	-20	239	5372	101.31	-42.85	0.62
904	SLU 74	-19	215	5476	103.6	-43.86	0.56
904	SLU 75	-20	231	5460	103.14	-43.79	0.6
904	SLU 76	-20	240	5422	102.29	-43.44	0.61
904	SLU 77	-20	216	5525	104.58	-44.45	0.55
904	SLU 78	-20	232	5509	104.12	-44.38	0.59
904	SLU 79	-19	214	5498	104.04	-44.16	0.54
904	SLU 80	-20	231	5482	103.58	-44.08	0.58
904	SLU 81	-20	219	5603	105.92	-44.5	0.57
904	SLU 82	-21	235	5587	105.46	-44.43	0.61
904	SLU 83	-20	220	5653	106.91	-45.09	0.56
904	SLU 84	-21	236	5637	106.45	-45.02	0.6
904	SLE RA 1	-12	148	3660	69.18	-29.33	0.38
904	SLE RA 2	-12	166	3642	68.67	-29.25	0.42
904	SLE RA 3	-12	150	3711	70.2	-29.92	0.38
904	SLE RA 4	-12	161	3700	69.89	-29.87	0.4
904	SLE RA 5	-13	167	3675	69.33	-29.64	0.42
904	SLE RA 6	-12	151	3744	70.86	-30.31	0.37
904	SLE RA 7	-13	161	3733	70.55	-30.26	0.4
904	SLE RA 8	-12	150	3726	70.5	-30.12	0.37
904	SLE RA 9	-12	160	3715	70.19	-30.07	0.39
904	SLE RA 10	-14	176	3960	74.66	-31.62	0.45
904	SLE RA 11	-14	160	4029	76.19	-32.29	0.4
904	SLE RA 12	-14	170	4018	75.88	-32.24	0.43
904	SLE RA 13	-14	176	3993	75.31	-32.01	0.44
904	SLE RA 14	-14	160	4062	76.84	-32.68	0.4
904	SLE RA 15	-14	171	4051	76.53	-32.63	0.43
904	SLE RA 16	-14	159	4044	76.48	-32.49	0.39
904	SLE RA 17	-14	170	4033	76.18	-32.44	0.42
904	SLE RA 18	-14	162	4114	77.74	-32.72	0.41
904	SLE RA 19	-15	173	4103	77.43	-32.67	0.44
904	SLE RA 20	-14	163	4147	78.39	-33.11	0.41
904	SLE RA 21	-15	173	4136	78.09	-33.06	0.44
904	SLE FR 1	-12	148	3660	69.18	-29.33	0.38
904	SLE FR 2	-12	152	3656	69.08	-29.31	0.38
904	SLE FR 3	-12	149	3673	69.45	-29.49	0.37
904	SLE FR 4	-13	156	3792	71.65	-30.33	0.4
904	SLE FR 5	-13	153	3809	72.01	-30.5	0.39
904	SLE FR 6	-13	155	3887	73.46	-31.02	0.4
904	SLE QP 1	-12	148	3660	69.18	-29.33	0.38
904	SLE QP 2	-13	153	3796	71.75	-30.35	0.39
904	SLD 1	517	270	3246	59.68	-5.99	-11.59
904	SLD 2	471	301	3255	59.78	-6.15	-9.11
904	SLD 3	525	-42	3590	69.5	-7.73	-12.17
904	SLD 4	478	-11	3599	69.6	-7.9	-9.69
904	SLD 5	143	656	3107	53.21	-20.37	-2.77
904	SLD 6	113	676	3113	53.28	-20.48	-1.13
904	SLD 7	168	-385	4254	85.95	-26.18	-4.71
904	SLD 8	138	-365	4261	86.02	-26.28	-3.07
904	SLD 9	-163	670	3331	57.48	-34.41	3.85
904	SLD 10	-194	690	3337	57.55	-34.52	5.49
904	SLD 11	-138	-371	4479	90.22	-40.22	1.91
904	SLD 12	-169	-351	4485	90.29	-40.32	3.54
904	SLD 13	-503	316	3993	73.9	-52.8	10.47
904	SLD 14	-550	347	4002	74	-52.96	12.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
904	SLD 15	-496	4	4337	83.72	-54.54	9.88
904	SLD 16	-542	35	4346	83.82	-54.7	12.36
904	SLV 1	816	345	2928	52.64	7.7	-18.34
904	SLV 2	743	393	2942	52.79	7.45	-14.45
904	SLV 3	829	-160	3484	68.52	4.87	-19.3
904	SLV 4	756	-112	3499	68.67	4.62	-15.41
904	SLV 5	231	966	2688	41.9	-14.59	-4.5
904	SLV 6	182	999	2698	42	-14.76	-1.88
904	SLV 7	272	-715	4544	94.84	-24.03	-7.7
904	SLV 8	223	-683	4554	94.94	-24.2	-5.08
904	SLV 9	-248	988	3038	48.56	-36.49	5.86
904	SLV 10	-297	1020	3047	48.66	-36.66	8.47
904	SLV 11	-207	-694	4894	101.5	-45.94	2.66
904	SLV 12	-256	-661	4904	101.6	-46.11	5.27
904	SLV 13	-781	417	4093	74.83	-65.31	16.19
904	SLV 14	-854	465	4107	74.98	-65.56	20.07
904	SLV 15	-769	-88	4650	90.71	-68.15	15.23
904	SLV 16	-841	-40	4664	90.86	-68.4	19.11
904	SLV FO 1	899	364	2841	50.73	11.51	-20.21
904	SLV FO 2	819	417	2857	50.89	11.23	-15.93
904	SLV FO 3	913	-191	3453	68.2	8.39	-21.26
904	SLV FO 4	832	-138	3469	68.37	8.12	-16.99
904	SLV FO 5	255	1048	2577	38.92	-13.01	-4.99
904	SLV FO 6	201	1083	2588	39.03	-13.2	-2.11
904	SLV FO 7	301	-802	4619	97.15	-23.4	-8.51
904	SLV FO 8	247	-767	4630	97.26	-23.59	-5.63
904	SLV FO 9	-272	1072	2962	46.24	-37.11	6.4
904	SLV FO 10	-326	1107	2973	46.35	-37.29	9.28
904	SLV FO 11	-227	-778	5004	104.47	-47.49	2.88
904	SLV FO 12	-281	-743	5014	104.58	-47.68	5.76
904	SLV FO 13	-858	443	4122	75.14	-68.81	17.77
904	SLV FO 14	-938	496	4138	75.3	-69.09	22.04
904	SLV FO 15	-844	-112	4735	92.61	-71.93	16.71
904	SLV FO 16	-924	-59	4751	92.77	-72.2	20.98
904	CRTFP Ux+	0	0	0	0	0	0
904	CRTFP Ux-	0	0	0	0	0	0
904	CRTFP Uy+	0	0	0	0	0	0
904	CRTFP Uy-	0	0	0	0	0	0
906	SLU 1	-39	49	3120	-0.37	-358.72	12.23
906	SLU 2	-38	71	3079	-0.64	-355.82	17.65
906	SLU 3	-40	49	3199	-0.32	-366.98	12.36
906	SLU 4	-40	62	3175	-0.48	-365.23	15.61
906	SLU 5	-39	71	3130	-0.6	-361.08	17.74
906	SLU 6	-41	50	3250	-0.29	-372.24	12.45
906	SLU 7	-40	63	3226	-0.45	-370.49	15.7
906	SLU 8	-40	50	3221	-0.3	-369.24	12.41
906	SLU 9	-40	63	3197	-0.46	-367.5	15.66
906	SLU 10	-41	78	3468	-0.68	-397.39	19.4
906	SLU 11	-43	56	3588	-0.37	-408.55	14.11
906	SLU 12	-42	69	3564	-0.53	-406.81	17.36
906	SLU 13	-41	78	3519	-0.65	-402.65	19.49
906	SLU 14	-43	57	3639	-0.33	-413.81	14.2
906	SLU 15	-43	70	3614	-0.49	-412.06	17.45
906	SLU 16	-43	57	3610	-0.34	-410.81	14.17
906	SLU 17	-42	70	3586	-0.5	-409.07	17.42
906	SLU 18	-43	59	3674	-0.43	-418.11	14.74
906	SLU 19	-42	72	3650	-0.59	-416.37	17.99
906	SLU 20	-44	59	3725	-0.4	-423.37	14.83
906	SLU 21	-43	72	3701	-0.56	-421.62	18.08
906	SLU 22	-44	54	3624	-0.28	-411.96	13.46
906	SLU 23	-43	75	3584	-0.55	-409.06	18.88
906	SLU 24	-45	54	3704	-0.23	-420.22	13.59
906	SLU 25	-44	67	3680	-0.39	-418.48	16.84
906	SLU 26	-44	76	3635	-0.51	-414.32	18.97
906	SLU 27	-45	55	3755	-0.2	-425.48	13.68
906	SLU 28	-45	68	3731	-0.36	-423.73	16.93
906	SLU 29	-45	55	3726	-0.21	-422.48	13.64
906	SLU 30	-44	67	3702	-0.37	-420.74	16.89
906	SLU 31	-46	82	3972	-0.59	-450.63	20.64
906	SLU 32	-47	61	4092	-0.27	-461.79	15.35
906	SLU 33	-47	74	4068	-0.43	-460.05	18.6
906	SLU 34	-46	83	4023	-0.55	-455.89	20.73
906	SLU 35	-48	62	4143	-0.24	-467.05	15.44
906	SLU 36	-47	75	4119	-0.4	-465.3	18.69
906	SLU 37	-48	62	4114	-0.25	-464.05	15.4
906	SLU 38	-47	75	4090	-0.41	-462.31	18.65
906	SLU 39	-48	64	4179	-0.34	-471.35	15.97
906	SLU 40	-47	77	4155	-0.5	-469.61	19.22
906	SLU 41	-48	64	4230	-0.3	-476.61	16.06
906	SLU 42	-48	77	4206	-0.46	-474.86	19.31
906	SLU 43	-50	62	3882	-0.52	-448.09	15.48
906	SLU 44	-49	83	3842	-0.78	-445.18	20.89
906	SLU 45	-51	62	3962	-0.47	-456.34	15.6
906	SLU 46	-50	75	3938	-0.63	-454.6	18.85
906	SLU 47	-49	84	3893	-0.75	-450.44	20.98
906	SLU 48	-51	63	4013	-0.43	-461.6	15.69
906	SLU 49	-50	76	3989	-0.59	-459.86	18.94
906	SLU 50	-51	63	3984	-0.45	-458.6	15.66
906	SLU 51	-50	76	3960	-0.61	-456.86	18.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
906	SLU 52	-51	90	4231	-0.82	-486.75	22.65
906	SLU 53	-53	69	4350	-0.51	-497.91	17.36
906	SLU 54	-52	82	4326	-0.67	-496.17	20.61
906	SLU 55	-52	91	4282	-0.79	-492.01	22.74
906	SLU 56	-54	70	4401	-0.47	-503.17	17.45
906	SLU 57	-53	83	4377	-0.63	-501.43	20.7
906	SLU 58	-53	70	4373	-0.49	-500.17	17.41
906	SLU 59	-53	83	4349	-0.65	-498.43	20.66
906	SLU 60	-53	72	4437	-0.58	-507.47	17.99
906	SLU 61	-53	85	4413	-0.74	-505.73	21.24
906	SLU 62	-54	72	4488	-0.54	-512.73	18.08
906	SLU 63	-53	85	4464	-0.7	-510.99	21.33
906	SLU 64	-54	67	4387	-0.42	-501.33	16.71
906	SLU 65	-53	88	4347	-0.69	-498.42	22.13
906	SLU 66	-55	67	4467	-0.37	-509.58	16.83
906	SLU 67	-55	80	4443	-0.53	-507.84	20.08
906	SLU 68	-54	89	4398	-0.65	-503.68	22.22
906	SLU 69	-56	68	4518	-0.34	-514.84	16.93
906	SLU 70	-55	81	4494	-0.5	-513.1	20.18
906	SLU 71	-55	67	4489	-0.35	-511.84	16.89
906	SLU 72	-55	80	4465	-0.51	-510.1	20.14
906	SLU 73	-56	95	4735	-0.73	-539.99	23.88
906	SLU 74	-58	74	4855	-0.42	-551.15	18.59
906	SLU 75	-57	87	4831	-0.58	-549.41	21.84
906	SLU 76	-56	96	4786	-0.7	-545.25	23.97
906	SLU 77	-58	75	4906	-0.38	-556.41	18.68
906	SLU 78	-58	88	4882	-0.54	-554.67	21.93
906	SLU 79	-58	74	4877	-0.39	-553.41	18.65
906	SLU 80	-57	87	4853	-0.55	-551.67	21.9
906	SLU 81	-58	77	4942	-0.48	-560.71	19.22
906	SLU 82	-57	90	4918	-0.64	-558.97	22.47
906	SLU 83	-58	77	4993	-0.45	-565.97	19.31
906	SLU 84	-58	90	4968	-0.61	-564.23	22.56
906	SLE RA 1	-41	50	3264	-0.35	-373.93	12.58
906	SLE RA 2	-40	65	3237	-0.52	-372	16.19
906	SLE RA 3	-41	51	3317	-0.31	-379.44	12.67
906	SLE RA 4	-41	59	3301	-0.42	-378.28	14.83
906	SLE RA 5	-40	65	3271	-0.5	-375.5	16.25
906	SLE RA 6	-42	51	3351	-0.29	-382.94	12.73
906	SLE RA 7	-41	60	3335	-0.4	-381.78	14.89
906	SLE RA 8	-41	51	3332	-0.3	-380.95	12.7
906	SLE RA 9	-41	59	3316	-0.41	-379.78	14.87
906	SLE RA 10	-42	69	3496	-0.55	-399.71	17.36
906	SLE RA 11	-43	55	3576	-0.34	-407.15	13.84
906	SLE RA 12	-43	64	3560	-0.45	-405.99	16
906	SLE RA 13	-42	70	3530	-0.53	-403.22	17.42
906	SLE RA 14	-43	56	3610	-0.32	-410.66	13.9
906	SLE RA 15	-43	64	3594	-0.42	-409.5	16.06
906	SLE RA 16	-43	55	3590	-0.33	-408.66	13.87
906	SLE RA 17	-43	64	3574	-0.43	-407.5	16.04
906	SLE RA 18	-43	57	3633	-0.39	-413.52	14.25
906	SLE RA 19	-43	66	3617	-0.49	-412.36	16.42
906	SLE RA 20	-44	57	3667	-0.36	-417.03	14.32
906	SLE RA 21	-43	66	3651	-0.47	-415.87	16.48
906	SLE FR 1	-41	50	3264	-0.35	-373.93	12.58
906	SLE FR 2	-41	53	3258	-0.38	-373.55	13.3
906	SLE FR 3	-41	50	3277	-0.34	-375.34	12.61
906	SLE FR 4	-41	55	3369	-0.39	-385.42	13.81
906	SLE FR 5	-42	52	3388	-0.35	-387.21	13.11
906	SLE FR 6	-42	54	3449	-0.37	-393.73	13.42
906	SLE QP 1	-41	50	3264	-0.35	-373.93	12.58
906	SLE QP 2	-41	52	3375	-0.36	-385.81	13.08
906	SLD 1	260	188	4017	-2.33	-460.69	46.98
906	SLD 2	226	81	4060	-2.03	-463.39	20.21
906	SLD 3	241	-61	4543	1.1	-499.83	-15.25
906	SLD 4	207	-168	4586	1.4	-502.52	-42.02
906	SLD 5	84	490	2762	-6.2	-348.44	122.45
906	SLD 6	62	419	2790	-6.01	-350.22	104.77
906	SLD 7	20	-340	4515	5.23	-478.88	-84.97
906	SLD 8	-2	-411	4544	5.43	-480.66	-102.64
906	SLD 9	-81	516	2206	-6.14	-290.96	128.81
906	SLD 10	-103	444	2234	-5.94	-292.74	111.13
906	SLD 11	-145	-315	3959	5.29	-421.4	-78.6
906	SLD 12	-167	-386	3987	5.49	-423.18	-96.28
906	SLD 13	-290	273	2163	-2.12	-269.1	68.19
906	SLD 14	-324	165	2206	-1.82	-271.8	41.41
906	SLD 15	-309	24	2689	1.31	-308.24	5.96
906	SLD 16	-343	-84	2732	1.61	-310.93	-20.81
906	SLV 1	431	272	4362	-3.53	-501.57	67.74
906	SLV 2	378	103	4430	-3.06	-505.79	25.8
906	SLV 3	400	-130	5212	2.01	-564.82	-32.76
906	SLV 4	347	-299	5279	2.48	-569.04	-74.71
906	SLV 5	157	760	2370	-9.8	-323.82	189.74
906	SLV 6	121	646	2415	-9.48	-326.66	161.5
906	SLV 7	54	-581	5202	8.67	-534.66	-145.27
906	SLV 8	18	-695	5247	8.99	-537.5	-173.51
906	SLV 9	-101	799	1502	-9.7	-234.12	199.68
906	SLV 10	-137	686	1547	-9.39	-236.96	171.44
906	SLV 11	-204	-541	4334	8.77	-444.97	-135.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
906	SLV 12	-240	-655	4380	9.09	-447.81	-163.57
906	SLV 13	-430	404	1470	-3.2	-202.58	100.87
906	SLV 14	-483	235	1537	-2.73	-206.8	58.93
906	SLV 15	-461	2	2319	2.34	-265.84	0.37
906	SLV 16	-514	-167	2387	2.81	-270.06	-41.57
906	SLV FO 1	478	294	4461	-3.84	-513.14	73.21
906	SLV FO 2	420	108	4535	-3.33	-517.78	27.07
906	SLV FO 3	444	-149	5396	2.25	-582.72	-37.35
906	SLV FO 4	386	-334	5470	2.77	-587.36	-83.49
906	SLV FO 5	177	830	2269	-10.74	-317.62	207.4
906	SLV FO 6	138	705	2319	-10.4	-320.74	176.34
906	SLV FO 7	64	-644	5385	9.57	-549.55	-161.11
906	SLV FO 8	24	-769	5435	9.92	-552.67	-192.17
906	SLV FO 9	-107	874	1315	-10.64	-218.95	218.34
906	SLV FO 10	-146	749	1365	-10.29	-222.08	187.28
906	SLV FO 11	-221	-601	4430	9.68	-450.88	-150.18
906	SLV FO 12	-260	-726	4480	10.03	-454.01	-181.24
906	SLV FO 13	-469	439	1279	-3.48	-184.26	109.65
906	SLV FO 14	-527	253	1354	-2.97	-188.9	63.52
906	SLV FO 15	-503	-4	2214	2.61	-253.84	-0.9
906	SLV FO 16	-561	-189	2288	3.13	-258.48	-47.04
906	CRTFP Ux+	0	0	0	0	0	0
906	CRTFP Ux-	0	0	0	0	0	0
906	CRTFP Uy+	0	0	0	0	0	0
906	CRTFP Uy-	0	0	0	0	0	0
909	SLU 1	133	50	6329	1.82	24.42	-1.6
909	SLU 2	128	80	6240	1.33	22.83	-1.48
909	SLU 3	138	51	6511	1.98	25.67	-1.68
909	SLU 4	135	69	6458	1.69	24.71	-1.61
909	SLU 5	132	81	6362	1.44	23.59	-1.54
909	SLU 6	142	52	6633	2.1	26.44	-1.75
909	SLU 7	139	70	6580	1.8	25.48	-1.68
909	SLU 8	141	52	6573	2.05	25.96	-1.74
909	SLU 9	138	69	6520	1.75	25	-1.66
909	SLU 10	140	88	7098	1.58	27.68	-1.69
909	SLU 11	150	60	7369	2.24	30.52	-1.9
909	SLU 12	147	77	7316	1.94	29.56	-1.82
909	SLU 13	144	89	7220	1.7	28.44	-1.76
909	SLU 14	154	60	7491	2.35	31.29	-1.97
909	SLU 15	151	78	7438	2.06	30.33	-1.89
909	SLU 16	153	60	7431	2.3	30.8	-1.95
909	SLU 17	150	78	7378	2.01	29.85	-1.88
909	SLU 18	150	62	7554	2.18	31.35	-1.91
909	SLU 19	147	80	7501	1.89	30.39	-1.84
909	SLU 20	154	63	7676	2.3	32.12	-1.98
909	SLU 21	151	80	7623	2	31.16	-1.9
909	SLU 22	154	58	7431	2.42	31.03	-1.88
909	SLU 23	149	88	7343	1.93	29.43	-1.75
909	SLU 24	159	59	7614	2.58	32.28	-1.96
909	SLU 25	156	77	7561	2.29	31.32	-1.89
909	SLU 26	152	88	7465	2.04	30.2	-1.82
909	SLU 27	163	60	7736	2.7	33.05	-2.03
909	SLU 28	160	78	7683	2.4	32.09	-1.95
909	SLU 29	161	59	7675	2.65	32.56	-2.01
909	SLU 30	158	77	7622	2.35	31.61	-1.94
909	SLU 31	161	96	8201	2.18	34.28	-1.97
909	SLU 32	171	67	8472	2.84	37.13	-2.18
909	SLU 33	168	85	8419	2.55	36.17	-2.1
909	SLU 34	164	96	8323	2.3	35.05	-2.04
909	SLU 35	175	68	8594	2.95	37.9	-2.24
909	SLU 36	172	86	8541	2.66	36.94	-2.17
909	SLU 37	173	67	8533	2.9	37.41	-2.23
909	SLU 38	170	85	8480	2.61	36.45	-2.15
909	SLU 39	171	70	8657	2.79	37.96	-2.19
909	SLU 40	168	87	8604	2.49	37	-2.11
909	SLU 41	174	70	8779	2.9	38.72	-2.25
909	SLU 42	171	88	8726	2.61	37.77	-2.18
909	SLU 43	166	63	7849	2.16	29.48	-1.99
909	SLU 44	161	93	7761	1.66	27.89	-1.86
909	SLU 45	171	64	8031	2.32	30.73	-2.07
909	SLU 46	168	82	7978	2.03	29.78	-1.99
909	SLU 47	165	93	7883	1.78	28.65	-1.93
909	SLU 48	175	65	8154	2.44	31.5	-2.14
909	SLU 49	172	82	8100	2.14	30.54	-2.06
909	SLU 50	174	64	8093	2.39	31.02	-2.12
909	SLU 51	171	82	8040	2.09	30.06	-2.05
909	SLU 52	173	101	8619	1.92	32.74	-2.08
909	SLU 53	183	72	8889	2.58	35.58	-2.29
909	SLU 54	180	90	8836	2.28	34.63	-2.21
909	SLU 55	177	101	8741	2.04	33.5	-2.14
909	SLU 56	187	73	9011	2.69	36.35	-2.35
909	SLU 57	184	91	8958	2.4	35.39	-2.28
909	SLU 58	186	72	8951	2.64	35.87	-2.34
909	SLU 59	183	90	8898	2.35	34.91	-2.26
909	SLU 60	183	74	9075	2.52	36.41	-2.3
909	SLU 61	180	92	9022	2.23	35.45	-2.22
909	SLU 62	187	75	9197	2.64	37.18	-2.36
909	SLU 63	184	93	9144	2.34	36.22	-2.29
909	SLU 64	187	70	8952	2.76	36.09	-2.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLU 65	182	100	8863	2.27	34.5	-2.14
909	SLU 66	192	72	9134	2.92	37.34	-2.35
909	SLU 67	189	89	9081	2.63	36.38	-2.27
909	SLU 68	185	101	8985	2.38	35.26	-2.21
909	SLU 69	196	72	9256	3.04	38.11	-2.41
909	SLU 70	193	90	9203	2.74	37.15	-2.34
909	SLU 71	194	72	9196	2.99	37.62	-2.4
909	SLU 72	191	90	9143	2.69	36.67	-2.32
909	SLU 73	193	108	9721	2.52	39.35	-2.36
909	SLU 74	204	80	9992	3.18	42.19	-2.56
909	SLU 75	201	97	9939	2.88	41.23	-2.49
909	SLU 76	197	109	9843	2.64	40.11	-2.42
909	SLU 77	208	80	10114	3.29	42.96	-2.63
909	SLU 78	205	98	10061	3	42	-2.55
909	SLU 79	206	80	10054	3.24	42.47	-2.61
909	SLU 80	203	98	10001	2.95	41.52	-2.54
909	SLU 81	204	82	10178	3.13	43.02	-2.57
909	SLU 82	201	100	10124	2.83	42.06	-2.5
909	SLU 83	207	83	10300	3.24	43.79	-2.64
909	SLU 84	204	100	10246	2.94	42.83	-2.56
909	SLE RA 1	139	53	6644	1.99	26.31	-1.68
909	SLE RA 2	136	72	6585	1.66	25.25	-1.6
909	SLE RA 3	142	53	6765	2.1	27.14	-1.74
909	SLE RA 4	141	65	6730	1.9	26.51	-1.69
909	SLE RA 5	138	73	6666	1.74	25.76	-1.64
909	SLE RA 6	145	54	6847	2.18	27.65	-1.78
909	SLE RA 7	143	66	6811	1.98	27.02	-1.73
909	SLE RA 8	144	53	6806	2.14	27.33	-1.77
909	SLE RA 9	142	65	6771	1.94	26.69	-1.72
909	SLE RA 10	144	78	7157	1.83	28.48	-1.74
909	SLE RA 11	150	59	7337	2.27	30.38	-1.88
909	SLE RA 12	148	71	7302	2.07	29.74	-1.83
909	SLE RA 13	146	78	7238	1.91	28.99	-1.79
909	SLE RA 14	153	59	7419	2.35	30.89	-1.92
909	SLE RA 15	151	71	7383	2.15	30.25	-1.87
909	SLE RA 16	152	59	7378	2.31	30.57	-1.91
909	SLE RA 17	150	71	7343	2.12	29.93	-1.86
909	SLE RA 18	150	60	7461	2.23	30.93	-1.89
909	SLE RA 19	148	72	7425	2.04	30.29	-1.84
909	SLE RA 20	153	61	7542	2.31	31.44	-1.93
909	SLE RA 21	151	73	7507	2.11	30.8	-1.88
909	SLE FR 1	139	53	6644	1.99	26.31	-1.68
909	SLE FR 2	138	56	6632	1.92	26.1	-1.67
909	SLE FR 3	140	53	6676	2.02	26.52	-1.7
909	SLE FR 4	142	59	6877	2	27.48	-1.73
909	SLE FR 5	143	55	6921	2.09	27.9	-1.76
909	SLE FR 6	145	56	7052	2.11	28.62	-1.78
909	SLE QP 1	139	53	6644	1.99	26.31	-1.68
909	SLE QP 2	142	55	6889	2.06	27.7	-1.74
909	SLD 1	680	131	5541	-1.37	14.25	-4.04
909	SLD 2	610	223	5479	-1.83	15.48	-1.84
909	SLD 3	737	-196	6686	4.72	34.23	-5.47
909	SLD 4	667	-104	6624	4.25	35.46	-3.26
909	SLD 5	230	558	4759	-8.12	-6.86	-0.67
909	SLD 6	184	619	4718	-8.43	-6.05	0.79
909	SLD 7	420	-534	8576	12.18	59.73	-5.42
909	SLD 8	374	-473	8535	11.87	60.55	-3.96
909	SLD 9	-89	583	5243	-7.75	-5.15	0.47
909	SLD 10	-135	643	5201	-8.05	-4.34	1.93
909	SLD 11	101	-509	9060	12.55	61.44	-4.27
909	SLD 12	55	-448	9019	12.25	62.25	-2.82
909	SLD 13	-382	214	7154	-0.13	19.94	-0.23
909	SLD 14	-452	306	7091	-0.59	21.17	1.98
909	SLD 15	-325	-114	8299	5.96	39.91	-1.65
909	SLD 16	-395	-22	8237	5.5	41.14	0.56
909	SLV 1	982	183	4754	-3.46	5.73	-5.31
909	SLV 2	874	327	4656	-4.19	7.65	-1.85
909	SLV 3	1075	-346	6606	6.38	38.02	-7.63
909	SLV 4	966	-202	6508	5.65	39.95	-4.17
909	SLV 5	275	870	3457	-14.39	-28.24	0.06
909	SLV 6	201	967	3392	-14.88	-26.94	2.38
909	SLV 7	583	-896	9631	18.43	79.42	-7.67
909	SLV 8	509	-799	9566	17.94	80.71	-5.34
909	SLV 9	-225	909	4212	-13.81	-25.32	1.85
909	SLV 10	-298	1006	4146	-14.3	-24.02	4.18
909	SLV 11	83	-857	10386	19.01	82.33	-5.87
909	SLV 12	10	-760	10320	18.52	83.63	-3.54
909	SLV 13	-681	312	7269	-1.53	15.45	0.68
909	SLV 14	-790	456	7172	-2.25	17.37	4.14
909	SLV 15	-589	-218	9122	8.32	47.74	-1.64
909	SLV 16	-698	-74	9024	7.59	49.67	1.82
909	SLV FO 1	1066	196	4540	-4.02	3.53	-5.67
909	SLV FO 2	947	355	4433	-4.82	5.65	-1.86
909	SLV FO 3	1168	-387	6578	6.81	39.05	-8.21
909	SLV FO 4	1048	-228	6470	6.01	41.17	-4.41
909	SLV FO 5	288	951	3114	-16.04	-33.83	0.24
909	SLV FO 6	207	1058	3042	-16.57	-32.4	2.8
909	SLV FO 7	627	-991	9905	20.06	84.59	-8.26
909	SLV FO 8	546	-884	9833	19.52	86.02	-5.7



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
909	SLV FO 9	-261	994	3944	-15.4	-30.62	2.21
909	SLV FO 10	-342	1101	3872	-15.93	-29.2	4.77
909	SLV FO 11	78	-948	10736	20.7	87.8	-6.28
909	SLV FO 12	-3	-842	10663	20.16	89.22	-3.72
909	SLV FO 13	-764	338	7307	-1.88	14.22	0.92
909	SLV FO 14	-883	496	7200	-2.69	16.34	4.73
909	SLV FO 15	-662	-245	9345	8.94	49.75	-1.63
909	SLV FO 16	-782	-86	9238	8.14	51.87	2.18
909	CRTFP Ux+	0	0	0	0	0	0
909	CRTFP Ux-	0	0	0	0	0	0
909	CRTFP Uy+	0	0	0	0	0	0
909	CRTFP Uy-	0	0	0	0	0	0
912	SLU 1	71	6	3701	1.05	656.38	-2.38
912	SLU 2	69	31	3646	0.65	649.66	-10.96
912	SLU 3	74	6	3806	1.18	672.48	-2.3
912	SLU 4	72	21	3773	0.94	668.46	-7.45
912	SLU 5	71	31	3717	0.74	660.44	-11.06
912	SLU 6	76	6	3876	1.27	683.27	-2.4
912	SLU 7	74	21	3843	1.03	679.24	-7.55
912	SLU 8	75	7	3842	1.24	677.94	-2.57
912	SLU 9	74	21	3809	1	673.91	-7.72
912	SLU 10	75	31	4109	0.8	725.5	-10.92
912	SLU 11	80	6	4268	1.33	748.32	-2.26
912	SLU 12	78	20	4235	1.09	744.29	-7.41
912	SLU 13	77	31	4179	0.9	736.28	-11.02
912	SLU 14	82	6	4338	1.43	759.1	-2.36
912	SLU 15	80	21	4305	1.19	755.08	-7.51
912	SLU 16	81	6	4304	1.4	753.78	-2.53
912	SLU 17	80	21	4271	1.16	749.75	-7.69
912	SLU 18	80	6	4362	1.27	764.71	-2.32
912	SLU 19	79	21	4329	1.03	760.69	-7.47
912	SLU 20	82	6	4432	1.37	775.5	-2.42
912	SLU 21	80	21	4399	1.13	771.47	-7.57
912	SLU 22	81	3	4305	1.46	753.64	-1.15
912	SLU 23	79	27	4250	1.06	746.92	-9.74
912	SLU 24	84	2	4409	1.59	769.75	-1.08
912	SLU 25	82	17	4376	1.35	765.72	-6.23
912	SLU 26	81	27	4320	1.15	757.7	-9.84
912	SLU 27	85	3	4480	1.69	780.53	-1.18
912	SLU 28	84	17	4447	1.44	776.5	-6.33
912	SLU 29	85	3	4445	1.66	775.2	-1.35
912	SLU 30	83	18	4412	1.41	771.17	-6.5
912	SLU 31	85	27	4712	1.21	822.76	-9.7
912	SLU 32	90	2	4871	1.74	845.58	-1.04
912	SLU 33	88	17	4838	1.5	841.56	-6.19
912	SLU 34	87	27	4782	1.31	833.54	-9.8
912	SLU 35	92	2	4942	1.84	856.37	-1.14
912	SLU 36	90	17	4909	1.6	852.34	-6.29
912	SLU 37	91	3	4908	1.81	851.04	-1.31
912	SLU 38	90	18	4875	1.57	847.01	-6.46
912	SLU 39	90	2	4965	1.68	861.98	-1.1
912	SLU 40	88	17	4932	1.44	857.95	-6.25
912	SLU 41	92	3	5035	1.78	872.76	-1.2
912	SLU 42	90	17	5002	1.54	868.73	-6.35
912	SLU 43	89	9	4605	1.23	819.94	-3.51
912	SLU 44	87	34	4550	0.82	813.23	-12.1
912	SLU 45	92	9	4709	1.35	836.05	-3.43
912	SLU 46	90	24	4676	1.11	832.02	-8.59
912	SLU 47	89	34	4620	0.92	824.01	-12.19
912	SLU 48	93	9	4780	1.45	846.83	-3.53
912	SLU 49	92	24	4747	1.21	842.8	-8.68
912	SLU 50	93	10	4745	1.42	841.5	-3.71
912	SLU 51	92	25	4712	1.18	837.48	-8.86
912	SLU 52	93	34	5012	0.98	889.06	-12.06
912	SLU 53	98	9	5172	1.51	911.89	-3.4
912	SLU 54	96	24	5139	1.26	907.86	-8.55
912	SLU 55	95	34	5082	1.07	899.85	-12.16
912	SLU 56	100	9	5242	1.6	922.67	-3.49
912	SLU 57	98	24	5209	1.36	918.64	-8.65
912	SLU 58	99	10	5208	1.57	917.34	-3.67
912	SLU 59	98	24	5175	1.33	913.31	-8.82
912	SLU 60	98	9	5265	1.45	928.28	-3.45
912	SLU 61	97	24	5232	1.2	924.25	-8.61
912	SLU 62	100	9	5335	1.54	939.06	-3.55
912	SLU 63	98	24	5302	1.3	935.03	-8.7
912	SLU 64	99	6	5208	1.64	917.2	-2.29
912	SLU 65	97	30	5153	1.23	910.49	-10.87
912	SLU 66	101	5	5313	1.76	933.31	-2.21
912	SLU 67	100	20	5280	1.52	929.28	-7.36
912	SLU 68	99	30	5224	1.33	921.27	-10.97
912	SLU 69	103	6	5383	1.86	944.09	-2.31
912	SLU 70	102	20	5350	1.62	940.07	-7.46
912	SLU 71	103	6	5349	1.83	938.77	-2.48
912	SLU 72	101	21	5316	1.59	934.74	-7.63
912	SLU 73	103	30	5615	1.39	986.33	-10.83
912	SLU 74	108	5	5775	1.92	1009.15	-2.17
912	SLU 75	106	20	5742	1.68	1005.12	-7.32
912	SLU 76	105	30	5686	1.48	997.11	-10.93
912	SLU 77	109	5	5845	2.02	1019.93	-2.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
912	SLU 78	108	20	5812	1.77	1015.9	-7.42
912	SLU 79	109	6	5811	1.98	1014.6	-2.44
912	SLU 80	108	21	5778	1.74	1010.58	-7.6
912	SLU 81	108	5	5868	1.86	1025.54	-2.23
912	SLU 82	106	20	5836	1.62	1021.51	-7.38
912	SLU 83	110	6	5939	1.95	1036.32	-2.33
912	SLU 84	108	20	5906	1.71	1032.3	-7.48
912	SLE RA 1	74	5	3874	1.17	684.16	-2.03
912	SLE RA 2	73	22	3837	0.9	679.69	-7.75
912	SLE RA 3	76	5	3943	1.25	694.9	-1.98
912	SLE RA 4	75	15	3921	1.09	692.22	-5.41
912	SLE RA 5	74	22	3884	0.96	686.88	-7.82
912	SLE RA 6	77	5	3990	1.32	702.09	-2.04
912	SLE RA 7	76	15	3968	1.16	699.41	-5.48
912	SLE RA 8	76	5	3967	1.3	698.54	-2.16
912	SLE RA 9	76	15	3945	1.14	695.85	-5.59
912	SLE RA 10	77	21	4145	1	730.25	-7.73
912	SLE RA 11	80	5	4252	1.36	745.46	-1.95
912	SLE RA 12	79	15	4230	1.19	742.78	-5.39
912	SLE RA 13	78	22	4192	1.07	737.43	-7.79
912	SLE RA 14	81	5	4298	1.42	752.65	-2.02
912	SLE RA 15	80	15	4276	1.26	749.96	-5.45
912	SLE RA 16	81	5	4276	1.4	749.1	-2.13
912	SLE RA 17	80	15	4254	1.24	746.41	-5.57
912	SLE RA 18	80	5	4314	1.32	756.39	-1.99
912	SLE RA 19	79	15	4292	1.15	753.71	-5.43
912	SLE RA 20	81	5	4361	1.38	763.58	-2.06
912	SLE RA 21	80	15	4339	1.22	760.89	-5.49
912	SLE FR 1	74	5	3874	1.17	684.16	-2.03
912	SLE FR 2	74	8	3866	1.12	683.27	-3.17
912	SLE FR 3	74	5	3892	1.19	687.04	-2.05
912	SLE FR 4	75	8	3998	1.16	704.94	-3.16
912	SLE FR 5	76	5	4024	1.24	708.71	-2.04
912	SLE FR 6	77	5	4094	1.24	720.28	-2.01
912	SLE QP 1	74	5	3874	1.17	684.16	-2.03
912	SLE QP 2	76	5	4006	1.21	705.83	-2.02
912	SLD 1	433	127	2621	-1.54	501.47	-44.67
912	SLD 2	388	252	2557	-2.01	494.25	-88.27
912	SLD 3	457	-132	3323	3.51	587.89	45.8
912	SLD 4	411	-7	3259	3.04	580.66	2.2
912	SLD 5	155	412	2538	-7.19	514.76	-144.17
912	SLD 6	125	494	2496	-7.5	509.99	-172.96
912	SLD 7	234	-451	4876	9.65	802.81	157.4
912	SLD 8	204	-369	4834	9.34	798.04	128.61
912	SLD 9	-53	379	3177	-6.91	613.62	-132.64
912	SLD 10	-82	462	3135	-7.22	608.85	-161.43
912	SLD 11	26	-484	5516	9.93	901.67	168.93
912	SLD 12	-4	-402	5474	9.62	896.9	140.14
912	SLD 13	-260	17	4752	-0.61	831	-6.24
912	SLD 14	-305	142	4689	-1.08	823.78	-49.83
912	SLD 15	-236	-242	5454	4.44	917.42	84.23
912	SLD 16	-282	-117	5390	3.97	910.19	40.64
912	SLV 1	635	202	1826	-3.23	384.62	-71.16
912	SLV 2	564	399	1726	-3.97	373.31	-139.46
912	SLV 3	673	-217	2961	4.94	524.39	75.4
912	SLV 4	602	-21	2861	4.2	513.08	7.1
912	SLV 5	198	664	1650	-12.37	399.59	-232.29
912	SLV 6	151	796	1582	-12.87	391.97	-278.27
912	SLV 7	326	-734	5432	14.86	865.5	256.23
912	SLV 8	279	-602	5365	14.36	857.88	210.25
912	SLV 9	-127	612	2647	-11.93	553.78	-214.28
912	SLV 10	-175	745	2580	-12.43	546.16	-260.26
912	SLV 11	1	-786	6429	15.3	1019.69	274.24
912	SLV 12	-47	-654	6362	14.8	1012.07	228.25
912	SLV 13	-451	31	5150	-1.77	898.59	-11.13
912	SLV 14	-522	227	5050	-2.52	887.27	-79.43
912	SLV 15	-413	-388	6285	6.4	1038.36	135.43
912	SLV 16	-483	-192	6185	5.65	1027.04	67.13
912	SLV FO 1	691	222	1608	-3.67	352.5	-78.07
912	SLV FO 2	613	438	1498	-4.49	340.05	-153.2
912	SLV FO 3	733	-239	2857	5.32	506.25	83.14
912	SLV FO 4	655	-23	2747	4.5	493.8	8.01
912	SLV FO 5	211	730	1414	-13.73	368.97	-255.32
912	SLV FO 6	158	875	1340	-14.28	360.59	-305.9
912	SLV FO 7	351	-808	5575	16.22	881.47	282.05
912	SLV FO 8	299	-663	5500	15.67	873.09	231.47
912	SLV FO 9	-148	673	2511	-13.25	538.58	-235.51
912	SLV FO 10	-200	819	2437	-13.8	530.2	-286.09
912	SLV FO 11	-7	-865	6671	16.7	1051.08	301.86
912	SLV FO 12	-59	-720	6597	16.15	1042.7	251.28
912	SLV FO 13	-504	34	5265	-2.07	917.86	-12.04
912	SLV FO 14	-581	250	5155	-2.89	905.42	-87.17
912	SLV FO 15	-461	-428	6513	6.91	1071.61	149.17
912	SLV FO 16	-539	-212	6403	6.1	1059.17	74.04
912	CRTFP Ux+	0	0	0	0	0	0
912	CRTFP Ux-	0	0	0	0	0	0
912	CRTFP Uy+	0	0	0	0	0	0
912	CRTFP Uy-	0	0	0	0	0	0
914	SLU 1	-62	-23	6258	-1.01	-8.45	0.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
914	SLU 2	-60	8	6172	-1.5	-7.05	0.41
914	SLU 3	-64	-24	6428	-0.94	-9.16	0.52
914	SLU 4	-62	-6	6376	-1.23	-8.32	0.47
914	SLU 5	-61	7	6281	-1.44	-7.55	0.42
914	SLU 6	-65	-24	6538	-0.88	-9.67	0.53
914	SLU 7	-63	-6	6486	-1.17	-8.83	0.48
914	SLU 8	-64	-24	6477	-0.9	-9.46	0.53
914	SLU 9	-62	-6	6426	-1.2	-8.62	0.47
914	SLU 10	-61	5	7014	-1.69	-9.54	0.5
914	SLU 11	-65	-27	7270	-1.12	-11.66	0.61
914	SLU 12	-63	-8	7219	-1.42	-10.82	0.56
914	SLU 13	-62	4	7124	-1.63	-10.05	0.51
914	SLU 14	-66	-27	7380	-1.07	-12.17	0.62
914	SLU 15	-64	-9	7329	-1.36	-11.32	0.57
914	SLU 16	-65	-27	7320	-1.09	-11.96	0.61
914	SLU 17	-64	-9	7268	-1.38	-11.12	0.56
914	SLU 18	-64	-27	7462	-1.28	-12.01	0.63
914	SLU 19	-62	-9	7410	-1.57	-11.17	0.58
914	SLU 20	-65	-28	7572	-1.23	-12.52	0.64
914	SLU 21	-63	-9	7520	-1.52	-11.68	0.59
914	SLU 22	-68	-28	7340	-0.95	-11.58	0.6
914	SLU 23	-65	3	7254	-1.44	-10.17	0.51
914	SLU 24	-69	-29	7510	-0.87	-12.29	0.62
914	SLU 25	-68	-11	7459	-1.17	-11.45	0.56
914	SLU 26	-66	2	7364	-1.38	-10.68	0.52
914	SLU 27	-70	-30	7620	-0.82	-12.8	0.63
914	SLU 28	-69	-11	7568	-1.11	-11.96	0.57
914	SLU 29	-70	-29	7560	-0.84	-12.59	0.62
914	SLU 30	-68	-11	7508	-1.13	-11.75	0.56
914	SLU 31	-66	0	8097	-1.62	-12.67	0.6
914	SLU 32	-70	-32	8353	-1.06	-14.79	0.71
914	SLU 33	-69	-14	8301	-1.35	-13.94	0.65
914	SLU 34	-67	-1	8207	-1.57	-13.18	0.61
914	SLU 35	-71	-32	8463	-1.01	-15.29	0.72
914	SLU 36	-70	-14	8411	-1.3	-14.45	0.66
914	SLU 37	-71	-32	8403	-1.03	-15.09	0.71
914	SLU 38	-69	-14	8351	-1.32	-14.24	0.65
914	SLU 39	-69	-32	8544	-1.22	-15.14	0.73
914	SLU 40	-68	-14	8493	-1.51	-14.3	0.67
914	SLU 41	-70	-33	8654	-1.16	-15.65	0.74
914	SLU 42	-69	-14	8602	-1.46	-14.81	0.68
914	SLU 43	-79	-28	7764	-1.34	-9.91	0.63
914	SLU 44	-77	2	7678	-1.82	-8.51	0.53
914	SLU 45	-81	-29	7934	-1.26	-10.63	0.64
914	SLU 46	-79	-11	7882	-1.55	-9.78	0.59
914	SLU 47	-78	2	7787	-1.77	-9.02	0.54
914	SLU 48	-81	-30	8044	-1.21	-11.13	0.65
914	SLU 49	-80	-11	7992	-1.5	-10.29	0.6
914	SLU 50	-81	-29	7984	-1.23	-10.93	0.65
914	SLU 51	-79	-11	7932	-1.52	-10.08	0.59
914	SLU 52	-78	0	8520	-2.01	-11	0.62
914	SLU 53	-82	-32	8777	-1.45	-13.12	0.73
914	SLU 54	-80	-14	8725	-1.74	-12.28	0.68
914	SLU 55	-79	-1	8630	-1.96	-11.51	0.63
914	SLU 56	-82	-33	8886	-1.4	-13.63	0.74
914	SLU 57	-81	-14	8835	-1.69	-12.79	0.69
914	SLU 58	-82	-32	8826	-1.42	-13.42	0.73
914	SLU 59	-80	-14	8775	-1.71	-12.58	0.68
914	SLU 60	-81	-32	8968	-1.61	-13.48	0.75
914	SLU 61	-79	-14	8916	-1.9	-12.64	0.7
914	SLU 62	-82	-33	9078	-1.55	-13.98	0.76
914	SLU 63	-80	-15	9026	-1.84	-13.14	0.71
914	SLU 64	-85	-33	8847	-1.28	-13.04	0.72
914	SLU 65	-82	-3	8760	-1.76	-11.64	0.63
914	SLU 66	-86	-34	9017	-1.2	-13.75	0.74
914	SLU 67	-85	-16	8965	-1.49	-12.91	0.68
914	SLU 68	-83	-3	8870	-1.71	-12.14	0.64
914	SLU 69	-87	-35	9126	-1.14	-14.26	0.75
914	SLU 70	-85	-16	9075	-1.44	-13.42	0.69
914	SLU 71	-86	-34	9066	-1.17	-14.05	0.74
914	SLU 72	-85	-16	9014	-1.46	-13.21	0.68
914	SLU 73	-83	-6	9603	-1.95	-14.13	0.72
914	SLU 74	-87	-37	9859	-1.39	-16.25	0.83
914	SLU 75	-86	-19	9808	-1.68	-15.41	0.77
914	SLU 76	-84	-6	9713	-1.89	-14.64	0.73
914	SLU 77	-88	-38	9969	-1.33	-16.76	0.83
914	SLU 78	-86	-19	9917	-1.62	-15.91	0.78
914	SLU 79	-87	-37	9909	-1.35	-16.55	0.83
914	SLU 80	-86	-19	9857	-1.65	-15.71	0.77
914	SLU 81	-86	-37	10051	-1.54	-16.6	0.85
914	SLU 82	-85	-19	9999	-1.84	-15.76	0.79
914	SLU 83	-87	-38	10160	-1.49	-17.11	0.86
914	SLU 84	-86	-20	10109	-1.78	-16.27	0.8
914	SLE RA 1	-64	-24	6567	-1	-9.34	0.53
914	SLE RA 2	-62	-4	6510	-1.32	-8.41	0.47
914	SLE RA 3	-65	-25	6680	-0.94	-9.82	0.54
914	SLE RA 4	-64	-13	6646	-1.14	-9.26	0.51
914	SLE RA 5	-63	-4	6583	-1.28	-8.75	0.48
914	SLE RA 6	-65	-25	6754	-0.91	-10.16	0.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
914	SLE RA 7	-64	-13	6719	-1.1	-9.6	0.51
914	SLE RA 8	-65	-25	6714	-0.92	-10.02	0.55
914	SLE RA 9	-64	-13	6679	-1.12	-9.46	0.51
914	SLE RA 10	-63	-6	7071	-1.44	-10.07	0.53
914	SLE RA 11	-66	-27	7242	-1.07	-11.48	0.6
914	SLE RA 12	-65	-15	7208	-1.26	-10.92	0.57
914	SLE RA 13	-64	-6	7145	-1.41	-10.41	0.54
914	SLE RA 14	-66	-27	7315	-1.03	-11.82	0.61
914	SLE RA 15	-65	-15	7281	-1.23	-11.26	0.57
914	SLE RA 16	-66	-27	7275	-1.05	-11.68	0.61
914	SLE RA 17	-65	-15	7241	-1.24	-11.12	0.57
914	SLE RA 18	-65	-27	7370	-1.17	-11.72	0.62
914	SLE RA 19	-64	-15	7335	-1.37	-11.16	0.58
914	SLE RA 20	-66	-28	7443	-1.14	-12.06	0.62
914	SLE RA 21	-65	-15	7408	-1.33	-11.5	0.59
914	SLE FR 1	-64	-24	6567	-1	-9.34	0.53
914	SLE FR 2	-64	-20	6556	-1.06	-9.16	0.52
914	SLE FR 3	-64	-24	6596	-0.98	-9.48	0.54
914	SLE FR 4	-64	-21	6796	-1.11	-9.87	0.55
914	SLE FR 5	-65	-25	6837	-1.03	-10.19	0.56
914	SLE FR 6	-65	-26	6968	-1.08	-10.53	0.58
914	SLE QP 1	-64	-24	6567	-1	-9.34	0.53
914	SLE QP 2	-64	-25	6808	-1.05	-10.06	0.56
914	SLD 1	574	157	7084	-4.15	13.64	-3.9
914	SLD 2	501	63	7146	-3.7	12.6	-1.54
914	SLD 3	530	-199	8212	1.95	-3.41	-2.32
914	SLD 4	457	-294	8274	2.39	-4.45	0.05
914	SLD 5	207	587	5169	-11.31	23.1	-3.6
914	SLD 6	158	525	5210	-11.01	22.41	-2.04
914	SLD 7	61	-601	8928	9.02	-33.73	1.67
914	SLD 8	13	-663	8969	9.31	-34.42	3.23
914	SLD 9	-141	613	4647	-11.41	14.31	-2.11
914	SLD 10	-189	551	4688	-11.12	13.62	-0.55
914	SLD 11	-287	-575	8406	8.92	-42.52	3.16
914	SLD 12	-335	-637	8446	9.21	-43.21	4.72
914	SLD 13	-586	244	5342	-4.49	-15.66	1.07
914	SLD 14	-659	149	5404	-4.05	-16.7	3.43
914	SLD 15	-630	-113	6470	1.61	-32.71	2.65
914	SLD 16	-703	-208	6531	2.05	-33.75	5.02
914	SLV 1	936	269	7207	-6.05	27.43	-6.46
914	SLV 2	822	121	7304	-5.36	25.8	-2.76
914	SLV 3	866	-306	9030	3.8	-0.12	-3.91
914	SLV 4	752	-454	9127	4.49	-1.75	-0.21
914	SLV 5	364	964	4146	-17.62	43.28	-6.1
914	SLV 6	287	864	4211	-17.16	42.18	-3.61
914	SLV 7	129	-955	10220	15.22	-48.56	2.39
914	SLV 8	52	-1054	10285	15.69	-49.65	4.88
914	SLV 9	-181	1004	3330	-17.78	29.54	-3.76
914	SLV 10	-258	904	3396	-17.32	28.45	-1.27
914	SLV 11	-416	-914	9405	15.06	-62.29	4.72
914	SLV 12	-493	-1014	9470	15.53	-63.39	7.21
914	SLV 13	-880	404	4489	-6.59	-18.36	1.33
914	SLV 14	-995	256	4586	-5.9	-19.99	5.03
914	SLV 15	-951	-171	6311	3.26	-45.91	3.87
914	SLV 16	-1065	-320	6408	3.96	-47.54	7.57
914	SLV FO 1	1036	299	7247	-6.55	31.17	-7.16
914	SLV FO 2	911	136	7354	-5.79	29.39	-3.09
914	SLV FO 3	959	-334	9252	4.28	0.87	-4.36
914	SLV FO 4	833	-497	9359	5.05	-0.92	-0.29
914	SLV FO 5	407	1063	3880	-19.28	48.61	-6.76
914	SLV FO 6	322	953	3951	-18.77	47.41	-4.02
914	SLV FO 7	149	-1047	10561	16.85	-52.41	2.57
914	SLV FO 8	64	-1157	10633	17.36	-53.61	5.31
914	SLV FO 9	-193	1107	2983	-19.46	33.5	-4.19
914	SLV FO 10	-277	997	3054	-18.94	32.3	-1.45
914	SLV FO 11	-451	-1003	9664	16.67	-67.52	5.14
914	SLV FO 12	-536	-1113	9736	17.18	-68.72	7.88
914	SLV FO 13	-962	447	4257	-7.15	-19.19	1.4
914	SLV FO 14	-1088	284	4364	-6.38	-20.98	5.47
914	SLV FO 15	-1039	-186	6262	3.69	-49.5	4.2
914	SLV FO 16	-1165	-349	6369	4.46	-51.29	8.27
914	CRTFP Ux+	0	0	0	0	0	0
914	CRTFP Ux-	0	0	0	0	0	0
914	CRTFP Uy+	0	0	0	0	0	0
914	CRTFP Uy-	0	0	0	0	0	0
917	SLU 1	-25	20	5255	2.29	106.86	0.71
917	SLU 2	-25	50	5200	1.85	105.89	0.63
917	SLU 3	-26	20	5392	2.46	110.59	0.72
917	SLU 4	-26	38	5359	2.19	110.01	0.67
917	SLU 5	-26	49	5288	1.96	108.3	0.64
917	SLU 6	-27	20	5481	2.57	113	0.72
917	SLU 7	-27	38	5448	2.3	112.42	0.68
917	SLU 8	-26	20	5432	2.51	111.67	0.72
917	SLU 9	-26	38	5399	2.25	111.09	0.67
917	SLU 10	-29	49	5922	2.11	120.38	0.7
917	SLU 11	-30	19	6114	2.72	125.07	0.78
917	SLU 12	-30	37	6081	2.46	124.49	0.74
917	SLU 13	-30	48	6010	2.22	122.78	0.7
917	SLU 14	-31	19	6203	2.83	127.48	0.79



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
917	SLU 15	-31	37	6170	2.57	126.9	0.74
917	SLU 16	-30	19	6153	2.78	126.15	0.78
917	SLU 17	-30	37	6121	2.51	125.58	0.73
917	SLU 18	-31	19	6286	2.67	127.55	0.8
917	SLU 19	-31	37	6253	2.4	126.97	0.75
917	SLU 20	-32	19	6374	2.78	129.95	0.8
917	SLU 21	-31	36	6341	2.51	129.37	0.76
917	SLU 22	-31	21	6160	2.94	125.99	0.77
917	SLU 23	-31	50	6105	2.49	125.03	0.7
917	SLU 24	-32	21	6298	3.11	129.72	0.78
917	SLU 25	-32	39	6265	2.84	129.14	0.74
917	SLU 26	-31	50	6194	2.61	127.43	0.7
917	SLU 27	-33	21	6386	3.22	132.13	0.79
917	SLU 28	-33	38	6353	2.95	131.55	0.74
917	SLU 29	-32	21	6337	3.16	130.8	0.78
917	SLU 30	-32	38	6304	2.9	130.23	0.74
917	SLU 31	-35	49	6827	2.76	139.51	0.76
917	SLU 32	-36	20	7020	3.37	144.2	0.85
917	SLU 33	-36	38	6987	3.11	143.63	0.8
917	SLU 34	-35	49	6916	2.87	141.92	0.77
917	SLU 35	-37	20	7108	3.48	146.61	0.85
917	SLU 36	-37	37	7075	3.22	146.03	0.81
917	SLU 37	-36	20	7059	3.43	145.29	0.84
917	SLU 38	-36	37	7026	3.16	144.71	0.8
917	SLU 39	-37	20	7192	3.32	146.68	0.86
917	SLU 40	-37	37	7159	3.05	146.1	0.82
917	SLU 41	-38	19	7280	3.43	149.09	0.87
917	SLU 42	-37	37	7247	3.16	148.51	0.82
917	SLU 43	-31	26	6521	2.75	132.35	0.9
917	SLU 44	-31	56	6466	2.31	131.39	0.82
917	SLU 45	-32	26	6658	2.92	136.09	0.91
917	SLU 46	-32	44	6625	2.66	135.51	0.86
917	SLU 47	-31	55	6554	2.42	133.8	0.83
917	SLU 48	-32	26	6747	3.03	138.49	0.91
917	SLU 49	-32	44	6714	2.77	137.92	0.87
917	SLU 50	-32	26	6698	2.98	137.17	0.91
917	SLU 51	-32	43	6665	2.71	136.59	0.86
917	SLU 52	-35	55	7188	2.57	145.87	0.89
917	SLU 53	-36	25	7380	3.19	150.57	0.97
917	SLU 54	-36	43	7347	2.92	149.99	0.93
917	SLU 55	-35	54	7276	2.69	148.28	0.89
917	SLU 56	-36	25	7468	3.3	152.98	0.98
917	SLU 57	-36	43	7435	3.03	152.4	0.93
917	SLU 58	-36	25	7419	3.24	151.65	0.97
917	SLU 59	-36	42	7386	2.98	151.07	0.92
917	SLU 60	-37	25	7552	3.13	153.04	0.99
917	SLU 61	-36	42	7519	2.87	152.47	0.94
917	SLU 62	-37	25	7640	3.24	155.45	0.99
917	SLU 63	-37	42	7607	2.98	154.87	0.95
917	SLU 64	-37	27	7426	3.4	151.49	0.96
917	SLU 65	-36	56	7371	2.96	150.52	0.89
917	SLU 66	-38	27	7564	3.57	155.22	0.97
917	SLU 67	-38	45	7531	3.3	154.64	0.93
917	SLU 68	-37	56	7460	3.07	152.93	0.89
917	SLU 69	-38	27	7652	3.68	157.63	0.98
917	SLU 70	-38	44	7619	3.42	157.05	0.93
917	SLU 71	-38	27	7603	3.62	156.3	0.97
917	SLU 72	-38	44	7570	3.36	155.72	0.93
917	SLU 73	-41	55	8093	3.22	165.01	0.95
917	SLU 74	-42	26	8286	3.83	169.7	1.04
917	SLU 75	-42	44	8253	3.57	169.12	0.99
917	SLU 76	-41	55	8182	3.34	167.41	0.96
917	SLU 77	-42	26	8374	3.95	172.11	1.04
917	SLU 78	-42	43	8341	3.68	171.53	1
917	SLU 79	-42	26	8325	3.89	170.78	1.03
917	SLU 80	-42	43	8292	3.62	170.21	0.99
917	SLU 81	-43	26	8457	3.78	172.18	1.05
917	SLU 82	-42	43	8425	3.51	171.6	1.01
917	SLU 83	-43	25	8546	3.89	174.58	1.06
917	SLU 84	-43	43	8513	3.63	174	1.01
917	SLE RA 1	-27	21	5513	2.47	112.32	0.73
917	SLE RA 2	-27	40	5477	2.18	111.68	0.68
917	SLE RA 3	-28	21	5605	2.59	114.81	0.73
917	SLE RA 4	-28	32	5583	2.41	114.43	0.7
917	SLE RA 5	-27	40	5536	2.25	113.29	0.68
917	SLE RA 6	-28	20	5664	2.66	116.42	0.74
917	SLE RA 7	-28	32	5642	2.48	116.03	0.71
917	SLE RA 8	-28	20	5631	2.62	115.53	0.73
917	SLE RA 9	-28	32	5609	2.45	115.15	0.7
917	SLE RA 10	-29	39	5958	2.36	121.34	0.72
917	SLE RA 11	-30	20	6086	2.76	124.47	0.77
917	SLE RA 12	-30	32	6064	2.59	124.08	0.74
917	SLE RA 13	-30	39	6017	2.43	122.94	0.72
917	SLE RA 14	-31	20	6145	2.84	126.07	0.78
917	SLE RA 15	-31	31	6123	2.66	125.69	0.75
917	SLE RA 16	-30	20	6113	2.8	125.19	0.77
917	SLE RA 17	-30	31	6091	2.62	124.8	0.74
917	SLE RA 18	-31	20	6201	2.73	126.12	0.78
917	SLE RA 19	-31	31	6179	2.55	125.73	0.76



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
917	SLE RA 20	-31	19	6260	2.8	127.72	0.79
917	SLE RA 21	-31	31	6238	2.62	127.34	0.76
917	SLE FR 1	-27	21	5513	2.47	112.32	0.73
917	SLE FR 2	-27	24	5506	2.41	112.19	0.72
917	SLE FR 3	-27	20	5537	2.5	112.97	0.73
917	SLE FR 4	-28	24	5712	2.49	116.33	0.73
917	SLE FR 5	-28	20	5743	2.58	117.1	0.74
917	SLE FR 6	-29	20	5857	2.6	119.22	0.76
917	SLE QP 1	-27	21	5513	2.47	112.32	0.73
917	SLE QP 2	-28	20	5720	2.55	116.46	0.74
917	SLD 1	585	222	5669	-0.38	104.73	-3.5
917	SLD 2	523	190	5673	-0.22	105.51	-1.4
917	SLD 3	569	-126	6388	5.11	118.08	-2.26
917	SLD 4	508	-157	6391	5.28	118.87	-0.16
917	SLD 5	190	614	4615	-6.69	92.55	-2.79
917	SLD 6	150	593	4617	-6.59	93.06	-1.4
917	SLD 7	138	-545	7009	11.62	137.06	1.35
917	SLD 8	98	-566	7011	11.73	137.58	2.73
917	SLD 9	-154	606	4429	-6.63	95.34	-1.25
917	SLD 10	-195	586	4431	-6.53	95.86	0.14
917	SLD 11	-206	-552	6823	11.68	139.86	2.89
917	SLD 12	-247	-573	6825	11.79	140.38	4.28
917	SLD 13	-564	198	5049	-0.18	114.06	1.65
917	SLD 14	-626	166	5052	-0.02	114.84	3.75
917	SLD 15	-580	-150	5767	5.31	127.41	2.89
917	SLD 16	-641	-181	5770	5.48	128.19	4.99
917	SLV 1	932	345	5621	-2.18	97.53	-5.94
917	SLV 2	836	296	5626	-1.93	98.76	-2.65
917	SLV 3	906	-217	6782	6.7	119.13	-3.94
917	SLV 4	810	-266	6787	6.96	120.35	-0.65
917	SLV 5	316	979	3928	-12.39	77.8	-4.91
917	SLV 6	251	945	3931	-12.22	78.63	-2.69
917	SLV 7	232	-893	7798	17.21	149.79	1.75
917	SLV 8	167	-926	7802	17.39	150.61	3.97
917	SLV 9	-224	967	3638	-12.29	82.31	-2.48
917	SLV 10	-288	934	3641	-12.12	83.14	-0.26
917	SLV 11	-308	-905	7508	17.31	154.3	4.17
917	SLV 12	-372	-938	7512	17.48	155.12	6.39
917	SLV 13	-867	306	4653	-1.86	112.57	2.14
917	SLV 14	-963	257	4658	-1.6	113.79	5.43
917	SLV 15	-892	-255	5814	7.02	134.16	4.13
917	SLV 16	-988	-304	5819	7.28	135.39	7.43
917	SLV FO 1	1028	377	5611	-2.66	95.64	-6.61
917	SLV FO 2	922	323	5616	-2.37	96.99	-2.99
917	SLV FO 3	1000	-240	6888	7.11	119.39	-4.41
917	SLV FO 4	894	-294	6894	7.4	120.74	-0.79
917	SLV FO 5	350	1074	3749	-13.88	73.93	-5.47
917	SLV FO 6	279	1038	3753	-13.69	74.84	-3.03
917	SLV FO 7	258	-985	8006	18.68	153.12	1.85
917	SLV FO 8	187	-1021	8010	18.87	154.03	4.29
917	SLV FO 9	-243	1062	3429	-13.78	78.9	-2.8
917	SLV FO 10	-314	1025	3433	-13.59	79.8	-0.36
917	SLV FO 11	-335	-997	7687	18.79	158.08	4.52
917	SLV FO 12	-407	-1034	7691	18.98	158.99	6.96
917	SLV FO 13	-951	335	4546	-2.3	112.18	2.28
917	SLV FO 14	-1056	281	4552	-2.02	113.53	5.9
917	SLV FO 15	-978	-283	5823	7.47	135.93	4.47
917	SLV FO 16	-1084	-337	5829	7.75	137.28	8.1
917	CRTFP Ux+	0	0	0	0	0	0
917	CRTFP Ux-	0	0	0	0	0	0
917	CRTFP Uy+	0	0	0	0	0	0
917	CRTFP Uy-	0	0	0	0	0	0
920	SLU 1	-11	163	3943	2.79	-28.96	-0.43
920	SLU 2	-12	193	3901	2.37	-28.83	-0.39
920	SLU 3	-11	166	4033	2.97	-29.88	-0.46
920	SLU 4	-12	184	4008	2.72	-29.8	-0.44
920	SLU 5	-12	194	3959	2.49	-29.44	-0.42
920	SLU 6	-12	167	4091	3.09	-30.49	-0.48
920	SLU 7	-12	185	4066	2.84	-30.41	-0.46
920	SLU 8	-11	166	4059	3.03	-30.19	-0.48
920	SLU 9	-12	183	4034	2.77	-30.11	-0.46
920	SLU 10	-15	209	4438	2.71	-32.47	-0.47
920	SLU 11	-14	182	4570	3.31	-33.52	-0.53
920	SLU 12	-15	200	4545	3.06	-33.44	-0.51
920	SLU 13	-15	211	4496	2.82	-33.08	-0.49
920	SLU 14	-14	184	4628	3.43	-34.13	-0.56
920	SLU 15	-15	202	4603	3.17	-34.05	-0.53
920	SLU 16	-14	182	4596	3.36	-33.83	-0.56
920	SLU 17	-15	200	4571	3.11	-33.75	-0.53
920	SLU 18	-15	187	4709	3.27	-34.17	-0.54
920	SLU 19	-15	205	4684	3.02	-34.09	-0.51
920	SLU 20	-15	188	4768	3.39	-34.78	-0.56
920	SLU 21	-16	206	4743	3.14	-34.7	-0.54
920	SLU 22	-15	184	4599	3.52	-33.6	-0.52
920	SLU 23	-16	214	4558	3.09	-33.47	-0.48
920	SLU 24	-15	187	4689	3.7	-34.52	-0.55
920	SLU 25	-16	205	4664	3.44	-34.44	-0.52
920	SLU 26	-16	215	4616	3.21	-34.08	-0.5
920	SLU 27	-15	188	4748	3.81	-35.13	-0.57



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
920	SLU 28	-16	206	4723	3.56	-35.05	-0.55
920	SLU 29	-15	187	4716	3.75	-34.82	-0.57
920	SLU 30	-16	205	4691	3.5	-34.75	-0.54
920	SLU 31	-19	231	5094	3.43	-37.11	-0.55
920	SLU 32	-18	204	5226	4.03	-38.16	-0.62
920	SLU 33	-19	221	5201	3.78	-38.08	-0.6
920	SLU 34	-19	232	5153	3.55	-37.72	-0.58
920	SLU 35	-18	205	5284	4.15	-38.77	-0.65
920	SLU 36	-19	223	5259	3.9	-38.69	-0.62
920	SLU 37	-18	203	5252	4.09	-38.47	-0.64
920	SLU 38	-18	221	5227	3.83	-38.39	-0.62
920	SLU 39	-19	208	5366	4	-38.8	-0.63
920	SLU 40	-19	226	5341	3.74	-38.72	-0.6
920	SLU 41	-19	209	5424	4.11	-39.41	-0.65
920	SLU 42	-19	227	5399	3.86	-39.33	-0.63
920	SLU 43	-13	205	4901	3.38	-36.06	-0.53
920	SLU 44	-14	235	4859	2.96	-35.93	-0.49
920	SLU 45	-13	208	4991	3.56	-36.98	-0.56
920	SLU 46	-14	226	4966	3.31	-36.9	-0.54
920	SLU 47	-14	236	4917	3.08	-36.54	-0.52
920	SLU 48	-14	209	5049	3.68	-37.59	-0.59
920	SLU 49	-14	227	5024	3.43	-37.51	-0.56
920	SLU 50	-13	207	5017	3.62	-37.29	-0.58
920	SLU 51	-14	225	4992	3.36	-37.21	-0.56
920	SLU 52	-17	251	5396	3.3	-39.57	-0.57
920	SLU 53	-16	224	5527	3.9	-40.62	-0.64
920	SLU 54	-17	242	5502	3.65	-40.54	-0.61
920	SLU 55	-17	252	5454	3.41	-40.18	-0.59
920	SLU 56	-16	225	5586	4.02	-41.23	-0.66
920	SLU 57	-17	243	5561	3.76	-41.15	-0.63
920	SLU 58	-16	224	5554	3.95	-40.93	-0.66
920	SLU 59	-17	242	5529	3.7	-40.85	-0.63
920	SLU 60	-17	228	5667	3.86	-41.27	-0.64
920	SLU 61	-17	246	5642	3.61	-41.19	-0.62
920	SLU 62	-17	230	5725	3.98	-41.88	-0.66
920	SLU 63	-18	247	5700	3.73	-41.8	-0.64
920	SLU 64	-17	226	5557	4.1	-40.7	-0.62
920	SLU 65	-18	256	5515	3.68	-40.57	-0.58
920	SLU 66	-17	229	5647	4.29	-41.62	-0.65
920	SLU 67	-18	247	5622	4.03	-41.54	-0.62
920	SLU 68	-18	257	5574	3.8	-41.18	-0.6
920	SLU 69	-17	230	5705	4.4	-42.23	-0.67
920	SLU 70	-18	248	5680	4.15	-42.15	-0.65
920	SLU 71	-17	228	5674	4.34	-41.92	-0.67
920	SLU 72	-18	246	5649	4.09	-41.85	-0.64
920	SLU 73	-21	272	6052	4.02	-44.21	-0.65
920	SLU 74	-20	245	6184	4.62	-45.26	-0.72
920	SLU 75	-21	263	6159	4.37	-45.18	-0.7
920	SLU 76	-21	273	6110	4.14	-44.82	-0.68
920	SLU 77	-20	246	6242	4.74	-45.87	-0.75
920	SLU 78	-21	264	6217	4.49	-45.79	-0.72
920	SLU 79	-20	245	6210	4.68	-45.56	-0.74
920	SLU 80	-20	263	6185	4.42	-45.49	-0.72
920	SLU 81	-21	249	6324	4.58	-45.9	-0.73
920	SLU 82	-21	267	6299	4.33	-45.82	-0.7
920	SLU 83	-21	251	6382	4.7	-46.51	-0.75
920	SLU 84	-21	269	6357	4.45	-46.43	-0.73
920	SLE RA 1	-12	169	4130	3	-30.29	-0.46
920	SLE RA 2	-13	189	4103	2.72	-30.2	-0.43
920	SLE RA 3	-12	171	4190	3.12	-30.9	-0.48
920	SLE RA 4	-13	183	4174	2.95	-30.85	-0.46
920	SLE RA 5	-13	190	4141	2.8	-30.61	-0.45
920	SLE RA 6	-13	172	4229	3.2	-31.31	-0.49
920	SLE RA 7	-13	184	4213	3.03	-31.25	-0.48
920	SLE RA 8	-12	171	4208	3.15	-31.11	-0.49
920	SLE RA 9	-13	183	4191	2.99	-31.05	-0.47
920	SLE RA 10	-15	200	4460	2.94	-32.63	-0.48
920	SLE RA 11	-14	182	4548	3.34	-33.33	-0.53
920	SLE RA 12	-15	194	4532	3.17	-33.27	-0.51
920	SLE RA 13	-15	201	4499	3.02	-33.04	-0.5
920	SLE RA 14	-14	183	4587	3.42	-33.73	-0.54
920	SLE RA 15	-15	195	4570	3.25	-33.68	-0.53
920	SLE RA 16	-14	182	4566	3.38	-33.53	-0.54
920	SLE RA 17	-15	194	4549	3.21	-33.48	-0.52
920	SLE RA 18	-15	185	4642	3.32	-33.76	-0.53
920	SLE RA 19	-15	197	4625	3.15	-33.7	-0.51
920	SLE RA 20	-15	186	4680	3.4	-34.16	-0.55
920	SLE RA 21	-15	198	4664	3.23	-34.11	-0.53
920	SLE FR 1	-12	169	4130	3	-30.29	-0.46
920	SLE FR 2	-12	173	4125	2.94	-30.27	-0.45
920	SLE FR 3	-12	170	4146	3.03	-30.45	-0.47
920	SLE FR 4	-13	178	4278	3.04	-31.31	-0.47
920	SLE FR 5	-13	174	4299	3.13	-31.49	-0.49
920	SLE FR 6	-13	177	4386	3.16	-32.02	-0.49
920	SLE QP 1	-12	169	4130	3	-30.29	-0.46
920	SLE QP 2	-13	174	4284	3.09	-31.33	-0.48
920	SLD 1	589	305	3595	0.42	-5.12	-3.71
920	SLD 2	527	339	3601	0.29	-5.22	-1.65
920	SLD 3	599	-42	4128	5.6	-6.94	-4.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
920	SLD 4	537	-8	4135	5.48	-7.03	-2
920	SLD 5	164	732	3266	-5.55	-20.69	-1.3
920	SLD 6	123	755	3271	-5.63	-20.76	0.06
920	SLD 7	197	-422	5045	11.73	-26.75	-2.45
920	SLD 8	156	-399	5050	11.65	-26.82	-1.09
920	SLD 9	-182	747	3518	-5.46	-35.84	0.13
920	SLD 10	-222	770	3522	-5.54	-35.91	1.49
920	SLD 11	-149	-407	5297	11.82	-41.9	-1.02
920	SLD 12	-189	-384	5301	11.74	-41.97	0.34
920	SLD 13	-563	355	4432	0.71	-55.63	1.04
920	SLD 14	-625	390	4439	0.59	-55.72	3.1
920	SLD 15	-553	9	4966	5.89	-57.44	0.69
920	SLD 16	-615	43	4973	5.77	-57.54	2.75
920	SLV 1	928	387	3193	-1.23	9.62	-5.53
920	SLV 2	832	441	3204	-1.43	9.47	-2.3
920	SLV 3	945	-172	4056	7.14	6.66	-6.1
920	SLV 4	849	-119	4067	6.95	6.51	-2.88
920	SLV 5	262	1077	2646	-10.87	-14.53	-1.72
920	SLV 6	198	1113	2653	-11	-14.63	0.45
920	SLV 7	317	-789	5522	17.05	-24.39	-3.64
920	SLV 8	253	-753	5530	16.92	-24.49	-1.47
920	SLV 9	-278	1101	3038	-10.73	-38.17	0.51
920	SLV 10	-343	1136	3045	-10.86	-38.27	2.68
920	SLV 11	-224	-765	5915	17.19	-48.03	-1.41
920	SLV 12	-288	-729	5922	17.06	-48.13	0.76
920	SLV 13	-875	467	4500	-0.76	-69.17	1.92
920	SLV 14	-971	520	4511	-0.96	-69.32	5.14
920	SLV 15	-858	-93	5363	7.61	-72.13	1.34
920	SLV 16	-954	-39	5374	7.42	-72.28	4.57
920	SLV FO 1	1022	408	3084	-1.66	13.72	-6.03
920	SLV FO 2	917	467	3096	-1.88	13.55	-2.49
920	SLV FO 3	1040	-207	4034	7.55	10.46	-6.67
920	SLV FO 4	935	-148	4045	7.34	10.29	-3.12
920	SLV FO 5	290	1167	2482	-12.27	-12.85	-1.85
920	SLV FO 6	219	1206	2490	-12.41	-12.96	0.54
920	SLV FO 7	350	-885	5646	18.45	-23.7	-3.96
920	SLV FO 8	279	-845	5654	18.3	-23.81	-1.57
920	SLV FO 9	-305	1193	2913	-12.11	-38.85	0.61
920	SLV FO 10	-376	1233	2921	-12.26	-38.96	3
920	SLV FO 11	-245	-858	6078	18.6	-49.7	-1.5
920	SLV FO 12	-316	-819	6085	18.46	-49.81	0.89
920	SLV FO 13	-961	496	4522	-1.15	-72.95	2.16
920	SLV FO 14	-1066	555	4534	-1.36	-73.12	5.71
920	SLV FO 15	-943	-119	5471	8.07	-76.21	1.53
920	SLV FO 16	-1048	-61	5483	7.85	-76.38	5.07
920	CRTFP Ux+	0	0	0	0	0	0
920	CRTFP Ux-	0	0	0	0	0	0
920	CRTFP Uy+	0	0	0	0	0	0
920	CRTFP Uy-	0	0	0	0	0	0
922	SLU 1	-39	49	3139	1.68	-371.96	12.14
922	SLU 2	-38	70	3090	1.38	-367.06	17.54
922	SLU 3	-40	49	3221	1.78	-380.93	12.26
922	SLU 4	-40	62	3192	1.6	-377.99	15.5
922	SLU 5	-39	71	3143	1.45	-372.81	17.63
922	SLU 6	-41	49	3274	1.85	-386.67	12.35
922	SLU 7	-40	62	3245	1.67	-383.73	15.59
922	SLU 8	-40	49	3244	1.82	-383.44	12.31
922	SLU 9	-40	62	3215	1.64	-380.51	15.56
922	SLU 10	-41	77	3482	1.62	-410.31	19.29
922	SLU 11	-43	56	3612	2.02	-424.18	14.01
922	SLU 12	-42	69	3583	1.84	-421.24	17.25
922	SLU 13	-41	78	3534	1.69	-416.06	19.38
922	SLU 14	-43	56	3665	2.09	-429.92	14.1
922	SLU 15	-43	69	3636	1.91	-426.98	17.34
922	SLU 16	-43	56	3635	2.06	-426.69	14.06
922	SLU 17	-42	69	3606	1.88	-423.76	17.31
922	SLU 18	-43	59	3698	2.02	-433.75	14.63
922	SLU 19	-42	72	3669	1.84	-430.81	17.88
922	SLU 20	-43	59	3751	2.09	-439.49	14.72
922	SLU 21	-43	72	3721	1.91	-436.55	17.97
922	SLU 22	-44	54	3652	2.14	-428.35	13.36
922	SLU 23	-43	75	3603	1.84	-423.45	18.76
922	SLU 24	-45	54	3734	2.24	-437.32	13.48
922	SLU 25	-44	67	3705	2.06	-434.38	16.72
922	SLU 26	-43	76	3656	1.91	-429.19	18.85
922	SLU 27	-45	54	3787	2.31	-443.06	13.57
922	SLU 28	-45	67	3757	2.13	-440.12	16.81
922	SLU 29	-45	54	3757	2.28	-439.83	13.54
922	SLU 30	-44	67	3728	2.1	-436.89	16.78
922	SLU 31	-45	82	3995	2.08	-466.7	20.51
922	SLU 32	-47	61	4125	2.48	-480.57	15.23
922	SLU 33	-47	74	4096	2.3	-477.63	18.47
922	SLU 34	-46	83	4047	2.15	-472.44	20.6
922	SLU 35	-48	61	4178	2.56	-486.31	15.32
922	SLU 36	-47	74	4149	2.38	-483.37	18.56
922	SLU 37	-47	61	4148	2.52	-483.08	15.29
922	SLU 38	-47	74	4119	2.34	-480.14	18.53
922	SLU 39	-48	64	4211	2.48	-490.13	15.86
922	SLU 40	-47	77	4182	2.3	-487.2	19.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
922	SLU 41	-48	64	4264	2.56	-495.88	15.95
922	SLU 42	-47	77	4234	2.38	-492.94	19.19
922	SLU 43	-50	62	3905	2.02	-464.22	15.36
922	SLU 44	-49	83	3856	1.72	-459.32	20.76
922	SLU 45	-51	62	3987	2.12	-473.19	15.48
922	SLU 46	-50	75	3958	1.94	-470.25	18.72
922	SLU 47	-49	84	3909	1.79	-465.06	20.85
922	SLU 48	-51	62	4040	2.2	-478.93	15.57
922	SLU 49	-50	75	4010	2.02	-475.99	18.81
922	SLU 50	-51	62	4010	2.16	-475.7	15.54
922	SLU 51	-50	75	3981	1.98	-472.76	18.78
922	SLU 52	-51	90	4247	1.96	-502.57	22.51
922	SLU 53	-53	69	4378	2.37	-516.44	17.23
922	SLU 54	-52	82	4349	2.19	-513.5	20.47
922	SLU 55	-52	91	4300	2.03	-508.31	22.6
922	SLU 56	-54	69	4431	2.44	-522.18	17.32
922	SLU 57	-53	82	4402	2.26	-519.24	20.56
922	SLU 58	-53	69	4401	2.41	-518.95	17.29
922	SLU 59	-53	82	4372	2.23	-516.01	20.53
922	SLU 60	-53	72	4464	2.37	-526	17.86
922	SLU 61	-53	85	4435	2.19	-523.06	21.1
922	SLU 62	-54	72	4516	2.44	-531.74	17.95
922	SLU 63	-53	85	4487	2.26	-528.81	21.19
922	SLU 64	-54	66	4418	2.48	-520.6	16.58
922	SLU 65	-53	88	4369	2.18	-515.71	21.98
922	SLU 66	-55	67	4500	2.59	-529.57	16.7
922	SLU 67	-54	80	4471	2.41	-526.63	19.95
922	SLU 68	-54	88	4422	2.25	-521.45	22.07
922	SLU 69	-56	67	4553	2.66	-535.31	16.79
922	SLU 70	-55	80	4523	2.48	-532.38	20.04
922	SLU 71	-55	67	4523	2.62	-532.09	16.76
922	SLU 72	-55	80	4494	2.44	-529.15	20
922	SLU 73	-56	95	4760	2.42	-558.96	23.73
922	SLU 74	-58	74	4891	2.83	-572.82	18.45
922	SLU 75	-57	87	4862	2.65	-569.88	21.7
922	SLU 76	-56	95	4813	2.5	-564.7	23.82
922	SLU 77	-58	74	4944	2.9	-578.56	18.54
922	SLU 78	-57	87	4915	2.72	-575.63	21.78
922	SLU 79	-58	74	4914	2.87	-575.34	18.51
922	SLU 80	-57	87	4885	2.69	-572.4	21.75
922	SLU 81	-58	76	4977	2.83	-582.39	19.08
922	SLU 82	-57	89	4948	2.65	-579.45	22.32
922	SLU 83	-58	77	5029	2.9	-588.13	19.17
922	SLU 84	-58	90	5000	2.72	-585.19	22.41
922	SLE RA 1	-41	50	3286	1.81	-388.07	12.48
922	SLE RA 2	-40	64	3253	1.61	-384.81	16.09
922	SLE RA 3	-41	50	3340	1.88	-394.05	12.57
922	SLE RA 4	-41	59	3321	1.76	-392.09	14.73
922	SLE RA 5	-40	65	3288	1.65	-388.63	16.15
922	SLE RA 6	-42	51	3375	1.92	-397.88	12.63
922	SLE RA 7	-41	59	3356	1.8	-395.92	14.79
922	SLE RA 8	-41	51	3356	1.9	-395.73	12.6
922	SLE RA 9	-41	59	3336	1.78	-393.77	14.77
922	SLE RA 10	-42	69	3514	1.77	-413.64	17.25
922	SLE RA 11	-43	55	3601	2.04	-422.88	13.73
922	SLE RA 12	-43	64	3582	1.92	-420.93	15.9
922	SLE RA 13	-42	69	3549	1.82	-417.47	17.31
922	SLE RA 14	-43	55	3636	2.09	-426.71	13.79
922	SLE RA 15	-43	64	3617	1.97	-424.75	15.95
922	SLE RA 16	-43	55	3617	2.06	-424.56	13.77
922	SLE RA 17	-43	64	3597	1.94	-422.6	15.93
922	SLE RA 18	-43	57	3658	2.04	-429.26	14.15
922	SLE RA 19	-43	65	3639	1.92	-427.3	16.31
922	SLE RA 20	-43	57	3693	2.09	-433.09	14.21
922	SLE RA 21	-43	66	3674	1.97	-431.13	16.37
922	SLE FR 1	-41	50	3286	1.81	-388.07	12.48
922	SLE FR 2	-41	53	3279	1.77	-387.42	13.21
922	SLE FR 3	-41	50	3300	1.83	-389.6	12.51
922	SLE FR 4	-41	55	3391	1.84	-399.78	13.71
922	SLE FR 5	-42	52	3411	1.9	-401.96	13.01
922	SLE FR 6	-42	53	3472	1.92	-408.67	13.32
922	SLE QP 1	-41	50	3286	1.81	-388.07	12.48
922	SLE QP 2	-41	52	3397	1.88	-400.43	12.98
922	SLD 1	274	188	3990	0.49	-465.64	46.82
922	SLD 2	235	81	4043	0.82	-470.6	20.08
922	SLD 3	254	-61	4627	4.34	-530.29	-15.32
922	SLD 4	214	-168	4680	4.67	-535.25	-42.06
922	SLD 5	92	490	2600	-4.45	-321.04	122.19
922	SLD 6	66	419	2635	-4.23	-324.32	104.54
922	SLD 7	23	-340	4723	8.4	-536.55	-84.93
922	SLD 8	-4	-411	4758	8.62	-539.83	-102.59
922	SLD 9	-79	515	2037	-4.87	-261.03	128.56
922	SLD 10	-105	444	2072	-4.65	-264.31	110.9
922	SLD 11	-149	-315	4160	7.98	-476.54	-78.57
922	SLD 12	-175	-386	4195	8.2	-479.82	-96.23
922	SLD 13	-297	272	2115	-0.92	-265.61	68.03
922	SLD 14	-336	165	2168	-0.59	-270.57	41.29
922	SLD 15	-318	24	2752	2.93	-330.26	5.89
922	SLD 16	-357	-84	2804	3.27	-335.22	-20.85



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
922	SLV 1	454	272	4304	-0.4	-500.35	67.54
922	SLV 2	392	103	4387	0.12	-508.13	25.65
922	SLV 3	420	-130	5333	5.83	-604.83	-32.82
922	SLV 4	358	-299	5416	6.35	-612.61	-74.71
922	SLV 5	170	759	2094	-8.35	-270.5	189.39
922	SLV 6	128	645	2149	-8	-275.73	161.18
922	SLV 7	58	-581	5523	12.41	-618.76	-145.16
922	SLV 8	16	-694	5579	12.76	-623.99	-173.36
922	SLV 9	-99	798	1216	-9.01	-176.86	199.33
922	SLV 10	-140	685	1272	-8.66	-182.1	171.13
922	SLV 11	-211	-541	4645	11.75	-525.13	-135.22
922	SLV 12	-253	-655	4701	12.1	-530.36	-163.42
922	SLV 13	-441	403	1379	-2.6	-188.25	100.68
922	SLV 14	-503	234	1462	-2.07	-196.03	58.79
922	SLV 15	-475	1	2408	3.63	-292.73	0.32
922	SLV 16	-537	-168	2490	4.15	-300.5	-41.57
922	SLV FO 1	503	294	4395	-0.63	-510.35	73
922	SLV FO 2	435	108	4486	-0.05	-518.9	26.92
922	SLV FO 3	466	-148	5527	6.22	-625.27	-37.4
922	SLV FO 4	398	-334	5618	6.8	-633.83	-83.48
922	SLV FO 5	191	830	1963	-9.37	-257.5	207.03
922	SLV FO 6	145	705	2025	-8.99	-263.26	176
922	SLV FO 7	67	-644	5736	13.46	-640.59	-160.97
922	SLV FO 8	22	-769	5797	13.85	-646.35	-192
922	SLV FO 9	-104	873	998	-10.1	-154.51	217.96
922	SLV FO 10	-150	748	1059	-9.71	-160.27	186.94
922	SLV FO 11	-228	-601	4770	12.74	-537.6	-150.04
922	SLV FO 12	-274	-726	4831	13.13	-543.36	-181.06
922	SLV FO 13	-481	438	1177	-3.04	-167.03	109.45
922	SLV FO 14	-549	253	1268	-2.47	-175.59	63.37
922	SLV FO 15	-518	-4	2309	3.81	-281.96	-0.95
922	SLV FO 16	-586	-190	2400	4.38	-290.51	-47.03
922	CRTFP Ux+	0	0	0	0	0	0
922	CRTFP Ux-	0	0	0	0	0	0
922	CRTFP Uy+	0	0	0	0	0	0
922	CRTFP Uy-	0	0	0	0	0	0
925	SLU 1	141	52	6385	1.71	30.2	-1.25
925	SLU 2	135	82	6281	1.22	28.54	-1.15
925	SLU 3	146	53	6572	1.86	31.63	-1.31
925	SLU 4	143	71	6510	1.57	30.64	-1.25
925	SLU 5	139	82	6406	1.32	29.43	-1.2
925	SLU 6	151	54	6698	1.97	32.52	-1.36
925	SLU 7	147	72	6635	1.67	31.52	-1.3
925	SLU 8	149	53	6636	1.92	31.97	-1.35
925	SLU 9	146	71	6574	1.63	30.97	-1.29
925	SLU 10	148	90	7146	1.44	34.27	-1.33
925	SLU 11	159	61	7438	2.09	37.36	-1.49
925	SLU 12	156	79	7375	1.79	36.37	-1.43
925	SLU 13	152	91	7272	1.55	35.15	-1.38
925	SLU 14	164	62	7564	2.19	38.25	-1.54
925	SLU 15	160	80	7501	1.9	37.25	-1.48
925	SLU 16	162	61	7502	2.14	37.69	-1.53
925	SLU 17	159	79	7439	1.85	36.7	-1.47
925	SLU 18	159	64	7622	2.03	38.38	-1.51
925	SLU 19	156	81	7559	1.73	37.38	-1.45
925	SLU 20	164	64	7747	2.13	39.26	-1.56
925	SLU 21	160	82	7685	1.84	38.27	-1.5
925	SLU 22	163	60	7506	2.26	37.96	-1.46
925	SLU 23	157	89	7402	1.77	36.31	-1.37
925	SLU 24	168	61	7694	2.41	39.4	-1.52
925	SLU 25	165	79	7631	2.12	38.41	-1.47
925	SLU 26	161	90	7528	1.88	37.19	-1.42
925	SLU 27	172	62	7819	2.52	40.28	-1.57
925	SLU 28	169	79	7757	2.22	39.29	-1.52
925	SLU 29	171	61	7757	2.47	39.73	-1.56
925	SLU 30	168	79	7695	2.18	38.74	-1.51
925	SLU 31	170	98	8268	1.99	42.03	-1.55
925	SLU 32	181	69	8559	2.64	45.13	-1.7
925	SLU 33	178	87	8497	2.34	44.13	-1.65
925	SLU 34	174	98	8393	2.1	42.92	-1.6
925	SLU 35	185	70	8685	2.74	46.01	-1.75
925	SLU 36	182	88	8622	2.45	45.02	-1.7
925	SLU 37	184	69	8623	2.69	45.46	-1.74
925	SLU 38	181	87	8560	2.4	44.47	-1.69
925	SLU 39	181	71	8743	2.58	46.14	-1.72
925	SLU 40	178	89	8680	2.29	45.15	-1.66
925	SLU 41	185	72	8868	2.69	47.03	-1.77
925	SLU 42	182	90	8806	2.39	46.04	-1.71
925	SLU 43	176	65	7916	2.04	36.59	-1.55
925	SLU 44	170	94	7812	1.54	34.94	-1.45
925	SLU 45	181	66	8104	2.19	38.03	-1.61
925	SLU 46	178	84	8041	1.89	37.04	-1.55
925	SLU 47	174	95	7937	1.65	35.82	-1.51
925	SLU 48	185	67	8229	2.29	38.91	-1.66
925	SLU 49	182	84	8167	2	37.92	-1.6
925	SLU 50	184	66	8167	2.24	38.36	-1.65
925	SLU 51	180	84	8105	1.95	37.37	-1.59
925	SLU 52	183	103	8678	1.77	40.66	-1.64
925	SLU 53	194	74	8969	2.41	43.76	-1.79



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
925	SLU 54	191	92	8907	2.11	42.76	-1.73
925	SLU 55	187	103	8803	1.87	41.55	-1.69
925	SLU 56	198	75	9095	2.51	44.64	-1.84
925	SLU 57	195	93	9032	2.22	43.65	-1.79
925	SLU 58	197	74	9033	2.47	44.09	-1.83
925	SLU 59	193	92	8970	2.17	43.1	-1.78
925	SLU 60	194	77	9153	2.35	44.77	-1.81
925	SLU 61	191	94	9090	2.06	43.78	-1.75
925	SLU 62	198	77	9278	2.46	45.66	-1.86
925	SLU 63	195	95	9216	2.16	44.67	-1.8
925	SLU 64	197	73	9037	2.59	44.36	-1.76
925	SLU 65	192	102	8933	2.09	42.7	-1.67
925	SLU 66	203	74	9225	2.74	45.8	-1.82
925	SLU 67	200	92	9162	2.44	44.8	-1.77
925	SLU 68	196	103	9059	2.2	43.59	-1.72
925	SLU 69	207	74	9350	2.84	46.68	-1.88
925	SLU 70	204	92	9288	2.55	45.69	-1.82
925	SLU 71	206	74	9288	2.8	46.13	-1.87
925	SLU 72	202	92	9226	2.5	45.14	-1.81
925	SLU 73	205	111	9799	2.32	48.43	-1.85
925	SLU 74	216	82	10090	2.96	51.52	-2.01
925	SLU 75	213	100	10028	2.67	50.53	-1.95
925	SLU 76	209	111	9924	2.42	49.32	-1.9
925	SLU 77	220	83	10216	3.07	52.41	-2.06
925	SLU 78	217	100	10153	2.77	51.41	-2
925	SLU 79	219	82	10154	3.02	51.86	-2.05
925	SLU 80	215	100	10092	2.72	50.86	-1.99
925	SLU 81	216	84	10274	2.91	52.54	-2.02
925	SLU 82	213	102	10211	2.61	51.55	-1.96
925	SLU 83	220	85	10400	3.01	53.43	-2.07
925	SLU 84	217	103	10337	2.71	52.43	-2.02
925	SLE RA 1	147	54	6705	1.87	32.42	-1.31
925	SLE RA 2	143	74	6636	1.54	31.31	-1.25
925	SLE RA 3	151	55	6830	1.97	33.37	-1.35
925	SLE RA 4	149	67	6789	1.77	32.71	-1.31
925	SLE RA 5	146	74	6720	1.61	31.9	-1.28
925	SLE RA 6	154	55	6914	2.04	33.96	-1.38
925	SLE RA 7	151	67	6872	1.84	33.3	-1.35
925	SLE RA 8	153	55	6873	2.01	33.6	-1.38
925	SLE RA 9	150	67	6831	1.81	32.93	-1.34
925	SLE RA 10	152	79	7213	1.69	35.13	-1.37
925	SLE RA 11	159	60	7407	2.12	37.19	-1.47
925	SLE RA 12	157	72	7366	1.92	36.53	-1.43
925	SLE RA 13	155	80	7297	1.76	35.72	-1.4
925	SLE RA 14	162	61	7491	2.19	37.78	-1.5
925	SLE RA 15	160	73	7449	1.99	37.12	-1.47
925	SLE RA 16	161	61	7450	2.16	37.41	-1.5
925	SLE RA 17	159	72	7408	1.96	36.75	-1.46
925	SLE RA 18	159	62	7530	2.08	37.87	-1.48
925	SLE RA 19	157	74	7488	1.88	37.21	-1.44
925	SLE RA 20	162	62	7614	2.15	38.46	-1.52
925	SLE RA 21	160	74	7572	1.95	37.8	-1.48
925	SLE FR 1	147	54	6705	1.87	32.42	-1.31
925	SLE FR 2	146	58	6692	1.8	32.19	-1.3
925	SLE FR 3	148	54	6739	1.9	32.65	-1.32
925	SLE FR 4	150	60	6939	1.87	33.83	-1.35
925	SLE FR 5	152	57	6986	1.96	34.29	-1.37
925	SLE FR 6	153	58	7118	1.97	35.14	-1.4
925	SLE QP 1	147	54	6705	1.87	32.42	-1.31
925	SLE QP 2	151	56	6953	1.93	34.05	-1.36
925	SLD 1	701	133	5496	-1.55	19.14	-4.48
925	SLD 2	620	225	5419	-2.01	20.48	-2.29
925	SLD 3	765	-194	6835	4.5	39.95	-5.51
925	SLD 4	684	-102	6758	4.04	41.29	-3.32
925	SLD 5	234	560	4498	-8.21	-2.22	-1.13
925	SLD 6	181	620	4447	-8.52	-1.34	0.32
925	SLD 7	446	-532	8963	11.97	67.14	-4.56
925	SLD 8	392	-471	8912	11.67	68.02	-3.11
925	SLD 9	-91	584	4993	-7.8	0.08	0.39
925	SLD 10	-144	645	4943	-8.11	0.97	1.84
925	SLD 11	121	-507	9458	12.38	69.44	-3.04
925	SLD 12	67	-447	9408	12.08	70.33	-1.59
925	SLD 13	-382	215	7147	-0.18	26.82	0.59
925	SLD 14	-463	307	7070	-0.64	28.16	2.79
925	SLD 15	-319	-112	8487	5.88	47.62	-0.44
925	SLD 16	-400	-20	8410	5.42	48.97	1.76
925	SLV 1	1012	185	4641	-3.67	9.88	-6.21
925	SLV 2	885	329	4521	-4.39	11.98	-2.78
925	SLV 3	1115	-344	6808	6.12	43.51	-7.89
925	SLV 4	988	-200	6687	5.4	45.61	-4.46
925	SLV 5	276	872	2997	-14.46	-24.61	-0.91
925	SLV 6	191	969	2915	-14.94	-23.2	1.4
925	SLV 7	620	-894	10217	18.17	87.52	-6.51
925	SLV 8	535	-797	10136	17.68	88.93	-4.2
925	SLV 9	-233	910	3770	-13.82	-20.83	1.47
925	SLV 10	-318	1007	3688	-14.3	-19.41	3.79
925	SLV 11	110	-856	10990	18.81	91.3	-4.12
925	SLV 12	25	-759	10909	18.33	92.71	-1.81
925	SLV 13	-686	313	7218	-1.53	22.49	1.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
925	SLV 14	-813	457	7098	-2.25	24.59	5.17
925	SLV 15	-583	-216	9385	8.26	56.13	0.06
925	SLV 16	-710	-72	9264	7.54	58.23	3.49
925	SLV FO 1	1098	198	4410	-4.23	7.46	-6.7
925	SLV FO 2	958	357	4278	-5.02	9.77	-2.92
925	SLV FO 3	1211	-384	6793	6.53	44.46	-8.55
925	SLV FO 4	1072	-226	6660	5.74	46.77	-4.77
925	SLV FO 5	289	953	2601	-16.1	-30.48	-0.87
925	SLV FO 6	195	1060	2512	-16.63	-28.92	1.68
925	SLV FO 7	667	-989	10544	19.79	92.86	-7.02
925	SLV FO 8	573	-882	10454	19.26	94.42	-4.48
925	SLV FO 9	-271	995	3451	-15.39	-26.31	1.76
925	SLV FO 10	-365	1102	3362	-15.93	-24.76	4.3
925	SLV FO 11	106	-947	11394	20.5	97.02	-4.4
925	SLV FO 12	13	-840	11305	19.96	98.58	-1.86
925	SLV FO 13	-770	339	7245	-1.88	21.33	2.05
925	SLV FO 14	-910	497	7112	-2.67	23.64	5.83
925	SLV FO 15	-657	-244	9628	8.89	58.33	0.2
925	SLV FO 16	-796	-85	9495	8.1	60.64	3.98
925	CRTFP Ux+	0	0	0	0	0	0
925	CRTFP Ux-	0	0	0	0	0	0
925	CRTFP Uy+	0	0	0	0	0	0
925	CRTFP Uy-	0	0	0	0	0	0
928	SLU 1	78	5	3781	4.44	713.32	-2.16
928	SLU 2	76	30	3713	3.97	702.07	-10.73
928	SLU 3	81	5	3891	4.67	732.02	-2.07
928	SLU 4	80	20	3850	4.39	725.27	-7.21
928	SLU 5	78	30	3787	4.14	714.7	-10.82
928	SLU 6	83	5	3965	4.84	744.64	-2.16
928	SLU 7	82	20	3924	4.56	737.9	-7.3
928	SLU 8	83	6	3929	4.77	738.56	-2.33
928	SLU 9	81	21	3889	4.49	731.82	-7.48
928	SLU 10	83	30	4187	4.6	785.7	-10.67
928	SLU 11	88	5	4364	5.3	815.64	-2.01
928	SLU 12	87	20	4324	5.02	808.9	-7.15
928	SLU 13	85	30	4261	4.77	798.32	-10.76
928	SLU 14	90	5	4439	5.47	828.27	-2.1
928	SLU 15	89	20	4398	5.19	821.52	-7.24
928	SLU 16	90	6	4403	5.41	822.19	-2.27
928	SLU 17	88	20	4362	5.12	815.44	-7.42
928	SLU 18	88	5	4458	5.34	832.78	-2.07
928	SLU 19	87	20	4417	5.06	826.04	-7.21
928	SLU 20	90	5	4532	5.51	845.41	-2.16
928	SLU 21	89	20	4491	5.23	838.66	-7.3
928	SLU 22	90	2	4405	5.47	822.64	-0.9
928	SLU 23	87	26	4338	5	811.4	-9.47
928	SLU 24	93	1	4515	5.7	841.35	-0.81
928	SLU 25	91	16	4475	5.42	834.6	-5.96
928	SLU 26	89	26	4412	5.17	824.02	-9.56
928	SLU 27	95	2	4589	5.87	853.97	-0.9
928	SLU 28	93	16	4549	5.59	847.22	-6.05
928	SLU 29	94	2	4554	5.81	847.89	-1.08
928	SLU 30	92	17	4513	5.52	841.15	-6.22
928	SLU 31	94	26	4811	5.63	895.03	-9.41
928	SLU 32	100	1	4989	6.34	924.97	-0.75
928	SLU 33	98	16	4948	6.05	918.23	-5.89
928	SLU 34	96	26	4886	5.8	907.65	-9.5
928	SLU 35	102	1	5063	6.5	937.6	-0.84
928	SLU 36	100	16	5022	6.22	930.85	-5.98
928	SLU 37	101	2	5027	6.44	931.52	-1.01
928	SLU 38	99	17	4987	6.16	924.77	-6.16
928	SLU 39	100	1	5082	6.38	942.11	-0.81
928	SLU 40	98	16	5041	6.09	935.36	-5.96
928	SLU 41	102	1	5156	6.54	954.73	-0.9
928	SLU 42	100	16	5116	6.26	947.99	-6.04
928	SLU 43	98	8	4701	5.42	889.83	-3.23
928	SLU 44	95	33	4634	4.95	878.58	-11.81
928	SLU 45	101	8	4811	5.65	908.53	-3.15
928	SLU 46	99	23	4770	5.37	901.78	-8.29
928	SLU 47	97	33	4708	5.11	891.21	-11.9
928	SLU 48	103	8	4885	5.82	921.15	-3.24
928	SLU 49	101	23	4845	5.53	914.41	-8.38
928	SLU 50	102	9	4850	5.75	915.07	-3.41
928	SLU 51	101	23	4809	5.47	908.33	-8.56
928	SLU 52	102	33	5107	5.58	962.21	-11.75
928	SLU 53	108	8	5285	6.28	992.16	-3.09
928	SLU 54	106	22	5244	6	985.41	-8.23
928	SLU 55	104	33	5181	5.74	974.83	-11.84
928	SLU 56	110	8	5359	6.45	1004.78	-3.18
928	SLU 57	108	23	5318	6.17	998.03	-8.32
928	SLU 58	109	8	5323	6.38	998.7	-3.35
928	SLU 59	108	23	5283	6.1	991.96	-8.5
928	SLU 60	108	8	5378	6.32	1009.29	-3.15
928	SLU 61	106	23	5337	6.04	1002.55	-8.29
928	SLU 62	110	8	5452	6.49	1021.92	-3.24
928	SLU 63	109	23	5411	6.2	1015.17	-8.38
928	SLU 64	109	5	5326	6.45	999.15	-1.97
928	SLU 65	107	29	5258	5.98	987.91	-10.55
928	SLU 66	112	4	5435	6.68	1017.86	-1.89



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
928	SLU 67	111	19	5395	6.4	1011.11	-7.03
928	SLU 68	109	29	5332	6.15	1000.54	-10.64
928	SLU 69	114	4	5510	6.85	1030.48	-1.98
928	SLU 70	113	19	5469	6.57	1023.74	-7.12
928	SLU 71	114	5	5474	6.78	1024.4	-2.15
928	SLU 72	112	20	5433	6.5	1017.66	-7.3
928	SLU 73	114	29	5732	6.61	1071.54	-10.49
928	SLU 74	119	4	5909	7.31	1101.48	-1.83
928	SLU 75	118	19	5868	7.03	1094.74	-6.97
928	SLU 76	116	29	5806	6.78	1084.16	-10.58
928	SLU 77	121	4	5983	7.48	1114.11	-1.92
928	SLU 78	120	19	5943	7.2	1107.36	-7.06
928	SLU 79	121	5	5948	7.42	1108.03	-2.09
928	SLU 80	119	19	5907	7.13	1101.28	-7.24
928	SLU 81	119	4	6002	7.35	1118.62	-1.89
928	SLU 82	118	19	5962	7.07	1111.87	-7.03
928	SLU 83	121	4	6076	7.52	1131.24	-1.98
928	SLU 84	120	19	6036	7.24	1124.5	-7.12
928	SLE RA 1	81	4	3959	4.73	744.55	-1.8
928	SLE RA 2	80	21	3914	4.42	737.06	-7.51
928	SLE RA 3	83	4	4033	4.89	757.02	-1.74
928	SLE RA 4	82	14	4006	4.7	752.52	-5.17
928	SLE RA 5	81	21	3964	4.53	745.47	-7.57
928	SLE RA 6	85	4	4082	5	765.44	-1.8
928	SLE RA 7	84	14	4055	4.81	760.94	-5.23
928	SLE RA 8	84	5	4058	4.96	761.38	-1.92
928	SLE RA 9	83	14	4031	4.77	756.89	-5.35
928	SLE RA 10	84	20	4230	4.84	792.81	-7.47
928	SLE RA 11	88	4	4348	5.31	812.77	-1.7
928	SLE RA 12	87	14	4321	5.12	808.27	-5.13
928	SLE RA 13	86	21	4280	4.95	801.22	-7.53
928	SLE RA 14	90	4	4398	5.42	821.19	-1.76
928	SLE RA 15	89	14	4371	5.23	816.69	-5.19
928	SLE RA 16	89	4	4374	5.38	817.13	-1.87
928	SLE RA 17	88	14	4347	5.19	812.64	-5.31
928	SLE RA 18	88	4	4411	5.34	824.2	-1.74
928	SLE RA 19	87	14	4383	5.15	819.7	-5.17
928	SLE RA 20	90	4	4460	5.45	832.61	-1.8
928	SLE RA 21	89	14	4433	5.26	828.11	-5.23
928	SLE FR 1	81	4	3959	4.73	744.55	-1.8
928	SLE FR 2	81	8	3950	4.67	743.05	-2.94
928	SLE FR 3	82	4	3979	4.78	747.92	-1.82
928	SLE FR 4	83	7	4086	4.85	766.95	-2.92
928	SLE FR 5	84	4	4115	4.96	771.81	-1.8
928	SLE FR 6	85	4	4185	5.04	784.37	-1.77
928	SLE QP 1	81	4	3959	4.73	744.55	-1.8
928	SLE QP 2	83	4	4095	4.91	768.45	-1.78
928	SLD 1	449	126	2611	0.76	520.96	-44.41
928	SLD 2	397	251	2532	0.2	508.48	-87.98
928	SLD 3	479	-133	3471	6.63	663.89	46.02
928	SLD 4	426	-8	3392	6.08	651.41	2.45
928	SLD 5	158	411	2359	-5.15	479.67	-143.88
928	SLD 6	124	494	2307	-5.51	471.44	-172.64
928	SLD 7	256	-452	5227	14.44	956.1	157.56
928	SLD 8	221	-370	5175	14.08	947.86	128.8
928	SLD 9	-54	378	3014	-4.25	589.03	-132.35
928	SLD 10	-89	461	2962	-4.61	580.79	-161.12
928	SLD 11	43	-485	5883	15.34	1065.46	169.09
928	SLD 12	9	-403	5831	14.98	1057.22	140.32
928	SLD 13	-259	16	4797	3.75	885.48	-6.01
928	SLD 14	-312	142	4718	3.2	873	-49.57
928	SLD 15	-230	-243	5658	9.63	1028.41	84.43
928	SLD 16	-282	-117	5579	9.07	1015.93	40.86
928	SLV 1	656	201	1755	-1.74	378.37	-70.89
928	SLV 2	573	398	1632	-2.6	358.82	-139.15
928	SLV 3	704	-218	3147	7.77	609.52	75.6
928	SLV 4	621	-22	3024	6.9	589.97	7.34
928	SLV 5	198	663	1305	-11.33	304.49	-231.95
928	SLV 6	143	795	1222	-11.92	291.33	-277.91
928	SLV 7	357	-735	5944	20.34	1074.99	256.35
928	SLV 8	302	-603	5861	19.76	1061.83	210.4
928	SLV 9	-135	612	2328	-9.93	475.06	-213.95
928	SLV 10	-190	744	2245	-10.52	461.9	-259.91
928	SLV 11	24	-787	6967	21.74	1245.56	274.35
928	SLV 12	-31	-655	6884	21.16	1232.4	228.39
928	SLV 13	-454	30	5166	2.93	946.92	-10.9
928	SLV 14	-537	227	5042	2.06	927.37	-79.16
928	SLV 15	-407	-389	6557	12.43	1178.07	135.59
928	SLV 16	-489	-193	6434	11.57	1158.52	67.33
928	SLV FO 1	713	221	1522	-2.4	339.36	-77.8
928	SLV FO 2	622	437	1386	-3.35	317.86	-152.88
928	SLV FO 3	766	-240	3053	8.05	593.63	83.34
928	SLV FO 4	675	-25	2917	7.1	572.12	8.26
928	SLV FO 5	210	729	1026	-12.96	258.1	-254.97
928	SLV FO 6	149	874	935	-13.6	243.62	-305.52
928	SLV FO 7	385	-809	6129	21.89	1105.65	282.17
928	SLV FO 8	324	-664	6038	21.25	1091.17	231.62
928	SLV FO 9	-157	673	2152	-11.42	445.72	-235.17
928	SLV FO 10	-218	818	2060	-12.06	431.24	-285.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
928	SLV FO 11	18	-866	7255	23.43	1293.27	301.96
928	SLV FO 12	-43	-721	7163	22.79	1278.79	251.41
928	SLV FO 13	-508	33	5273	2.73	964.77	-11.81
928	SLV FO 14	-599	249	5137	1.78	943.26	-86.9
928	SLV FO 15	-456	-429	6804	13.18	1219.03	149.33
928	SLV FO 16	-546	-213	6668	12.23	1197.53	74.24
928	CRTFP Ux+	0	0	0	0	0	0
928	CRTFP Ux-	0	0	0	0	0	0
928	CRTFP Uy+	0	0	0	0	0	0
928	CRTFP Uy-	0	0	0	0	0	0
930	SLU 1	-28	23	5330	2.34	99.55	0.39
930	SLU 2	-27	52	5260	1.88	98.64	0.33
930	SLU 3	-29	23	5473	2.51	103.03	0.39
930	SLU 4	-29	40	5431	2.24	102.48	0.36
930	SLU 5	-28	52	5353	2	100.88	0.33
930	SLU 6	-29	23	5565	2.63	105.27	0.39
930	SLU 7	-29	40	5523	2.35	104.72	0.36
930	SLU 8	-29	22	5514	2.57	104.04	0.39
930	SLU 9	-29	40	5472	2.3	103.49	0.36
930	SLU 10	-31	51	5991	2.15	112.1	0.34
930	SLU 11	-33	22	6203	2.78	116.49	0.4
930	SLU 12	-33	40	6162	2.51	115.94	0.36
930	SLU 13	-32	51	6083	2.26	114.34	0.34
930	SLU 14	-34	22	6296	2.9	118.73	0.4
930	SLU 15	-33	40	6254	2.62	118.18	0.36
930	SLU 16	-33	22	6245	2.84	117.5	0.4
930	SLU 17	-33	39	6203	2.56	116.95	0.36
930	SLU 18	-34	22	6373	2.72	118.78	0.4
930	SLU 19	-33	39	6332	2.45	118.23	0.36
930	SLU 20	-34	22	6466	2.84	121.03	0.4
930	SLU 21	-34	39	6424	2.56	120.48	0.36
930	SLU 22	-34	24	6257	2.99	117.36	0.4
930	SLU 23	-33	53	6187	2.53	116.44	0.34
930	SLU 24	-35	24	6400	3.17	120.83	0.41
930	SLU 25	-35	41	6358	2.89	120.29	0.37
930	SLU 26	-34	53	6279	2.65	118.69	0.34
930	SLU 27	-36	24	6492	3.28	123.08	0.41
930	SLU 28	-35	41	6450	3.01	122.53	0.37
930	SLU 29	-35	23	6441	3.22	121.85	0.4
930	SLU 30	-35	41	6399	2.95	121.3	0.37
930	SLU 31	-37	52	6918	2.8	129.91	0.35
930	SLU 32	-39	23	7130	3.43	134.3	0.41
930	SLU 33	-39	41	7088	3.16	133.75	0.38
930	SLU 34	-38	52	7010	2.92	132.15	0.35
930	SLU 35	-40	23	7222	3.55	136.54	0.41
930	SLU 36	-39	41	7181	3.27	135.99	0.38
930	SLU 37	-39	23	7171	3.49	135.31	0.41
930	SLU 38	-39	40	7130	3.22	134.76	0.37
930	SLU 39	-40	23	7300	3.38	136.59	0.41
930	SLU 40	-40	40	7258	3.1	136.04	0.37
930	SLU 41	-40	23	7392	3.49	138.83	0.41
930	SLU 42	-40	40	7351	3.22	138.29	0.37
930	SLU 43	-34	29	6611	2.82	123.31	0.5
930	SLU 44	-34	59	6542	2.36	122.39	0.44
930	SLU 45	-35	29	6754	2.99	126.79	0.51
930	SLU 46	-35	47	6712	2.72	126.24	0.47
930	SLU 47	-34	58	6634	2.48	124.64	0.44
930	SLU 48	-36	29	6846	3.11	129.03	0.51
930	SLU 49	-35	47	6805	2.83	128.48	0.47
930	SLU 50	-35	29	6795	3.05	127.8	0.5
930	SLU 51	-35	46	6754	2.77	127.25	0.47
930	SLU 52	-38	58	7272	2.63	135.86	0.45
930	SLU 53	-39	29	7485	3.26	140.25	0.51
930	SLU 54	-39	46	7443	2.99	139.7	0.48
930	SLU 55	-38	58	7364	2.74	138.1	0.45
930	SLU 56	-40	28	7577	3.38	142.49	0.51
930	SLU 57	-40	46	7535	3.1	141.94	0.48
930	SLU 58	-39	28	7526	3.32	141.26	0.51
930	SLU 59	-39	46	7484	3.04	140.71	0.47
930	SLU 60	-40	28	7655	3.2	142.54	0.51
930	SLU 61	-40	46	7613	2.93	141.99	0.47
930	SLU 62	-41	28	7747	3.32	144.79	0.51
930	SLU 63	-40	46	7705	3.04	144.24	0.47
930	SLU 64	-40	30	7538	3.47	141.12	0.52
930	SLU 65	-40	60	7468	3.01	140.2	0.46
930	SLU 66	-41	30	7681	3.65	144.59	0.52
930	SLU 67	-41	48	7639	3.37	144.04	0.48
930	SLU 68	-40	59	7560	3.13	142.45	0.46
930	SLU 69	-42	30	7773	3.76	146.84	0.52
930	SLU 70	-41	48	7731	3.49	146.29	0.48
930	SLU 71	-41	30	7722	3.7	145.6	0.52
930	SLU 72	-41	48	7680	3.43	145.06	0.48
930	SLU 73	-44	59	8199	3.28	153.67	0.46
930	SLU 74	-45	30	8411	3.91	158.06	0.52
930	SLU 75	-45	47	8370	3.64	157.51	0.49
930	SLU 76	-44	59	8291	3.4	155.91	0.46
930	SLU 77	-46	29	8504	4.03	160.3	0.52
930	SLU 78	-46	47	8462	3.75	159.75	0.49
930	SLU 79	-46	29	8453	3.97	159.07	0.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
930	SLU 80	-45	47	8411	3.69	158.52	0.49
930	SLU 81	-46	29	8581	3.85	160.35	0.52
930	SLU 82	-46	47	8540	3.58	159.8	0.49
930	SLU 83	-47	29	8674	3.97	162.59	0.52
930	SLU 84	-46	47	8632	3.69	162.04	0.49
930	SLE RA 1	-30	23	5595	2.53	104.64	0.39
930	SLE RA 2	-29	43	5548	2.22	104.03	0.35
930	SLE RA 3	-30	23	5690	2.64	106.96	0.4
930	SLE RA 4	-30	35	5662	2.46	106.59	0.37
930	SLE RA 5	-30	43	5610	2.3	105.52	0.35
930	SLE RA 6	-31	23	5751	2.72	108.45	0.4
930	SLE RA 7	-30	35	5724	2.54	108.09	0.37
930	SLE RA 8	-30	23	5718	2.68	107.63	0.39
930	SLE RA 9	-30	35	5690	2.5	107.26	0.37
930	SLE RA 10	-32	42	6035	2.4	113	0.36
930	SLE RA 11	-33	23	6177	2.82	115.93	0.4
930	SLE RA 12	-33	34	6149	2.64	115.56	0.38
930	SLE RA 13	-32	42	6097	2.48	114.5	0.36
930	SLE RA 14	-33	23	6238	2.9	117.43	0.4
930	SLE RA 15	-33	34	6211	2.71	117.06	0.38
930	SLE RA 16	-33	22	6205	2.86	116.6	0.4
930	SLE RA 17	-33	34	6177	2.68	116.24	0.37
930	SLE RA 18	-34	22	6290	2.78	117.46	0.4
930	SLE RA 19	-33	34	6263	2.6	117.09	0.37
930	SLE RA 20	-34	22	6352	2.86	118.96	0.4
930	SLE RA 21	-34	34	6324	2.68	118.59	0.38
930	SLE FR 1	-30	23	5595	2.53	104.64	0.39
930	SLE FR 2	-30	27	5585	2.47	104.52	0.39
930	SLE FR 3	-30	23	5619	2.56	105.24	0.39
930	SLE FR 4	-31	27	5794	2.54	108.36	0.39
930	SLE FR 5	-31	23	5828	2.63	109.08	0.4
930	SLE FR 6	-32	23	5943	2.65	111.05	0.4
930	SLE QP 1	-30	23	5595	2.53	104.64	0.39
930	SLE QP 2	-31	23	5803	2.6	108.48	0.39
930	SLD 1	605	224	5658	-0.48	98.4	-4.4
930	SLD 2	532	193	5666	-0.3	99.22	-2.14
930	SLD 3	584	-123	6557	5.23	111.09	-3.31
930	SLD 4	511	-154	6566	5.41	111.92	-1.05
930	SLD 5	205	616	4394	-7.03	86.06	-3.11
930	SLD 6	157	595	4400	-6.91	86.61	-1.61
930	SLD 7	134	-542	7392	12.03	128.37	0.53
930	SLD 8	86	-563	7398	12.15	128.91	2.03
930	SLD 9	-148	609	4209	-6.94	88.06	-1.24
930	SLD 10	-196	588	4215	-6.82	88.6	0.26
930	SLD 11	-219	-549	7207	12.11	130.36	2.4
930	SLD 12	-267	-570	7213	12.23	130.91	3.9
930	SLD 13	-573	200	5041	-0.21	105.05	1.84
930	SLD 14	-645	169	5050	-0.03	105.88	4.1
930	SLD 15	-594	-147	5940	5.51	117.74	2.93
930	SLD 16	-667	-178	5949	5.69	118.57	5.19
930	SLV 1	965	347	5550	-2.38	92.09	-7.15
930	SLV 2	851	298	5564	-2.09	93.38	-3.6
930	SLV 3	931	-214	7004	6.86	112.61	-5.39
930	SLV 4	817	-263	7018	7.14	113.91	-1.85
930	SLV 5	341	980	3520	-12.96	72.19	-5.19
930	SLV 6	264	947	3529	-12.77	73.07	-2.81
930	SLV 7	227	-890	8366	17.84	140.61	0.66
930	SLV 8	150	-923	8376	18.03	141.48	3.05
930	SLV 9	-212	969	3231	-12.82	75.49	-2.26
930	SLV 10	-289	936	3240	-12.63	76.36	0.13
930	SLV 11	-326	-902	8078	17.97	143.9	3.6
930	SLV 12	-403	-935	8087	18.16	144.77	5.98
930	SLV 13	-879	309	4589	-1.94	103.06	2.64
930	SLV 14	-992	260	4602	-1.65	104.36	6.18
930	SLV 15	-913	-252	6043	7.3	123.59	4.39
930	SLV 16	-1027	-301	6056	7.58	124.88	7.94
930	SLV FO 1	1064	380	5525	-2.88	90.45	-7.9
930	SLV FO 2	939	326	5540	-2.56	91.87	-4
930	SLV FO 3	1027	-238	7124	7.29	113.02	-5.97
930	SLV FO 4	902	-292	7140	7.6	114.45	-2.07
930	SLV FO 5	378	1076	3291	-14.51	68.57	-5.75
930	SLV FO 6	294	1040	3302	-14.3	69.53	-3.13
930	SLV FO 7	253	-981	8623	19.36	143.82	0.69
930	SLV FO 8	169	-1018	8633	19.57	144.78	3.31
930	SLV FO 9	-230	1063	2974	-14.37	72.19	-2.52
930	SLV FO 10	-315	1027	2984	-14.16	73.15	0.1
930	SLV FO 11	-355	-994	8305	19.51	147.44	3.92
930	SLV FO 12	-440	-1030	8316	19.72	148.4	6.54
930	SLV FO 13	-963	337	4467	-2.39	102.52	2.86
930	SLV FO 14	-1088	283	4482	-2.08	103.95	6.76
930	SLV FO 15	-1001	-280	6066	7.77	125.1	4.79
930	SLV FO 16	-1126	-334	6082	8.08	126.52	8.69
930	CRTFP Ux+	0	0	0	0	0	0
930	CRTFP Ux-	0	0	0	0	0	0
930	CRTFP Uy+	0	0	0	0	0	0
930	CRTFP Uy-	0	0	0	0	0	0
933	SLU 1	-7	168	4053	3.98	-26.82	-0.93
933	SLU 2	-9	197	3997	3.53	-26.7	-0.9
933	SLU 3	-8	171	4149	4.21	-27.67	-0.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
933	SLU 4	-8	188	4116	3.94	-27.6	-0.95
933	SLU 5	-9	199	4059	3.68	-27.27	-0.94
933	SLU 6	-7	172	4212	4.36	-28.24	-1
933	SLU 7	-8	190	4178	4.09	-28.17	-0.99
933	SLU 8	-7	170	4178	4.28	-27.96	-1
933	SLU 9	-8	188	4144	4.01	-27.89	-0.98
933	SLU 10	-11	214	4547	4.03	-30.03	-1.03
933	SLU 11	-10	188	4700	4.7	-31.01	-1.09
933	SLU 12	-10	205	4666	4.43	-30.93	-1.08
933	SLU 13	-11	216	4610	4.17	-30.6	-1.06
933	SLU 14	-9	189	4762	4.85	-31.58	-1.13
933	SLU 15	-10	207	4729	4.58	-31.5	-1.11
933	SLU 16	-9	187	4728	4.77	-31.3	-1.12
933	SLU 17	-10	205	4694	4.5	-31.22	-1.11
933	SLU 18	-10	192	4839	4.69	-31.59	-1.11
933	SLU 19	-11	210	4805	4.42	-31.51	-1.09
933	SLU 20	-10	193	4901	4.83	-32.16	-1.14
933	SLU 21	-11	211	4868	4.56	-32.08	-1.12
933	SLU 22	-11	189	4736	4.92	-31.08	-1.1
933	SLU 23	-12	219	4680	4.47	-30.96	-1.07
933	SLU 24	-11	192	4833	5.14	-31.93	-1.14
933	SLU 25	-11	210	4799	4.87	-31.86	-1.12
933	SLU 26	-12	220	4743	4.61	-31.53	-1.11
933	SLU 27	-11	194	4895	5.29	-32.5	-1.17
933	SLU 28	-11	212	4862	5.02	-32.43	-1.16
933	SLU 29	-10	192	4861	5.21	-32.22	-1.17
933	SLU 30	-11	210	4828	4.94	-32.14	-1.15
933	SLU 31	-14	236	5230	4.96	-34.29	-1.2
933	SLU 32	-13	209	5383	5.64	-35.27	-1.27
933	SLU 33	-14	227	5349	5.37	-35.19	-1.25
933	SLU 34	-14	237	5293	5.11	-34.86	-1.23
933	SLU 35	-13	211	5445	5.79	-35.83	-1.3
933	SLU 36	-13	229	5412	5.52	-35.76	-1.28
933	SLU 37	-12	209	5411	5.7	-35.55	-1.29
933	SLU 38	-13	227	5378	5.43	-35.48	-1.28
933	SLU 39	-13	214	5522	5.62	-35.84	-1.28
933	SLU 40	-14	232	5489	5.35	-35.77	-1.26
933	SLU 41	-13	215	5584	5.77	-36.41	-1.31
933	SLU 42	-14	233	5551	5.5	-36.34	-1.29
933	SLU 43	-8	210	5034	4.86	-33.41	-1.15
933	SLU 44	-10	240	4979	4.41	-33.29	-1.12
933	SLU 45	-9	213	5131	5.08	-34.26	-1.19
933	SLU 46	-9	231	5098	4.81	-34.19	-1.17
933	SLU 47	-10	241	5041	4.55	-33.85	-1.16
933	SLU 48	-9	215	5193	5.23	-34.83	-1.22
933	SLU 49	-9	232	5160	4.96	-34.75	-1.21
933	SLU 50	-8	213	5159	5.15	-34.55	-1.22
933	SLU 51	-9	231	5126	4.88	-34.47	-1.2
933	SLU 52	-12	257	5529	4.9	-36.62	-1.25
933	SLU 53	-11	230	5681	5.58	-37.59	-1.31
933	SLU 54	-11	248	5648	5.31	-37.52	-1.3
933	SLU 55	-12	258	5591	5.05	-37.19	-1.28
933	SLU 56	-11	232	5744	5.72	-38.16	-1.35
933	SLU 57	-11	249	5710	5.45	-38.09	-1.33
933	SLU 58	-10	230	5709	5.64	-37.88	-1.34
933	SLU 59	-11	248	5676	5.37	-37.81	-1.32
933	SLU 60	-11	235	5820	5.56	-38.17	-1.33
933	SLU 61	-12	252	5787	5.29	-38.1	-1.31
933	SLU 62	-11	236	5883	5.71	-38.74	-1.36
933	SLU 63	-12	254	5849	5.44	-38.67	-1.34
933	SLU 64	-12	232	5718	5.79	-37.67	-1.32
933	SLU 65	-13	262	5662	5.34	-37.54	-1.29
933	SLU 66	-12	235	5814	6.02	-38.52	-1.36
933	SLU 67	-13	253	5781	5.75	-38.44	-1.34
933	SLU 68	-13	263	5724	5.49	-38.11	-1.33
933	SLU 69	-12	236	5877	6.16	-39.09	-1.39
933	SLU 70	-13	254	5843	5.89	-39.01	-1.38
933	SLU 71	-11	235	5843	6.08	-38.81	-1.39
933	SLU 72	-12	253	5809	5.81	-38.73	-1.37
933	SLU 73	-15	279	6212	5.84	-40.88	-1.42
933	SLU 74	-14	252	6364	6.51	-41.85	-1.49
933	SLU 75	-15	270	6331	6.24	-41.78	-1.47
933	SLU 76	-15	280	6274	5.98	-41.45	-1.45
933	SLU 77	-14	253	6427	6.66	-42.42	-1.52
933	SLU 78	-15	271	6393	6.39	-42.35	-1.5
933	SLU 79	-14	252	6393	6.58	-42.14	-1.51
933	SLU 80	-14	270	6359	6.31	-42.07	-1.5
933	SLU 81	-15	256	6504	6.5	-42.43	-1.5
933	SLU 82	-15	274	6470	6.23	-42.36	-1.48
933	SLU 83	-14	258	6566	6.64	-43	-1.53
933	SLU 84	-15	276	6533	6.37	-42.93	-1.51
933	SLE RA 1	-8	174	4248	4.25	-28.04	-0.98
933	SLE RA 2	-9	194	4211	3.95	-27.96	-0.96
933	SLE RA 3	-8	176	4312	4.4	-28.61	-1
933	SLE RA 4	-9	188	4290	4.22	-28.56	-0.99
933	SLE RA 5	-9	195	4252	4.05	-28.34	-0.98
933	SLE RA 6	-8	177	4354	4.5	-28.99	-1.03
933	SLE RA 7	-9	189	4332	4.32	-28.94	-1.02
933	SLE RA 8	-8	176	4331	4.45	-28.8	-1.02



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
933	SLE RA 9	-9	187	4309	4.27	-28.75	-1.01
933	SLE RA 10	-10	205	4578	4.28	-30.18	-1.04
933	SLE RA 11	-10	187	4679	4.73	-30.83	-1.09
933	SLE RA 12	-10	199	4657	4.55	-30.78	-1.08
933	SLE RA 13	-10	206	4619	4.38	-30.56	-1.07
933	SLE RA 14	-10	188	4721	4.83	-31.21	-1.11
933	SLE RA 15	-10	200	4699	4.65	-31.16	-1.1
933	SLE RA 16	-10	187	4698	4.77	-31.02	-1.11
933	SLE RA 17	-10	199	4676	4.59	-30.97	-1.09
933	SLE RA 18	-10	190	4772	4.72	-31.22	-1.1
933	SLE RA 19	-11	202	4750	4.54	-31.17	-1.08
933	SLE RA 20	-10	191	4814	4.82	-31.59	-1.12
933	SLE RA 21	-11	203	4791	4.64	-31.54	-1.11
933	SLE FR 1	-8	174	4248	4.25	-28.04	-0.98
933	SLE FR 2	-8	178	4241	4.19	-28.02	-0.97
933	SLE FR 3	-8	174	4265	4.29	-28.19	-0.99
933	SLE FR 4	-9	183	4398	4.33	-28.98	-1.01
933	SLE FR 5	-9	179	4422	4.43	-29.14	-1.02
933	SLE FR 6	-9	182	4510	4.49	-29.63	-1.04
933	SLE QP 1	-8	174	4248	4.25	-28.04	-0.98
933	SLE QP 2	-9	179	4405	4.39	-28.99	-1.01
933	SLD 1	611	309	3630	1.55	-3.51	-4.87
933	SLD 2	539	343	3632	1.42	-3.52	-2.66
933	SLD 3	622	-37	4337	7.09	-5.21	-5.12
933	SLD 4	550	-3	4339	6.96	-5.23	-2.9
933	SLD 5	173	736	3100	-4.84	-18.76	-2.19
933	SLD 6	125	759	3101	-4.93	-18.76	-0.73
933	SLD 7	210	-416	5457	13.63	-24.45	-3.02
933	SLD 8	163	-394	5458	13.54	-24.45	-1.56
933	SLD 9	-180	751	3352	-4.76	-33.53	-0.47
933	SLD 10	-228	774	3354	-4.85	-33.54	1
933	SLD 11	-143	-401	5709	13.71	-39.22	-1.29
933	SLD 12	-191	-379	5711	13.62	-39.23	0.17
933	SLD 13	-567	360	4471	1.82	-52.76	0.88
933	SLD 14	-640	394	4474	1.69	-52.77	3.1
933	SLD 15	-556	14	5178	7.37	-54.47	0.63
933	SLD 16	-629	48	5181	7.23	-54.48	2.85
933	SLV 1	961	392	3175	-0.2	10.82	-7.05
933	SLV 2	847	445	3179	-0.41	10.8	-3.58
933	SLV 3	979	-167	4318	8.76	8.04	-7.47
933	SLV 4	866	-114	4322	8.54	8.02	-4
933	SLV 5	275	1080	2302	-10.53	-12.83	-2.84
933	SLV 6	199	1116	2304	-10.68	-12.85	-0.5
933	SLV 7	337	-783	6112	19.32	-22.09	-4.23
933	SLV 8	261	-747	6115	19.18	-22.1	-1.89
933	SLV 9	-278	1104	2695	-10.4	-35.88	-0.13
933	SLV 10	-354	1140	2698	-10.54	-35.9	2.21
933	SLV 11	-216	-759	6506	19.46	-45.14	-1.53
933	SLV 12	-293	-723	6509	19.31	-45.15	0.81
933	SLV 13	-883	471	4488	0.24	-66.01	1.97
933	SLV 14	-997	525	4492	0.03	-66.03	5.45
933	SLV 15	-865	-88	5631	9.2	-68.79	1.55
933	SLV 16	-978	-34	5635	8.98	-68.8	5.03
933	SLV FO 1	1058	413	3052	-0.66	14.8	-7.66
933	SLV FO 2	933	472	3057	-0.89	14.78	-3.83
933	SLV FO 3	1078	-202	4310	9.19	11.75	-8.12
933	SLV FO 4	953	-143	4314	8.96	11.73	-4.29
933	SLV FO 5	304	1170	2091	-12.02	-11.22	-3.02
933	SLV FO 6	220	1210	2094	-12.18	-11.23	-0.45
933	SLV FO 7	371	-879	6283	20.82	-21.4	-4.56
933	SLV FO 8	287	-839	6286	20.66	-21.41	-1.98
933	SLV FO 9	-305	1197	2525	-11.88	-36.57	-0.04
933	SLV FO 10	-389	1236	2527	-12.04	-36.59	2.53
933	SLV FO 11	-237	-853	6716	20.96	-46.75	-1.58
933	SLV FO 12	-321	-813	6719	20.81	-46.77	1
933	SLV FO 13	-971	500	4496	-0.18	-69.71	2.27
933	SLV FO 14	-1096	559	4501	-0.41	-69.73	6.09
933	SLV FO 15	-951	-114	5754	9.68	-72.76	1.81
933	SLV FO 16	-1075	-56	5758	9.44	-72.78	5.63
933	CRTFP Ux+	0	0	0	0	0	0
933	CRTFP Ux-	0	0	0	0	0	0
933	CRTFP Uy+	0	0	0	0	0	0
933	CRTFP Uy-	0	0	0	0	0	0
936	SLU 1	-65	-22	6240	0.01	-11.3	0.51
936	SLU 2	-62	8	6139	-0.46	-9.87	0.43
936	SLU 3	-67	-23	6413	0.1	-12.1	0.53
936	SLU 4	-65	-5	6352	-0.18	-11.24	0.48
936	SLU 5	-63	8	6251	-0.4	-10.43	0.44
936	SLU 6	-68	-24	6525	0.17	-12.66	0.54
936	SLU 7	-66	-6	6464	-0.11	-11.8	0.49
936	SLU 8	-67	-24	6464	0.14	-12.42	0.53
936	SLU 9	-65	-5	6403	-0.14	-11.56	0.48
936	SLU 10	-64	5	6978	-0.54	-12.78	0.54
936	SLU 11	-68	-26	7251	0.03	-15.01	0.64
936	SLU 12	-67	-8	7191	-0.25	-14.15	0.59
936	SLU 13	-65	5	7089	-0.47	-13.34	0.56
936	SLU 14	-69	-27	7363	0.1	-15.57	0.65
936	SLU 15	-67	-9	7302	-0.19	-14.71	0.6
936	SLU 16	-69	-26	7302	0.07	-15.33	0.64



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
936	SLU 17	-67	-8	7242	-0.22	-14.47	0.6
936	SLU 18	-68	-26	7438	-0.1	-15.46	0.67
936	SLU 19	-66	-8	7378	-0.38	-14.6	0.62
936	SLU 20	-68	-27	7550	-0.03	-16.02	0.68
936	SLU 21	-67	-9	7489	-0.32	-15.16	0.63
936	SLU 22	-71	-27	7327	0.2	-14.98	0.62
936	SLU 23	-68	3	7226	-0.27	-13.55	0.55
936	SLU 24	-73	-28	7499	0.3	-15.78	0.64
936	SLU 25	-71	-10	7439	0.02	-14.92	0.6
936	SLU 26	-69	2	7337	-0.2	-14.11	0.56
936	SLU 27	-74	-29	7611	0.37	-16.34	0.65
936	SLU 28	-72	-11	7550	0.09	-15.48	0.61
936	SLU 29	-73	-29	7550	0.34	-16.1	0.65
936	SLU 30	-71	-10	7489	0.06	-15.24	0.6
936	SLU 31	-70	0	8064	-0.34	-16.46	0.66
936	SLU 32	-74	-31	8338	0.23	-18.69	0.76
936	SLU 33	-73	-13	8277	-0.06	-17.83	0.71
936	SLU 34	-71	0	8176	-0.28	-17.02	0.67
936	SLU 35	-75	-32	8449	0.29	-19.25	0.77
936	SLU 36	-73	-14	8389	0.01	-18.39	0.72
936	SLU 37	-75	-31	8389	0.26	-19.01	0.76
936	SLU 38	-73	-13	8328	-0.02	-18.15	0.71
936	SLU 39	-74	-31	8525	0.09	-19.14	0.79
936	SLU 40	-72	-13	8464	-0.19	-18.28	0.74
936	SLU 41	-74	-32	8636	0.16	-19.7	0.8
936	SLU 42	-73	-14	8576	-0.12	-18.84	0.75
936	SLU 43	-83	-27	7740	-0.06	-13.43	0.62
936	SLU 44	-80	3	7639	-0.53	-12	0.54
936	SLU 45	-84	-28	7913	0.04	-14.23	0.64
936	SLU 46	-83	-10	7852	-0.24	-13.37	0.59
936	SLU 47	-81	3	7751	-0.46	-12.56	0.56
936	SLU 48	-85	-29	8024	0.11	-14.79	0.65
936	SLU 49	-83	-11	7964	-0.18	-13.93	0.6
936	SLU 50	-84	-28	7963	0.08	-14.55	0.64
936	SLU 51	-83	-10	7903	-0.21	-13.69	0.6
936	SLU 52	-81	0	8477	-0.6	-14.91	0.66
936	SLU 53	-86	-31	8751	-0.04	-17.14	0.75
936	SLU 54	-84	-13	8690	-0.32	-16.28	0.71
936	SLU 55	-82	0	8589	-0.54	-15.47	0.67
936	SLU 56	-87	-32	8863	0.03	-17.7	0.76
936	SLU 57	-85	-13	8802	-0.25	-16.84	0.72
936	SLU 58	-86	-31	8802	0	-17.46	0.76
936	SLU 59	-84	-13	8741	-0.28	-16.6	0.71
936	SLU 60	-85	-31	8938	-0.17	-17.59	0.78
936	SLU 61	-83	-13	8877	-0.45	-16.73	0.74
936	SLU 62	-86	-32	9050	-0.1	-18.15	0.79
936	SLU 63	-84	-14	8989	-0.38	-17.29	0.75
936	SLU 64	-89	-32	8826	0.14	-17.11	0.74
936	SLU 65	-86	-2	8725	-0.33	-15.68	0.66
936	SLU 66	-90	-33	8999	0.24	-17.91	0.76
936	SLU 67	-89	-15	8938	-0.05	-17.05	0.71
936	SLU 68	-87	-2	8837	-0.27	-16.24	0.67
936	SLU 69	-91	-34	9111	0.3	-18.47	0.77
936	SLU 70	-89	-16	9050	0.02	-17.61	0.72
936	SLU 71	-91	-33	9050	0.27	-18.23	0.76
936	SLU 72	-89	-15	8989	-0.01	-17.37	0.71
936	SLU 73	-88	-5	9564	-0.41	-18.59	0.77
936	SLU 74	-92	-36	9837	0.16	-20.82	0.87
936	SLU 75	-90	-18	9777	-0.12	-19.96	0.82
936	SLU 76	-88	-5	9675	-0.34	-19.15	0.78
936	SLU 77	-93	-37	9949	0.23	-21.38	0.88
936	SLU 78	-91	-18	9888	-0.05	-20.52	0.83
936	SLU 79	-92	-36	9888	0.2	-21.14	0.87
936	SLU 80	-90	-18	9828	-0.08	-20.28	0.83
936	SLU 81	-91	-36	10024	0.03	-21.27	0.9
936	SLU 82	-89	-18	9964	-0.25	-20.41	0.85
936	SLU 83	-92	-37	10136	0.1	-21.83	0.91
936	SLU 84	-90	-19	10075	-0.19	-20.97	0.86
936	SLE RA 1	-67	-24	6551	0.06	-12.35	0.54
936	SLE RA 2	-65	-3	6483	-0.25	-11.4	0.49
936	SLE RA 3	-68	-24	6666	0.13	-12.89	0.55
936	SLE RA 4	-67	-12	6625	-0.06	-12.31	0.52
936	SLE RA 5	-66	-4	6558	-0.21	-11.77	0.5
936	SLE RA 6	-69	-25	6740	0.17	-13.26	0.56
936	SLE RA 7	-67	-13	6700	-0.01	-12.68	0.53
936	SLE RA 8	-68	-25	6700	0.15	-13.1	0.56
936	SLE RA 9	-67	-12	6659	-0.04	-12.53	0.53
936	SLE RA 10	-66	-5	7042	-0.3	-13.34	0.57
936	SLE RA 11	-69	-26	7225	0.08	-14.83	0.63
936	SLE RA 12	-68	-14	7184	-0.11	-14.25	0.6
936	SLE RA 13	-67	-6	7117	-0.26	-13.71	0.57
936	SLE RA 14	-70	-27	7299	0.12	-15.2	0.64
936	SLE RA 15	-68	-15	7259	-0.07	-14.63	0.61
936	SLE RA 16	-69	-26	7259	0.1	-15.04	0.63
936	SLE RA 17	-68	-14	7218	-0.09	-14.47	0.6
936	SLE RA 18	-69	-26	7349	-0.01	-15.13	0.65
936	SLE RA 19	-67	-14	7309	-0.2	-14.55	0.62
936	SLE RA 20	-69	-27	7424	0.04	-15.5	0.66
936	SLE RA 21	-68	-15	7383	-0.15	-14.93	0.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
936	SLE FR 1	-67	-24	6551	0.06	-12.35	0.54
936	SLE FR 2	-67	-20	6537	0	-12.16	0.53
936	SLE FR 3	-67	-24	6581	0.08	-12.5	0.54
936	SLE FR 4	-67	-20	6777	-0.02	-12.99	0.56
936	SLE FR 5	-68	-25	6820	0.06	-13.34	0.58
936	SLE FR 6	-68	-25	6950	0.03	-13.74	0.6
936	SLE QP 1	-67	-24	6551	0.06	-12.35	0.54
936	SLE QP 2	-68	-24	6790	0.04	-13.19	0.57
936	SLD 1	595	158	6974	-2.72	10.28	-4.41
936	SLD 2	510	64	7049	-2.35	9.25	-2.04
936	SLD 3	544	-198	8288	3.19	-7.18	-3.02
936	SLD 4	458	-292	8362	3.57	-8.21	-0.66
936	SLD 5	225	587	4840	-9.83	20.53	-3.44
936	SLD 6	169	525	4890	-9.58	19.85	-1.89
936	SLD 7	53	-599	9218	9.89	-37.69	1.17
936	SLD 8	-4	-662	9267	10.14	-38.37	2.73
936	SLD 9	-131	613	4313	-10.06	12	-1.58
936	SLD 10	-188	550	4363	-9.81	11.31	-0.02
936	SLD 11	-304	-574	8691	9.66	-46.22	3.03
936	SLD 12	-360	-636	8740	9.91	-46.9	4.59
936	SLD 13	-593	243	5218	-3.49	-18.16	1.81
936	SLD 14	-679	149	5293	-3.11	-19.19	4.17
936	SLD 15	-645	-113	6532	2.43	-35.63	3.19
936	SLD 16	-730	-207	6606	2.81	-36.66	5.55
936	SLV 1	972	270	7040	-4.44	23.96	-7.25
936	SLV 2	838	122	7157	-3.85	22.35	-3.55
936	SLV 3	889	-304	9163	5.12	-4.26	-5.03
936	SLV 4	755	-452	9279	5.71	-5.88	-1.33
936	SLV 5	396	963	3625	-15.91	41.06	-5.84
936	SLV 6	305	863	3704	-15.52	39.98	-3.35
936	SLV 7	118	-952	10699	15.96	-53.01	1.58
936	SLV 8	28	-1052	10778	16.35	-54.1	4.07
936	SLV 9	-163	1003	2803	-16.27	27.73	-2.92
936	SLV 10	-253	903	2882	-15.87	26.64	-0.43
936	SLV 11	-440	-912	9877	15.6	-66.35	4.5
936	SLV 12	-531	-1012	9956	16	-67.43	6.99
936	SLV 13	-890	403	4301	-5.63	-20.5	2.48
936	SLV 14	-1024	255	4418	-5.04	-22.11	6.17
936	SLV 15	-973	-171	6423	3.93	-48.72	4.7
936	SLV 16	-1107	-319	6540	4.52	-50.33	8.4
936	SLV FO 1	1076	300	7065	-4.89	27.68	-8.03
936	SLV FO 2	928	137	7194	-4.24	25.9	-3.96
936	SLV FO 3	984	-332	9400	5.63	-3.37	-5.59
936	SLV FO 4	837	-495	9528	6.28	-5.14	-1.52
936	SLV FO 5	442	1062	3308	-17.51	46.49	-6.48
936	SLV FO 6	343	952	3395	-17.07	45.29	-3.74
936	SLV FO 7	137	-1045	11090	17.55	-56.99	1.68
936	SLV FO 8	37	-1155	11176	17.99	-58.19	4.42
936	SLV FO 9	-172	1106	2404	-17.9	31.82	-3.27
936	SLV FO 10	-272	996	2491	-17.47	30.62	-0.53
936	SLV FO 11	-478	-1001	10186	17.16	-71.66	4.89
936	SLV FO 12	-577	-1111	10272	17.59	-72.86	7.63
936	SLV FO 13	-972	446	4052	-6.19	-21.23	2.67
936	SLV FO 14	-1119	283	4181	-5.55	-23	6.73
936	SLV FO 15	-1063	-186	6387	4.32	-52.27	5.11
936	SLV FO 16	-1211	-349	6515	4.97	-54.05	9.18
936	CRTFP Ux+	0	0	0	0	0	0
936	CRTFP Ux-	0	0	0	0	0	0
936	CRTFP Uy+	0	0	0	0	0	0
936	CRTFP Uy-	0	0	0	0	0	0
938	SLU 1	-38	48	3224	3.91	-427.39	12.01
938	SLU 2	-37	70	3165	3.57	-419.77	17.4
938	SLU 3	-39	49	3310	4.07	-438.26	12.13
938	SLU 4	-38	62	3275	3.87	-433.69	15.36
938	SLU 5	-38	70	3221	3.68	-426.76	17.49
938	SLU 6	-40	49	3366	4.19	-445.24	12.22
938	SLU 7	-39	62	3331	3.98	-440.67	15.45
938	SLU 8	-39	49	3335	4.13	-441.36	12.18
938	SLU 9	-39	62	3300	3.93	-436.79	15.42
938	SLU 10	-39	77	3569	4.12	-470.43	19.14
938	SLU 11	-41	56	3714	4.63	-488.92	13.87
938	SLU 12	-41	69	3679	4.42	-484.35	17.1
938	SLU 13	-40	77	3624	4.23	-477.42	19.23
938	SLU 14	-42	56	3769	4.74	-495.9	13.95
938	SLU 15	-41	69	3734	4.54	-491.33	17.19
938	SLU 16	-41	56	3738	4.68	-492.02	13.92
938	SLU 17	-41	69	3703	4.48	-487.45	17.16
938	SLU 18	-41	58	3800	4.7	-499.76	14.49
938	SLU 19	-41	71	3765	4.49	-495.19	17.73
938	SLU 20	-42	59	3856	4.81	-506.74	14.58
938	SLU 21	-41	72	3820	4.6	-502.17	17.81
938	SLU 22	-43	53	3757	4.77	-494.41	13.22
938	SLU 23	-41	75	3699	4.43	-486.8	18.61
938	SLU 24	-43	54	3843	4.94	-505.28	13.34
938	SLU 25	-43	67	3808	4.74	-500.71	16.57
938	SLU 26	-42	75	3754	4.54	-493.78	18.69
938	SLU 27	-44	54	3899	5.05	-512.27	13.42
938	SLU 28	-43	67	3864	4.85	-507.7	16.66
938	SLU 29	-43	54	3868	4.99	-508.38	13.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
938	SLU 30	-43	67	3833	4.79	-503.82	16.63
938	SLU 31	-44	82	4102	4.98	-537.46	20.35
938	SLU 32	-46	61	4247	5.49	-555.94	15.07
938	SLU 33	-45	74	4212	5.29	-551.37	18.31
938	SLU 34	-44	82	4157	5.1	-544.44	20.43
938	SLU 35	-46	61	4302	5.6	-562.93	15.16
938	SLU 36	-45	74	4267	5.4	-558.36	18.4
938	SLU 37	-46	61	4271	5.55	-559.04	15.13
938	SLU 38	-45	74	4236	5.34	-554.47	18.36
938	SLU 39	-46	63	4333	5.56	-566.78	15.7
938	SLU 40	-45	76	4298	5.36	-562.21	18.93
938	SLU 41	-46	64	4389	5.67	-573.77	15.79
938	SLU 42	-45	76	4354	5.47	-569.2	19.02
938	SLU 43	-48	61	4008	4.78	-532.62	15.2
938	SLU 44	-47	83	3950	4.44	-525.01	20.59
938	SLU 45	-49	62	4095	4.95	-543.49	15.32
938	SLU 46	-49	74	4060	4.75	-538.92	18.55
938	SLU 47	-48	83	4005	4.55	-531.99	20.68
938	SLU 48	-50	62	4150	5.06	-550.48	15.41
938	SLU 49	-49	75	4115	4.86	-545.91	18.64
938	SLU 50	-49	62	4119	5.01	-546.59	15.37
938	SLU 51	-49	75	4084	4.8	-542.03	18.61
938	SLU 52	-49	90	4353	4.99	-575.67	22.33
938	SLU 53	-51	69	4498	5.5	-594.15	17.06
938	SLU 54	-51	82	4463	5.3	-589.58	20.29
938	SLU 55	-50	90	4409	5.11	-582.65	22.41
938	SLU 56	-52	69	4553	5.61	-601.14	17.14
938	SLU 57	-51	82	4518	5.41	-596.57	20.38
938	SLU 58	-52	69	4522	5.56	-597.25	17.11
938	SLU 59	-51	82	4487	5.35	-592.68	20.35
938	SLU 60	-51	71	4585	5.57	-604.99	17.68
938	SLU 61	-51	84	4550	5.37	-600.42	20.92
938	SLU 62	-52	71	4640	5.68	-611.98	17.77
938	SLU 63	-51	84	4605	5.48	-607.41	21
938	SLU 64	-53	66	4541	5.65	-599.65	16.41
938	SLU 65	-51	88	4483	5.31	-592.03	21.8
938	SLU 66	-53	66	4628	5.81	-610.52	16.53
938	SLU 67	-53	79	4593	5.61	-605.95	19.76
938	SLU 68	-52	88	4538	5.42	-599.02	21.88
938	SLU 69	-54	67	4683	5.93	-617.5	16.61
938	SLU 70	-53	80	4648	5.72	-612.94	19.85
938	SLU 71	-54	67	4652	5.87	-613.62	16.58
938	SLU 72	-53	80	4617	5.67	-609.05	19.81
938	SLU 73	-54	95	4886	5.86	-642.69	23.53
938	SLU 74	-56	73	5031	6.37	-661.18	18.26
938	SLU 75	-55	86	4996	6.16	-656.61	21.5
938	SLU 76	-54	95	4942	5.97	-649.68	23.62
938	SLU 77	-56	74	5086	6.48	-668.16	18.35
938	SLU 78	-55	87	5051	6.28	-663.59	21.59
938	SLU 79	-56	74	5056	6.42	-664.28	18.32
938	SLU 80	-55	87	5020	6.22	-659.71	21.55
938	SLU 81	-56	76	5118	6.44	-672.02	18.89
938	SLU 82	-55	89	5083	6.23	-667.45	22.12
938	SLU 83	-56	76	5173	6.55	-679	18.98
938	SLU 84	-55	89	5138	6.34	-674.44	22.21
938	SLE RA 1	-40	50	3376	4.15	-446.54	12.35
938	SLE RA 2	-39	64	3337	3.93	-441.46	15.95
938	SLE RA 3	-40	50	3434	4.27	-453.78	12.43
938	SLE RA 4	-40	59	3410	4.13	-450.74	14.59
938	SLE RA 5	-39	64	3374	4	-446.12	16.01
938	SLE RA 6	-40	50	3471	4.34	-458.44	12.49
938	SLE RA 7	-40	59	3447	4.2	-455.4	14.65
938	SLE RA 8	-40	50	3450	4.3	-455.85	12.47
938	SLE RA 9	-40	59	3427	4.17	-452.81	14.63
938	SLE RA 10	-40	69	3606	4.3	-475.23	17.11
938	SLE RA 11	-42	55	3703	4.63	-487.56	13.59
938	SLE RA 12	-41	63	3679	4.5	-484.51	15.75
938	SLE RA 13	-41	69	3643	4.37	-479.89	17.16
938	SLE RA 14	-42	55	3740	4.71	-492.21	13.65
938	SLE RA 15	-41	64	3716	4.57	-489.17	15.81
938	SLE RA 16	-42	55	3719	4.67	-489.62	13.63
938	SLE RA 17	-41	63	3696	4.54	-486.58	15.79
938	SLE RA 18	-42	56	3760	4.68	-494.78	14.01
938	SLE RA 19	-41	65	3737	4.54	-491.74	16.17
938	SLE RA 20	-42	57	3797	4.75	-499.44	14.07
938	SLE RA 21	-41	65	3774	4.62	-496.39	16.22
938	SLE FR 1	-40	50	3376	4.15	-446.54	12.35
938	SLE FR 2	-39	53	3368	4.11	-445.52	13.07
938	SLE FR 3	-40	50	3391	4.18	-448.4	12.38
938	SLE FR 4	-40	55	3484	4.27	-460	13.57
938	SLE FR 5	-40	52	3506	4.34	-462.87	12.87
938	SLE FR 6	-41	53	3568	4.42	-470.66	13.18
938	SLE QP 1	-40	50	3376	4.15	-446.54	12.35
938	SLE QP 2	-40	52	3492	4.31	-461.01	12.85
938	SLD 1	294	188	4048	3.35	-524.39	46.63
938	SLD 2	248	80	4112	3.73	-532.38	19.93
938	SLD 3	270	-61	4811	7.74	-624	-15.38
938	SLD 4	224	-168	4874	8.12	-632	-42.08
938	SLD 5	105	489	2491	-2.69	-327.51	121.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
938	SLD 6	74	418	2533	-2.44	-332.79	104.21
938	SLD 7	25	-340	5032	11.92	-659.55	-84.85
938	SLD 8	-6	-411	5074	12.17	-664.82	-102.48
938	SLD 9	-75	514	1909	-3.55	-257.2	128.18
938	SLD 10	-105	443	1951	-3.3	-262.48	110.56
938	SLD 11	-155	-315	4450	11.07	-589.24	-78.51
938	SLD 12	-185	-386	4492	11.32	-594.51	-96.14
938	SLD 13	-304	272	2109	0.51	-290.03	67.78
938	SLD 14	-350	164	2172	0.88	-298.02	41.08
938	SLD 15	-328	23	2871	4.89	-389.64	5.77
938	SLD 16	-374	-85	2935	5.27	-397.63	-20.93
938	SLV 1	483	271	4339	2.69	-557.07	67.32
938	SLV 2	411	103	4438	3.29	-569.59	25.49
938	SLV 3	445	-130	5570	9.78	-718.02	-32.83
938	SLV 4	373	-299	5670	10.37	-730.54	-74.66
938	SLV 5	189	758	1859	-7.03	-243.38	188.9
938	SLV 6	141	644	1926	-6.63	-251.81	160.74
938	SLV 7	60	-580	5964	16.58	-779.88	-144.95
938	SLV 8	12	-694	6031	16.98	-788.32	-173.11
938	SLV 9	-92	797	952	-8.36	-133.71	198.81
938	SLV 10	-140	684	1019	-7.96	-142.14	170.65
938	SLV 11	-221	-541	5057	15.25	-670.21	-135.03
938	SLV 12	-269	-655	5124	15.65	-678.64	-163.2
938	SLV 13	-453	402	1313	-1.75	-191.48	100.36
938	SLV 14	-525	234	1413	-1.16	-204	58.53
938	SLV 15	-492	1	2545	5.34	-352.43	0.21
938	SLV 16	-564	-168	2645	5.93	-364.95	-41.62
938	SLV FO 1	536	293	4423	2.53	-566.68	72.77
938	SLV FO 2	456	108	4533	3.18	-580.45	26.76
938	SLV FO 3	493	-148	5778	10.32	-743.72	-37.4
938	SLV FO 4	414	-334	5887	10.97	-757.5	-83.41
938	SLV FO 5	212	829	1696	-8.16	-221.62	206.5
938	SLV FO 6	159	704	1770	-7.72	-230.9	175.53
938	SLV FO 7	70	-644	6211	17.81	-811.77	-160.73
938	SLV FO 8	17	-768	6285	18.25	-821.05	-191.7
938	SLV FO 9	-97	872	698	-9.63	-100.98	217.4
938	SLV FO 10	-150	747	772	-9.19	-110.25	186.43
938	SLV FO 11	-239	-600	5213	16.35	-691.13	-149.82
938	SLV FO 12	-292	-725	5287	16.78	-700.4	-180.8
938	SLV FO 13	-494	437	1096	-2.35	-164.52	109.11
938	SLV FO 14	-573	252	1205	-1.7	-178.3	63.1
938	SLV FO 15	-537	-4	2450	5.44	-341.57	-1.06
938	SLV FO 16	-616	-190	2560	6.09	-355.34	-47.07
938	CRTFP Ux+	0	0	0	0	0	0
938	CRTFP Ux-	0	0	0	0	0	0
938	CRTFP Uy+	0	0	0	0	0	0
938	CRTFP Uy-	0	0	0	0	0	0
941	SLU 1	146	53	6439	1.65	36.01	-0.71
941	SLU 2	140	83	6319	1.16	34.29	-0.65
941	SLU 3	152	54	6631	1.79	37.63	-0.74
941	SLU 4	149	72	6559	1.5	36.6	-0.71
941	SLU 5	145	84	6447	1.26	35.29	-0.68
941	SLU 6	156	55	6759	1.88	38.64	-0.77
941	SLU 7	153	73	6687	1.59	37.61	-0.74
941	SLU 8	155	55	6696	1.84	38.02	-0.77
941	SLU 9	151	72	6624	1.54	36.99	-0.73
941	SLU 10	154	91	7191	1.35	40.9	-0.78
941	SLU 11	166	63	7503	1.97	44.25	-0.87
941	SLU 12	162	81	7431	1.68	43.22	-0.83
941	SLU 13	158	92	7320	1.45	41.91	-0.81
941	SLU 14	170	64	7632	2.07	45.25	-0.9
941	SLU 15	167	81	7560	1.78	44.22	-0.86
941	SLU 16	169	63	7568	2.02	44.63	-0.89
941	SLU 17	165	81	7496	1.73	43.6	-0.86
941	SLU 18	166	65	7685	1.92	45.46	-0.89
941	SLU 19	162	83	7613	1.63	44.42	-0.86
941	SLU 20	170	66	7813	2.01	46.46	-0.92
941	SLU 21	167	84	7741	1.72	45.43	-0.89
941	SLU 22	169	61	7577	2.15	44.94	-0.83
941	SLU 23	163	91	7457	1.66	43.22	-0.77
941	SLU 24	175	62	7769	2.28	46.57	-0.86
941	SLU 25	171	80	7697	1.99	45.54	-0.83
941	SLU 26	167	92	7585	1.76	44.23	-0.8
941	SLU 27	179	63	7897	2.38	47.58	-0.89
941	SLU 28	176	81	7825	2.09	46.54	-0.86
941	SLU 29	178	63	7834	2.33	46.95	-0.89
941	SLU 30	174	80	7762	2.04	45.92	-0.85
941	SLU 31	177	99	8329	1.85	49.84	-0.9
941	SLU 32	189	71	8641	2.47	53.18	-0.99
941	SLU 33	185	89	8569	2.18	52.15	-0.95
941	SLU 34	181	100	8458	1.94	50.84	-0.93
941	SLU 35	193	71	8769	2.56	54.19	-1.02
941	SLU 36	189	89	8698	2.27	53.16	-0.98
941	SLU 37	191	71	8706	2.52	53.57	-1.01
941	SLU 38	188	89	8634	2.23	52.54	-0.98
941	SLU 39	189	73	8823	2.41	54.39	-1.01
941	SLU 40	185	91	8751	2.12	53.36	-0.98
941	SLU 41	193	74	8951	2.51	55.4	-1.04
941	SLU 42	189	92	8879	2.22	54.37	-1.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
941	SLU 43	182	67	7980	1.97	43.75	-0.88
941	SLU 44	176	96	7860	1.49	42.03	-0.83
941	SLU 45	188	68	8172	2.11	45.37	-0.91
941	SLU 46	185	86	8100	1.82	44.34	-0.88
941	SLU 47	181	97	7989	1.58	43.03	-0.85
941	SLU 48	193	68	8301	2.2	46.38	-0.94
941	SLU 49	189	86	8229	1.91	45.35	-0.91
941	SLU 50	191	68	8237	2.16	45.76	-0.94
941	SLU 51	187	86	8166	1.87	44.73	-0.91
941	SLU 52	190	105	8732	1.68	48.64	-0.95
941	SLU 53	202	76	9044	2.3	51.99	-1.04
941	SLU 54	198	94	8972	2.01	50.96	-1.01
941	SLU 55	195	105	8861	1.77	49.65	-0.98
941	SLU 56	206	77	9173	2.39	52.99	-1.07
941	SLU 57	203	95	9101	2.1	51.96	-1.04
941	SLU 58	205	76	9110	2.35	52.37	-1.07
941	SLU 59	201	94	9038	2.06	51.34	-1.03
941	SLU 60	202	78	9226	2.24	53.2	-1.06
941	SLU 61	198	96	9154	1.95	52.16	-1.03
941	SLU 62	206	79	9355	2.33	54.2	-1.09
941	SLU 63	203	97	9283	2.04	53.17	-1.06
941	SLU 64	205	74	9118	2.47	52.68	-1
941	SLU 65	199	104	8998	1.99	50.96	-0.95
941	SLU 66	211	76	9310	2.61	54.31	-1.03
941	SLU 67	207	93	9238	2.32	53.28	-1
941	SLU 68	203	105	9127	2.08	51.97	-0.97
941	SLU 69	215	76	9439	2.7	55.31	-1.06
941	SLU 70	212	94	9367	2.41	54.28	-1.03
941	SLU 71	214	76	9375	2.66	54.69	-1.06
941	SLU 72	210	94	9304	2.37	53.66	-1.03
941	SLU 73	213	113	9870	2.17	57.58	-1.07
941	SLU 74	225	84	10182	2.8	60.92	-1.16
941	SLU 75	221	102	10110	2.51	59.89	-1.13
941	SLU 76	217	113	9999	2.27	58.58	-1.1
941	SLU 77	229	85	10311	2.89	61.93	-1.19
941	SLU 78	226	103	10239	2.6	60.9	-1.16
941	SLU 79	228	84	10248	2.85	61.31	-1.19
941	SLU 80	224	102	10176	2.55	60.28	-1.15
941	SLU 81	225	86	10364	2.74	62.13	-1.18
941	SLU 82	221	104	10292	2.45	61.1	-1.15
941	SLU 83	229	87	10493	2.83	63.14	-1.21
941	SLU 84	226	105	10421	2.54	62.1	-1.18
941	SLE RA 1	153	56	6764	1.79	38.56	-0.74
941	SLE RA 2	149	75	6684	1.47	37.41	-0.71
941	SLE RA 3	157	56	6892	1.88	39.64	-0.76
941	SLE RA 4	154	68	6844	1.69	38.96	-0.74
941	SLE RA 5	152	76	6770	1.53	38.09	-0.73
941	SLE RA 6	160	57	6978	1.94	40.32	-0.78
941	SLE RA 7	157	69	6930	1.75	39.63	-0.76
941	SLE RA 8	158	56	6935	1.91	39.9	-0.78
941	SLE RA 9	156	68	6887	1.72	39.21	-0.76
941	SLE RA 10	158	81	7265	1.59	41.82	-0.79
941	SLE RA 11	166	62	7473	2.01	44.05	-0.85
941	SLE RA 12	163	74	7425	1.81	43.37	-0.83
941	SLE RA 13	161	81	7351	1.66	42.49	-0.81
941	SLE RA 14	169	62	7559	2.07	44.72	-0.87
941	SLE RA 15	166	74	7511	1.88	44.04	-0.85
941	SLE RA 16	168	62	7517	2.04	44.31	-0.87
941	SLE RA 17	165	74	7469	1.85	43.62	-0.84
941	SLE RA 18	166	64	7594	1.97	44.86	-0.86
941	SLE RA 19	163	75	7546	1.78	44.17	-0.84
941	SLE RA 20	169	64	7680	2.03	45.53	-0.88
941	SLE RA 21	166	76	7632	1.84	44.84	-0.86
941	SLE FR 1	153	56	6764	1.79	38.56	-0.74
941	SLE FR 2	152	59	6748	1.73	38.33	-0.74
941	SLE FR 3	154	56	6798	1.82	38.83	-0.75
941	SLE FR 4	156	62	6997	1.78	40.22	-0.77
941	SLE FR 5	158	58	7047	1.87	40.72	-0.79
941	SLE FR 6	159	60	7179	1.88	41.71	-0.8
941	SLE QP 1	153	56	6764	1.79	38.56	-0.74
941	SLE QP 2	157	58	7013	1.84	40.45	-0.78
941	SLD 1	725	135	5444	-1.75	23.83	-4.68
941	SLD 2	633	227	5353	-2.18	25.28	-2.56
941	SLD 3	793	-192	6975	4.18	45.49	-5.19
941	SLD 4	701	-100	6884	3.75	46.95	-3.07
941	SLD 5	241	561	4237	-8.15	2.35	-1.56
941	SLD 6	180	621	4176	-8.43	3.31	-0.16
941	SLD 7	467	-530	9340	11.61	74.56	-3.25
941	SLD 8	406	-469	9280	11.33	75.52	-1.86
941	SLD 9	-93	585	4746	-7.64	5.38	0.3
941	SLD 10	-153	646	4686	-7.93	6.34	1.7
941	SLD 11	133	-506	9850	12.12	77.6	-1.4
941	SLD 12	72	-445	9789	11.83	78.56	0
941	SLD 13	-387	216	7142	-0.06	33.95	1.51
941	SLD 14	-479	308	7051	-0.49	35.41	3.63
941	SLD 15	-320	-111	8673	5.87	55.62	1
941	SLD 16	-412	-19	8582	5.44	57.07	3.12
941	SLV 1	1045	187	4522	-3.92	13.67	-6.86
941	SLV 2	901	331	4379	-4.61	15.94	-3.55



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
941	SLV 3	1155	-342	6998	5.66	48.69	-7.7
941	SLV 4	1011	-198	6854	4.98	50.97	-4.38
941	SLV 5	284	873	2537	-14.29	-21.13	-1.95
941	SLV 6	186	970	2441	-14.75	-19.59	0.28
941	SLV 7	650	-892	10790	17.65	95.61	-4.75
941	SLV 8	553	-795	10694	17.19	97.15	-2.51
941	SLV 9	-239	911	3332	-13.5	-16.25	0.95
941	SLV 10	-336	1008	3236	-13.96	-14.71	3.19
941	SLV 11	127	-854	11585	18.44	100.5	-1.84
941	SLV 12	30	-757	11489	17.98	102.03	0.39
941	SLV 13	-698	314	7172	-1.29	29.93	2.83
941	SLV 14	-842	458	7028	-1.97	32.21	6.14
941	SLV 15	-588	-215	9647	8.29	64.96	1.99
941	SLV 16	-732	-71	9504	7.61	67.24	5.31
941	SLV FO 1	1134	200	4273	-4.5	10.99	-7.47
941	SLV FO 2	975	358	4115	-5.25	13.49	-3.82
941	SLV FO 3	1255	-382	6996	6.04	49.51	-8.39
941	SLV FO 4	1096	-224	6839	5.29	52.02	-4.74
941	SLV FO 5	296	954	2090	-15.91	-27.29	-2.07
941	SLV FO 6	189	1061	1984	-16.41	-25.6	0.39
941	SLV FO 7	699	-987	11168	19.23	101.13	-5.14
941	SLV FO 8	592	-880	11062	18.72	102.82	-2.69
941	SLV FO 9	-279	996	2964	-15.04	-21.92	1.13
941	SLV FO 10	-386	1103	2858	-15.54	-20.23	3.59
941	SLV FO 11	124	-945	12042	20.1	106.5	-1.95
941	SLV FO 12	17	-838	11936	19.59	108.19	0.51
941	SLV FO 13	-783	340	7187	-1.6	28.88	3.19
941	SLV FO 14	-942	498	7030	-2.35	31.39	6.84
941	SLV FO 15	-662	-242	9911	8.94	67.41	2.26
941	SLV FO 16	-821	-84	9753	8.19	69.91	5.91
941	CRTFP Ux+	0	0	0	0	0	0
941	CRTFP Ux-	0	0	0	0	0	0
941	CRTFP Uy+	0	0	0	0	0	0
941	CRTFP Uy-	0	0	0	0	0	0
944	SLU 1	-29	25	5406	2.38	92.37	0.2
944	SLU 2	-28	54	5321	1.9	91.5	0.16
944	SLU 3	-30	25	5554	2.55	95.59	0.2
944	SLU 4	-30	43	5504	2.27	95.07	0.17
944	SLU 5	-29	54	5417	2.02	93.58	0.15
944	SLU 6	-31	25	5650	2.67	97.67	0.2
944	SLU 7	-30	42	5600	2.38	97.16	0.17
944	SLU 8	-30	25	5598	2.61	96.53	0.2
944	SLU 9	-30	42	5547	2.32	96.01	0.17
944	SLU 10	-32	54	6060	2.17	103.96	0.12
944	SLU 11	-34	24	6294	2.82	108.05	0.17
944	SLU 12	-34	42	6243	2.53	107.53	0.14
944	SLU 13	-33	53	6156	2.29	106.04	0.12
944	SLU 14	-35	24	6389	2.93	110.14	0.16
944	SLU 15	-34	42	6339	2.65	109.62	0.14
944	SLU 16	-34	24	6337	2.87	108.99	0.16
944	SLU 17	-34	42	6286	2.59	108.47	0.14
944	SLU 18	-35	24	6462	2.76	110.17	0.15
944	SLU 19	-34	42	6411	2.47	109.65	0.12
944	SLU 20	-36	24	6558	2.87	112.25	0.15
944	SLU 21	-35	42	6507	2.59	111.73	0.12
944	SLU 22	-35	26	6354	3.03	108.87	0.18
944	SLU 23	-34	55	6269	2.55	108	0.14
944	SLU 24	-36	26	6502	3.2	112.1	0.18
944	SLU 25	-36	44	6451	2.92	111.58	0.15
944	SLU 26	-35	55	6365	2.67	110.09	0.13
944	SLU 27	-37	26	6598	3.32	114.18	0.18
944	SLU 28	-36	44	6547	3.03	113.66	0.15
944	SLU 29	-36	26	6545	3.26	113.04	0.18
944	SLU 30	-36	43	6495	2.97	112.52	0.15
944	SLU 31	-38	55	7008	2.82	120.47	0.1
944	SLU 32	-40	26	7241	3.47	124.56	0.15
944	SLU 33	-40	43	7191	3.18	124.04	0.12
944	SLU 34	-39	55	7104	2.94	122.55	0.1
944	SLU 35	-41	26	7337	3.58	126.64	0.14
944	SLU 36	-40	43	7286	3.3	126.12	0.12
944	SLU 37	-40	25	7284	3.52	125.5	0.14
944	SLU 38	-40	43	7234	3.24	124.98	0.12
944	SLU 39	-41	25	7409	3.41	126.67	0.13
944	SLU 40	-40	43	7359	3.12	126.15	0.1
944	SLU 41	-42	25	7505	3.52	128.75	0.13
944	SLU 42	-41	43	7454	3.24	128.24	0.1
944	SLU 43	-36	32	6703	2.87	114.42	0.27
944	SLU 44	-35	61	6618	2.39	113.55	0.22
944	SLU 45	-37	32	6851	3.04	117.64	0.27
944	SLU 46	-36	50	6801	2.76	117.12	0.24
944	SLU 47	-35	61	6714	2.51	115.63	0.22
944	SLU 48	-37	32	6947	3.16	119.73	0.27
944	SLU 49	-37	49	6896	2.87	119.21	0.24
944	SLU 50	-37	32	6894	3.1	118.58	0.27
944	SLU 51	-36	49	6844	2.81	118.06	0.24
944	SLU 52	-39	61	7357	2.66	126.01	0.19
944	SLU 53	-41	31	7590	3.31	130.1	0.23
944	SLU 54	-40	49	7540	3.02	129.58	0.21
944	SLU 55	-40	61	7453	2.78	128.09	0.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
944	SLU 56	-42	31	7686	3.42	132.19	0.23
944	SLU 57	-41	49	7636	3.14	131.67	0.2
944	SLU 58	-41	31	7633	3.36	131.04	0.23
944	SLU 59	-40	49	7583	3.08	130.52	0.2
944	SLU 60	-42	31	7758	3.25	132.22	0.22
944	SLU 61	-41	49	7708	2.96	131.7	0.19
944	SLU 62	-42	31	7854	3.36	134.3	0.22
944	SLU 63	-42	49	7804	3.08	133.78	0.19
944	SLU 64	-42	33	7650	3.52	130.92	0.25
944	SLU 65	-41	62	7566	3.04	130.06	0.2
944	SLU 66	-43	33	7799	3.69	134.15	0.25
944	SLU 67	-42	51	7748	3.41	133.63	0.22
944	SLU 68	-41	62	7662	3.16	132.14	0.2
944	SLU 69	-43	33	7895	3.81	136.23	0.25
944	SLU 70	-43	51	7844	3.52	135.71	0.22
944	SLU 71	-43	33	7842	3.75	135.09	0.24
944	SLU 72	-42	50	7791	3.46	134.57	0.22
944	SLU 73	-45	62	8305	3.31	142.52	0.17
944	SLU 74	-47	33	8538	3.96	146.61	0.21
944	SLU 75	-46	50	8487	3.67	146.09	0.19
944	SLU 76	-46	62	8401	3.43	144.6	0.17
944	SLU 77	-48	33	8634	4.07	148.69	0.21
944	SLU 78	-47	50	8583	3.79	148.17	0.18
944	SLU 79	-47	32	8581	4.01	147.55	0.21
944	SLU 80	-46	50	8530	3.73	147.03	0.18
944	SLU 81	-48	32	8706	3.9	148.72	0.2
944	SLU 82	-47	50	8655	3.61	148.2	0.17
944	SLU 83	-48	32	8802	4.01	150.81	0.2
944	SLU 84	-48	50	8751	3.73	150.29	0.17
944	SLE RA 1	-31	25	5677	2.56	97.08	0.2
944	SLE RA 2	-30	45	5620	2.25	96.5	0.17
944	SLE RA 3	-32	25	5776	2.68	99.23	0.2
944	SLE RA 4	-31	37	5742	2.49	98.89	0.18
944	SLE RA 5	-31	45	5684	2.32	97.89	0.16
944	SLE RA 6	-32	25	5840	2.76	100.62	0.19
944	SLE RA 7	-32	37	5806	2.57	100.27	0.18
944	SLE RA 8	-32	25	5804	2.72	99.86	0.19
944	SLE RA 9	-31	37	5771	2.53	99.51	0.17
944	SLE RA 10	-33	44	6113	2.42	104.81	0.14
944	SLE RA 11	-34	25	6268	2.86	107.54	0.17
944	SLE RA 12	-34	37	6235	2.67	107.19	0.15
944	SLE RA 13	-33	44	6177	2.5	106.2	0.14
944	SLE RA 14	-35	25	6332	2.93	108.93	0.17
944	SLE RA 15	-34	37	6299	2.74	108.58	0.15
944	SLE RA 16	-34	25	6297	2.89	108.17	0.17
944	SLE RA 17	-34	36	6263	2.7	107.82	0.15
944	SLE RA 18	-35	25	6380	2.81	108.95	0.16
944	SLE RA 19	-34	36	6347	2.63	108.6	0.14
944	SLE RA 20	-35	25	6444	2.89	110.34	0.16
944	SLE RA 21	-35	36	6411	2.7	109.99	0.14
944	SLE FR 1	-31	25	5677	2.56	97.08	0.2
944	SLE FR 2	-31	29	5665	2.5	96.97	0.19
944	SLE FR 3	-31	25	5702	2.59	97.64	0.19
944	SLE FR 4	-32	29	5876	2.57	100.53	0.18
944	SLE FR 5	-32	25	5913	2.67	101.2	0.19
944	SLE FR 6	-33	25	6029	2.69	103.02	0.18
944	SLE QP 1	-31	25	5677	2.56	97.08	0.2
944	SLE QP 2	-32	25	5888	2.64	100.64	0.19
944	SLD 1	629	226	5643	-0.53	91.98	-5.01
944	SLD 2	545	195	5658	-0.34	92.85	-2.66
944	SLD 3	603	-121	6729	5.34	104.02	-4.05
944	SLD 4	518	-152	6744	5.53	104.9	-1.7
944	SLD 5	221	617	4164	-7.25	79.62	-3.25
944	SLD 6	166	597	4174	-7.12	80.19	-1.7
944	SLD 7	134	-539	7785	12.31	119.77	-0.05
944	SLD 8	78	-560	7795	12.44	120.34	1.5
944	SLD 9	-142	610	3980	-7.16	80.94	-1.13
944	SLD 10	-198	589	3990	-7.04	81.52	0.42
944	SLD 11	-230	-546	7602	12.39	121.09	2.07
944	SLD 12	-286	-567	7612	12.52	121.67	3.62
944	SLD 13	-582	202	5032	-0.25	96.39	2.07
944	SLD 14	-667	171	5046	-0.06	97.26	4.42
944	SLD 15	-609	-145	6118	5.61	108.43	3.03
944	SLD 16	-693	-176	6133	5.81	109.31	5.38
944	SLV 1	1004	349	5474	-2.47	86.39	-7.98
944	SLV 2	871	300	5498	-2.18	87.76	-4.3
944	SLV 3	961	-211	7231	7.01	105.87	-6.43
944	SLV 4	829	-260	7254	7.31	107.24	-2.75
944	SLV 5	368	981	3096	-13.33	66.57	-5.29
944	SLV 6	278	948	3111	-13.13	67.49	-2.81
944	SLV 7	226	-887	8950	18.27	131.49	-0.15
944	SLV 8	137	-920	8966	18.48	132.42	2.33
944	SLV 9	-201	970	2810	-13.2	68.87	-1.96
944	SLV 10	-291	937	2825	-13	69.79	0.52
944	SLV 11	-343	-898	8664	18.41	133.79	3.18
944	SLV 12	-432	-931	8680	18.61	134.71	5.66
944	SLV 13	-893	311	4521	-2.03	94.05	3.12
944	SLV 14	-1025	262	4545	-1.73	95.42	6.81
944	SLV 15	-935	-250	6278	7.45	113.52	4.67



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
944	SLV 16	-1068	-299	6301	7.75	114.89	8.35
944	SLV FO 1	1107	381	5433	-2.99	84.97	-8.79
944	SLV FO 2	961	327	5459	-2.66	86.47	-4.74
944	SLV FO 3	1061	-235	7365	7.45	106.39	-7.1
944	SLV FO 4	915	-289	7391	7.77	107.9	-3.05
944	SLV FO 5	408	1077	2816	-14.93	63.16	-5.84
944	SLV FO 6	309	1041	2834	-14.71	64.18	-3.11
944	SLV FO 7	252	-978	9256	19.84	134.58	-0.18
944	SLV FO 8	154	-1014	9274	20.06	135.59	2.55
944	SLV FO 9	-218	1064	2502	-14.79	65.69	-2.18
944	SLV FO 10	-316	1028	2519	-14.56	66.7	0.55
944	SLV FO 11	-374	-990	8942	19.98	137.11	3.48
944	SLV FO 12	-472	-1027	8959	20.21	138.12	6.21
944	SLV FO 13	-979	339	4385	-2.5	93.39	3.42
944	SLV FO 14	-1125	285	4410	-2.17	94.89	7.47
944	SLV FO 15	-1026	-277	6317	7.93	114.81	5.12
944	SLV FO 16	-1171	-331	6342	8.26	116.32	9.17
944	CRTFP Ux+	0	0	0	0	0	0
944	CRTFP Ux-	0	0	0	0	0	0
944	CRTFP Uy+	0	0	0	0	0	0
944	CRTFP Uy-	0	0	0	0	0	0
947	SLU 1	-1	172	4199	5.08	-24.71	-1.28
947	SLU 2	-3	201	4128	4.61	-24.6	-1.26
947	SLU 3	-1	175	4304	5.35	-25.5	-1.33
947	SLU 4	-2	193	4261	5.07	-25.43	-1.32
947	SLU 5	-3	203	4196	4.78	-25.12	-1.3
947	SLU 6	-1	176	4371	5.52	-26.03	-1.37
947	SLU 7	-2	194	4329	5.24	-25.96	-1.36
947	SLU 8	-1	174	4334	5.43	-25.77	-1.36
947	SLU 9	-2	192	4292	5.14	-25.7	-1.35
947	SLU 10	-4	219	4697	5.25	-27.63	-1.42
947	SLU 11	-3	192	4872	5.99	-28.53	-1.48
947	SLU 12	-3	210	4830	5.71	-28.46	-1.47
947	SLU 13	-4	220	4765	5.43	-28.16	-1.46
947	SLU 14	-2	194	4940	6.17	-29.06	-1.52
947	SLU 15	-3	211	4898	5.88	-28.99	-1.52
947	SLU 16	-2	192	4903	6.07	-28.8	-1.51
947	SLU 17	-3	210	4860	5.79	-28.73	-1.5
947	SLU 18	-3	197	5011	6	-29.05	-1.5
947	SLU 19	-4	214	4969	5.72	-28.98	-1.49
947	SLU 20	-3	198	5079	6.17	-29.58	-1.54
947	SLU 21	-4	216	5036	5.89	-29.5	-1.53
947	SLU 22	-4	194	4916	6.22	-28.6	-1.5
947	SLU 23	-5	224	4845	5.74	-28.48	-1.49
947	SLU 24	-3	197	5021	6.48	-29.38	-1.56
947	SLU 25	-4	215	4978	6.2	-29.31	-1.55
947	SLU 26	-5	225	4913	5.92	-29.01	-1.53
947	SLU 27	-3	199	5088	6.66	-29.91	-1.6
947	SLU 28	-4	216	5046	6.37	-29.84	-1.59
947	SLU 29	-3	197	5051	6.56	-29.65	-1.58
947	SLU 30	-4	215	5009	6.28	-29.58	-1.58
947	SLU 31	-6	241	5414	6.39	-31.51	-1.64
947	SLU 32	-5	215	5589	7.13	-32.42	-1.71
947	SLU 33	-6	233	5547	6.84	-32.34	-1.7
947	SLU 34	-6	243	5481	6.56	-32.04	-1.68
947	SLU 35	-4	216	5657	7.3	-32.94	-1.75
947	SLU 36	-5	234	5614	7.02	-32.87	-1.74
947	SLU 37	-4	214	5620	7.21	-32.69	-1.74
947	SLU 38	-5	232	5577	6.92	-32.62	-1.73
947	SLU 39	-5	219	5728	7.14	-32.93	-1.72
947	SLU 40	-6	237	5686	6.85	-32.86	-1.72
947	SLU 41	-5	220	5796	7.31	-33.46	-1.76
947	SLU 42	-6	238	5753	7.02	-33.39	-1.76
947	SLU 43	-1	215	5213	6.22	-30.8	-1.58
947	SLU 44	-3	245	5142	5.75	-30.68	-1.57
947	SLU 45	-1	218	5318	6.49	-31.58	-1.63
947	SLU 46	-2	236	5275	6.2	-31.51	-1.63
947	SLU 47	-2	246	5210	5.92	-31.21	-1.61
947	SLU 48	-1	220	5385	6.66	-32.11	-1.67
947	SLU 49	-2	238	5343	6.37	-32.04	-1.67
947	SLU 50	-1	218	5348	6.56	-31.85	-1.66
947	SLU 51	-1	236	5306	6.28	-31.78	-1.65
947	SLU 52	-4	263	5711	6.39	-33.71	-1.72
947	SLU 53	-2	236	5886	7.13	-34.62	-1.79
947	SLU 54	-3	254	5844	6.85	-34.54	-1.78
947	SLU 55	-4	264	5779	6.56	-34.24	-1.76
947	SLU 56	-2	237	5954	7.3	-35.14	-1.83
947	SLU 57	-3	255	5911	7.02	-35.07	-1.82
947	SLU 58	-2	236	5917	7.21	-34.89	-1.82
947	SLU 59	-3	253	5874	6.92	-34.82	-1.81
947	SLU 60	-3	240	6025	7.14	-35.13	-1.8
947	SLU 61	-4	258	5983	6.85	-35.06	-1.79
947	SLU 62	-3	242	6093	7.31	-35.66	-1.84
947	SLU 63	-4	259	6050	7.03	-35.59	-1.83
947	SLU 64	-3	238	5930	7.35	-34.68	-1.81
947	SLU 65	-5	268	5859	6.88	-34.56	-1.79
947	SLU 66	-3	241	6035	7.62	-35.47	-1.86
947	SLU 67	-4	259	5992	7.34	-35.4	-1.85
947	SLU 68	-4	269	5927	7.05	-35.09	-1.83



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
947	SLU 69	-3	242	6102	7.79	-35.99	-1.9
947	SLU 70	-4	260	6060	7.51	-35.92	-1.89
947	SLU 71	-3	241	6065	7.7	-35.74	-1.89
947	SLU 72	-4	258	6023	7.41	-35.67	-1.88
947	SLU 73	-6	285	6428	7.52	-37.6	-1.95
947	SLU 74	-4	258	6603	8.26	-38.5	-2.02
947	SLU 75	-5	276	6561	7.98	-38.43	-2.01
947	SLU 76	-6	286	6495	7.7	-38.12	-1.99
947	SLU 77	-4	260	6671	8.44	-39.03	-2.06
947	SLU 78	-5	278	6628	8.15	-38.96	-2.05
947	SLU 79	-4	258	6634	8.34	-38.77	-2.04
947	SLU 80	-5	276	6591	8.06	-38.7	-2.04
947	SLU 81	-5	263	6742	8.27	-39.01	-2.03
947	SLU 82	-6	281	6700	7.99	-38.94	-2.02
947	SLU 83	-5	264	6810	8.44	-39.54	-2.07
947	SLU 84	-6	282	6767	8.16	-39.47	-2.06
947	SLE RA 1	-2	178	4404	5.41	-25.82	-1.34
947	SLE RA 2	-3	198	4357	5.09	-25.75	-1.33
947	SLE RA 3	-2	180	4474	5.59	-26.35	-1.38
947	SLE RA 4	-3	192	4445	5.4	-26.3	-1.37
947	SLE RA 5	-3	199	4402	5.21	-26.1	-1.36
947	SLE RA 6	-2	181	4519	5.7	-26.7	-1.4
947	SLE RA 7	-2	193	4491	5.51	-26.65	-1.4
947	SLE RA 8	-2	180	4494	5.64	-26.53	-1.4
947	SLE RA 9	-2	192	4466	5.45	-26.48	-1.39
947	SLE RA 10	-4	209	4736	5.52	-27.77	-1.43
947	SLE RA 11	-3	192	4853	6.01	-28.37	-1.48
947	SLE RA 12	-3	204	4824	5.82	-28.32	-1.47
947	SLE RA 13	-4	210	4781	5.64	-28.12	-1.46
947	SLE RA 14	-3	193	4898	6.13	-28.72	-1.51
947	SLE RA 15	-3	205	4870	5.94	-28.67	-1.5
947	SLE RA 16	-3	191	4873	6.07	-28.55	-1.5
947	SLE RA 17	-3	203	4845	5.88	-28.5	-1.49
947	SLE RA 18	-3	195	4945	6.02	-28.71	-1.49
947	SLE RA 19	-4	207	4917	5.83	-28.67	-1.48
947	SLE RA 20	-3	196	4990	6.13	-29.06	-1.52
947	SLE RA 21	-4	207	4962	5.95	-29.02	-1.51
947	SLE FR 1	-2	178	4404	5.41	-25.82	-1.34
947	SLE FR 2	-2	182	4395	5.34	-25.81	-1.34
947	SLE FR 3	-2	178	4422	5.45	-25.97	-1.35
947	SLE FR 4	-3	187	4557	5.53	-26.68	-1.38
947	SLE FR 5	-2	183	4584	5.64	-26.83	-1.4
947	SLE FR 6	-3	186	4675	5.71	-27.27	-1.41
947	SLE QP 1	-2	178	4404	5.41	-25.82	-1.34
947	SLE QP 2	-2	183	4566	5.59	-26.69	-1.39
947	SLD 1	638	313	3700	2.6	-1.9	-5.66
947	SLD 2	554	347	3698	2.46	-1.83	-3.35
947	SLD 3	650	-32	4591	8.42	-3.5	-5.93
947	SLD 4	566	2	4589	8.28	-3.43	-3.62
947	SLD 5	187	739	2956	-4.12	-16.84	-2.68
947	SLD 6	131	762	2955	-4.21	-16.8	-1.15
947	SLD 7	227	-411	5925	15.3	-22.17	-3.57
947	SLD 8	171	-388	5923	15.21	-22.12	-2.05
947	SLD 9	-176	754	3209	-4.03	-31.26	-0.72
947	SLD 10	-232	777	3208	-4.12	-31.21	0.8
947	SLD 11	-136	-396	6178	15.39	-36.59	-1.62
947	SLD 12	-192	-373	6177	15.3	-36.54	-0.09
947	SLD 13	-571	364	4544	2.9	-49.95	0.85
947	SLD 14	-655	398	4542	2.76	-49.88	3.16
947	SLD 15	-559	19	5435	8.72	-51.55	0.58
947	SLD 16	-643	53	5433	8.58	-51.48	2.89
947	SLV 1	1000	396	3190	0.75	12.03	-8.08
947	SLV 2	868	449	3187	0.53	12.14	-4.46
947	SLV 3	1020	-162	4629	10.17	9.43	-8.52
947	SLV 4	888	-109	4626	9.95	9.54	-4.91
947	SLV 5	293	1083	1970	-10.1	-11.15	-3.39
947	SLV 6	204	1119	1968	-10.25	-11.08	-0.96
947	SLV 7	359	-776	6770	21.28	-19.82	-4.87
947	SLV 8	271	-741	6768	21.14	-19.74	-2.44
947	SLV 9	-275	1107	2365	-9.95	-33.64	-0.33
947	SLV 10	-364	1142	2363	-10.1	-33.56	2.1
947	SLV 11	-209	-753	7165	21.43	-42.31	-1.81
947	SLV 12	-297	-717	7163	21.28	-42.23	0.62
947	SLV 13	-893	475	4506	1.23	-62.93	2.14
947	SLV 14	-1025	528	4503	1.02	-62.81	5.75
947	SLV 15	-873	-83	5946	10.65	-65.53	1.69
947	SLV 16	-1005	-30	5943	10.43	-65.41	5.31
947	SLV FO 1	1100	417	3052	0.27	15.9	-8.75
947	SLV FO 2	955	475	3049	0.03	16.03	-4.77
947	SLV FO 3	1122	-197	4636	10.62	13.04	-9.23
947	SLV FO 4	977	-138	4632	10.38	13.17	-5.26
947	SLV FO 5	322	1173	1710	-11.67	-9.6	-3.59
947	SLV FO 6	225	1212	1708	-11.83	-9.51	-0.92
947	SLV FO 7	395	-872	6990	22.85	-19.13	-5.22
947	SLV FO 8	298	-833	6988	22.69	-19.05	-2.55
947	SLV FO 9	-303	1199	2145	-11.51	-34.34	-0.22
947	SLV FO 10	-400	1238	2143	-11.67	-34.25	2.45
947	SLV FO 11	-229	-846	7424	23.01	-43.87	-1.85
947	SLV FO 12	-327	-807	7422	22.85	-43.78	0.82



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
947	SLV FO 13	-982	504	4500	0.8	-66.55	2.49
947	SLV FO 14	-1127	563	4497	0.56	-66.42	6.46
947	SLV FO 15	-960	-109	6084	11.16	-69.41	2
947	SLV FO 16	-1105	-51	6081	10.92	-69.28	5.98
947	CRTFP Ux+	0	0	0	0	0	0
947	CRTFP Ux-	0	0	0	0	0	0
947	CRTFP Uy+	0	0	0	0	0	0
947	CRTFP Uy-	0	0	0	0	0	0
950	SLU 1	87	5	3961	7.89	846.94	-1.92
950	SLU 2	84	29	3878	7.34	829.61	-10.49
950	SLU 3	91	4	4079	8.23	870.68	-1.82
950	SLU 4	89	19	4029	7.9	860.29	-6.96
950	SLU 5	86	29	3958	7.58	845.73	-10.57
950	SLU 6	93	4	4159	8.47	886.81	-1.91
950	SLU 7	91	19	4110	8.14	876.41	-7.05
950	SLU 8	92	5	4121	8.37	879.18	-2.08
950	SLU 9	90	20	4072	8.04	868.79	-7.22
950	SLU 10	92	29	4378	8.46	931.66	-10.4
950	SLU 11	99	4	4578	9.34	972.74	-1.74
950	SLU 12	97	19	4529	9.02	962.34	-6.88
950	SLU 13	94	29	4458	8.7	947.79	-10.49
950	SLU 14	101	4	4658	9.59	988.86	-1.82
950	SLU 15	99	19	4609	9.26	978.46	-6.96
950	SLU 16	100	5	4620	9.48	981.23	-2
950	SLU 17	98	19	4571	9.16	970.84	-7.14
950	SLU 18	99	4	4674	9.48	992.73	-1.8
950	SLU 19	97	19	4624	9.15	982.33	-6.94
950	SLU 20	101	4	4754	9.72	1008.85	-1.88
950	SLU 21	99	19	4705	9.4	998.45	-7.02
950	SLU 22	100	1	4625	9.56	982.34	-0.63
950	SLU 23	97	25	4542	9.01	965.02	-9.19
950	SLU 24	104	0	4743	9.9	1006.09	-0.53
950	SLU 25	102	15	4693	9.57	995.69	-5.67
950	SLU 26	99	25	4622	9.25	981.14	-9.28
950	SLU 27	106	1	4823	10.14	1022.21	-0.61
950	SLU 28	104	15	4773	9.81	1011.81	-5.75
950	SLU 29	105	1	4785	10.04	1014.58	-0.79
950	SLU 30	103	16	4735	9.71	1004.19	-5.93
950	SLU 31	105	25	5041	10.13	1067.07	-9.11
950	SLU 32	112	0	5242	11.01	1108.14	-0.45
950	SLU 33	110	15	5192	10.69	1097.74	-5.58
950	SLU 34	108	25	5121	10.37	1083.19	-9.19
950	SLU 35	114	0	5322	11.26	1124.26	-0.53
950	SLU 36	112	15	5273	10.93	1113.86	-5.67
950	SLU 37	113	1	5284	11.15	1116.64	-0.71
950	SLU 38	111	15	5235	10.83	1106.24	-5.84
950	SLU 39	112	0	5338	11.15	1128.13	-0.51
950	SLU 40	110	15	5288	10.82	1117.73	-5.65
950	SLU 41	114	0	5418	11.39	1144.25	-0.59
950	SLU 42	112	15	5368	11.07	1133.85	-5.73
950	SLU 43	109	7	4921	9.68	1054.6	-2.94
950	SLU 44	106	32	4839	9.13	1037.27	-11.51
950	SLU 45	112	7	5040	10.02	1078.34	-2.85
950	SLU 46	110	22	4990	9.69	1067.95	-7.99
950	SLU 47	108	32	4919	9.38	1053.39	-11.59
950	SLU 48	115	7	5120	10.26	1094.46	-2.93
950	SLU 49	113	22	5070	9.93	1084.07	-8.07
950	SLU 50	114	8	5082	10.16	1086.84	-3.11
950	SLU 51	112	22	5032	9.83	1076.44	-8.25
950	SLU 52	114	31	5338	10.25	1139.32	-11.43
950	SLU 53	120	7	5539	11.14	1180.39	-2.76
950	SLU 54	118	21	5489	10.81	1170	-7.9
950	SLU 55	116	32	5418	10.49	1155.44	-11.51
950	SLU 56	123	7	5619	11.38	1196.51	-2.84
950	SLU 57	121	21	5569	11.05	1186.12	-7.98
950	SLU 58	122	7	5581	11.28	1188.89	-3.02
950	SLU 59	120	22	5531	10.95	1178.5	-8.16
950	SLU 60	120	7	5635	11.27	1200.38	-2.82
950	SLU 61	118	21	5585	10.95	1189.99	-7.96
950	SLU 62	123	7	5715	11.51	1216.5	-2.9
950	SLU 63	121	22	5665	11.19	1206.11	-8.04
950	SLU 64	122	3	5585	11.35	1190	-1.65
950	SLU 65	119	28	5503	10.8	1172.67	-10.22
950	SLU 66	125	3	5703	11.69	1213.74	-1.55
950	SLU 67	123	18	5654	11.36	1203.35	-6.69
950	SLU 68	121	28	5583	11.05	1188.8	-10.3
950	SLU 69	128	3	5783	11.93	1229.87	-1.63
950	SLU 70	126	18	5734	11.6	1219.47	-6.77
950	SLU 71	127	4	5745	11.83	1222.24	-1.81
950	SLU 72	125	18	5696	11.5	1211.85	-6.95
950	SLU 73	127	28	6002	11.92	1274.72	-10.13
950	SLU 74	133	3	6203	12.81	1315.8	-1.47
950	SLU 75	131	17	6153	12.48	1305.4	-6.61
950	SLU 76	129	28	6082	12.16	1290.85	-10.21
950	SLU 77	136	3	6283	13.05	1331.92	-1.55
950	SLU 78	134	18	6233	12.72	1321.52	-6.69
950	SLU 79	135	3	6245	12.95	1324.29	-1.73
950	SLU 80	133	18	6195	12.62	1313.9	-6.87
950	SLU 81	133	3	6298	12.94	1335.79	-1.53



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
950	SLU 82	131	18	6249	12.62	1325.39	-6.67
950	SLU 83	136	3	6378	13.18	1351.91	-1.61
950	SLU 84	134	18	6329	12.86	1341.51	-6.75
950	SLE RA 1	91	3	4150	8.36	885.62	-1.55
950	SLE RA 2	89	20	4095	8	874.07	-7.26
950	SLE RA 3	93	3	4229	8.59	901.46	-1.49
950	SLE RA 4	92	13	4196	8.37	894.53	-4.91
950	SLE RA 5	90	20	4149	8.16	884.82	-7.32
950	SLE RA 6	95	3	4283	8.75	912.2	-1.54
950	SLE RA 7	94	13	4250	8.53	905.27	-4.97
950	SLE RA 8	94	4	4257	8.68	907.12	-1.66
950	SLE RA 9	93	14	4224	8.47	900.19	-5.09
950	SLE RA 10	94	20	4428	8.74	942.11	-7.21
950	SLE RA 11	99	3	4562	9.33	969.49	-1.43
950	SLE RA 12	97	13	4529	9.12	962.56	-4.86
950	SLE RA 13	96	20	4482	8.91	952.86	-7.26
950	SLE RA 14	100	3	4615	9.5	980.24	-1.48
950	SLE RA 15	99	13	4582	9.28	973.31	-4.91
950	SLE RA 16	100	3	4590	9.43	975.15	-1.6
950	SLE RA 17	98	13	4557	9.21	968.22	-5.03
950	SLE RA 18	99	3	4626	9.43	982.82	-1.47
950	SLE RA 19	97	13	4593	9.21	975.89	-4.9
950	SLE RA 20	100	3	4679	9.59	993.56	-1.53
950	SLE RA 21	99	13	4646	9.37	986.63	-4.95
950	SLE FR 1	91	3	4150	8.36	885.62	-1.55
950	SLE FR 2	90	7	4139	8.29	883.31	-2.7
950	SLE FR 3	92	4	4172	8.43	889.92	-1.58
950	SLE FR 4	93	7	4282	8.61	912.47	-2.67
950	SLE FR 5	94	3	4314	8.75	919.08	-1.55
950	SLE FR 6	95	3	4388	8.89	934.22	-1.51
950	SLE QP 1	91	3	4150	8.36	885.62	-1.55
950	SLE QP 2	93	3	4293	8.68	914.78	-1.53
950	SLD 1	468	125	2667	3.04	592.05	-44.1
950	SLD 2	407	250	2570	2.4	572.52	-87.64
950	SLD 3	504	-134	3712	9.84	811.26	46.26
950	SLD 4	444	-9	3616	9.2	791.73	2.72
950	SLD 5	160	410	2237	-3.22	489.02	-143.51
950	SLD 6	121	493	2174	-3.64	476.12	-172.25
950	SLD 7	283	-453	5721	19.47	1219.71	157.7
950	SLD 8	243	-371	5658	19.05	1206.81	128.95
950	SLD 9	-57	377	2928	-1.68	622.75	-132.01
950	SLD 10	-97	460	2865	-2.11	609.86	-160.76
950	SLD 11	66	-486	6412	21.01	1353.44	169.19
950	SLD 12	26	-403	6349	20.58	1340.55	140.45
950	SLD 13	-258	16	4970	8.16	1037.84	-5.78
950	SLD 14	-318	141	4874	7.52	1018.31	-49.31
950	SLD 15	-221	-243	6016	14.97	1257.04	84.58
950	SLD 16	-281	-118	5919	14.33	1237.51	41.05
950	SLV 1	679	200	1726	-0.31	405.18	-70.54
950	SLV 2	584	397	1576	-1.32	374.58	-138.75
950	SLV 3	738	-219	3417	10.69	759.68	75.83
950	SLV 4	644	-23	3266	9.69	729.08	7.62
950	SLV 5	196	662	987	-10.52	229.96	-231.51
950	SLV 6	132	794	886	-11.2	209.35	-277.43
950	SLV 7	395	-736	6622	26.17	1411.62	256.41
950	SLV 8	332	-604	6521	25.49	1391.02	210.49
950	SLV 9	-145	611	2065	-8.13	438.55	-213.55
950	SLV 10	-209	743	1964	-8.8	417.95	-259.47
950	SLV 11	55	-788	7700	28.56	1620.21	274.37
950	SLV 12	-9	-655	7599	27.89	1599.61	228.45
950	SLV 13	-458	30	5320	7.67	1100.48	-10.68
950	SLV 14	-552	226	5169	6.67	1069.89	-78.89
950	SLV 15	-398	-390	7010	18.68	1454.98	135.69
950	SLV 16	-492	-194	6860	17.68	1424.38	67.48
950	SLV FO 1	737	220	1470	-1.21	354.22	-77.44
950	SLV FO 2	633	436	1304	-2.32	320.56	-152.47
950	SLV FO 3	803	-241	3329	10.89	744.17	83.57
950	SLV FO 4	699	-26	3164	9.79	710.51	8.54
950	SLV FO 5	206	728	657	-12.45	161.47	-254.5
950	SLV FO 6	136	873	545	-13.19	138.81	-305.02
950	SLV FO 7	426	-810	6855	27.92	1461.3	282.21
950	SLV FO 8	355	-665	6743	27.17	1438.64	231.69
950	SLV FO 9	-169	672	1843	-9.81	390.92	-234.75
950	SLV FO 10	-239	817	1731	-10.55	368.26	-285.27
950	SLV FO 11	51	-867	8041	30.55	1690.75	301.96
950	SLV FO 12	-19	-721	7929	29.81	1668.09	251.45
950	SLV FO 13	-513	32	5423	7.57	1119.06	-11.6
950	SLV FO 14	-617	248	5257	6.47	1085.4	-86.63
950	SLV FO 15	-447	-429	7282	19.68	1509	149.41
950	SLV FO 16	-551	-213	7116	18.58	1475.34	74.39
950	CRTFP Ux+	0	0	0	0	0	0
950	CRTFP Ux-	0	0	0	0	0	0
950	CRTFP Uy+	0	0	0	0	0	0
950	CRTFP Uy-	0	0	0	0	0	0
952	SLU 1	-113	-35	10392	1342.29	-28.77	15.26
952	SLU 2	-108	15	10193	1314.78	-26.41	14.43
952	SLU 3	-116	-36	10685	1380.64	-30.33	15.63
952	SLU 4	-113	-6	10566	1364.14	-28.92	15.14
952	SLU 5	-109	14	10384	1339.65	-27.49	14.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
952	SLU 6	-118	-37	10876	1405.51	-31.4	15.84
952	SLU 7	-114	-7	10757	1389.01	-29.99	15.35
952	SLU 8	-116	-37	10772	1392.02	-30.91	15.68
952	SLU 9	-113	-7	10653	1375.52	-29.5	15.19
952	SLU 10	-112	10	11583	1493.93	-32.57	15.25
952	SLU 11	-120	-41	12076	1559.8	-36.48	16.45
952	SLU 12	-117	-11	11956	1543.29	-35.07	15.95
952	SLU 13	-113	9	11774	1518.8	-33.64	15.46
952	SLU 14	-122	-42	12266	1584.67	-37.55	16.66
952	SLU 15	-118	-12	12147	1568.16	-36.14	16.16
952	SLU 16	-120	-42	12162	1571.18	-37.06	16.5
952	SLU 17	-117	-12	12043	1554.67	-35.65	16
952	SLU 18	-119	-42	12378	1598.22	-37.56	16.42
952	SLU 19	-116	-12	12258	1581.72	-36.14	15.93
952	SLU 20	-121	-43	12568	1623.09	-38.63	16.63
952	SLU 21	-117	-13	12449	1606.59	-37.22	16.14
952	SLU 22	-125	-43	12212	1578.16	-36.66	17.02
952	SLU 23	-119	7	12014	1550.66	-34.31	16.19
952	SLU 24	-128	-44	12506	1616.52	-38.22	17.39
952	SLU 25	-124	-15	12387	1600.02	-36.81	16.9
952	SLU 26	-121	6	12204	1575.52	-35.38	16.41
952	SLU 27	-129	-46	12696	1641.39	-39.29	17.6
952	SLU 28	-126	-16	12577	1624.88	-37.88	17.11
952	SLU 29	-128	-45	12593	1627.9	-38.8	17.44
952	SLU 30	-124	-15	12474	1611.4	-37.39	16.95
952	SLU 31	-123	2	13404	1729.81	-40.46	17.01
952	SLU 32	-132	-49	13896	1795.68	-44.37	18.21
952	SLU 33	-128	-19	13777	1779.17	-42.96	17.71
952	SLU 34	-125	1	13594	1754.68	-41.53	17.22
952	SLU 35	-133	-50	14087	1820.54	-45.44	18.42
952	SLU 36	-130	-20	13967	1804.04	-44.03	17.92
952	SLU 37	-132	-50	13983	1807.06	-44.96	18.26
952	SLU 38	-129	-20	13864	1790.55	-43.55	17.76
952	SLU 39	-131	-50	14198	1834.1	-45.45	18.18
952	SLU 40	-127	-20	14079	1817.59	-44.04	17.69
952	SLU 41	-132	-51	14389	1858.97	-46.52	18.39
952	SLU 42	-129	-21	14269	1842.46	-45.11	17.9
952	SLU 43	-143	-42	12885	1664.1	-34.69	19.23
952	SLU 44	-138	7	12686	1636.59	-32.34	18.41
952	SLU 45	-146	-44	13179	1702.46	-36.25	19.61
952	SLU 46	-143	-14	13060	1685.95	-34.84	19.11
952	SLU 47	-139	6	12877	1661.46	-33.41	18.62
952	SLU 48	-148	-45	13369	1727.33	-37.32	19.82
952	SLU 49	-144	-15	13250	1710.82	-35.91	19.32
952	SLU 50	-146	-45	13266	1713.84	-36.84	19.66
952	SLU 51	-143	-15	13146	1697.33	-35.42	19.16
952	SLU 52	-142	3	14077	1815.75	-38.49	19.22
952	SLU 53	-150	-49	14569	1881.61	-42.4	20.42
952	SLU 54	-147	-19	14450	1865.11	-40.99	19.92
952	SLU 55	-143	2	14267	1840.62	-39.56	19.43
952	SLU 56	-152	-50	14759	1906.48	-43.48	20.63
952	SLU 57	-148	-20	14640	1889.98	-42.07	20.14
952	SLU 58	-151	-49	14656	1892.99	-42.99	20.47
952	SLU 59	-147	-19	14537	1876.49	-41.58	19.98
952	SLU 60	-149	-49	14871	1920.04	-43.48	20.4
952	SLU 61	-146	-19	14752	1903.53	-42.07	19.9
952	SLU 62	-151	-50	15061	1944.9	-44.55	20.61
952	SLU 63	-147	-20	14942	1928.4	-43.14	20.11
952	SLU 64	-155	-51	14705	1899.98	-42.58	20.99
952	SLU 65	-149	-1	14507	1872.47	-40.23	20.17
952	SLU 66	-158	-52	14999	1938.33	-44.14	21.37
952	SLU 67	-154	-22	14880	1921.83	-42.73	20.87
952	SLU 68	-151	-2	14697	1897.34	-41.3	20.38
952	SLU 69	-159	-53	15190	1963.2	-45.21	21.58
952	SLU 70	-156	-23	15071	1946.7	-43.8	21.08
952	SLU 71	-158	-53	15086	1949.71	-44.73	21.42
952	SLU 72	-155	-23	14967	1933.21	-43.32	20.92
952	SLU 73	-153	-5	15897	2051.62	-46.38	20.98
952	SLU 74	-162	-57	16389	2117.49	-50.29	22.18
952	SLU 75	-158	-27	16270	2100.98	-48.88	21.68
952	SLU 76	-155	-6	16088	2076.49	-47.46	21.19
952	SLU 77	-163	-58	16580	2142.36	-51.37	22.39
952	SLU 78	-160	-28	16461	2125.85	-49.96	21.9
952	SLU 79	-162	-57	16476	2128.87	-50.88	22.23
952	SLU 80	-159	-27	16357	2112.36	-49.47	21.74
952	SLU 81	-161	-57	16691	2155.91	-51.37	22.16
952	SLU 82	-157	-27	16572	2139.41	-49.96	21.66
952	SLU 83	-162	-58	16882	2180.78	-52.44	22.37
952	SLU 84	-159	-28	16763	2164.28	-51.03	21.87
952	SLE RA 1	-117	-37	10912	1409.68	-31.02	15.76
952	SLE RA 2	-113	-4	10779	1391.34	-29.45	15.21
952	SLE RA 3	-118	-38	11108	1435.25	-32.06	16.01
952	SLE RA 4	-116	-18	11028	1424.25	-31.12	15.68
952	SLE RA 5	-114	-5	10906	1407.92	-30.17	15.35
952	SLE RA 6	-119	-39	11234	1451.83	-32.78	16.15
952	SLE RA 7	-117	-19	11155	1440.83	-31.84	15.82
952	SLE RA 8	-119	-39	11166	1442.84	-32.45	16.04
952	SLE RA 9	-116	-19	11086	1431.83	-31.51	15.71
952	SLE RA 10	-116	-7	11706	1510.78	-33.55	15.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
952	SLE RA 11	-121	-41	12034	1554.69	-36.16	16.55
952	SLE RA 12	-119	-21	11955	1543.68	-35.22	16.22
952	SLE RA 13	-117	-8	11833	1527.36	-34.27	15.9
952	SLE RA 14	-122	-42	12161	1571.27	-36.88	16.69
952	SLE RA 15	-120	-22	12082	1560.26	-35.94	16.36
952	SLE RA 16	-121	-42	12092	1562.27	-36.55	16.59
952	SLE RA 17	-119	-22	12013	1551.27	-35.61	16.26
952	SLE RA 18	-121	-42	12236	1580.3	-36.88	16.54
952	SLE RA 19	-118	-22	12156	1569.3	-35.94	16.21
952	SLE RA 20	-122	-42	12363	1596.88	-37.6	16.68
952	SLE RA 21	-119	-22	12283	1585.88	-36.66	16.35
952	SLE FR 1	-117	-37	10912	1409.68	-31.02	15.76
952	SLE FR 2	-116	-30	10885	1406.01	-30.71	15.65
952	SLE FR 3	-117	-37	10963	1416.31	-31.31	15.82
952	SLE FR 4	-117	-32	11282	1457.2	-32.46	15.88
952	SLE FR 5	-118	-39	11360	1467.5	-33.06	16.05
952	SLE FR 6	-119	-39	11574	1494.99	-33.95	16.15
952	SLE QP 1	-117	-37	10912	1409.68	-31.02	15.76
952	SLE QP 2	-118	-38	11309	1460.87	-32.78	15.99
952	SLD 1	1036	263	11448	1469.12	2.72	-142.84
952	SLD 2	868	107	11593	1488.97	1.15	-116.51
952	SLD 3	937	-322	14014	1824.1	-26.04	-128.07
952	SLD 4	768	-478	14159	1843.95	-27.62	-101.75
952	SLD 5	409	967	7434	921.38	21.78	-58.79
952	SLD 6	298	865	7530	934.48	20.74	-41.41
952	SLD 7	78	-983	15985	2104.65	-74.1	-9.57
952	SLD 8	-33	-1086	16081	2117.76	-75.14	7.81
952	SLD 9	-203	1009	6537	803.97	9.58	24.18
952	SLD 10	-314	906	6633	817.08	8.54	41.56
952	SLD 11	-534	-942	15088	1987.25	-86.3	73.4
952	SLD 12	-645	-1044	15184	2000.36	-87.34	90.78
952	SLD 13	-1004	401	8459	1077.78	-37.94	133.73
952	SLD 14	-1172	245	8604	1097.63	-39.51	160.06
952	SLD 15	-1104	-184	11024	1432.76	-66.7	148.5
952	SLD 16	-1272	-340	11169	1452.61	-68.28	174.83
952	SLV 1	1692	448	11454	1463.72	23.47	-233.1
952	SLV 2	1428	204	11681	1494.81	21	-191.85
952	SLV 3	1532	-497	15599	2037.38	-23.01	-209.34
952	SLV 4	1268	-740	15827	2068.47	-25.48	-168.09
952	SLV 5	717	1586	5023	585.87	55.05	-102.46
952	SLV 6	539	1422	5176	606.8	53.39	-74.69
952	SLV 7	184	-1563	18841	2498.07	-99.88	-23.27
952	SLV 8	6	-1727	18994	2519	-101.54	4.5
952	SLV 9	-242	1650	3624	402.73	35.99	27.49
952	SLV 10	-419	1486	3777	423.67	34.33	55.26
952	SLV 11	-775	-1499	17442	2314.93	-118.94	106.68
952	SLV 12	-952	-1663	17595	2335.87	-120.61	134.45
952	SLV 13	-1504	664	6791	853.26	-40.08	200.08
952	SLV 14	-1767	420	7018	884.36	-42.54	241.33
952	SLV 15	-1664	-281	10937	1426.92	-86.56	223.84
952	SLV 16	-1927	-525	11164	1458.02	-89.02	265.09
952	SLV FO 1	1873	496	11469	1464	29.09	-258.01
952	SLV FO 2	1583	228	11719	1498.21	26.38	-212.63
952	SLV FO 3	1697	-543	16028	2095.03	-22.04	-231.88
952	SLV FO 4	1407	-811	16278	2129.23	-24.75	-186.5
952	SLV FO 5	800	1748	4394	498.37	63.83	-114.31
952	SLV FO 6	605	1568	4563	521.4	62	-83.76
952	SLV FO 7	214	-1716	19594	2601.79	-106.59	-27.2
952	SLV FO 8	19	-1896	19762	2624.82	-108.42	3.35
952	SLV FO 9	-254	1819	2856	296.92	42.86	28.64
952	SLV FO 10	-449	1639	3024	319.95	41.04	59.19
952	SLV FO 11	-841	-1645	18055	2400.34	-127.56	115.75
952	SLV FO 12	-1036	-1825	18224	2423.37	-129.39	146.3
952	SLV FO 13	-1643	734	6339	792.5	-40.81	218.49
952	SLV FO 14	-1932	466	6589	826.71	-43.52	263.86
952	SLV FO 15	-1818	-305	10899	1423.53	-91.93	244.62
952	SLV FO 16	-2108	-573	11149	1457.73	-94.65	290
952	CRTFP Ux+	0	0	0	0	0	0
952	CRTFP Ux-	0	0	0	0	0	0
952	CRTFP Uy+	0	0	0	0.01	0	0
952	CRTFP Uy-	0	0	0	-0.01	0	0
954	SLU 1	-36	48	3379	6.25	-529.22	11.86
954	SLU 2	-35	69	3309	5.86	-517.99	17.23
954	SLU 3	-37	48	3471	6.49	-543.33	11.97
954	SLU 4	-36	61	3430	6.26	-536.59	15.2
954	SLU 5	-35	70	3369	6.02	-527.08	17.31
954	SLU 6	-37	49	3531	6.64	-552.41	12.06
954	SLU 7	-36	62	3489	6.41	-545.68	15.28
954	SLU 8	-37	48	3498	6.56	-547.39	12.03
954	SLU 9	-36	61	3456	6.33	-540.66	15.25
954	SLU 10	-36	76	3734	6.74	-582.36	18.95
954	SLU 11	-38	55	3897	7.37	-607.7	13.7
954	SLU 12	-37	68	3855	7.13	-600.96	16.92
954	SLU 13	-37	77	3794	6.9	-591.45	19.04
954	SLU 14	-39	56	3956	7.52	-616.79	13.78
954	SLU 15	-38	69	3914	7.29	-610.05	17
954	SLU 16	-38	55	3923	7.44	-611.77	13.75
954	SLU 17	-38	68	3881	7.21	-605.03	16.97
954	SLU 18	-38	58	3986	7.51	-621.18	14.32



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
954	SLU 19	-37	71	3945	7.27	-614.44	17.54
954	SLU 20	-39	58	4046	7.66	-630.27	14.4
954	SLU 21	-38	71	4004	7.43	-623.53	17.63
954	SLU 22	-40	53	3945	7.54	-615.19	13.05
954	SLU 23	-38	74	3875	7.16	-603.96	18.42
954	SLU 24	-40	53	4037	7.78	-629.3	13.16
954	SLU 25	-40	66	3996	7.55	-622.56	16.39
954	SLU 26	-39	75	3935	7.31	-613.05	18.5
954	SLU 27	-41	53	4097	7.93	-638.39	13.25
954	SLU 28	-40	66	4055	7.7	-631.65	16.47
954	SLU 29	-41	53	4064	7.85	-633.37	13.22
954	SLU 30	-40	66	4022	7.62	-626.63	16.44
954	SLU 31	-40	81	4300	8.03	-668.34	20.14
954	SLU 32	-42	60	4463	8.66	-693.67	14.89
954	SLU 33	-41	73	4421	8.42	-686.94	18.11
954	SLU 34	-40	82	4360	8.19	-677.43	20.23
954	SLU 35	-42	60	4522	8.81	-702.76	14.97
954	SLU 36	-42	73	4480	8.58	-696.02	18.19
954	SLU 37	-42	60	4489	8.73	-697.74	14.94
954	SLU 38	-41	73	4447	8.5	-691.01	18.16
954	SLU 39	-42	63	4552	8.8	-707.15	15.51
954	SLU 40	-41	76	4511	8.56	-700.42	18.73
954	SLU 41	-42	63	4612	8.95	-716.24	15.59
954	SLU 42	-41	76	4570	8.72	-709.51	18.82
954	SLU 43	-46	60	4198	7.68	-658.51	15
954	SLU 44	-44	82	4129	7.3	-647.28	20.38
954	SLU 45	-47	61	4291	7.92	-672.61	15.12
954	SLU 46	-46	74	4249	7.69	-665.88	18.35
954	SLU 47	-45	82	4188	7.45	-656.37	20.46
954	SLU 48	-47	61	4350	8.08	-681.7	15.21
954	SLU 49	-46	74	4309	7.84	-674.96	18.43
954	SLU 50	-47	61	4317	8	-676.68	15.18
954	SLU 51	-46	74	4276	7.76	-669.95	18.4
954	SLU 52	-46	89	4554	8.17	-711.65	22.1
954	SLU 53	-48	68	4716	8.8	-736.99	16.84
954	SLU 54	-47	81	4674	8.57	-730.25	20.07
954	SLU 55	-46	89	4614	8.33	-720.74	22.18
954	SLU 56	-48	68	4776	8.95	-746.07	16.93
954	SLU 57	-48	81	4734	8.72	-739.34	20.15
954	SLU 58	-48	68	4743	8.87	-741.06	16.9
954	SLU 59	-47	81	4701	8.64	-734.32	20.12
954	SLU 60	-48	70	4806	8.94	-750.47	17.47
954	SLU 61	-47	83	4764	8.71	-743.73	20.69
954	SLU 62	-48	71	4865	9.09	-759.56	17.55
954	SLU 63	-47	84	4824	8.86	-752.82	20.77
954	SLU 64	-49	65	4764	8.98	-744.48	16.2
954	SLU 65	-48	87	4695	8.59	-733.25	21.57
954	SLU 66	-50	66	4857	9.21	-758.59	16.31
954	SLU 67	-49	79	4815	8.98	-751.85	19.54
954	SLU 68	-48	87	4754	8.74	-742.34	21.65
954	SLU 69	-51	66	4916	9.37	-767.68	16.4
954	SLU 70	-50	79	4875	9.14	-760.94	19.62
954	SLU 71	-50	66	4883	9.29	-762.66	16.37
954	SLU 72	-49	79	4842	9.05	-755.92	19.59
954	SLU 73	-49	94	5120	9.47	-797.62	23.29
954	SLU 74	-52	73	5282	10.09	-822.96	18.03
954	SLU 75	-51	86	5240	9.86	-816.22	21.26
954	SLU 76	-50	94	5180	9.62	-806.71	23.38
954	SLU 77	-52	73	5342	10.25	-832.05	18.12
954	SLU 78	-51	86	5300	10.01	-825.31	21.34
954	SLU 79	-52	73	5309	10.16	-827.03	18.09
954	SLU 80	-51	86	5267	9.93	-820.29	21.31
954	SLU 81	-51	75	5372	10.23	-836.44	18.66
954	SLU 82	-50	88	5330	10	-829.7	21.88
954	SLU 83	-52	76	5431	10.39	-845.53	18.74
954	SLU 84	-51	89	5390	10.15	-838.79	21.96
954	SLE RA 1	-37	49	3541	6.62	-553.78	12.2
954	SLE RA 2	-36	64	3494	6.36	-546.3	15.78
954	SLE RA 3	-38	50	3602	6.78	-563.19	12.27
954	SLE RA 4	-37	58	3574	6.62	-558.7	14.42
954	SLE RA 5	-36	64	3534	6.47	-552.36	15.83
954	SLE RA 6	-38	50	3642	6.88	-569.25	12.33
954	SLE RA 7	-37	58	3614	6.73	-564.75	14.48
954	SLE RA 8	-38	50	3620	6.83	-565.9	12.31
954	SLE RA 9	-37	58	3592	6.67	-561.41	14.46
954	SLE RA 10	-37	68	3778	6.95	-589.21	16.93
954	SLE RA 11	-39	54	3886	7.36	-606.1	13.42
954	SLE RA 12	-38	63	3858	7.21	-601.61	15.57
954	SLE RA 13	-37	68	3817	7.05	-595.27	16.98
954	SLE RA 14	-39	54	3925	7.47	-612.16	13.48
954	SLE RA 15	-38	63	3897	7.31	-607.67	15.63
954	SLE RA 16	-39	54	3903	7.41	-608.82	13.46
954	SLE RA 17	-38	63	3875	7.26	-604.32	15.61
954	SLE RA 18	-39	56	3946	7.46	-615.09	13.84
954	SLE RA 19	-38	64	3918	7.3	-610.6	15.99
954	SLE RA 20	-39	56	3985	7.56	-621.15	13.89
954	SLE RA 21	-38	65	3957	7.41	-616.66	16.04
954	SLE FR 1	-37	49	3541	6.62	-553.78	12.2
954	SLE FR 2	-37	52	3531	6.57	-552.29	12.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
954	SLE FR 3	-37	49	3556	6.66	-556.21	12.22
954	SLE FR 4	-37	54	3653	6.82	-570.68	13.4
954	SLE FR 5	-38	51	3678	6.91	-574.6	12.71
954	SLE FR 6	-38	53	3743	7.04	-584.44	13.02
954	SLE QP 1	-37	49	3541	6.62	-553.78	12.2
954	SLE QP 2	-38	51	3662	6.87	-572.17	12.69
954	SLD 1	316	187	4196	6.32	-641.92	46.43
954	SLD 2	263	80	4272	6.75	-653.88	19.77
954	SLD 3	287	-61	5101	11.32	-788.21	-15.41
954	SLD 4	234	-168	5177	11.75	-800.17	-42.06
954	SLD 5	122	488	2435	-0.95	-369.08	121.4
954	SLD 6	88	417	2486	-0.67	-376.98	103.8
954	SLD 7	25	-339	5453	15.71	-856.69	-84.72
954	SLD 8	-10	-411	5503	16	-864.59	-102.32
954	SLD 9	-65	513	1821	-2.25	-279.76	127.7
954	SLD 10	-100	442	1871	-1.97	-287.66	110.1
954	SLD 11	-163	-314	4839	14.41	-767.37	-78.42
954	SLD 12	-198	-385	4889	14.7	-775.27	-96.02
954	SLD 13	-309	271	2147	1.99	-344.18	67.44
954	SLD 14	-362	163	2223	2.42	-356.14	40.79
954	SLD 15	-338	23	3053	6.99	-490.46	5.6
954	SLD 16	-391	-85	3128	7.42	-502.43	-21.05
954	SLV 1	517	271	4469	5.87	-676.83	67.09
954	SLV 2	434	102	4588	6.54	-695.57	25.33
954	SLV 3	470	-130	5931	13.95	-913.17	-32.78
954	SLV 4	387	-299	6050	14.62	-931.91	-74.54
954	SLV 5	216	757	1664	-5.8	-241.62	188.28
954	SLV 6	160	643	1744	-5.35	-254.24	160.16
954	SLV 7	59	-580	6539	21.12	-1029.43	-144.63
954	SLV 8	3	-693	6619	21.57	-1042.04	-172.75
954	SLV 9	-78	796	705	-7.83	-102.3	198.12
954	SLV 10	-134	682	785	-7.38	-114.92	170.01
954	SLV 11	-235	-541	5580	19.1	-890.11	-134.79
954	SLV 12	-291	-654	5660	19.55	-902.73	-162.9
954	SLV 13	-462	401	1274	-0.88	-212.44	99.92
954	SLV 14	-545	233	1393	-0.21	-231.18	58.16
954	SLV 15	-509	0	2736	7.2	-448.78	0.04
954	SLV 16	-592	-168	2855	7.87	-467.52	-41.72
954	SLV FO 1	572	293	4550	5.77	-687.3	72.53
954	SLV FO 2	481	107	4680	6.51	-707.91	26.6
954	SLV FO 3	521	-148	6158	14.66	-947.27	-37.33
954	SLV FO 4	429	-334	6289	15.39	-967.89	-83.26
954	SLV FO 5	241	827	1464	-7.07	-208.57	205.84
954	SLV FO 6	180	702	1552	-6.58	-222.45	174.91
954	SLV FO 7	68	-643	6826	22.55	-1075.15	-160.37
954	SLV FO 8	7	-768	6914	23.04	-1089.03	-191.29
954	SLV FO 9	-82	870	410	-9.3	-55.32	216.67
954	SLV FO 10	-143	745	498	-8.8	-69.2	185.74
954	SLV FO 11	-255	-600	5772	20.32	-921.9	-149.53
954	SLV FO 12	-316	-725	5860	20.82	-935.78	-180.46
954	SLV FO 13	-504	436	1035	-1.65	-176.46	108.64
954	SLV FO 14	-596	251	1166	-0.91	-197.08	62.71
954	SLV FO 15	-556	-5	2644	7.23	-436.44	-1.22
954	SLV FO 16	-648	-190	2775	7.97	-457.05	-47.16
954	CRTFP Ux+	0	0	0	0	0	0
954	CRTFP Ux-	0	0	0	0	0	0
954	CRTFP Uy+	0	0	0	0	0	0
954	CRTFP Uy-	0	0	0	0	0	0
957	SLU 1	127	46	5537	-153.5	35.44	3.51
957	SLU 2	121	72	5423	-150.6	33.92	3.37
957	SLU 3	132	47	5705	-158.09	36.99	3.66
957	SLU 4	129	63	5636	-156.35	36.07	3.57
957	SLU 5	125	72	5535	-153.68	34.87	3.47
957	SLU 6	136	48	5817	-161.17	37.94	3.76
957	SLU 7	132	63	5748	-159.43	37.03	3.68
957	SLU 8	134	48	5762	-159.66	37.36	3.72
957	SLU 9	131	63	5693	-157.92	36.44	3.63
957	SLU 10	134	79	6172	-171.4	40.28	3.66
957	SLU 11	144	55	6453	-178.89	43.35	3.95
957	SLU 12	141	70	6385	-177.15	42.44	3.87
957	SLU 13	137	80	6284	-174.48	41.24	3.77
957	SLU 14	148	55	6566	-181.97	44.31	4.05
957	SLU 15	145	70	6497	-180.23	43.4	3.97
957	SLU 16	146	55	6510	-180.46	43.73	4.01
957	SLU 17	143	70	6442	-178.72	42.81	3.93
957	SLU 18	144	57	6607	-183.22	44.54	3.93
957	SLU 19	141	72	6539	-181.48	43.62	3.84
957	SLU 20	148	57	6719	-186.29	45.5	4.03
957	SLU 21	145	72	6651	-184.55	44.58	3.95
957	SLU 22	146	53	6521	-180.66	44.02	4.06
957	SLU 23	141	79	6406	-177.76	42.5	3.91
957	SLU 24	151	54	6688	-185.25	45.57	4.2
957	SLU 25	148	69	6619	-183.51	44.65	4.12
957	SLU 26	145	79	6518	-180.84	43.46	4.02
957	SLU 27	155	55	6800	-188.33	46.52	4.31
957	SLU 28	152	70	6731	-186.59	45.61	4.22
957	SLU 29	154	54	6745	-186.82	45.94	4.26
957	SLU 30	151	70	6676	-185.08	45.02	4.18
957	SLU 31	153	86	7155	-198.56	48.87	4.21



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
957	SLU 32	164	62	7437	-206.05	51.94	4.5
957	SLU 33	161	77	7368	-204.31	51.02	4.41
957	SLU 34	157	86	7267	-201.64	49.82	4.31
957	SLU 35	167	62	7549	-209.13	52.89	4.6
957	SLU 36	164	77	7480	-207.39	51.98	4.51
957	SLU 37	166	62	7494	-207.62	52.31	4.56
957	SLU 38	163	77	7425	-205.88	51.39	4.47
957	SLU 39	164	64	7591	-210.38	53.12	4.47
957	SLU 40	161	79	7522	-208.64	52.21	4.39
957	SLU 41	168	64	7703	-213.45	54.08	4.58
957	SLU 42	164	79	7634	-211.71	53.16	4.49
957	SLU 43	158	58	6862	-190.24	43.13	4.38
957	SLU 44	153	83	6747	-187.34	41.61	4.24
957	SLU 45	163	59	7029	-194.83	44.68	4.52
957	SLU 46	160	74	6960	-193.09	43.76	4.44
957	SLU 47	156	84	6859	-190.42	42.56	4.34
957	SLU 48	167	60	7141	-197.91	45.63	4.63
957	SLU 49	164	75	7072	-196.17	44.72	4.54
957	SLU 50	165	59	7086	-196.4	45.05	4.58
957	SLU 51	162	74	7017	-194.66	44.13	4.5
957	SLU 52	165	90	7496	-208.14	47.97	4.53
957	SLU 53	175	66	7778	-215.63	51.04	4.82
957	SLU 54	172	81	7709	-213.89	50.13	4.73
957	SLU 55	169	91	7608	-211.22	48.93	4.63
957	SLU 56	179	67	7890	-218.71	52	4.92
957	SLU 57	176	82	7821	-216.97	51.09	4.84
957	SLU 58	178	66	7835	-217.19	51.42	4.88
957	SLU 59	175	82	7766	-215.45	50.5	4.79
957	SLU 60	175	68	7931	-219.95	52.23	4.8
957	SLU 61	172	83	7863	-218.21	51.31	4.71
957	SLU 62	179	69	8043	-223.03	53.19	4.9
957	SLU 63	176	84	7975	-221.29	52.27	4.81
957	SLU 64	178	65	7845	-217.4	51.71	4.92
957	SLU 65	172	90	7730	-214.5	50.19	4.78
957	SLU 66	183	66	8012	-221.99	53.26	5.07
957	SLU 67	180	81	7943	-220.25	52.34	4.98
957	SLU 68	176	91	7843	-217.58	51.15	4.88
957	SLU 69	186	66	8124	-225.07	54.21	5.17
957	SLU 70	183	82	8055	-223.33	53.3	5.09
957	SLU 71	185	66	8069	-223.56	53.63	5.13
957	SLU 72	182	81	8000	-221.82	52.71	5.04
957	SLU 73	185	97	8479	-235.3	56.56	5.07
957	SLU 74	195	73	8761	-242.79	59.63	5.36
957	SLU 75	192	88	8692	-241.05	58.71	5.28
957	SLU 76	188	98	8591	-238.38	57.51	5.18
957	SLU 77	199	74	8873	-245.87	60.58	5.47
957	SLU 78	196	89	8804	-244.13	59.67	5.38
957	SLU 79	197	73	8818	-244.36	60	5.42
957	SLU 80	194	88	8749	-242.62	59.08	5.34
957	SLU 81	195	75	8915	-247.12	60.81	5.34
957	SLU 82	192	90	8846	-245.38	59.9	5.26
957	SLU 83	199	76	9027	-250.19	61.77	5.44
957	SLU 84	196	91	8958	-248.45	60.85	5.36
957	SLE RA 1	132	48	5818	-161.26	37.89	3.67
957	SLE RA 2	129	65	5742	-159.33	36.88	3.57
957	SLE RA 3	136	49	5930	-164.32	38.92	3.76
957	SLE RA 4	134	59	5884	-163.16	38.31	3.71
957	SLE RA 5	131	66	5817	-161.38	37.51	3.64
957	SLE RA 6	138	49	6005	-166.37	39.56	3.83
957	SLE RA 7	136	60	5959	-165.21	38.95	3.78
957	SLE RA 8	137	49	5968	-165.37	39.17	3.8
957	SLE RA 9	135	59	5922	-164.21	38.56	3.75
957	SLE RA 10	137	70	6241	-173.2	41.12	3.77
957	SLE RA 11	144	54	6429	-178.19	43.17	3.96
957	SLE RA 12	142	64	6383	-177.03	42.56	3.9
957	SLE RA 13	139	70	6316	-175.25	41.76	3.84
957	SLE RA 14	146	54	6504	-180.24	43.81	4.03
957	SLE RA 15	144	64	6458	-179.08	43.2	3.97
957	SLE RA 16	145	54	6467	-179.23	43.42	4
957	SLE RA 17	143	64	6421	-178.07	42.81	3.94
957	SLE RA 18	144	55	6532	-181.07	43.96	3.95
957	SLE RA 19	142	65	6486	-179.91	43.35	3.89
957	SLE RA 20	146	56	6606	-183.12	44.6	4.01
957	SLE RA 21	144	66	6561	-181.96	43.99	3.96
957	SLE FR 1	132	48	5818	-161.26	37.89	3.67
957	SLE FR 2	132	52	5803	-160.88	37.69	3.65
957	SLE FR 3	133	49	5848	-162.08	38.15	3.69
957	SLE FR 4	135	54	6017	-166.82	39.51	3.73
957	SLE FR 5	137	51	6062	-168.03	39.97	3.78
957	SLE FR 6	138	52	6175	-171.17	40.93	3.81
957	SLE QP 1	132	48	5818	-161.26	37.89	3.67
957	SLE QP 2	136	50	6032	-167.21	39.71	3.75
957	SLD 1	638	116	4600	-129.59	24.03	14.1
957	SLD 2	551	195	4512	-127.37	25.37	13.29
957	SLD 3	697	-163	6055	-166.62	43.3	15.88
957	SLD 4	610	-84	5966	-164.39	44.64	15.07
957	SLD 5	213	479	3413	-100.17	5.54	4.3
957	SLD 6	156	531	3354	-98.7	6.42	3.77
957	SLD 7	409	-451	8261	-223.58	69.78	10.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
957	SLD 8	351	-399	8203	-222.12	70.66	9.7
957	SLD 9	-80	500	3862	-112.3	8.76	-2.2
957	SLD 10	-137	552	3803	-110.83	9.65	-2.73
957	SLD 11	116	-430	8711	-235.71	73.01	3.73
957	SLD 12	58	-378	8652	-234.24	73.89	3.2
957	SLD 13	-338	185	6098	-170.02	34.78	-7.57
957	SLD 14	-425	264	6010	-167.79	36.12	-8.38
957	SLD 15	-280	-94	7553	-207.04	54.06	-5.79
957	SLD 16	-367	-15	7464	-204.82	55.39	-6.6
957	SLV 1	921	161	3757	-107.48	14.54	19.93
957	SLV 2	785	284	3618	-103.99	16.63	18.66
957	SLV 3	1016	-291	6109	-167.35	45.69	22.8
957	SLV 4	880	-168	5971	-163.86	47.79	21.53
957	SLV 5	252	745	1808	-59.13	-15.49	4.48
957	SLV 6	160	828	1715	-56.78	-14.08	3.62
957	SLV 7	570	-759	9649	-258.71	88.37	14.07
957	SLV 8	478	-677	9555	-256.36	89.78	13.21
957	SLV 9	-207	778	2509	-78.05	-10.36	-5.71
957	SLV 10	-298	860	2416	-75.71	-8.95	-6.57
957	SLV 11	111	-727	10350	-277.63	93.5	3.88
957	SLV 12	19	-644	10257	-275.28	94.91	3.02
957	SLV 13	-608	269	6094	-170.55	31.64	-14.03
957	SLV 14	-745	391	5955	-167.06	33.73	-15.3
957	SLV 15	-513	-183	8446	-230.42	62.79	-11.16
957	SLV 16	-650	-60	8308	-226.93	64.89	-12.43
957	SLV FO 1	1000	172	3530	-101.51	12.02	21.54
957	SLV FO 2	850	307	3377	-97.67	14.32	20.15
957	SLV FO 3	1104	-325	6117	-167.37	46.29	24.71
957	SLV FO 4	954	-190	5964	-163.53	48.6	23.31
957	SLV FO 5	264	815	1386	-48.33	-21.01	4.55
957	SLV FO 6	163	906	1283	-45.74	-19.45	3.61
957	SLV FO 7	613	-840	10010	-267.86	93.24	15.1
957	SLV FO 8	512	-749	9908	-265.27	94.79	14.16
957	SLV FO 9	-241	850	2157	-69.14	-15.36	-6.66
957	SLV FO 10	-342	941	2054	-66.56	-13.81	-7.6
957	SLV FO 11	109	-805	10782	-288.67	98.88	3.89
957	SLV FO 12	8	-714	10679	-286.09	100.43	2.95
957	SLV FO 13	-683	291	6100	-170.88	30.83	-15.81
957	SLV FO 14	-833	426	5948	-167.05	33.13	-17.21
957	SLV FO 15	-578	-206	8688	-236.74	65.1	-12.65
957	SLV FO 16	-728	-71	8535	-232.91	67.41	-14.04
957	CRTFP Ux+	0	0	0	0	0	0
957	CRTFP Ux-	0	0	0	0	0	0
957	CRTFP Uy+	0	0	0	0	0	0
957	CRTFP Uy-	0	0	0	0	0	0
960	SLU 1	-30	27	5487	2.69	85.3	0.14
960	SLU 2	-29	56	5387	2.21	84.48	0.1
960	SLU 3	-31	27	5641	2.88	88.28	0.14
960	SLU 4	-30	44	5581	2.59	87.78	0.12
960	SLU 5	-29	56	5486	2.33	86.4	0.1
960	SLU 6	-31	27	5741	3	90.2	0.13
960	SLU 7	-31	44	5681	2.71	89.71	0.11
960	SLU 8	-31	26	5686	2.94	89.15	0.13
960	SLU 9	-30	44	5626	2.65	88.66	0.11
960	SLU 10	-32	56	6135	2.51	95.95	0.05
960	SLU 11	-35	26	6389	3.18	99.75	0.08
960	SLU 12	-34	44	6329	2.89	99.26	0.06
960	SLU 13	-33	55	6235	2.63	97.88	0.04
960	SLU 14	-35	26	6489	3.3	101.67	0.08
960	SLU 15	-34	44	6429	3.01	101.18	0.06
960	SLU 16	-35	26	6434	3.24	100.62	0.08
960	SLU 17	-34	44	6374	2.95	100.13	0.06
960	SLU 18	-35	26	6556	3.13	101.69	0.06
960	SLU 19	-35	44	6496	2.84	101.2	0.04
960	SLU 20	-36	26	6655	3.25	103.61	0.06
960	SLU 21	-35	44	6595	2.96	103.12	0.03
960	SLU 22	-36	28	6456	3.39	100.52	0.1
960	SLU 23	-34	57	6356	2.91	99.7	0.07
960	SLU 24	-37	28	6611	3.58	103.5	0.1
960	SLU 25	-36	46	6551	3.29	103.01	0.08
960	SLU 26	-35	57	6456	3.03	101.63	0.07
960	SLU 27	-37	28	6710	3.7	105.42	0.1
960	SLU 28	-37	46	6650	3.41	104.93	0.08
960	SLU 29	-37	28	6656	3.64	104.37	0.1
960	SLU 30	-36	45	6596	3.35	103.88	0.08
960	SLU 31	-38	57	7104	3.21	111.17	0.01
960	SLU 32	-40	28	7359	3.88	114.97	0.05
960	SLU 33	-40	46	7299	3.59	114.48	0.03
960	SLU 34	-39	57	7204	3.33	113.1	0.01
960	SLU 35	-41	28	7458	4	116.9	0.04
960	SLU 36	-40	45	7398	3.71	116.4	0.02
960	SLU 37	-41	28	7404	3.94	115.84	0.04
960	SLU 38	-40	45	7344	3.65	115.35	0.02
960	SLU 39	-41	28	7525	3.83	116.91	0.02
960	SLU 40	-40	45	7465	3.54	116.42	0
960	SLU 41	-42	28	7625	3.95	118.84	0.02
960	SLU 42	-41	45	7565	3.66	118.34	0
960	SLU 43	-37	34	6800	3.26	105.67	0.19
960	SLU 44	-36	63	6700	2.78	104.85	0.15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
960	SLU 45	-38	34	6955	3.45	108.65	0.19
960	SLU 46	-37	52	6895	3.15	108.15	0.17
960	SLU 47	-36	63	6800	2.9	106.77	0.15
960	SLU 48	-38	34	7055	3.57	110.57	0.19
960	SLU 49	-38	52	6995	3.28	110.08	0.17
960	SLU 50	-38	34	7000	3.51	109.52	0.19
960	SLU 51	-37	51	6940	3.21	109.03	0.16
960	SLU 52	-39	63	7449	3.08	116.32	0.1
960	SLU 53	-42	34	7703	3.75	120.12	0.13
960	SLU 54	-41	51	7643	3.46	119.63	0.11
960	SLU 55	-40	63	7548	3.2	118.25	0.1
960	SLU 56	-42	34	7803	3.87	122.04	0.13
960	SLU 57	-41	51	7743	3.58	121.55	0.11
960	SLU 58	-42	34	7748	3.81	120.99	0.13
960	SLU 59	-41	51	7688	3.52	120.5	0.11
960	SLU 60	-42	34	7869	3.7	122.06	0.11
960	SLU 61	-41	51	7809	3.41	121.56	0.09
960	SLU 62	-43	34	7969	3.82	123.98	0.11
960	SLU 63	-42	51	7909	3.53	123.49	0.09
960	SLU 64	-43	36	7770	3.96	120.89	0.16
960	SLU 65	-41	65	7670	3.48	120.07	0.12
960	SLU 66	-44	36	7924	4.15	123.87	0.16
960	SLU 67	-43	53	7864	3.85	123.38	0.13
960	SLU 68	-42	65	7769	3.6	122	0.12
960	SLU 69	-44	36	8024	4.27	125.79	0.15
960	SLU 70	-43	53	7964	3.98	125.3	0.13
960	SLU 71	-44	35	7969	4.21	124.74	0.15
960	SLU 72	-43	53	7909	3.91	124.25	0.13
960	SLU 73	-45	65	8418	3.78	131.54	0.07
960	SLU 74	-47	35	8672	4.45	135.34	0.1
960	SLU 75	-47	53	8612	4.16	134.85	0.08
960	SLU 76	-46	64	8518	3.9	133.47	0.06
960	SLU 77	-48	35	8772	4.57	137.27	0.1
960	SLU 78	-47	53	8712	4.28	136.77	0.08
960	SLU 79	-47	35	8717	4.51	136.21	0.1
960	SLU 80	-47	53	8657	4.22	135.72	0.07
960	SLU 81	-48	35	8839	4.4	137.28	0.08
960	SLU 82	-47	53	8779	4.11	136.79	0.06
960	SLU 83	-49	35	8938	4.52	139.2	0.07
960	SLU 84	-48	53	8878	4.23	138.71	0.05
960	SLE RA 1	-31	27	5764	2.89	89.65	0.13
960	SLE RA 2	-31	47	5697	2.57	89.1	0.1
960	SLE RA 3	-32	27	5867	3.02	91.63	0.13
960	SLE RA 4	-32	39	5827	2.82	91.3	0.11
960	SLE RA 5	-31	46	5764	2.65	90.38	0.1
960	SLE RA 6	-33	27	5933	3.1	92.92	0.13
960	SLE RA 7	-32	39	5893	2.9	92.59	0.11
960	SLE RA 8	-32	27	5897	3.06	92.21	0.12
960	SLE RA 9	-32	39	5857	2.86	91.89	0.11
960	SLE RA 10	-33	46	6196	2.77	96.75	0.07
960	SLE RA 11	-35	27	6366	3.22	99.28	0.09
960	SLE RA 12	-34	39	6325	3.03	98.95	0.08
960	SLE RA 13	-34	46	6262	2.85	98.03	0.07
960	SLE RA 14	-35	27	6432	3.3	100.56	0.09
960	SLE RA 15	-35	39	6392	3.11	100.24	0.07
960	SLE RA 16	-35	27	6395	3.26	99.86	0.09
960	SLE RA 17	-34	38	6355	3.07	99.53	0.07
960	SLE RA 18	-35	27	6476	3.18	100.57	0.07
960	SLE RA 19	-35	38	6436	2.99	100.25	0.06
960	SLE RA 20	-35	27	6543	3.27	101.86	0.07
960	SLE RA 21	-35	38	6503	3.07	101.53	0.06
960	SLE FR 1	-31	27	5764	2.89	89.65	0.13
960	SLE FR 2	-31	31	5750	2.83	89.54	0.12
960	SLE FR 3	-32	27	5790	2.93	90.16	0.13
960	SLE FR 4	-32	31	5964	2.92	92.82	0.11
960	SLE FR 5	-33	27	6004	3.01	93.44	0.11
960	SLE FR 6	-33	27	6120	3.04	95.11	0.1
960	SLE QP 1	-31	27	5764	2.89	89.65	0.13
960	SLE QP 2	-33	27	5978	2.98	92.92	0.11
960	SLD 1	656	228	5631	-0.26	88.51	-5.25
960	SLD 2	559	196	5653	-0.06	89.43	-2.89
960	SLD 3	625	-119	6910	5.79	99.92	-4.41
960	SLD 4	528	-150	6931	5.99	100.84	-2.05
960	SLD 5	238	618	3931	-7.19	74.13	-3.2
960	SLD 6	174	597	3945	-7.06	74.73	-1.64
960	SLD 7	135	-536	8193	12.95	112.17	-0.39
960	SLD 8	71	-557	8207	13.08	112.77	1.16
960	SLD 9	-137	611	3748	-7.12	73.07	-0.94
960	SLD 10	-201	590	3762	-6.99	73.68	0.62
960	SLD 11	-239	-543	8010	13.02	111.11	1.86
960	SLD 12	-303	-564	8024	13.15	111.72	3.42
960	SLD 13	-593	204	5024	-0.02	85	2.28
960	SLD 14	-690	173	5045	0.18	85.93	4.63
960	SLD 15	-624	-143	6303	6.02	96.42	3.12
960	SLD 16	-721	-174	6324	6.22	97.34	5.47
960	SLV 1	1046	350	5401	-2.25	86.13	-8.31
960	SLV 2	894	301	5434	-1.93	87.57	-4.62
960	SLV 3	996	-209	7468	7.52	104.58	-6.96
960	SLV 4	845	-258	7501	7.83	106.03	-3.27



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
960	SLV 5	394	981	2664	-13.46	62.63	-5.15
960	SLV 6	292	949	2686	-13.25	63.6	-2.67
960	SLV 7	229	-883	9553	19.1	124.14	-0.65
960	SLV 8	127	-916	9576	19.31	125.11	1.84
960	SLV 9	-192	970	2379	-13.34	60.74	-1.61
960	SLV 10	-294	937	2402	-13.13	61.71	0.87
960	SLV 11	-358	-895	9269	19.21	122.25	2.89
960	SLV 12	-460	-928	9291	19.42	123.22	5.38
960	SLV 13	-910	312	4454	-1.87	79.82	3.49
960	SLV 14	-1061	263	4487	-1.56	81.27	7.19
960	SLV 15	-959	-247	6521	7.9	98.28	4.84
960	SLV 16	-1111	-296	6554	8.21	99.72	8.54
960	SLV FO 1	1154	383	5343	-2.77	85.45	-9.16
960	SLV FO 2	987	329	5380	-2.43	87.04	-5.09
960	SLV FO 3	1099	-233	7617	7.97	105.75	-7.67
960	SLV FO 4	932	-287	7654	8.32	107.34	-3.61
960	SLV FO 5	437	1077	2332	-15.1	59.6	-5.68
960	SLV FO 6	325	1041	2357	-14.87	60.67	-2.95
960	SLV FO 7	255	-974	9911	20.71	127.26	-0.73
960	SLV FO 8	143	-1010	9935	20.94	128.33	2.01
960	SLV FO 9	-208	1064	2020	-14.98	57.52	-1.79
960	SLV FO 10	-320	1028	2044	-14.75	58.59	0.95
960	SLV FO 11	-390	-987	9598	20.83	125.18	3.17
960	SLV FO 12	-502	-1023	9623	21.06	126.25	5.9
960	SLV FO 13	-997	340	4301	-2.35	78.51	3.83
960	SLV FO 14	-1164	287	4338	-2.01	80.1	7.89
960	SLV FO 15	-1052	-275	6575	8.39	98.81	5.32
960	SLV FO 16	-1219	-329	6612	8.73	100.4	9.38
960	CRTFP Ux+	0	0	0	0	0	0
960	CRTFP Ux-	0	0	0	0	0	0
960	CRTFP Uy+	0	0	0	0	0	0
960	CRTFP Uy-	0	0	0	0	0	0
963	SLU 1	6	175	4383	6.35	-22.64	-1.48
963	SLU 2	4	205	4297	5.85	-22.53	-1.47
963	SLU 3	6	178	4497	6.66	-23.36	-1.54
963	SLU 4	5	196	4445	6.36	-23.29	-1.53
963	SLU 5	5	206	4371	6.05	-23.01	-1.52
963	SLU 6	7	180	4571	6.86	-23.85	-1.58
963	SLU 7	6	197	4519	6.56	-23.78	-1.58
963	SLU 8	7	178	4531	6.75	-23.61	-1.57
963	SLU 9	6	196	4479	6.45	-23.55	-1.56
963	SLU 10	4	223	4889	6.67	-25.26	-1.64
963	SLU 11	6	196	5089	7.48	-26.09	-1.7
963	SLU 12	5	214	5037	7.18	-26.03	-1.7
963	SLU 13	5	224	4963	6.87	-25.75	-1.68
963	SLU 14	6	198	5163	7.68	-26.58	-1.75
963	SLU 15	5	215	5111	7.38	-26.51	-1.74
963	SLU 16	6	196	5122	7.57	-26.35	-1.73
963	SLU 17	6	214	5071	7.27	-26.28	-1.73
963	SLU 18	5	201	5229	7.52	-26.54	-1.72
963	SLU 19	4	218	5177	7.22	-26.48	-1.71
963	SLU 20	6	202	5303	7.72	-27.03	-1.76
963	SLU 21	5	220	5251	7.42	-26.96	-1.76
963	SLU 22	5	198	5140	7.72	-26.15	-1.73
963	SLU 23	4	228	5054	7.22	-26.04	-1.73
963	SLU 24	5	201	5254	8.03	-26.87	-1.79
963	SLU 25	5	219	5203	7.73	-26.81	-1.79
963	SLU 26	4	229	5128	7.42	-26.53	-1.77
963	SLU 27	6	203	5328	8.23	-27.36	-1.84
963	SLU 28	5	221	5276	7.93	-27.29	-1.83
963	SLU 29	6	201	5288	8.12	-27.13	-1.82
963	SLU 30	5	219	5236	7.82	-27.06	-1.82
963	SLU 31	3	246	5646	8.04	-28.77	-1.89
963	SLU 32	5	219	5846	8.84	-29.61	-1.96
963	SLU 33	4	237	5794	8.55	-29.54	-1.95
963	SLU 34	4	247	5720	8.24	-29.26	-1.94
963	SLU 35	6	221	5920	9.05	-30.09	-2
963	SLU 36	5	239	5868	8.75	-30.03	-2
963	SLU 37	6	219	5880	8.94	-29.86	-1.99
963	SLU 38	5	237	5828	8.64	-29.79	-1.98
963	SLU 39	4	224	5986	8.88	-30.06	-1.97
963	SLU 40	4	242	5934	8.59	-29.99	-1.97
963	SLU 41	5	225	6060	9.09	-30.54	-2.01
963	SLU 42	4	243	6008	8.79	-30.48	-2.01
963	SLU 43	8	220	5439	7.78	-28.22	-1.84
963	SLU 44	6	249	5352	7.29	-28.11	-1.83
963	SLU 45	8	223	5553	8.1	-28.95	-1.89
963	SLU 46	7	241	5501	7.8	-28.88	-1.89
963	SLU 47	7	251	5426	7.49	-28.6	-1.87
963	SLU 48	9	224	5626	8.3	-29.43	-1.94
963	SLU 49	8	242	5574	8	-29.37	-1.93
963	SLU 50	9	222	5586	8.19	-29.2	-1.92
963	SLU 51	8	240	5534	7.89	-29.13	-1.92
963	SLU 52	6	267	5944	8.11	-30.85	-1.99
963	SLU 53	8	241	6145	8.91	-31.68	-2.06
963	SLU 54	7	258	6093	8.62	-31.61	-2.06
963	SLU 55	7	269	6018	8.31	-31.33	-2.04
963	SLU 56	8	242	6218	9.11	-32.17	-2.1
963	SLU 57	7	260	6166	8.82	-32.1	-2.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
963	SLU 58	9	240	6178	9	-31.93	-2.09
963	SLU 59	8	258	6126	8.71	-31.87	-2.08
963	SLU 60	7	245	6284	8.95	-32.13	-2.07
963	SLU 61	6	263	6233	8.66	-32.06	-2.07
963	SLU 62	8	247	6358	9.15	-32.62	-2.12
963	SLU 63	7	264	6306	8.86	-32.55	-2.11
963	SLU 64	7	243	6196	9.15	-31.74	-2.09
963	SLU 65	6	272	6109	8.66	-31.63	-2.08
963	SLU 66	7	246	6310	9.46	-32.46	-2.15
963	SLU 67	7	264	6258	9.16	-32.39	-2.14
963	SLU 68	6	274	6183	8.86	-32.11	-2.13
963	SLU 69	8	247	6383	9.66	-32.95	-2.19
963	SLU 70	7	265	6332	9.37	-32.88	-2.19
963	SLU 71	8	246	6343	9.55	-32.71	-2.18
963	SLU 72	7	263	6291	9.26	-32.65	-2.17
963	SLU 73	5	290	6701	9.47	-34.36	-2.25
963	SLU 74	7	264	6902	10.28	-35.19	-2.31
963	SLU 75	6	282	6850	9.98	-35.13	-2.31
963	SLU 76	6	292	6775	9.67	-34.85	-2.29
963	SLU 77	8	265	6975	10.48	-35.68	-2.36
963	SLU 78	7	283	6924	10.18	-35.61	-2.35
963	SLU 79	8	264	6935	10.37	-35.45	-2.34
963	SLU 80	7	281	6883	10.07	-35.38	-2.34
963	SLU 81	7	268	7041	10.32	-35.64	-2.33
963	SLU 82	6	286	6990	10.02	-35.58	-2.32
963	SLU 83	7	270	7115	10.52	-36.13	-2.37
963	SLU 84	6	288	7063	10.22	-36.06	-2.37
963	SLE RA 1	6	182	4600	6.74	-23.64	-1.55
963	SLE RA 2	5	201	4542	6.41	-23.57	-1.55
963	SLE RA 3	6	184	4676	6.95	-24.12	-1.59
963	SLE RA 4	5	196	4641	6.75	-24.08	-1.59
963	SLE RA 5	5	202	4591	6.54	-23.89	-1.58
963	SLE RA 6	6	185	4725	7.08	-24.45	-1.62
963	SLE RA 7	6	197	4690	6.88	-24.4	-1.62
963	SLE RA 8	6	184	4698	7.01	-24.29	-1.61
963	SLE RA 9	6	195	4663	6.81	-24.25	-1.61
963	SLE RA 10	4	213	4937	6.95	-25.39	-1.66
963	SLE RA 11	6	196	5070	7.49	-25.94	-1.7
963	SLE RA 12	5	208	5036	7.29	-25.9	-1.7
963	SLE RA 13	5	214	4986	7.09	-25.71	-1.69
963	SLE RA 14	6	197	5119	7.63	-26.27	-1.73
963	SLE RA 15	5	209	5085	7.43	-26.23	-1.73
963	SLE RA 16	6	195	5092	7.55	-26.11	-1.72
963	SLE RA 17	5	207	5058	7.35	-26.07	-1.72
963	SLE RA 18	5	199	5163	7.52	-26.25	-1.71
963	SLE RA 19	5	211	5129	7.32	-26.2	-1.71
963	SLE RA 20	6	200	5212	7.65	-26.57	-1.74
963	SLE RA 21	5	211	5178	7.45	-26.53	-1.74
963	SLE FR 1	6	182	4600	6.74	-23.64	-1.55
963	SLE FR 2	5	186	4588	6.67	-23.63	-1.55
963	SLE FR 3	6	182	4619	6.79	-23.77	-1.56
963	SLE FR 4	5	191	4757	6.91	-24.41	-1.6
963	SLE FR 5	6	187	4788	7.03	-24.55	-1.61
963	SLE FR 6	5	190	4881	7.13	-24.94	-1.63
963	SLE QP 1	6	182	4600	6.74	-23.64	-1.55
963	SLE QP 2	6	187	4769	6.97	-24.42	-1.6
963	SLD 1	669	317	3805	3.78	-0.3	-6.04
963	SLD 2	573	351	3799	3.64	-0.14	-3.73
963	SLD 3	682	-28	4889	9.91	-1.8	-6.35
963	SLD 4	586	6	4882	9.77	-1.64	-4.04
963	SLD 5	203	742	2837	-3.25	-14.95	-2.87
963	SLD 6	139	764	2833	-3.34	-14.85	-1.34
963	SLD 7	245	-406	6449	17.17	-19.93	-3.92
963	SLD 8	182	-383	6445	17.08	-19.82	-2.39
963	SLD 9	-170	757	3092	-3.13	-29.02	-0.8
963	SLD 10	-234	779	3088	-3.22	-28.92	0.72
963	SLD 11	-128	-391	6704	17.29	-34	-1.86
963	SLD 12	-192	-368	6700	17.2	-33.89	-0.33
963	SLD 13	-575	367	4655	4.18	-47.21	0.84
963	SLD 14	-671	401	4649	4.04	-47.05	3.16
963	SLD 15	-562	23	5739	10.3	-48.7	0.53
963	SLD 16	-658	57	5732	10.16	-48.54	2.84
963	SLV 1	1044	399	3235	1.82	13.25	-8.55
963	SLV 2	893	452	3225	1.6	13.5	-4.93
963	SLV 3	1065	-158	4987	11.72	10.82	-9.07
963	SLV 4	914	-104	4977	11.5	11.07	-5.45
963	SLV 5	313	1084	1654	-9.55	-9.49	-3.58
963	SLV 6	212	1120	1647	-9.7	-9.32	-1.14
963	SLV 7	384	-770	7492	23.46	-17.58	-5.3
963	SLV 8	282	-735	7486	23.31	-17.41	-2.86
963	SLV 9	-271	1108	2052	-9.36	-31.44	-0.34
963	SLV 10	-372	1144	2045	-9.51	-31.27	2.1
963	SLV 11	-201	-747	7890	23.64	-39.53	-2.06
963	SLV 12	-302	-711	7883	23.5	-39.36	0.38
963	SLV 13	-903	478	4561	2.45	-59.91	2.25
963	SLV 14	-1054	531	4551	2.23	-59.66	5.87
963	SLV 15	-882	-79	6312	12.35	-62.34	1.73
963	SLV 16	-1033	-25	6302	12.13	-62.09	5.36
963	SLV FO 1	1148	420	3082	1.3	17.01	-9.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
963	SLV FO 2	982	478	3071	1.06	17.29	-5.26
963	SLV FO 3	1171	-192	5008	12.19	14.34	-9.82
963	SLV FO 4	1005	-134	4997	11.95	14.62	-5.83
963	SLV FO 5	344	1174	1342	-11.2	-7.99	-3.78
963	SLV FO 6	232	1213	1335	-11.36	-7.81	-1.09
963	SLV FO 7	421	-866	7765	25.1	-16.89	-5.67
963	SLV FO 8	310	-827	7757	24.94	-16.71	-2.99
963	SLV FO 9	-299	1200	1780	-11	-32.14	-0.21
963	SLV FO 10	-410	1240	1772	-11.16	-31.95	2.47
963	SLV FO 11	-221	-840	8202	25.31	-41.04	-2.11
963	SLV FO 12	-333	-801	8195	25.15	-40.85	0.58
963	SLV FO 13	-994	507	4540	1.99	-63.46	2.63
963	SLV FO 14	-1160	566	4529	1.75	-63.19	6.62
963	SLV FO 15	-971	-105	6467	12.88	-66.13	2.06
963	SLV FO 16	-1137	-46	6456	12.64	-65.86	6.05
963	CRTFP Ux+	0	0	0	0	0	0
963	CRTFP Ux-	0	0	0	0	0	0
963	CRTFP Uy+	0	0	0	0	0	0
963	CRTFP Uy-	0	0	0	0	0	0
966	SLU 1	65	3	2864	-185.8	707.04	3.26
966	SLU 2	63	19	2798	-181.63	690.57	-2.78
966	SLU 3	68	2	2951	-191.43	727.84	3.52
966	SLU 4	66	12	2912	-188.92	717.96	-0.1
966	SLU 5	65	20	2857	-185.45	704.73	-2.69
966	SLU 6	70	3	3011	-195.25	742	3.61
966	SLU 7	68	13	2971	-192.75	732.12	-0.02
966	SLU 8	69	3	2983	-193.44	735.36	3.44
966	SLU 9	68	13	2943	-190.94	725.48	-0.19
966	SLU 10	69	19	3161	-205.15	777.98	-2.28
966	SLU 11	74	2	3315	-214.95	815.25	4.02
966	SLU 12	73	12	3275	-212.45	805.37	0.39
966	SLU 13	71	19	3221	-208.97	792.15	-2.2
966	SLU 14	76	2	3374	-218.77	829.41	4.1
966	SLU 15	75	12	3334	-216.27	819.53	0.48
966	SLU 16	75	3	3346	-216.97	822.77	3.93
966	SLU 17	74	13	3306	-214.47	812.89	0.31
966	SLU 18	74	2	3383	-219.4	831.91	3.97
966	SLU 19	73	12	3343	-216.9	822.03	0.35
966	SLU 20	76	2	3442	-223.22	846.08	4.06
966	SLU 21	75	12	3403	-220.72	836.19	0.43
966	SLU 22	75	0	3350	-217.22	823.97	4.86
966	SLU 23	73	17	3284	-213.05	807.5	-1.19
966	SLU 24	78	0	3438	-222.85	844.77	5.11
966	SLU 25	76	10	3398	-220.35	834.89	1.49
966	SLU 26	75	17	3344	-216.88	821.66	-1.1
966	SLU 27	80	0	3497	-226.67	858.93	5.2
966	SLU 28	78	10	3457	-224.17	849.05	1.58
966	SLU 29	79	0	3469	-224.87	852.29	5.03
966	SLU 30	78	10	3429	-222.37	842.41	1.4
966	SLU 31	79	16	3648	-236.58	894.91	-0.69
966	SLU 32	84	-1	3801	-246.37	932.18	5.61
966	SLU 33	83	9	3761	-243.87	922.3	1.98
966	SLU 34	81	17	3707	-240.4	909.07	-0.6
966	SLU 35	86	0	3860	-250.2	946.34	5.7
966	SLU 36	85	10	3821	-247.7	936.46	2.07
966	SLU 37	85	0	3832	-248.39	939.7	5.52
966	SLU 38	84	10	3793	-245.89	929.82	1.9
966	SLU 39	84	0	3869	-250.83	948.84	5.56
966	SLU 40	83	10	3830	-248.33	938.96	1.94
966	SLU 41	86	0	3929	-254.65	963	5.65
966	SLU 42	85	10	3889	-252.15	953.12	2.02
966	SLU 43	81	4	3556	-230.76	879.06	3.7
966	SLU 44	79	21	3490	-226.59	862.59	-2.34
966	SLU 45	84	4	3644	-236.39	899.86	3.96
966	SLU 46	83	14	3604	-233.89	889.98	0.33
966	SLU 47	81	21	3550	-230.42	876.75	-2.26
966	SLU 48	86	4	3703	-240.21	914.02	4.04
966	SLU 49	85	14	3663	-237.71	904.14	0.42
966	SLU 50	85	5	3675	-238.41	907.38	3.87
966	SLU 51	84	15	3636	-235.91	897.5	0.24
966	SLU 52	85	21	3854	-250.12	950.01	-1.85
966	SLU 53	90	4	4007	-259.91	987.27	4.45
966	SLU 54	89	14	3967	-257.41	977.39	0.83
966	SLU 55	87	21	3913	-253.94	964.17	-1.76
966	SLU 56	92	4	4066	-263.74	1001.44	4.54
966	SLU 57	91	14	4027	-261.23	991.56	0.91
966	SLU 58	92	4	4038	-261.93	994.79	4.36
966	SLU 59	90	14	3999	-259.43	984.91	0.74
966	SLU 60	90	4	4076	-264.37	1003.94	4.4
966	SLU 61	89	14	4036	-261.86	994.06	0.78
966	SLU 62	92	4	4135	-268.19	1018.1	4.49
966	SLU 63	91	14	4095	-265.69	1008.22	0.87
966	SLU 64	91	2	4043	-262.19	995.99	5.29
966	SLU 65	89	18	3977	-258.02	979.52	-0.75
966	SLU 66	94	1	4130	-267.82	1016.79	5.55
966	SLU 67	93	12	4090	-265.32	1006.91	1.92
966	SLU 68	91	19	4036	-261.84	993.68	-0.67
966	SLU 69	96	2	4189	-271.64	1030.95	5.63
966	SLU 70	95	12	4150	-269.14	1021.07	2.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
966	SLU 71	95	2	4161	-269.83	1024.31	5.46
966	SLU 72	94	12	4122	-267.33	1014.43	1.84
966	SLU 73	95	18	4340	-281.54	1066.94	-0.26
966	SLU 74	100	1	4493	-291.34	1104.2	6.04
966	SLU 75	99	11	4454	-288.84	1094.32	2.42
966	SLU 76	97	18	4399	-285.37	1081.1	-0.17
966	SLU 77	102	1	4553	-295.16	1118.36	6.13
966	SLU 78	101	11	4513	-292.66	1108.48	2.5
966	SLU 79	102	2	4525	-293.36	1111.72	5.96
966	SLU 80	100	12	4485	-290.86	1101.84	2.33
966	SLU 81	100	1	4562	-295.79	1120.87	6
966	SLU 82	99	11	4522	-293.29	1110.98	2.37
966	SLU 83	102	1	4621	-299.61	1135.03	6.08
966	SLU 84	101	11	4581	-297.11	1125.15	2.46
966	SLE RA 1	68	2	3003	-194.78	740.45	3.72
966	SLE RA 2	66	13	2959	-192	729.47	-0.31
966	SLE RA 3	70	2	3061	-198.53	754.32	3.89
966	SLE RA 4	69	8	3035	-196.86	747.73	1.47
966	SLE RA 5	68	13	2998	-194.55	738.91	-0.25
966	SLE RA 6	71	2	3101	-201.08	763.76	3.95
966	SLE RA 7	70	9	3074	-199.41	757.17	1.53
966	SLE RA 8	71	2	3082	-199.87	759.33	3.83
966	SLE RA 9	70	9	3056	-198.21	752.74	1.42
966	SLE RA 10	70	13	3201	-207.68	787.74	0.02
966	SLE RA 11	74	2	3303	-214.21	812.59	4.22
966	SLE RA 12	73	8	3277	-212.54	806	1.8
966	SLE RA 13	72	13	3241	-210.23	797.18	0.08
966	SLE RA 14	75	2	3343	-216.76	822.03	4.28
966	SLE RA 15	74	8	3316	-215.09	815.44	1.86
966	SLE RA 16	75	2	3324	-215.56	817.6	4.16
966	SLE RA 17	74	9	3298	-213.89	811.02	1.75
966	SLE RA 18	74	2	3349	-217.18	823.7	4.19
966	SLE RA 19	73	8	3323	-215.51	817.11	1.77
966	SLE RA 20	75	2	3389	-219.73	833.14	4.25
966	SLE RA 21	74	8	3362	-218.06	826.55	1.83
966	SLE FR 1	68	2	3003	-194.78	740.45	3.72
966	SLE FR 2	68	4	2994	-194.22	738.25	2.91
966	SLE FR 3	69	2	3019	-195.8	744.22	3.74
966	SLE FR 4	70	4	3098	-200.94	763.23	3.05
966	SLE FR 5	70	2	3123	-202.52	769.2	3.88
966	SLE FR 6	71	2	3176	-205.98	782.07	3.95
966	SLE QP 1	68	2	3003	-194.78	740.45	3.72
966	SLE QP 2	70	2	3107	-201.5	765.42	3.86
966	SLD 1	330	85	1890	-123.29	479.77	5.67
966	SLD 2	284	170	1813	-118.42	461.05	-27.24
966	SLD 3	361	-92	2726	-176.08	687.81	69.49
966	SLD 4	314	-7	2648	-171.21	669.08	36.58
966	SLD 5	110	280	1488	-98.85	367.58	-86.45
966	SLD 6	79	336	1437	-95.64	355.22	-108.18
966	SLD 7	212	-310	4274	-274.81	1061.03	126.26
966	SLD 8	181	-254	4223	-271.59	1048.67	104.53
966	SLD 9	-42	258	1990	-131.4	482.18	-96.81
966	SLD 10	-72	314	1940	-128.19	469.81	-118.54
966	SLD 11	61	-333	4777	-307.36	1175.63	115.9
966	SLD 12	30	-276	4726	-304.14	1163.26	94.17
966	SLD 13	-175	10	3565	-231.79	861.76	-28.86
966	SLD 14	-221	96	3488	-226.92	843.04	-61.77
966	SLD 15	-144	-167	4401	-284.57	1069.8	34.96
966	SLD 16	-190	-81	4324	-279.7	1051.07	2.05
966	SLV 1	476	136	1185	-78.01	313.98	5.03
966	SLV 2	404	271	1064	-70.39	284.64	-46.53
966	SLV 3	526	-150	2537	-163.38	650.4	108.41
966	SLV 4	454	-16	2416	-155.75	621.06	56.85
966	SLV 5	130	452	503	-36.4	125.22	-142.95
966	SLV 6	81	543	421	-31.27	105.46	-177.67
966	SLV 7	296	-504	5008	-320.96	1246.64	201.63
966	SLV 8	247	-414	4927	-315.83	1226.89	166.92
966	SLV 9	-107	417	1287	-87.17	303.96	-159.2
966	SLV 10	-156	508	1205	-82.03	284.2	-193.91
966	SLV 11	59	-539	5792	-371.73	1425.38	185.39
966	SLV 12	10	-449	5711	-366.59	1405.63	150.67
966	SLV 13	-314	20	3798	-247.24	909.78	-49.13
966	SLV 14	-386	154	3677	-239.61	880.44	-100.68
966	SLV 15	-264	-267	5150	-332.61	1246.21	54.25
966	SLV 16	-336	-133	5029	-324.98	1216.87	2.69
966	SLV FO 1	517	150	993	-65.66	268.83	5.15
966	SLV FO 2	438	297	860	-57.27	236.56	-51.57
966	SLV FO 3	572	-166	2480	-159.57	638.9	118.86
966	SLV FO 4	492	-18	2347	-151.18	606.63	62.15
966	SLV FO 5	136	497	242	-19.89	61.2	-157.64
966	SLV FO 6	82	597	153	-14.24	39.47	-195.82
966	SLV FO 7	318	-555	5199	-332.91	1294.76	221.41
966	SLV FO 8	265	-455	5109	-327.26	1273.03	183.23
966	SLV FO 9	-125	459	1104	-75.74	257.81	-175.51
966	SLV FO 10	-178	558	1015	-70.09	236.08	-213.69
966	SLV FO 11	58	-593	6061	-388.75	1491.38	203.54
966	SLV FO 12	4	-494	5971	-383.1	1469.65	165.36
966	SLV FO 13	-352	22	3867	-251.81	924.22	-54.43
966	SLV FO 14	-432	169	3734	-243.43	891.94	-111.14



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
966	SLV FO 15	-298	-294	5354	-345.72	1294.29	59.29
966	SLV FO 16	-377	-146	5221	-337.33	1262.02	2.57
966	CRTFP Ux+	0	0	0	0	0	0
966	CRTFP Ux-	0	0	0	0	0	0
966	CRTFP Uy+	0	0	0	0	0	0
966	CRTFP Uy-	0	0	0	0	0	0
967	SLU 1	-28	41	3086	-80.75	-578.44	9.3
967	SLU 2	-26	59	3016	-79.08	-565.01	13.96
967	SLU 3	-29	41	3172	-82.96	-594.39	9.38
967	SLU 4	-28	52	3130	-81.96	-586.33	12.17
967	SLU 5	-27	59	3072	-80.5	-575.3	14.02
967	SLU 6	-29	41	3228	-84.38	-604.68	9.44
967	SLU 7	-28	52	3186	-83.38	-596.62	12.23
967	SLU 8	-29	41	3197	-83.6	-599.02	9.42
967	SLU 9	-28	52	3155	-82.59	-590.96	12.22
967	SLU 10	-27	65	3407	-89.24	-637.03	15.42
967	SLU 11	-30	47	3563	-93.12	-666.41	10.84
967	SLU 12	-28	58	3521	-92.12	-658.35	13.63
967	SLU 13	-27	65	3462	-90.66	-647.32	15.48
967	SLU 14	-30	47	3618	-94.54	-676.7	10.9
967	SLU 15	-29	58	3577	-93.54	-668.64	13.69
967	SLU 16	-30	47	3588	-93.75	-671.04	10.88
967	SLU 17	-28	58	3546	-92.75	-662.98	13.68
967	SLU 18	-29	49	3644	-95.26	-681.33	11.38
967	SLU 19	-28	60	3603	-94.26	-673.27	14.18
967	SLU 20	-29	50	3700	-96.69	-691.62	11.44
967	SLU 21	-28	61	3658	-95.68	-683.56	14.24
967	SLU 22	-31	45	3609	-94.28	-675.09	10.24
967	SLU 23	-29	63	3539	-92.61	-661.66	14.9
967	SLU 24	-31	45	3695	-96.49	-691.04	10.32
967	SLU 25	-30	56	3653	-95.49	-682.98	13.12
967	SLU 26	-29	64	3595	-94.03	-671.95	14.97
967	SLU 27	-32	46	3751	-97.91	-701.33	10.38
967	SLU 28	-31	57	3709	-96.91	-693.27	13.18
967	SLU 29	-31	45	3720	-97.12	-695.67	10.37
967	SLU 30	-30	57	3678	-96.12	-687.61	13.16
967	SLU 31	-29	69	3930	-102.76	-733.68	16.36
967	SLU 32	-32	51	4086	-106.65	-763.06	11.78
967	SLU 33	-31	62	4044	-105.64	-755	14.58
967	SLU 34	-30	70	3986	-104.19	-743.97	16.43
967	SLU 35	-32	51	4142	-108.07	-773.35	11.84
967	SLU 36	-31	63	4100	-107.07	-765.29	14.64
967	SLU 37	-32	51	4111	-107.28	-767.69	11.83
967	SLU 38	-31	62	4069	-106.28	-759.63	14.62
967	SLU 39	-32	53	4168	-108.79	-777.98	12.33
967	SLU 40	-30	64	4126	-107.79	-769.92	15.12
967	SLU 41	-32	54	4223	-110.21	-788.27	12.39
967	SLU 42	-31	65	4181	-109.21	-780.21	15.19
967	SLU 43	-36	51	3832	-100.34	-718.84	11.76
967	SLU 44	-34	70	3763	-98.67	-705.4	16.42
967	SLU 45	-37	52	3919	-102.55	-734.79	11.84
967	SLU 46	-36	63	3877	-101.55	-726.73	14.64
967	SLU 47	-35	70	3818	-100.09	-715.69	16.48
967	SLU 48	-37	52	3974	-103.97	-745.08	11.9
967	SLU 49	-36	63	3932	-102.97	-737.02	14.7
967	SLU 50	-37	52	3943	-103.18	-739.41	11.89
967	SLU 51	-36	63	3901	-102.18	-731.35	14.68
967	SLU 52	-35	76	4153	-108.82	-777.42	17.88
967	SLU 53	-37	58	4309	-112.71	-806.81	13.3
967	SLU 54	-36	69	4267	-111.7	-798.75	16.1
967	SLU 55	-35	76	4209	-110.25	-787.71	17.94
967	SLU 56	-38	58	4365	-114.13	-817.1	13.36
967	SLU 57	-36	69	4323	-113.13	-809.04	16.16
967	SLU 58	-37	58	4334	-113.34	-811.44	13.35
967	SLU 59	-36	69	4292	-112.34	-803.38	16.14
967	SLU 60	-37	60	4391	-114.85	-821.72	13.85
967	SLU 61	-36	71	4349	-113.85	-813.66	16.64
967	SLU 62	-37	60	4446	-116.27	-832.01	13.91
967	SLU 63	-36	71	4404	-115.27	-823.95	16.71
967	SLU 64	-38	56	4356	-113.87	-815.49	12.71
967	SLU 65	-37	74	4286	-112.19	-802.05	17.37
967	SLU 66	-39	56	4442	-116.08	-831.44	12.79
967	SLU 67	-38	67	4400	-115.07	-823.38	15.58
967	SLU 68	-37	74	4341	-113.62	-812.34	17.43
967	SLU 69	-39	56	4497	-117.5	-841.73	12.85
967	SLU 70	-38	67	4455	-116.5	-833.67	15.65
967	SLU 71	-39	56	4467	-116.71	-836.06	12.83
967	SLU 72	-38	67	4425	-115.71	-828	15.63
967	SLU 73	-37	80	4677	-122.35	-874.07	18.83
967	SLU 74	-40	62	4833	-126.24	-903.46	14.25
967	SLU 75	-39	73	4791	-125.23	-895.4	17.04
967	SLU 76	-37	80	4732	-123.77	-884.36	18.89
967	SLU 77	-40	62	4888	-127.66	-913.75	14.31
967	SLU 78	-39	73	4846	-126.65	-905.69	17.11
967	SLU 79	-40	62	4858	-126.87	-908.09	14.29
967	SLU 80	-39	73	4816	-125.86	-900.03	17.09
967	SLU 81	-39	64	4914	-128.38	-918.37	14.79
967	SLU 82	-38	75	4872	-127.37	-910.31	17.59
967	SLU 83	-40	64	4970	-129.8	-928.66	14.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
967	SLU 84	-38	76	4928	-128.8	-920.6	17.65
967	SLE RA 1	-29	42	3236	-84.62	-606.05	9.57
967	SLE RA 2	-28	54	3189	-83.5	-597.1	12.67
967	SLE RA 3	-29	42	3293	-86.09	-616.69	9.62
967	SLE RA 4	-29	50	3265	-85.42	-611.32	11.48
967	SLE RA 5	-28	54	3226	-84.45	-603.96	12.72
967	SLE RA 6	-30	42	3330	-87.04	-623.55	9.66
967	SLE RA 7	-29	50	3302	-86.37	-618.18	11.53
967	SLE RA 8	-29	42	3309	-86.51	-619.77	9.65
967	SLE RA 9	-29	50	3282	-85.84	-614.4	11.51
967	SLE RA 10	-28	58	3450	-90.27	-645.11	13.65
967	SLE RA 11	-30	46	3554	-92.86	-664.7	10.59
967	SLE RA 12	-29	54	3526	-92.19	-659.33	12.46
967	SLE RA 13	-28	58	3487	-91.22	-651.97	13.69
967	SLE RA 14	-30	46	3590	-93.81	-671.56	10.63
967	SLE RA 15	-29	54	3563	-93.14	-666.19	12.5
967	SLE RA 16	-30	46	3570	-93.28	-667.79	10.62
967	SLE RA 17	-29	54	3542	-92.62	-662.41	12.49
967	SLE RA 18	-30	48	3608	-94.29	-674.65	10.96
967	SLE RA 19	-29	55	3580	-93.62	-669.27	12.82
967	SLE RA 20	-30	48	3645	-95.24	-681.51	11
967	SLE RA 21	-29	55	3617	-94.57	-676.13	12.86
967	SLE FR 1	-29	42	3236	-84.62	-606.05	9.57
967	SLE FR 2	-29	44	3226	-84.39	-604.26	10.19
967	SLE FR 3	-29	42	3250	-85	-608.8	9.58
967	SLE FR 4	-29	46	3338	-87.3	-624.84	10.61
967	SLE FR 5	-29	44	3362	-87.9	-629.38	10
967	SLE FR 6	-29	45	3422	-89.45	-640.35	10.26
967	SLE QP 1	-29	42	3236	-84.62	-606.05	9.57
967	SLE QP 2	-29	44	3347	-87.52	-626.63	9.98
967	SLD 1	290	161	3797	-100.21	-698.67	58.89
967	SLD 2	239	68	3873	-102.03	-713.03	34.5
967	SLD 3	259	-53	4705	-121.98	-873.3	4.93
967	SLD 4	207	-145	4781	-123.81	-887.66	-19.46
967	SLD 5	124	419	2091	-57.97	-380.81	110.89
967	SLD 6	90	358	2141	-59.18	-390.29	94.79
967	SLD 7	19	-292	5118	-130.56	-962.89	-68.98
967	SLD 8	-15	-353	5169	-131.76	-972.37	-85.08
967	SLD 9	-43	440	1526	-43.28	-280.89	105.05
967	SLD 10	-77	379	1576	-44.48	-290.37	88.95
967	SLD 11	-148	-271	4553	-115.86	-862.97	-74.82
967	SLD 12	-182	-332	4604	-117.07	-872.45	-90.92
967	SLD 13	-265	232	1913	-51.23	-365.61	39.43
967	SLD 14	-317	140	1989	-53.06	-379.97	15.04
967	SLD 15	-297	19	2821	-73.01	-540.23	-14.53
967	SLD 16	-349	-73	2898	-74.83	-554.59	-38.92
967	SLV 1	472	232	4023	-106.69	-734.06	87.9
967	SLV 2	391	87	4142	-109.55	-756.56	49.69
967	SLV 3	421	-112	5490	-141.87	-1016.18	0.76
967	SLV 4	340	-257	5610	-144.73	-1038.68	-37.45
967	SLV 5	213	649	1302	-39.39	-226.78	172.66
967	SLV 6	159	552	1383	-41.31	-241.93	146.93
967	SLV 7	44	-498	6193	-156.64	-1167.18	-117.82
967	SLV 8	-11	-596	6274	-158.57	-1182.32	-143.54
967	SLV 9	-48	683	421	-16.47	-70.94	163.51
967	SLV 10	-102	586	501	-18.4	-86.09	137.79
967	SLV 11	-217	-465	5312	-133.73	-1011.34	-126.96
967	SLV 12	-272	-562	5392	-135.65	-1026.48	-152.69
967	SLV 13	-399	344	1085	-30.31	-214.59	57.42
967	SLV 14	-479	199	1204	-33.17	-237.08	19.21
967	SLV 15	-449	0	2552	-65.49	-496.71	-29.72
967	SLV 16	-530	-145	2672	-68.35	-519.2	-67.94
967	SLV FO 1	522	251	4090	-108.61	-744.81	95.7
967	SLV FO 2	433	92	4222	-111.76	-769.55	53.66
967	SLV FO 3	466	-128	5704	-147.31	-1055.14	-0.16
967	SLV FO 4	377	-287	5836	-150.45	-1079.88	-42.19
967	SLV FO 5	238	710	1098	-34.57	-186.8	188.93
967	SLV FO 6	178	603	1186	-36.69	-203.46	160.63
967	SLV FO 7	51	-553	6478	-163.56	-1221.23	-130.6
967	SLV FO 8	-9	-660	6566	-165.67	-1237.89	-158.9
967	SLV FO 9	-50	747	128	-9.37	-15.37	178.87
967	SLV FO 10	-109	640	217	-11.48	-32.03	150.57
967	SLV FO 11	-236	-516	5508	-138.35	-1049.81	-140.66
967	SLV FO 12	-296	-623	5597	-140.47	-1066.47	-168.96
967	SLV FO 13	-436	374	858	-24.59	-173.39	62.16
967	SLV FO 14	-524	215	990	-27.73	-198.13	20.13
967	SLV FO 15	-491	-5	2473	-63.28	-483.72	-33.69
967	SLV FO 16	-580	-164	2604	-66.43	-508.46	-75.73
967	CRTFP Ux+	0	0	0	0	0	0
967	CRTFP Ux-	0	0	0	0	0	0
967	CRTFP Uy+	0	0	0	0	0	0
967	CRTFP Uy-	0	0	0	0	0	0
985	SLU 1	173	65	7695	-332.61	-123.71	10.24
985	SLU 2	166	100	7521	-326.9	-121.94	10.63
985	SLU 3	180	67	7930	-342.49	-126.88	10.64
985	SLU 4	175	87	7825	-339.06	-125.82	10.87
985	SLU 5	171	101	7678	-333.53	-124.18	10.91
985	SLU 6	185	67	8087	-349.11	-129.12	10.93
985	SLU 7	181	88	7982	-345.69	-128.06	11.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	SLU 8	183	67	8010	-345.86	-128.18	10.81
985	SLU 9	179	88	7905	-342.44	-127.12	11.04
985	SLU 10	183	110	8558	-372.02	-136.64	11.64
985	SLU 11	197	77	8967	-387.61	-141.58	11.66
985	SLU 12	192	97	8863	-384.19	-140.52	11.89
985	SLU 13	188	111	8716	-378.65	-138.88	11.93
985	SLU 14	202	77	9125	-394.24	-143.82	11.94
985	SLU 15	198	98	9020	-390.81	-142.76	12.17
985	SLU 16	200	77	9047	-390.99	-142.87	11.83
985	SLU 17	196	98	8943	-387.56	-141.82	12.06
985	SLU 18	197	79	9177	-397.07	-144.7	11.69
985	SLU 19	193	100	9073	-393.65	-143.64	11.92
985	SLU 20	202	80	9335	-403.7	-146.94	11.97
985	SLU 21	198	101	9230	-400.27	-145.88	12.21
985	SLU 22	200	75	9066	-391.28	-142.84	11.83
985	SLU 23	192	110	8892	-385.57	-141.07	12.22
985	SLU 24	207	76	9301	-401.16	-146.01	12.23
985	SLU 25	202	97	9196	-397.73	-144.96	12.46
985	SLU 26	198	110	9049	-392.2	-143.31	12.5
985	SLU 27	212	77	9458	-407.79	-148.25	12.52
985	SLU 28	207	98	9353	-404.36	-147.19	12.75
985	SLU 29	210	76	9381	-404.53	-147.31	12.4
985	SLU 30	206	97	9276	-401.11	-146.25	12.63
985	SLU 31	209	120	9929	-430.7	-155.77	13.23
985	SLU 32	224	86	10338	-446.28	-160.71	13.25
985	SLU 33	219	107	10234	-442.86	-159.65	13.48
985	SLU 34	215	120	10087	-437.32	-158.01	13.52
985	SLU 35	229	87	10496	-452.91	-162.95	13.53
985	SLU 36	224	108	10391	-449.49	-161.89	13.76
985	SLU 37	227	86	10418	-449.66	-162	13.42
985	SLU 38	223	107	10314	-446.23	-160.95	13.65
985	SLU 39	224	89	10548	-455.74	-163.83	13.28
985	SLU 40	220	110	10444	-452.32	-162.77	13.51
985	SLU 41	229	90	10706	-462.37	-166.07	13.56
985	SLU 42	225	111	10601	-458.95	-165.01	13.8
985	SLU 43	215	81	9534	-412.27	-154.26	12.76
985	SLU 44	208	116	9359	-406.57	-152.5	13.15
985	SLU 45	222	83	9768	-422.15	-157.43	13.17
985	SLU 46	218	104	9664	-418.73	-156.38	13.4
985	SLU 47	213	117	9516	-413.19	-154.73	13.44
985	SLU 48	227	84	9925	-428.78	-159.67	13.45
985	SLU 49	223	104	9821	-425.35	-158.61	13.69
985	SLU 50	226	83	9848	-425.53	-158.73	13.34
985	SLU 51	221	104	9743	-422.1	-157.67	13.57
985	SLU 52	225	126	10397	-451.69	-167.19	14.17
985	SLU 53	239	93	10806	-467.28	-172.13	14.18
985	SLU 54	235	114	10701	-463.85	-171.07	14.41
985	SLU 55	230	127	10554	-458.32	-169.43	14.45
985	SLU 56	244	94	10963	-473.9	-174.37	14.47
985	SLU 57	240	115	10859	-470.48	-173.31	14.7
985	SLU 58	243	93	10886	-470.65	-173.43	14.35
985	SLU 59	238	114	10781	-467.23	-172.37	14.58
985	SLU 60	240	96	11016	-476.74	-175.25	14.21
985	SLU 61	235	117	10911	-473.31	-174.2	14.45
985	SLU 62	245	96	11173	-483.36	-177.49	14.5
985	SLU 63	241	117	11069	-479.94	-176.43	14.73
985	SLU 64	242	91	10905	-470.94	-173.39	14.35
985	SLU 65	235	126	10730	-465.24	-171.63	14.74
985	SLU 66	249	92	11139	-480.82	-176.56	14.76
985	SLU 67	245	113	11035	-477.4	-175.51	14.99
985	SLU 68	240	127	10887	-471.86	-173.86	15.03
985	SLU 69	254	93	11296	-487.45	-178.8	15.04
985	SLU 70	250	114	11192	-484.03	-177.74	15.28
985	SLU 71	253	93	11219	-484.2	-177.86	14.93
985	SLU 72	248	113	11115	-480.77	-176.8	15.16
985	SLU 73	252	136	11768	-510.36	-186.32	15.76
985	SLU 74	266	102	12177	-525.95	-191.26	15.77
985	SLU 75	262	123	12072	-522.52	-190.21	16
985	SLU 76	257	137	11925	-516.99	-188.56	16.04
985	SLU 77	271	103	12334	-532.58	-193.5	16.06
985	SLU 78	267	124	12230	-529.15	-192.44	16.29
985	SLU 79	270	103	12257	-529.32	-192.56	15.94
985	SLU 80	265	124	12152	-525.9	-191.5	16.17
985	SLU 81	267	105	12387	-535.41	-194.38	15.8
985	SLU 82	262	126	12282	-531.98	-193.33	16.04
985	SLU 83	272	106	12544	-542.04	-196.62	16.09
985	SLU 84	267	127	12440	-538.61	-195.56	16.32
985	SLE RA 1	180	68	8087	-349.37	-129.17	10.69
985	SLE RA 2	176	91	7971	-345.57	-128	10.95
985	SLE RA 3	185	69	8243	-355.96	-131.29	10.96
985	SLE RA 4	182	83	8173	-353.67	-130.58	11.12
985	SLE RA 5	179	92	8075	-349.98	-129.49	11.14
985	SLE RA 6	188	69	8348	-360.37	-132.78	11.15
985	SLE RA 7	186	83	8278	-358.09	-132.07	11.31
985	SLE RA 8	187	69	8297	-358.21	-132.15	11.07
985	SLE RA 9	184	83	8227	-355.92	-131.45	11.23
985	SLE RA 10	187	98	8662	-375.65	-137.79	11.63
985	SLE RA 11	196	75	8935	-386.04	-141.09	11.64
985	SLE RA 12	194	89	8865	-383.76	-140.38	11.79



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
985	SLE RA 13	190	98	8767	-380.07	-139.28	11.82
985	SLE RA 14	200	76	9040	-390.46	-142.58	11.83
985	SLE RA 15	197	90	8970	-388.17	-141.87	11.98
985	SLE RA 16	199	76	8988	-388.29	-141.95	11.75
985	SLE RA 17	196	90	8919	-386.01	-141.24	11.91
985	SLE RA 18	197	77	9075	-392.35	-143.17	11.66
985	SLE RA 19	194	91	9005	-390.06	-142.46	11.81
985	SLE RA 20	200	78	9180	-396.76	-144.66	11.85
985	SLE RA 21	197	92	9110	-394.48	-143.95	12
985	SLE FR 1	180	68	8087	-349.37	-129.17	10.69
985	SLE FR 2	179	72	8064	-348.61	-128.94	10.74
985	SLE FR 3	182	68	8129	-351.14	-129.77	10.77
985	SLE FR 4	184	75	8360	-361.5	-133.14	11.03
985	SLE FR 5	187	71	8425	-364.03	-133.97	11.06
985	SLE FR 6	189	73	8581	-370.86	-136.17	11.18
985	SLE QP 1	180	68	8087	-349.37	-129.17	10.69
985	SLE QP 2	185	71	8383	-362.26	-133.37	10.98
985	SLD 1	906	161	6268	-285.51	-107.57	40.72
985	SLD 2	775	270	6133	-281.18	-102.81	39.6
985	SLD 3	984	-223	8475	-358.91	-130.22	36.52
985	SLD 4	853	-114	8339	-354.57	-125.45	35.41
985	SLD 5	307	661	4426	-228.7	-92.15	26.47
985	SLD 6	220	732	4337	-225.84	-89	25.73
985	SLD 7	567	-620	11782	-473.35	-167.63	12.48
985	SLD 8	480	-548	11692	-470.49	-164.48	11.74
985	SLD 9	-110	689	5074	-254.03	-102.26	10.22
985	SLD 10	-196	761	4985	-251.17	-99.12	9.48
985	SLD 11	151	-591	12430	-498.68	-177.74	-3.77
985	SLD 12	64	-519	12340	-495.82	-174.59	-4.51
985	SLD 13	-482	256	8427	-369.95	-141.29	-13.44
985	SLD 14	-613	364	8292	-365.62	-136.52	-14.56
985	SLD 15	-404	-128	10634	-443.35	-163.93	-17.64
985	SLD 16	-535	-20	10498	-439.01	-159.17	-18.75
985	SLV 1	1312	222	5021	-240.44	-92.33	57.69
985	SLV 2	1106	392	4809	-233.65	-84.87	55.94
985	SLV 3	1439	-399	8589	-359.13	-128.97	50.91
985	SLV 4	1233	-229	8377	-352.35	-121.5	49.16
985	SLV 5	369	1027	2003	-146.97	-66.89	35.61
985	SLV 6	231	1141	1860	-142.4	-61.86	34.43
985	SLV 7	792	-1044	13896	-542.61	-189.01	13
985	SLV 8	654	-930	13753	-538.04	-183.98	11.82
985	SLV 9	-283	1071	3013	-186.49	-82.76	10.14
985	SLV 10	-422	1186	2870	-181.92	-77.73	8.96
985	SLV 11	140	-1000	14907	-582.13	-204.88	-12.47
985	SLV 12	2	-885	14764	-577.56	-199.85	-13.64
985	SLV 13	-863	370	8390	-372.18	-145.24	-27.2
985	SLV 14	-1068	541	8177	-365.39	-137.77	-28.95
985	SLV 15	-736	-251	11958	-490.87	-181.87	-33.98
985	SLV 16	-941	-81	11745	-484.09	-174.41	-35.73
985	SLV FO 1	1424	237	4685	-228.26	-88.23	62.36
985	SLV FO 2	1198	424	4451	-220.79	-80.02	60.44
985	SLV FO 3	1564	-446	8610	-358.82	-128.53	54.9
985	SLV FO 4	1338	-259	8376	-351.35	-120.32	52.98
985	SLV FO 5	387	1122	1365	-125.44	-60.24	38.07
985	SLV FO 6	235	1248	1207	-120.41	-54.71	36.78
985	SLV FO 7	853	-1156	14448	-560.64	-194.57	13.2
985	SLV FO 8	701	-1030	14290	-555.62	-189.04	11.91
985	SLV FO 9	-330	1171	2476	-168.91	-77.7	10.06
985	SLV FO 10	-482	1297	2319	-163.88	-72.17	8.76
985	SLV FO 11	136	-1107	15559	-604.12	-212.03	-14.81
985	SLV FO 12	-17	-981	15402	-599.09	-206.5	-16.11
985	SLV FO 13	-967	400	8390	-373.17	-146.42	-31.01
985	SLV FO 14	-1193	588	8157	-365.71	-138.21	-32.94
985	SLV FO 15	-828	-283	12315	-503.73	-186.72	-38.47
985	SLV FO 16	-1054	-96	12082	-496.27	-178.51	-40.4
985	CRTFP Ux+	0	0	0	0	0	0
985	CRTFP Ux-	0	0	0	0	0	0
985	CRTFP Uy+	0	0	0	0	0	0
985	CRTFP Uy-	0	0	0	0	0	0
1002	SLU 1	-30	28	5587	3.6	78.33	0.2
1002	SLU 2	-29	57	5471	3.09	77.56	0.17
1002	SLU 3	-31	28	5748	3.81	81.07	0.2
1002	SLU 4	-31	46	5678	3.51	80.6	0.18
1002	SLU 5	-30	57	5575	3.23	79.33	0.17
1002	SLU 6	-32	28	5852	3.95	82.84	0.2
1002	SLU 7	-31	46	5782	3.64	82.37	0.18
1002	SLU 8	-32	28	5795	3.88	81.87	0.19
1002	SLU 9	-31	45	5725	3.57	81.41	0.18
1002	SLU 10	-33	57	6231	3.52	88.06	0.11
1002	SLU 11	-35	28	6507	4.24	91.57	0.14
1002	SLU 12	-34	46	6438	3.93	91.1	0.12
1002	SLU 13	-33	57	6334	3.66	89.83	0.11
1002	SLU 14	-35	28	6611	4.38	93.34	0.14
1002	SLU 15	-35	45	6542	4.07	92.87	0.12
1002	SLU 16	-35	28	6554	4.31	92.37	0.13
1002	SLU 17	-34	45	6485	4	91.91	0.12
1002	SLU 18	-35	28	6672	4.22	93.33	0.11
1002	SLU 19	-35	45	6603	3.91	92.87	0.09
1002	SLU 20	-36	28	6776	4.35	95.1	0.11



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1002	SLU 21	-35	45	6707	4.05	94.64	0.09
1002	SLU 22	-36	30	6581	4.46	92.29	0.17
1002	SLU 23	-35	59	6465	3.95	91.52	0.14
1002	SLU 24	-37	30	6742	4.67	95.03	0.17
1002	SLU 25	-36	47	6672	4.37	94.56	0.15
1002	SLU 26	-35	59	6569	4.09	93.29	0.14
1002	SLU 27	-38	30	6846	4.81	96.8	0.17
1002	SLU 28	-37	47	6776	4.5	96.33	0.15
1002	SLU 29	-37	30	6789	4.74	95.83	0.17
1002	SLU 30	-36	47	6719	4.43	95.37	0.15
1002	SLU 31	-38	59	7225	4.38	102.02	0.08
1002	SLU 32	-41	30	7502	5.1	105.53	0.11
1002	SLU 33	-40	47	7432	4.8	105.06	0.09
1002	SLU 34	-39	59	7329	4.52	103.79	0.08
1002	SLU 35	-41	30	7606	5.24	107.3	0.11
1002	SLU 36	-40	47	7536	4.93	106.83	0.09
1002	SLU 37	-41	29	7549	5.17	106.33	0.11
1002	SLU 38	-40	47	7479	4.86	105.87	0.09
1002	SLU 39	-41	30	7667	5.08	107.29	0.08
1002	SLU 40	-40	47	7597	4.77	106.83	0.06
1002	SLU 41	-42	29	7770	5.21	109.06	0.08
1002	SLU 42	-41	47	7701	4.91	108.6	0.06
1002	SLU 43	-38	36	6922	4.39	97.05	0.26
1002	SLU 44	-36	65	6806	3.88	96.27	0.24
1002	SLU 45	-39	36	7083	4.6	99.78	0.27
1002	SLU 46	-38	53	7013	4.29	99.32	0.25
1002	SLU 47	-37	65	6910	4.02	98.04	0.24
1002	SLU 48	-39	36	7187	4.74	101.55	0.26
1002	SLU 49	-38	53	7117	4.43	101.09	0.25
1002	SLU 50	-39	36	7130	4.66	100.59	0.26
1002	SLU 51	-38	53	7060	4.36	100.12	0.25
1002	SLU 52	-40	65	7566	4.31	106.77	0.18
1002	SLU 53	-42	36	7843	5.03	110.28	0.21
1002	SLU 54	-41	53	7773	4.72	109.82	0.19
1002	SLU 55	-40	65	7670	4.45	108.54	0.18
1002	SLU 56	-43	36	7947	5.16	112.05	0.2
1002	SLU 57	-42	53	7877	4.86	111.59	0.19
1002	SLU 58	-42	35	7890	5.09	111.09	0.2
1002	SLU 59	-41	53	7820	4.79	110.62	0.19
1002	SLU 60	-43	36	8008	5	112.05	0.18
1002	SLU 61	-42	53	7938	4.69	111.58	0.16
1002	SLU 62	-43	36	8111	5.14	113.82	0.18
1002	SLU 63	-42	53	8042	4.83	113.35	0.16
1002	SLU 64	-43	38	7916	5.25	111.01	0.24
1002	SLU 65	-42	67	7800	4.74	110.23	0.21
1002	SLU 66	-44	38	8077	5.46	113.74	0.24
1002	SLU 67	-44	55	8007	5.15	113.28	0.22
1002	SLU 68	-43	67	7904	4.88	112	0.21
1002	SLU 69	-45	38	8181	5.6	115.51	0.24
1002	SLU 70	-44	55	8111	5.29	115.05	0.22
1002	SLU 71	-44	37	8124	5.52	114.55	0.23
1002	SLU 72	-44	55	8054	5.22	114.08	0.22
1002	SLU 73	-45	67	8560	5.17	120.73	0.15
1002	SLU 74	-48	38	8837	5.89	124.24	0.18
1002	SLU 75	-47	55	8767	5.58	123.78	0.16
1002	SLU 76	-46	66	8664	5.31	122.5	0.15
1002	SLU 77	-48	37	8941	6.03	126.01	0.18
1002	SLU 78	-48	55	8871	5.72	125.55	0.16
1002	SLU 79	-48	37	8884	5.95	125.05	0.17
1002	SLU 80	-47	55	8814	5.65	124.58	0.16
1002	SLU 81	-48	37	9002	5.86	126.01	0.15
1002	SLU 82	-47	55	8932	5.56	125.54	0.13
1002	SLU 83	-49	37	9106	6	127.78	0.15
1002	SLU 84	-48	55	9036	5.69	127.31	0.13
1002	SLE RA 1	-32	29	5871	3.85	82.32	0.19
1002	SLE RA 2	-31	48	5794	3.51	81.81	0.17
1002	SLE RA 3	-33	29	5978	3.99	84.15	0.19
1002	SLE RA 4	-32	40	5932	3.78	83.84	0.18
1002	SLE RA 5	-32	48	5863	3.6	82.99	0.17
1002	SLE RA 6	-33	29	6047	4.08	85.32	0.19
1002	SLE RA 7	-33	40	6001	3.88	85.02	0.18
1002	SLE RA 8	-33	28	6009	4.03	84.68	0.19
1002	SLE RA 9	-32	40	5963	3.83	84.37	0.18
1002	SLE RA 10	-33	48	6300	3.79	88.81	0.13
1002	SLE RA 11	-35	29	6485	4.27	91.14	0.15
1002	SLE RA 12	-35	40	6438	4.07	90.84	0.14
1002	SLE RA 13	-34	48	6369	3.89	89.99	0.13
1002	SLE RA 14	-35	28	6554	4.37	92.32	0.15
1002	SLE RA 15	-35	40	6507	4.16	92.02	0.14
1002	SLE RA 16	-35	28	6516	4.32	91.68	0.15
1002	SLE RA 17	-35	40	6470	4.11	91.37	0.14
1002	SLE RA 18	-35	28	6595	4.26	92.32	0.13
1002	SLE RA 19	-35	40	6548	4.05	92.01	0.12
1002	SLE RA 20	-36	28	6664	4.35	93.5	0.13
1002	SLE RA 21	-35	40	6617	4.15	93.19	0.12
1002	SLE FR 1	-32	29	5871	3.85	82.32	0.19
1002	SLE FR 2	-32	32	5855	3.78	82.22	0.18
1002	SLE FR 3	-32	28	5899	3.88	82.79	0.19
1002	SLE FR 4	-33	32	6073	3.9	85.22	0.17



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1002	SLE FR 5	-33	28	6116	4.01	85.79	0.17
1002	SLE FR 6	-34	28	6233	4.05	87.32	0.16
1002	SLE QP 1	-32	29	5871	3.85	82.32	0.19
1002	SLE QP 2	-33	28	6088	3.97	85.32	0.17
1002	SLD 1	683	229	5639	0.82	81.82	-5.05
1002	SLD 2	574	198	5667	1.03	82.79	-2.78
1002	SLD 3	648	-117	7117	7.16	92.61	-4.33
1002	SLD 4	539	-148	7145	7.37	93.58	-2.05
1002	SLD 5	254	618	3706	-6.63	67.73	-2.91
1002	SLD 6	182	598	3725	-6.49	68.37	-1.41
1002	SLD 7	138	-534	8634	14.51	103.7	-0.48
1002	SLD 8	66	-554	8652	14.65	104.34	1.02
1002	SLD 9	-132	611	3524	-6.71	66.3	-0.68
1002	SLD 10	-204	591	3542	-6.57	66.94	0.82
1002	SLD 11	-248	-541	8451	14.44	102.28	1.75
1002	SLD 12	-320	-561	8470	14.57	102.92	3.25
1002	SLD 13	-605	205	5031	0.57	77.06	2.39
1002	SLD 14	-714	174	5059	0.78	78.03	4.67
1002	SLD 15	-640	-141	6509	6.91	87.85	3.12
1002	SLD 16	-749	-172	6537	7.12	88.82	5.39
1002	SLV 1	1089	351	5346	-1.12	79.82	-8.04
1002	SLV 2	918	302	5389	-0.79	81.34	-4.48
1002	SLV 3	1033	-207	7735	9.14	97.28	-6.87
1002	SLV 4	862	-256	7779	9.46	98.8	-3.31
1002	SLV 5	420	981	2233	-13.16	56.92	-4.74
1002	SLV 6	305	948	2263	-12.94	57.94	-2.34
1002	SLV 7	234	-880	10198	21.01	115.1	-0.83
1002	SLV 8	119	-913	10227	21.23	116.12	1.57
1002	SLV 9	-185	969	1949	-13.29	54.52	-1.23
1002	SLV 10	-300	937	1978	-13.07	55.55	1.17
1002	SLV 11	-371	-891	9914	20.89	112.7	2.68
1002	SLV 12	-486	-924	9943	21.1	113.73	5.08
1002	SLV 13	-928	313	4397	-1.52	71.85	3.65
1002	SLV 14	-1099	264	4441	-1.19	73.37	7.21
1002	SLV 15	-984	-245	6787	8.73	89.3	4.82
1002	SLV 16	-1155	-294	6830	9.06	90.82	8.38
1002	SLV FO 1	1201	383	5272	-1.62	79.27	-8.86
1002	SLV FO 2	1013	330	5320	-1.27	80.94	-4.94
1002	SLV FO 3	1139	-231	7900	9.65	98.47	-7.57
1002	SLV FO 4	952	-284	7948	10.01	100.14	-3.65
1002	SLV FO 5	465	1076	1848	-14.88	54.08	-5.23
1002	SLV FO 6	339	1040	1880	-14.64	55.2	-2.59
1002	SLV FO 7	260	-971	10609	22.71	118.07	-0.93
1002	SLV FO 8	134	-1007	10641	22.95	119.2	1.71
1002	SLV FO 9	-200	1064	1535	-15.01	51.44	-1.37
1002	SLV FO 10	-326	1027	1567	-14.77	52.57	1.27
1002	SLV FO 11	-405	-983	10296	22.58	115.44	2.93
1002	SLV FO 12	-532	-1019	10328	22.82	116.57	5.57
1002	SLV FO 13	-1018	341	4228	-2.07	70.5	3.99
1002	SLV FO 14	-1205	288	4276	-1.71	72.17	7.91
1002	SLV FO 15	-1079	-273	6857	9.21	89.7	5.28
1002	SLV FO 16	-1267	-326	6904	9.57	91.37	9.2
1002	CRTFP Ux+	0	0	0	0	0	0
1002	CRTFP Ux-	0	0	0	0	0	0
1002	CRTFP Uy+	0	0	0	0	0	0
1002	CRTFP Uy-	0	0	0	0	0	0
1005	SLU 1	14	178	4614	8.02	-20.59	-1.54
1005	SLU 2	12	207	4511	7.5	-20.48	-1.53
1005	SLU 3	15	181	4739	8.39	-21.25	-1.6
1005	SLU 4	14	199	4677	8.07	-21.18	-1.59
1005	SLU 5	13	209	4592	7.73	-20.93	-1.58
1005	SLU 6	15	183	4820	8.63	-21.69	-1.64
1005	SLU 7	14	200	4758	8.31	-21.63	-1.64
1005	SLU 8	15	181	4776	8.5	-21.48	-1.62
1005	SLU 9	14	198	4714	8.18	-21.42	-1.62
1005	SLU 10	13	226	5134	8.55	-22.92	-1.69
1005	SLU 11	15	199	5361	9.44	-23.69	-1.75
1005	SLU 12	14	217	5300	9.13	-23.62	-1.75
1005	SLU 13	14	227	5214	8.79	-23.37	-1.73
1005	SLU 14	16	201	5442	9.68	-24.13	-1.8
1005	SLU 15	15	219	5380	9.36	-24.07	-1.79
1005	SLU 16	16	199	5398	9.55	-23.92	-1.78
1005	SLU 17	15	217	5336	9.23	-23.86	-1.78
1005	SLU 18	15	204	5503	9.53	-24.07	-1.76
1005	SLU 19	14	222	5441	9.21	-24.01	-1.76
1005	SLU 20	15	205	5584	9.77	-24.52	-1.8
1005	SLU 21	14	223	5522	9.45	-24.46	-1.8
1005	SLU 22	14	201	5420	9.7	-23.74	-1.79
1005	SLU 23	13	231	5318	9.17	-23.63	-1.79
1005	SLU 24	15	205	5545	10.07	-24.4	-1.85
1005	SLU 25	14	222	5484	9.75	-24.33	-1.85
1005	SLU 26	14	232	5398	9.41	-24.08	-1.83
1005	SLU 27	16	206	5626	10.31	-24.84	-1.89
1005	SLU 28	15	224	5564	9.99	-24.78	-1.89
1005	SLU 29	16	204	5582	10.18	-24.63	-1.88
1005	SLU 30	15	222	5520	9.86	-24.57	-1.88
1005	SLU 31	13	249	5940	10.23	-26.07	-1.94
1005	SLU 32	16	223	6167	11.12	-26.83	-2.01
1005	SLU 33	15	241	6106	10.81	-26.77	-2.01



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1005	SLU 34	14	251	6020	10.47	-26.52	-1.99
1005	SLU 35	16	224	6248	11.36	-27.28	-2.05
1005	SLU 36	15	242	6186	11.04	-27.22	-2.05
1005	SLU 37	16	223	6204	11.23	-27.07	-2.04
1005	SLU 38	15	240	6142	10.91	-27.01	-2.03
1005	SLU 39	15	227	6309	11.21	-27.22	-2.01
1005	SLU 40	14	245	6247	10.89	-27.16	-2.01
1005	SLU 41	16	229	6390	11.45	-27.67	-2.06
1005	SLU 42	15	247	6328	11.13	-27.61	-2.06
1005	SLU 43	18	223	5722	9.85	-25.68	-1.91
1005	SLU 44	16	252	5619	9.33	-25.58	-1.91
1005	SLU 45	19	226	5847	10.22	-26.34	-1.97
1005	SLU 46	18	244	5785	9.9	-26.28	-1.97
1005	SLU 47	17	254	5700	9.56	-26.03	-1.95
1005	SLU 48	19	228	5928	10.46	-26.79	-2.01
1005	SLU 49	18	245	5866	10.14	-26.73	-2.01
1005	SLU 50	19	226	5884	10.33	-26.58	-2
1005	SLU 51	18	244	5822	10.01	-26.52	-2
1005	SLU 52	17	271	6241	10.38	-28.02	-2.06
1005	SLU 53	19	245	6469	11.28	-28.78	-2.13
1005	SLU 54	18	262	6407	10.96	-28.72	-2.12
1005	SLU 55	18	272	6322	10.62	-28.47	-2.11
1005	SLU 56	20	246	6550	11.51	-29.23	-2.17
1005	SLU 57	19	264	6488	11.2	-29.17	-2.17
1005	SLU 58	20	244	6506	11.38	-29.02	-2.15
1005	SLU 59	19	262	6444	11.07	-28.96	-2.15
1005	SLU 60	19	249	6611	11.36	-29.17	-2.13
1005	SLU 61	18	267	6549	11.04	-29.11	-2.13
1005	SLU 62	19	251	6692	11.6	-29.62	-2.18
1005	SLU 63	18	268	6630	11.28	-29.55	-2.18
1005	SLU 64	18	246	6528	11.53	-28.83	-2.16
1005	SLU 65	17	276	6425	11.01	-28.73	-2.16
1005	SLU 66	19	250	6653	11.9	-29.49	-2.22
1005	SLU 67	18	268	6591	11.58	-29.43	-2.22
1005	SLU 68	18	278	6506	11.24	-29.18	-2.21
1005	SLU 69	20	251	6734	12.14	-29.94	-2.27
1005	SLU 70	19	269	6672	11.82	-29.88	-2.27
1005	SLU 71	20	249	6690	12.01	-29.73	-2.25
1005	SLU 72	19	267	6628	11.69	-29.66	-2.25
1005	SLU 73	17	294	7048	12.06	-31.17	-2.32
1005	SLU 74	20	268	7275	12.95	-31.93	-2.38
1005	SLU 75	19	286	7214	12.64	-31.87	-2.38
1005	SLU 76	18	296	7128	12.3	-31.61	-2.36
1005	SLU 77	20	270	7356	13.19	-32.38	-2.43
1005	SLU 78	19	287	7294	12.87	-32.32	-2.42
1005	SLU 79	20	268	7312	13.06	-32.17	-2.41
1005	SLU 80	19	286	7250	12.75	-32.1	-2.41
1005	SLU 81	19	273	7417	13.04	-32.32	-2.39
1005	SLU 82	18	290	7355	12.72	-32.25	-2.39
1005	SLU 83	20	274	7498	13.28	-32.77	-2.43
1005	SLU 84	19	292	7436	12.96	-32.7	-2.43
1005	SLE RA 1	14	184	4845	8.5	-21.49	-1.61
1005	SLE RA 2	13	204	4776	8.15	-21.42	-1.61
1005	SLE RA 3	14	187	4928	8.75	-21.93	-1.65
1005	SLE RA 4	14	198	4887	8.54	-21.88	-1.65
1005	SLE RA 5	14	205	4830	8.31	-21.72	-1.64
1005	SLE RA 6	15	188	4982	8.91	-22.22	-1.68
1005	SLE RA 7	14	199	4941	8.69	-22.18	-1.68
1005	SLE RA 8	15	186	4952	8.82	-22.08	-1.67
1005	SLE RA 9	14	198	4911	8.61	-22.04	-1.67
1005	SLE RA 10	13	216	5191	8.85	-23.04	-1.71
1005	SLE RA 11	15	199	5343	9.45	-23.55	-1.75
1005	SLE RA 12	14	211	5301	9.24	-23.51	-1.75
1005	SLE RA 13	14	217	5245	9.01	-23.34	-1.74
1005	SLE RA 14	15	200	5396	9.61	-23.85	-1.78
1005	SLE RA 15	15	212	5355	9.4	-23.81	-1.78
1005	SLE RA 16	15	199	5367	9.52	-23.71	-1.77
1005	SLE RA 17	15	210	5326	9.31	-23.67	-1.77
1005	SLE RA 18	14	202	5437	9.51	-23.81	-1.76
1005	SLE RA 19	14	214	5396	9.3	-23.77	-1.76
1005	SLE RA 20	15	203	5491	9.67	-24.11	-1.79
1005	SLE RA 21	14	215	5450	9.45	-24.07	-1.79
1005	SLE FR 1	14	184	4845	8.5	-21.49	-1.61
1005	SLE FR 2	14	188	4831	8.43	-21.47	-1.61
1005	SLE FR 3	14	185	4866	8.57	-21.61	-1.62
1005	SLE FR 4	14	194	5009	8.73	-22.17	-1.65
1005	SLE FR 5	14	190	5044	8.87	-22.3	-1.67
1005	SLE FR 6	14	193	5141	9.01	-22.65	-1.68
1005	SLE QP 1	14	184	4845	8.5	-21.49	-1.61
1005	SLE QP 2	14	190	5022	8.8	-22.18	-1.65
1005	SLD 1	701	319	3953	5.3	1.29	-5.97
1005	SLD 2	593	353	3942	5.16	1.54	-3.74
1005	SLD 3	714	-24	5240	11.83	-0.1	-6.3
1005	SLD 4	607	10	5229	11.69	0.15	-4.08
1005	SLD 5	219	743	2750	-2.13	-13.08	-2.84
1005	SLD 6	148	765	2743	-2.22	-12.92	-1.36
1005	SLD 7	264	-401	7042	19.64	-17.71	-3.96
1005	SLD 8	193	-379	7035	19.55	-17.55	-2.49
1005	SLD 9	-164	758	3009	-1.94	-26.82	-0.82



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1005	SLD 10	-236	780	3002	-2.03	-26.66	0.66
1005	SLD 11	-120	-386	7301	19.83	-31.45	-1.94
1005	SLD 12	-191	-364	7294	19.73	-31.29	-0.47
1005	SLD 13	-578	370	4815	5.91	-44.52	0.77
1005	SLD 14	-686	403	4804	5.78	-44.27	3
1005	SLD 15	-565	26	6103	12.45	-45.91	0.43
1005	SLD 16	-673	60	6092	12.31	-45.66	2.66
1005	SLV 1	1089	401	3317	3.15	14.48	-8.41
1005	SLV 2	920	454	3300	2.93	14.86	-4.92
1005	SLV 3	1111	-154	5399	13.71	12.22	-8.96
1005	SLV 4	942	-101	5382	13.49	12.6	-5.47
1005	SLV 5	334	1085	1357	-8.86	-7.83	-3.5
1005	SLV 6	221	1120	1346	-9.01	-7.57	-1.15
1005	SLV 7	409	-765	8295	26.32	-15.36	-5.33
1005	SLV 8	295	-729	8284	26.18	-15.1	-2.98
1005	SLV 9	-267	1108	1761	-8.57	-29.27	-0.33
1005	SLV 10	-380	1144	1749	-8.72	-29.01	2.02
1005	SLV 11	-192	-741	8699	26.61	-36.8	-2.16
1005	SLV 12	-306	-705	8688	26.47	-36.54	0.19
1005	SLV 13	-914	480	4663	4.12	-56.97	2.16
1005	SLV 14	-1083	533	4646	3.9	-56.59	5.65
1005	SLV 15	-892	-75	6744	14.67	-59.23	1.61
1005	SLV 16	-1061	-22	6727	14.46	-58.85	5.1
1005	SLV FO 1	1196	422	3147	2.58	18.14	-9.09
1005	SLV FO 2	1010	480	3128	2.35	18.57	-5.25
1005	SLV FO 3	1221	-188	5436	14.2	15.66	-9.69
1005	SLV FO 4	1035	-130	5418	13.96	16.08	-5.85
1005	SLV FO 5	366	1174	991	-10.63	-6.4	-3.68
1005	SLV FO 6	241	1213	978	-10.79	-6.11	-1.1
1005	SLV FO 7	448	-860	8623	28.08	-14.68	-5.7
1005	SLV FO 8	323	-821	8610	27.92	-14.39	-3.11
1005	SLV FO 9	-295	1200	1435	-10.31	-29.97	-0.19
1005	SLV FO 10	-420	1240	1422	-10.47	-29.69	2.39
1005	SLV FO 11	-213	-834	9067	28.4	-38.26	-2.21
1005	SLV FO 12	-338	-795	9054	28.24	-37.97	0.38
1005	SLV FO 13	-1007	509	4627	3.65	-60.45	2.54
1005	SLV FO 14	-1193	568	4608	3.41	-60.03	6.38
1005	SLV FO 15	-982	-101	6917	15.26	-62.94	1.94
1005	SLV FO 16	-1168	-43	6898	15.02	-62.51	5.78
1005	CRTFP Ux+	0	0	0	0	0	0
1005	CRTFP Ux-	0	0	0	0	0	0
1005	CRTFP Uy+	0	0	0	0	0	0
1005	CRTFP Uy-	0	0	0	0	0	0
1010	SLU 1	41	16	2006	56.09	470.71	-5.04
1010	SLU 2	39	25	1957	54.66	459.43	-7.23
1010	SLU 3	43	16	2068	57.83	484.93	-5.16
1010	SLU 4	42	22	2038	56.97	478.16	-6.48
1010	SLU 5	41	25	1998	55.82	468.91	-7.31
1010	SLU 6	44	16	2110	59	494.41	-5.24
1010	SLU 7	43	22	2080	58.14	487.64	-6.56
1010	SLU 8	44	16	2089	58.42	489.67	-5.19
1010	SLU 9	43	22	2059	57.56	482.9	-6.51
1010	SLU 10	44	27	2227	62.22	522.24	-7.98
1010	SLU 11	47	19	2339	65.39	547.74	-5.91
1010	SLU 12	46	24	2309	64.53	540.97	-7.22
1010	SLU 13	45	28	2269	63.38	531.72	-8.06
1010	SLU 14	48	19	2381	66.56	557.22	-5.98
1010	SLU 15	47	24	2351	65.69	550.45	-7.3
1010	SLU 16	48	19	2360	65.98	552.48	-5.94
1010	SLU 17	47	24	2330	65.12	545.71	-7.25
1010	SLU 18	47	20	2393	66.89	560.44	-6.1
1010	SLU 19	46	25	2363	66.03	553.67	-7.42
1010	SLU 20	48	20	2435	68.06	569.92	-6.18
1010	SLU 21	47	25	2405	67.19	563.15	-7.5
1010	SLU 22	47	18	2366	66.17	553.97	-5.78
1010	SLU 23	46	27	2317	64.73	542.68	-7.98
1010	SLU 24	49	19	2428	67.91	568.19	-5.91
1010	SLU 25	48	24	2398	67.05	561.42	-7.23
1010	SLU 26	47	27	2358	65.9	552.16	-8.06
1010	SLU 27	50	19	2470	69.07	577.67	-5.99
1010	SLU 28	49	24	2440	68.21	570.9	-7.3
1010	SLU 29	50	19	2449	68.5	572.93	-5.94
1010	SLU 30	49	24	2419	67.64	566.16	-7.26
1010	SLU 31	50	30	2587	72.29	605.5	-8.72
1010	SLU 32	53	21	2699	75.47	631	-6.65
1010	SLU 33	52	26	2669	74.61	624.23	-7.97
1010	SLU 34	51	30	2629	73.46	614.98	-8.8
1010	SLU 35	54	21	2740	76.63	640.48	-6.73
1010	SLU 36	53	27	2711	75.77	633.71	-8.05
1010	SLU 37	54	21	2720	76.06	635.74	-6.68
1010	SLU 38	53	27	2690	75.19	628.97	-8
1010	SLU 39	53	22	2753	76.97	643.7	-6.85
1010	SLU 40	52	27	2723	76.11	636.93	-8.17
1010	SLU 41	55	22	2794	78.13	653.18	-6.93
1010	SLU 42	54	27	2765	77.27	646.41	-8.24
1010	SLU 43	51	20	2485	69.47	583.38	-6.3
1010	SLU 44	50	29	2435	68.03	572.09	-8.49
1010	SLU 45	53	20	2547	71.21	597.6	-6.42
1010	SLU 46	52	26	2517	70.35	590.83	-7.74



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1010	SLU 47	51	29	2477	69.19	581.57	-8.57
1010	SLU 48	54	20	2588	72.37	607.08	-6.5
1010	SLU 49	53	26	2558	71.51	600.31	-7.81
1010	SLU 50	54	20	2568	71.79	602.34	-6.45
1010	SLU 51	53	26	2538	70.93	595.57	-7.77
1010	SLU 52	54	31	2706	75.59	634.91	-9.23
1010	SLU 53	57	23	2818	78.77	660.41	-7.16
1010	SLU 54	56	28	2788	77.9	653.64	-8.48
1010	SLU 55	55	32	2747	76.75	644.39	-9.31
1010	SLU 56	58	23	2859	79.93	669.89	-7.24
1010	SLU 57	57	28	2829	79.07	663.12	-8.56
1010	SLU 58	58	23	2838	79.35	665.15	-7.19
1010	SLU 59	57	28	2809	78.49	658.38	-8.51
1010	SLU 60	57	24	2872	80.26	673.11	-7.36
1010	SLU 61	56	29	2842	79.4	666.34	-8.68
1010	SLU 62	58	24	2913	81.43	682.59	-7.44
1010	SLU 63	57	29	2883	80.57	675.82	-8.75
1010	SLU 64	58	22	2845	79.54	666.63	-7.04
1010	SLU 65	56	31	2795	78.11	655.35	-9.24
1010	SLU 66	59	23	2907	81.28	680.85	-7.16
1010	SLU 67	58	28	2877	80.42	674.08	-8.48
1010	SLU 68	57	31	2836	79.27	664.83	-9.31
1010	SLU 69	61	23	2948	82.45	690.33	-7.24
1010	SLU 70	60	28	2918	81.59	683.56	-8.56
1010	SLU 71	60	23	2928	81.87	685.6	-7.19
1010	SLU 72	59	28	2898	81.01	678.83	-8.51
1010	SLU 73	60	34	3066	85.67	718.16	-9.98
1010	SLU 74	63	25	3177	88.84	743.67	-7.91
1010	SLU 75	62	30	3148	87.98	736.9	-9.23
1010	SLU 76	61	34	3107	86.83	727.64	-10.06
1010	SLU 77	65	25	3219	90.01	753.15	-7.99
1010	SLU 78	64	31	3189	89.14	746.38	-9.3
1010	SLU 79	64	25	3198	89.43	748.41	-7.94
1010	SLU 80	63	31	3169	88.57	741.64	-9.26
1010	SLU 81	64	26	3231	90.34	756.37	-8.1
1010	SLU 82	62	31	3202	89.48	749.6	-9.42
1010	SLU 83	65	26	3273	91.5	765.85	-8.18
1010	SLU 84	64	31	3243	90.64	759.08	-9.5
1010	SLE RA 1	43	17	2109	58.97	494.5	-5.25
1010	SLE RA 2	42	23	2076	58.02	486.97	-6.72
1010	SLE RA 3	44	17	2150	60.13	503.98	-5.33
1010	SLE RA 4	43	20	2131	59.56	499.46	-6.21
1010	SLE RA 5	43	23	2104	58.79	493.29	-6.77
1010	SLE RA 6	45	17	2178	60.91	510.3	-5.39
1010	SLE RA 7	44	20	2158	60.33	505.78	-6.26
1010	SLE RA 8	45	17	2164	60.52	507.14	-5.35
1010	SLE RA 9	44	20	2145	59.95	502.62	-6.23
1010	SLE RA 10	45	24	2256	63.05	528.85	-7.21
1010	SLE RA 11	47	18	2331	65.17	545.85	-5.83
1010	SLE RA 12	46	22	2311	64.6	541.34	-6.71
1010	SLE RA 13	45	24	2284	63.83	535.17	-7.26
1010	SLE RA 14	48	19	2359	65.95	552.17	-5.88
1010	SLE RA 15	47	22	2339	65.37	547.66	-6.76
1010	SLE RA 16	47	19	2345	65.56	549.01	-5.85
1010	SLE RA 17	47	22	2325	64.99	544.5	-6.73
1010	SLE RA 18	47	19	2367	66.17	554.32	-5.96
1010	SLE RA 19	46	23	2347	65.6	549.8	-6.84
1010	SLE RA 20	48	19	2395	66.95	560.64	-6.01
1010	SLE RA 21	47	23	2375	66.37	556.13	-6.89
1010	SLE FR 1	43	17	2109	58.97	494.5	-5.25
1010	SLE FR 2	43	18	2102	58.78	492.99	-5.54
1010	SLE FR 3	43	17	2120	59.28	497.02	-5.27
1010	SLE FR 4	44	19	2180	60.94	510.94	-5.76
1010	SLE FR 5	44	17	2198	61.44	514.97	-5.49
1010	SLE FR 6	45	18	2238	62.57	524.41	-5.61
1010	SLE QP 1	43	17	2109	58.97	494.5	-5.25
1010	SLE QP 2	44	17	2186	61.13	512.44	-5.46
1010	SLD 1	237	67	1596	44.11	375.05	-22.08
1010	SLD 2	201	92	1559	43.07	367.57	-27.5
1010	SLD 3	255	-33	2222	62.18	516.9	2.29
1010	SLD 4	219	-7	2186	61.14	509.43	-3.13
1010	SLD 5	81	178	1065	28.81	257.43	-46.43
1010	SLD 6	57	195	1041	28.12	252.49	-50.01
1010	SLD 7	141	-153	3154	89.04	730.27	34.8
1010	SLD 8	117	-136	3130	88.35	725.34	31.22
1010	SLD 9	-29	170	1243	33.91	299.55	-42.15
1010	SLD 10	-53	187	1219	33.22	294.61	-45.73
1010	SLD 11	31	-160	3332	94.14	772.4	39.08
1010	SLD 12	7	-143	3307	93.46	767.46	35.5
1010	SLD 13	-131	41	2187	61.12	515.46	-7.8
1010	SLD 14	-167	67	2150	60.08	507.98	-13.22
1010	SLD 15	-113	-58	2814	79.19	657.31	16.57
1010	SLD 16	-149	-32	2777	78.15	649.84	11.15
1010	SLV 1	346	97	1247	34.07	294.11	-32.12
1010	SLV 2	289	137	1190	32.44	282.39	-40.6
1010	SLV 3	376	-63	2261	63.29	523.47	7.3
1010	SLV 4	319	-23	2203	61.66	511.75	-1.18
1010	SLV 5	101	277	379	9	101.26	-71.66
1010	SLV 6	63	304	340	7.91	93.38	-77.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1010	SLV 7	199	-258	3756	106.4	865.8	59.73
1010	SLV 8	160	-231	3718	105.3	857.91	54.02
1010	SLV 9	-72	265	655	16.96	166.97	-64.95
1010	SLV 10	-110	293	617	15.87	159.08	-70.66
1010	SLV 11	26	-270	4033	114.36	931.51	66.44
1010	SLV 12	-13	-242	3994	113.26	923.62	60.73
1010	SLV 13	-231	58	2170	60.61	513.13	-9.75
1010	SLV 14	-287	98	2112	58.98	501.42	-18.23
1010	SLV 15	-201	-103	3183	89.82	742.49	29.67
1010	SLV 16	-258	-62	3126	88.19	730.78	21.19
1010	SLV FO 1	376	105	1153	31.36	272.27	-34.78
1010	SLV FO 2	314	149	1091	29.57	259.39	-44.11
1010	SLV FO 3	409	-72	2268	63.5	524.57	8.57
1010	SLV FO 4	346	-27	2205	61.71	511.69	-0.76
1010	SLV FO 5	106	303	198	3.79	60.15	-78.28
1010	SLV FO 6	64	333	156	2.58	51.47	-84.56
1010	SLV FO 7	214	-285	3913	110.92	901.14	66.25
1010	SLV FO 8	172	-255	3871	109.72	892.46	59.97
1010	SLV FO 9	-84	290	502	12.55	132.43	-70.9
1010	SLV FO 10	-126	320	460	11.34	123.75	-77.18
1010	SLV FO 11	24	-298	4217	119.68	973.42	73.63
1010	SLV FO 12	-18	-268	4175	118.47	964.74	67.35
1010	SLV FO 13	-258	62	2168	60.55	513.2	-10.17
1010	SLV FO 14	-320	106	2105	58.76	500.31	-19.5
1010	SLV FO 15	-226	-115	3282	92.69	765.5	33.18
1010	SLV FO 16	-288	-70	3219	90.9	752.61	23.85
1010	CRTFP Ux+	0	0	0	0	0	0
1010	CRTFP Ux-	0	0	0	0	0	0
1010	CRTFP Uy+	0	0	0	0	0	0
1010	CRTFP Uy-	0	0	0	0	0	0
1011	SLU 1	-41	64	4997	-1120.34	-842.59	1.11
1011	SLU 2	-38	92	4879	-1095.91	-822.56	7.04
1011	SLU 3	-42	64	5138	-1151.3	-866.29	0.97
1011	SLU 4	-40	82	5067	-1136.64	-854.27	4.53
1011	SLU 5	-38	93	4970	-1115.83	-837.84	6.99
1011	SLU 6	-43	65	5228	-1171.22	-881.57	0.92
1011	SLU 7	-41	82	5157	-1156.57	-869.55	4.48
1011	SLU 8	-42	65	5178	-1160.18	-873.15	1.01
1011	SLU 9	-40	82	5107	-1145.53	-861.14	4.56
1011	SLU 10	-38	102	5514	-1237.17	-929.44	8.62
1011	SLU 11	-42	74	5773	-1292.55	-973.17	2.56
1011	SLU 12	-40	91	5702	-1277.9	-961.15	6.12
1011	SLU 13	-39	102	5605	-1257.09	-944.72	8.57
1011	SLU 14	-43	74	5864	-1312.48	-988.45	2.51
1011	SLU 15	-41	92	5793	-1297.82	-976.44	6.06
1011	SLU 16	-42	74	5814	-1301.44	-980.04	2.59
1011	SLU 17	-40	91	5743	-1286.78	-968.02	6.15
1011	SLU 18	-41	77	5905	-1322.13	-995.27	3.37
1011	SLU 19	-39	95	5834	-1307.48	-983.26	6.93
1011	SLU 20	-42	78	5995	-1342.05	-1010.56	3.32
1011	SLU 21	-40	95	5924	-1327.4	-998.54	6.88
1011	SLU 22	-44	70	5850	-1309.06	-986.1	1.43
1011	SLU 23	-41	99	5732	-1284.63	-966.08	7.36
1011	SLU 24	-45	71	5990	-1340.02	-1009.81	1.3
1011	SLU 25	-43	88	5920	-1325.36	-997.79	4.86
1011	SLU 26	-42	99	5822	-1304.55	-981.36	7.31
1011	SLU 27	-46	71	6081	-1359.94	-1025.09	1.25
1011	SLU 28	-44	89	6010	-1345.29	-1013.07	4.81
1011	SLU 29	-45	71	6031	-1348.91	-1016.67	1.33
1011	SLU 30	-43	88	5960	-1334.25	-1004.66	4.89
1011	SLU 31	-41	109	6367	-1425.89	-1072.96	8.95
1011	SLU 32	-46	80	6626	-1481.27	-1116.69	2.88
1011	SLU 33	-44	98	6555	-1466.62	-1104.67	6.44
1011	SLU 34	-42	109	6458	-1445.81	-1088.24	8.9
1011	SLU 35	-46	81	6716	-1501.2	-1131.97	2.83
1011	SLU 36	-44	98	6646	-1486.54	-1119.96	6.39
1011	SLU 37	-46	81	6666	-1490.16	-1123.55	2.91
1011	SLU 38	-44	98	6596	-1475.51	-1111.54	6.47
1011	SLU 39	-45	84	6757	-1510.85	-1138.79	3.7
1011	SLU 40	-43	101	6687	-1496.2	-1126.78	7.26
1011	SLU 41	-45	84	6848	-1530.78	-1154.08	3.65
1011	SLU 42	-43	102	6777	-1516.12	-1142.06	7.2
1011	SLU 43	-52	81	6203	-1391.73	-1046.15	1.33
1011	SLU 44	-49	109	6086	-1367.31	-1026.13	7.26
1011	SLU 45	-53	81	6344	-1422.69	-1069.86	1.2
1011	SLU 46	-51	98	6273	-1408.04	-1057.84	4.75
1011	SLU 47	-50	110	6176	-1387.23	-1041.41	7.21
1011	SLU 48	-54	82	6435	-1442.62	-1085.14	1.14
1011	SLU 49	-52	99	6364	-1427.96	-1073.12	4.7
1011	SLU 50	-53	81	6385	-1431.58	-1076.72	1.23
1011	SLU 51	-51	99	6314	-1416.92	-1064.71	4.78
1011	SLU 52	-49	119	6721	-1508.56	-1133.01	8.85
1011	SLU 53	-54	91	6980	-1563.95	-1176.74	2.78
1011	SLU 54	-52	108	6909	-1549.29	-1164.72	6.34
1011	SLU 55	-50	119	6812	-1528.49	-1148.29	8.79
1011	SLU 56	-54	91	7070	-1583.87	-1192.02	2.73
1011	SLU 57	-52	108	6999	-1569.22	-1180	6.29
1011	SLU 58	-54	91	7020	-1572.84	-1183.6	2.81
1011	SLU 59	-52	108	6949	-1558.18	-1171.59	6.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	SLU 60	-53	94	7111	-1593.53	-1198.84	3.59
1011	SLU 61	-51	111	7040	-1578.87	-1186.83	7.15
1011	SLU 62	-53	95	7202	-1613.45	-1214.13	3.54
1011	SLU 63	-51	112	7131	-1598.8	-1202.11	7.1
1011	SLU 64	-56	87	7056	-1580.45	-1189.67	1.66
1011	SLU 65	-52	116	6938	-1556.03	-1169.65	7.59
1011	SLU 66	-57	88	7197	-1611.41	-1213.37	1.52
1011	SLU 67	-55	105	7126	-1596.76	-1201.36	5.08
1011	SLU 68	-53	116	7029	-1575.95	-1184.93	7.53
1011	SLU 69	-57	88	7288	-1631.34	-1228.66	1.47
1011	SLU 70	-55	105	7217	-1616.68	-1216.64	5.03
1011	SLU 71	-57	88	7238	-1620.3	-1220.24	1.55
1011	SLU 72	-55	105	7167	-1605.65	-1208.22	5.11
1011	SLU 73	-52	125	7574	-1697.28	-1276.53	9.17
1011	SLU 74	-57	97	7832	-1752.67	-1320.26	3.1
1011	SLU 75	-55	114	7762	-1738.01	-1308.24	6.66
1011	SLU 76	-53	126	7664	-1717.21	-1291.81	9.12
1011	SLU 77	-57	98	7923	-1772.59	-1335.54	3.05
1011	SLU 78	-55	115	7852	-1757.94	-1323.52	6.61
1011	SLU 79	-57	98	7873	-1761.56	-1327.12	3.14
1011	SLU 80	-55	115	7802	-1746.9	-1315.11	6.69
1011	SLU 81	-56	101	7964	-1782.25	-1342.36	3.92
1011	SLU 82	-54	118	7893	-1767.59	-1330.35	7.48
1011	SLU 83	-56	101	8055	-1802.17	-1357.65	3.87
1011	SLU 84	-54	118	7984	-1787.52	-1345.63	7.42
1011	SLE RA 1	-42	66	5240	-1174.26	-883.59	1.2
1011	SLE RA 2	-40	85	5162	-1157.97	-870.24	5.16
1011	SLE RA 3	-43	66	5334	-1194.9	-899.39	1.11
1011	SLE RA 4	-41	77	5287	-1185.13	-891.38	3.48
1011	SLE RA 5	-40	85	5222	-1171.25	-880.43	5.12
1011	SLE RA 6	-43	66	5395	-1208.18	-909.58	1.08
1011	SLE RA 7	-42	78	5348	-1198.41	-901.57	3.45
1011	SLE RA 8	-43	66	5361	-1200.82	-903.97	1.13
1011	SLE RA 9	-41	78	5314	-1191.05	-895.96	3.5
1011	SLE RA 10	-40	91	5585	-1252.14	-941.49	6.21
1011	SLE RA 11	-43	72	5758	-1289.07	-970.65	2.17
1011	SLE RA 12	-42	84	5711	-1279.3	-962.64	4.54
1011	SLE RA 13	-40	91	5646	-1265.43	-951.68	6.18
1011	SLE RA 14	-43	73	5818	-1302.35	-980.84	2.13
1011	SLE RA 15	-42	84	5771	-1292.58	-972.82	4.51
1011	SLE RA 16	-43	73	5785	-1294.99	-975.22	2.19
1011	SLE RA 17	-42	84	5738	-1285.22	-967.21	4.56
1011	SLE RA 18	-42	75	5846	-1308.79	-985.38	2.71
1011	SLE RA 19	-41	86	5798	-1299.02	-977.37	5.08
1011	SLE RA 20	-43	75	5906	-1322.07	-995.57	2.68
1011	SLE RA 21	-41	86	5859	-1312.3	-987.56	5.05
1011	SLE FR 1	-42	66	5240	-1174.26	-883.59	1.2
1011	SLE FR 2	-42	69	5225	-1171	-880.92	1.99
1011	SLE FR 3	-42	66	5265	-1179.57	-887.67	1.19
1011	SLE FR 4	-42	72	5406	-1211.36	-911.46	2.45
1011	SLE FR 5	-42	68	5446	-1219.93	-918.2	1.64
1011	SLE FR 6	-42	70	5543	-1241.52	-934.49	1.96
1011	SLE QP 1	-42	66	5240	-1174.26	-883.59	1.2
1011	SLE QP 2	-42	68	5422	-1214.62	-914.13	1.65
1011	SLD 1	462	362	6131	-1387.2	-1025.13	163.86
1011	SLD 2	377	217	6261	-1414.09	-1046.71	117.76
1011	SLD 3	407	30	7663	-1704.85	-1285.24	91.63
1011	SLD 4	323	-114	7793	-1731.74	-1306.82	45.54
1011	SLD 5	207	685	3288	-779.78	-549.05	168.16
1011	SLD 6	152	590	3373	-797.53	-563.29	137.73
1011	SLD 7	25	-420	8395	-1838.61	-1416.07	-72.59
1011	SLD 8	-31	-515	8480	-1856.37	-1430.32	-103.03
1011	SLD 9	-53	652	2364	-572.86	-397.94	106.34
1011	SLD 10	-109	557	2449	-590.62	-412.19	75.9
1011	SLD 11	-236	-453	7471	-1631.7	-1264.96	-134.42
1011	SLD 12	-292	-549	7556	-1649.45	-1279.21	-164.85
1011	SLD 13	-407	251	3051	-697.49	-521.44	-42.23
1011	SLD 14	-491	106	3181	-724.38	-543.02	-88.32
1011	SLD 15	-462	-81	4583	-1015.14	-781.55	-114.45
1011	SLD 16	-546	-225	4713	-1042.03	-803.12	-160.55
1011	SLV 1	748	536	6485	-1474.85	-1079.93	257.49
1011	SLV 2	616	310	6688	-1516.98	-1113.73	185.27
1011	SLV 3	660	0	8960	-1988	-1500.14	140.94
1011	SLV 4	528	-226	9163	-2030.13	-1533.94	68.73
1011	SLV 5	354	1063	1949	-506.55	-320.25	268.64
1011	SLV 6	265	911	2086	-534.92	-343.01	220.02
1011	SLV 7	59	-722	10199	-2217.04	-1720.93	-119.84
1011	SLV 8	-30	-874	10336	-2245.4	-1743.69	-168.46
1011	SLV 9	-55	1011	508	-183.83	-84.57	171.77
1011	SLV 10	-144	859	645	-212.19	-107.33	123.15
1011	SLV 11	-349	-774	8758	-1894.31	-1485.25	-216.71
1011	SLV 12	-438	-926	8895	-1922.68	-1508.01	-265.33
1011	SLV 13	-612	362	1681	-399.1	-294.32	-65.42
1011	SLV 14	-744	136	1884	-441.23	-328.12	-137.63
1011	SLV 15	-700	-173	4156	-912.25	-714.52	-181.96
1011	SLV 16	-833	-399	4359	-954.38	-748.32	-254.18
1011	SLV FO 1	827	582	6591	-1500.88	-1096.51	283.07
1011	SLV FO 2	682	334	6814	-1547.22	-1133.7	203.64
1011	SLV FO 3	730	-7	9314	-2065.34	-1558.74	154.87



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1011	SLV FO 4	585	-255	9537	-2111.68	-1595.92	75.44
1011	SLV FO 5	393	1162	1602	-435.75	-260.86	295.34
1011	SLV FO 6	295	995	1752	-466.95	-285.9	241.86
1011	SLV FO 7	70	-801	10677	-2317.28	-1801.61	-131.99
1011	SLV FO 8	-28	-968	10827	-2348.48	-1826.65	-185.47
1011	SLV FO 9	-56	1105	17	-80.75	-1.61	188.78
1011	SLV FO 10	-154	938	167	-111.95	-26.65	135.3
1011	SLV FO 11	-379	-858	9092	-1962.28	-1542.36	-238.55
1011	SLV FO 12	-477	-1026	9242	-1993.48	-1567.39	-292.03
1011	SLV FO 13	-669	392	1307	-317.55	-232.34	-72.13
1011	SLV FO 14	-815	143	1530	-363.9	-269.52	-151.56
1011	SLV FO 15	-766	-197	4030	-882.01	-694.56	-200.33
1011	SLV FO 16	-912	-446	4253	-928.36	-731.74	-279.76
1011	CRTFP Ux+	0	0	0	0	0	0
1011	CRTFP Ux-	0	0	0	0	0	0
1011	CRTFP Uy+	0	0	0	0	0	0
1011	CRTFP Uy-	0	0	0	0	0	0
1013	SLU 1	-29	40	3109	-873.83	-82.19	-9.1
1013	SLU 2	-27	58	3037	-855.78	-80.31	-7.92
1013	SLU 3	-30	40	3196	-897.45	-84.48	-9.32
1013	SLU 4	-28	51	3153	-886.62	-83.35	-8.62
1013	SLU 5	-27	58	3093	-870.97	-81.79	-8.05
1013	SLU 6	-30	40	3252	-912.64	-85.95	-9.44
1013	SLU 7	-29	51	3209	-901.81	-84.83	-8.74
1013	SLU 8	-30	40	3221	-904.21	-85.14	-9.34
1013	SLU 9	-28	51	3178	-893.38	-84.01	-8.64
1013	SLU 10	-27	64	3431	-963.85	-90.7	-7.94
1013	SLU 11	-30	46	3589	-1005.53	-94.87	-9.34
1013	SLU 12	-29	57	3547	-994.69	-93.74	-8.64
1013	SLU 13	-28	64	3487	-979.04	-92.18	-8.06
1013	SLU 14	-30	46	3645	-1020.72	-96.34	-9.46
1013	SLU 15	-29	57	3603	-1009.88	-95.22	-8.76
1013	SLU 16	-30	46	3615	-1012.29	-95.53	-9.36
1013	SLU 17	-29	57	3572	-1001.45	-94.4	-8.65
1013	SLU 18	-29	48	3671	-1028.23	-97.03	-9.12
1013	SLU 19	-28	59	3628	-1017.39	-95.9	-8.42
1013	SLU 20	-30	48	3727	-1043.42	-98.51	-9.24
1013	SLU 21	-29	59	3684	-1032.58	-97.38	-8.54
1013	SLU 22	-31	43	3636	-1017.98	-96.1	-9.85
1013	SLU 23	-29	62	3565	-999.93	-94.22	-8.68
1013	SLU 24	-32	44	3723	-1041.6	-98.39	-10.08
1013	SLU 25	-31	55	3680	-1030.77	-97.27	-9.38
1013	SLU 26	-30	62	3621	-1015.12	-95.7	-8.8
1013	SLU 27	-32	44	3779	-1056.79	-99.87	-10.2
1013	SLU 28	-31	55	3736	-1045.96	-98.74	-9.5
1013	SLU 29	-32	44	3748	-1048.36	-99.05	-10.1
1013	SLU 30	-31	55	3706	-1037.53	-97.93	-9.39
1013	SLU 31	-30	68	3959	-1108.01	-104.61	-8.7
1013	SLU 32	-32	50	4117	-1149.68	-108.78	-10.09
1013	SLU 33	-31	61	4074	-1138.85	-107.66	-9.39
1013	SLU 34	-30	68	4015	-1123.2	-106.09	-8.82
1013	SLU 35	-33	50	4173	-1164.87	-110.26	-10.22
1013	SLU 36	-32	61	4130	-1154.04	-109.13	-9.51
1013	SLU 37	-32	50	4142	-1156.44	-109.44	-10.11
1013	SLU 38	-31	61	4099	-1145.61	-108.32	-9.41
1013	SLU 39	-32	52	4199	-1172.38	-110.94	-9.87
1013	SLU 40	-31	63	4156	-1161.55	-109.82	-9.17
1013	SLU 41	-32	52	4255	-1187.57	-112.42	-10
1013	SLU 42	-31	63	4212	-1176.74	-111.29	-9.29
1013	SLU 43	-37	50	3860	-1086.55	-102.07	-11.56
1013	SLU 44	-35	69	3789	-1068.5	-100.19	-10.39
1013	SLU 45	-37	50	3947	-1110.17	-104.36	-11.79
1013	SLU 46	-36	62	3904	-1099.34	-103.24	-11.09
1013	SLU 47	-35	69	3845	-1083.69	-101.67	-10.51
1013	SLU 48	-38	51	4003	-1125.36	-105.84	-11.91
1013	SLU 49	-37	62	3960	-1114.53	-104.71	-11.21
1013	SLU 50	-37	51	3972	-1116.93	-105.02	-11.81
1013	SLU 51	-36	62	3930	-1106.1	-103.9	-11.11
1013	SLU 52	-35	74	4183	-1176.58	-110.58	-10.41
1013	SLU 53	-38	56	4341	-1218.25	-114.75	-11.81
1013	SLU 54	-37	67	4298	-1207.42	-113.63	-11.1
1013	SLU 55	-36	75	4239	-1191.77	-112.06	-10.53
1013	SLU 56	-38	56	4397	-1233.44	-116.23	-11.93
1013	SLU 57	-37	68	4354	-1222.61	-115.1	-11.23
1013	SLU 58	-38	56	4366	-1225.01	-115.41	-11.83
1013	SLU 59	-37	67	4323	-1214.18	-114.29	-11.12
1013	SLU 60	-37	58	4423	-1240.95	-116.91	-11.59
1013	SLU 61	-36	69	4380	-1230.12	-115.79	-10.88
1013	SLU 62	-38	59	4479	-1256.14	-118.39	-11.71
1013	SLU 63	-37	70	4436	-1245.31	-117.26	-11.01
1013	SLU 64	-39	54	4388	-1230.71	-115.99	-12.32
1013	SLU 65	-37	72	4317	-1212.65	-114.11	-11.15
1013	SLU 66	-40	54	4475	-1254.33	-118.28	-12.55
1013	SLU 67	-39	65	4432	-1243.49	-117.15	-11.84
1013	SLU 68	-38	73	4373	-1227.84	-115.59	-11.27
1013	SLU 69	-40	55	4531	-1269.52	-119.75	-12.67
1013	SLU 70	-39	66	4488	-1258.68	-118.63	-11.97
1013	SLU 71	-40	55	4500	-1261.09	-118.94	-12.57
1013	SLU 72	-39	66	4457	-1250.26	-117.81	-11.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1013	SLU 73	-38	78	4710	-1320.73	-124.5	-11.16
1013	SLU 74	-40	60	4869	-1362.4	-128.67	-12.56
1013	SLU 75	-39	71	4826	-1351.57	-127.54	-11.86
1013	SLU 76	-38	79	4766	-1335.92	-125.98	-11.29
1013	SLU 77	-41	60	4925	-1377.59	-130.14	-12.69
1013	SLU 78	-39	71	4882	-1366.76	-129.02	-11.98
1013	SLU 79	-40	60	4894	-1369.17	-129.33	-12.58
1013	SLU 80	-39	71	4851	-1358.33	-128.2	-11.88
1013	SLU 81	-40	62	4951	-1385.1	-130.83	-12.34
1013	SLU 82	-39	73	4908	-1374.27	-129.7	-11.64
1013	SLU 83	-40	62	5007	-1400.29	-132.31	-12.47
1013	SLU 84	-39	74	4964	-1389.46	-131.18	-11.76
1013	SLE RA 1	-30	41	3259	-915.02	-86.16	-9.31
1013	SLE RA 2	-28	53	3212	-902.98	-84.91	-8.53
1013	SLE RA 3	-30	41	3317	-930.76	-87.69	-9.46
1013	SLE RA 4	-29	48	3289	-923.54	-86.94	-8.99
1013	SLE RA 5	-29	53	3249	-913.11	-85.89	-8.61
1013	SLE RA 6	-30	41	3355	-940.89	-88.67	-9.54
1013	SLE RA 7	-29	49	3326	-933.67	-87.92	-9.08
1013	SLE RA 8	-30	41	3334	-935.27	-88.13	-9.47
1013	SLE RA 9	-29	48	3306	-928.05	-87.38	-9.01
1013	SLE RA 10	-29	57	3474	-975.03	-91.84	-8.54
1013	SLE RA 11	-30	45	3580	-1002.81	-94.62	-9.47
1013	SLE RA 12	-30	52	3551	-995.59	-93.86	-9
1013	SLE RA 13	-29	57	3512	-985.16	-92.82	-8.62
1013	SLE RA 14	-31	45	3617	-1012.94	-95.6	-9.56
1013	SLE RA 15	-30	52	3589	-1005.72	-94.85	-9.09
1013	SLE RA 16	-30	45	3597	-1007.32	-95.06	-9.49
1013	SLE RA 17	-30	52	3568	-1000.1	-94.31	-9.02
1013	SLE RA 18	-30	46	3635	-1017.95	-96.06	-9.33
1013	SLE RA 19	-29	54	3606	-1010.73	-95.31	-8.86
1013	SLE RA 20	-30	46	3672	-1028.07	-97.04	-9.41
1013	SLE RA 21	-29	54	3643	-1020.85	-96.29	-8.94
1013	SLE FR 1	-30	41	3259	-915.02	-86.16	-9.31
1013	SLE FR 2	-29	43	3250	-912.61	-85.91	-9.16
1013	SLE FR 3	-30	41	3274	-919.07	-86.56	-9.34
1013	SLE FR 4	-29	45	3362	-943.49	-88.88	-9.16
1013	SLE FR 5	-30	42	3387	-949.95	-89.52	-9.35
1013	SLE FR 6	-30	43	3447	-966.48	-91.11	-9.32
1013	SLE QP 1	-30	41	3259	-915.02	-86.16	-9.31
1013	SLE QP 2	-30	42	3372	-945.9	-89.13	-9.32
1013	SLD 1	302	160	3806	-1082.42	-99.99	110.44
1013	SLD 2	248	67	3884	-1102.28	-101.98	89.04
1013	SLD 3	268	-54	4735	-1317.47	-124.37	93.1
1013	SLD 4	214	-146	4812	-1337.33	-126.36	71.71
1013	SLD 5	130	418	2080	-626.79	-55.05	56.75
1013	SLD 6	94	357	2131	-639.91	-56.36	42.62
1013	SLD 7	19	-294	5175	-1410.27	-136.32	-1.02
1013	SLD 8	-17	-355	5226	-1423.39	-137.64	-15.15
1013	SLD 9	-43	440	1518	-468.41	-40.62	-3.48
1013	SLD 10	-78	379	1569	-481.52	-41.94	-17.61
1013	SLD 11	-154	-273	4613	-1251.88	-121.9	-61.25
1013	SLD 12	-189	-334	4664	-1265	-123.21	-75.38
1013	SLD 13	-274	1932	1932	-554.46	-51.9	-90.34
1013	SLD 14	-328	139	2009	-574.32	-53.89	-111.74
1013	SLD 15	-307	17	2860	-789.51	-76.28	-107.67
1013	SLD 16	-361	-75	2938	-809.37	-78.27	-129.07
1013	SLV 1	490	232	4023	-1152.22	-105.38	178.65
1013	SLV 2	405	87	4144	-1183.33	-108.5	145.13
1013	SLV 3	437	-114	5523	-1531.93	-144.77	150.74
1013	SLV 4	352	-258	5644	-1563.04	-147.89	117.23
1013	SLV 5	223	650	1270	-426.09	-33.68	95.66
1013	SLV 6	166	552	1352	-447.04	-35.78	73.09
1013	SLV 7	45	-501	6269	-1691.79	-164.98	2.63
1013	SLV 8	-12	-599	6351	-1712.74	-167.08	-19.94
1013	SLV 9	-47	683	393	-179.05	-11.18	1.3
1013	SLV 10	-104	586	475	-200	-13.28	-21.26
1013	SLV 11	-226	-468	5392	-1444.75	-142.48	-91.72
1013	SLV 12	-283	-565	5474	-1465.7	-144.58	-114.29
1013	SLV 13	-411	343	1100	-328.75	-30.37	-135.86
1013	SLV 14	-496	198	1221	-359.87	-33.49	-169.38
1013	SLV 15	-465	-3	2600	-708.46	-69.76	-163.77
1013	SLV 16	-550	-147	2721	-739.58	-72.88	-197.28
1013	SLV FO 1	542	250	4088	-1172.85	-107	197.45
1013	SLV FO 2	449	92	4222	-1207.07	-110.43	160.58
1013	SLV FO 3	483	-129	5738	-1590.53	-150.33	166.75
1013	SLV FO 4	390	-288	5871	-1624.75	-153.76	129.88
1013	SLV FO 5	249	710	1060	-374.11	-28.14	106.15
1013	SLV FO 6	186	603	1150	-397.15	-30.45	81.33
1013	SLV FO 7	52	-556	6559	-1766.38	-172.57	3.82
1013	SLV FO 8	-11	-663	6649	-1789.42	-174.88	-21
1013	SLV FO 9	-49	747	95	-102.37	-3.38	2.37
1013	SLV FO 10	-111	640	185	-125.41	-5.69	-22.46
1013	SLV FO 11	-245	-519	5594	-1494.64	-147.81	-99.96
1013	SLV FO 12	-308	-626	5684	-1517.68	-150.12	-124.79
1013	SLV FO 13	-449	373	873	-267.04	-24.5	-148.51
1013	SLV FO 14	-543	214	1006	-301.26	-27.93	-185.38
1013	SLV FO 15	-508	-7	2522	-684.72	-67.83	-179.21
1013	SLV FO 16	-602	-166	2656	-718.94	-71.26	-216.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1013	CRTFP Ux+	0	0	0	0	0	0
1013	CRTFP Ux-	0	0	0	0	0	0
1013	CRTFP Uy+	0	0	0	0	0	0
1013	CRTFP Uy-	0	0	0	0	0	0
1014	SLU 1	-35	42	3464	-862.8	6.67	-12.3
1014	SLU 2	-32	63	3385	-845.4	6.49	-11.54
1014	SLU 3	-36	42	3560	-885.71	6.86	-12.59
1014	SLU 4	-34	55	3513	-875.28	6.76	-12.13
1014	SLU 5	-33	63	3447	-860.14	6.62	-11.7
1014	SLU 6	-36	42	3622	-900.45	6.99	-12.75
1014	SLU 7	-35	55	3575	-890.01	6.88	-12.29
1014	SLU 8	-36	42	3588	-892.28	6.92	-12.62
1014	SLU 9	-34	55	3541	-881.84	6.81	-12.16
1014	SLU 10	-33	69	3822	-950.05	7.36	-11.78
1014	SLU 11	-36	48	3998	-990.36	7.73	-12.83
1014	SLU 12	-35	61	3951	-979.92	7.63	-12.37
1014	SLU 13	-33	69	3885	-964.79	7.49	-11.94
1014	SLU 14	-37	48	4060	-1005.1	7.86	-12.99
1014	SLU 15	-35	61	4013	-994.66	7.75	-12.53
1014	SLU 16	-36	48	4026	-996.92	7.79	-12.86
1014	SLU 17	-35	61	3978	-986.48	7.68	-12.4
1014	SLU 18	-36	50	4089	-1012.29	7.91	-12.65
1014	SLU 19	-34	63	4042	-1001.85	7.81	-12.19
1014	SLU 20	-36	50	4151	-1027.03	8.04	-12.81
1014	SLU 21	-35	63	4104	-1016.59	7.93	-12.35
1014	SLU 22	-38	46	4050	-1002.42	7.85	-13.36
1014	SLU 23	-35	67	3971	-985.02	7.67	-12.6
1014	SLU 24	-38	46	4146	-1025.33	8.04	-13.65
1014	SLU 25	-37	59	4099	-1014.89	7.94	-13.19
1014	SLU 26	-36	67	4033	-999.76	7.8	-12.76
1014	SLU 27	-39	46	4209	-1040.07	8.17	-13.81
1014	SLU 28	-38	59	4161	-1029.63	8.06	-13.35
1014	SLU 29	-39	46	4174	-1031.89	8.1	-13.68
1014	SLU 30	-37	59	4127	-1021.46	7.99	-13.22
1014	SLU 31	-36	72	4409	-1089.66	8.54	-12.84
1014	SLU 32	-39	52	4584	-1129.97	8.91	-13.89
1014	SLU 33	-38	64	4537	-1119.54	8.81	-13.43
1014	SLU 34	-36	73	4471	-1104.4	8.67	-13
1014	SLU 35	-40	52	4646	-1144.71	9.04	-14.05
1014	SLU 36	-38	65	4599	-1134.27	8.93	-13.59
1014	SLU 37	-39	52	4612	-1136.54	8.97	-13.92
1014	SLU 38	-38	65	4565	-1126.1	8.86	-13.46
1014	SLU 39	-39	54	4675	-1151.91	9.09	-13.71
1014	SLU 40	-37	66	4628	-1141.47	8.99	-13.25
1014	SLU 41	-39	54	4737	-1166.65	9.21	-13.87
1014	SLU 42	-38	67	4690	-1156.21	9.11	-13.41
1014	SLU 43	-44	53	4302	-1073.77	8.26	-15.63
1014	SLU 44	-42	74	4223	-1056.38	8.09	-14.87
1014	SLU 45	-45	53	4398	-1096.68	8.46	-15.92
1014	SLU 46	-44	66	4351	-1086.25	8.35	-15.46
1014	SLU 47	-42	74	4285	-1071.11	8.21	-15.02
1014	SLU 48	-45	54	4460	-1111.42	8.58	-16.08
1014	SLU 49	-44	66	4413	-1100.99	8.48	-15.62
1014	SLU 50	-45	54	4426	-1103.25	8.51	-15.95
1014	SLU 51	-44	66	4379	-1092.81	8.41	-15.49
1014	SLU 52	-42	80	4661	-1161.02	8.96	-15.11
1014	SLU 53	-46	59	4836	-1201.33	9.33	-16.16
1014	SLU 54	-44	72	4789	-1190.89	9.22	-15.7
1014	SLU 55	-43	80	4723	-1175.76	9.08	-15.27
1014	SLU 56	-46	59	4898	-1216.07	9.45	-16.32
1014	SLU 57	-45	72	4851	-1205.63	9.35	-15.86
1014	SLU 58	-46	59	4864	-1207.89	9.38	-16.19
1014	SLU 59	-44	72	4817	-1197.46	9.28	-15.73
1014	SLU 60	-45	61	4927	-1223.26	9.51	-15.98
1014	SLU 61	-44	74	4820	-1212.83	9.4	-15.52
1014	SLU 62	-45	61	4989	-1238	9.63	-16.13
1014	SLU 63	-44	74	4942	-1227.56	9.53	-15.67
1014	SLU 64	-47	57	4888	-1213.39	9.44	-16.69
1014	SLU 65	-45	78	4809	-1195.99	9.27	-15.93
1014	SLU 66	-48	57	4984	-1236.3	9.64	-16.98
1014	SLU 67	-46	70	4937	-1225.86	9.53	-16.52
1014	SLU 68	-45	78	4871	-1210.73	9.39	-16.08
1014	SLU 69	-48	58	5047	-1251.04	9.76	-17.14
1014	SLU 70	-47	70	4999	-1240.6	9.66	-16.68
1014	SLU 71	-48	57	5012	-1242.86	9.69	-17.01
1014	SLU 72	-47	70	4965	-1232.43	9.59	-16.55
1014	SLU 73	-45	84	5247	-1300.64	10.14	-16.17
1014	SLU 74	-48	63	5422	-1340.94	10.51	-17.22
1014	SLU 75	-47	76	5375	-1330.51	10.4	-16.76
1014	SLU 76	-46	84	5309	-1315.37	10.26	-16.33
1014	SLU 77	-49	63	5484	-1355.68	10.63	-17.38
1014	SLU 78	-48	76	5437	-1345.25	10.53	-16.92
1014	SLU 79	-49	63	5450	-1347.51	10.56	-17.25
1014	SLU 80	-47	76	5403	-1337.07	10.46	-16.79
1014	SLU 81	-48	65	5513	-1362.88	10.69	-17.04
1014	SLU 82	-47	78	5466	-1352.44	10.58	-16.58
1014	SLU 83	-48	65	5576	-1377.62	10.81	-17.19
1014	SLU 84	-47	78	5528	-1367.18	10.71	-16.73
1014	SLE RA 1	-36	43	3631	-902.69	7	-12.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1014	SLE RA 2	-34	57	3578	-891.09	6.89	-12.1
1014	SLE RA 3	-36	43	3695	-917.97	7.13	-12.8
1014	SLE RA 4	-35	52	3664	-911.01	7.06	-12.49
1014	SLE RA 5	-34	57	3620	-900.92	6.97	-12.2
1014	SLE RA 6	-36	43	3737	-927.79	7.22	-12.9
1014	SLE RA 7	-35	52	3705	-920.83	7.15	-12.6
1014	SLE RA 8	-36	43	3714	-922.34	7.17	-12.82
1014	SLE RA 9	-35	52	3683	-915.38	7.1	-12.51
1014	SLE RA 10	-34	61	3870	-960.86	7.47	-12.26
1014	SLE RA 11	-36	47	3987	-987.73	7.71	-12.96
1014	SLE RA 12	-36	55	3956	-980.77	7.64	-12.65
1014	SLE RA 13	-35	61	3912	-970.68	7.55	-12.36
1014	SLE RA 14	-37	47	4029	-997.55	7.8	-13.06
1014	SLE RA 15	-36	56	3997	-990.6	7.73	-12.76
1014	SLE RA 16	-37	47	4006	-992.1	7.75	-12.98
1014	SLE RA 17	-36	55	3974	-985.15	7.68	-12.67
1014	SLE RA 18	-36	48	4048	-1002.35	7.83	-12.84
1014	SLE RA 19	-35	57	4016	-995.39	7.76	-12.53
1014	SLE RA 20	-36	49	4090	-1012.18	7.92	-12.94
1014	SLE RA 21	-35	57	4058	-1005.22	7.85	-12.64
1014	SLE FR 1	-36	43	3631	-902.69	7	-12.61
1014	SLE FR 2	-35	46	3621	-900.37	6.98	-12.51
1014	SLE FR 3	-36	43	3648	-906.62	7.04	-12.65
1014	SLE FR 4	-35	47	3746	-930.27	7.23	-12.57
1014	SLE FR 5	-36	45	3773	-936.52	7.29	-12.72
1014	SLE FR 6	-36	46	3840	-952.52	7.42	-12.72
1014	SLE QP 1	-36	43	3631	-902.69	7	-12.61
1014	SLE QP 2	-36	44	3756	-932.59	7.25	-12.68
1014	SLD 1	358	177	4207	-1061.62	9.21	124.98
1014	SLD 2	294	74	4291	-1080.46	9.46	102.68
1014	SLD 3	319	-65	5233	-1288.26	11.48	111.51
1014	SLD 4	254	-168	5316	-1307.11	11.74	89.21
1014	SLD 5	154	470	2321	-624.16	4.34	53.07
1014	SLD 6	112	402	2376	-636.61	4.51	38.34
1014	SLD 7	22	-337	5740	-1379.63	11.93	8.17
1014	SLD 8	-20	-405	5795	-1392.08	12.09	-6.56
1014	SLD 9	-51	494	1718	-473.1	2.41	-18.79
1014	SLD 10	-94	426	1773	-485.54	2.58	-33.52
1014	SLD 11	-183	-313	5136	-1228.57	9.99	-63.7
1014	SLD 12	-225	-381	5191	-1241.02	10.16	-78.42
1014	SLD 13	-326	257	2196	-558.07	2.77	-114.56
1014	SLD 14	-390	154	2280	-576.92	3.02	-136.87
1014	SLD 15	-365	15	3222	-784.71	5.04	-128.03
1014	SLD 16	-430	-88	3305	-803.56	5.3	-150.34
1014	SLV 1	582	258	4431	-1127.43	10.24	203.25
1014	SLV 2	482	97	4561	-1156.97	10.64	168.31
1014	SLV 3	519	-133	6088	-1493.59	13.91	181.57
1014	SLV 4	418	-294	6218	-1523.12	14.31	146.63
1014	SLV 5	265	732	1421	-430.19	2.5	91.5
1014	SLV 6	197	623	1509	-450.07	2.77	67.97
1014	SLV 7	53	-571	6944	-1650.72	14.75	19.24
1014	SLV 8	-15	-680	7032	-1670.6	15.02	-4.28
1014	SLV 9	-57	769	480	-194.57	-0.51	-21.07
1014	SLV 10	-124	660	568	-214.46	-0.24	-44.6
1014	SLV 11	-269	-534	6003	-1415.11	11.73	-93.33
1014	SLV 12	-336	-643	6091	-1434.99	12	-116.85
1014	SLV 13	-489	383	1294	-342.05	0.19	-171.98
1014	SLV 14	-590	222	1425	-371.58	0.59	-206.92
1014	SLV 15	-553	-8	2951	-708.21	3.86	-193.66
1014	SLV 16	-654	-169	3082	-737.74	4.27	-228.6
1014	SLV FO 1	644	280	4498	-1146.92	10.54	224.84
1014	SLV FO 2	533	102	4642	-1179.4	10.98	186.4
1014	SLV FO 3	574	-150	6321	-1549.7	14.58	201
1014	SLV FO 4	463	-328	6464	-1582.18	15.02	162.56
1014	SLV FO 5	295	800	1188	-379.95	2.03	101.92
1014	SLV FO 6	220	681	1285	-401.82	2.32	76.04
1014	SLV FO 7	62	-633	7263	-1722.53	15.49	22.43
1014	SLV FO 8	-13	-752	7360	-1744.4	15.79	-3.44
1014	SLV FO 9	-59	841	153	-120.77	-1.29	-21.91
1014	SLV FO 10	-133	722	249	-142.64	-0.99	-47.79
1014	SLV FO 11	-292	-592	6228	-1463.36	12.18	-101.39
1014	SLV FO 12	-366	-711	6325	-1485.23	12.48	-127.27
1014	SLV FO 13	-535	417	1048	-283	-0.51	-187.91
1014	SLV FO 14	-646	239	1192	-315.48	-0.07	-226.35
1014	SLV FO 15	-605	-13	2871	-685.77	3.53	-211.76
1014	SLV FO 16	-716	-191	3014	-718.26	3.97	-250.19
1014	CRTFP Ux+	0	0	0	0	0	0
1014	CRTFP Ux-	0	0	0	0	0	0
1014	CRTFP Uy+	0	0	0	0	0	0
1014	CRTFP Uy-	0	0	0	0	0	0
1015	SLU 1	-35	36	3256	-712.66	5.37	-12.46
1015	SLU 2	-33	56	3182	-698.8	5.23	-11.69
1015	SLU 3	-36	37	3346	-731.18	5.53	-12.75
1015	SLU 4	-35	49	3302	-722.86	5.44	-12.29
1015	SLU 5	-33	57	3241	-710.71	5.33	-11.85
1015	SLU 6	-36	37	3404	-743.09	5.63	-12.9
1015	SLU 7	-35	49	3360	-734.77	5.54	-12.45
1015	SLU 8	-36	37	3372	-736.49	5.57	-12.77
1015	SLU 9	-35	49	3328	-728.17	5.49	-12.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1015	SLU 10	-34	61	3593	-783.17	5.92	-11.96
1015	SLU 11	-37	41	3757	-815.55	6.22	-13.01
1015	SLU 12	-35	53	3713	-807.23	6.13	-12.56
1015	SLU 13	-34	61	3651	-795.08	6.02	-12.12
1015	SLU 14	-37	42	3815	-827.46	6.32	-13.17
1015	SLU 15	-36	54	3771	-819.14	6.23	-12.71
1015	SLU 16	-37	42	3783	-820.86	6.27	-13.04
1015	SLU 17	-35	53	3739	-812.54	6.18	-12.58
1015	SLU 18	-36	43	3842	-833.19	6.36	-12.84
1015	SLU 19	-35	55	3798	-824.87	6.27	-12.38
1015	SLU 20	-37	43	3901	-845.1	6.46	-13
1015	SLU 21	-35	55	3857	-836.78	6.37	-12.54
1015	SLU 22	-38	39	3805	-825.24	6.32	-13.55
1015	SLU 23	-36	59	3732	-811.38	6.17	-12.78
1015	SLU 24	-39	40	3896	-843.76	6.47	-13.83
1015	SLU 25	-38	52	3852	-835.44	6.38	-13.38
1015	SLU 26	-36	60	3790	-823.29	6.27	-12.94
1015	SLU 27	-39	40	3954	-855.67	6.57	-13.99
1015	SLU 28	-38	52	3910	-847.35	6.48	-13.54
1015	SLU 29	-39	40	3922	-849.07	6.52	-13.86
1015	SLU 30	-38	52	3878	-840.75	6.43	-13.41
1015	SLU 31	-37	64	4143	-895.74	6.86	-13.05
1015	SLU 32	-40	44	4306	-928.12	7.16	-14.1
1015	SLU 33	-38	56	4262	-919.8	7.08	-13.64
1015	SLU 34	-37	64	4201	-907.66	6.96	-13.21
1015	SLU 35	-40	45	4365	-940.04	7.26	-14.26
1015	SLU 36	-39	57	4321	-931.72	7.18	-13.8
1015	SLU 37	-40	45	4333	-933.44	7.21	-14.13
1015	SLU 38	-38	56	4289	-925.12	7.12	-13.67
1015	SLU 39	-39	46	4392	-945.77	7.3	-13.93
1015	SLU 40	-38	58	4348	-937.45	7.22	-13.47
1015	SLU 41	-40	46	4450	-957.68	7.4	-14.09
1015	SLU 42	-38	58	4406	-949.36	7.32	-13.63
1015	SLU 43	-45	46	4044	-887.87	6.66	-15.82
1015	SLU 44	-42	66	3971	-874	6.52	-15.06
1015	SLU 45	-45	47	4134	-906.38	6.82	-16.11
1015	SLU 46	-44	59	4090	-898.06	6.73	-15.65
1015	SLU 47	-43	66	4029	-885.91	6.62	-15.22
1015	SLU 48	-46	47	4193	-918.29	6.92	-16.27
1015	SLU 49	-45	59	4149	-909.97	6.83	-15.81
1015	SLU 50	-46	47	4161	-911.69	6.86	-16.14
1015	SLU 51	-44	59	4117	-903.37	6.77	-15.68
1015	SLU 52	-43	71	4381	-958.37	7.21	-15.33
1015	SLU 53	-46	51	4545	-990.75	7.51	-16.38
1015	SLU 54	-45	63	4501	-982.43	7.42	-15.92
1015	SLU 55	-44	71	4440	-970.28	7.31	-15.48
1015	SLU 56	-47	51	4604	-1002.66	7.61	-16.54
1015	SLU 57	-45	63	4559	-994.34	7.52	-16.08
1015	SLU 58	-46	51	4571	-996.06	7.55	-16.41
1015	SLU 59	-45	63	4527	-987.74	7.47	-15.95
1015	SLU 60	-46	53	4631	-1008.39	7.65	-16.2
1015	SLU 61	-44	65	4587	-1000.07	7.56	-15.75
1015	SLU 62	-46	53	4689	-1020.31	7.75	-16.36
1015	SLU 63	-45	65	4645	-1011.99	7.66	-15.9
1015	SLU 64	-48	49	4594	-1000.44	7.6	-16.91
1015	SLU 65	-45	69	4520	-986.58	7.46	-16.15
1015	SLU 66	-49	50	4684	-1018.96	7.76	-17.2
1015	SLU 67	-47	62	4640	-1010.64	7.67	-16.74
1015	SLU 68	-46	69	4578	-998.49	7.56	-16.31
1015	SLU 69	-49	50	4742	-1030.87	7.86	-17.36
1015	SLU 70	-48	62	4698	-1022.55	7.77	-16.9
1015	SLU 71	-49	50	4710	-1024.27	7.8	-17.23
1015	SLU 72	-47	62	4666	-1015.95	7.72	-16.77
1015	SLU 73	-46	74	4931	-1070.95	8.15	-16.41
1015	SLU 74	-49	54	5095	-1103.33	8.45	-17.47
1015	SLU 75	-48	66	5051	-1095.01	8.37	-17.01
1015	SLU 76	-47	74	4989	-1082.86	8.25	-16.57
1015	SLU 77	-50	54	5153	-1115.24	8.55	-17.62
1015	SLU 78	-48	66	5109	-1106.92	8.47	-17.17
1015	SLU 79	-49	54	5121	-1108.64	8.5	-17.49
1015	SLU 80	-48	66	5077	-1100.32	8.41	-17.04
1015	SLU 81	-49	56	5180	-1120.97	8.59	-17.29
1015	SLU 82	-47	68	5136	-1112.65	8.51	-16.83
1015	SLU 83	-49	56	5239	-1132.88	8.69	-17.45
1015	SLU 84	-48	68	5195	-1124.56	8.61	-16.99
1015	SLE RA 1	-36	37	3413	-744.83	5.64	-12.77
1015	SLE RA 2	-35	50	3364	-735.59	5.55	-12.26
1015	SLE RA 3	-37	37	3473	-757.17	5.75	-12.96
1015	SLE RA 4	-36	45	3444	-751.63	5.69	-12.66
1015	SLE RA 5	-35	51	3403	-743.53	5.61	-12.37
1015	SLE RA 6	-37	38	3512	-765.11	5.81	-13.07
1015	SLE RA 7	-36	46	3482	-759.57	5.76	-12.76
1015	SLE RA 8	-37	38	3490	-760.71	5.78	-12.98
1015	SLE RA 9	-36	46	3461	-755.17	5.72	-12.67
1015	SLE RA 10	-35	54	3638	-791.83	6.01	-12.44
1015	SLE RA 11	-37	41	3747	-813.42	6.21	-13.14
1015	SLE RA 12	-36	48	3717	-807.87	6.15	-12.83
1015	SLE RA 13	-35	54	3676	-799.77	6.07	-12.54
1015	SLE RA 14	-37	41	3786	-821.36	6.27	-13.24



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1015	SLE RA 15	-36	49	3756	-815.81	6.22	-12.94
1015	SLE RA 16	-37	41	3764	-816.96	6.24	-13.16
1015	SLE RA 17	-36	49	3735	-811.41	6.18	-12.85
1015	SLE RA 18	-37	42	3804	-825.18	6.3	-13.02
1015	SLE RA 19	-36	50	3775	-819.63	6.24	-12.72
1015	SLE RA 20	-37	42	3843	-833.12	6.37	-13.13
1015	SLE RA 21	-36	50	3813	-827.58	6.31	-12.82
1015	SLE FR 1	-36	37	3413	-744.83	5.64	-12.77
1015	SLE FR 2	-36	40	3403	-742.98	5.62	-12.67
1015	SLE FR 3	-36	37	3428	-748.01	5.67	-12.81
1015	SLE FR 4	-36	41	3520	-767.09	5.82	-12.74
1015	SLE FR 5	-36	39	3546	-772.11	5.87	-12.89
1015	SLE FR 6	-36	39	3608	-785	5.97	-12.9
1015	SLE QP 1	-36	37	3413	-744.83	5.64	-12.77
1015	SLE QP 2	-36	39	3530	-768.93	5.84	-12.84
1015	SLD 1	358	238	3917	-868.11	7.6	125.01
1015	SLD 2	294	142	3992	-882.69	7.82	102.69
1015	SLD 3	319	9	4871	-1048.93	9.49	111.56
1015	SLD 4	254	-87	4946	-1063.51	9.71	89.24
1015	SLD 5	154	463	2186	-521.82	3.45	52.93
1015	SLD 6	111	400	2236	-531.45	3.6	38.2
1015	SLD 7	22	-301	5365	-1124.55	9.77	8.1
1015	SLD 8	-20	-364	5415	-1134.18	9.91	-6.64
1015	SLD 9	-52	441	1646	-403.69	1.77	-19.05
1015	SLD 10	-94	378	1695	-413.32	1.91	-33.79
1015	SLD 11	-183	-323	4824	-1006.42	8.08	-63.88
1015	SLD 12	-226	-386	4874	-1016.05	8.22	-78.62
1015	SLD 13	-327	164	2114	-474.36	1.97	-114.93
1015	SLD 14	-391	68	2189	-488.94	2.19	-137.25
1015	SLD 15	-366	-65	3068	-655.18	3.86	-128.38
1015	SLD 16	-431	-161	3143	-669.76	4.08	-150.7
1015	SLV 1	583	356	4107	-918.51	8.53	203.39
1015	SLV 2	482	206	4224	-941.35	8.88	168.42
1015	SLV 3	519	-14	5647	-1210.66	11.58	181.75
1015	SLV 4	418	-164	5765	-1233.51	11.93	146.78
1015	SLV 5	264	724	1345	-366.44	1.94	91.38
1015	SLV 6	197	622	1424	-381.82	2.18	67.84
1015	SLV 7	53	-511	6480	-1340.29	12.13	19.23
1015	SLV 8	-15	-612	6559	-1355.67	12.37	-4.31
1015	SLV 9	-57	689	501	-182.2	-0.69	-21.38
1015	SLV 10	-125	588	580	-197.58	-0.45	-44.92
1015	SLV 11	-269	-545	5637	-1156.05	9.5	-93.53
1015	SLV 12	-337	-647	5716	-1171.43	9.74	-117.07
1015	SLV 13	-491	241	1295	-304.36	-0.26	-172.47
1015	SLV 14	-591	91	1413	-327.2	0.1	-207.44
1015	SLV 15	-554	-129	2836	-596.52	2.8	-194.11
1015	SLV 16	-655	-279	2953	-619.36	3.15	-229.08
1015	SLV FO 1	644	388	4165	-933.47	8.79	225.01
1015	SLV FO 2	534	223	4294	-958.59	9.18	186.55
1015	SLV FO 3	575	-19	5859	-1254.84	12.16	201.21
1015	SLV FO 4	464	-185	5988	-1279.96	12.54	162.74
1015	SLV FO 5	295	792	1126	-326.19	1.55	101.8
1015	SLV FO 6	220	681	1213	-343.11	1.82	75.9
1015	SLV FO 7	62	-566	6775	-1397.43	12.76	22.44
1015	SLV FO 8	-13	-677	6862	-1414.35	13.02	-3.46
1015	SLV FO 9	-60	754	198	-123.52	-1.34	-22.23
1015	SLV FO 10	-134	643	285	-140.44	-1.08	-48.13
1015	SLV FO 11	-292	-604	5847	-1194.76	9.86	-101.59
1015	SLV FO 12	-367	-715	5934	-1211.68	10.13	-127.49
1015	SLV FO 13	-536	262	1072	-257.9	-0.87	-188.43
1015	SLV FO 14	-647	96	1201	-283.03	-0.48	-226.9
1015	SLV FO 15	-606	-146	2766	-579.28	2.5	-212.24
1015	SLV FO 16	-717	-311	2896	-604.4	2.88	-250.7
1015	CRTFP Ux+	0	0	0	0	0	0
1015	CRTFP Ux-	0	0	0	0	0	0
1015	CRTFP Uy+	0	0	0	0	0	0
1015	CRTFP Uy-	0	0	0	0	0	0
1016	SLU 1	-36	31	3094	-600.22	3.99	-12.6
1016	SLU 2	-33	50	3025	-589.04	3.88	-11.84
1016	SLU 3	-36	31	3180	-615.45	4.11	-12.89
1016	SLU 4	-35	43	3138	-608.74	4.04	-12.43
1016	SLU 5	-34	50	3080	-598.85	3.95	-12
1016	SLU 6	-37	32	3235	-625.25	4.18	-13.05
1016	SLU 7	-36	43	3194	-618.55	4.11	-12.6
1016	SLU 8	-36	32	3205	-619.83	4.14	-12.92
1016	SLU 9	-35	43	3163	-613.12	4.07	-12.46
1016	SLU 10	-34	54	3415	-658.32	4.38	-12.13
1016	SLU 11	-37	35	3570	-684.73	4.61	-13.19
1016	SLU 12	-36	46	3529	-678.02	4.54	-12.73
1016	SLU 13	-35	54	3471	-668.13	4.45	-12.29
1016	SLU 14	-38	35	3625	-694.53	4.68	-13.35
1016	SLU 15	-36	47	3584	-687.83	4.61	-12.89
1016	SLU 16	-37	35	3595	-689.11	4.64	-13.22
1016	SLU 17	-36	46	3554	-682.4	4.57	-12.76
1016	SLU 18	-37	36	3651	-699.19	4.71	-13.02
1016	SLU 19	-35	48	3610	-692.48	4.64	-12.56
1016	SLU 20	-37	36	3707	-708.99	4.78	-13.18
1016	SLU 21	-36	48	3665	-702.29	4.71	-12.72
1016	SLU 22	-39	33	3615	-692.63	4.68	-13.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLU 23	-36	52	3546	-681.46	4.57	-12.96
1016	SLU 24	-40	34	3701	-707.86	4.79	-14.01
1016	SLU 25	-38	45	3660	-701.16	4.73	-13.55
1016	SLU 26	-37	52	3602	-691.27	4.64	-13.12
1016	SLU 27	-40	34	3757	-717.67	4.87	-14.17
1016	SLU 28	-39	45	3715	-710.97	4.8	-13.71
1016	SLU 29	-40	34	3726	-712.24	4.83	-14.04
1016	SLU 30	-38	45	3685	-705.54	4.76	-13.58
1016	SLU 31	-37	56	3937	-750.74	5.07	-13.25
1016	SLU 32	-40	37	4091	-777.14	5.3	-14.3
1016	SLU 33	-39	49	4050	-770.44	5.23	-13.85
1016	SLU 34	-38	56	3992	-760.55	5.14	-13.41
1016	SLU 35	-41	38	4147	-786.95	5.37	-14.47
1016	SLU 36	-39	49	4105	-780.25	5.3	-14.01
1016	SLU 37	-40	37	4116	-781.52	5.33	-14.33
1016	SLU 38	-39	49	4075	-774.82	5.26	-13.88
1016	SLU 39	-40	38	4173	-791.6	5.4	-14.14
1016	SLU 40	-38	50	4131	-784.9	5.33	-13.68
1016	SLU 41	-40	39	4228	-801.41	5.47	-14.3
1016	SLU 42	-39	50	4187	-794.71	5.4	-13.84
1016	SLU 43	-45	40	3844	-748.6	4.95	-16
1016	SLU 44	-43	58	3775	-737.42	4.84	-15.23
1016	SLU 45	-46	40	3929	-763.83	5.07	-16.29
1016	SLU 46	-45	51	3888	-757.12	5	-15.83
1016	SLU 47	-43	59	3830	-747.23	4.91	-15.4
1016	SLU 48	-46	40	3985	-773.63	5.14	-16.45
1016	SLU 49	-45	52	3943	-766.93	5.07	-15.99
1016	SLU 50	-46	40	3954	-768.21	5.1	-16.32
1016	SLU 51	-45	51	3913	-761.5	5.03	-15.86
1016	SLU 52	-44	62	4165	-806.7	5.34	-15.53
1016	SLU 53	-47	44	4319	-833.1	5.57	-16.58
1016	SLU 54	-45	55	4278	-826.4	5.5	-16.13
1016	SLU 55	-44	62	4220	-816.51	5.41	-15.69
1016	SLU 56	-47	44	4375	-842.91	5.64	-16.74
1016	SLU 57	-46	55	4333	-836.21	5.57	-16.29
1016	SLU 58	-47	44	4344	-837.48	5.6	-16.61
1016	SLU 59	-45	55	4303	-830.78	5.53	-16.16
1016	SLU 60	-46	45	4401	-847.56	5.67	-16.42
1016	SLU 61	-45	56	4360	-840.86	5.6	-15.96
1016	SLU 62	-47	45	4456	-857.37	5.74	-16.58
1016	SLU 63	-45	56	4415	-850.67	5.67	-16.12
1016	SLU 64	-48	42	4365	-841.01	5.64	-17.11
1016	SLU 65	-46	61	4296	-829.84	5.53	-16.35
1016	SLU 66	-49	42	4451	-856.24	5.76	-17.41
1016	SLU 67	-48	54	4409	-849.54	5.69	-16.95
1016	SLU 68	-46	61	4351	-839.65	5.6	-16.51
1016	SLU 69	-50	42	4506	-866.05	5.83	-17.57
1016	SLU 70	-48	54	4465	-859.35	5.76	-17.11
1016	SLU 71	-49	42	4476	-860.62	5.79	-17.44
1016	SLU 72	-48	54	4434	-853.92	5.72	-16.98
1016	SLU 73	-47	64	4686	-899.12	6.03	-16.65
1016	SLU 74	-50	46	4841	-925.52	6.26	-17.7
1016	SLU 75	-49	57	4799	-918.82	6.19	-17.24
1016	SLU 76	-47	65	4741	-908.93	6.1	-16.81
1016	SLU 77	-50	46	4896	-935.33	6.33	-17.86
1016	SLU 78	-49	57	4855	-928.62	6.26	-17.4
1016	SLU 79	-50	46	4866	-929.9	6.29	-17.73
1016	SLU 80	-49	57	4824	-923.2	6.22	-17.27
1016	SLU 81	-49	47	4922	-939.98	6.36	-17.54
1016	SLU 82	-48	58	4881	-933.28	6.29	-17.08
1016	SLU 83	-50	47	4978	-949.79	6.43	-17.7
1016	SLU 84	-48	59	4936	-943.08	6.36	-17.24
1016	SLE RA 1	-36	32	3243	-626.62	4.19	-12.92
1016	SLE RA 2	-35	44	3197	-619.17	4.11	-12.41
1016	SLE RA 3	-37	32	3300	-636.78	4.26	-13.11
1016	SLE RA 4	-36	39	3273	-632.31	4.22	-12.81
1016	SLE RA 5	-35	44	3234	-625.71	4.16	-12.52
1016	SLE RA 6	-37	32	3337	-643.31	4.31	-13.22
1016	SLE RA 7	-36	40	3310	-638.84	4.27	-12.92
1016	SLE RA 8	-37	32	3317	-639.7	4.29	-13.13
1016	SLE RA 9	-36	40	3289	-635.23	4.24	-12.83
1016	SLE RA 10	-35	47	3457	-665.36	4.45	-12.61
1016	SLE RA 11	-38	34	3560	-682.96	4.6	-13.31
1016	SLE RA 12	-37	42	3533	-678.49	4.55	-13.01
1016	SLE RA 13	-36	47	3494	-671.9	4.5	-12.72
1016	SLE RA 14	-38	34	3597	-689.5	4.65	-13.42
1016	SLE RA 15	-37	42	3570	-685.03	4.6	-13.11
1016	SLE RA 16	-38	34	3577	-685.88	4.62	-13.33
1016	SLE RA 17	-37	42	3549	-681.41	4.57	-13.03
1016	SLE RA 18	-37	35	3615	-692.6	4.67	-13.2
1016	SLE RA 19	-36	43	3587	-688.13	4.62	-12.9
1016	SLE RA 20	-37	35	3652	-699.14	4.71	-13.31
1016	SLE RA 21	-37	43	3624	-694.67	4.67	-13
1016	SLE FR 1	-36	32	3243	-626.62	4.19	-12.92
1016	SLE FR 2	-36	34	3234	-625.13	4.17	-12.82
1016	SLE FR 3	-37	32	3258	-629.24	4.21	-12.96
1016	SLE FR 4	-36	35	3345	-644.93	4.32	-12.9
1016	SLE FR 5	-37	33	3369	-649.03	4.35	-13.05
1016	SLE FR 6	-37	33	3429	-659.61	4.43	-13.06



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1016	SLE QP 1	-36	32	3243	-626.62	4.19	-12.92
1016	SLE QP 2	-37	33	3355	-646.42	4.33	-13
1016	SLD 1	358	220	3685	-721.01	5.89	125.04
1016	SLD 2	294	130	3752	-732.22	6.08	102.7
1016	SLD 3	319	2	4580	-866.89	7.36	111.6
1016	SLD 4	255	-87	4648	-878.1	7.56	89.26
1016	SLD 5	153	435	2083	-445.52	2.52	52.81
1016	SLD 6	110	376	2128	-452.92	2.65	38.06
1016	SLD 7	22	-290	5068	-931.79	7.45	8.02
1016	SLD 8	-21	-349	5113	-939.2	7.57	-6.73
1016	SLD 9	-53	415	1596	-353.63	1.09	-19.28
1016	SLD 10	-95	355	1641	-361.04	1.21	-34.03
1016	SLD 11	-184	-310	4581	-839.91	6.01	-64.07
1016	SLD 12	-226	-369	4626	-847.31	6.14	-78.82
1016	SLD 13	-328	153	2061	-414.73	1.11	-115.27
1016	SLD 14	-392	63	2129	-425.94	1.3	-137.61
1016	SLD 15	-367	-65	2957	-560.61	2.58	-128.71
1016	SLD 16	-432	-154	3025	-571.82	2.77	-151.05
1016	SLV 1	583	331	3844	-758.62	6.72	203.52
1016	SLV 2	482	191	3950	-776.19	7.01	168.52
1016	SLV 3	519	-20	5291	-994.35	9.1	181.9
1016	SLV 4	419	-161	5397	-1011.92	9.4	146.9
1016	SLV 5	264	681	1287	-319.27	1.37	91.28
1016	SLV 6	196	586	1359	-331.1	1.57	67.72
1016	SLV 7	53	-489	6110	-1105.05	9.33	19.2
1016	SLV 8	-15	-584	6181	-1116.87	9.53	-4.36
1016	SLV 9	-59	649	528	-175.96	-0.86	-21.65
1016	SLV 10	-126	555	599	-187.78	-0.66	-45.21
1016	SLV 11	-269	-521	5350	-961.73	7.09	-93.72
1016	SLV 12	-337	-615	5422	-973.56	7.29	-117.29
1016	SLV 13	-492	226	1312	-280.91	-0.74	-172.91
1016	SLV 14	-593	85	1418	-298.48	-0.44	-207.9
1016	SLV 15	-555	-125	2759	-516.64	1.65	-194.53
1016	SLV 16	-656	-266	2865	-534.21	1.95	-229.53
1016	SLV FO 1	645	361	3893	-769.84	6.96	225.17
1016	SLV FO 2	534	206	4010	-789.17	7.28	186.67
1016	SLV FO 3	575	-25	5484	-1029.15	9.58	201.39
1016	SLV FO 4	464	-180	5601	-1048.47	9.91	162.89
1016	SLV FO 5	294	746	1081	-286.56	1.08	101.71
1016	SLV FO 6	219	642	1159	-299.57	1.3	75.79
1016	SLV FO 7	62	-542	6385	-1150.91	9.82	22.42
1016	SLV FO 8	-13	-646	6464	-1163.92	10.05	-3.49
1016	SLV FO 9	-61	711	245	-128.91	-1.38	-22.51
1016	SLV FO 10	-135	607	324	-141.92	-1.16	-48.43
1016	SLV FO 11	-293	-576	5550	-993.26	7.36	-101.8
1016	SLV FO 12	-367	-680	5629	-1006.27	7.59	-127.71
1016	SLV FO 13	-537	245	1108	-244.36	-1.25	-188.9
1016	SLV FO 14	-648	91	1225	-263.68	-0.92	-227.39
1016	SLV FO 15	-607	-141	2699	-503.66	1.38	-212.68
1016	SLV FO 16	-718	-295	2816	-522.99	1.71	-251.18
1016	CRTFP Ux+	0	0	0	0	0	0
1016	CRTFP Ux-	0	0	0	0	0	0
1016	CRTFP Uy+	0	0	0	0	0	0
1016	CRTFP Uy-	0	0	0	0	0	0
1017	SLU 1	-36	26	2980	-525	2.61	-12.72
1017	SLU 2	-34	44	2915	-515.69	2.53	-11.96
1017	SLU 3	-37	26	3063	-538.06	2.68	-13.01
1017	SLU 4	-35	37	3023	-532.47	2.63	-12.56
1017	SLU 5	-34	44	2968	-524.1	2.57	-12.12
1017	SLU 6	-37	26	3116	-546.47	2.73	-13.17
1017	SLU 7	-36	37	3077	-540.88	2.68	-12.72
1017	SLU 8	-37	26	3087	-541.83	2.7	-13.04
1017	SLU 9	-35	37	3047	-536.24	2.65	-12.59
1017	SLU 10	-35	46	3291	-575.03	2.84	-12.28
1017	SLU 11	-38	29	3439	-597.39	2.99	-13.34
1017	SLU 12	-36	40	3400	-591.81	2.94	-12.88
1017	SLU 13	-35	47	3344	-583.44	2.88	-12.44
1017	SLU 14	-38	29	3492	-605.81	3.04	-13.5
1017	SLU 15	-37	40	3453	-600.22	2.99	-13.04
1017	SLU 16	-38	29	3463	-601.16	3.01	-13.37
1017	SLU 17	-36	40	3424	-595.57	2.96	-12.91
1017	SLU 18	-37	30	3518	-609.77	3.05	-13.18
1017	SLU 19	-36	40	3478	-604.18	3	-12.72
1017	SLU 20	-38	30	3571	-618.18	3.1	-13.34
1017	SLU 21	-36	41	3532	-612.59	3.05	-12.89
1017	SLU 22	-39	27	3482	-604.09	3.04	-13.87
1017	SLU 23	-37	45	3417	-594.78	2.96	-13.11
1017	SLU 24	-40	28	3565	-617.15	3.11	-14.16
1017	SLU 25	-39	38	3525	-611.56	3.07	-13.7
1017	SLU 26	-37	46	3470	-603.19	3.01	-13.27
1017	SLU 27	-40	28	3618	-625.56	3.16	-14.32
1017	SLU 28	-39	39	3579	-619.97	3.11	-13.87
1017	SLU 29	-40	28	3589	-620.91	3.13	-14.19
1017	SLU 30	-39	39	3550	-615.32	3.09	-13.73
1017	SLU 31	-38	48	3793	-654.11	3.27	-13.43
1017	SLU 32	-41	30	3941	-676.48	3.42	-14.48
1017	SLU 33	-39	41	3902	-670.89	3.38	-14.03
1017	SLU 34	-38	48	3846	-662.53	3.32	-13.59
1017	SLU 35	-41	31	3994	-684.89	3.47	-14.64



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1017	SLU 36	-40	41	3955	-679.3	3.42	-14.19
1017	SLU 37	-41	30	3965	-680.25	3.44	-14.51
1017	SLU 38	-40	41	3926	-674.66	3.4	-14.06
1017	SLU 39	-40	31	4020	-688.86	3.48	-14.33
1017	SLU 40	-39	42	3980	-683.27	3.44	-13.87
1017	SLU 41	-41	31	4073	-697.27	3.53	-14.49
1017	SLU 42	-39	42	4034	-691.68	3.48	-14.03
1017	SLU 43	-46	33	3702	-655.39	3.24	-16.14
1017	SLU 44	-43	51	3637	-646.08	3.16	-15.38
1017	SLU 45	-46	33	3785	-668.44	3.32	-16.43
1017	SLU 46	-45	44	3745	-662.86	3.27	-15.98
1017	SLU 47	-44	51	3690	-654.49	3.21	-15.54
1017	SLU 48	-47	34	3838	-676.86	3.36	-16.6
1017	SLU 49	-46	44	3799	-671.27	3.31	-16.14
1017	SLU 50	-46	34	3809	-672.21	3.34	-16.47
1017	SLU 51	-45	44	3769	-666.62	3.29	-16.01
1017	SLU 52	-44	54	4013	-705.41	3.47	-15.7
1017	SLU 53	-47	36	4161	-727.78	3.63	-16.76
1017	SLU 54	-46	47	4122	-722.19	3.58	-16.3
1017	SLU 55	-45	54	4066	-713.82	3.52	-15.86
1017	SLU 56	-48	36	4214	-736.19	3.67	-16.92
1017	SLU 57	-46	47	4175	-730.6	3.62	-16.46
1017	SLU 58	-47	36	4185	-731.55	3.65	-16.79
1017	SLU 59	-46	47	4146	-725.96	3.6	-16.33
1017	SLU 60	-47	37	4240	-740.16	3.69	-16.6
1017	SLU 61	-45	48	4200	-734.57	3.64	-16.15
1017	SLU 62	-47	37	4293	-748.57	3.73	-16.76
1017	SLU 63	-46	48	4254	-742.98	3.68	-16.31
1017	SLU 64	-49	35	4204	-734.48	3.68	-17.29
1017	SLU 65	-47	53	4139	-725.16	3.6	-16.53
1017	SLU 66	-50	35	4287	-747.53	3.75	-17.58
1017	SLU 67	-48	46	4247	-741.94	3.7	-17.13
1017	SLU 68	-47	53	4192	-733.57	3.64	-16.69
1017	SLU 69	-50	35	4340	-755.94	3.8	-17.74
1017	SLU 70	-49	46	4301	-750.35	3.75	-17.29
1017	SLU 71	-50	35	4311	-751.3	3.77	-17.61
1017	SLU 72	-48	46	4271	-745.71	3.72	-17.16
1017	SLU 73	-47	55	4515	-784.5	3.9	-16.85
1017	SLU 74	-50	38	4663	-806.87	4.06	-17.9
1017	SLU 75	-49	48	4624	-801.28	4.01	-17.45
1017	SLU 76	-48	55	4568	-792.91	3.95	-17.01
1017	SLU 77	-51	38	4716	-815.28	4.1	-18.07
1017	SLU 78	-50	49	4677	-809.69	4.06	-17.61
1017	SLU 79	-51	38	4687	-810.63	4.08	-17.94
1017	SLU 80	-49	48	4648	-805.05	4.03	-17.48
1017	SLU 81	-50	38	4742	-819.24	4.12	-17.75
1017	SLU 82	-49	49	4702	-813.65	4.07	-17.29
1017	SLU 83	-50	39	4795	-827.65	4.16	-17.91
1017	SLU 84	-49	49	4756	-822.07	4.12	-17.46
1017	SLE RA 1	-37	26	3124	-547.6	2.73	-13.05
1017	SLE RA 2	-35	38	3080	-541.39	2.68	-12.54
1017	SLE RA 3	-37	27	3179	-556.3	2.78	-13.24
1017	SLE RA 4	-36	34	3152	-552.58	2.75	-12.94
1017	SLE RA 5	-36	38	3115	-547	2.71	-12.65
1017	SLE RA 6	-38	27	3214	-561.91	2.81	-13.35
1017	SLE RA 7	-37	34	3188	-558.19	2.78	-13.05
1017	SLE RA 8	-37	27	3195	-558.81	2.79	-13.26
1017	SLE RA 9	-37	34	3169	-555.09	2.76	-12.96
1017	SLE RA 10	-36	40	3331	-580.95	2.89	-12.75
1017	SLE RA 11	-38	28	3430	-595.86	2.99	-13.46
1017	SLE RA 12	-37	35	3403	-592.14	2.96	-13.15
1017	SLE RA 13	-36	40	3366	-586.56	2.92	-12.86
1017	SLE RA 14	-38	28	3465	-601.47	3.02	-13.57
1017	SLE RA 15	-37	36	3439	-597.74	2.99	-13.26
1017	SLE RA 16	-38	28	3446	-598.37	3	-13.48
1017	SLE RA 17	-37	36	3419	-594.65	2.97	-13.17
1017	SLE RA 18	-38	29	3482	-604.11	3.03	-13.35
1017	SLE RA 19	-37	36	3456	-600.39	3	-13.05
1017	SLE RA 20	-38	29	3518	-609.72	3.06	-13.46
1017	SLE RA 21	-37	36	3491	-605.99	3.03	-13.16
1017	SLE FR 1	-37	26	3124	-547.6	2.73	-13.05
1017	SLE FR 2	-37	29	3115	-546.36	2.72	-12.95
1017	SLE FR 3	-37	26	3138	-549.84	2.74	-13.09
1017	SLE FR 4	-37	29	3222	-563.31	2.81	-13.04
1017	SLE FR 5	-37	27	3245	-566.8	2.83	-13.18
1017	SLE FR 6	-37	28	3303	-575.86	2.88	-13.2
1017	SLE QP 1	-37	26	3124	-547.6	2.73	-13.05
1017	SLE QP 2	-37	27	3231	-564.55	2.82	-13.14
1017	SLD 1	358	203	3511	-619.36	4.19	125.06
1017	SLD 2	294	119	3573	-628.11	4.34	102.71
1017	SLD 3	319	-4	4363	-741.17	5.25	111.64
1017	SLD 4	255	-88	4425	-749.92	5.4	89.29
1017	SLD 5	152	409	2012	-394.67	1.6	52.7
1017	SLD 6	110	353	2053	-400.45	1.7	37.94
1017	SLD 7	22	-281	4851	-800.71	5.12	7.97
1017	SLD 8	-20	-336	4892	-806.49	5.22	-6.79
1017	SLD 9	-54	390	1570	-322.62	0.42	-19.49
1017	SLD 10	-96	335	1611	-328.4	0.52	-34.25
1017	SLD 11	-184	-299	4410	-728.65	3.94	-64.22



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1017	SLD 12	-227	-355	4450	-734.43	4.04	-78.98
1017	SLD 13	-329	142	2038	-379.18	0.24	-115.57
1017	SLD 14	-393	58	2100	-387.94	0.4	-137.92
1017	SLD 15	-368	-65	2890	-500.99	1.3	-128.99
1017	SLD 16	-432	-149	2952	-509.75	1.45	-151.34
1017	SLV 1	583	308	3643	-646.57	4.93	203.63
1017	SLV 2	482	177	3740	-660.29	5.17	168.61
1017	SLV 3	520	-26	5020	-843.43	6.63	182.04
1017	SLV 4	419	-157	5117	-857.14	6.87	147.02
1017	SLV 5	263	643	1249	-288.04	0.82	91.18
1017	SLV 6	195	554	1315	-297.27	0.99	67.6
1017	SLV 7	53	-471	5837	-944.22	6.5	19.2
1017	SLV 8	-15	-560	5902	-953.45	6.67	-4.38
1017	SLV 9	-60	614	560	-175.65	-1.03	-21.9
1017	SLV 10	-127	525	625	-184.89	-0.86	-45.48
1017	SLV 11	-269	-500	5148	-831.84	4.66	-93.88
1017	SLV 12	-337	-588	5213	-841.07	4.82	-117.46
1017	SLV 13	-493	212	1346	-271.96	-1.23	-173.29
1017	SLV 14	-594	80	1443	-285.68	-0.99	-208.32
1017	SLV 15	-556	-122	2722	-468.82	0.47	-194.89
1017	SLV 16	-657	-254	2819	-482.53	0.72	-229.91
1017	SLV FO 1	645	336	3685	-654.78	5.14	225.31
1017	SLV FO 2	534	192	3791	-669.86	5.4	186.79
1017	SLV FO 3	576	-31	5199	-871.32	7.01	201.56
1017	SLV FO 4	465	-176	5305	-886.4	7.28	163.03
1017	SLV FO 5	293	704	1051	-260.39	0.62	101.61
1017	SLV FO 6	219	607	1123	-270.54	0.8	75.68
1017	SLV FO 7	62	-521	6098	-982.18	6.87	22.43
1017	SLV FO 8	-12	-618	6169	-992.34	7.05	-3.51
1017	SLV FO 9	-62	672	293	-136.76	-1.41	-22.77
1017	SLV FO 10	-136	575	365	-146.92	-1.23	-48.71
1017	SLV FO 11	-293	-553	5339	-858.56	4.84	-101.95
1017	SLV FO 12	-367	-650	5411	-868.72	5.02	-127.89
1017	SLV FO 13	-539	230	1157	-242.7	-1.64	-189.31
1017	SLV FO 14	-650	86	1264	-257.79	-1.37	-227.83
1017	SLV FO 15	-608	-137	2671	-459.24	0.24	-213.06
1017	SLV FO 16	-719	-282	2778	-474.33	0.5	-251.59
1017	CRTFP Ux+	0	0	0	0	0	0
1017	CRTFP Ux-	0	0	0	0	0	0
1017	CRTFP Uy+	0	0	0	0	0	0
1017	CRTFP Uy-	0	0	0	0	0	0
1018	SLU 1	-36	21	2914	-485.1	1.27	-12.82
1018	SLU 2	-34	38	2850	-476.85	1.22	-12.06
1018	SLU 3	-37	21	2994	-497.03	1.3	-13.12
1018	SLU 4	-36	31	2956	-492.08	1.27	-12.66
1018	SLU 5	-34	38	2902	-484.54	1.24	-12.22
1018	SLU 6	-37	21	3046	-504.72	1.32	-13.28
1018	SLU 7	-36	31	3008	-499.77	1.29	-12.82
1018	SLU 8	-37	21	3018	-500.48	1.31	-13.15
1018	SLU 9	-36	31	2980	-495.53	1.28	-12.69
1018	SLU 10	-35	39	3219	-531.14	1.35	-12.41
1018	SLU 11	-38	23	3363	-551.32	1.43	-13.47
1018	SLU 12	-37	33	3325	-546.37	1.4	-13.01
1018	SLU 13	-35	40	3271	-538.83	1.37	-12.58
1018	SLU 14	-38	23	3415	-559.01	1.45	-13.63
1018	SLU 15	-37	33	3377	-554.06	1.42	-13.18
1018	SLU 16	-38	23	3387	-554.77	1.43	-13.5
1018	SLU 17	-37	33	3348	-549.82	1.41	-13.04
1018	SLU 18	-38	23	3440	-562.66	1.45	-13.32
1018	SLU 19	-36	33	3402	-557.71	1.42	-12.87
1018	SLU 20	-38	23	3492	-570.35	1.47	-13.49
1018	SLU 21	-37	34	3454	-565.4	1.44	-13.03
1018	SLU 22	-39	21	3405	-557.35	1.46	-14
1018	SLU 23	-37	39	3342	-549.1	1.41	-13.24
1018	SLU 24	-40	22	3486	-569.27	1.49	-14.29
1018	SLU 25	-39	32	3448	-564.32	1.46	-13.84
1018	SLU 26	-38	39	3394	-556.79	1.43	-13.4
1018	SLU 27	-41	22	3538	-576.96	1.51	-14.46
1018	SLU 28	-39	32	3500	-572.01	1.48	-14
1018	SLU 29	-40	22	3509	-572.73	1.5	-14.32
1018	SLU 30	-39	32	3471	-567.78	1.47	-13.87
1018	SLU 31	-38	40	3710	-603.39	1.53	-13.59
1018	SLU 32	-41	23	3854	-623.56	1.61	-14.64
1018	SLU 33	-40	34	3816	-618.61	1.58	-14.19
1018	SLU 34	-39	40	3762	-611.08	1.55	-13.75
1018	SLU 35	-42	24	3907	-631.26	1.63	-14.81
1018	SLU 36	-40	34	3868	-626.3	1.6	-14.35
1018	SLU 37	-41	23	3878	-627.02	1.62	-14.68
1018	SLU 38	-40	34	3840	-622.07	1.59	-14.22
1018	SLU 39	-41	24	3932	-634.91	1.63	-14.5
1018	SLU 40	-39	34	3894	-629.96	1.6	-14.04
1018	SLU 41	-41	24	3984	-642.6	1.65	-14.66
1018	SLU 42	-40	34	3946	-637.65	1.62	-14.21
1018	SLU 43	-46	27	3619	-605.86	1.59	-16.26
1018	SLU 44	-44	44	3556	-597.61	1.54	-15.5
1018	SLU 45	-47	27	3700	-617.79	1.62	-16.56
1018	SLU 46	-45	37	3662	-612.84	1.59	-16.1
1018	SLU 47	-44	44	3608	-605.3	1.56	-15.67
1018	SLU 48	-47	27	3752	-625.48	1.64	-16.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1018	SLU 49	-46	37	3714	-620.53	1.61	-16.27
1018	SLU 50	-47	27	3723	-621.24	1.63	-16.59
1018	SLU 51	-46	37	3685	-616.29	1.6	-16.13
1018	SLU 52	-45	45	3924	-651.9	1.66	-15.86
1018	SLU 53	-48	29	4069	-672.08	1.74	-16.91
1018	SLU 54	-46	39	4030	-667.13	1.72	-16.45
1018	SLU 55	-45	46	3977	-659.59	1.68	-16.02
1018	SLU 56	-48	29	4121	-679.77	1.77	-17.07
1018	SLU 57	-47	39	4083	-674.82	1.74	-16.62
1018	SLU 58	-48	29	4092	-675.54	1.75	-16.94
1018	SLU 59	-46	39	4054	-670.58	1.72	-16.49
1018	SLU 60	-47	29	4146	-683.42	1.77	-16.77
1018	SLU 61	-46	39	4108	-678.47	1.74	-16.31
1018	SLU 62	-48	29	4198	-691.11	1.79	-16.93
1018	SLU 63	-46	39	4160	-686.16	1.76	-16.47
1018	SLU 64	-49	27	4111	-678.11	1.77	-17.44
1018	SLU 65	-47	44	4047	-669.86	1.72	-16.68
1018	SLU 66	-50	28	4191	-690.04	1.81	-17.74
1018	SLU 67	-49	38	4153	-685.08	1.78	-17.28
1018	SLU 68	-47	45	4099	-677.55	1.74	-16.84
1018	SLU 69	-51	28	4243	-697.73	1.83	-17.9
1018	SLU 70	-49	38	4205	-692.77	1.8	-17.44
1018	SLU 71	-50	28	4215	-693.49	1.81	-17.77
1018	SLU 72	-49	38	4177	-688.54	1.78	-17.31
1018	SLU 73	-48	46	4416	-724.15	1.85	-17.03
1018	SLU 74	-51	29	4560	-744.33	1.93	-18.09
1018	SLU 75	-50	40	4522	-739.37	1.9	-17.63
1018	SLU 76	-48	46	4468	-731.84	1.87	-17.2
1018	SLU 77	-51	29	4612	-752.02	1.95	-18.25
1018	SLU 78	-50	40	4574	-747.06	1.92	-17.79
1018	SLU 79	-51	29	4584	-747.78	1.94	-18.12
1018	SLU 80	-50	40	4546	-742.83	1.91	-17.66
1018	SLU 81	-51	30	4637	-755.67	1.95	-17.94
1018	SLU 82	-49	40	4599	-750.72	1.92	-17.49
1018	SLU 83	-51	30	4689	-763.36	1.97	-18.11
1018	SLU 84	-50	40	4651	-758.41	1.94	-17.65
1018	SLE RA 1	-37	21	3054	-505.74	1.32	-13.16
1018	SLE RA 2	-36	32	3012	-500.24	1.29	-12.65
1018	SLE RA 3	-38	21	3108	-513.69	1.35	-13.35
1018	SLE RA 4	-37	28	3082	-510.39	1.33	-13.05
1018	SLE RA 5	-36	32	3046	-505.37	1.3	-12.76
1018	SLE RA 6	-38	21	3143	-518.82	1.36	-13.46
1018	SLE RA 7	-37	28	3117	-515.52	1.34	-13.16
1018	SLE RA 8	-38	21	3123	-516	1.35	-13.38
1018	SLE RA 9	-37	28	3098	-512.7	1.33	-13.07
1018	SLE RA 10	-36	33	3257	-536.44	1.37	-12.88
1018	SLE RA 11	-38	22	3354	-549.89	1.43	-13.59
1018	SLE RA 12	-37	29	3328	-546.59	1.41	-13.28
1018	SLE RA 13	-37	34	3292	-541.56	1.39	-12.99
1018	SLE RA 14	-39	22	3388	-555.02	1.44	-13.7
1018	SLE RA 15	-38	29	3363	-551.71	1.42	-13.39
1018	SLE RA 16	-38	22	3369	-552.19	1.43	-13.61
1018	SLE RA 17	-37	29	3344	-548.89	1.41	-13.31
1018	SLE RA 18	-38	22	3405	-557.45	1.44	-13.49
1018	SLE RA 19	-37	29	3380	-554.15	1.42	-13.19
1018	SLE RA 20	-38	23	3440	-562.58	1.45	-13.6
1018	SLE RA 21	-37	29	3415	-559.28	1.44	-13.3
1018	SLE FR 1	-37	21	3054	-505.74	1.32	-13.16
1018	SLE FR 2	-37	23	3046	-504.64	1.32	-13.06
1018	SLE FR 3	-37	21	3068	-507.8	1.33	-13.2
1018	SLE FR 4	-37	24	3151	-520.16	1.35	-13.16
1018	SLE FR 5	-38	21	3173	-523.31	1.36	-13.3
1018	SLE FR 6	-38	22	3230	-531.6	1.38	-13.32
1018	SLE QP 1	-37	21	3054	-505.74	1.32	-13.16
1018	SLE QP 2	-37	21	3159	-521.26	1.36	-13.26
1018	SLD 1	358	188	3395	-560.51	2.56	125.07
1018	SLD 2	294	110	3452	-567.68	2.68	102.71
1018	SLD 3	319	-10	4217	-668.58	3.2	111.68
1018	SLD 4	255	-89	4274	-675.75	3.32	89.31
1018	SLD 5	152	386	1972	-367.83	0.73	52.59
1018	SLD 6	109	334	2010	-372.56	0.81	37.82
1018	SLD 7	22	-274	4714	-728.08	2.86	7.93
1018	SLD 8	-20	-326	4752	-732.81	2.94	-6.83
1018	SLD 9	-55	369	1567	-309.71	-0.22	-19.68
1018	SLD 10	-97	317	1605	-314.44	-0.14	-34.45
1018	SLD 11	-184	-292	4309	-669.95	1.91	-64.34
1018	SLD 12	-227	-344	4347	-674.68	1.99	-79.1
1018	SLD 13	-330	131	2044	-366.76	-0.6	-115.83
1018	SLD 14	-394	53	2101	-373.93	-0.48	-138.19
1018	SLD 15	-369	-67	2867	-474.84	0.04	-129.22
1018	SLD 16	-433	-146	2924	-482	0.16	-151.59
1018	SLV 1	583	288	3503	-579.41	3.22	203.71
1018	SLV 2	482	164	3593	-590.63	3.41	168.68
1018	SLV 3	520	-32	4832	-754.08	4.25	182.16
1018	SLV 4	420	-156	4922	-765.31	4.44	147.12
1018	SLV 5	262	610	1230	-271.69	0.31	91.07
1018	SLV 6	195	527	1290	-279.24	0.44	67.48
1018	SLV 7	54	-457	5661	-853.93	3.76	19.21
1018	SLV 8	-14	-540	5721	-861.49	3.89	-4.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1018	SLV 9	-61	583	598	-181.03	-1.17	-22.14
1018	SLV 10	-129	500	658	-188.58	-1.04	-45.73
1018	SLV 11	-269	-484	5029	-763.27	2.28	-93.99
1018	SLV 12	-337	-567	5089	-770.83	2.4	-117.58
1018	SLV 13	-494	198	1397	-277.2	-1.72	-173.63
1018	SLV 14	-595	75	1486	-288.43	-1.53	-208.67
1018	SLV 15	-557	-122	2726	-451.88	-0.69	-195.19
1018	SLV 16	-658	-245	2815	-463.1	-0.5	-230.23
1018	SLV FO 1	645	314	3538	-585.23	3.4	225.41
1018	SLV FO 2	534	179	3636	-597.57	3.61	186.87
1018	SLV FO 3	576	-38	5000	-777.37	4.54	201.7
1018	SLV FO 4	465	-173	5098	-789.71	4.75	163.16
1018	SLV FO 5	292	668	1037	-246.73	0.21	101.5
1018	SLV FO 6	218	577	1103	-255.04	0.35	75.55
1018	SLV FO 7	63	-505	5911	-887.2	4	22.46
1018	SLV FO 8	-12	-596	5977	-895.51	4.14	-3.49
1018	SLV FO 9	-63	639	342	-147	-1.42	-23.02
1018	SLV FO 10	-138	548	408	-155.32	-1.28	-48.97
1018	SLV FO 11	-293	-534	5215	-787.47	2.37	-102.07
1018	SLV FO 12	-367	-626	5282	-795.78	2.51	-128.02
1018	SLV FO 13	-540	216	1220	-252.8	-2.03	-189.67
1018	SLV FO 14	-651	80	1319	-265.15	-1.82	-228.21
1018	SLV FO 15	-609	-136	2683	-444.94	-0.89	-213.38
1018	SLV FO 16	-720	-272	2781	-457.29	-0.69	-251.93
1018	CRTFP Ux+	0	0	0	0	0	0
1018	CRTFP Ux-	0	0	0	0	0	0
1018	CRTFP Uy+	0	0	0	0	0	0
1018	CRTFP Uy-	0	0	0	0	0	0
1019	SLU 1	-36	15	2891	-478.53	0.02	-12.91
1019	SLU 2	-34	32	2829	-470.58	0	-12.15
1019	SLU 3	-37	15	2972	-490.32	0.02	-13.2
1019	SLU 4	-36	25	2934	-485.55	0.01	-12.75
1019	SLU 5	-35	32	2881	-478.19	0	-12.31
1019	SLU 6	-38	16	3024	-497.93	0.01	-13.37
1019	SLU 7	-36	25	2986	-493.16	0	-12.91
1019	SLU 8	-37	15	2995	-493.75	0.01	-13.24
1019	SLU 9	-36	25	2958	-488.98	0	-12.78
1019	SLU 10	-35	33	3197	-524.47	-0.05	-12.53
1019	SLU 11	-38	16	3339	-544.22	-0.04	-13.59
1019	SLU 12	-37	26	3302	-539.45	-0.05	-13.13
1019	SLU 13	-36	33	3249	-532.08	-0.05	-12.69
1019	SLU 14	-39	16	3391	-551.83	-0.04	-13.75
1019	SLU 15	-37	26	3354	-547.06	-0.05	-13.3
1019	SLU 16	-38	16	3363	-547.65	-0.04	-13.62
1019	SLU 17	-37	26	3325	-542.88	-0.05	-13.16
1019	SLU 18	-38	16	3417	-555.52	-0.05	-13.45
1019	SLU 19	-37	26	3379	-550.75	-0.06	-13
1019	SLU 20	-38	17	3468	-563.14	-0.06	-13.62
1019	SLU 21	-37	26	3431	-558.36	-0.07	-13.16
1019	SLU 22	-40	15	3381	-550.1	-0.03	-14.11
1019	SLU 23	-38	32	3318	-542.14	-0.05	-13.36
1019	SLU 24	-41	15	3461	-561.89	-0.03	-14.41
1019	SLU 25	-39	25	3424	-557.12	-0.04	-13.96
1019	SLU 26	-38	32	3370	-549.75	-0.05	-13.52
1019	SLU 27	-41	16	3513	-569.5	-0.04	-14.58
1019	SLU 28	-40	25	3475	-564.73	-0.05	-14.12
1019	SLU 29	-41	15	3484	-565.32	-0.04	-14.44
1019	SLU 30	-39	25	3447	-560.55	-0.05	-13.99
1019	SLU 31	-39	33	3686	-596.04	-0.1	-13.74
1019	SLU 32	-42	16	3828	-615.79	-0.09	-14.79
1019	SLU 33	-40	26	3791	-611.01	-0.1	-14.34
1019	SLU 34	-39	33	3738	-603.65	-0.1	-13.9
1019	SLU 35	-42	16	3880	-623.4	-0.09	-14.96
1019	SLU 36	-41	26	3843	-618.62	-0.1	-14.5
1019	SLU 37	-42	16	3852	-619.22	-0.09	-14.82
1019	SLU 38	-40	26	3815	-614.44	-0.1	-14.37
1019	SLU 39	-41	16	3906	-627.09	-0.1	-14.66
1019	SLU 40	-40	26	3868	-622.32	-0.11	-14.2
1019	SLU 41	-42	17	3958	-634.7	-0.11	-14.82
1019	SLU 42	-40	26	3920	-629.93	-0.12	-14.37
1019	SLU 43	-46	20	3591	-597.55	0.05	-16.37
1019	SLU 44	-44	36	3529	-589.6	0.03	-15.61
1019	SLU 45	-47	20	3671	-609.34	0.04	-16.66
1019	SLU 46	-46	30	3634	-604.57	0.03	-16.21
1019	SLU 47	-44	36	3581	-597.21	0.02	-15.77
1019	SLU 48	-48	20	3723	-616.96	0.03	-16.83
1019	SLU 49	-46	30	3686	-612.18	0.02	-16.37
1019	SLU 50	-47	20	3695	-612.78	0.04	-16.7
1019	SLU 51	-46	30	3658	-608	0.03	-16.24
1019	SLU 52	-45	37	3896	-643.49	-0.02	-15.99
1019	SLU 53	-48	21	4039	-663.24	-0.01	-17.04
1019	SLU 54	-47	31	4002	-658.47	-0.02	-16.59
1019	SLU 55	-45	37	3948	-651.11	-0.03	-16.15
1019	SLU 56	-49	21	4091	-670.85	-0.02	-17.21
1019	SLU 57	-47	31	4053	-666.08	-0.03	-16.75
1019	SLU 58	-48	21	4062	-666.67	-0.02	-17.08
1019	SLU 59	-47	31	4025	-661.9	-0.03	-16.62
1019	SLU 60	-48	21	4116	-674.55	-0.03	-16.91
1019	SLU 61	-46	31	4079	-669.77	-0.04	-16.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1019	SLU 62	-48	21	4168	-682.16	-0.03	-17.08
1019	SLU 63	-47	31	4131	-677.39	-0.04	-16.62
1019	SLU 64	-50	20	4080	-669.12	0	-17.57
1019	SLU 65	-47	36	4018	-661.16	-0.02	-16.81
1019	SLU 66	-50	20	4161	-680.91	-0.01	-17.87
1019	SLU 67	-49	30	4123	-676.14	-0.02	-17.41
1019	SLU 68	-48	36	4070	-668.78	-0.03	-16.98
1019	SLU 69	-51	20	4213	-688.52	-0.01	-18.03
1019	SLU 70	-50	30	4175	-683.75	-0.03	-17.58
1019	SLU 71	-51	20	4184	-684.34	-0.01	-17.9
1019	SLU 72	-49	30	4147	-679.57	-0.02	-17.45
1019	SLU 73	-48	37	4386	-715.06	-0.07	-17.2
1019	SLU 74	-51	21	4528	-734.81	-0.06	-18.25
1019	SLU 75	-50	31	4491	-730.03	-0.07	-17.8
1019	SLU 76	-49	37	4438	-722.67	-0.08	-17.36
1019	SLU 77	-52	21	4580	-742.42	-0.07	-18.42
1019	SLU 78	-51	31	4543	-737.65	-0.08	-17.96
1019	SLU 79	-52	21	4552	-738.24	-0.07	-18.28
1019	SLU 80	-50	31	4514	-733.47	-0.08	-17.83
1019	SLU 81	-51	21	4605	-746.11	-0.08	-18.12
1019	SLU 82	-50	31	4568	-741.34	-0.09	-17.66
1019	SLU 83	-51	21	4657	-753.73	-0.08	-18.28
1019	SLU 84	-50	31	4620	-748.95	-0.09	-17.83
1019	SLE RA 1	-37	15	3031	-498.98	0.01	-13.25
1019	SLE RA 2	-36	26	2990	-493.68	0	-12.75
1019	SLE RA 3	-38	15	3085	-506.84	0	-13.45
1019	SLE RA 4	-37	22	3060	-503.66	0	-13.15
1019	SLE RA 5	-36	26	3024	-498.75	-0.01	-12.86
1019	SLE RA 6	-38	15	3119	-511.91	0	-13.56
1019	SLE RA 7	-37	22	3094	-508.73	-0.01	-13.26
1019	SLE RA 8	-38	15	3100	-509.13	0	-13.47
1019	SLE RA 9	-37	22	3076	-505.95	-0.01	-13.17
1019	SLE RA 10	-37	27	3235	-529.61	-0.04	-13
1019	SLE RA 11	-39	16	3330	-542.77	-0.03	-13.7
1019	SLE RA 12	-38	23	3305	-539.59	-0.04	-13.4
1019	SLE RA 13	-37	27	3269	-534.68	-0.04	-13.11
1019	SLE RA 14	-39	16	3364	-547.84	-0.03	-13.81
1019	SLE RA 15	-38	23	3339	-544.66	-0.04	-13.51
1019	SLE RA 16	-39	16	3345	-545.06	-0.03	-13.73
1019	SLE RA 17	-38	23	3321	-541.88	-0.04	-13.42
1019	SLE RA 18	-38	16	3381	-550.31	-0.04	-13.62
1019	SLE RA 19	-37	23	3356	-547.13	-0.05	-13.31
1019	SLE RA 20	-39	16	3416	-555.38	-0.04	-13.72
1019	SLE RA 21	-38	23	3391	-552.2	-0.05	-13.42
1019	SLE FR 1	-37	15	3031	-498.98	0.01	-13.25
1019	SLE FR 2	-37	17	3023	-497.92	0.01	-13.15
1019	SLE FR 3	-38	15	3045	-501.01	0.01	-13.3
1019	SLE FR 4	-37	18	3128	-513.32	-0.01	-13.26
1019	SLE FR 5	-38	16	3150	-516.41	-0.01	-13.4
1019	SLE FR 6	-38	16	3206	-524.64	-0.02	-13.43
1019	SLE QP 1	-37	15	3031	-498.98	0.01	-13.25
1019	SLE QP 2	-38	16	3136	-514.38	-0.01	-13.36
1019	SLD 1	358	175	3333	-541.85	1.05	125.06
1019	SLD 2	294	101	3386	-548.22	1.14	102.69
1019	SLD 3	319	-16	4140	-646.03	1.3	111.7
1019	SLD 4	255	-90	4194	-652.4	1.39	89.33
1019	SLD 5	151	367	1961	-363.47	-0.08	52.46
1019	SLD 6	109	318	1996	-367.68	-0.02	37.69
1019	SLD 7	22	-271	4652	-710.72	0.74	7.92
1019	SLD 8	-20	-320	4688	-714.93	0.8	-6.84
1019	SLD 9	-55	351	1585	-313.82	-0.81	-19.88
1019	SLD 10	-98	302	1620	-318.03	-0.75	-34.65
1019	SLD 11	-184	-287	4276	-661.08	0	-64.41
1019	SLD 12	-227	-336	4312	-665.29	0.06	-79.18
1019	SLD 13	-330	121	2079	-376.35	-1.4	-116.06
1019	SLD 14	-395	47	2132	-382.73	-1.31	-138.42
1019	SLD 15	-369	-70	2886	-480.53	-1.16	-129.42
1019	SLD 16	-433	-144	2940	-486.91	-1.07	-151.78
1019	SLV 1	583	270	3420	-554.27	1.64	203.75
1019	SLV 2	482	154	3504	-564.26	1.78	168.71
1019	SLV 3	521	-39	4725	-722.66	2.04	182.25
1019	SLV 4	420	-155	4809	-732.64	2.17	147.21
1019	SLV 5	262	583	1227	-269.09	-0.14	90.92
1019	SLV 6	194	504	1283	-275.82	-0.04	67.33
1019	SLV 7	54	-448	5576	-830.38	1.18	19.26
1019	SLV 8	-13	-526	5632	-837.11	1.27	-4.34
1019	SLV 9	-62	557	640	-191.64	-1.28	-22.39
1019	SLV 10	-130	479	697	-198.37	-1.19	-45.98
1019	SLV 11	-269	-473	4989	-752.94	0.03	-94.05
1019	SLV 12	-337	-552	5046	-759.66	0.12	-117.64
1019	SLV 13	-495	186	1464	-296.11	-2.19	-173.93
1019	SLV 14	-596	70	1548	-306.1	-2.05	-208.97
1019	SLV 15	-558	-123	2769	-464.5	-1.79	-195.43
1019	SLV 16	-658	-239	2853	-474.49	-1.66	-230.47
1019	SLV FO 1	645	296	3448	-558.26	1.81	225.46
1019	SLV FO 2	534	168	3541	-569.24	1.96	186.92
1019	SLV FO 3	577	-44	4884	-743.48	2.24	201.81
1019	SLV FO 4	466	-172	4976	-754.47	2.39	163.27
1019	SLV FO 5	291	639	1036	-244.56	-0.15	101.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1019	SLV FO 6	217	553	1098	-251.96	-0.05	75.39
1019	SLV FO 7	64	-494	5820	-861.99	1.3	22.52
1019	SLV FO 8	-11	-580	5882	-869.38	1.4	-3.43
1019	SLV FO 9	-64	612	390	-159.37	-1.41	-23.29
1019	SLV FO 10	-139	525	453	-166.77	-1.31	-49.24
1019	SLV FO 11	-292	-522	5174	-776.79	0.03	-102.12
1019	SLV FO 12	-367	-608	5237	-784.19	0.13	-128.07
1019	SLV FO 13	-541	203	1297	-274.28	-2.4	-189.99
1019	SLV FO 14	-652	75	1389	-285.27	-2.25	-228.53
1019	SLV FO 15	-610	-137	2732	-459.51	-1.97	-213.64
1019	SLV FO 16	-720	-265	2824	-470.5	-1.82	-252.18
1019	CRTFP Ux+	0	0	0	0	0	0
1019	CRTFP Ux-	0	0	0	0	0	0
1019	CRTFP Uy+	0	0	0	0	0	0
1019	CRTFP Uy-	0	0	0	0	0	0
1020	SLU 1	-37	10	2911	-502.28	-1.11	-12.99
1020	SLU 2	-34	26	2848	-493.92	-1.1	-12.23
1020	SLU 3	-38	10	2992	-514.85	-1.15	-13.29
1020	SLU 4	-36	20	2954	-509.83	-1.14	-12.83
1020	SLU 5	-35	26	2901	-502.04	-1.12	-12.4
1020	SLU 6	-38	10	3044	-522.97	-1.18	-13.45
1020	SLU 7	-37	20	3007	-517.95	-1.17	-13
1020	SLU 8	-38	10	3015	-518.52	-1.16	-13.32
1020	SLU 9	-36	20	2978	-513.51	-1.16	-12.87
1020	SLU 10	-36	26	3220	-551.69	-1.31	-12.65
1020	SLU 11	-39	10	3364	-572.62	-1.36	-13.7
1020	SLU 12	-37	20	3326	-567.6	-1.35	-13.25
1020	SLU 13	-36	26	3273	-559.81	-1.34	-12.81
1020	SLU 14	-39	10	3416	-580.74	-1.39	-13.87
1020	SLU 15	-38	20	3379	-575.72	-1.38	-13.41
1020	SLU 16	-39	10	3388	-576.29	-1.37	-13.74
1020	SLU 17	-37	20	3350	-571.27	-1.37	-13.28
1020	SLU 18	-38	10	3442	-584.81	-1.41	-13.58
1020	SLU 19	-37	19	3405	-579.79	-1.4	-13.13
1020	SLU 20	-39	10	3495	-592.93	-1.44	-13.75
1020	SLU 21	-37	19	3457	-587.91	-1.43	-13.29
1020	SLU 22	-40	9	3405	-578.81	-1.37	-14.23
1020	SLU 23	-38	25	3343	-570.45	-1.36	-13.47
1020	SLU 24	-41	9	3486	-591.38	-1.41	-14.53
1020	SLU 25	-40	19	3449	-586.36	-1.4	-14.07
1020	SLU 26	-38	25	3395	-578.57	-1.39	-13.64
1020	SLU 27	-41	9	3539	-599.5	-1.44	-14.69
1020	SLU 28	-40	19	3501	-594.48	-1.43	-14.24
1020	SLU 29	-41	9	3510	-595.05	-1.42	-14.56
1020	SLU 30	-40	19	3473	-590.03	-1.42	-14.11
1020	SLU 31	-39	25	3715	-628.22	-1.57	-13.89
1020	SLU 32	-42	9	3858	-649.15	-1.62	-14.94
1020	SLU 33	-41	19	3821	-644.13	-1.61	-14.49
1020	SLU 34	-40	25	3768	-636.34	-1.6	-14.05
1020	SLU 35	-43	9	3911	-657.26	-1.65	-15.11
1020	SLU 36	-41	19	3873	-652.25	-1.64	-14.65
1020	SLU 37	-42	9	3882	-652.82	-1.63	-14.97
1020	SLU 38	-41	19	3845	-647.8	-1.63	-14.52
1020	SLU 39	-42	9	3937	-661.34	-1.67	-14.82
1020	SLU 40	-40	19	3899	-656.32	-1.66	-14.37
1020	SLU 41	-42	9	3989	-669.45	-1.7	-14.99
1020	SLU 42	-41	19	3952	-664.44	-1.69	-14.53
1020	SLU 43	-46	13	3614	-626.73	-1.35	-16.46
1020	SLU 44	-44	29	3552	-618.37	-1.34	-15.7
1020	SLU 45	-47	13	3695	-639.3	-1.39	-16.76
1020	SLU 46	-46	23	3658	-634.28	-1.39	-16.31
1020	SLU 47	-45	29	3604	-626.49	-1.37	-15.87
1020	SLU 48	-48	13	3748	-647.42	-1.42	-16.93
1020	SLU 49	-46	23	3710	-642.4	-1.41	-16.47
1020	SLU 50	-47	13	3719	-642.97	-1.41	-16.79
1020	SLU 51	-46	23	3682	-637.95	-1.4	-16.34
1020	SLU 52	-45	29	3924	-676.13	-1.55	-16.12
1020	SLU 53	-48	13	4067	-697.06	-1.6	-17.17
1020	SLU 54	-47	23	4030	-692.05	-1.6	-16.72
1020	SLU 55	-46	29	3977	-684.25	-1.58	-16.29
1020	SLU 56	-49	13	4120	-705.18	-1.63	-17.34
1020	SLU 57	-48	23	4082	-700.16	-1.62	-16.89
1020	SLU 58	-49	13	4091	-700.74	-1.62	-17.21
1020	SLU 59	-47	23	4054	-695.72	-1.61	-16.75
1020	SLU 60	-48	13	4146	-709.25	-1.65	-17.05
1020	SLU 61	-47	23	4108	-704.24	-1.65	-16.6
1020	SLU 62	-49	13	4198	-717.37	-1.68	-17.22
1020	SLU 63	-47	23	4161	-712.35	-1.67	-16.76
1020	SLU 64	-50	12	4109	-703.26	-1.61	-17.7
1020	SLU 65	-48	28	4047	-694.9	-1.6	-16.94
1020	SLU 66	-51	12	4190	-715.83	-1.65	-18
1020	SLU 67	-49	22	4153	-710.81	-1.65	-17.55
1020	SLU 68	-48	28	4099	-703.02	-1.63	-17.11
1020	SLU 69	-51	12	4242	-723.95	-1.68	-18.16
1020	SLU 70	-50	22	4205	-718.93	-1.67	-17.71
1020	SLU 71	-51	12	4214	-719.5	-1.67	-18.03
1020	SLU 72	-50	22	4176	-714.48	-1.66	-17.58
1020	SLU 73	-49	28	4419	-752.66	-1.81	-17.36
1020	SLU 74	-52	12	4562	-773.59	-1.86	-18.41



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1020	SLU 75	-51	22	4525	-768.57	-1.86	-17.96
1020	SLU 76	-49	28	4471	-760.78	-1.84	-17.52
1020	SLU 77	-52	12	4614	-781.71	-1.89	-18.58
1020	SLU 78	-51	22	4577	-776.69	-1.88	-18.13
1020	SLU 79	-52	12	4586	-777.26	-1.88	-18.45
1020	SLU 80	-51	22	4548	-772.25	-1.87	-17.99
1020	SLU 81	-52	12	4640	-785.78	-1.91	-18.29
1020	SLU 82	-50	22	4603	-780.76	-1.91	-17.84
1020	SLU 83	-52	12	4693	-793.9	-1.94	-18.46
1020	SLU 84	-51	22	4655	-788.88	-1.93	-18
1020	SLE RA 1	-38	10	3052	-524.15	-1.18	-13.34
1020	SLE RA 2	-36	20	3010	-518.57	-1.18	-12.84
1020	SLE RA 3	-38	10	3106	-532.53	-1.21	-13.54
1020	SLE RA 4	-37	16	3081	-529.18	-1.21	-13.24
1020	SLE RA 5	-37	20	3045	-523.99	-1.19	-12.95
1020	SLE RA 6	-39	10	3141	-537.94	-1.23	-13.65
1020	SLE RA 7	-38	16	3116	-534.6	-1.22	-13.35
1020	SLE RA 8	-38	10	3122	-534.98	-1.22	-13.56
1020	SLE RA 9	-37	16	3097	-531.63	-1.22	-13.26
1020	SLE RA 10	-37	20	3258	-557.08	-1.32	-13.12
1020	SLE RA 11	-39	10	3354	-571.04	-1.35	-13.82
1020	SLE RA 12	-38	16	3329	-567.69	-1.35	-13.52
1020	SLE RA 13	-37	20	3293	-562.5	-1.33	-13.23
1020	SLE RA 14	-39	10	3389	-576.45	-1.37	-13.93
1020	SLE RA 15	-38	16	3364	-573.11	-1.36	-13.63
1020	SLE RA 16	-39	10	3370	-573.49	-1.36	-13.84
1020	SLE RA 17	-38	16	3345	-570.14	-1.36	-13.54
1020	SLE RA 18	-39	10	3406	-579.16	-1.38	-13.74
1020	SLE RA 19	-38	16	3381	-575.82	-1.38	-13.44
1020	SLE RA 20	-39	10	3441	-584.58	-1.4	-13.85
1020	SLE RA 21	-38	16	3416	-581.23	-1.4	-13.55
1020	SLE FR 1	-38	10	3052	-524.15	-1.18	-13.34
1020	SLE FR 2	-37	12	3044	-523.03	-1.18	-13.24
1020	SLE FR 3	-38	10	3066	-526.31	-1.19	-13.39
1020	SLE FR 4	-38	12	3150	-539.54	-1.24	-13.36
1020	SLE FR 5	-38	10	3172	-542.82	-1.25	-13.51
1020	SLE FR 6	-38	10	3229	-551.66	-1.28	-13.54
1020	SLE QP 1	-38	10	3052	-524.15	-1.18	-13.34
1020	SLE QP 2	-38	10	3158	-540.65	-1.24	-13.46
1020	SLD 1	358	164	3320	-559.59	-0.29	125
1020	SLD 2	294	94	3371	-565.88	-0.24	102.65
1020	SLD 3	319	-23	4126	-668.91	-0.42	111.69
1020	SLD 4	255	-93	4177	-675.2	-0.37	89.34
1020	SLD 5	150	352	1976	-379.4	-0.77	52.29
1020	SLD 6	108	306	2010	-383.56	-0.74	37.53
1020	SLD 7	23	-271	4661	-743.8	-1.2	7.92
1020	SLD 8	-20	-317	4695	-747.95	-1.17	-6.84
1020	SLD 9	-56	337	1622	-333.36	-1.32	-20.09
1020	SLD 10	-99	290	1655	-337.51	-1.28	-34.85
1020	SLD 11	-184	-287	4307	-697.75	-1.75	-64.45
1020	SLD 12	-226	-333	4340	-701.91	-1.71	-79.21
1020	SLD 13	-331	112	2140	-406.11	-2.12	-116.26
1020	SLD 14	-395	42	2191	-412.4	-2.06	-138.61
1020	SLD 15	-370	-75	2945	-515.42	-2.25	-129.57
1020	SLD 16	-434	-145	2996	-521.72	-2.19	-151.92
1020	SLV 1	583	256	3388	-567.09	0.24	203.71
1020	SLV 2	482	146	3468	-576.95	0.33	168.69
1020	SLV 3	521	-46	4690	-743.8	0.03	182.29
1020	SLV 4	421	-156	4770	-753.66	0.12	147.27
1020	SLV 5	260	562	1238	-278.74	-0.5	90.71
1020	SLV 6	193	488	1292	-285.38	-0.44	67.13
1020	SLV 7	55	-444	5577	-867.76	-1.19	19.32
1020	SLV 8	-13	-518	5631	-874.4	-1.14	-4.26
1020	SLV 9	-63	538	686	-206.91	-1.35	-22.66
1020	SLV 10	-131	464	739	-213.54	-1.29	-46.24
1020	SLV 11	-269	-469	5024	-795.93	-2.05	-94.05
1020	SLV 12	-336	-543	5078	-802.57	-1.99	-117.63
1020	SLV 13	-496	175	1547	-327.65	-2.61	-174.19
1020	SLV 14	-597	65	1627	-337.51	-2.52	-209.21
1020	SLV 15	-558	-127	2848	-504.36	-2.81	-195.61
1020	SLV 16	-659	-237	2928	-514.22	-2.73	-230.63
1020	SLV FO 1	645	281	3411	-569.73	0.39	225.43
1020	SLV FO 2	534	160	3499	-580.58	0.49	186.9
1020	SLV FO 3	577	-51	4843	-764.11	0.16	201.87
1020	SLV FO 4	466	-172	4931	-774.96	0.25	163.34
1020	SLV FO 5	290	617	1046	-252.55	-0.42	101.13
1020	SLV FO 6	216	536	1105	-259.85	-0.36	75.19
1020	SLV FO 7	64	-490	5819	-900.48	-1.19	22.6
1020	SLV FO 8	-10	-571	5878	-907.78	-1.13	-3.34
1020	SLV FO 9	-66	591	438	-173.53	-1.36	-23.58
1020	SLV FO 10	-140	509	498	-180.83	-1.3	-49.52
1020	SLV FO 11	-292	-516	5211	-821.46	-2.13	-102.11
1020	SLV FO 12	-366	-598	5270	-828.76	-2.06	-128.05
1020	SLV FO 13	-542	192	1385	-306.35	-2.74	-190.26
1020	SLV FO 14	-653	71	1473	-317.19	-2.65	-228.79
1020	SLV FO 15	-610	-140	2817	-500.73	-2.97	-213.82
1020	SLV FO 16	-721	-261	2905	-511.57	-2.88	-252.35
1020	CRTFP Ux+	0	0	0	0	0	0
1020	CRTFP Ux-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1020	CRTFP Uy+	0	0	0	0	0	0
1020	CRTFP Uy-	0	0	0	0	0	0
1021	SLU 1	-37	5	2966	-553.42	-2.07	-13.07
1021	SLU 2	-35	20	2903	-543.99	-2.04	-12.32
1021	SLU 3	-38	4	3049	-567.58	-2.14	-13.37
1021	SLU 4	-36	14	3011	-561.93	-2.12	-12.92
1021	SLU 5	-35	20	2957	-553.15	-2.08	-12.49
1021	SLU 6	-38	4	3103	-576.75	-2.19	-13.54
1021	SLU 7	-37	14	3065	-571.09	-2.17	-13.09
1021	SLU 8	-38	4	3073	-571.74	-2.17	-13.41
1021	SLU 9	-37	14	3036	-566.08	-2.14	-12.96
1021	SLU 10	-36	20	3285	-609.52	-2.38	-12.77
1021	SLU 11	-39	4	3431	-633.11	-2.49	-13.83
1021	SLU 12	-38	13	3393	-627.46	-2.47	-13.37
1021	SLU 13	-36	19	3338	-618.68	-2.43	-12.94
1021	SLU 14	-39	4	3484	-642.27	-2.54	-13.99
1021	SLU 15	-38	13	3447	-636.62	-2.51	-13.54
1021	SLU 16	-39	4	3455	-637.27	-2.51	-13.86
1021	SLU 17	-38	13	3417	-631.61	-2.49	-13.41
1021	SLU 18	-39	3	3511	-647.02	-2.57	-13.72
1021	SLU 19	-37	13	3473	-641.37	-2.55	-13.27
1021	SLU 20	-39	3	3565	-656.19	-2.61	-13.89
1021	SLU 21	-38	13	3527	-650.53	-2.59	-13.43
1021	SLU 22	-41	3	3473	-640.05	-2.52	-14.35
1021	SLU 23	-38	19	3410	-630.62	-2.48	-13.6
1021	SLU 24	-41	3	3556	-654.22	-2.59	-14.65
1021	SLU 25	-40	12	3518	-648.56	-2.56	-14.2
1021	SLU 26	-39	19	3463	-639.79	-2.53	-13.77
1021	SLU 27	-42	3	3609	-663.38	-2.63	-14.82
1021	SLU 28	-41	12	3572	-657.73	-2.61	-14.37
1021	SLU 29	-41	3	3580	-658.37	-2.61	-14.69
1021	SLU 30	-40	12	3542	-652.72	-2.59	-14.23
1021	SLU 31	-40	18	3791	-696.15	-2.83	-14.05
1021	SLU 32	-43	2	3937	-719.74	-2.93	-15.1
1021	SLU 33	-41	12	3900	-714.09	-2.91	-14.65
1021	SLU 34	-40	18	3845	-705.31	-2.87	-14.22
1021	SLU 35	-43	2	3991	-728.91	-2.98	-15.27
1021	SLU 36	-42	12	3953	-723.25	-2.96	-14.82
1021	SLU 37	-43	2	3962	-723.9	-2.96	-15.14
1021	SLU 38	-41	12	3924	-718.24	-2.93	-14.68
1021	SLU 39	-42	2	4018	-733.66	-3.01	-14.99
1021	SLU 40	-41	11	3980	-728	-2.99	-14.54
1021	SLU 41	-43	2	4072	-742.82	-3.06	-15.16
1021	SLU 42	-41	11	4034	-737.17	-3.04	-14.71
1021	SLU 43	-47	6	3682	-689.74	-2.54	-16.56
1021	SLU 44	-45	22	3619	-680.31	-2.51	-15.81
1021	SLU 45	-48	6	3765	-703.91	-2.61	-16.86
1021	SLU 46	-46	16	3727	-698.25	-2.59	-16.41
1021	SLU 47	-45	22	3673	-689.47	-2.55	-15.97
1021	SLU 48	-48	6	3819	-713.07	-2.66	-17.03
1021	SLU 49	-47	16	3781	-707.41	-2.64	-16.58
1021	SLU 50	-48	6	3789	-708.06	-2.64	-16.89
1021	SLU 51	-46	16	3752	-702.41	-2.61	-16.44
1021	SLU 52	-46	21	4001	-745.84	-2.85	-16.26
1021	SLU 53	-49	6	4147	-769.43	-2.96	-17.31
1021	SLU 54	-48	15	4109	-763.78	-2.94	-16.86
1021	SLU 55	-46	21	4054	-755	-2.9	-16.42
1021	SLU 56	-49	5	4200	-778.6	-3.01	-17.48
1021	SLU 57	-48	15	4163	-772.94	-2.98	-17.03
1021	SLU 58	-49	5	4171	-773.59	-2.98	-17.34
1021	SLU 59	-48	15	4133	-767.93	-2.96	-16.89
1021	SLU 60	-49	5	4227	-783.35	-3.04	-17.2
1021	SLU 61	-47	15	4189	-777.69	-3.01	-16.75
1021	SLU 62	-49	5	4281	-792.51	-3.08	-17.37
1021	SLU 63	-48	15	4243	-786.85	-3.06	-16.92
1021	SLU 64	-50	5	4189	-776.37	-2.99	-17.83
1021	SLU 65	-48	21	4126	-766.95	-2.95	-17.08
1021	SLU 66	-51	5	4272	-790.54	-3.06	-18.14
1021	SLU 67	-50	14	4234	-784.88	-3.03	-17.68
1021	SLU 68	-49	21	4179	-776.11	-3	-17.25
1021	SLU 69	-52	5	4325	-799.7	-3.1	-18.3
1021	SLU 70	-50	14	4288	-794.05	-3.08	-17.85
1021	SLU 71	-51	5	4296	-794.7	-3.08	-18.17
1021	SLU 72	-50	14	4258	-789.04	-3.06	-17.72
1021	SLU 73	-49	20	4507	-832.47	-3.3	-17.53
1021	SLU 74	-52	4	4653	-856.07	-3.4	-18.59
1021	SLU 75	-51	13	4616	-850.41	-3.38	-18.13
1021	SLU 76	-50	20	4561	-841.63	-3.34	-17.7
1021	SLU 77	-53	4	4707	-865.23	-3.45	-18.75
1021	SLU 78	-52	13	4669	-859.57	-3.43	-18.3
1021	SLU 79	-53	4	4678	-860.22	-3.43	-18.62
1021	SLU 80	-51	13	4640	-854.57	-3.4	-18.17
1021	SLU 81	-52	4	4734	-869.98	-3.48	-18.48
1021	SLU 82	-51	13	4696	-864.32	-3.46	-18.03
1021	SLU 83	-53	4	4788	-879.14	-3.53	-18.65
1021	SLU 84	-51	13	4750	-873.49	-3.5	-18.19
1021	SLE RA 1	-38	4	3111	-578.17	-2.2	-13.44
1021	SLE RA 2	-37	15	3069	-571.88	-2.17	-12.94
1021	SLE RA 3	-39	4	3166	-587.61	-2.25	-13.64



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1021	SLE RA 4	-38	10	3141	-583.84	-2.23	-13.34
1021	SLE RA 5	-37	15	3105	-577.99	-2.21	-13.05
1021	SLE RA 6	-39	4	3202	-593.72	-2.28	-13.75
1021	SLE RA 7	-38	10	3177	-589.95	-2.26	-13.45
1021	SLE RA 8	-39	4	3182	-590.38	-2.26	-13.66
1021	SLE RA 9	-38	10	3157	-586.61	-2.25	-13.36
1021	SLE RA 10	-37	14	3323	-615.57	-2.41	-13.24
1021	SLE RA 11	-39	4	3421	-631.3	-2.48	-13.94
1021	SLE RA 12	-38	10	3395	-627.53	-2.46	-13.64
1021	SLE RA 13	-38	14	3359	-621.68	-2.44	-13.35
1021	SLE RA 14	-40	3	3456	-637.41	-2.51	-14.05
1021	SLE RA 15	-39	10	3431	-633.64	-2.49	-13.75
1021	SLE RA 16	-39	3	3437	-634.07	-2.49	-13.96
1021	SLE RA 17	-39	10	3412	-630.3	-2.48	-13.66
1021	SLE RA 18	-39	3	3474	-640.57	-2.53	-13.87
1021	SLE RA 19	-38	10	3449	-636.8	-2.51	-13.57
1021	SLE RA 20	-39	3	3510	-646.68	-2.56	-13.98
1021	SLE RA 21	-39	10	3485	-642.91	-2.55	-13.68
1021	SLE FR 1	-38	4	3111	-578.17	-2.2	-13.44
1021	SLE FR 2	-38	6	3102	-576.91	-2.19	-13.34
1021	SLE FR 3	-38	4	3125	-580.61	-2.21	-13.48
1021	SLE FR 4	-38	6	3211	-595.63	-2.29	-13.47
1021	SLE FR 5	-38	4	3234	-599.33	-2.31	-13.61
1021	SLE FR 6	-39	4	3292	-609.37	-2.36	-13.65
1021	SLE QP 1	-38	4	3111	-578.17	-2.2	-13.44
1021	SLE QP 2	-38	4	3220	-596.89	-2.3	-13.57
1021	SLD 1	357	154	3351	-610.03	-1.44	124.89
1021	SLD 2	293	88	3400	-616.87	-1.41	102.56
1021	SLD 3	319	-30	4167	-732.87	-1.9	111.64
1021	SLD 4	255	-97	4216	-739.71	-1.87	89.31
1021	SLD 5	150	341	2013	-413.29	-1.35	52.08
1021	SLD 6	107	297	2046	-417.8	-1.33	37.33
1021	SLD 7	23	-274	4732	-822.77	-2.88	7.93
1021	SLD 8	-19	-318	4765	-827.28	-2.86	-6.81
1021	SLD 9	-57	326	1675	-366.5	-1.73	-20.32
1021	SLD 10	-100	282	1708	-371.01	-1.72	-35.07
1021	SLD 11	-184	-289	4394	-775.98	-3.26	-64.46
1021	SLD 12	-226	-333	4427	-780.49	-3.25	-79.21
1021	SLD 13	-332	105	2223	-454.07	-2.73	-116.45
1021	SLD 14	-396	38	2273	-460.9	-2.7	-138.78
1021	SLD 15	-370	-80	3039	-576.91	-3.18	-129.69
1021	SLD 16	-434	-147	3089	-583.75	-3.16	-152.02
1021	SLV 1	582	244	3401	-613.91	-0.94	203.59
1021	SLV 2	482	139	3479	-624.62	-0.9	168.6
1021	SLV 3	521	-54	4719	-812.48	-1.69	182.28
1021	SLV 4	421	-158	4797	-823.19	-1.64	147.29
1021	SLV 5	259	547	1260	-298.83	-0.77	90.43
1021	SLV 6	192	477	1313	-306.04	-0.74	66.87
1021	SLV 7	56	-446	5654	-960.74	-3.25	19.4
1021	SLV 8	-12	-516	5707	-967.95	-3.22	-4.16
1021	SLV 9	-65	524	733	-225.83	-1.38	-22.98
1021	SLV 10	-132	453	785	-233.04	-1.35	-46.53
1021	SLV 11	-268	-469	5127	-887.74	-3.85	-94.01
1021	SLV 12	-336	-539	5179	-894.95	-3.82	-117.56
1021	SLV 13	-497	166	1642	-370.59	-2.95	-174.43
1021	SLV 14	-598	62	1720	-381.3	-2.91	-209.41
1021	SLV 15	-559	-132	2961	-569.16	-3.69	-195.74
1021	SLV 16	-659	-236	3038	-579.87	-3.65	-230.72
1021	SLV FO 1	644	268	3419	-615.61	-0.81	225.3
1021	SLV FO 2	534	153	3505	-627.39	-0.76	186.82
1021	SLV FO 3	577	-60	4869	-834.04	-1.63	201.86
1021	SLV FO 4	467	-175	4955	-845.82	-1.58	163.38
1021	SLV FO 5	289	602	1064	-269.02	-0.62	100.82
1021	SLV FO 6	215	524	1122	-276.95	-0.59	74.92
1021	SLV FO 7	65	-491	5898	-997.12	-3.34	22.7
1021	SLV FO 8	-9	-568	5955	-1005.06	-3.31	-3.21
1021	SLV FO 9	-67	576	484	-188.72	-1.28	-23.92
1021	SLV FO 10	-142	498	542	-196.66	-1.25	-49.83
1021	SLV FO 11	-291	-516	5317	-916.83	-4.01	-102.05
1021	SLV FO 12	-366	-594	5375	-924.76	-3.97	-127.96
1021	SLV FO 13	-543	182	1485	-347.96	-3.02	-190.51
1021	SLV FO 14	-654	67	1570	-359.74	-2.97	-229
1021	SLV FO 15	-611	-145	2935	-566.39	-3.83	-213.95
1021	SLV FO 16	-721	-260	3020	-578.17	-3.79	-252.44
1021	CRTFP Ux+	0	0	0	0	0	0
1021	CRTFP Ux-	0	0	0	0	0	0
1021	CRTFP Uy+	0	0	0	0	0	0
1021	CRTFP Uy-	0	0	0	0	0	0
1022	SLU 1	-37	0	3051	-628.08	-2.81	-13.17
1022	SLU 2	-35	15	2986	-617	-2.75	-12.42
1022	SLU 3	-38	-1	3137	-644.57	-2.91	-13.47
1022	SLU 4	-37	9	3098	-637.93	-2.87	-13.03
1022	SLU 5	-36	15	3042	-627.67	-2.81	-12.59
1022	SLU 6	-39	-1	3192	-655.24	-2.97	-13.64
1022	SLU 7	-37	9	3153	-648.6	-2.93	-13.2
1022	SLU 8	-38	-1	3162	-649.42	-2.93	-13.51
1022	SLU 9	-37	9	3123	-642.78	-2.9	-13.06
1022	SLU 10	-36	14	3382	-693.68	-3.2	-12.91
1022	SLU 11	-39	-2	3532	-721.25	-3.36	-13.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1022	SLU 12	-38	7	3493	-714.6	-3.32	-13.52
1022	SLU 13	-37	14	3437	-704.35	-3.27	-13.08
1022	SLU 14	-40	-2	3588	-731.92	-3.42	-14.14
1022	SLU 15	-39	7	3549	-725.27	-3.38	-13.69
1022	SLU 16	-40	-2	3558	-726.1	-3.39	-14
1022	SLU 17	-38	7	3519	-719.45	-3.35	-13.55
1022	SLU 18	-39	-2	3616	-737.62	-3.45	-13.87
1022	SLU 19	-38	7	3577	-730.97	-3.42	-13.42
1022	SLU 20	-40	-3	3672	-748.29	-3.52	-14.04
1022	SLU 21	-38	7	3633	-741.64	-3.48	-13.59
1022	SLU 22	-41	-3	3575	-729.29	-3.39	-14.49
1022	SLU 23	-39	13	3511	-718.21	-3.34	-13.74
1022	SLU 24	-42	-3	3661	-745.78	-3.49	-14.79
1022	SLU 25	-41	7	3622	-739.13	-3.45	-14.35
1022	SLU 26	-39	13	3566	-728.88	-3.4	-13.91
1022	SLU 27	-42	-3	3717	-756.45	-3.55	-14.96
1022	SLU 28	-41	6	3678	-749.8	-3.52	-14.52
1022	SLU 29	-42	-3	3687	-750.63	-3.52	-14.83
1022	SLU 30	-41	6	3648	-743.98	-3.48	-14.38
1022	SLU 31	-40	12	3906	-794.89	-3.79	-14.23
1022	SLU 32	-43	-4	4057	-822.45	-3.94	-15.29
1022	SLU 33	-42	5	4018	-815.81	-3.9	-14.84
1022	SLU 34	-41	12	3962	-805.56	-3.85	-14.4
1022	SLU 35	-44	-4	4112	-833.13	-4	-15.46
1022	SLU 36	-42	5	4074	-826.48	-3.97	-15.01
1022	SLU 37	-43	-4	4082	-827.3	-3.97	-15.32
1022	SLU 38	-42	5	4043	-820.66	-3.93	-14.87
1022	SLU 39	-43	-5	4141	-838.82	-4.04	-15.19
1022	SLU 40	-42	5	4102	-832.18	-4	-14.74
1022	SLU 41	-43	-5	4196	-849.49	-4.1	-15.36
1022	SLU 42	-42	5	4157	-842.85	-4.07	-14.91
1022	SLU 43	-47	0	3786	-781.8	-3.45	-16.67
1022	SLU 44	-45	16	3721	-770.73	-3.4	-15.92
1022	SLU 45	-48	0	3872	-798.3	-3.55	-16.97
1022	SLU 46	-47	9	3833	-791.65	-3.51	-16.52
1022	SLU 47	-45	16	3777	-781.4	-3.46	-16.09
1022	SLU 48	-48	0	3928	-808.97	-3.61	-17.14
1022	SLU 49	-47	9	3889	-802.32	-3.57	-16.69
1022	SLU 50	-48	0	3897	-803.15	-3.58	-17.01
1022	SLU 51	-47	9	3858	-796.5	-3.54	-16.56
1022	SLU 52	-46	14	4117	-847.4	-3.85	-16.41
1022	SLU 53	-49	-1	4268	-874.97	-4	-17.46
1022	SLU 54	-48	8	4229	-868.33	-3.96	-17.02
1022	SLU 55	-47	14	4173	-858.08	-3.91	-16.58
1022	SLU 56	-50	-2	4323	-885.64	-4.06	-17.64
1022	SLU 57	-49	8	4284	-879	-4.03	-17.19
1022	SLU 58	-49	-2	4293	-879.82	-4.03	-17.5
1022	SLU 59	-48	8	4254	-873.18	-3.99	-17.05
1022	SLU 60	-49	-2	4351	-891.34	-4.1	-17.37
1022	SLU 61	-48	8	4312	-884.7	-4.06	-16.92
1022	SLU 62	-50	-2	4407	-902.01	-4.16	-17.54
1022	SLU 63	-48	7	4368	-895.37	-4.12	-17.09
1022	SLU 64	-51	-2	4311	-883.01	-4.04	-17.99
1022	SLU 65	-49	14	4246	-871.93	-3.98	-17.24
1022	SLU 66	-52	-2	4397	-899.5	-4.13	-18.29
1022	SLU 67	-50	7	4358	-892.86	-4.1	-17.84
1022	SLU 68	-49	14	4302	-882.61	-4.04	-17.41
1022	SLU 69	-52	-2	4452	-910.17	-4.19	-18.46
1022	SLU 70	-51	7	4413	-903.53	-4.16	-18.01
1022	SLU 71	-52	-2	4422	-904.35	-4.16	-18.33
1022	SLU 72	-51	7	4383	-897.71	-4.13	-17.88
1022	SLU 73	-50	12	4642	-948.61	-4.43	-17.73
1022	SLU 74	-53	-4	4792	-976.18	-4.58	-18.78
1022	SLU 75	-52	6	4753	-969.53	-4.55	-18.34
1022	SLU 76	-51	12	4697	-959.28	-4.49	-17.9
1022	SLU 77	-54	-4	4848	-986.85	-4.64	-18.95
1022	SLU 78	-52	6	4809	-980.2	-4.61	-18.51
1022	SLU 79	-53	-4	4818	-981.03	-4.61	-18.82
1022	SLU 80	-52	6	4779	-974.38	-4.58	-18.37
1022	SLU 81	-53	-4	4876	-992.55	-4.68	-18.69
1022	SLU 82	-52	5	4837	-985.9	-4.65	-18.24
1022	SLU 83	-53	-4	4932	-1003.22	-4.74	-18.86
1022	SLU 84	-52	5	4893	-996.57	-4.71	-18.41
1022	SLE RA 1	-38	-1	3201	-657	-2.98	-13.55
1022	SLE RA 2	-37	9	3158	-649.61	-2.94	-13.05
1022	SLE RA 3	-39	-1	3258	-667.99	-3.04	-13.75
1022	SLE RA 4	-38	5	3232	-663.56	-3.02	-13.45
1022	SLE RA 5	-37	9	3195	-656.73	-2.98	-13.16
1022	SLE RA 6	-39	-1	3295	-675.1	-3.08	-13.86
1022	SLE RA 7	-38	5	3269	-670.67	-3.06	-13.56
1022	SLE RA 8	-39	-1	3275	-671.22	-3.06	-13.77
1022	SLE RA 9	-38	5	3249	-666.79	-3.04	-13.47
1022	SLE RA 10	-38	8	3421	-700.73	-3.24	-13.38
1022	SLE RA 11	-40	-2	3522	-719.11	-3.34	-14.08
1022	SLE RA 12	-39	4	3496	-714.68	-3.32	-13.78
1022	SLE RA 13	-38	8	3458	-707.84	-3.28	-13.49
1022	SLE RA 14	-40	-2	3559	-726.22	-3.38	-14.19
1022	SLE RA 15	-39	4	3533	-721.79	-3.36	-13.89
1022	SLE RA 16	-40	-2	3539	-722.34	-3.36	-14.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1022	SLE RA 17	-39	4	3513	-717.91	-3.34	-13.8
1022	SLE RA 18	-40	-2	3577	-730.02	-3.41	-14.01
1022	SLE RA 19	-39	4	3552	-725.59	-3.38	-13.72
1022	SLE RA 20	-40	-2	3614	-737.13	-3.45	-14.13
1022	SLE RA 21	-39	4	3589	-732.7	-3.42	-13.83
1022	SLE FR 1	-38	-1	3201	-657	-2.98	-13.55
1022	SLE FR 2	-38	1	3192	-655.52	-2.97	-13.45
1022	SLE FR 3	-38	-1	3215	-659.84	-2.99	-13.59
1022	SLE FR 4	-38	1	3305	-677.43	-3.1	-13.59
1022	SLE FR 5	-39	-2	3329	-681.75	-3.12	-13.73
1022	SLE FR 6	-39	-2	3389	-693.51	-3.19	-13.78
1022	SLE QP 1	-38	-1	3201	-657	-2.98	-13.55
1022	SLE QP 2	-39	-1	3314	-678.9	-3.11	-13.69
1022	SLD 1	357	146	3416	-688.43	-2.31	124.71
1022	SLD 2	293	82	3466	-696.36	-2.31	102.41
1022	SLD 3	319	-38	4253	-832.33	-3.05	111.55
1022	SLD 4	255	-101	4302	-840.26	-3.05	89.26
1022	SLD 5	149	333	2067	-462.09	-1.75	51.8
1022	SLD 6	106	291	2099	-467.32	-1.75	37.08
1022	SLD 7	23	-280	4855	-941.75	-4.21	7.95
1022	SLD 8	-19	-322	4888	-946.98	-4.21	-6.77
1022	SLD 9	-58	319	1740	-410.82	-2	-20.6
1022	SLD 10	-101	277	1772	-416.06	-2	-35.32
1022	SLD 11	-184	-294	4528	-890.49	-4.46	-64.45
1022	SLD 12	-226	-336	4560	-895.72	-4.46	-79.17
1022	SLD 13	-333	98	2325	-517.55	-3.16	-116.63
1022	SLD 14	-397	35	2374	-525.48	-3.16	-138.92
1022	SLD 15	-370	-85	3162	-661.45	-3.9	-129.79
1022	SLD 16	-434	-149	3211	-669.37	-3.9	-152.08
1022	SLV 1	582	234	3450	-689.7	-1.85	203.37
1022	SLV 2	482	134	3527	-702.11	-1.84	168.45
1022	SLV 3	521	-63	4802	-922.3	-3.04	182.2
1022	SLV 4	421	-162	4879	-934.71	-3.04	147.28
1022	SLV 5	258	538	1290	-327.05	-0.92	90.05
1022	SLV 6	190	470	1342	-335.41	-0.92	66.54
1022	SLV 7	56	-451	5796	-1102.38	-4.9	19.49
1022	SLV 8	-11	-518	5848	-1110.74	-4.89	-4.02
1022	SLV 9	-66	515	780	-247.07	-1.32	-23.35
1022	SLV 10	-134	448	831	-255.43	-1.32	-46.86
1022	SLV 11	-268	-473	5285	-1022.4	-5.3	-93.92
1022	SLV 12	-335	-541	5337	-1030.76	-5.29	-117.43
1022	SLV 13	-498	159	1748	-423.09	-3.18	-174.65
1022	SLV 14	-599	60	1825	-435.51	-3.17	-209.57
1022	SLV 15	-559	-137	3100	-655.69	-4.37	-195.82
1022	SLV 16	-659	-237	3177	-668.11	-4.37	-230.74
1022	SLV FO 1	644	258	3464	-690.78	-1.72	225.07
1022	SLV FO 2	534	148	3549	-704.44	-1.72	186.66
1022	SLV FO 3	577	-69	4951	-946.64	-3.03	201.79
1022	SLV FO 4	467	-178	5036	-960.29	-3.03	163.37
1022	SLV FO 5	288	592	1088	-291.86	-0.7	100.43
1022	SLV FO 6	213	518	1145	-301.06	-0.7	74.56
1022	SLV FO 7	66	-496	6044	-1144.73	-5.08	22.81
1022	SLV FO 8	-8	-570	6101	-1153.92	-5.07	-3.05
1022	SLV FO 9	-69	567	526	-203.89	-1.14	-24.32
1022	SLV FO 10	-143	493	583	-213.08	-1.14	-50.18
1022	SLV FO 11	-291	-521	5483	-1056.75	-5.51	-101.94
1022	SLV FO 12	-365	-594	5540	-1065.94	-5.51	-127.8
1022	SLV FO 13	-544	176	1592	-397.51	-3.18	-190.75
1022	SLV FO 14	-655	66	1677	-411.17	-3.18	-229.16
1022	SLV FO 15	-611	-151	3079	-653.37	-4.5	-214.03
1022	SLV FO 16	-721	-260	3163	-667.03	-4.49	-252.45
1022	CRTFP Ux+	0	0	0	0	0	0
1022	CRTFP Ux-	0	0	0	0	0	0
1022	CRTFP Uy+	0	0	0	0	0	0
1022	CRTFP Uy-	0	0	0	0	0	0
1023	SLU 1	-38	-5	3156	-722.01	-3.23	-13.28
1023	SLU 2	-36	11	3089	-708.76	-3.16	-12.54
1023	SLU 3	-39	-5	3245	-741.42	-3.34	-13.59
1023	SLU 4	-37	4	3205	-733.47	-3.3	-13.14
1023	SLU 5	-36	11	3147	-721.33	-3.23	-12.71
1023	SLU 6	-39	-5	3303	-753.99	-3.41	-13.76
1023	SLU 7	-38	4	3263	-746.04	-3.37	-13.32
1023	SLU 8	-39	-5	3272	-747.15	-3.37	-13.63
1023	SLU 9	-37	4	3232	-739.2	-3.33	-13.18
1023	SLU 10	-37	9	3501	-799.4	-3.67	-13.07
1023	SLU 11	-40	-7	3658	-832.06	-3.85	-14.12
1023	SLU 12	-39	3	3617	-824.11	-3.81	-13.68
1023	SLU 13	-38	9	3559	-811.97	-3.74	-13.25
1023	SLU 14	-41	-7	3716	-844.63	-3.92	-14.3
1023	SLU 15	-39	2	3675	-836.68	-3.88	-13.85
1023	SLU 16	-40	-7	3684	-837.78	-3.89	-14.16
1023	SLU 17	-39	3	3644	-829.84	-3.84	-13.72
1023	SLU 18	-40	-7	3745	-851.49	-3.96	-14.05
1023	SLU 19	-39	2	3705	-843.54	-3.92	-13.6
1023	SLU 20	-40	-7	3803	-864.06	-4.03	-14.22
1023	SLU 21	-39	2	3763	-856.11	-3.99	-13.77
1023	SLU 22	-42	-7	3702	-841.49	-3.9	-14.65
1023	SLU 23	-39	8	3635	-828.25	-3.82	-13.91
1023	SLU 24	-42	-8	3792	-860.9	-4.01	-14.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLU 25	-41	2	3751	-852.96	-3.96	-14.51
1023	SLU 26	-40	8	3693	-840.82	-3.89	-14.08
1023	SLU 27	-43	-8	3850	-873.47	-4.08	-15.13
1023	SLU 28	-42	2	3809	-865.53	-4.03	-14.69
1023	SLU 29	-42	-8	3818	-866.63	-4.04	-14.99
1023	SLU 30	-41	2	3778	-858.68	-4	-14.55
1023	SLU 31	-41	7	4048	-918.88	-4.34	-14.44
1023	SLU 32	-44	-9	4204	-951.54	-4.52	-15.49
1023	SLU 33	-43	0	4164	-943.6	-4.47	-15.05
1023	SLU 34	-41	6	4106	-931.45	-4.41	-14.62
1023	SLU 35	-44	-10	4262	-964.11	-4.59	-15.67
1023	SLU 36	-43	0	4222	-956.17	-4.54	-15.22
1023	SLU 37	-44	-10	4230	-957.27	-4.55	-15.53
1023	SLU 38	-43	0	4190	-949.32	-4.51	-15.09
1023	SLU 39	-44	-10	4291	-970.97	-4.63	-15.41
1023	SLU 40	-42	0	4251	-963.03	-4.58	-14.97
1023	SLU 41	-44	-10	4349	-983.54	-4.7	-15.59
1023	SLU 42	-43	-1	4309	-975.6	-4.66	-15.14
1023	SLU 43	-48	-5	3915	-897.64	-3.97	-16.79
1023	SLU 44	-45	11	3848	-884.4	-3.9	-16.05
1023	SLU 45	-48	-5	4005	-917.06	-4.08	-17.1
1023	SLU 46	-47	4	3965	-909.11	-4.04	-16.66
1023	SLU 47	-46	10	3906	-896.97	-3.97	-16.23
1023	SLU 48	-49	-6	4063	-929.63	-4.15	-17.28
1023	SLU 49	-48	4	4022	-921.68	-4.11	-16.83
1023	SLU 50	-49	-6	4031	-922.78	-4.12	-17.14
1023	SLU 51	-47	4	3991	-914.83	-4.07	-16.7
1023	SLU 52	-47	9	4261	-975.03	-4.41	-16.59
1023	SLU 53	-50	-7	4417	-1007.69	-4.59	-17.64
1023	SLU 54	-49	2	4377	-999.75	-4.55	-17.19
1023	SLU 55	-47	9	4319	-987.6	-4.48	-16.76
1023	SLU 56	-50	-7	4475	-1020.26	-4.67	-17.81
1023	SLU 57	-49	2	4435	-1012.32	-4.62	-17.37
1023	SLU 58	-50	-7	4443	-1013.42	-4.63	-17.68
1023	SLU 59	-49	2	4403	-1005.47	-4.58	-17.23
1023	SLU 60	-50	-8	4504	-1027.12	-4.7	-17.56
1023	SLU 61	-48	2	4464	-1019.18	-4.66	-17.12
1023	SLU 62	-50	-8	4562	-1039.69	-4.78	-17.73
1023	SLU 63	-49	2	4522	-1031.75	-4.73	-17.29
1023	SLU 64	-51	-8	4462	-1017.13	-4.64	-18.16
1023	SLU 65	-49	8	4395	-1003.88	-4.57	-17.42
1023	SLU 66	-52	-8	4551	-1036.54	-4.75	-18.47
1023	SLU 67	-51	1	4511	-1028.59	-4.7	-18.03
1023	SLU 68	-50	8	4453	-1016.45	-4.64	-17.59
1023	SLU 69	-53	-8	4609	-1049.11	-4.82	-18.64
1023	SLU 70	-52	1	4569	-1041.16	-4.77	-18.2
1023	SLU 71	-52	-8	4577	-1042.27	-4.78	-18.51
1023	SLU 72	-51	1	4537	-1034.32	-4.74	-18.06
1023	SLU 73	-51	6	4807	-1094.52	-5.08	-17.96
1023	SLU 74	-54	-10	4963	-1127.18	-5.26	-19.01
1023	SLU 75	-53	0	4923	-1119.23	-5.22	-18.56
1023	SLU 76	-51	6	4865	-1107.09	-5.15	-18.13
1023	SLU 77	-54	-10	5021	-1139.75	-5.33	-19.18
1023	SLU 78	-53	-1	4981	-1131.8	-5.29	-18.74
1023	SLU 79	-54	-10	4990	-1132.9	-5.29	-19.05
1023	SLU 80	-53	-1	4950	-1124.96	-5.25	-18.6
1023	SLU 81	-54	-10	5051	-1146.61	-5.37	-18.93
1023	SLU 82	-52	-1	5011	-1138.66	-5.33	-18.48
1023	SLU 83	-54	-11	5109	-1159.18	-5.44	-19.1
1023	SLU 84	-53	-1	5068	-1151.23	-5.4	-18.66
1023	SLE RA 1	-39	-5	3312	-756.14	-3.42	-13.67
1023	SLE RA 2	-37	5	3267	-747.31	-3.37	-13.17
1023	SLE RA 3	-39	-6	3372	-769.09	-3.5	-13.88
1023	SLE RA 4	-38	1	3345	-763.79	-3.47	-13.58
1023	SLE RA 5	-38	5	3306	-755.69	-3.42	-13.29
1023	SLE RA 6	-40	-6	3410	-777.47	-3.54	-13.99
1023	SLE RA 7	-39	0	3383	-772.17	-3.51	-13.69
1023	SLE RA 8	-39	-6	3389	-772.9	-3.52	-13.9
1023	SLE RA 9	-39	1	3362	-767.61	-3.49	-13.6
1023	SLE RA 10	-38	4	3542	-807.74	-3.71	-13.53
1023	SLE RA 11	-40	-7	3646	-829.51	-3.84	-14.23
1023	SLE RA 12	-39	-1	3620	-824.21	-3.81	-13.94
1023	SLE RA 13	-39	4	3581	-816.12	-3.76	-13.65
1023	SLE RA 14	-41	-7	3685	-837.89	-3.88	-14.35
1023	SLE RA 15	-40	-1	3658	-832.59	-3.85	-14.05
1023	SLE RA 16	-40	-7	3664	-833.33	-3.86	-14.26
1023	SLE RA 17	-40	-1	3637	-828.03	-3.83	-13.96
1023	SLE RA 18	-40	-7	3705	-842.47	-3.91	-14.18
1023	SLE RA 19	-39	-1	3678	-837.17	-3.88	-13.88
1023	SLE RA 20	-41	-7	3743	-850.85	-3.96	-14.3
1023	SLE RA 21	-40	-1	3716	-845.55	-3.93	-14
1023	SLE FR 1	-39	-5	3312	-756.14	-3.42	-13.67
1023	SLE FR 2	-38	-3	3303	-754.38	-3.41	-13.57
1023	SLE FR 3	-39	-5	3327	-759.5	-3.44	-13.72
1023	SLE FR 4	-39	-4	3421	-780.27	-3.56	-13.72
1023	SLE FR 5	-39	-6	3445	-785.39	-3.59	-13.87
1023	SLE FR 6	-39	-6	3508	-799.31	-3.67	-13.92
1023	SLE QP 1	-39	-5	3312	-756.14	-3.42	-13.67
1023	SLE QP 2	-39	-6	3430	-782.04	-3.57	-13.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1023	SLD 1	356	139	3506	-789.51	-2.82	124.45
1023	SLD 2	292	78	3556	-799.02	-2.84	102.22
1023	SLD 3	319	-45	4372	-961.1	-3.76	111.41
1023	SLD 4	255	-106	4421	-970.62	-3.78	89.17
1023	SLD 5	147	328	2131	-522.32	-1.91	51.45
1023	SLD 6	105	288	2164	-528.6	-1.92	36.77
1023	SLD 7	23	-286	5016	-1094.3	-5.05	7.96
1023	SLD 8	-19	-326	5049	-1100.58	-5.06	-6.72
1023	SLD 9	-60	314	1811	-463.5	-2.08	-20.93
1023	SLD 10	-102	274	1843	-469.78	-2.09	-35.61
1023	SLD 11	-184	-300	4696	-1035.48	-5.21	-64.42
1023	SLD 12	-226	-340	4729	-1041.77	-5.23	-79.1
1023	SLD 13	-334	94	2438	-593.46	-3.36	-116.82
1023	SLD 14	-397	34	2488	-602.98	-3.38	-139.05
1023	SLD 15	-371	-90	3304	-765.06	-4.3	-129.87
1023	SLD 16	-435	-151	3353	-774.57	-4.32	-152.1
1023	SLV 1	581	225	3524	-788.84	-2.37	203.05
1023	SLV 2	481	130	3602	-803.75	-2.4	168.21
1023	SLV 3	521	-72	4923	-1066.19	-3.89	182.06
1023	SLV 4	421	-167	5001	-1081.1	-3.92	147.22
1023	SLV 5	256	532	1322	-360.66	-0.9	89.58
1023	SLV 6	189	468	1374	-370.69	-0.92	66.13
1023	SLV 7	57	-459	5985	-1285.15	-5.97	19.6
1023	SLV 8	-11	-523	6037	-1295.18	-5.99	-3.85
1023	SLV 9	-68	511	822	-268.9	-1.15	-23.79
1023	SLV 10	-135	447	875	-278.93	-1.17	-47.25
1023	SLV 11	-267	-480	5485	-1193.39	-6.22	-93.77
1023	SLV 12	-335	-544	5538	-1203.43	-6.24	-117.22
1023	SLV 13	-499	155	1859	-482.98	-3.22	-174.87
1023	SLV 14	-599	60	1936	-497.89	-3.25	-209.7
1023	SLV 15	-559	-142	3258	-760.33	-4.74	-195.86
1023	SLV 16	-659	-237	3335	-775.24	-4.77	-230.69
1023	SLV FO 1	643	248	3534	-789.52	-2.25	224.74
1023	SLV FO 2	533	144	3619	-805.92	-2.28	186.42
1023	SLV FO 3	577	-79	5073	-1094.6	-3.92	201.64
1023	SLV FO 4	467	-183	5158	-1111	-3.96	163.32
1023	SLV FO 5	286	586	1111	-318.52	-0.63	99.92
1023	SLV FO 6	212	516	1169	-329.56	-0.65	74.12
1023	SLV FO 7	66	-504	6241	-1335.46	-6.21	22.95
1023	SLV FO 8	-8	-575	6298	-1346.5	-6.23	-2.85
1023	SLV FO 9	-71	563	562	-217.58	-0.91	-24.79
1023	SLV FO 10	-145	493	619	-228.62	-0.93	-50.59
1023	SLV FO 11	-290	-527	5691	-1234.52	-6.49	-101.77
1023	SLV FO 12	-364	-598	5748	-1245.57	-6.51	-127.56
1023	SLV FO 13	-545	171	1702	-453.08	-3.18	-190.97
1023	SLV FO 14	-655	67	1787	-469.48	-3.21	-229.29
1023	SLV FO 15	-611	-156	3241	-758.16	-4.86	-214.06
1023	SLV FO 16	-721	-260	3326	-774.56	-4.89	-252.38
1023	CRTFP Ux+	0	0	0	0	0	0
1023	CRTFP Ux-	0	0	0	0	0	0
1023	CRTFP Uy+	0	0	0	0	0	0
1023	CRTFP Uy-	0	0	0	0	0	0
1024	SLU 1	-38	-8	3268	-830.87	-3.22	-13.39
1024	SLU 2	-36	8	3199	-815.02	-3.14	-12.66
1024	SLU 3	-39	-8	3362	-853.69	-3.33	-13.7
1024	SLU 4	-38	1	3320	-844.18	-3.28	-13.27
1024	SLU 5	-36	8	3259	-829.8	-3.21	-12.84
1024	SLU 6	-39	-8	3422	-868.46	-3.4	-13.88
1024	SLU 7	-38	1	3380	-858.96	-3.35	-13.44
1024	SLU 8	-39	-8	3389	-860.43	-3.36	-13.74
1024	SLU 9	-38	1	3347	-850.92	-3.31	-13.31
1024	SLU 10	-38	6	3629	-921.83	-3.65	-13.24
1024	SLU 11	-41	-10	3792	-960.49	-3.84	-14.29
1024	SLU 12	-39	0	3750	-950.98	-3.79	-13.85
1024	SLU 13	-38	6	3689	-936.61	-3.72	-13.42
1024	SLU 14	-41	-10	3852	-975.27	-3.91	-14.47
1024	SLU 15	-40	-1	3810	-965.76	-3.86	-14.03
1024	SLU 16	-41	-10	3819	-967.23	-3.87	-14.33
1024	SLU 17	-39	-1	3777	-957.73	-3.82	-13.89
1024	SLU 18	-40	-10	3883	-983.45	-3.95	-14.23
1024	SLU 19	-39	-1	3841	-973.94	-3.9	-13.79
1024	SLU 20	-41	-11	3943	-998.23	-4.02	-14.4
1024	SLU 21	-40	-1	3901	-988.72	-3.97	-13.96
1024	SLU 22	-42	-10	3838	-971.53	-3.88	-14.81
1024	SLU 23	-40	5	3768	-955.69	-3.8	-14.08
1024	SLU 24	-43	-11	3931	-994.35	-3.99	-15.13
1024	SLU 25	-42	-1	3889	-984.84	-3.94	-14.69
1024	SLU 26	-41	5	3829	-970.46	-3.87	-14.26
1024	SLU 27	-44	-11	3992	-1009.13	-4.07	-15.3
1024	SLU 28	-42	-2	3950	-999.62	-4.02	-14.86
1024	SLU 29	-43	-11	3959	-1001.09	-4.03	-15.17
1024	SLU 30	-42	-2	3917	-991.58	-3.98	-14.73
1024	SLU 31	-42	3	4198	-1062.49	-4.31	-14.66
1024	SLU 32	-45	-13	4361	-1101.15	-4.5	-15.71
1024	SLU 33	-43	-3	4319	-1091.64	-4.45	-15.27
1024	SLU 34	-42	3	4259	-1077.27	-4.38	-14.84
1024	SLU 35	-45	-13	4422	-1115.93	-4.57	-15.89
1024	SLU 36	-44	-4	4380	-1106.42	-4.53	-15.45
1024	SLU 37	-45	-13	4389	-1107.9	-4.54	-15.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1024	SLU 38	-44	-4	4347	-1098.39	-4.49	-15.31
1024	SLU 39	-45	-13	4452	-1124.11	-4.61	-15.65
1024	SLU 40	-43	-4	4411	-1114.6	-4.56	-15.21
1024	SLU 41	-45	-13	4513	-1138.89	-4.68	-15.82
1024	SLU 42	-44	-4	4471	-1129.38	-4.63	-15.39
1024	SLU 43	-48	-9	4054	-1031.91	-3.96	-16.92
1024	SLU 44	-46	7	3984	-1016.06	-3.87	-16.19
1024	SLU 45	-49	-9	4147	-1054.72	-4.06	-17.23
1024	SLU 46	-48	0	4105	-1045.21	-4.02	-16.79
1024	SLU 47	-47	7	4044	-1030.84	-3.94	-16.36
1024	SLU 48	-49	-10	4207	-1069.5	-4.14	-17.41
1024	SLU 49	-48	0	4165	-1059.99	-4.09	-16.97
1024	SLU 50	-49	-10	4174	-1061.46	-4.1	-17.27
1024	SLU 51	-48	0	4133	-1051.96	-4.05	-16.84
1024	SLU 52	-48	5	4414	-1122.86	-4.38	-16.77
1024	SLU 53	-51	-11	4577	-1161.53	-4.57	-17.82
1024	SLU 54	-49	-2	4535	-1152.02	-4.53	-17.38
1024	SLU 55	-48	5	4474	-1137.64	-4.45	-16.95
1024	SLU 56	-51	-12	4637	-1176.3	-4.65	-18
1024	SLU 57	-50	-2	4595	-1166.8	-4.6	-17.56
1024	SLU 58	-51	-11	4604	-1168.27	-4.61	-17.86
1024	SLU 59	-50	-2	4563	-1158.76	-4.56	-17.42
1024	SLU 60	-50	-12	4668	-1184.49	-4.68	-17.75
1024	SLU 61	-49	-2	4626	-1174.98	-4.63	-17.32
1024	SLU 62	-51	-12	4728	-1199.26	-4.76	-17.93
1024	SLU 63	-50	-2	4687	-1189.76	-4.71	-17.49
1024	SLU 64	-52	-12	4623	-1172.57	-4.62	-18.34
1024	SLU 65	-50	4	4553	-1156.72	-4.54	-17.61
1024	SLU 66	-53	-12	4716	-1195.38	-4.73	-18.65
1024	SLU 67	-52	-3	4675	-1185.87	-4.68	-18.22
1024	SLU 68	-51	4	4614	-1171.5	-4.61	-17.79
1024	SLU 69	-54	-13	4777	-1210.16	-4.8	-18.83
1024	SLU 70	-52	-3	4735	-1200.65	-4.75	-18.39
1024	SLU 71	-53	-12	4744	-1202.12	-4.76	-18.7
1024	SLU 72	-52	-3	4702	-1192.62	-4.72	-18.26
1024	SLU 73	-52	2	4984	-1263.53	-5.05	-18.19
1024	SLU 74	-55	-14	5146	-1302.19	-5.24	-19.24
1024	SLU 75	-53	-5	5105	-1292.68	-5.19	-18.8
1024	SLU 76	-52	2	5044	-1278.3	-5.12	-18.37
1024	SLU 77	-55	-14	5207	-1316.97	-5.31	-19.42
1024	SLU 78	-54	-5	5165	-1307.46	-5.26	-18.98
1024	SLU 79	-55	-14	5174	-1308.93	-5.27	-19.28
1024	SLU 80	-54	-5	5132	-1299.42	-5.22	-18.84
1024	SLU 81	-55	-14	5238	-1325.15	-5.35	-19.18
1024	SLU 82	-53	-5	5196	-1315.64	-5.3	-18.74
1024	SLU 83	-55	-15	5298	-1339.93	-5.42	-19.35
1024	SLU 84	-54	-5	5256	-1330.42	-5.37	-18.91
1024	SLE RA 1	-39	-8	3431	-871.06	-3.41	-13.8
1024	SLE RA 2	-38	2	3385	-860.5	-3.35	-13.31
1024	SLE RA 3	-40	-9	3493	-886.27	-3.48	-14.01
1024	SLE RA 4	-39	-2	3465	-879.93	-3.45	-13.71
1024	SLE RA 5	-38	2	3425	-870.35	-3.4	-13.43
1024	SLE RA 6	-40	-9	3533	-896.12	-3.53	-14.12
1024	SLE RA 7	-39	-3	3506	-889.78	-3.5	-13.83
1024	SLE RA 8	-40	-9	3512	-890.77	-3.5	-14.03
1024	SLE RA 9	-39	-3	3484	-884.43	-3.47	-13.74
1024	SLE RA 10	-39	1	3671	-931.7	-3.69	-13.7
1024	SLE RA 11	-41	-10	3780	-957.47	-3.82	-14.4
1024	SLE RA 12	-40	-4	3752	-951.13	-3.79	-14.1
1024	SLE RA 13	-39	1	3712	-941.55	-3.74	-13.82
1024	SLE RA 14	-41	-10	3820	-967.33	-3.87	-14.51
1024	SLE RA 15	-40	-4	3792	-960.99	-3.84	-14.22
1024	SLE RA 16	-41	-10	3798	-961.97	-3.84	-14.42
1024	SLE RA 17	-40	-4	3770	-955.63	-3.81	-14.13
1024	SLE RA 18	-41	-10	3841	-972.78	-3.89	-14.35
1024	SLE RA 19	-40	-4	3813	-966.44	-3.86	-14.06
1024	SLE RA 20	-41	-10	3881	-982.63	-3.94	-14.47
1024	SLE RA 21	-40	-4	3853	-976.29	-3.91	-14.18
1024	SLE FR 1	-39	-8	3431	-871.06	-3.41	-13.8
1024	SLE FR 2	-39	-6	3422	-868.95	-3.4	-13.7
1024	SLE FR 3	-39	-9	3447	-875	-3.43	-13.84
1024	SLE FR 4	-39	-7	3545	-899.46	-3.54	-13.86
1024	SLE FR 5	-40	-9	3570	-905.52	-3.57	-14.01
1024	SLE FR 6	-40	-9	3636	-921.92	-3.65	-14.07
1024	SLE QP 1	-39	-8	3431	-871.06	-3.41	-13.8
1024	SLE QP 2	-40	-9	3554	-901.58	-3.55	-13.96
1024	SLD 1	355	133	3605	-907.94	-2.83	124.15
1024	SLD 2	292	76	3655	-919.5	-2.86	101.99
1024	SLD 3	319	-52	4505	-1112.81	-3.86	111.24
1024	SLD 4	255	-110	4555	-1124.36	-3.89	89.08
1024	SLD 5	146	325	2195	-590.69	-1.76	51.04
1024	SLD 6	104	287	2228	-598.32	-1.78	36.41
1024	SLD 7	23	-293	5195	-1273.58	-5.21	8.01
1024	SLD 8	-19	-331	5228	-1281.2	-5.23	-6.62
1024	SLD 9	-61	313	1880	-521.95	-1.87	-21.31
1024	SLD 10	-103	275	1913	-529.58	-1.89	-35.94
1024	SLD 11	-183	-305	4879	-1204.83	-5.33	-64.33
1024	SLD 12	-225	-343	4913	-1212.46	-5.35	-78.96
1024	SLD 13	-334	92	2553	-678.79	-3.21	-117



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1024	SLD 14	-398	34	2603	-690.34	-3.25	-139.16
1024	SLD 15	-371	-94	3453	-883.65	-4.25	-129.91
1024	SLD 16	-435	-151	3503	-895.21	-4.28	-152.07
1024	SLV 1	580	218	3608	-905.72	-2.39	202.64
1024	SLV 2	480	128	3687	-923.83	-2.44	167.92
1024	SLV 3	521	-81	5063	-1236.82	-4.06	181.87
1024	SLV 4	421	-171	5141	-1254.92	-4.11	147.15
1024	SLV 5	255	530	1350	-397.28	-0.65	89
1024	SLV 6	187	469	1403	-409.47	-0.69	65.62
1024	SLV 7	57	-468	6198	-1500.93	-6.24	19.77
1024	SLV 8	-10	-528	6251	-1513.12	-6.27	-3.61
1024	SLV 9	-70	510	857	-290.03	-0.83	-24.32
1024	SLV 10	-137	450	910	-302.22	-0.87	-47.69
1024	SLV 11	-267	-487	5705	-1393.68	-6.42	-93.55
1024	SLV 12	-334	-548	5758	-1405.87	-6.45	-116.92
1024	SLV 13	-500	153	1966	-548.23	-2.99	-175.08
1024	SLV 14	-600	63	2045	-566.33	-3.04	-209.8
1024	SLV 15	-560	-146	3421	-879.33	-4.67	-195.84
1024	SLV 16	-659	-236	3500	-897.43	-4.72	-230.56
1024	SLV FO 1	642	241	3614	-906.14	-2.27	224.3
1024	SLV FO 2	532	142	3700	-926.05	-2.33	186.11
1024	SLV FO 3	577	-88	5213	-1270.34	-4.12	201.45
1024	SLV FO 4	467	-188	5300	-1290.25	-4.17	163.26
1024	SLV FO 5	284	584	1129	-346.85	-0.36	99.29
1024	SLV FO 6	210	517	1188	-360.26	-0.4	73.58
1024	SLV FO 7	67	-514	6462	-1560.87	-6.51	23.14
1024	SLV FO 8	-7	-580	6521	-1574.27	-6.55	-2.57
1024	SLV FO 9	-73	562	587	-228.88	-0.56	-25.35
1024	SLV FO 10	-146	496	646	-242.29	-0.6	-51.07
1024	SLV FO 11	-290	-535	5920	-1442.89	-6.71	-101.5
1024	SLV FO 12	-363	-602	5979	-1456.3	-6.74	-127.22
1024	SLV FO 13	-547	170	1808	-512.9	-2.94	-191.19
1024	SLV FO 14	-656	70	1895	-532.81	-2.99	-229.38
1024	SLV FO 15	-612	-160	3408	-877.1	-4.78	-214.03
1024	SLV FO 16	-721	-259	3494	-897.01	-4.84	-252.22
1024	CRTFP Ux+	0	0	0	0	0	0
1024	CRTFP Ux-	0	0	0	0	0	0
1024	CRTFP Uy+	0	0	0	0	0	0
1024	CRTFP Uy-	0	0	0	0	0	0
1025	SLU 1	-34	-8	3012	-851.17	54.14	-11.88
1025	SLU 2	-32	6	2947	-834.43	52.99	-11.5
1025	SLU 3	-35	-9	3098	-874.95	55.68	-12.16
1025	SLU 4	-34	0	3059	-864.9	54.99	-11.93
1025	SLU 5	-33	6	3003	-849.84	53.99	-11.66
1025	SLU 6	-36	-9	3154	-890.36	56.67	-12.32
1025	SLU 7	-35	0	3115	-880.31	55.99	-12.09
1025	SLU 8	-35	-9	3124	-881.99	56.13	-12.2
1025	SLU 9	-34	0	3085	-871.95	55.44	-11.97
1025	SLU 10	-34	4	3346	-945.94	60.1	-12.04
1025	SLU 11	-37	-10	3497	-986.47	62.79	-12.7
1025	SLU 12	-36	-2	3458	-976.42	62.1	-12.47
1025	SLU 13	-35	4	3402	-961.35	61.1	-12.19
1025	SLU 14	-37	-11	3553	-1001.88	63.79	-12.85
1025	SLU 15	-36	-2	3514	-991.83	63.1	-12.62
1025	SLU 16	-37	-10	3522	-993.51	63.24	-12.73
1025	SLU 17	-36	-2	3483	-983.46	62.55	-12.5
1025	SLU 18	-37	-11	3581	-1010.48	64.3	-12.65
1025	SLU 19	-36	-2	3542	-1000.43	63.61	-12.42
1025	SLU 20	-37	-11	3637	-1025.89	65.29	-12.8
1025	SLU 21	-36	-2	3598	-1015.84	64.6	-12.58
1025	SLU 22	-38	-11	3539	-997.89	63.55	-13.15
1025	SLU 23	-36	3	3475	-981.15	62.41	-12.77
1025	SLU 24	-39	-11	3626	-1021.67	65.09	-13.43
1025	SLU 25	-38	-3	3587	-1011.62	64.41	-13.2
1025	SLU 26	-37	3	3531	-996.56	63.4	-12.93
1025	SLU 27	-39	-11	3682	-1037.08	66.09	-13.59
1025	SLU 28	-38	-3	3643	-1027.03	65.4	-13.36
1025	SLU 29	-39	-11	3651	-1028.71	65.55	-13.46
1025	SLU 30	-38	-3	3613	-1018.67	64.86	-13.24
1025	SLU 31	-38	2	3873	-1092.66	69.52	-13.31
1025	SLU 32	-41	-13	4025	-1133.19	72.21	-13.96
1025	SLU 33	-39	-4	3986	-1123.14	71.52	-13.74
1025	SLU 34	-38	2	3929	-1108.07	70.52	-13.46
1025	SLU 35	-41	-13	4081	-1148.6	73.2	-14.12
1025	SLU 36	-40	-5	4042	-1138.55	72.52	-13.89
1025	SLU 37	-41	-13	4050	-1140.23	72.66	-14
1025	SLU 38	-40	-4	4011	-1130.18	71.97	-13.77
1025	SLU 39	-40	-13	4109	-1157.2	73.71	-13.91
1025	SLU 40	-39	-4	4070	-1147.15	73.03	-13.69
1025	SLU 41	-41	-13	4165	-1172.61	74.71	-14.07
1025	SLU 42	-40	-5	4126	-1162.56	74.02	-13.84
1025	SLU 43	-43	-10	3734	-1056.22	67.15	-15.01
1025	SLU 44	-41	4	3669	-1039.48	66	-14.63
1025	SLU 45	-44	-10	3820	-1080	68.69	-15.29
1025	SLU 46	-43	-2	3782	-1069.95	68	-15.06
1025	SLU 47	-42	4	3725	-1054.89	67	-14.79
1025	SLU 48	-45	-11	3876	-1095.41	69.69	-15.45
1025	SLU 49	-44	-2	3838	-1085.36	69	-15.22
1025	SLU 50	-44	-10	3846	-1087.04	69.14	-15.33



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1025	SLU 51	-43	-2	3807	-1077	68.45	-15.1
1025	SLU 52	-43	3	4068	-1150.99	73.11	-15.17
1025	SLU 53	-46	-12	4219	-1191.51	75.8	-15.83
1025	SLU 54	-45	-3	4180	-1181.47	75.11	-15.6
1025	SLU 55	-44	2	4124	-1166.4	74.11	-15.32
1025	SLU 56	-46	-12	4275	-1206.92	76.8	-15.98
1025	SLU 57	-45	-4	4236	-1196.88	76.11	-15.75
1025	SLU 58	-46	-12	4245	-1198.56	76.26	-15.86
1025	SLU 59	-45	-4	4206	-1188.51	75.57	-15.63
1025	SLU 60	-46	-12	4304	-1215.53	77.31	-15.78
1025	SLU 61	-45	-4	4265	-1205.48	76.62	-15.55
1025	SLU 62	-46	-12	4360	-1230.94	78.31	-15.93
1025	SLU 63	-45	-4	4321	-1220.89	77.62	-15.71
1025	SLU 64	-47	-12	4262	-1202.94	76.57	-16.28
1025	SLU 65	-45	2	4197	-1186.2	75.42	-15.9
1025	SLU 66	-48	-13	4348	-1226.72	78.11	-16.56
1025	SLU 67	-47	-4	4309	-1216.67	77.42	-16.33
1025	SLU 68	-46	2	4253	-1201.61	76.42	-16.06
1025	SLU 69	-48	-13	4404	-1242.13	79.1	-16.72
1025	SLU 70	-47	-5	4365	-1232.08	78.42	-16.49
1025	SLU 71	-48	-13	4374	-1233.76	78.56	-16.59
1025	SLU 72	-47	-4	4335	-1223.72	77.87	-16.37
1025	SLU 73	-47	0	4596	-1297.71	82.53	-16.44
1025	SLU 74	-50	-14	4747	-1338.23	85.22	-17.09
1025	SLU 75	-48	-6	4708	-1328.19	84.53	-16.87
1025	SLU 76	-47	0	4652	-1313.12	83.53	-16.59
1025	SLU 77	-50	-15	4803	-1353.64	86.22	-17.25
1025	SLU 78	-49	-6	4764	-1343.6	85.53	-17.02
1025	SLU 79	-50	-15	4773	-1345.28	85.67	-17.13
1025	SLU 80	-49	-6	4734	-1335.23	84.99	-16.9
1025	SLU 81	-49	-15	4832	-1362.25	86.73	-17.04
1025	SLU 82	-48	-6	4793	-1352.2	86.04	-16.82
1025	SLU 83	-50	-15	4888	-1377.66	87.72	-17.2
1025	SLU 84	-49	-6	4849	-1367.61	87.04	-16.97
1025	SLE RA 1	-35	-9	3162	-893.09	56.83	-12.24
1025	SLE RA 2	-34	1	3119	-881.93	56.06	-11.99
1025	SLE RA 3	-36	-9	3220	-908.94	57.85	-12.43
1025	SLE RA 4	-35	-4	3194	-902.25	57.39	-12.28
1025	SLE RA 5	-34	0	3157	-892.2	56.73	-12.1
1025	SLE RA 6	-36	-9	3257	-919.22	58.52	-12.54
1025	SLE RA 7	-36	-4	3231	-912.52	58.06	-12.38
1025	SLE RA 8	-36	-9	3237	-913.64	58.16	-12.45
1025	SLE RA 9	-35	-4	3211	-906.94	57.7	-12.3
1025	SLE RA 10	-35	-1	3385	-956.27	60.8	-12.35
1025	SLE RA 11	-37	-10	3486	-983.29	62.59	-12.79
1025	SLE RA 12	-36	-5	3460	-976.59	62.14	-12.63
1025	SLE RA 13	-36	-1	3422	-966.55	61.47	-12.45
1025	SLE RA 14	-37	-11	3523	-993.56	63.26	-12.89
1025	SLE RA 15	-37	-5	3497	-986.86	62.8	-12.74
1025	SLE RA 16	-37	-10	3503	-987.98	62.9	-12.81
1025	SLE RA 17	-36	-5	3477	-981.29	62.44	-12.66
1025	SLE RA 18	-37	-10	3542	-999.3	63.6	-12.75
1025	SLE RA 19	-36	-5	3516	-992.6	63.14	-12.6
1025	SLE RA 20	-37	-11	3579	-1009.57	64.27	-12.86
1025	SLE RA 21	-37	-5	3554	-1002.87	63.81	-12.71
1025	SLE FR 1	-35	-9	3162	-893.09	56.83	-12.24
1025	SLE FR 2	-35	-7	3154	-890.86	56.67	-12.19
1025	SLE FR 3	-36	-9	3177	-897.2	57.09	-12.29
1025	SLE FR 4	-36	-8	3268	-922.72	58.71	-12.35
1025	SLE FR 5	-36	-10	3291	-929.06	59.12	-12.44
1025	SLE FR 6	-36	-10	3352	-946.2	60.21	-12.5
1025	SLE QP 1	-35	-9	3162	-893.09	56.83	-12.24
1025	SLE QP 2	-36	-9	3276	-924.95	58.86	-12.4
1025	SLD 1	317	116	3301	-930.54	59.83	109.12
1025	SLD 2	261	67	3347	-942.97	60.66	90.25
1025	SLD 3	285	-51	4136	-1146.75	74.67	100.73
1025	SLD 4	228	-99	4182	-1159.17	75.5	81.86
1025	SLD 5	130	290	2009	-596.49	36.5	40.19
1025	SLD 6	92	258	2039	-604.69	37.05	27.73
1025	SLD 7	21	-266	4793	-1317.16	85.95	12.21
1025	SLD 8	-16	-298	4823	-1325.36	86.5	-0.25
1025	SLD 9	-56	279	1730	-524.55	31.22	-24.55
1025	SLD 10	-93	247	1760	-532.75	31.77	-37.01
1025	SLD 11	-164	-277	4513	-1245.22	80.67	-52.52
1025	SLD 12	-201	-309	4544	-1253.42	81.21	-64.98
1025	SLD 13	-300	81	2370	-690.74	42.22	-106.66
1025	SLD 14	-357	32	2417	-703.16	43.05	-125.52
1025	SLD 15	-332	-86	3206	-906.94	57.05	-115.05
1025	SLD 16	-389	-135	3252	-919.37	57.88	-133.92
1025	SLV 1	518	191	3291	-927.57	59.96	178.12
1025	SLV 2	429	115	3363	-947.04	61.26	148.56
1025	SLV 3	466	-79	4641	-1276.96	83.93	164.61
1025	SLV 4	377	-155	4713	-1296.43	85.23	135.06
1025	SLV 5	226	473	1220	-392.2	22.59	70.76
1025	SLV 6	166	422	1269	-405.3	23.46	50.86
1025	SLV 7	52	-425	5719	-1556.83	102.5	25.74
1025	SLV 8	-8	-476	5768	-1569.94	103.37	5.84
1025	SLV 9	-64	457	785	-279.97	14.35	-30.63
1025	SLV 10	-124	406	833	-293.08	15.22	-50.53



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1025	SLV 11	-238	-441	5284	-1444.61	94.25	-75.65
1025	SLV 12	-298	-492	5332	-1457.71	95.13	-95.55
1025	SLV 13	-449	136	1840	-553.48	32.48	-159.85
1025	SLV 14	-537	60	1912	-572.95	33.79	-189.41
1025	SLV 15	-501	-134	3189	-902.87	56.46	-173.36
1025	SLV 16	-590	-210	3262	-922.34	57.76	-202.91
1025	SLV FO 1	573	211	3293	-927.83	60.07	197.17
1025	SLV FO 2	476	127	3372	-949.25	61.5	164.66
1025	SLV FO 3	516	-85	4777	-1312.16	86.44	182.31
1025	SLV FO 4	418	-169	4857	-1333.58	87.87	149.8
1025	SLV FO 5	252	522	1015	-338.92	18.96	79.07
1025	SLV FO 6	187	465	1068	-353.34	19.92	57.18
1025	SLV FO 7	61	-466	5963	-1620.02	106.86	29.55
1025	SLV FO 8	-5	-522	6017	-1634.44	107.82	7.66
1025	SLV FO 9	-67	504	536	-215.47	9.89	-32.46
1025	SLV FO 10	-132	447	589	-229.89	10.86	-54.35
1025	SLV FO 11	-258	-484	5484	-1496.57	97.79	-81.98
1025	SLV FO 12	-324	-541	5538	-1510.99	98.76	-103.87
1025	SLV FO 13	-490	150	1696	-516.33	29.85	-174.6
1025	SLV FO 14	-588	67	1775	-537.75	31.28	-207.11
1025	SLV FO 15	-547	-146	3181	-900.66	56.22	-189.45
1025	SLV FO 16	-645	-230	3260	-922.08	57.65	-221.96
1025	CRTFP Ux+	0	0	0	0	0	0
1025	CRTFP Ux-	0	0	0	0	0	0
1025	CRTFP Uy+	0	0	0	0	0	0
1025	CRTFP Uy-	0	0	0	0	0	0
1027	SLU 1	-136	-37	12483	-3254.15	-87.56	-36.73
1027	SLU 2	-129	20	12207	-3185.09	-83.85	-34.75
1027	SLU 3	-139	-39	12845	-3347.63	-90.93	-37.6
1027	SLU 4	-135	-4	12679	-3306.2	-88.7	-36.41
1027	SLU 5	-131	19	12441	-3245.71	-86.08	-35.24
1027	SLU 6	-141	-40	13080	-3408.26	-93.16	-38.09
1027	SLU 7	-137	-6	12914	-3366.82	-90.93	-36.9
1027	SLU 8	-140	-39	12953	-3375.4	-92.02	-37.72
1027	SLU 9	-135	-5	12787	-3333.96	-89.8	-36.53
1027	SLU 10	-136	15	13869	-3618.49	-98.23	-36.34
1027	SLU 11	-146	-44	14508	-3781.04	-105.31	-39.19
1027	SLU 12	-142	-9	14341	-3739.6	-103.09	-38
1027	SLU 13	-138	14	14104	-3679.11	-100.47	-36.83
1027	SLU 14	-148	-45	14742	-3841.66	-107.55	-39.68
1027	SLU 15	-144	-11	14576	-3800.22	-105.32	-38.49
1027	SLU 16	-147	-44	14615	-3808.8	-106.41	-39.31
1027	SLU 17	-142	-10	14449	-3767.36	-104.18	-38.12
1027	SLU 18	-146	-44	14858	-3873.3	-108.11	-39.01
1027	SLU 19	-142	-10	14692	-3831.86	-105.88	-37.82
1027	SLU 20	-148	-45	15093	-3933.92	-110.34	-39.5
1027	SLU 21	-144	-11	14927	-3892.48	-108.12	-38.31
1027	SLU 22	-151	-46	14686	-3826.5	-106.72	-40.65
1027	SLU 23	-144	11	14410	-3757.44	-103	-38.66
1027	SLU 24	-155	-48	15048	-3919.98	-110.09	-41.51
1027	SLU 25	-151	-13	14882	-3878.55	-107.86	-40.32
1027	SLU 26	-146	10	14644	-3818.06	-105.24	-39.16
1027	SLU 27	-157	-49	15283	-3980.61	-112.32	-42
1027	SLU 28	-152	-14	15117	-3939.17	-110.09	-40.82
1027	SLU 29	-155	-48	15156	-3947.74	-111.18	-41.63
1027	SLU 30	-151	-14	14990	-3906.31	-108.95	-40.44
1027	SLU 31	-152	6	16072	-4190.84	-117.39	-40.25
1027	SLU 32	-162	-53	16711	-4353.39	-124.47	-43.1
1027	SLU 33	-158	-18	16545	-4311.95	-122.25	-41.91
1027	SLU 34	-153	5	16307	-4251.46	-119.62	-40.75
1027	SLU 35	-164	-54	16945	-4414.01	-126.71	-43.6
1027	SLU 36	-160	-20	16779	-4372.57	-124.48	-42.41
1027	SLU 37	-162	-53	16818	-4381.15	-125.57	-43.22
1027	SLU 38	-158	-19	16652	-4339.71	-123.34	-42.03
1027	SLU 39	-162	-53	17061	-4445.64	-127.27	-42.92
1027	SLU 40	-157	-19	16895	-4404.21	-125.04	-41.73
1027	SLU 41	-164	-54	17296	-4506.27	-129.5	-43.41
1027	SLU 42	-159	-20	17130	-4464.83	-127.27	-42.22
1027	SLU 43	-171	-45	15473	-4034.16	-107.26	-46.41
1027	SLU 44	-164	12	15196	-3965.1	-103.55	-44.43
1027	SLU 45	-175	-47	15835	-4127.65	-110.63	-47.28
1027	SLU 46	-170	-12	15669	-4086.21	-108.4	-46.09
1027	SLU 47	-166	11	15431	-4025.72	-105.78	-44.92
1027	SLU 48	-176	-48	16070	-4188.27	-112.86	-47.77
1027	SLU 49	-172	-14	15903	-4146.83	-110.63	-46.58
1027	SLU 50	-175	-47	15942	-4155.41	-111.72	-47.4
1027	SLU 51	-171	-13	15776	-4113.97	-109.5	-46.21
1027	SLU 52	-171	7	16859	-4398.5	-117.93	-46.02
1027	SLU 53	-182	-52	17497	-4561.05	-125.01	-48.87
1027	SLU 54	-177	-17	17331	-4519.61	-122.79	-47.68
1027	SLU 55	-173	6	17093	-4459.13	-120.16	-46.51
1027	SLU 56	-184	-53	17732	-4621.67	-127.25	-49.36
1027	SLU 57	-179	-19	17566	-4580.23	-125.02	-48.17
1027	SLU 58	-182	-52	17605	-4588.81	-126.11	-48.99
1027	SLU 59	-178	-18	17439	-4547.37	-123.88	-47.8
1027	SLU 60	-181	-52	17848	-4653.31	-127.81	-48.69
1027	SLU 61	-177	-18	17682	-4611.87	-125.58	-47.5
1027	SLU 62	-183	-53	18083	-4713.93	-130.04	-49.18
1027	SLU 63	-179	-19	17916	-4672.49	-127.81	-47.99



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1027	SLU 64	-187	-54	17676	-4606.51	-126.42	-50.33
1027	SLU 65	-180	3	17399	-4537.45	-122.7	-48.34
1027	SLU 66	-190	-56	18038	-4699.99	-129.79	-51.19
1027	SLU 67	-186	-21	17872	-4658.56	-127.56	-50
1027	SLU 68	-182	2	17634	-4598.07	-124.94	-48.83
1027	SLU 69	-192	-57	18273	-4760.62	-132.02	-51.68
1027	SLU 70	-188	-23	18107	-4719.18	-129.79	-50.49
1027	SLU 71	-191	-56	18145	-4727.76	-130.88	-51.31
1027	SLU 72	-186	-22	17979	-4686.32	-128.65	-50.12
1027	SLU 73	-187	-2	19062	-4970.85	-137.09	-49.93
1027	SLU 74	-197	-61	19700	-5133.4	-144.17	-52.78
1027	SLU 75	-193	-26	19534	-5091.96	-141.94	-51.59
1027	SLU 76	-189	-3	19296	-5031.47	-139.32	-50.43
1027	SLU 77	-199	-62	19935	-5194.02	-146.4	-53.27
1027	SLU 78	-195	-28	19769	-5152.58	-144.18	-52.09
1027	SLU 79	-198	-61	19808	-5161.16	-145.27	-52.9
1027	SLU 80	-194	-27	19642	-5119.72	-143.04	-51.71
1027	SLU 81	-197	-61	20051	-5225.66	-146.97	-52.6
1027	SLU 82	-193	-27	19885	-5184.22	-144.74	-51.41
1027	SLU 83	-199	-62	20286	-5286.28	-149.2	-53.09
1027	SLU 84	-195	-28	20120	-5244.84	-146.97	-51.9
1027	SLE RA 1	-140	-40	13113	-3417.68	-93.03	-37.85
1027	SLE RA 2	-136	-1	12928	-3371.64	-90.56	-36.53
1027	SLE RA 3	-143	-41	13354	-3480	-95.28	-38.43
1027	SLE RA 4	-140	-18	13243	-3452.38	-93.79	-37.64
1027	SLE RA 5	-137	-2	13085	-3412.05	-92.05	-36.86
1027	SLE RA 6	-144	-41	13510	-3520.42	-96.77	-38.76
1027	SLE RA 7	-141	-19	13400	-3492.79	-95.28	-37.96
1027	SLE RA 8	-143	-41	13426	-3498.51	-96.01	-38.51
1027	SLE RA 9	-140	-18	13315	-3470.88	-94.52	-37.71
1027	SLE RA 10	-140	-5	14037	-3660.57	-100.15	-37.59
1027	SLE RA 11	-147	-44	14462	-3768.94	-104.87	-39.49
1027	SLE RA 12	-144	-21	14352	-3741.31	-103.39	-38.7
1027	SLE RA 13	-142	-6	14193	-3700.99	-101.64	-37.92
1027	SLE RA 14	-149	-45	14619	-3809.35	-106.36	-39.82
1027	SLE RA 15	-146	-22	14508	-3781.73	-104.87	-39.03
1027	SLE RA 16	-148	-45	14534	-3787.44	-105.6	-39.57
1027	SLE RA 17	-145	-22	14423	-3759.82	-104.11	-38.78
1027	SLE RA 18	-147	-44	14696	-3830.44	-106.73	-39.37
1027	SLE RA 19	-144	-22	14585	-3802.82	-105.25	-38.57
1027	SLE RA 20	-148	-45	14853	-3870.86	-108.22	-39.69
1027	SLE RA 21	-146	-22	14742	-3843.23	-106.74	-38.9
1027	SLE FR 1	-140	-40	13113	-3417.68	-93.03	-37.85
1027	SLE FR 2	-139	-32	13076	-3408.47	-92.54	-37.59
1027	SLE FR 3	-141	-40	13175	-3433.84	-93.63	-37.98
1027	SLE FR 4	-141	-33	13551	-3532.3	-96.65	-38.04
1027	SLE FR 5	-143	-41	13650	-3557.67	-97.74	-38.44
1027	SLE FR 6	-144	-42	13904	-3624.06	-99.88	-38.61
1027	SLE QP 1	-140	-40	13113	-3417.68	-93.03	-37.85
1027	SLE QP 2	-142	-41	13588	-3541.51	-97.14	-38.31
1027	SLD 1	1279	306	13572	-3551.16	-62.35	332.61
1027	SLD 2	1049	128	13766	-3600.31	-64.39	274.96
1027	SLD 3	1152	-365	17137	-4441.65	-108.61	298.13
1027	SLD 4	922	-544	17331	-4490.8	-110.65	240.48
1027	SLD 5	518	1114	8141	-2184.98	-16.18	135.65
1027	SLD 6	366	996	8269	-2217.43	-17.53	97.58
1027	SLD 7	95	-1125	20025	-5153.27	-170.37	20.72
1027	SLD 8	-57	-1242	20153	-5185.72	-171.72	-17.35
1027	SLD 9	-228	1160	7022	-1897.29	-22.56	-59.27
1027	SLD 10	-379	1043	7150	-1929.74	-23.91	-97.33
1027	SLD 11	-651	-1078	18907	-4865.59	-176.76	-174.19
1027	SLD 12	-803	-1196	19035	-4898.04	-178.11	-212.26
1027	SLD 13	-1207	462	9845	-2592.22	-83.63	-317.1
1027	SLD 14	-1437	283	10039	-2641.36	-85.68	-374.75
1027	SLD 15	-1334	-210	13410	-3482.71	-129.89	-351.57
1027	SLD 16	-1564	-388	13604	-3531.85	-131.94	-409.22
1027	SLV 1	2086	519	13462	-3531.4	-41.52	543.42
1027	SLV 2	1727	240	13765	-3608.4	-44.72	453.1
1027	SLV 3	1882	-565	19224	-4970.48	-116.27	487.94
1027	SLV 4	1522	-845	19527	-5047.47	-119.48	397.62
1027	SLV 5	903	1824	4754	-1341.51	33.52	237.21
1027	SLV 6	661	1635	4959	-1393.35	31.36	176.4
1027	SLV 7	222	-1790	23961	-6138.42	-215.66	52.28
1027	SLV 8	-20	-1979	24165	-6190.26	-217.82	-8.53
1027	SLV 9	-265	1897	3010	-892.75	23.54	-68.08
1027	SLV 10	-507	1708	3215	-944.59	21.38	-128.89
1027	SLV 11	-946	-1717	22217	-5689.66	-225.65	-253.02
1027	SLV 12	-1188	-1906	22421	-5741.5	-227.81	-313.83
1027	SLV 13	-1807	763	7648	-2035.54	-74.81	-474.23
1027	SLV 14	-2167	483	7952	-2112.54	-78.01	-564.55
1027	SLV 15	-2011	-322	13410	-3474.62	-149.56	-529.71
1027	SLV 16	-2371	-601	13714	-3551.61	-152.77	-620.03
1027	SLV FO 1	2309	575	13449	-3530.39	-35.95	601.59
1027	SLV FO 2	1914	268	13783	-3615.09	-39.48	502.24
1027	SLV FO 3	2085	-617	19787	-5113.38	-118.18	540.57
1027	SLV FO 4	1689	-925	20121	-5198.07	-121.71	441.21
1027	SLV FO 5	1008	2010	3871	-1121.51	46.59	264.77
1027	SLV FO 6	741	1803	4096	-1178.53	44.21	197.87
1027	SLV FO 7	259	-1965	24998	-6398.12	-227.51	61.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1027	SLV FO 8	-8	-2173	25223	-6455.14	-229.89	-5.55
1027	SLV FO 9	-277	2090	1953	-627.88	35.6	-71.06
1027	SLV FO 10	-543	1883	2177	-684.9	33.23	-137.95
1027	SLV FO 11	-1026	-1885	23080	-5904.48	-238.5	-274.49
1027	SLV FO 12	-1293	-2092	23305	-5961.5	-240.87	-341.38
1027	SLV FO 13	-1973	843	7054	-1884.95	-72.57	-517.82
1027	SLV FO 14	-2369	535	7388	-1969.64	-76.1	-617.18
1027	SLV FO 15	-2198	-350	13392	-3467.93	-154.8	-578.85
1027	SLV FO 16	-2594	-657	13726	-3552.62	-158.33	-678.21
1027	CRTFP Ux+	0	0	0	0	0	0
1027	CRTFP Ux-	0	0	0	0	0	0
1027	CRTFP Uy+	0	0	0	-0.01	0	0
1027	CRTFP Uy-	0	0	0	0.01	0	0
1030	SLU 1	66	26	2825	-856.67	-121.28	24.22
1030	SLU 2	63	39	2762	-839.3	-118.56	23.83
1030	SLU 3	69	27	2911	-882.45	-124.94	25.18
1030	SLU 4	67	35	2873	-872.03	-123.31	24.94
1030	SLU 5	65	40	2819	-856.55	-121.02	24.53
1030	SLU 6	70	28	2968	-899.7	-127.4	25.88
1030	SLU 7	69	35	2930	-889.28	-125.77	25.65
1030	SLU 8	70	27	2940	-891.18	-126.2	25.63
1030	SLU 9	68	35	2902	-880.76	-124.57	25.4
1030	SLU 10	70	43	3140	-953.82	-134.74	26.26
1030	SLU 11	75	31	3289	-996.97	-141.11	27.61
1030	SLU 12	73	39	3250	-986.54	-139.48	27.38
1030	SLU 13	72	44	3197	-971.07	-137.2	26.97
1030	SLU 14	77	31	3346	-1014.22	-143.57	28.32
1030	SLU 15	75	39	3308	-1003.8	-141.94	28.08
1030	SLU 16	76	31	3318	-1005.7	-142.37	28.07
1030	SLU 17	75	39	3280	-995.27	-140.74	27.83
1030	SLU 18	75	32	3365	-1020.27	-144.39	27.7
1030	SLU 19	74	40	3327	-1009.85	-142.76	27.46
1030	SLU 20	77	32	3423	-1037.52	-146.85	28.41
1030	SLU 21	75	40	3384	-1027.1	-145.22	28.17
1030	SLU 22	76	30	3325	-1007.51	-142.66	27.98
1030	SLU 23	73	43	3261	-990.14	-139.94	27.59
1030	SLU 24	79	31	3410	-1033.29	-146.31	28.94
1030	SLU 25	77	39	3372	-1022.87	-144.68	28.7
1030	SLU 26	75	44	3319	-1007.39	-142.4	28.29
1030	SLU 27	81	31	3468	-1050.54	-148.77	29.64
1030	SLU 28	79	39	3429	-1040.12	-147.14	29.41
1030	SLU 29	80	31	3440	-1042.02	-147.58	29.39
1030	SLU 30	78	39	3401	-1031.6	-145.94	29.15
1030	SLU 31	80	47	3639	-1104.66	-156.11	30.02
1030	SLU 32	85	35	3788	-1147.81	-162.49	31.37
1030	SLU 33	84	43	3750	-1137.39	-160.86	31.14
1030	SLU 34	82	48	3696	-1121.91	-158.57	30.73
1030	SLU 35	87	35	3845	-1165.06	-164.95	32.08
1030	SLU 36	86	43	3807	-1154.64	-163.32	31.84
1030	SLU 37	87	35	3817	-1156.54	-163.75	31.83
1030	SLU 38	85	43	3779	-1146.11	-162.12	31.59
1030	SLU 39	85	36	3864	-1171.11	-165.76	31.46
1030	SLU 40	84	44	3826	-1160.69	-164.13	31.22
1030	SLU 41	87	36	3922	-1188.36	-168.22	32.16
1030	SLU 42	86	44	3884	-1177.94	-166.59	31.93
1030	SLU 43	82	33	3502	-1061.96	-150.34	30.2
1030	SLU 44	79	46	3438	-1044.59	-147.62	29.81
1030	SLU 45	85	34	3587	-1087.73	-153.99	31.16
1030	SLU 46	83	42	3549	-1077.31	-152.36	30.92
1030	SLU 47	81	46	3496	-1061.84	-150.08	30.51
1030	SLU 48	87	34	3645	-1104.99	-156.45	31.86
1030	SLU 49	85	42	3606	-1094.56	-154.82	31.63
1030	SLU 50	86	34	3617	-1096.46	-155.25	31.61
1030	SLU 51	84	42	3578	-1086.04	-153.62	31.38
1030	SLU 52	86	50	3816	-1159.11	-163.79	32.24
1030	SLU 53	91	38	3965	-1202.25	-170.17	33.59
1030	SLU 54	90	45	3927	-1191.83	-168.54	33.36
1030	SLU 55	88	50	3873	-1176.36	-166.25	32.95
1030	SLU 56	93	38	4022	-1219.5	-172.63	34.3
1030	SLU 57	92	46	3984	-1209.08	-171	34.06
1030	SLU 58	93	38	3994	-1210.98	-171.43	34.05
1030	SLU 59	91	45	3956	-1200.56	-169.8	33.81
1030	SLU 60	91	38	4042	-1225.56	-173.44	33.68
1030	SLU 61	90	46	4003	-1215.13	-171.81	33.44
1030	SLU 62	93	39	4099	-1242.81	-175.9	34.38
1030	SLU 63	92	47	4061	-1232.39	-174.27	34.15
1030	SLU 64	92	37	4001	-1212.8	-171.71	33.96
1030	SLU 65	90	50	3938	-1195.43	-168.99	33.56
1030	SLU 66	95	38	4087	-1238.57	-175.37	34.91
1030	SLU 67	93	45	4048	-1228.15	-173.74	34.68
1030	SLU 68	92	50	3995	-1212.68	-171.45	34.27
1030	SLU 69	97	38	4144	-1255.83	-177.83	35.62
1030	SLU 70	95	46	4106	-1245.4	-176.2	35.38
1030	SLU 71	96	38	4116	-1247.3	-176.63	35.37
1030	SLU 72	95	46	4078	-1236.88	-175	35.13
1030	SLU 73	96	54	4315	-1309.95	-185.17	36
1030	SLU 74	102	41	4464	-1353.09	-191.54	37.35
1030	SLU 75	100	49	4426	-1342.67	-189.91	37.11
1030	SLU 76	98	54	4373	-1327.2	-187.63	36.7



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1030	SLU 77	103	42	4522	-1370.35	-194	38.06
1030	SLU 78	102	50	4484	-1359.92	-192.37	37.82
1030	SLU 79	103	42	4494	-1361.82	-192.81	37.8
1030	SLU 80	101	49	4456	-1351.4	-191.17	37.57
1030	SLU 81	102	42	4541	-1376.4	-194.82	37.44
1030	SLU 82	100	50	4503	-1365.97	-193.19	37.2
1030	SLU 83	104	43	4598	-1393.65	-197.28	38.14
1030	SLU 84	102	51	4560	-1383.23	-195.65	37.91
1030	SLE RA 1	69	28	2968	-899.77	-127.39	25.29
1030	SLE RA 2	67	36	2926	-888.19	-125.58	25.03
1030	SLE RA 3	71	28	3025	-916.95	-129.83	25.93
1030	SLE RA 4	69	33	3000	-910.01	-128.74	25.78
1030	SLE RA 5	68	36	2964	-899.69	-127.22	25.5
1030	SLE RA 6	72	28	3063	-928.46	-131.47	26.4
1030	SLE RA 7	71	33	3038	-921.51	-130.38	26.25
1030	SLE RA 8	71	28	3045	-922.77	-130.67	26.24
1030	SLE RA 9	70	33	3019	-915.83	-129.58	26.08
1030	SLE RA 10	71	39	3178	-964.53	-136.36	26.66
1030	SLE RA 11	75	31	3277	-993.3	-140.61	27.56
1030	SLE RA 12	74	36	3251	-986.35	-139.52	27.4
1030	SLE RA 13	73	39	3216	-976.04	-138	27.13
1030	SLE RA 14	76	31	3315	-1004.8	-142.25	28.03
1030	SLE RA 15	75	36	3290	-997.85	-141.16	27.87
1030	SLE RA 16	76	31	3296	-999.12	-141.45	27.86
1030	SLE RA 17	75	36	3271	-992.17	-140.36	27.7
1030	SLE RA 18	75	31	3328	-1008.84	-142.79	27.61
1030	SLE RA 19	74	36	3302	-1001.89	-141.71	27.46
1030	SLE RA 20	76	31	3366	-1020.34	-144.43	28.08
1030	SLE RA 21	75	37	3341	-1013.39	-143.34	27.93
1030	SLE FR 1	69	28	2968	-899.77	-127.39	25.29
1030	SLE FR 2	68	29	2960	-897.45	-127.03	25.24
1030	SLE FR 3	69	28	2983	-904.37	-128.04	25.48
1030	SLE FR 4	70	30	3068	-930.17	-131.65	25.94
1030	SLE FR 5	71	29	3091	-937.09	-132.67	26.18
1030	SLE FR 6	72	29	3148	-954.3	-135.09	26.45
1030	SLE QP 1	69	28	2968	-899.77	-127.39	25.29
1030	SLE QP 2	71	29	3076	-932.49	-132.01	25.99
1030	SLD 1	343	55	2301	-704.85	-98.74	122.49
1030	SLD 2	293	102	2247	-692.6	-96.38	107.06
1030	SLD 3	373	-87	3105	-926.48	-133.14	127.45
1030	SLD 4	323	-40	3051	-914.23	-130.78	112.02
1030	SLD 5	116	244	1633	-530.27	-70.28	50.19
1030	SLD 6	83	274	1597	-522.19	-68.72	40.01
1030	SLD 7	216	-230	4315	-1269.02	-184.94	66.73
1030	SLD 8	183	-199	4279	-1260.94	-183.39	56.55
1030	SLD 9	-41	256	1873	-604.04	-80.63	-4.57
1030	SLD 10	-74	287	1837	-595.96	-79.08	-14.75
1030	SLD 11	58	-217	4555	-1342.79	-195.3	11.97
1030	SLD 12	25	-186	4519	-1334.71	-193.74	1.79
1030	SLD 13	-181	98	3101	-950.75	-133.24	-60.04
1030	SLD 14	-231	144	3047	-938.5	-130.88	-75.47
1030	SLD 15	-151	-44	3905	-1172.37	-167.64	-55.08
1030	SLD 16	-202	2	3851	-1160.13	-165.28	-70.51
1030	SLV 1	496	74	1844	-571.09	-79.13	176.99
1030	SLV 2	418	147	1759	-551.9	-75.43	152.82
1030	SLV 3	545	-156	3145	-929.47	-134.75	185.13
1030	SLV 4	466	-83	3060	-910.29	-131.06	160.96
1030	SLV 5	139	377	749	-284.1	-32.47	63.46
1030	SLV 6	86	426	692	-271.18	-29.99	47.18
1030	SLV 7	301	-389	5085	-1478.72	-217.88	90.59
1030	SLV 8	249	-340	5029	-1465.8	-215.4	74.31
1030	SLV 9	-107	397	1123	-399.18	-48.62	-22.33
1030	SLV 10	-160	446	1067	-386.26	-46.14	-38.61
1030	SLV 11	55	-369	5460	-1593.8	-234.03	4.8
1030	SLV 12	2	-320	5403	-1580.88	-231.55	-11.48
1030	SLV 13	-325	140	3092	-954.69	-132.96	-108.98
1030	SLV 14	-404	214	3007	-935.51	-129.27	-133.15
1030	SLV 15	-276	-89	4393	-1313.08	-188.59	-100.84
1030	SLV 16	-355	-16	4308	-1293.89	-184.89	-125.01
1030	SLV FO 1	539	78	1721	-534.95	-73.84	192.09
1030	SLV FO 2	453	159	1628	-513.84	-69.78	165.5
1030	SLV FO 3	592	-175	3152	-929.17	-135.02	201.05
1030	SLV FO 4	506	-94	3059	-908.06	-130.96	174.46
1030	SLV FO 5	146	412	516	-219.26	-22.52	67.2
1030	SLV FO 6	88	466	454	-205.05	-19.78	49.3
1030	SLV FO 7	324	-431	5286	-1533.34	-226.47	97.05
1030	SLV FO 8	266	-377	5224	-1519.13	-223.73	79.15
1030	SLV FO 9	-125	434	928	-345.85	-40.29	-27.17
1030	SLV FO 10	-183	488	866	-331.64	-37.55	-45.07
1030	SLV FO 11	53	-409	5698	-1659.93	-244.24	2.68
1030	SLV FO 12	-5	-355	5636	-1645.72	-241.5	-15.22
1030	SLV FO 13	-365	152	3093	-956.91	-133.06	-122.48
1030	SLV FO 14	-451	232	3000	-935.81	-128.99	-149.07
1030	SLV FO 15	-311	-101	4524	-1351.14	-194.24	-113.52
1030	SLV FO 16	-397	-21	4431	-1330.03	-190.18	-140.11
1030	CRTFP Ux+	0	0	0	0	0	0
1030	CRTFP Ux-	0	0	0	0	0	0
1030	CRTFP Uy+	0	0	0	0	0	0
1030	CRTFP Uy-	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1031	SLU 1	87	35	3576	-996.95	4.09	30.51
1031	SLU 2	83	52	3496	-977.25	3.99	29.23
1031	SLU 3	91	36	3684	-1026.57	4.23	31.74
1031	SLU 4	88	46	3636	-1014.75	4.17	30.98
1031	SLU 5	86	53	3569	-997.08	4.08	30.14
1031	SLU 6	93	37	3756	-1046.4	4.33	32.66
1031	SLU 7	91	47	3708	-1034.59	4.26	31.89
1031	SLU 8	92	36	3721	-1036.61	4.28	32.34
1031	SLU 9	90	47	3673	-1024.8	4.21	31.57
1031	SLU 10	92	57	3972	-1108.79	4.64	32.22
1031	SLU 11	99	41	4159	-1158.11	4.89	34.74
1031	SLU 12	97	51	4111	-1146.29	4.83	33.97
1031	SLU 13	95	57	4044	-1128.62	4.73	33.14
1031	SLU 14	102	42	4232	-1177.94	4.98	35.65
1031	SLU 15	100	52	4184	-1166.13	4.92	34.88
1031	SLU 16	101	41	4196	-1168.15	4.93	35.33
1031	SLU 17	99	51	4148	-1156.33	4.87	34.56
1031	SLU 18	99	42	4255	-1184.86	5.02	34.78
1031	SLU 19	97	52	4207	-1173.04	4.96	34.02
1031	SLU 20	102	43	4328	-1204.69	5.12	35.7
1031	SLU 21	100	53	4280	-1192.88	5.06	34.93
1031	SLU 22	101	40	4205	-1170.28	4.95	35.25
1031	SLU 23	97	57	4125	-1150.59	4.85	33.97
1031	SLU 24	104	41	4312	-1199.91	5.09	36.49
1031	SLU 25	102	52	4264	-1188.09	5.03	35.72
1031	SLU 26	100	58	4197	-1170.42	4.94	34.89
1031	SLU 27	107	42	4385	-1219.74	5.18	37.4
1031	SLU 28	105	52	4337	-1207.92	5.12	36.63
1031	SLU 29	106	42	4349	-1209.95	5.13	37.08
1031	SLU 30	104	52	4301	-1198.13	5.07	36.31
1031	SLU 31	106	62	4600	-1282.13	5.5	36.96
1031	SLU 32	113	46	4787	-1331.45	5.75	39.48
1031	SLU 33	111	56	4739	-1319.63	5.68	38.71
1031	SLU 34	108	63	4672	-1301.96	5.59	37.88
1031	SLU 35	115	47	4860	-1351.28	5.84	40.39
1031	SLU 36	113	57	4812	-1339.46	5.78	39.63
1031	SLU 37	114	46	4825	-1341.49	5.79	40.07
1031	SLU 38	112	57	4777	-1329.67	5.73	39.31
1031	SLU 39	113	47	4884	-1358.2	5.88	39.53
1031	SLU 40	111	57	4836	-1346.38	5.82	38.76
1031	SLU 41	115	48	4956	-1378.03	5.98	40.44
1031	SLU 42	113	58	4908	-1366.21	5.91	39.67
1031	SLU 43	109	44	4434	-1236.6	5.02	38.03
1031	SLU 44	105	61	4354	-1216.9	4.92	36.76
1031	SLU 45	112	45	4542	-1266.22	5.17	39.27
1031	SLU 46	110	55	4494	-1254.41	5.1	38.5
1031	SLU 47	108	61	4426	-1236.74	5.01	37.67
1031	SLU 48	115	46	4614	-1286.06	5.26	40.18
1031	SLU 49	113	56	4566	-1274.24	5.2	39.42
1031	SLU 50	114	45	4579	-1276.27	5.21	39.87
1031	SLU 51	112	55	4531	-1264.45	5.15	39.1
1031	SLU 52	114	66	4829	-1348.44	5.57	39.75
1031	SLU 53	121	50	5017	-1397.76	5.82	42.26
1031	SLU 54	118	60	4969	-1385.95	5.76	41.49
1031	SLU 55	116	66	4902	-1368.28	5.67	40.66
1031	SLU 56	123	50	5089	-1417.6	5.91	43.18
1031	SLU 57	121	61	5041	-1405.78	5.85	42.41
1031	SLU 58	122	50	5054	-1407.81	5.86	42.86
1031	SLU 59	120	60	5006	-1395.99	5.8	42.09
1031	SLU 60	121	51	5113	-1424.51	5.96	42.31
1031	SLU 61	119	61	5065	-1412.7	5.9	41.54
1031	SLU 62	123	52	5185	-1444.35	6.05	43.23
1031	SLU 63	121	62	5137	-1432.53	5.99	42.46
1031	SLU 64	122	49	5062	-1409.94	5.88	42.78
1031	SLU 65	118	66	4982	-1390.24	5.78	41.5
1031	SLU 66	126	50	5170	-1439.56	6.02	44.01
1031	SLU 67	123	60	5122	-1427.74	5.96	43.24
1031	SLU 68	121	67	5055	-1410.07	5.87	42.41
1031	SLU 69	128	51	5242	-1459.39	6.12	44.93
1031	SLU 70	126	61	5194	-1447.58	6.06	44.16
1031	SLU 71	127	50	5207	-1449.6	6.07	44.61
1031	SLU 72	125	61	5159	-1437.79	6	43.84
1031	SLU 73	127	71	5457	-1521.78	6.43	44.49
1031	SLU 74	134	55	5645	-1571.1	6.68	47
1031	SLU 75	132	65	5597	-1559.28	6.62	46.24
1031	SLU 76	130	71	5530	-1541.61	6.53	45.41
1031	SLU 77	137	56	5717	-1590.93	6.77	47.92
1031	SLU 78	135	66	5669	-1579.12	6.71	47.15
1031	SLU 79	136	55	5682	-1581.14	6.72	47.6
1031	SLU 80	134	65	5634	-1569.33	6.66	46.83
1031	SLU 81	134	56	5741	-1597.85	6.82	47.05
1031	SLU 82	132	66	5693	-1586.03	6.75	46.28
1031	SLU 83	137	57	5814	-1617.68	6.91	47.97
1031	SLU 84	135	67	5766	-1605.87	6.85	47.2
1031	SLE RA 1	91	37	3756	-1046.47	4.34	31.86
1031	SLE RA 2	89	48	3703	-1033.34	4.27	31.01
1031	SLE RA 3	93	37	3828	-1066.22	4.43	32.69
1031	SLE RA 4	92	44	3796	-1058.34	4.39	32.17
1031	SLE RA 5	90	48	3751	-1046.56	4.33	31.62



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1031	SLE RA 6	95	38	3876	-1079.44	4.49	33.3
1031	SLE RA 7	94	45	3844	-1071.56	4.45	32.79
1031	SLE RA 8	94	38	3852	-1072.92	4.46	33.08
1031	SLE RA 9	93	44	3820	-1065.04	4.42	32.57
1031	SLE RA 10	94	51	4019	-1121.03	4.7	33.01
1031	SLE RA 11	99	41	4144	-1153.91	4.87	34.68
1031	SLE RA 12	98	47	4112	-1146.03	4.83	34.17
1031	SLE RA 13	96	52	4068	-1134.26	4.76	33.62
1031	SLE RA 14	101	41	4193	-1167.14	4.93	35.29
1031	SLE RA 15	99	48	4161	-1159.26	4.89	34.78
1031	SLE RA 16	100	41	4169	-1160.61	4.9	35.08
1031	SLE RA 17	99	47	4137	-1152.73	4.85	34.57
1031	SLE RA 18	99	41	4209	-1171.75	4.96	34.71
1031	SLE RA 19	98	48	4177	-1163.87	4.92	34.2
1031	SLE RA 20	101	42	4257	-1184.97	5.02	35.32
1031	SLE RA 21	99	48	4225	-1177.09	4.98	34.81
1031	SLE FR 1	91	37	3756	-1046.47	4.34	31.86
1031	SLE FR 2	90	39	3745	-1043.84	4.32	31.69
1031	SLE FR 3	92	37	3775	-1051.76	4.36	32.11
1031	SLE FR 4	93	40	3881	-1081.43	4.51	32.55
1031	SLE FR 5	94	38	3911	-1089.34	4.55	32.96
1031	SLE FR 6	95	39	3982	-1109.11	4.65	33.29
1031	SLE QP 1	91	37	3756	-1046.47	4.34	31.86
1031	SLE QP 2	93	38	3892	-1084.05	4.52	32.72
1031	SLD 1	447	66	2905	-828.7	3.75	156.24
1031	SLD 2	382	130	2834	-814.47	3.76	133.46
1031	SLD 3	487	-117	3917	-1080.42	5.05	170.39
1031	SLD 4	422	-52	3846	-1066.19	5.07	147.61
1031	SLD 5	150	312	2073	-628.23	2.31	52.42
1031	SLD 6	107	354	2027	-618.83	2.32	37.38
1031	SLD 7	284	-297	5447	-1467.31	6.66	99.58
1031	SLD 8	241	-254	5400	-1457.91	6.67	84.54
1031	SLD 9	-54	331	2383	-710.2	2.38	-19.11
1031	SLD 10	-97	373	2336	-700.8	2.39	-34.15
1031	SLD 11	80	-278	5757	-1549.27	6.73	28.06
1031	SLD 12	36	-236	5710	-1539.88	6.74	13.02
1031	SLD 13	-235	129	3937	-1101.92	3.98	-82.18
1031	SLD 14	-300	193	3866	-1087.69	3.99	-104.95
1031	SLD 15	-195	-54	4949	-1353.64	5.28	-68.03
1031	SLD 16	-260	10	4878	-1339.41	5.3	-90.8
1031	SLV 1	646	86	2324	-678.53	3.28	225.82
1031	SLV 2	544	187	2213	-656.24	3.3	190.13
1031	SLV 3	711	-209	3961	-1085.59	5.39	248.82
1031	SLV 4	609	-108	3849	-1063.3	5.41	213.14
1031	SLV 5	179	482	960	-349.18	0.94	62.42
1031	SLV 6	110	550	885	-334.17	0.96	38.39
1031	SLV 7	397	-503	6415	-1706.05	7.98	139.1
1031	SLV 8	328	-435	6341	-1691.04	7.99	115.08
1031	SLV 9	-141	511	1443	-477.06	1.05	-49.64
1031	SLV 10	-210	579	1368	-462.05	1.07	-73.66
1031	SLV 11	77	-474	6898	-1833.94	8.09	27.05
1031	SLV 12	8	-406	6824	-1818.93	8.1	3.02
1031	SLV 13	-422	184	3934	-1104.81	3.64	-147.7
1031	SLV 14	-525	285	3823	-1082.51	3.66	-183.39
1031	SLV 15	-357	-111	5571	-1511.87	5.75	-124.7
1031	SLV 16	-459	-10	5460	-1489.58	5.77	-160.38
1031	SLV FO 1	701	91	2167	-637.98	3.15	245.13
1031	SLV FO 2	589	202	2045	-613.46	3.17	205.87
1031	SLV FO 3	773	-234	3968	-1085.75	5.47	270.43
1031	SLV FO 4	661	-123	3845	-1061.22	5.5	231.18
1031	SLV FO 5	188	526	667	-275.69	0.59	65.39
1031	SLV FO 6	112	601	584	-259.18	0.6	38.96
1031	SLV FO 7	427	-557	6668	-1768.25	8.32	149.74
1031	SLV FO 8	351	-483	6586	-1751.74	8.34	123.31
1031	SLV FO 9	-165	559	1198	-416.36	0.71	-57.88
1031	SLV FO 10	-241	634	1116	-399.85	0.72	-84.3
1031	SLV FO 11	75	-525	7199	-1908.92	8.44	26.48
1031	SLV FO 12	-1	-450	7117	-1892.41	8.46	0.05
1031	SLV FO 13	-474	199	3938	-1106.88	3.55	-165.74
1031	SLV FO 14	-586	310	3816	-1082.36	3.57	-205
1031	SLV FO 15	-402	-126	5739	-1554.65	5.87	-140.44
1031	SLV FO 16	-515	-15	5616	-1530.13	5.89	-179.69
1031	CRTFP Ux+	0	0	0	0	0	0
1031	CRTFP Ux-	0	0	0	0	0	0
1031	CRTFP Uy+	0	0	0	0	0	0
1031	CRTFP Uy-	0	0	0	0	0	0
1032	SLU 1	88	36	3438	-869.79	4.26	30.91
1032	SLU 2	85	53	3361	-853.15	4.17	29.6
1032	SLU 3	92	37	3541	-895.16	4.41	32.17
1032	SLU 4	90	47	3495	-885.17	4.35	31.39
1032	SLU 5	87	53	3431	-870.15	4.26	30.54
1032	SLU 6	95	38	3610	-912.16	4.5	33.1
1032	SLU 7	92	48	3564	-902.17	4.44	32.32
1032	SLU 8	94	37	3577	-903.79	4.45	32.78
1032	SLU 9	91	47	3531	-893.8	4.39	31.99
1032	SLU 10	93	57	3814	-965.67	4.85	32.63
1032	SLU 11	101	42	3994	-1007.69	5.08	35.19
1032	SLU 12	98	52	3948	-997.7	5.03	34.41
1032	SLU 13	96	58	3884	-982.67	4.94	33.56



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1032	SLU 14	103	42	4063	-1024.69	5.18	36.13
1032	SLU 15	101	52	4017	-1014.7	5.12	35.34
1032	SLU 16	102	42	4030	-1016.32	5.13	35.8
1032	SLU 17	100	52	3984	-1006.33	5.07	35.02
1032	SLU 18	101	43	4085	-1030.55	5.23	35.23
1032	SLU 19	98	53	4039	-1020.56	5.17	34.45
1032	SLU 20	103	43	4155	-1047.55	5.32	36.16
1032	SLU 21	101	53	4109	-1037.56	5.27	35.38
1032	SLU 22	102	41	4037	-1018.11	5.14	35.72
1032	SLU 23	98	58	3961	-1001.46	5.05	34.41
1032	SLU 24	106	42	4140	-1043.47	5.29	36.98
1032	SLU 25	103	52	4094	-1033.49	5.23	36.19
1032	SLU 26	101	58	4030	-1018.46	5.14	35.34
1032	SLU 27	108	43	4209	-1060.47	5.38	37.91
1032	SLU 28	106	53	4163	-1050.49	5.32	37.13
1032	SLU 29	107	42	4176	-1052.11	5.33	37.58
1032	SLU 30	105	52	4130	-1042.12	5.27	36.8
1032	SLU 31	107	62	4414	-1113.99	5.73	37.43
1032	SLU 32	114	47	4593	-1156	5.97	40
1032	SLU 33	112	57	4547	-1146.01	5.91	39.22
1032	SLU 34	110	63	4483	-1130.99	5.82	38.37
1032	SLU 35	117	48	4663	-1173	6.06	40.93
1032	SLU 36	115	58	4617	-1163.01	6	40.15
1032	SLU 37	116	47	4629	-1164.64	6.01	40.61
1032	SLU 38	114	57	4583	-1154.65	5.95	39.82
1032	SLU 39	114	48	4685	-1178.87	6.11	40.04
1032	SLU 40	112	58	4639	-1168.88	6.06	39.25
1032	SLU 41	117	49	4754	-1195.87	6.21	40.97
1032	SLU 42	115	59	4708	-1185.88	6.15	40.19
1032	SLU 43	110	45	4264	-1079.88	5.24	38.54
1032	SLU 44	106	62	4187	-1063.23	5.14	37.23
1032	SLU 45	114	46	4367	-1105.24	5.38	39.8
1032	SLU 46	111	56	4321	-1095.25	5.32	39.01
1032	SLU 47	109	62	4256	-1080.23	5.24	38.16
1032	SLU 48	116	47	4436	-1122.24	5.47	40.73
1032	SLU 49	114	57	4390	-1112.25	5.42	39.94
1032	SLU 50	115	46	4403	-1113.88	5.42	40.4
1032	SLU 51	113	56	4356	-1103.89	5.37	39.62
1032	SLU 52	115	66	4640	-1175.76	5.82	40.25
1032	SLU 53	122	51	4820	-1217.77	6.06	42.82
1032	SLU 54	120	61	4774	-1207.78	6	42.03
1032	SLU 55	118	67	4710	-1192.76	5.92	41.18
1032	SLU 56	125	51	4889	-1234.77	6.15	43.75
1032	SLU 57	123	61	4843	-1224.78	6.1	42.97
1032	SLU 58	124	51	4856	-1226.41	6.1	43.43
1032	SLU 59	122	61	4810	-1216.42	6.05	42.64
1032	SLU 60	122	52	4911	-1240.64	6.21	42.86
1032	SLU 61	120	62	4865	-1230.65	6.15	42.07
1032	SLU 62	125	52	4981	-1257.64	6.3	43.79
1032	SLU 63	123	62	4935	-1247.65	6.24	43
1032	SLU 64	124	50	4863	-1228.2	6.12	43.34
1032	SLU 65	120	67	4787	-1211.55	6.03	42.04
1032	SLU 66	127	51	4966	-1253.56	6.26	44.6
1032	SLU 67	125	61	4920	-1243.57	6.21	43.82
1032	SLU 68	123	67	4856	-1228.55	6.12	42.97
1032	SLU 69	130	52	5035	-1270.56	6.36	45.54
1032	SLU 70	128	62	4989	-1260.57	6.3	44.75
1032	SLU 71	129	51	5002	-1262.2	6.31	45.21
1032	SLU 72	127	61	4956	-1252.21	6.25	44.43
1032	SLU 73	129	71	5240	-1324.08	6.71	45.06
1032	SLU 74	136	56	5419	-1366.09	6.94	47.63
1032	SLU 75	134	66	5373	-1356.1	6.89	46.84
1032	SLU 76	131	72	5309	-1341.08	6.8	45.99
1032	SLU 77	139	57	5489	-1383.09	7.04	48.56
1032	SLU 78	136	67	5443	-1373.1	6.98	47.77
1032	SLU 79	138	56	5455	-1374.73	6.99	48.23
1032	SLU 80	136	66	5409	-1364.74	6.93	47.45
1032	SLU 81	136	57	5511	-1388.95	7.09	47.66
1032	SLU 82	134	67	5465	-1378.97	7.03	46.88
1032	SLU 83	139	58	5580	-1405.95	7.18	48.6
1032	SLU 84	137	68	5534	-1395.97	7.13	47.81
1032	SLE RA 1	92	37	3609	-912.17	4.51	32.29
1032	SLE RA 2	90	48	3558	-901.07	4.45	31.41
1032	SLE RA 3	95	38	3678	-929.08	4.61	33.12
1032	SLE RA 4	93	45	3647	-922.42	4.57	32.6
1032	SLE RA 5	91	49	3604	-912.4	4.51	32.03
1032	SLE RA 6	96	39	3724	-940.41	4.67	33.75
1032	SLE RA 7	95	45	3693	-933.75	4.63	33.22
1032	SLE RA 8	96	38	3702	-934.84	4.64	33.53
1032	SLE RA 9	94	45	3671	-928.18	4.6	33.01
1032	SLE RA 10	95	52	3860	-976.09	4.9	33.43
1032	SLE RA 11	100	41	3980	-1004.1	5.06	35.14
1032	SLE RA 12	99	48	3949	-997.44	5.02	34.62
1032	SLE RA 13	97	52	3906	-987.42	4.97	34.05
1032	SLE RA 14	102	42	4026	-1015.43	5.12	35.76
1032	SLE RA 15	101	48	3995	-1008.77	5.09	35.24
1032	SLE RA 16	102	41	4004	-1009.86	5.09	35.54
1032	SLE RA 17	100	48	3973	-1003.2	5.05	35.02
1032	SLE RA 18	100	42	4041	-1019.34	5.16	35.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1032	SLE RA 19	99	49	4010	-1012.68	5.12	34.64
1032	SLE RA 20	102	42	4087	-1030.67	5.22	35.79
1032	SLE RA 21	101	49	4056	-1024.02	5.18	35.26
1032	SLE FR 1	92	37	3609	-912.17	4.51	32.29
1032	SLE FR 2	92	40	3599	-909.95	4.5	32.11
1032	SLE FR 3	93	38	3628	-916.7	4.54	32.53
1032	SLE FR 4	94	41	3729	-942.1	4.7	32.97
1032	SLE FR 5	95	39	3757	-948.86	4.73	33.4
1032	SLE FR 6	96	40	3825	-965.76	4.84	33.73
1032	SLE QP 1	92	37	3609	-912.17	4.51	32.29
1032	SLE QP 2	95	39	3739	-944.32	4.71	33.15
1032	SLD 1	447	61	2773	-731.83	4.27	156.32
1032	SLD 2	381	129	2701	-719.01	4.27	133.47
1032	SLD 3	488	-119	3743	-944.96	5.47	170.87
1032	SLD 4	423	-51	3672	-932.14	5.47	148.02
1032	SLD 5	149	306	1989	-559.64	2.76	52.14
1032	SLD 6	106	351	1942	-551.17	2.76	37.06
1032	SLD 7	287	-294	5225	-1270.07	6.76	100.65
1032	SLD 8	244	-249	5178	-1261.61	6.76	85.57
1032	SLD 9	-55	327	2299	-627.04	2.66	-19.27
1032	SLD 10	-98	371	2252	-618.57	2.66	-34.35
1032	SLD 11	83	-274	5535	-1337.47	6.66	29.24
1032	SLD 12	40	-229	5488	-1329.01	6.66	14.15
1032	SLD 13	-233	129	3805	-956.5	3.95	-81.72
1032	SLD 14	-299	197	3734	-943.68	3.95	-104.57
1032	SLD 15	-192	-51	4776	-1169.63	5.15	-67.17
1032	SLD 16	-258	16	4705	-1156.82	5.15	-90.02
1032	SLV 1	645	78	2204	-606.74	3.99	225.68
1032	SLV 2	543	185	2092	-586.65	3.99	189.89
1032	SLV 3	713	-213	3774	-951.4	5.93	249.34
1032	SLV 4	610	-106	3662	-931.32	5.93	213.54
1032	SLV 5	177	473	918	-324.06	1.55	61.71
1032	SLV 6	108	544	843	-310.54	1.55	37.61
1032	SLV 7	401	-499	6151	-1472.93	8.02	140.57
1032	SLV 8	332	-427	6076	-1459.41	8.02	116.47
1032	SLV 9	-143	504	1402	-429.24	1.4	-50.17
1032	SLV 10	-212	576	1327	-415.72	1.4	-74.27
1032	SLV 11	81	-467	6634	-1578.11	7.86	28.69
1032	SLV 12	12	-395	6559	-1564.58	7.87	4.59
1032	SLV 13	-420	184	3815	-957.33	3.48	-147.25
1032	SLV 14	-523	290	3704	-937.25	3.49	-183.04
1032	SLV 15	-353	-107	5385	-1301.99	5.42	-123.59
1032	SLV 16	-456	-1	5274	-1281.91	5.43	-159.39
1032	SLV FO 1	700	82	2050	-572.98	3.92	244.94
1032	SLV FO 2	587	200	1928	-550.89	3.92	205.56
1032	SLV FO 3	774	-238	3777	-952.11	6.05	270.96
1032	SLV FO 4	661	-121	3654	-930.01	6.05	231.58
1032	SLV FO 5	185	516	636	-262.03	1.23	64.57
1032	SLV FO 6	109	595	554	-247.16	1.24	38.06
1032	SLV FO 7	432	-552	6392	-1525.79	8.35	151.31
1032	SLV FO 8	356	-473	6309	-1510.92	8.35	124.8
1032	SLV FO 9	-166	551	1168	-377.73	1.07	-58.5
1032	SLV FO 10	-243	630	1086	-362.86	1.07	-85.01
1032	SLV FO 11	80	-517	6924	-1641.48	8.18	28.24
1032	SLV FO 12	4	-439	6841	-1626.61	8.18	1.73
1032	SLV FO 13	-472	199	3823	-958.63	3.36	-165.29
1032	SLV FO 14	-585	316	3700	-936.54	3.37	-204.66
1032	SLV FO 15	-398	-122	5550	-1337.76	5.5	-139.26
1032	SLV FO 16	-511	-5	5427	-1315.66	5.5	-178.64
1032	CRTFP Ux+	0	0	0	0	0	0
1032	CRTFP Ux-	0	0	0	0	0	0
1032	CRTFP Uy+	0	0	0	0	0	0
1032	CRTFP Uy-	0	0	0	0	0	0
1033	SLU 1	89	36	3306	-754.84	3.7	31.27
1033	SLU 2	86	53	3232	-740.81	3.63	29.94
1033	SLU 3	93	37	3405	-776.37	3.82	32.55
1033	SLU 4	91	47	3360	-767.95	3.78	31.75
1033	SLU 5	88	54	3299	-755.26	3.71	30.89
1033	SLU 6	96	38	3471	-790.82	3.9	33.5
1033	SLU 7	93	48	3427	-782.41	3.86	32.7
1033	SLU 8	95	38	3439	-783.75	3.86	33.17
1033	SLU 9	92	48	3395	-775.33	3.82	32.37
1033	SLU 10	94	57	3665	-836.07	4.23	32.99
1033	SLU 11	102	42	3837	-871.63	4.42	35.6
1033	SLU 12	99	52	3793	-863.21	4.38	34.8
1033	SLU 13	97	58	3731	-850.52	4.31	33.94
1033	SLU 14	104	43	3904	-886.08	4.5	36.55
1033	SLU 15	102	53	3859	-877.66	4.46	35.75
1033	SLU 16	103	42	3872	-879.01	4.46	36.22
1033	SLU 17	101	52	3827	-870.59	4.41	35.42
1033	SLU 18	102	43	3924	-890.92	4.56	35.63
1033	SLU 19	100	53	3879	-882.5	4.51	34.83
1033	SLU 20	105	44	3990	-905.38	4.63	36.58
1033	SLU 21	102	53	3946	-896.96	4.59	35.78
1033	SLU 22	103	41	3879	-880.47	4.47	36.14
1033	SLU 23	99	58	3805	-866.44	4.4	34.8
1033	SLU 24	107	43	3977	-902	4.59	37.42
1033	SLU 25	105	52	3933	-893.58	4.55	36.62
1033	SLU 26	102	59	3871	-880.89	4.48	35.75



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1033	SLU 27	110	43	4043	-916.45	4.67	38.37
1033	SLU 28	107	53	3999	-908.04	4.63	37.57
1033	SLU 29	109	43	4012	-909.38	4.63	38.04
1033	SLU 30	106	53	3967	-900.96	4.58	37.23
1033	SLU 31	108	62	4237	-961.7	5	37.85
1033	SLU 32	116	47	4409	-997.26	5.19	40.47
1033	SLU 33	113	57	4365	-988.84	5.15	39.67
1033	SLU 34	111	63	4303	-976.15	5.08	38.8
1033	SLU 35	118	48	4476	-1011.71	5.27	41.42
1033	SLU 36	116	58	4431	-1003.3	5.23	40.62
1033	SLU 37	117	47	4444	-1004.64	5.23	41.09
1033	SLU 38	115	57	4399	-996.22	5.18	40.28
1033	SLU 39	116	48	4496	-1016.55	5.33	40.5
1033	SLU 40	113	58	4452	-1008.13	5.28	39.69
1033	SLU 41	118	49	4562	-1031.01	5.4	41.44
1033	SLU 42	116	59	4518	-1022.59	5.36	40.64
1033	SLU 43	111	45	4102	-938.21	4.55	38.99
1033	SLU 44	108	62	4028	-924.19	4.48	37.65
1033	SLU 45	115	47	4201	-959.75	4.67	40.27
1033	SLU 46	113	57	4156	-951.33	4.63	39.47
1033	SLU 47	110	63	4095	-938.64	4.56	38.6
1033	SLU 48	118	47	4267	-974.2	4.75	41.22
1033	SLU 49	115	57	4223	-965.78	4.71	40.42
1033	SLU 50	117	47	4235	-967.13	4.71	40.88
1033	SLU 51	114	57	4191	-958.71	4.66	40.08
1033	SLU 52	116	67	4460	-1019.44	5.08	40.7
1033	SLU 53	124	51	4633	-1055	5.27	43.32
1033	SLU 54	121	61	4588	-1046.59	5.23	42.52
1033	SLU 55	119	67	4527	-1033.9	5.15	41.65
1033	SLU 56	126	52	4699	-1069.46	5.35	44.27
1033	SLU 57	124	62	4655	-1061.04	5.3	43.47
1033	SLU 58	126	52	4667	-1062.38	5.3	43.93
1033	SLU 59	123	61	4623	-1053.97	5.26	43.13
1033	SLU 60	124	52	4720	-1074.3	5.4	43.34
1033	SLU 61	122	62	4675	-1065.88	5.36	42.54
1033	SLU 62	127	53	4786	-1088.75	5.48	44.29
1033	SLU 63	124	63	4742	-1080.34	5.44	43.49
1033	SLU 64	125	50	4674	-1063.85	5.32	43.85
1033	SLU 65	121	67	4600	-1049.82	5.25	42.52
1033	SLU 66	129	52	4773	-1085.38	5.44	45.13
1033	SLU 67	127	62	4728	-1076.96	5.4	44.33
1033	SLU 68	124	68	4667	-1064.27	5.33	43.47
1033	SLU 69	132	52	4839	-1099.83	5.52	46.08
1033	SLU 70	129	62	4795	-1091.41	5.47	45.28
1033	SLU 71	131	52	4807	-1092.76	5.47	45.75
1033	SLU 72	128	62	4763	-1084.34	5.43	44.95
1033	SLU 73	130	72	5033	-1145.08	5.85	45.57
1033	SLU 74	138	56	5205	-1180.63	6.04	48.18
1033	SLU 75	135	66	5161	-1172.22	5.99	47.38
1033	SLU 76	133	72	5099	-1159.53	5.92	46.52
1033	SLU 77	140	57	5271	-1195.09	6.12	49.13
1033	SLU 78	138	67	5227	-1186.67	6.07	48.33
1033	SLU 79	139	57	5239	-1188.01	6.07	48.8
1033	SLU 80	137	67	5195	-1179.6	6.03	48
1033	SLU 81	138	57	5292	-1199.93	6.17	48.21
1033	SLU 82	135	67	5247	-1191.51	6.13	47.41
1033	SLU 83	140	58	5358	-1214.38	6.25	49.16
1033	SLU 84	138	68	5314	-1205.97	6.21	48.36
1033	SLE RA 1	93	38	3470	-790.73	3.92	32.66
1033	SLE RA 2	91	49	3421	-781.38	3.87	31.77
1033	SLE RA 3	96	38	3536	-805.09	4	33.52
1033	SLE RA 4	94	45	3506	-799.47	3.97	32.98
1033	SLE RA 5	93	49	3465	-791.02	3.93	32.41
1033	SLE RA 6	98	39	3580	-814.72	4.05	34.15
1033	SLE RA 7	96	46	3550	-809.11	4.03	33.62
1033	SLE RA 8	97	39	3559	-810.01	4.03	33.93
1033	SLE RA 9	95	45	3529	-804.39	4	33.39
1033	SLE RA 10	97	52	3709	-844.88	4.27	33.81
1033	SLE RA 11	102	42	3824	-868.59	4.4	35.55
1033	SLE RA 12	100	48	3794	-862.98	4.37	35.02
1033	SLE RA 13	98	52	3753	-854.52	4.33	34.44
1033	SLE RA 14	103	42	3868	-878.23	4.45	36.18
1033	SLE RA 15	102	49	3838	-872.62	4.42	35.65
1033	SLE RA 16	103	42	3847	-873.51	4.42	35.96
1033	SLE RA 17	101	48	3817	-867.9	4.4	35.43
1033	SLE RA 18	102	42	3882	-881.45	4.49	35.57
1033	SLE RA 19	100	49	3852	-875.84	4.46	35.03
1033	SLE RA 20	103	43	3926	-891.09	4.54	36.2
1033	SLE RA 21	102	49	3896	-885.48	4.52	35.67
1033	SLE FR 1	93	38	3470	-790.73	3.92	32.66
1033	SLE FR 2	93	40	3460	-788.86	3.91	32.49
1033	SLE FR 3	94	38	3488	-794.59	3.94	32.92
1033	SLE FR 4	95	41	3584	-816.08	4.08	33.36
1033	SLE FR 5	97	39	3611	-821.8	4.11	33.79
1033	SLE FR 6	97	40	3676	-836.09	4.21	34.12
1033	SLE QP 1	93	38	3470	-790.73	3.92	32.66
1033	SLE QP 2	96	39	3593	-817.95	4.09	33.54
1033	SLD 1	447	58	2634	-639.94	4.14	156.35
1033	SLD 2	381	129	2563	-628.28	4.15	133.45



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1033	SLD 3	489	-120	3570	-819.8	5.05	171.26
1033	SLD 4	424	-49	3499	-808.15	5.06	148.35
1033	SLD 5	148	303	1899	-493.85	2.72	51.9
1033	SLD 6	105	350	1852	-486.15	2.73	36.78
1033	SLD 7	290	-292	5019	-1093.4	5.76	101.58
1033	SLD 8	247	-245	4972	-1085.71	5.77	86.46
1033	SLD 9	-55	323	2215	-550.19	2.42	-19.39
1033	SLD 10	-98	370	2168	-542.5	2.42	-34.51
1033	SLD 11	87	-272	5335	-1149.74	5.46	30.29
1033	SLD 12	43	-225	5288	-1142.05	5.46	15.17
1033	SLD 13	-232	127	3688	-827.75	3.12	-81.28
1033	SLD 14	-298	198	3617	-816.09	3.14	-104.19
1033	SLD 15	-189	-51	4624	-1007.61	4.04	-66.38
1033	SLD 16	-255	20	4553	-995.96	4.05	-89.28
1033	SLV 1	644	74	2070	-535.08	4.14	225.51
1033	SLV 2	541	185	1959	-516.83	4.16	189.63
1033	SLV 3	713	-215	3584	-825.96	5.61	249.74
1033	SLV 4	611	-104	3472	-807.7	5.63	213.86
1033	SLV 5	175	467	862	-295.34	1.87	61.08
1033	SLV 6	106	542	787	-283.05	1.88	36.92
1033	SLV 7	405	-496	5907	-1264.91	6.78	141.84
1033	SLV 8	336	-421	5831	-1252.62	6.79	117.68
1033	SLV 9	-144	499	1355	-383.27	1.39	-50.61
1033	SLV 10	-213	574	1280	-370.98	1.4	-74.77
1033	SLV 11	86	-464	6400	-1352.85	6.31	30.15
1033	SLV 12	17	-389	6325	-1340.55	6.32	5.99
1033	SLV 13	-419	182	3715	-828.2	2.56	-146.79
1033	SLV 14	-522	293	3603	-809.94	2.57	-182.67
1033	SLV 15	-350	-107	5228	-1119.07	4.03	-122.56
1033	SLV 16	-453	4	5116	-1100.81	4.05	-158.44
1033	SLV FO 1	699	77	1918	-506.8	4.14	244.71
1033	SLV FO 2	586	200	1795	-486.72	4.16	205.24
1033	SLV FO 3	775	-241	3583	-826.76	5.77	271.36
1033	SLV FO 4	662	-118	3460	-806.67	5.78	231.89
1033	SLV FO 5	183	509	589	-243.08	1.65	63.84
1033	SLV FO 6	106	592	506	-229.56	1.66	37.26
1033	SLV FO 7	436	-550	6138	-1309.61	7.05	152.67
1033	SLV FO 8	360	-467	6055	-1296.09	7.06	126.1
1033	SLV FO 9	-168	545	1132	-339.81	1.12	-59.03
1033	SLV FO 10	-244	628	1049	-326.29	1.14	-85.6
1033	SLV FO 11	85	-514	6681	-1406.34	6.53	29.81
1033	SLV FO 12	9	-431	6598	-1392.82	6.54	3.24
1033	SLV FO 13	-470	196	3727	-829.22	2.4	-164.82
1033	SLV FO 14	-584	319	3604	-809.14	2.42	-204.29
1033	SLV FO 15	-394	-122	5392	-1149.18	4.02	-138.17
1033	SLV FO 16	-508	1	5269	-1129.1	4.04	-177.64
1033	CRTFP Ux+	0	0	0	0	0	0
1033	CRTFP Ux-	0	0	0	0	0	0
1033	CRTFP Uy+	0	0	0	0	0	0
1033	CRTFP Uy-	0	0	0	0	0	0
1034	SLU 1	90	36	3202	-662.06	2.63	31.6
1034	SLU 2	86	53	3130	-650.02	2.59	30.24
1034	SLU 3	94	37	3297	-680.53	2.71	32.9
1034	SLU 4	92	47	3254	-673.3	2.69	32.08
1034	SLU 5	89	53	3194	-662.44	2.64	31.2
1034	SLU 6	97	38	3361	-692.95	2.76	33.86
1034	SLU 7	94	48	3318	-685.72	2.74	33.05
1034	SLU 8	96	38	3331	-686.91	2.74	33.52
1034	SLU 9	94	48	3287	-679.68	2.71	32.71
1034	SLU 10	95	57	3545	-731.22	3.04	33.31
1034	SLU 11	103	41	3712	-761.73	3.16	35.97
1034	SLU 12	101	51	3669	-754.5	3.13	35.16
1034	SLU 13	98	58	3609	-743.64	3.09	34.28
1034	SLU 14	106	42	3776	-774.15	3.21	36.93
1034	SLU 15	103	52	3733	-766.93	3.19	36.12
1034	SLU 16	105	42	3746	-768.11	3.18	36.6
1034	SLU 17	102	52	3702	-760.88	3.16	35.78
1034	SLU 18	103	42	3795	-778.06	3.27	35.99
1034	SLU 19	101	52	3752	-770.84	3.24	35.17
1034	SLU 20	106	43	3859	-790.49	3.32	36.95
1034	SLU 21	103	53	3816	-783.26	3.29	36.14
1034	SLU 22	104	41	3752	-769.3	3.19	36.52
1034	SLU 23	101	57	3680	-757.25	3.15	35.16
1034	SLU 24	108	42	3847	-787.76	3.27	37.82
1034	SLU 25	106	52	3804	-780.54	3.25	37
1034	SLU 26	103	58	3744	-769.68	3.2	36.12
1034	SLU 27	111	43	3912	-800.19	3.32	38.78
1034	SLU 28	109	53	3868	-792.96	3.3	37.97
1034	SLU 29	110	42	3881	-794.14	3.29	38.44
1034	SLU 30	108	52	3838	-786.92	3.27	37.63
1034	SLU 31	109	62	4095	-838.45	3.6	38.23
1034	SLU 32	117	46	4262	-868.96	3.72	40.89
1034	SLU 33	115	56	4219	-861.74	3.69	40.08
1034	SLU 34	112	63	4159	-850.88	3.65	39.2
1034	SLU 35	120	47	4327	-881.39	3.77	41.85
1034	SLU 36	117	57	4283	-874.16	3.74	41.04
1034	SLU 37	119	47	4296	-875.34	3.74	41.51
1034	SLU 38	116	57	4253	-868.12	3.72	40.7
1034	SLU 39	117	47	4345	-885.3	3.82	40.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1034	SLU 40	115	57	4302	-878.07	3.8	40.09
1034	SLU 41	120	48	4409	-897.72	3.88	41.87
1034	SLU 42	117	58	4366	-890.5	3.85	41.06
1034	SLU 43	113	45	3974	-823.91	3.23	39.39
1034	SLU 44	109	62	3902	-811.87	3.19	38.03
1034	SLU 45	116	46	4069	-842.38	3.31	40.69
1034	SLU 46	114	56	4026	-835.15	3.29	39.88
1034	SLU 47	111	63	3966	-824.29	3.24	39
1034	SLU 48	119	47	4133	-854.8	3.36	41.65
1034	SLU 49	117	57	4090	-847.58	3.34	40.84
1034	SLU 50	118	47	4103	-848.76	3.33	41.32
1034	SLU 51	116	57	4059	-841.53	3.31	40.5
1034	SLU 52	118	66	4317	-893.07	3.63	41.11
1034	SLU 53	125	51	4484	-923.58	3.75	43.77
1034	SLU 54	123	61	4441	-916.35	3.73	42.95
1034	SLU 55	120	67	4381	-905.49	3.69	42.07
1034	SLU 56	128	51	4548	-936	3.81	44.73
1034	SLU 57	126	61	4505	-928.78	3.78	43.91
1034	SLU 58	127	51	4518	-929.96	3.78	44.39
1034	SLU 59	125	61	4474	-922.74	3.75	43.58
1034	SLU 60	125	51	4567	-939.91	3.86	43.78
1034	SLU 61	123	61	4523	-932.69	3.84	42.97
1034	SLU 62	128	52	4631	-952.34	3.91	44.74
1034	SLU 63	126	62	4588	-945.11	3.89	43.93
1034	SLU 64	127	50	4524	-931.15	3.79	44.31
1034	SLU 65	123	67	4452	-919.1	3.75	42.95
1034	SLU 66	130	51	4619	-949.61	3.87	45.61
1034	SLU 67	128	61	4576	-942.39	3.85	44.8
1034	SLU 68	126	67	4516	-931.53	3.8	43.91
1034	SLU 69	133	52	4684	-962.04	3.92	46.57
1034	SLU 70	131	62	4640	-954.81	3.9	45.76
1034	SLU 71	132	52	4653	-956	3.89	46.23
1034	SLU 72	130	62	4609	-948.77	3.87	45.42
1034	SLU 73	132	71	4867	-1000.31	4.19	46.03
1034	SLU 74	139	55	5034	-1030.81	4.31	48.68
1034	SLU 75	137	65	4991	-1023.59	4.29	47.87
1034	SLU 76	134	72	4931	-1012.73	4.25	46.99
1034	SLU 77	142	56	5099	-1043.24	4.37	49.65
1034	SLU 78	140	66	5055	-1036.01	4.34	48.83
1034	SLU 79	141	56	5068	-1037.2	4.34	49.31
1034	SLU 80	139	66	5024	-1029.97	4.31	48.49
1034	SLU 81	139	56	5117	-1047.15	4.42	48.7
1034	SLU 82	137	66	5074	-1039.92	4.4	47.89
1034	SLU 83	142	57	5181	-1059.57	4.47	49.66
1034	SLU 84	140	67	5138	-1052.35	4.45	48.85
1034	SLE RA 1	94	37	3359	-692.7	2.79	33
1034	SLE RA 2	92	48	3311	-684.67	2.77	32.1
1034	SLE RA 3	97	38	3423	-705.01	2.85	33.87
1034	SLE RA 4	95	45	3394	-700.19	2.83	33.33
1034	SLE RA 5	94	49	3354	-692.95	2.8	32.74
1034	SLE RA 6	99	39	3465	-713.29	2.88	34.51
1034	SLE RA 7	97	45	3437	-708.48	2.86	33.97
1034	SLE RA 8	98	38	3445	-709.26	2.86	34.29
1034	SLE RA 9	96	45	3416	-704.45	2.84	33.74
1034	SLE RA 10	98	51	3588	-738.8	3.06	34.15
1034	SLE RA 11	103	41	3699	-759.14	3.14	35.92
1034	SLE RA 12	101	48	3670	-754.33	3.13	35.38
1034	SLE RA 13	99	52	3631	-747.09	3.1	34.79
1034	SLE RA 14	105	42	3742	-767.43	3.18	36.56
1034	SLE RA 15	103	48	3713	-762.61	3.16	36.02
1034	SLE RA 16	104	41	3722	-763.4	3.16	36.34
1034	SLE RA 17	102	48	3693	-758.58	3.14	35.79
1034	SLE RA 18	103	41	3754	-770.03	3.21	35.93
1034	SLE RA 19	101	48	3726	-765.22	3.2	35.39
1034	SLE RA 20	105	42	3797	-778.32	3.25	36.57
1034	SLE RA 21	103	49	3768	-773.5	3.23	36.03
1034	SLE FR 1	94	37	3359	-692.7	2.79	33
1034	SLE FR 2	94	40	3350	-691.09	2.79	32.82
1034	SLE FR 3	95	38	3376	-696.01	2.8	33.26
1034	SLE FR 4	96	41	3468	-714.29	2.91	33.7
1034	SLE FR 5	98	39	3495	-719.21	2.93	34.14
1034	SLE FR 6	99	39	3557	-731.37	3	34.47
1034	SLE QP 1	94	37	3359	-692.7	2.79	33
1034	SLE QP 2	97	39	3478	-715.9	2.92	33.88
1034	SLD 1	447	56	2508	-560.45	3.56	156.34
1034	SLD 2	381	130	2436	-549.61	3.6	133.4
1034	SLD 3	490	-122	3420	-715.03	4.06	171.55
1034	SLD 4	424	-48	3348	-704.19	4.09	148.61
1034	SLD 5	148	301	1816	-436.78	2.35	51.68
1034	SLD 6	104	350	1768	-429.62	2.37	36.53
1034	SLD 7	293	-294	4858	-952.03	4.01	102.39
1034	SLD 8	249	-245	4810	-944.87	4.03	87.24
1034	SLD 9	-55	322	2145	-486.93	1.8	-19.48
1034	SLD 10	-99	371	2098	-479.77	1.83	-34.63
1034	SLD 11	90	-273	5188	-1002.18	3.46	31.23
1034	SLD 12	46	-224	5140	-995.02	3.49	16.08
1034	SLD 13	-230	125	3607	-727.61	1.74	-80.85
1034	SLD 14	-296	199	3535	-716.77	1.78	-103.79
1034	SLD 15	-187	-53	4520	-882.19	2.24	-65.64



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1034	SLD 16	-253	21	4448	-871.35	2.27	-88.58
1034	SLV 1	643	71	1938	-468.95	3.91	225.3
1034	SLV 2	540	187	1826	-451.97	3.96	189.36
1034	SLV 3	714	-218	3414	-718.93	4.71	250.02
1034	SLV 4	611	-102	3301	-701.95	4.77	214.08
1034	SLV 5	173	464	799	-265.85	1.99	60.51
1034	SLV 6	103	543	723	-254.42	2.02	36.32
1034	SLV 7	409	-498	5718	-1099.11	4.67	142.93
1034	SLV 8	339	-420	5642	-1087.68	4.7	118.73
1034	SLV 9	-145	497	1313	-344.12	1.13	-50.97
1034	SLV 10	-215	575	1237	-332.69	1.17	-75.17
1034	SLV 11	90	-466	6233	-1177.38	3.82	31.45
1034	SLV 12	21	-387	6157	-1165.95	3.85	7.25
1034	SLV 13	-417	179	3654	-729.85	1.07	-146.32
1034	SLV 14	-520	295	3541	-712.87	1.12	-182.26
1034	SLV 15	-347	-110	5130	-979.83	1.87	-121.6
1034	SLV 16	-450	6	5017	-962.85	1.93	-157.54
1034	SLV FO 1	698	74	1785	-444.26	4.01	244.44
1034	SLV FO 2	585	202	1660	-425.58	4.07	204.91
1034	SLV FO 3	776	-244	3408	-719.23	4.89	271.64
1034	SLV FO 4	662	-116	3284	-700.55	4.95	232.1
1034	SLV FO 5	180	507	531	-220.85	1.89	63.18
1034	SLV FO 6	104	593	447	-208.27	1.93	36.56
1034	SLV FO 7	440	-552	5942	-1137.43	4.84	153.84
1034	SLV FO 8	363	-466	5859	-1124.85	4.88	127.22
1034	SLV FO 9	-170	543	1097	-306.94	0.96	-59.46
1034	SLV FO 10	-246	629	1013	-294.37	0.99	-86.07
1034	SLV FO 11	90	-516	6508	-1223.53	3.9	31.2
1034	SLV FO 12	13	-430	6425	-1210.95	3.94	4.58
1034	SLV FO 13	-469	193	3672	-731.25	0.88	-164.34
1034	SLV FO 14	-582	321	3548	-712.57	0.94	-203.88
1034	SLV FO 15	-391	-125	5295	-1006.22	1.77	-137.14
1034	SLV FO 16	-504	3	5171	-987.54	1.83	-176.68
1034	CRTFP Ux+	0	0	0	0	0	0
1034	CRTFP Ux-	0	0	0	0	0	0
1034	CRTFP Uy+	0	0	0	0	0	0
1034	CRTFP Uy-	0	0	0	0	0	0
1035	SLU 1	91	35	3139	-599.81	1.21	31.88
1035	SLU 2	87	52	3067	-588.95	1.21	30.5
1035	SLU 3	95	36	3232	-616.24	1.24	33.2
1035	SLU 4	93	46	3189	-609.73	1.24	32.37
1035	SLU 5	90	52	3130	-600.03	1.23	31.48
1035	SLU 6	98	37	3295	-627.33	1.26	34.17
1035	SLU 7	95	47	3252	-620.81	1.26	33.35
1035	SLU 8	97	36	3265	-621.97	1.24	33.83
1035	SLU 9	94	47	3222	-615.46	1.24	33
1035	SLU 10	96	56	3471	-660.48	1.45	33.6
1035	SLU 11	104	40	3636	-687.78	1.48	36.29
1035	SLU 12	102	50	3593	-681.26	1.48	35.47
1035	SLU 13	99	56	3534	-671.57	1.47	34.57
1035	SLU 14	107	41	3699	-698.86	1.5	37.27
1035	SLU 15	104	51	3656	-692.35	1.5	36.44
1035	SLU 16	106	40	3669	-693.51	1.48	36.92
1035	SLU 17	103	51	3626	-687	1.48	36.1
1035	SLU 18	104	40	3715	-702	1.55	36.3
1035	SLU 19	102	50	3672	-695.48	1.55	35.47
1035	SLU 20	107	41	3779	-713.08	1.57	37.27
1035	SLU 21	104	51	3736	-706.57	1.57	36.45
1035	SLU 22	105	39	3675	-694.5	1.49	36.84
1035	SLU 23	102	56	3603	-683.64	1.49	35.47
1035	SLU 24	109	40	3768	-710.93	1.52	38.16
1035	SLU 25	107	50	3725	-704.42	1.52	37.34
1035	SLU 26	104	57	3667	-694.73	1.51	36.44
1035	SLU 27	112	41	3831	-722.02	1.54	39.14
1035	SLU 28	110	51	3788	-715.5	1.54	38.31
1035	SLU 29	111	41	3801	-716.67	1.53	38.79
1035	SLU 30	109	51	3758	-710.15	1.53	37.97
1035	SLU 31	110	60	4007	-755.18	1.73	38.56
1035	SLU 32	118	44	4172	-782.47	1.76	41.26
1035	SLU 33	116	54	4129	-775.95	1.76	40.43
1035	SLU 34	113	61	4070	-766.26	1.75	39.54
1035	SLU 35	121	45	4235	-793.55	1.78	42.23
1035	SLU 36	119	55	4192	-787.04	1.78	41.41
1035	SLU 37	120	45	4205	-788.2	1.77	41.89
1035	SLU 38	118	55	4162	-781.69	1.77	41.06
1035	SLU 39	118	45	4252	-796.69	1.83	41.26
1035	SLU 40	116	55	4209	-790.18	1.83	40.44
1035	SLU 41	121	45	4315	-807.78	1.85	42.24
1035	SLU 42	119	56	4272	-801.26	1.85	41.41
1035	SLU 43	114	44	3896	-747.28	1.47	39.74
1035	SLU 44	110	60	3825	-736.42	1.47	38.36
1035	SLU 45	118	45	3990	-763.72	1.5	41.06
1035	SLU 46	115	55	3947	-757.2	1.5	40.23
1035	SLU 47	113	61	3888	-747.51	1.49	39.34
1035	SLU 48	120	46	4053	-774.8	1.52	42.03
1035	SLU 49	118	56	4010	-768.29	1.52	41.21
1035	SLU 50	119	45	4023	-769.45	1.51	41.69
1035	SLU 51	117	55	3980	-762.94	1.51	40.86
1035	SLU 52	119	64	4228	-807.96	1.71	41.46



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1035	SLU 53	126	49	4393	-835.25	1.74	44.15
1035	SLU 54	124	59	4350	-828.74	1.74	43.33
1035	SLU 55	121	65	4292	-819.04	1.73	42.43
1035	SLU 56	129	50	4456	-846.34	1.76	45.13
1035	SLU 57	127	60	4413	-839.82	1.76	44.3
1035	SLU 58	128	49	4426	-840.99	1.75	44.78
1035	SLU 59	126	59	4383	-834.47	1.75	43.96
1035	SLU 60	126	49	4473	-849.47	1.81	44.16
1035	SLU 61	124	59	4430	-842.96	1.81	43.34
1035	SLU 62	129	50	4536	-860.56	1.83	45.13
1035	SLU 63	127	60	4493	-854.04	1.83	44.31
1035	SLU 64	128	48	4433	-841.97	1.76	44.71
1035	SLU 65	124	65	4361	-831.12	1.76	43.33
1035	SLU 66	132	49	4526	-858.41	1.79	46.02
1035	SLU 67	129	59	4483	-851.89	1.79	45.2
1035	SLU 68	127	66	4424	-842.2	1.77	44.3
1035	SLU 69	135	50	4589	-869.49	1.81	47
1035	SLU 70	132	60	4546	-862.98	1.81	46.17
1035	SLU 71	134	50	4559	-864.14	1.79	46.65
1035	SLU 72	131	60	4516	-857.63	1.79	45.83
1035	SLU 73	133	69	4765	-902.65	2	46.42
1035	SLU 74	141	53	4930	-929.94	2.03	49.12
1035	SLU 75	138	63	4887	-923.43	2.03	48.29
1035	SLU 76	136	70	4828	-913.74	2.02	47.4
1035	SLU 77	143	54	4993	-941.03	2.05	50.09
1035	SLU 78	141	64	4950	-934.51	2.05	49.27
1035	SLU 79	142	54	4963	-935.68	2.03	49.75
1035	SLU 80	140	64	4920	-929.16	2.03	48.92
1035	SLU 81	141	53	5009	-944.17	2.1	49.13
1035	SLU 82	138	64	4966	-937.65	2.1	48.3
1035	SLU 83	143	54	5073	-955.25	2.12	50.1
1035	SLU 84	141	65	5030	-948.74	2.12	49.27
1035	SLE RA 1	95	36	3292	-626.86	1.29	33.3
1035	SLE RA 2	93	47	3244	-619.62	1.29	32.38
1035	SLE RA 3	98	37	3354	-637.82	1.31	34.18
1035	SLE RA 4	96	43	3325	-633.47	1.31	33.63
1035	SLE RA 5	95	48	3286	-627.01	1.3	33.03
1035	SLE RA 6	100	37	3396	-645.21	1.32	34.83
1035	SLE RA 7	98	44	3367	-640.86	1.32	34.28
1035	SLE RA 8	99	37	3376	-641.64	1.31	34.6
1035	SLE RA 9	97	44	3347	-637.3	1.31	34.05
1035	SLE RA 10	99	50	3513	-667.31	1.45	34.44
1035	SLE RA 11	104	39	3623	-685.51	1.47	36.24
1035	SLE RA 12	102	46	3595	-681.16	1.47	35.69
1035	SLE RA 13	100	50	3555	-674.7	1.46	35.09
1035	SLE RA 14	106	40	3665	-692.9	1.48	36.89
1035	SLE RA 15	104	47	3637	-688.55	1.48	36.34
1035	SLE RA 16	105	40	3645	-689.33	1.47	36.66
1035	SLE RA 17	103	46	3617	-684.99	1.47	36.11
1035	SLE RA 18	104	40	3676	-694.99	1.52	36.24
1035	SLE RA 19	102	46	3648	-690.65	1.52	35.69
1035	SLE RA 20	106	40	3718	-702.38	1.53	36.89
1035	SLE RA 21	104	47	3690	-698.04	1.53	36.34
1035	SLE FR 1	95	36	3292	-626.86	1.29	33.3
1035	SLE FR 2	95	38	3282	-625.41	1.29	33.11
1035	SLE FR 3	96	36	3309	-629.82	1.29	33.56
1035	SLE FR 4	97	39	3398	-645.85	1.36	34
1035	SLE FR 5	99	37	3424	-650.26	1.36	34.44
1035	SLE FR 6	100	38	3484	-660.93	1.4	34.77
1035	SLE QP 1	95	36	3292	-626.86	1.29	33.3
1035	SLE QP 2	98	37	3407	-647.3	1.36	34.18
1035	SLD 1	446	54	2405	-500.13	2.69	156.27
1035	SLD 2	380	132	2332	-489.55	2.76	133.31
1035	SLD 3	491	-127	3310	-639.49	2.67	171.75
1035	SLD 4	425	-49	3236	-628.91	2.74	148.79
1035	SLD 5	147	302	1748	-393.69	1.78	51.47
1035	SLD 6	103	353	1700	-386.7	1.82	36.31
1035	SLD 7	295	-300	4763	-858.23	1.7	103.07
1035	SLD 8	252	-248	4714	-851.24	1.75	87.9
1035	SLD 9	-56	322	2100	-443.36	0.96	-19.54
1035	SLD 10	-99	374	2052	-436.37	1.01	-34.7
1035	SLD 11	92	-279	5115	-907.9	0.89	32.05
1035	SLD 12	49	-228	5066	-900.91	0.93	16.89
1035	SLD 13	-229	123	3578	-665.69	-0.02	-80.43
1035	SLD 14	-295	200	3505	-655.1	0.04	-103.39
1035	SLD 15	-185	-58	4483	-805.05	-0.05	-64.95
1035	SLD 16	-251	20	4409	-794.47	0.02	-87.91
1035	SLV 1	642	68	1818	-413.72	3.44	225.02
1035	SLV 2	539	190	1703	-397.13	3.55	189.05
1035	SLV 3	715	-224	3281	-639.1	3.41	250.18
1035	SLV 4	611	-102	3166	-622.51	3.51	214.2
1035	SLV 5	171	467	734	-238.49	2.02	60
1035	SLV 6	101	549	656	-227.33	2.09	35.78
1035	SLV 7	412	-507	5609	-989.76	1.9	143.84
1035	SLV 8	342	-425	5531	-978.59	1.97	119.62
1035	SLV 9	-147	499	1283	-316	0.75	-51.26
1035	SLV 10	-216	581	1205	-304.84	0.82	-75.48
1035	SLV 11	94	-475	6158	-1067.27	0.62	32.58
1035	SLV 12	25	-393	6080	-1056.11	0.69	8.36



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1035	SLV 13	-416	176	3649	-672.09	-0.8	-145.84
1035	SLV 14	-519	298	3533	-655.5	-0.69	-181.82
1035	SLV 15	-343	-117	5111	-897.47	-0.83	-120.69
1035	SLV 16	-447	6	4996	-880.88	-0.73	-156.66
1035	SLV FO 1	697	71	1660	-390.36	3.65	244.11
1035	SLV FO 2	583	206	1533	-372.11	3.77	204.54
1035	SLV FO 3	776	-250	3268	-638.28	3.61	271.78
1035	SLV FO 4	663	-116	3141	-620.03	3.73	232.21
1035	SLV FO 5	178	510	467	-197.61	2.08	62.58
1035	SLV FO 6	102	600	381	-185.33	2.16	35.94
1035	SLV FO 7	443	-561	5829	-1024.01	1.95	154.81
1035	SLV FO 8	367	-471	5744	-1011.72	2.03	128.17
1035	SLV FO 9	-171	545	1071	-282.87	0.69	-59.8
1035	SLV FO 10	-248	635	985	-270.59	0.76	-86.45
1035	SLV FO 11	94	-526	6433	-1109.27	0.55	32.42
1035	SLV FO 12	17	-436	6348	-1096.99	0.63	5.78
1035	SLV FO 13	-467	189	3673	-674.57	-1.01	-163.84
1035	SLV FO 14	-581	324	3546	-656.32	-0.9	-203.41
1035	SLV FO 15	-388	-132	5282	-922.48	-1.05	-136.17
1035	SLV FO 16	-501	2	5155	-904.24	-0.94	-175.75
1035	CRTFP Ux+	0	0	0	0	0	0
1035	CRTFP Ux-	0	0	0	0	0	0
1035	CRTFP Uy+	0	0	0	0	0	0
1035	CRTFP Uy-	0	0	0	0	0	0
1036	SLU 1	92	32	3126	-574.36	-0.46	32.11
1036	SLU 2	88	49	3054	-563.77	-0.42	30.71
1036	SLU 3	96	33	3219	-590	-0.49	33.44
1036	SLU 4	93	44	3176	-583.64	-0.46	32.6
1036	SLU 5	91	50	3117	-574.34	-0.44	31.7
1036	SLU 6	99	34	3282	-600.57	-0.51	34.42
1036	SLU 7	96	45	3239	-594.21	-0.48	33.59
1036	SLU 8	98	34	3252	-595.51	-0.5	34.07
1036	SLU 9	95	44	3209	-589.15	-0.47	33.24
1036	SLU 10	97	53	3453	-630.89	-0.41	33.82
1036	SLU 11	105	37	3619	-657.12	-0.48	36.55
1036	SLU 12	102	47	3575	-650.76	-0.46	35.71
1036	SLU 13	100	54	3517	-641.46	-0.43	34.81
1036	SLU 14	108	38	3682	-667.69	-0.5	37.53
1036	SLU 15	105	48	3639	-661.33	-0.48	36.7
1036	SLU 16	107	37	3652	-662.63	-0.5	37.19
1036	SLU 17	104	48	3609	-656.27	-0.47	36.35
1036	SLU 18	105	37	3697	-670.25	-0.46	36.55
1036	SLU 19	102	48	3654	-663.89	-0.43	35.71
1036	SLU 20	108	38	3760	-680.82	-0.48	37.53
1036	SLU 21	105	48	3717	-674.46	-0.45	36.7
1036	SLU 22	106	36	3658	-663.51	-0.49	37.11
1036	SLU 23	102	53	3586	-652.91	-0.45	35.72
1036	SLU 24	110	37	3751	-679.15	-0.52	38.44
1036	SLU 25	108	47	3708	-672.79	-0.49	37.61
1036	SLU 26	105	54	3649	-663.49	-0.47	36.7
1036	SLU 27	113	38	3814	-689.72	-0.54	39.43
1036	SLU 28	111	48	3771	-683.36	-0.51	38.59
1036	SLU 29	112	37	3784	-684.66	-0.53	39.08
1036	SLU 30	110	48	3741	-678.3	-0.51	38.24
1036	SLU 31	111	56	3985	-720.03	-0.45	38.83
1036	SLU 32	119	40	4151	-746.27	-0.52	41.55
1036	SLU 33	117	51	4107	-739.91	-0.49	40.72
1036	SLU 34	114	57	4049	-730.61	-0.47	39.81
1036	SLU 35	122	41	4214	-756.84	-0.54	42.54
1036	SLU 36	120	52	4171	-750.48	-0.51	41.7
1036	SLU 37	121	41	4184	-751.78	-0.53	42.19
1036	SLU 38	119	51	4141	-745.42	-0.5	41.36
1036	SLU 39	119	41	4229	-759.4	-0.49	41.55
1036	SLU 40	117	51	4186	-753.04	-0.46	40.72
1036	SLU 41	122	41	4292	-769.97	-0.51	42.54
1036	SLU 42	120	52	4249	-763.61	-0.48	41.7
1036	SLU 43	115	41	3881	-716.11	-0.59	40.02
1036	SLU 44	111	58	3809	-705.51	-0.54	38.63
1036	SLU 45	118	42	3974	-731.74	-0.61	41.35
1036	SLU 46	116	52	3931	-725.38	-0.59	40.52
1036	SLU 47	113	59	3872	-716.08	-0.56	39.61
1036	SLU 48	121	43	4038	-742.32	-0.63	42.34
1036	SLU 49	119	53	3994	-735.96	-0.61	41.5
1036	SLU 50	120	42	4008	-737.25	-0.63	41.99
1036	SLU 51	118	53	3964	-730.9	-0.6	41.16
1036	SLU 52	120	61	4209	-772.63	-0.54	41.74
1036	SLU 53	127	45	4374	-798.86	-0.61	44.47
1036	SLU 54	125	56	4331	-792.51	-0.58	43.63
1036	SLU 55	122	62	4272	-783.2	-0.56	42.73
1036	SLU 56	130	46	4437	-809.44	-0.63	45.45
1036	SLU 57	128	57	4394	-803.08	-0.6	44.62
1036	SLU 58	129	46	4407	-804.38	-0.62	45.1
1036	SLU 59	127	56	4364	-798.02	-0.6	44.27
1036	SLU 60	127	46	4452	-812	-0.58	44.46
1036	SLU 61	125	56	4409	-805.64	-0.56	43.63
1036	SLU 62	130	46	4515	-822.57	-0.6	45.45
1036	SLU 63	128	57	4472	-816.21	-0.58	44.61
1036	SLU 64	129	44	4413	-805.26	-0.62	45.03
1036	SLU 65	125	61	4341	-794.66	-0.58	43.63



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1036	SLU 66	133	45	4507	-820.89	-0.65	46.36
1036	SLU 67	130	56	4463	-814.53	-0.62	45.52
1036	SLU 68	128	62	4404	-805.23	-0.6	44.62
1036	SLU 69	136	46	4570	-831.46	-0.67	47.34
1036	SLU 70	133	56	4526	-825.1	-0.64	46.51
1036	SLU 71	135	46	4540	-826.4	-0.66	47
1036	SLU 72	132	56	4496	-820.04	-0.63	46.16
1036	SLU 73	134	65	4741	-861.78	-0.57	46.75
1036	SLU 74	142	49	4906	-888.01	-0.64	49.47
1036	SLU 75	139	59	4863	-881.65	-0.62	48.64
1036	SLU 76	137	66	4804	-872.35	-0.59	47.73
1036	SLU 77	145	50	4969	-898.58	-0.66	50.45
1036	SLU 78	142	60	4926	-892.23	-0.64	49.62
1036	SLU 79	144	49	4939	-893.52	-0.66	50.11
1036	SLU 80	141	60	4896	-887.16	-0.63	49.27
1036	SLU 81	142	49	4984	-901.14	-0.62	49.47
1036	SLU 82	139	59	4941	-894.78	-0.59	48.63
1036	SLU 83	145	50	5048	-911.72	-0.64	50.45
1036	SLU 84	142	60	5004	-905.36	-0.61	49.62
1036	SLE RA 1	96	33	3278	-599.84	-0.47	33.54
1036	SLE RA 2	93	45	3230	-592.77	-0.44	32.61
1036	SLE RA 3	99	34	3340	-610.26	-0.49	34.42
1036	SLE RA 4	97	41	3311	-606.02	-0.47	33.87
1036	SLE RA 5	95	45	3272	-599.82	-0.45	33.26
1036	SLE RA 6	101	34	3382	-617.31	-0.5	35.08
1036	SLE RA 7	99	41	3353	-613.07	-0.48	34.52
1036	SLE RA 8	100	34	3362	-613.93	-0.5	34.85
1036	SLE RA 9	98	41	3333	-609.69	-0.48	34.29
1036	SLE RA 10	99	47	3496	-637.52	-0.44	34.68
1036	SLE RA 11	105	36	3607	-655.01	-0.48	36.5
1036	SLE RA 12	103	43	3578	-650.77	-0.47	35.94
1036	SLE RA 13	101	48	3538	-644.56	-0.45	35.34
1036	SLE RA 14	106	37	3649	-662.05	-0.5	37.15
1036	SLE RA 15	105	44	3620	-657.81	-0.48	36.6
1036	SLE RA 16	106	37	3629	-658.68	-0.49	36.92
1036	SLE RA 17	104	44	3600	-654.44	-0.48	36.37
1036	SLE RA 18	105	36	3659	-663.76	-0.47	36.5
1036	SLE RA 19	103	43	3630	-659.52	-0.45	35.94
1036	SLE RA 20	106	37	3701	-670.81	-0.48	37.15
1036	SLE RA 21	105	44	3672	-666.57	-0.46	36.6
1036	SLE FR 1	96	33	3278	-599.84	-0.47	33.54
1036	SLE FR 2	96	35	3268	-598.42	-0.46	33.35
1036	SLE FR 3	97	33	3295	-602.65	-0.48	33.8
1036	SLE FR 4	98	36	3383	-617.6	-0.46	34.24
1036	SLE FR 5	99	34	3409	-621.83	-0.47	34.69
1036	SLE FR 6	100	35	3468	-631.8	-0.47	35.02
1036	SLE QP 1	96	33	3278	-599.84	-0.47	33.54
1036	SLE QP 2	99	34	3392	-619.01	-0.47	34.42
1036	SLD 1	446	51	2335	-464.11	1.61	156.14
1036	SLD 2	380	133	2258	-452.99	1.71	133.17
1036	SLD 3	491	-134	3248	-599.94	1.04	171.85
1036	SLD 4	425	-52	3172	-588.82	1.15	148.88
1036	SLD 5	146	304	1703	-368.53	0.99	51.26
1036	SLD 6	102	358	1653	-361.19	1.06	36.09
1036	SLD 7	297	-311	4748	-821.31	-0.89	103.61
1036	SLD 8	253	-257	4698	-813.97	-0.81	88.44
1036	SLD 9	-56	325	2087	-424.06	-0.12	-19.59
1036	SLD 10	-100	379	2036	-416.72	-0.05	-34.76
1036	SLD 11	95	-290	5132	-876.83	-2	32.75
1036	SLD 12	51	-236	5081	-869.5	-1.92	17.59
1036	SLD 13	-228	120	3612	-649.2	-2.09	-80.03
1036	SLD 14	-294	202	3536	-638.09	-1.98	-103
1036	SLD 15	-183	-64	4526	-785.03	-2.65	-64.32
1036	SLD 16	-249	18	4449	-773.92	-2.54	-87.3
1036	SLV 1	641	65	1717	-373.48	2.78	224.68
1036	SLV 2	538	193	1597	-356.06	2.95	188.69
1036	SLV 3	715	-234	3194	-593.16	1.87	250.2
1036	SLV 4	612	-105	3074	-575.74	2.05	214.21
1036	SLV 5	169	473	672	-215.42	1.85	59.52
1036	SLV 6	99	559	591	-203.7	1.97	35.29
1036	SLV 7	415	-524	5596	-947.69	-1.18	144.57
1036	SLV 8	345	-437	5515	-935.96	-1.06	120.34
1036	SLV 9	-148	505	1269	-302.06	0.12	-51.5
1036	SLV 10	-217	592	1189	-290.34	0.24	-75.73
1036	SLV 11	98	-491	6194	-1034.33	-2.91	33.56
1036	SLV 12	28	-405	6113	-1022.61	-2.79	9.33
1036	SLV 13	-414	174	3710	-662.28	-2.98	-145.36
1036	SLV 14	-518	302	3590	-644.87	-2.81	-181.35
1036	SLV 15	-341	-125	5187	-881.96	-3.89	-119.84
1036	SLV 16	-444	3	5067	-864.55	-3.72	-155.83
1036	SLV FO 1	696	68	1550	-348.92	3.11	243.7
1036	SLV FO 2	582	209	1418	-329.77	3.3	204.12
1036	SLV FO 3	777	-261	3174	-590.57	2.11	271.77
1036	SLV FO 4	663	-119	3043	-571.42	2.3	232.19
1036	SLV FO 5	176	517	400	-175.06	2.08	62.03
1036	SLV FO 6	100	612	311	-162.16	2.21	35.37
1036	SLV FO 7	446	-579	5816	-980.56	-1.25	155.59
1036	SLV FO 8	370	-484	5727	-967.66	-1.12	128.94
1036	SLV FO 9	-172	552	1057	-270.36	0.18	-60.09



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1036	SLV FO 10	-249	648	968	-257.47	0.31	-86.74
1036	SLV FO 11	98	-544	6474	-1075.86	-3.15	33.48
1036	SLV FO 12	21	-448	6385	-1062.96	-3.02	6.82
1036	SLV FO 13	-466	188	3742	-666.61	-3.23	-163.34
1036	SLV FO 14	-579	329	3610	-647.45	-3.05	-202.93
1036	SLV FO 15	-385	-141	5367	-908.26	-4.23	-135.27
1036	SLV FO 16	-498	0	5235	-889.1	-4.05	-174.86
1036	CRTFP Ux+	0	0	0	0	0	0
1036	CRTFP Ux-	0	0	0	0	0	0
1036	CRTFP Uy+	0	0	0	0	0	0
1036	CRTFP Uy-	0	0	0	0	0	0
1037	SLU 1	93	28	3171	-590.6	-2.29	32.27
1037	SLU 2	88	46	3096	-579.23	-2.2	30.86
1037	SLU 3	96	29	3266	-606.82	-2.38	33.61
1037	SLU 4	94	40	3221	-600	-2.32	32.77
1037	SLU 5	91	47	3161	-590.22	-2.26	31.86
1037	SLU 6	99	30	3330	-617.81	-2.44	34.61
1037	SLU 7	97	41	3285	-610.99	-2.38	33.76
1037	SLU 8	98	30	3300	-612.58	-2.41	34.25
1037	SLU 9	96	41	3255	-605.76	-2.36	33.41
1037	SLU 10	97	49	3500	-647.83	-2.45	33.98
1037	SLU 11	105	32	3669	-675.42	-2.63	36.73
1037	SLU 12	103	43	3625	-668.6	-2.58	35.89
1037	SLU 13	100	50	3564	-658.82	-2.51	34.98
1037	SLU 14	108	33	3734	-686.41	-2.69	37.73
1037	SLU 15	106	44	3689	-679.59	-2.64	36.88
1037	SLU 16	107	33	3703	-681.18	-2.67	37.37
1037	SLU 17	105	44	3659	-674.36	-2.61	36.53
1037	SLU 18	105	33	3747	-688.6	-2.65	36.73
1037	SLU 19	103	43	3703	-681.77	-2.6	35.88
1037	SLU 20	108	33	3812	-699.59	-2.71	37.72
1037	SLU 21	106	44	3767	-692.77	-2.66	36.88
1037	SLU 22	107	31	3709	-682.05	-2.67	37.3
1037	SLU 23	103	49	3635	-670.68	-2.58	35.9
1037	SLU 24	111	32	3804	-698.27	-2.75	38.65
1037	SLU 25	108	43	3760	-691.45	-2.7	37.81
1037	SLU 26	106	50	3699	-681.67	-2.64	36.89
1037	SLU 27	114	33	3869	-709.26	-2.82	39.64
1037	SLU 28	111	43	3824	-702.44	-2.76	38.8
1037	SLU 29	113	32	3838	-704.04	-2.79	39.29
1037	SLU 30	110	43	3794	-697.22	-2.74	38.44
1037	SLU 31	112	52	4039	-739.28	-2.83	39.02
1037	SLU 32	120	35	4208	-766.87	-3.01	41.77
1037	SLU 33	117	46	4163	-760.05	-2.95	40.93
1037	SLU 34	115	53	4103	-750.27	-2.89	40.01
1037	SLU 35	123	36	4273	-777.86	-3.07	42.76
1037	SLU 36	120	46	4228	-771.04	-3.02	41.92
1037	SLU 37	122	35	4242	-772.64	-3.05	42.41
1037	SLU 38	119	46	4197	-765.81	-2.99	41.57
1037	SLU 39	120	35	4286	-780.05	-3.03	41.76
1037	SLU 40	117	46	4242	-773.23	-2.98	40.92
1037	SLU 41	123	36	4351	-791.04	-3.09	42.75
1037	SLU 42	120	47	4306	-784.22	-3.04	41.91
1037	SLU 43	115	36	3937	-736.42	-2.84	40.22
1037	SLU 44	111	54	3863	-725.05	-2.75	38.82
1037	SLU 45	119	37	4032	-752.64	-2.93	41.57
1037	SLU 46	117	48	3987	-745.82	-2.88	40.73
1037	SLU 47	114	55	3927	-736.05	-2.81	39.81
1037	SLU 48	122	38	4096	-763.63	-2.99	42.56
1037	SLU 49	120	49	4052	-756.81	-2.94	41.72
1037	SLU 50	121	38	4066	-758.41	-2.97	42.21
1037	SLU 51	119	49	4021	-751.59	-2.91	41.36
1037	SLU 52	120	57	4266	-793.65	-3.01	41.94
1037	SLU 53	128	40	4436	-821.24	-3.19	44.69
1037	SLU 54	126	51	4391	-814.42	-3.13	43.85
1037	SLU 55	123	58	4331	-804.65	-3.07	42.93
1037	SLU 56	131	41	4500	-832.23	-3.25	45.68
1037	SLU 57	129	52	4456	-825.41	-3.19	44.84
1037	SLU 58	130	41	4470	-827.01	-3.22	45.33
1037	SLU 59	128	52	4425	-820.19	-3.17	44.49
1037	SLU 60	128	40	4514	-834.42	-3.21	44.68
1037	SLU 61	126	51	4469	-827.6	-3.15	43.84
1037	SLU 62	131	41	4578	-845.41	-3.27	45.67
1037	SLU 63	129	52	4534	-838.59	-3.22	44.83
1037	SLU 64	130	38	4476	-827.87	-3.22	45.26
1037	SLU 65	126	57	4401	-816.5	-3.13	43.85
1037	SLU 66	134	39	4571	-844.09	-3.31	46.6
1037	SLU 67	131	50	4526	-837.27	-3.26	45.76
1037	SLU 68	129	57	4466	-827.5	-3.19	44.84
1037	SLU 69	137	40	4635	-855.09	-3.37	47.59
1037	SLU 70	134	51	4591	-848.27	-3.32	46.75
1037	SLU 71	136	40	4605	-849.86	-3.35	47.24
1037	SLU 72	133	51	4560	-843.04	-3.29	46.4
1037	SLU 73	135	59	4805	-885.1	-3.39	46.97
1037	SLU 74	143	42	4975	-912.69	-3.57	49.72
1037	SLU 75	140	53	4930	-905.87	-3.51	48.88
1037	SLU 76	138	60	4870	-896.1	-3.45	47.97
1037	SLU 77	146	43	5039	-923.69	-3.63	50.72
1037	SLU 78	143	54	4994	-916.86	-3.57	49.87



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1037	SLU 79	145	43	5009	-918.46	-3.6	50.36
1037	SLU 80	142	54	4964	-911.64	-3.55	49.52
1037	SLU 81	143	43	5053	-925.87	-3.59	49.72
1037	SLU 82	140	53	5008	-919.05	-3.53	48.87
1037	SLU 83	146	43	5117	-936.87	-3.65	50.71
1037	SLU 84	143	54	5072	-930.04	-3.59	49.87
1037	SLE RA 1	97	29	3325	-616.73	-2.4	33.71
1037	SLE RA 2	94	41	3275	-609.15	-2.34	32.77
1037	SLE RA 3	99	30	3388	-627.54	-2.45	34.6
1037	SLE RA 4	98	37	3358	-622.99	-2.42	34.04
1037	SLE RA 5	96	42	3318	-616.48	-2.38	33.43
1037	SLE RA 6	101	30	3431	-634.87	-2.5	35.27
1037	SLE RA 7	100	37	3401	-630.32	-2.46	34.7
1037	SLE RA 8	101	30	3411	-631.38	-2.48	35.03
1037	SLE RA 9	99	37	3381	-626.84	-2.44	34.47
1037	SLE RA 10	100	43	3544	-654.88	-2.51	34.85
1037	SLE RA 11	105	32	3657	-673.27	-2.62	36.68
1037	SLE RA 12	104	39	3627	-668.72	-2.59	36.12
1037	SLE RA 13	102	44	3587	-662.21	-2.55	35.51
1037	SLE RA 14	107	32	3700	-680.6	-2.67	37.35
1037	SLE RA 15	106	39	3670	-676.05	-2.63	36.78
1037	SLE RA 16	106	32	3680	-677.12	-2.65	37.11
1037	SLE RA 17	105	39	3650	-672.57	-2.61	36.55
1037	SLE RA 18	105	32	3709	-682.06	-2.64	36.68
1037	SLE RA 19	104	39	3679	-677.51	-2.6	36.12
1037	SLE RA 20	107	32	3752	-689.39	-2.68	37.34
1037	SLE RA 21	106	40	3722	-684.84	-2.64	36.78
1037	SLE FR 1	97	29	3325	-616.73	-2.4	33.71
1037	SLE FR 2	96	31	3315	-615.21	-2.38	33.52
1037	SLE FR 3	97	29	3342	-619.66	-2.41	33.97
1037	SLE FR 4	99	32	3430	-634.81	-2.46	34.41
1037	SLE FR 5	100	30	3457	-639.26	-2.49	34.86
1037	SLE FR 6	101	30	3517	-649.39	-2.52	35.19
1037	SLE QP 1	97	29	3325	-616.73	-2.4	33.71
1037	SLE QP 2	99	30	3440	-636.33	-2.47	34.6
1037	SLD 1	445	46	2302	-456.2	0.4	155.94
1037	SLD 2	379	132	2221	-443.56	0.56	132.97
1037	SLD 3	491	-145	3244	-601.49	-0.75	171.83
1037	SLD 4	425	-59	3163	-588.85	-0.59	148.86
1037	SLD 5	145	309	1685	-364.21	0.12	51.04
1037	SLD 6	102	366	1632	-355.86	0.22	35.87
1037	SLD 7	299	-328	4823	-848.51	-3.74	104.01
1037	SLD 8	255	-271	4770	-840.16	-3.63	88.84
1037	SLD 9	-56	330	2110	-432.49	-1.31	-19.64
1037	SLD 10	-100	388	2056	-424.14	-1.2	-34.81
1037	SLD 11	97	-306	5248	-916.79	-5.16	33.33
1037	SLD 12	53	-249	5195	-908.44	-5.06	18.16
1037	SLD 13	-227	118	3717	-683.8	-4.34	-79.66
1037	SLD 14	-293	205	3636	-671.16	-4.19	-102.63
1037	SLD 15	-181	-73	4659	-829.1	-5.5	-63.77
1037	SLD 16	-247	14	4578	-816.45	-5.34	-86.74
1037	SLV 1	640	60	1638	-351.2	2.04	224.26
1037	SLV 2	537	196	1512	-331.39	2.29	188.27
1037	SLV 3	715	-249	3161	-586.18	0.17	250.08
1037	SLV 4	611	-114	3034	-566.38	0.42	214.09
1037	SLV 5	167	482	614	-198.09	1.68	59.05
1037	SLV 6	98	574	529	-184.76	1.84	34.82
1037	SLV 7	417	-548	5689	-981.37	-4.56	145.12
1037	SLV 8	347	-457	5604	-968.04	-4.39	120.89
1037	SLV 9	-148	517	1276	-304.61	-0.54	-51.69
1037	SLV 10	-218	608	1191	-291.28	-0.38	-75.92
1037	SLV 11	101	-514	6351	-1087.9	-6.78	34.37
1037	SLV 12	31	-423	6266	-1074.56	-6.62	10.15
1037	SLV 13	-413	173	3846	-706.28	-5.36	-144.89
1037	SLV 14	-516	309	3719	-686.47	-5.11	-180.88
1037	SLV 15	-338	-136	5368	-941.26	-7.23	-119.07
1037	SLV 16	-442	0	5241	-921.45	-6.98	-155.06
1037	SLV FO 1	694	63	1458	-322.69	2.5	243.22
1037	SLV FO 2	580	212	1319	-300.9	2.77	203.64
1037	SLV FO 3	777	-277	3133	-581.17	0.44	271.63
1037	SLV FO 4	663	-128	2994	-559.38	0.71	232.04
1037	SLV FO 5	174	528	331	-154.27	2.09	61.5
1037	SLV FO 6	98	628	237	-139.6	2.28	34.84
1037	SLV FO 7	448	-606	5914	-1015.88	-4.77	156.17
1037	SLV FO 8	372	-505	5820	-1001.21	-4.59	129.52
1037	SLV FO 9	-173	565	1060	-271.44	-0.35	-60.32
1037	SLV FO 10	-250	666	966	-256.77	-0.17	-86.98
1037	SLV FO 11	101	-568	6642	-1133.05	-7.21	34.35
1037	SLV FO 12	24	-468	6548	-1118.38	-7.03	7.7
1037	SLV FO 13	-464	188	3886	-713.27	-5.65	-162.84
1037	SLV FO 14	-578	337	3747	-691.48	-5.38	-202.43
1037	SLV FO 15	-382	-152	5561	-971.75	-7.71	-134.44
1037	SLV FO 16	-496	-3	5422	-949.97	-7.43	-174.03
1037	CRTFP Ux+	0	0	0	0	0	0
1037	CRTFP Ux-	0	0	0	0	0	0
1037	CRTFP Uy+	0	0	0	0	0	0
1037	CRTFP Uy-	0	0	0	0	0	0
1038	SLU 1	93	23	3277	-652.05	-4.21	32.36
1038	SLU 2	89	42	3198	-638.81	-4.07	30.94



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1038	SLU 3	97	24	3375	-670.35	-4.36	33.71
1038	SLU 4	94	36	3329	-662.4	-4.27	32.86
1038	SLU 5	92	43	3266	-651.23	-4.17	31.94
1038	SLU 6	100	25	3443	-682.77	-4.46	34.71
1038	SLU 7	97	36	3396	-674.83	-4.38	33.86
1038	SLU 8	99	25	3411	-676.89	-4.42	34.36
1038	SLU 9	96	36	3364	-668.95	-4.33	33.51
1038	SLU 10	98	45	3615	-715.24	-4.59	34.07
1038	SLU 11	106	26	3792	-746.78	-4.88	36.84
1038	SLU 12	103	38	3745	-738.84	-4.8	35.99
1038	SLU 13	101	45	3682	-727.67	-4.7	35.07
1038	SLU 14	109	27	3859	-759.21	-4.99	37.84
1038	SLU 15	106	39	3812	-751.26	-4.9	36.99
1038	SLU 16	108	27	3828	-753.33	-4.94	37.48
1038	SLU 17	105	39	3781	-745.39	-4.86	36.63
1038	SLU 18	106	27	3872	-761.24	-4.96	36.82
1038	SLU 19	103	38	3825	-753.3	-4.87	35.97
1038	SLU 20	109	27	3939	-773.66	-5.06	37.82
1038	SLU 21	106	39	3892	-765.72	-4.98	36.97
1038	SLU 22	107	25	3834	-754.27	-4.95	37.41
1038	SLU 23	103	44	3755	-741.03	-4.81	36
1038	SLU 24	111	25	3933	-772.57	-5.1	38.77
1038	SLU 25	109	37	3886	-764.63	-5.01	37.92
1038	SLU 26	106	44	3823	-753.45	-4.91	36.99
1038	SLU 27	114	26	4000	-784.99	-5.2	39.76
1038	SLU 28	112	37	3953	-777.05	-5.12	38.91
1038	SLU 29	113	26	3968	-779.12	-5.16	39.41
1038	SLU 30	111	37	3921	-771.17	-5.07	38.56
1038	SLU 31	112	46	4172	-817.47	-5.33	39.12
1038	SLU 32	120	28	4349	-849	-5.62	41.89
1038	SLU 33	118	39	4302	-841.06	-5.54	41.04
1038	SLU 34	115	46	4239	-829.89	-5.44	40.12
1038	SLU 35	123	28	4416	-861.43	-5.73	42.89
1038	SLU 36	121	40	4369	-853.49	-5.64	42.04
1038	SLU 37	122	28	4385	-855.55	-5.68	42.53
1038	SLU 38	120	40	4338	-847.61	-5.6	41.68
1038	SLU 39	120	28	4429	-863.46	-5.7	41.88
1038	SLU 40	118	39	4382	-855.52	-5.61	41.03
1038	SLU 41	123	29	4496	-875.89	-5.8	42.87
1038	SLU 42	121	40	4449	-867.94	-5.72	42.02
1038	SLU 43	116	30	4069	-812.61	-5.21	40.34
1038	SLU 44	112	49	3990	-799.37	-5.07	38.92
1038	SLU 45	120	31	4167	-830.91	-5.37	41.69
1038	SLU 46	117	42	4120	-822.97	-5.28	40.84
1038	SLU 47	115	50	4058	-811.8	-5.18	39.92
1038	SLU 48	123	32	4235	-843.34	-5.47	42.69
1038	SLU 49	120	43	4188	-835.39	-5.39	41.84
1038	SLU 50	122	32	4203	-837.46	-5.42	42.33
1038	SLU 51	119	43	4156	-829.52	-5.34	41.48
1038	SLU 52	121	51	4407	-875.81	-5.6	42.04
1038	SLU 53	129	33	4584	-907.35	-5.89	44.81
1038	SLU 54	126	44	4537	-899.4	-5.81	43.97
1038	SLU 55	124	52	4474	-888.23	-5.7	43.04
1038	SLU 56	132	34	4651	-919.77	-6	45.81
1038	SLU 57	129	45	4604	-911.83	-5.91	44.96
1038	SLU 58	131	34	4620	-913.9	-5.95	45.46
1038	SLU 59	128	45	4573	-905.95	-5.87	44.61
1038	SLU 60	129	33	4664	-921.81	-5.96	44.8
1038	SLU 61	126	45	4617	-913.86	-5.88	43.95
1038	SLU 62	132	34	4731	-934.23	-6.07	45.8
1038	SLU 63	129	45	4684	-926.29	-5.98	44.95
1038	SLU 64	130	31	4626	-914.84	-5.95	45.39
1038	SLU 65	126	50	4547	-901.6	-5.81	43.97
1038	SLU 66	134	32	4725	-933.14	-6.11	46.74
1038	SLU 67	132	43	4678	-925.19	-6.02	45.89
1038	SLU 68	129	51	4615	-914.02	-5.92	44.97
1038	SLU 69	137	33	4792	-945.56	-6.21	47.74
1038	SLU 70	135	44	4745	-937.62	-6.13	46.89
1038	SLU 71	136	33	4760	-939.68	-6.16	47.38
1038	SLU 72	134	44	4713	-931.74	-6.08	46.53
1038	SLU 73	135	52	4964	-978.03	-6.34	47.1
1038	SLU 74	143	34	5141	-1009.57	-6.63	49.87
1038	SLU 75	141	46	5094	-1001.63	-6.55	49.02
1038	SLU 76	138	53	5031	-990.46	-6.44	48.09
1038	SLU 77	146	35	5208	-1021.99	-6.74	50.86
1038	SLU 78	144	46	5161	-1014.05	-6.65	50.02
1038	SLU 79	145	35	5177	-1016.12	-6.69	50.51
1038	SLU 80	143	46	5130	-1008.18	-6.61	49.66
1038	SLU 81	143	34	5221	-1024.03	-6.7	49.85
1038	SLU 82	141	46	5174	-1016.08	-6.62	49
1038	SLU 83	146	35	5288	-1036.45	-6.81	50.85
1038	SLU 84	144	47	5241	-1028.51	-6.72	50
1038	SLE RA 1	97	24	3436	-681.25	-4.42	33.8
1038	SLE RA 2	94	36	3384	-672.43	-4.32	32.86
1038	SLE RA 3	100	24	3502	-693.45	-4.52	34.71
1038	SLE RA 4	98	32	3470	-688.16	-4.46	34.14
1038	SLE RA 5	96	37	3428	-680.71	-4.39	33.52
1038	SLE RA 6	102	25	3547	-701.74	-4.59	35.37
1038	SLE RA 7	100	32	3515	-696.44	-4.53	34.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1038	SLE RA 8	101	25	3525	-697.82	-4.56	35.13
1038	SLE RA 9	99	32	3494	-692.52	-4.5	34.57
1038	SLE RA 10	100	38	3661	-723.38	-4.67	34.94
1038	SLE RA 11	106	26	3779	-744.41	-4.87	36.79
1038	SLE RA 12	104	33	3748	-739.11	-4.81	36.22
1038	SLE RA 13	102	38	3706	-731.67	-4.74	35.61
1038	SLE RA 14	108	26	3824	-752.69	-4.94	37.45
1038	SLE RA 15	106	34	3793	-747.4	-4.88	36.89
1038	SLE RA 16	107	26	3803	-748.78	-4.91	37.22
1038	SLE RA 17	105	34	3772	-743.48	-4.85	36.65
1038	SLE RA 18	106	26	3832	-754.05	-4.92	36.78
1038	SLE RA 19	104	33	3801	-748.75	-4.86	36.21
1038	SLE RA 20	108	26	3877	-762.33	-4.99	37.44
1038	SLE RA 21	106	34	3846	-757.04	-4.93	36.88
1038	SLE FR 1	97	24	3436	-681.25	-4.42	33.8
1038	SLE FR 2	97	26	3425	-679.49	-4.4	33.61
1038	SLE FR 3	98	24	3454	-684.57	-4.45	34.07
1038	SLE FR 4	99	27	3544	-701.33	-4.55	34.51
1038	SLE FR 5	100	25	3573	-706.4	-4.6	34.96
1038	SLE FR 6	101	25	3634	-717.65	-4.67	35.29
1038	SLE QP 1	97	24	3436	-681.25	-4.42	33.8
1038	SLE QP 2	100	24	3555	-703.09	-4.57	34.7
1038	SLD 1	445	39	2310	-479	-0.86	155.65
1038	SLD 2	379	131	2223	-463.66	-0.65	132.69
1038	SLD 3	491	-160	3299	-647.7	-2.63	171.7
1038	SLD 4	425	-68	3212	-632.36	-2.42	148.74
1038	SLD 5	144	314	1696	-382.77	-0.81	50.78
1038	SLD 6	101	375	1639	-372.64	-0.67	35.62
1038	SLD 7	300	-350	4994	-945.1	-6.71	104.27
1038	SLD 8	256	-289	4937	-934.97	-6.57	89.11
1038	SLD 9	-57	338	2173	-471.21	-2.56	-19.72
1038	SLD 10	-100	399	2115	-461.09	-2.42	-34.88
1038	SLD 11	99	-326	5471	-1033.54	-8.47	33.77
1038	SLD 12	55	-265	5413	-1023.42	-8.33	18.61
1038	SLD 13	-226	117	3898	-773.82	-6.71	-79.35
1038	SLD 14	-292	209	3811	-758.49	-6.5	-102.31
1038	SLD 15	-179	-82	4887	-942.52	-8.49	-63.3
1038	SLD 16	-245	10	4800	-927.18	-8.27	-86.26
1038	SLV 1	639	53	1584	-348.73	1.26	223.75
1038	SLV 2	535	197	1448	-324.7	1.6	187.78
1038	SLV 3	715	-270	3184	-621.58	-1.6	249.83
1038	SLV 4	611	-126	3048	-597.55	-1.27	213.85
1038	SLV 5	166	495	563	-187.45	1.46	58.59
1038	SLV 6	96	592	471	-171.27	1.69	34.37
1038	SLV 7	418	-580	5895	-1096.94	-8.08	145.49
1038	SLV 8	349	-483	5804	-1080.76	-7.86	121.27
1038	SLV 9	-149	532	1306	-325.42	-1.27	-51.88
1038	SLV 10	-219	629	1214	-309.24	-1.05	-76.1
1038	SLV 11	103	-543	6639	-1234.91	-10.82	35.03
1038	SLV 12	33	-446	6547	-1218.73	-10.6	10.81
1038	SLV 13	-412	175	4062	-808.63	-7.87	-144.46
1038	SLV 14	-515	319	3925	-784.6	-7.53	-180.43
1038	SLV 15	-336	-148	5661	-1081.48	-10.73	-118.39
1038	SLV 16	-440	-4	5525	-1057.45	-10.4	-154.36
1038	SLV FO 1	693	55	1387	-313.3	1.85	242.66
1038	SLV FO 2	579	214	1238	-286.86	2.21	203.09
1038	SLV FO 3	776	-299	3147	-613.43	-1.3	271.34
1038	SLV FO 4	662	-141	2997	-586.99	-0.94	231.77
1038	SLV FO 5	172	542	263	-135.88	2.07	60.97
1038	SLV FO 6	96	649	163	-118.09	2.31	34.33
1038	SLV FO 7	450	-640	6130	-1136.33	-8.43	156.57
1038	SLV FO 8	374	-534	6029	-1118.53	-8.19	129.93
1038	SLV FO 9	-174	583	1081	-287.65	-0.95	-60.54
1038	SLV FO 10	-251	689	980	-269.85	-0.7	-87.18
1038	SLV FO 11	104	-600	6947	-1288.1	-11.45	35.06
1038	SLV FO 12	27	-493	6846	-1270.3	-11.2	8.42
1038	SLV FO 13	-463	190	4112	-819.19	-8.2	-162.37
1038	SLV FO 14	-577	348	3962	-792.75	-7.83	-201.95
1038	SLV FO 15	-380	-165	5872	-1119.32	-11.35	-133.7
1038	SLV FO 16	-493	-7	5722	-1092.89	-10.98	-173.27
1038	CRTFP Ux+	0	0	0	0	0	0
1038	CRTFP Ux-	0	0	0	0	0	0
1038	CRTFP Uy+	0	0	0	0	0	0
1038	CRTFP Uy-	0	0	0	0	0	0
1039	SLU 1	93	18	3446	-760.9	-6.14	32.38
1039	SLU 2	89	37	3362	-744.65	-5.95	30.95
1039	SLU 3	97	18	3551	-782.85	-6.35	33.74
1039	SLU 4	94	30	3500	-773.1	-6.24	32.88
1039	SLU 5	92	38	3433	-759.57	-6.1	31.95
1039	SLU 6	100	19	3622	-797.76	-6.5	34.74
1039	SLU 7	97	31	3572	-788.01	-6.39	33.88
1039	SLU 8	99	19	3588	-790.73	-6.43	34.38
1039	SLU 9	96	31	3538	-780.98	-6.32	33.52
1039	SLU 10	98	39	3800	-835.56	-6.74	34.07
1039	SLU 11	106	19	3989	-873.76	-7.15	36.86
1039	SLU 12	103	31	3938	-864	-7.03	36
1039	SLU 13	101	39	3872	-850.47	-6.89	35.07
1039	SLU 14	109	20	4060	-888.67	-7.3	37.86
1039	SLU 15	106	32	4010	-878.92	-7.18	37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1039	SLU 16	108	20	4027	-881.64	-7.23	37.5
1039	SLU 17	105	32	3976	-871.89	-7.11	36.64
1039	SLU 18	106	20	4072	-890.77	-7.27	36.84
1039	SLU 19	103	32	4021	-881.02	-7.16	35.98
1039	SLU 20	109	20	4143	-905.69	-7.42	37.84
1039	SLU 21	106	32	4093	-895.94	-7.31	36.98
1039	SLU 22	108	17	4033	-882.73	-7.24	37.44
1039	SLU 23	103	37	3949	-866.48	-7.05	36.01
1039	SLU 24	112	18	4138	-904.68	-7.45	38.8
1039	SLU 25	109	30	4088	-894.93	-7.34	37.94
1039	SLU 26	106	38	4021	-881.4	-7.2	37.01
1039	SLU 27	114	18	4209	-919.59	-7.6	39.8
1039	SLU 28	112	30	4159	-909.84	-7.49	38.94
1039	SLU 29	113	19	4176	-912.56	-7.53	39.44
1039	SLU 30	111	30	4125	-902.81	-7.42	38.58
1039	SLU 31	112	39	4387	-957.39	-7.84	39.13
1039	SLU 32	121	19	4576	-995.58	-8.25	41.92
1039	SLU 33	118	31	4526	-985.83	-8.13	41.06
1039	SLU 34	115	39	4459	-972.3	-7.99	40.13
1039	SLU 35	123	20	4647	-1010.5	-8.4	42.92
1039	SLU 36	121	32	4597	-1000.75	-8.28	42.06
1039	SLU 37	122	20	4614	-1003.47	-8.33	42.56
1039	SLU 38	120	32	4564	-993.72	-8.22	41.7
1039	SLU 39	120	19	4659	-1012.6	-8.37	41.9
1039	SLU 40	118	31	4609	-1002.85	-8.26	41.04
1039	SLU 41	123	20	4730	-1027.52	-8.52	42.9
1039	SLU 42	121	32	4680	-1017.77	-8.41	42.04
1039	SLU 43	116	23	4278	-947.41	-7.6	40.36
1039	SLU 44	112	43	4194	-931.16	-7.41	38.93
1039	SLU 45	120	23	4383	-969.35	-7.82	41.72
1039	SLU 46	117	35	4333	-959.6	-7.7	40.86
1039	SLU 47	115	43	4266	-946.07	-7.56	39.93
1039	SLU 48	123	24	4454	-984.26	-7.96	42.72
1039	SLU 49	120	36	4404	-974.51	-7.85	41.86
1039	SLU 50	122	24	4421	-977.23	-7.9	42.36
1039	SLU 51	119	36	4371	-967.48	-7.78	41.5
1039	SLU 52	121	44	4633	-1022.06	-8.2	42.05
1039	SLU 53	129	25	4821	-1060.26	-8.61	44.84
1039	SLU 54	126	37	4771	-1050.51	-8.5	43.98
1039	SLU 55	124	45	4704	-1036.98	-8.35	43.05
1039	SLU 56	132	25	4892	-1075.17	-8.76	45.84
1039	SLU 57	129	37	4842	-1065.42	-8.65	44.98
1039	SLU 58	131	26	4859	-1068.14	-8.69	45.48
1039	SLU 59	128	38	4809	-1058.39	-8.58	44.62
1039	SLU 60	129	25	4904	-1077.28	-8.73	44.82
1039	SLU 61	126	37	4854	-1067.53	-8.62	43.96
1039	SLU 62	132	26	4975	-1092.19	-8.88	45.82
1039	SLU 63	129	38	4925	-1082.44	-8.77	44.96
1039	SLU 64	131	23	4865	-1069.24	-8.7	45.42
1039	SLU 65	126	43	4782	-1052.99	-8.51	43.99
1039	SLU 66	134	23	4970	-1091.18	-8.92	46.77
1039	SLU 67	132	35	4920	-1081.43	-8.8	45.92
1039	SLU 68	129	43	4853	-1067.9	-8.66	44.99
1039	SLU 69	137	24	5042	-1106.09	-9.07	47.77
1039	SLU 70	135	36	4991	-1096.34	-8.95	46.92
1039	SLU 71	136	24	5008	-1099.06	-9	47.42
1039	SLU 72	134	36	4958	-1089.31	-8.88	46.56
1039	SLU 73	135	44	5220	-1143.89	-9.31	47.11
1039	SLU 74	143	25	5408	-1182.09	-9.71	49.9
1039	SLU 75	141	36	5358	-1172.34	-9.6	49.04
1039	SLU 76	138	45	5291	-1158.81	-9.45	48.11
1039	SLU 77	146	25	5480	-1197	-9.86	50.9
1039	SLU 78	144	37	5429	-1187.25	-9.75	50.04
1039	SLU 79	145	25	5446	-1189.97	-9.79	50.54
1039	SLU 80	143	37	5396	-1180.22	-9.68	49.68
1039	SLU 81	143	25	5491	-1199.11	-9.83	49.87
1039	SLU 82	141	37	5441	-1189.36	-9.72	49.02
1039	SLU 83	146	25	5562	-1214.02	-9.98	50.87
1039	SLU 84	144	37	5512	-1204.27	-9.87	50.02
1039	SLE RA 1	97	18	3613	-795.71	-6.45	33.82
1039	SLE RA 2	94	31	3558	-784.88	-6.32	32.87
1039	SLE RA 3	100	18	3683	-810.34	-6.59	34.73
1039	SLE RA 4	98	26	3650	-803.84	-6.52	34.16
1039	SLE RA 5	96	31	3605	-794.82	-6.42	33.54
1039	SLE RA 6	102	18	3731	-820.28	-6.69	35.4
1039	SLE RA 7	100	26	3698	-813.78	-6.62	34.83
1039	SLE RA 8	101	18	3709	-815.6	-6.65	35.16
1039	SLE RA 9	99	26	3675	-809.09	-6.57	34.59
1039	SLE RA 10	100	32	3850	-845.49	-6.85	34.95
1039	SLE RA 11	106	19	3975	-870.95	-7.12	36.81
1039	SLE RA 12	104	27	3942	-864.45	-7.05	36.24
1039	SLE RA 13	102	32	3897	-855.43	-6.95	35.62
1039	SLE RA 14	108	19	4023	-880.89	-7.22	37.48
1039	SLE RA 15	106	27	3990	-874.39	-7.15	36.91
1039	SLE RA 16	107	19	4001	-876.2	-7.18	37.24
1039	SLE RA 17	105	27	3967	-869.7	-7.1	36.67
1039	SLE RA 18	106	19	4031	-882.29	-7.21	36.8
1039	SLE RA 19	104	27	3997	-875.79	-7.13	36.23
1039	SLE RA 20	108	19	4078	-892.23	-7.31	37.46



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1039	SLE RA 21	106	27	4045	-885.73	-7.23	36.89
1039	SLE FR 1	97	18	3613	-795.71	-6.45	33.82
1039	SLE FR 2	97	20	3602	-793.55	-6.42	33.63
1039	SLE FR 3	98	18	3633	-799.69	-6.49	34.09
1039	SLE FR 4	99	21	3727	-819.52	-6.65	34.53
1039	SLE FR 5	101	18	3758	-825.66	-6.72	34.98
1039	SLE FR 6	102	18	3822	-839	-6.83	35.31
1039	SLE QP 1	97	18	3613	-795.71	-6.45	33.82
1039	SLE QP 2	100	18	3739	-821.69	-6.68	34.72
1039	SLD 1	444	31	2359	-533.91	-2.13	155.29
1039	SLD 2	378	129	2264	-514.61	-1.86	132.34
1039	SLD 3	491	-178	3416	-740.5	-4.51	171.46
1039	SLD 4	425	-80	3321	-721.2	-4.24	148.51
1039	SLD 5	143	321	1738	-425.5	-1.75	50.49
1039	SLD 6	100	386	1676	-412.75	-1.58	35.33
1039	SLD 7	300	-375	5262	-1114.14	-9.68	104.41
1039	SLD 8	257	-311	5200	-1101.4	-9.51	89.26
1039	SLD 9	-57	346	2278	-541.98	-3.85	-19.82
1039	SLD 10	-101	411	2215	-529.23	-3.67	-34.98
1039	SLD 11	100	-350	5801	-1230.62	-11.78	34.1
1039	SLD 12	56	-285	5739	-1217.88	-11.6	18.94
1039	SLD 13	-225	116	4156	-922.17	-9.11	-79.08
1039	SLD 14	-291	214	4061	-902.87	-8.84	-102.03
1039	SLD 15	-178	-93	5213	-1128.77	-11.49	-62.91
1039	SLD 16	-244	5	5119	-1109.47	-11.22	-85.85
1039	SLV 1	637	44	1556	-366.92	0.48	223.17
1039	SLV 2	534	197	1408	-336.69	0.9	187.21
1039	SLV 3	714	-294	3266	-701.06	-3.37	249.45
1039	SLV 4	610	-141	3117	-670.82	-2.95	213.49
1039	SLV 5	164	510	519	-184.13	1.23	58.1
1039	SLV 6	95	613	419	-163.77	1.51	33.89
1039	SLV 7	419	-617	6217	-1297.91	-11.6	145.7
1039	SLV 8	350	-514	6117	-1277.55	-11.31	121.5
1039	SLV 9	-150	550	1360	-365.82	-2.04	-52.07
1039	SLV 10	-220	653	1260	-345.46	-1.76	-76.27
1039	SLV 11	105	-578	7059	-1479.6	-14.86	35.54
1039	SLV 12	35	-474	6959	-1459.24	-14.58	11.33
1039	SLV 13	-411	177	4360	-972.55	-10.41	-144.06
1039	SLV 14	-514	330	4212	-942.32	-9.99	-180.02
1039	SLV 15	-334	-162	6070	-1306.69	-14.25	-117.78
1039	SLV 16	-438	-8	5921	-1276.45	-13.84	-153.74
1039	SLV FO 1	691	47	1338	-321.45	1.2	242.01
1039	SLV FO 2	577	215	1175	-288.19	1.66	202.46
1039	SLV FO 3	775	-325	3218	-688.99	-3.03	270.92
1039	SLV FO 4	661	-157	3055	-655.73	-2.57	231.37
1039	SLV FO 5	171	559	197	-120.37	2.02	60.44
1039	SLV FO 6	94	673	87	-97.98	2.33	33.81
1039	SLV FO 7	451	-681	6465	-1345.53	-12.09	156.8
1039	SLV FO 8	375	-567	6355	-1323.14	-11.78	130.17
1039	SLV FO 9	-175	603	1122	-320.23	-1.58	-60.74
1039	SLV FO 10	-252	717	1012	-297.84	-1.27	-87.37
1039	SLV FO 11	106	-637	7391	-1545.39	-15.68	35.62
1039	SLV FO 12	29	-524	7281	-1523	-15.37	8.99
1039	SLV FO 13	-462	193	4422	-987.64	-10.78	-161.94
1039	SLV FO 14	-576	361	4259	-954.38	-10.32	-201.49
1039	SLV FO 15	-378	-179	6303	-1355.19	-15.01	-133.03
1039	SLV FO 16	-492	-11	6139	-1321.93	-14.55	-172.58
1039	CRTFP Ux+	0	0	0	0	0	0
1039	CRTFP Ux-	0	0	0	0	0	0
1039	CRTFP Uy+	0	0	0	0	0	0
1039	CRTFP Uy-	0	0	0	0	0	0
1040	SLU 1	93	11	3677	-918.11	-7.97	32.32
1040	SLU 2	89	32	3586	-897.7	-7.74	30.89
1040	SLU 3	97	11	3790	-945.28	-8.25	33.68
1040	SLU 4	94	24	3735	-933.03	-8.11	32.82
1040	SLU 5	92	32	3663	-916.18	-7.93	31.89
1040	SLU 6	100	11	3867	-963.75	-8.44	34.68
1040	SLU 7	97	24	3812	-951.51	-8.3	33.82
1040	SLU 8	99	12	3830	-955.05	-8.35	34.32
1040	SLU 9	96	24	3776	-942.81	-8.21	33.46
1040	SLU 10	98	32	4054	-1009.84	-8.79	34
1040	SLU 11	106	12	4258	-1057.41	-9.3	36.79
1040	SLU 12	103	24	4204	-1045.17	-9.16	35.93
1040	SLU 13	101	33	4131	-1028.31	-8.98	35
1040	SLU 14	109	12	4335	-1075.88	-9.49	37.79
1040	SLU 15	106	24	4280	-1063.64	-9.35	36.93
1040	SLU 16	108	12	4299	-1067.19	-9.4	37.43
1040	SLU 17	105	25	4244	-1054.95	-9.26	36.57
1040	SLU 18	106	12	4346	-1078.3	-9.47	36.77
1040	SLU 19	103	24	4291	-1066.06	-9.33	35.91
1040	SLU 20	109	12	4423	-1096.78	-9.66	37.77
1040	SLU 21	106	25	4368	-1084.53	-9.52	36.91
1040	SLU 22	108	9	4305	-1068.52	-9.41	37.38
1040	SLU 23	103	30	4215	-1048.12	-9.18	35.94
1040	SLU 24	111	9	4418	-1095.69	-9.69	38.74
1040	SLU 25	109	22	4364	-1083.45	-9.55	37.88
1040	SLU 26	106	30	4292	-1066.59	-9.37	36.94
1040	SLU 27	114	10	4495	-1114.16	-9.88	39.74
1040	SLU 28	112	22	4441	-1101.92	-9.74	38.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1040	SLU 29	113	10	4459	-1105.47	-9.79	39.38
1040	SLU 30	111	22	4405	-1093.22	-9.65	38.52
1040	SLU 31	112	30	4683	-1160.25	-10.23	39.05
1040	SLU 32	120	10	4887	-1207.83	-10.74	41.85
1040	SLU 33	118	22	4832	-1195.58	-10.6	40.99
1040	SLU 34	115	31	4760	-1178.72	-10.42	40.05
1040	SLU 35	123	10	4964	-1226.3	-10.93	42.85
1040	SLU 36	121	23	4909	-1214.05	-10.79	41.99
1040	SLU 37	122	10	4928	-1217.6	-10.84	42.49
1040	SLU 38	120	23	4873	-1205.36	-10.7	41.63
1040	SLU 39	120	10	4974	-1228.72	-10.91	41.82
1040	SLU 40	118	22	4920	-1216.47	-10.77	40.96
1040	SLU 41	123	10	5051	-1247.19	-11.1	42.82
1040	SLU 42	121	23	4997	-1234.94	-10.96	41.96
1040	SLU 43	116	15	4564	-1141.97	-9.86	40.29
1040	SLU 44	112	36	4473	-1121.57	-9.63	38.85
1040	SLU 45	120	15	4677	-1169.14	-10.14	41.65
1040	SLU 46	117	27	4623	-1156.9	-10	40.79
1040	SLU 47	115	36	4550	-1140.04	-9.82	39.85
1040	SLU 48	123	15	4754	-1187.61	-10.33	42.65
1040	SLU 49	120	28	4700	-1175.37	-10.19	41.79
1040	SLU 50	122	16	4718	-1178.92	-10.24	42.29
1040	SLU 51	119	28	4664	-1166.67	-10.11	41.43
1040	SLU 52	121	36	4942	-1233.7	-10.68	41.96
1040	SLU 53	129	16	5145	-1281.28	-11.19	44.76
1040	SLU 54	126	28	5091	-1269.03	-11.05	43.9
1040	SLU 55	124	37	5019	-1252.17	-10.87	42.96
1040	SLU 56	132	16	5222	-1299.75	-11.38	45.76
1040	SLU 57	129	28	5168	-1287.5	-11.24	44.9
1040	SLU 58	131	16	5186	-1291.05	-11.29	45.4
1040	SLU 59	128	29	5132	-1278.81	-11.16	44.54
1040	SLU 60	129	16	5233	-1302.17	-11.36	44.73
1040	SLU 61	126	28	5179	-1289.92	-11.22	43.87
1040	SLU 62	132	16	5310	-1320.64	-11.55	45.73
1040	SLU 63	129	29	5256	-1308.4	-11.41	44.87
1040	SLU 64	130	13	5193	-1292.39	-11.31	45.34
1040	SLU 65	126	34	5102	-1271.98	-11.07	43.91
1040	SLU 66	134	13	5306	-1319.55	-11.58	46.7
1040	SLU 67	132	26	5251	-1307.31	-11.44	45.84
1040	SLU 68	129	34	5179	-1290.45	-11.26	44.91
1040	SLU 69	137	14	5383	-1338.03	-11.77	47.7
1040	SLU 70	135	26	5328	-1325.78	-11.64	46.84
1040	SLU 71	136	14	5347	-1329.33	-11.69	47.34
1040	SLU 72	134	26	5292	-1317.09	-11.55	46.48
1040	SLU 73	135	34	5571	-1384.12	-12.12	47.02
1040	SLU 74	143	14	5774	-1431.69	-12.63	49.81
1040	SLU 75	141	26	5720	-1419.45	-12.49	48.95
1040	SLU 76	138	35	5647	-1402.59	-12.31	48.02
1040	SLU 77	146	14	5851	-1450.16	-12.82	50.81
1040	SLU 78	144	27	5797	-1437.92	-12.68	49.95
1040	SLU 79	145	14	5815	-1441.46	-12.74	50.45
1040	SLU 80	143	27	5761	-1429.22	-12.6	49.59
1040	SLU 81	143	14	5862	-1452.58	-12.81	49.79
1040	SLU 82	141	26	5807	-1440.34	-12.67	48.92
1040	SLU 83	146	14	5939	-1471.05	-13	50.78
1040	SLU 84	144	27	5884	-1458.81	-12.86	49.92
1040	SLE RA 1	97	10	3856	-961.09	-8.38	33.77
1040	SLE RA 2	94	24	3796	-947.48	-8.23	32.81
1040	SLE RA 3	100	10	3932	-979.2	-8.57	34.67
1040	SLE RA 4	98	19	3895	-971.03	-8.47	34.1
1040	SLE RA 5	96	25	3847	-959.8	-8.35	33.48
1040	SLE RA 6	102	11	3983	-991.51	-8.69	35.34
1040	SLE RA 7	100	19	3947	-983.35	-8.6	34.77
1040	SLE RA 8	101	11	3959	-985.71	-8.63	35.1
1040	SLE RA 9	99	19	3923	-977.55	-8.54	34.53
1040	SLE RA 10	100	25	4108	-1022.24	-8.93	34.88
1040	SLE RA 11	106	11	4244	-1053.95	-9.27	36.75
1040	SLE RA 12	104	19	4208	-1045.79	-9.17	36.17
1040	SLE RA 13	102	25	4159	-1034.55	-9.05	35.55
1040	SLE RA 14	108	11	4295	-1066.27	-9.39	37.41
1040	SLE RA 15	106	19	4259	-1058.11	-9.3	36.84
1040	SLE RA 16	107	11	4271	-1060.47	-9.33	37.17
1040	SLE RA 17	105	20	4235	-1052.31	-9.24	36.6
1040	SLE RA 18	106	11	4302	-1067.88	-9.38	36.73
1040	SLE RA 19	104	19	4266	-1059.72	-9.29	36.16
1040	SLE RA 20	108	11	4354	-1080.2	-9.51	37.4
1040	SLE RA 21	106	20	4317	-1072.03	-9.41	36.82
1040	SLE FR 1	97	10	3856	-961.09	-8.38	33.77
1040	SLE FR 2	97	13	3844	-958.36	-8.35	33.58
1040	SLE FR 3	98	11	3877	-966.01	-8.43	34.03
1040	SLE FR 4	99	13	3978	-990.4	-8.65	34.47
1040	SLE FR 5	100	11	4011	-998.05	-8.73	34.92
1040	SLE FR 6	101	11	4079	-1014.48	-8.88	35.25
1040	SLE QP 1	97	10	3856	-961.09	-8.38	33.77
1040	SLE QP 2	100	11	3990	-993.12	-8.68	34.66
1040	SLD 1	443	114	2448	-621.25	-3.33	154.85
1040	SLD 2	377	218	2344	-596.73	-3.01	131.91
1040	SLD 3	490	-106	3593	-880.24	-6.28	171.13
1040	SLD 4	424	-1	3488	-855.72	-5.96	148.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1040	SLD 5	143	355	1811	-493.18	-2.67	50.14
1040	SLD 6	99	424	1742	-476.99	-2.46	35
1040	SLD 7	301	-376	5625	-1356.47	-12.48	104.43
1040	SLD 8	257	-307	5556	-1340.29	-12.27	89.29
1040	SLD 9	-58	328	2424	-645.96	-5.09	-19.97
1040	SLD 10	-101	397	2355	-629.77	-4.88	-35.12
1040	SLD 11	101	-403	6238	-1509.26	-14.9	34.32
1040	SLD 12	57	-334	6169	-1493.07	-14.69	19.17
1040	SLD 13	-225	22	4492	-1130.53	-11.4	-78.88
1040	SLD 14	-291	127	4388	-1106.01	-11.08	-101.82
1040	SLD 15	-177	-197	5636	-1389.52	-14.35	-62.59
1040	SLD 16	-243	-93	5532	-1365	-14.03	-85.53
1040	SLV 1	636	178	1553	-405.71	-0.26	222.51
1040	SLV 2	532	341	1389	-367.29	0.24	186.57
1040	SLV 3	713	-177	3403	-824.57	-5.02	248.97
1040	SLV 4	609	-14	3240	-786.16	-4.52	213.03
1040	SLV 5	163	569	483	-188.78	0.98	57.59
1040	SLV 6	93	679	373	-162.92	1.31	33.39
1040	SLV 7	420	-615	6651	-1585.01	-14.9	145.79
1040	SLV 8	350	-505	6541	-1559.15	-14.56	121.59
1040	SLV 9	-151	526	1439	-427.1	-2.8	-52.28
1040	SLV 10	-221	636	1329	-401.24	-2.46	-76.47
1040	SLV 11	106	-658	7607	-1823.33	-18.67	35.92
1040	SLV 12	36	-548	7497	-1797.46	-18.34	11.72
1040	SLV 13	-410	35	4740	-1200.09	-12.84	-143.71
1040	SLV 14	-514	199	4577	-1161.67	-12.34	-179.65
1040	SLV 15	-333	-320	6591	-1618.96	-17.6	-117.26
1040	SLV 16	-436	-157	6427	-1580.54	-17.1	-153.2
1040	SLV FO 1	689	195	1309	-346.96	0.58	241.29
1040	SLV FO 2	575	374	1129	-304.71	1.13	201.76
1040	SLV FO 3	774	-196	3345	-807.72	-4.65	270.4
1040	SLV FO 4	660	-16	3165	-765.47	-4.1	230.86
1040	SLV FO 5	169	625	132	-108.35	1.94	59.88
1040	SLV FO 6	93	746	11	-79.9	2.31	33.27
1040	SLV FO 7	452	-678	6917	-1644.2	-15.52	156.9
1040	SLV FO 8	375	-557	6796	-1615.75	-15.15	130.28
1040	SLV FO 9	-176	578	1184	-370.5	-2.21	-60.97
1040	SLV FO 10	-253	699	1063	-342.05	-1.84	-87.59
1040	SLV FO 11	107	-725	7969	-1906.35	-19.67	36.05
1040	SLV FO 12	30	-604	7848	-1877.9	-19.3	9.43
1040	SLV FO 13	-461	38	4815	-1220.78	-13.26	-161.55
1040	SLV FO 14	-575	217	4636	-1178.53	-12.71	-201.09
1040	SLV FO 15	-376	-353	6851	-1681.54	-18.49	-132.45
1040	SLV FO 16	-490	-173	6671	-1639.28	-17.95	-171.98
1040	CRTFP Ux+	0	0	0	0	0	0
1040	CRTFP Ux-	0	0	0	0	0	0
1040	CRTFP Uy+	0	0	0	0	0	0
1040	CRTFP Uy-	0	0	0	0	0	0
1041	SLU 1	79	4	3350	-943.6	87.72	27.35
1041	SLU 2	75	22	3267	-922.1	85.55	25.6
1041	SLU 3	82	3	3454	-972.07	90.41	28.52
1041	SLU 4	80	14	3404	-959.18	89.12	27.47
1041	SLU 5	78	22	3338	-941.46	87.39	26.45
1041	SLU 6	85	3	3525	-991.44	92.25	29.36
1041	SLU 7	82	15	3475	-978.54	90.95	28.31
1041	SLU 8	84	4	3492	-982.32	91.39	29.04
1041	SLU 9	82	15	3442	-969.43	90.09	27.99
1041	SLU 10	83	22	3695	-1039.63	96.72	28.25
1041	SLU 11	90	3	3882	-1089.6	101.59	31.16
1041	SLU 12	88	14	3832	-1076.71	100.29	30.11
1041	SLU 13	85	22	3765	-1059	98.56	29.09
1041	SLU 14	92	3	3953	-1108.97	103.42	32.01
1041	SLU 15	90	14	3903	-1096.07	102.13	30.96
1041	SLU 16	91	4	3920	-1099.85	102.56	31.69
1041	SLU 17	89	15	3870	-1086.96	101.26	30.64
1041	SLU 18	90	3	3961	-1111.5	103.67	31.13
1041	SLU 19	88	14	3911	-1098.6	102.38	30.08
1041	SLU 20	92	3	4032	-1130.86	105.51	31.97
1041	SLU 21	90	14	3982	-1117.97	104.21	30.93
1041	SLU 22	91	1	3926	-1101.23	102.72	31.73
1041	SLU 23	88	19	3842	-1079.73	100.56	29.98
1041	SLU 24	95	0	4029	-1129.7	105.42	32.89
1041	SLU 25	92	12	3979	-1116.8	104.12	31.84
1041	SLU 26	90	19	3913	-1099.09	102.39	30.83
1041	SLU 27	97	1	4100	-1149.06	107.26	33.74
1041	SLU 28	95	12	4050	-1136.17	105.96	32.69
1041	SLU 29	96	1	4067	-1139.95	106.4	33.42
1041	SLU 30	94	12	4017	-1127.05	105.1	32.37
1041	SLU 31	95	19	4270	-1197.26	111.73	32.62
1041	SLU 32	102	0	4457	-1247.23	116.59	35.54
1041	SLU 33	100	11	4407	-1234.34	115.29	34.49
1041	SLU 34	98	19	4341	-1216.63	113.57	33.47
1041	SLU 35	105	0	4528	-1266.6	118.43	36.38
1041	SLU 36	102	11	4478	-1253.7	117.13	35.33
1041	SLU 37	104	1	4495	-1257.48	117.57	36.06
1041	SLU 38	102	12	4445	-1244.59	116.27	35.02
1041	SLU 39	102	0	4537	-1269.13	118.68	35.51
1041	SLU 40	100	11	4487	-1256.23	117.38	34.46
1041	SLU 41	104	1	4608	-1288.49	120.52	36.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1041	SLU 42	102	12	4557	-1275.59	119.22	35.3
1041	SLU 43	98	6	4158	-1172.63	108.89	34.05
1041	SLU 44	95	24	4075	-1151.14	106.72	32.31
1041	SLU 45	102	5	4262	-1201.11	111.58	35.22
1041	SLU 46	99	16	4212	-1188.21	110.29	34.17
1041	SLU 47	97	24	4145	-1170.5	108.56	33.15
1041	SLU 48	104	6	4333	-1220.47	113.42	36.06
1041	SLU 49	102	17	4283	-1207.57	112.12	35.02
1041	SLU 50	103	6	4300	-1211.36	112.56	35.75
1041	SLU 51	101	17	4250	-1198.46	111.26	34.7
1041	SLU 52	102	24	4503	-1268.67	117.89	34.95
1041	SLU 53	109	5	4690	-1318.64	122.76	37.86
1041	SLU 54	107	16	4640	-1305.74	121.46	36.81
1041	SLU 55	105	24	4573	-1288.03	119.73	35.8
1041	SLU 56	112	5	4761	-1338	124.59	38.71
1041	SLU 57	109	16	4711	-1325.11	123.29	37.66
1041	SLU 58	111	6	4727	-1328.89	123.73	38.39
1041	SLU 59	109	17	4677	-1315.99	122.43	37.34
1041	SLU 60	109	5	4769	-1340.53	124.84	37.83
1041	SLU 61	107	16	4719	-1327.64	123.55	36.78
1041	SLU 62	112	5	4840	-1359.9	126.68	38.68
1041	SLU 63	109	16	4790	-1347	125.38	37.63
1041	SLU 64	111	3	4733	-1330.26	123.89	38.43
1041	SLU 65	107	21	4650	-1308.77	121.73	36.68
1041	SLU 66	114	3	4837	-1358.74	126.59	39.6
1041	SLU 67	112	14	4787	-1345.84	125.29	38.55
1041	SLU 68	109	21	4721	-1328.13	123.56	37.53
1041	SLU 69	116	3	4908	-1378.1	128.43	40.44
1041	SLU 70	114	14	4858	-1365.2	127.13	39.39
1041	SLU 71	116	3	4875	-1368.99	127.57	40.12
1041	SLU 72	113	14	4825	-1356.09	126.27	39.07
1041	SLU 73	115	21	5078	-1426.3	132.9	39.33
1041	SLU 74	122	2	5265	-1476.27	137.76	42.24
1041	SLU 75	119	13	5215	-1463.37	136.46	41.19
1041	SLU 76	117	21	5149	-1445.66	134.74	40.17
1041	SLU 77	124	2	5336	-1495.63	139.6	43.09
1041	SLU 78	122	13	5286	-1482.73	138.3	42.04
1041	SLU 79	123	3	5303	-1486.52	138.74	42.77
1041	SLU 80	121	14	5253	-1473.62	137.44	41.72
1041	SLU 81	121	2	5345	-1498.16	139.85	42.21
1041	SLU 82	119	14	5295	-1485.27	138.55	41.16
1041	SLU 83	124	3	5415	-1517.53	141.69	43.06
1041	SLU 84	122	14	5365	-1504.63	140.39	42.01
1041	SLE RA 1	82	3	3515	-988.63	92	28.6
1041	SLE RA 2	80	15	3459	-974.3	90.56	27.44
1041	SLE RA 3	85	3	3584	-1007.62	93.8	29.38
1041	SLE RA 4	83	10	3551	-999.02	92.94	28.68
1041	SLE RA 5	82	15	3506	-987.21	91.79	28
1041	SLE RA 6	86	3	3631	-1020.53	95.03	29.94
1041	SLE RA 7	85	10	3598	-1011.93	94.16	29.24
1041	SLE RA 8	86	3	3609	-1014.45	94.45	29.73
1041	SLE RA 9	84	10	3576	-1005.85	93.59	29.03
1041	SLE RA 10	85	15	3744	-1052.66	98.01	29.2
1041	SLE RA 11	90	2	3869	-1085.97	101.25	31.14
1041	SLE RA 12	88	10	3836	-1077.37	100.38	30.44
1041	SLE RA 13	87	15	3791	-1065.57	99.23	29.76
1041	SLE RA 14	91	3	3916	-1098.88	102.47	31.7
1041	SLE RA 15	90	10	3883	-1090.28	101.61	31.01
1041	SLE RA 16	91	3	3894	-1092.81	101.9	31.49
1041	SLE RA 17	89	10	3861	-1084.21	101.04	30.79
1041	SLE RA 18	90	3	3922	-1100.57	102.64	31.12
1041	SLE RA 19	88	10	3889	-1091.97	101.78	30.42
1041	SLE RA 20	91	3	3969	-1113.48	103.87	31.68
1041	SLE RA 21	90	10	3936	-1104.88	103	30.98
1041	SLE FR 1	82	3	3515	-988.63	92	28.6
1041	SLE FR 2	82	5	3504	-985.77	91.71	28.37
1041	SLE FR 3	83	3	3534	-993.8	92.49	28.83
1041	SLE FR 4	84	5	3626	-1019.35	94.91	29.12
1041	SLE FR 5	85	3	3656	-1027.38	95.68	29.58
1041	SLE FR 6	86	3	3718	-1044.6	97.32	29.86
1041	SLE QP 1	82	3	3515	-988.63	92	28.6
1041	SLE QP 2	85	3	3637	-1022.21	95.19	29.36
1041	SLD 1	376	94	2180	-623.13	58.21	129.56
1041	SLD 2	319	188	2083	-597.28	55.71	107.39
1041	SLD 3	416	-101	3235	-895.64	85.56	148.85
1041	SLD 4	360	-7	3137	-869.79	83.06	126.67
1041	SLD 5	120	309	1618	-493.83	43.06	34.16
1041	SLD 6	83	371	1554	-476.77	41.41	19.52
1041	SLD 7	256	-341	5133	-1402.21	134.24	98.45
1041	SLD 8	219	-279	5069	-1385.14	132.59	83.81
1041	SLD 9	-49	284	2205	-659.29	57.8	-25.09
1041	SLD 10	-87	346	2141	-642.22	56.15	-39.73
1041	SLD 11	86	-365	5720	-1567.66	148.98	39.19
1041	SLD 12	49	-303	5656	-1550.59	147.33	24.55
1041	SLD 13	-191	12	4137	-1174.64	107.33	-67.96
1041	SLD 14	-247	106	4039	-1148.79	104.83	-90.13
1041	SLD 15	-150	-182	5191	-1447.15	134.68	-48.67
1041	SLD 16	-207	-88	5094	-1421.3	132.18	-70.85
1041	SLV 1	539	150	1335	-391.97	36.73	185.84



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1041	SLV 2	451	298	1182	-351.48	32.82	151.09
1041	SLV 3	605	-165	3040	-832.7	80.97	217.13
1041	SLV 4	517	-18	2887	-792.21	77.05	182.39
1041	SLV 5	138	498	388	-172.26	11.3	35.32
1041	SLV 6	78	597	286	-144.99	8.66	11.93
1041	SLV 7	357	-554	6073	-1641.36	158.75	139.64
1041	SLV 8	298	-455	5970	-1614.1	156.11	116.24
1041	SLV 9	-129	460	1304	-430.33	34.28	-57.53
1041	SLV 10	-188	559	1201	-403.07	31.64	-80.92
1041	SLV 11	91	-592	6988	-1899.43	181.73	46.78
1041	SLV 12	32	-493	6885	-1872.17	179.09	23.39
1041	SLV 13	-348	23	4387	-1252.22	113.34	-123.67
1041	SLV 14	-436	170	4234	-1211.72	109.42	-158.42
1041	SLV 15	-282	-292	6092	-1692.95	157.57	-92.38
1041	SLV 16	-370	-145	5939	-1652.45	153.66	-127.12
1041	SLV FO 1	585	165	1104	-328.95	30.88	201.49
1041	SLV FO 2	488	327	937	-284.4	26.58	163.27
1041	SLV FO 3	657	-182	2980	-813.75	79.54	235.91
1041	SLV FO 4	560	-20	2812	-769.21	75.24	197.69
1041	SLV FO 5	143	548	64	-87.26	2.91	35.92
1041	SLV FO 6	78	657	-49	-57.27	0.01	10.19
1041	SLV FO 7	384	-609	6316	-1703.28	165.1	150.66
1041	SLV FO 8	319	-500	6203	-1673.28	162.2	124.93
1041	SLV FO 9	-150	506	1071	-371.14	28.19	-66.22
1041	SLV FO 10	-215	615	958	-341.15	25.29	-91.95
1041	SLV FO 11	91	-651	7323	-1987.16	190.38	48.52
1041	SLV FO 12	26	-542	7210	-1957.17	187.48	22.79
1041	SLV FO 13	-391	25	4462	-1275.22	115.15	-138.98
1041	SLV FO 14	-488	187	4294	-1230.67	110.85	-177.19
1041	SLV FO 15	-319	-322	6337	-1760.02	163.81	-104.55
1041	SLV FO 16	-416	-160	6169	-1715.48	159.51	-142.77
1041	CRTFP Ux+	0	0	0	0	0	0
1041	CRTFP Ux-	0	0	0	0	0	0
1041	CRTFP Uy+	0	0	0	0	0	0
1041	CRTFP Uy-	0	0	0	0	0	0
1042	SLU 1	106	1	4692	-1744.98	940.8	40.81
1042	SLU 2	101	26	4575	-1703.67	917.76	33.31
1042	SLU 3	110	0	4837	-1798.57	969.7	42.65
1042	SLU 4	107	15	4768	-1773.79	955.88	38.16
1042	SLU 5	104	26	4675	-1740.13	937.44	34.57
1042	SLU 6	113	0	4937	-1835.03	989.38	43.91
1042	SLU 7	111	15	4867	-1810.24	975.56	39.41
1042	SLU 8	112	1	4890	-1817.89	980.16	43.31
1042	SLU 9	109	16	4820	-1793.11	966.34	38.82
1042	SLU 10	111	25	5175	-1925.49	1037.37	37.41
1042	SLU 11	120	-1	5437	-2020.39	1089.31	46.75
1042	SLU 12	118	15	5367	-1995.61	1075.49	42.26
1042	SLU 13	114	25	5274	-1961.95	1057.05	38.67
1042	SLU 14	124	-1	5536	-2056.85	1108.99	48.01
1042	SLU 15	121	15	5466	-2032.06	1095.17	43.51
1042	SLU 16	122	0	5490	-2039.71	1099.77	47.41
1042	SLU 17	120	15	5420	-2014.93	1085.95	42.92
1042	SLU 18	120	-1	5548	-2061.86	1111.67	46.66
1042	SLU 19	117	15	5478	-2037.08	1097.85	42.17
1042	SLU 20	124	-1	5647	-2098.32	1131.35	47.92
1042	SLU 21	121	15	5578	-2073.54	1117.53	43.42
1042	SLU 22	122	-4	5498	-2042.44	1101.43	48.25
1042	SLU 23	118	21	5382	-2001.13	1078.39	40.76
1042	SLU 24	127	-5	5644	-2096.03	1130.33	50.1
1042	SLU 25	124	11	5574	-2071.25	1116.51	45.6
1042	SLU 26	121	21	5481	-2037.59	1098.07	42.01
1042	SLU 27	130	-5	5743	-2132.49	1150.01	51.35
1042	SLU 28	127	11	5673	-2107.71	1136.19	46.85
1042	SLU 29	129	-4	5697	-2115.36	1140.79	50.76
1042	SLU 30	126	11	5627	-2090.57	1126.97	46.26
1042	SLU 31	128	21	5981	-2222.96	1198	44.86
1042	SLU 32	137	-6	6243	-2317.85	1249.94	54.2
1042	SLU 33	134	10	6173	-2293.07	1236.12	49.7
1042	SLU 34	131	21	6080	-2259.41	1217.68	46.11
1042	SLU 35	140	-6	6343	-2354.31	1269.62	55.45
1042	SLU 36	137	10	6273	-2329.53	1255.8	50.95
1042	SLU 37	139	-5	6296	-2337.18	1260.4	54.86
1042	SLU 38	136	10	6226	-2312.39	1246.58	50.36
1042	SLU 39	137	-5	6354	-2359.33	1272.3	54.11
1042	SLU 40	134	10	6285	-2334.54	1258.48	49.61
1042	SLU 41	140	-5	6454	-2395.79	1291.98	55.36
1042	SLU 42	137	10	6384	-2371	1278.16	50.87
1042	SLU 43	132	2	5823	-2166.48	1167.96	50.5
1042	SLU 44	127	28	5706	-2125.17	1144.93	43
1042	SLU 45	136	2	5968	-2220.07	1196.87	52.34
1042	SLU 46	133	17	5899	-2195.29	1183.05	47.85
1042	SLU 47	130	28	5806	-2161.63	1164.61	44.26
1042	SLU 48	140	2	6068	-2256.53	1216.55	53.59
1042	SLU 49	137	17	5998	-2231.75	1202.73	49.1
1042	SLU 50	138	2	6021	-2239.4	1207.33	53
1042	SLU 51	135	18	5951	-2214.61	1193.51	48.51
1042	SLU 52	137	27	6306	-2347	1264.54	47.1
1042	SLU 53	146	1	6568	-2441.89	1316.48	56.44
1042	SLU 54	144	16	6498	-2417.11	1302.66	51.95



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1042	SLU 55	140	27	6405	-2383.45	1284.22	48.36
1042	SLU 56	150	1	6667	-2478.35	1336.16	57.69
1042	SLU 57	147	16	6597	-2453.57	1322.34	53.2
1042	SLU 58	148	2	6621	-2461.22	1326.94	57.1
1042	SLU 59	146	17	6551	-2436.43	1313.11	52.61
1042	SLU 60	146	1	6679	-2483.37	1338.83	56.35
1042	SLU 61	143	17	6609	-2458.58	1325.01	51.86
1042	SLU 62	150	1	6778	-2519.83	1358.52	57.61
1042	SLU 63	147	17	6709	-2495.04	1344.69	53.11
1042	SLU 64	148	-2	6629	-2463.94	1328.59	57.94
1042	SLU 65	144	23	6513	-2422.64	1305.56	50.45
1042	SLU 66	153	-3	6775	-2517.54	1357.5	59.79
1042	SLU 67	150	12	6705	-2492.75	1343.68	55.29
1042	SLU 68	147	23	6612	-2459.1	1325.24	51.7
1042	SLU 69	156	-3	6874	-2554	1377.18	61.04
1042	SLU 70	153	12	6804	-2529.21	1363.36	56.54
1042	SLU 71	155	-2	6828	-2536.86	1367.96	60.45
1042	SLU 72	152	13	6758	-2512.08	1354.13	55.95
1042	SLU 73	154	22	7112	-2644.46	1425.17	54.55
1042	SLU 74	163	-4	7374	-2739.36	1477.11	63.89
1042	SLU 75	160	12	7305	-2714.58	1463.29	59.39
1042	SLU 76	157	22	7211	-2680.92	1444.85	55.8
1042	SLU 77	166	-4	7474	-2775.82	1496.79	65.14
1042	SLU 78	163	12	7404	-2751.03	1482.97	60.64
1042	SLU 79	165	-3	7427	-2758.68	1487.57	64.55
1042	SLU 80	162	12	7357	-2733.9	1473.74	60.05
1042	SLU 81	163	-4	7486	-2780.83	1499.46	63.8
1042	SLU 82	160	12	7416	-2756.05	1485.64	59.3
1042	SLU 83	166	-4	7585	-2817.29	1519.14	65.05
1042	SLU 84	163	12	7515	-2792.51	1505.32	60.56
1042	SLE RA 1	110	-1	4922	-1829.97	986.69	42.93
1042	SLE RA 2	107	16	4844	-1802.43	971.33	37.94
1042	SLE RA 3	113	-1	5019	-1865.69	1005.96	44.16
1042	SLE RA 4	112	9	4973	-1849.17	996.75	41.17
1042	SLE RA 5	109	16	4911	-1826.73	984.46	38.77
1042	SLE RA 6	116	-1	5085	-1890	1019.08	45
1042	SLE RA 7	114	9	5039	-1873.48	1009.87	42
1042	SLE RA 8	115	-1	5054	-1878.58	1012.93	44.6
1042	SLE RA 9	113	9	5008	-1862.05	1003.72	41.61
1042	SLE RA 10	114	16	5244	-1950.31	1051.07	40.67
1042	SLE RA 11	120	-2	5419	-2013.57	1085.7	46.9
1042	SLE RA 12	118	8	5372	-1997.05	1076.49	43.9
1042	SLE RA 13	116	16	5310	-1974.61	1064.2	41.51
1042	SLE RA 14	122	-2	5485	-2037.88	1098.82	47.73
1042	SLE RA 15	120	9	5439	-2021.36	1089.61	44.74
1042	SLE RA 16	122	-1	5454	-2026.46	1092.67	47.34
1042	SLE RA 17	120	9	5408	-2009.93	1083.46	44.34
1042	SLE RA 18	120	-2	5493	-2041.22	1100.6	46.84
1042	SLE RA 19	118	9	5446	-2024.7	1091.39	43.84
1042	SLE RA 20	122	-2	5559	-2065.53	1113.73	47.67
1042	SLE RA 21	120	9	5513	-2049.01	1104.51	44.68
1042	SLE FR 1	110	-1	4922	-1829.97	986.69	42.93
1042	SLE FR 2	110	3	4907	-1824.46	983.62	41.93
1042	SLE FR 3	111	-1	4949	-1839.69	991.94	43.27
1042	SLE FR 4	113	2	5078	-1887.84	1017.79	43.11
1042	SLE FR 5	114	-1	5120	-1903.06	1026.11	44.44
1042	SLE FR 6	115	-1	5208	-1935.59	1043.65	44.89
1042	SLE QP 1	110	-1	4922	-1829.97	986.69	42.93
1042	SLE QP 2	113	-1	5093	-1893.34	1020.87	44.1
1042	SLD 1	508	125	3025	-1137.3	620.68	180.04
1042	SLD 2	432	256	2889	-1088.72	593.96	121.69
1042	SLD 3	562	-146	4497	-1660.01	911.87	260
1042	SLD 4	487	-14	4360	-1611.43	885.15	201.65
1042	SLD 5	163	423	2266	-882.5	463.98	-25.88
1042	SLD 6	114	510	2176	-850.42	446.34	-64.4
1042	SLD 7	344	-478	7171	-2624.88	1434.62	240.66
1042	SLD 8	294	-391	7080	-2592.8	1416.98	202.13
1042	SLD 9	-67	389	3106	-1193.88	624.76	-113.92
1042	SLD 10	-117	476	3016	-1161.8	607.11	-152.45
1042	SLD 11	113	-512	8011	-2936.27	1595.39	152.61
1042	SLD 12	63	-425	7921	-2904.19	1577.75	114.09
1042	SLD 13	-260	12	5827	-2175.25	1156.58	-113.44
1042	SLD 14	-335	144	5690	-2126.67	1129.86	-171.79
1042	SLD 15	-206	-258	7298	-2697.97	1447.77	-33.48
1042	SLD 16	-281	-127	7161	-2649.39	1421.05	-91.83
1042	SLV 1	730	203	1826	-699.23	388.39	255.02
1042	SLV 2	612	409	1612	-623.11	346.53	163.61
1042	SLV 3	818	-235	4206	-1544.59	859.31	384.6
1042	SLV 4	700	-29	3991	-1468.47	817.44	293.19
1042	SLV 5	187	686	544	-267.19	124.71	-72.09
1042	SLV 6	108	825	400	-215.95	96.53	-133.64
1042	SLV 7	480	-774	8476	-3085.04	1694.43	359.85
1042	SLV 8	400	-635	8332	-3033.8	1666.25	298.3
1042	SLV 9	-174	633	1855	-752.89	375.48	-210.1
1042	SLV 10	-253	772	1710	-701.64	347.3	-271.64
1042	SLV 11	119	-827	9787	-3570.74	1945.2	221.85
1042	SLV 12	39	-688	9643	-3519.49	1917.02	160.3
1042	SLV 13	-473	27	6195	-2318.22	1224.29	-204.98
1042	SLV 14	-591	233	5981	-2242.1	1182.42	-296.39



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1042	SLV 15	-385	-411	8575	-3163.57	1695.2	-75.4
1042	SLV 16	-503	-205	8361	-3087.45	1653.34	-166.81
1042	SLV FO 1	792	223	1499	-579.82	325.14	276.11
1042	SLV FO 2	662	450	1264	-496.09	279.09	175.56
1042	SLV FO 3	888	-259	4117	-1509.71	843.15	418.65
1042	SLV FO 4	758	-32	3881	-1425.98	797.1	318.1
1042	SLV FO 5	195	755	89	-104.58	35.1	-83.71
1042	SLV FO 6	107	907	-70	-48.21	4.09	-151.41
1042	SLV FO 7	517	-851	8815	-3204.21	1761.79	391.42
1042	SLV FO 8	429	-699	8656	-3147.84	1730.79	323.72
1042	SLV FO 9	-202	697	1531	-638.84	310.94	-235.52
1042	SLV FO 10	-290	849	1372	-582.47	279.94	-303.21
1042	SLV FO 11	120	-909	10256	-3738.48	2037.64	239.62
1042	SLV FO 12	32	-757	10098	-3682.11	2006.63	171.92
1042	SLV FO 13	-531	30	6305	-2360.7	1244.63	-229.89
1042	SLV FO 14	-662	256	6070	-2276.97	1198.58	-330.44
1042	SLV FO 15	-435	-452	8923	-3290.59	1762.64	-87.35
1042	SLV FO 16	-565	-225	8687	-3206.86	1716.59	-187.9
1042	CRTFP Ux+	0	0	0	0	0	0
1042	CRTFP Ux-	0	0	0	0	0	0
1042	CRTFP Uy+	0	0	0	-0.01	0	0
1042	CRTFP Uy-	0	0	0	0.01	0	0
1044	SLU 1	-37	33	6595	192.61	80.02	1.49
1044	SLU 2	-35	67	6441	187.46	79.2	1.42
1044	SLU 3	-38	34	6789	198.44	82.82	1.53
1044	SLU 4	-37	54	6697	195.35	82.32	1.49
1044	SLU 5	-35	67	6566	191.23	81.01	1.44
1044	SLU 6	-38	33	6915	202.21	84.63	1.55
1044	SLU 7	-37	54	6822	199.12	84.13	1.51
1044	SLU 8	-38	33	6846	200.16	83.64	1.53
1044	SLU 9	-37	53	6754	197.07	83.15	1.49
1044	SLU 10	-38	67	7336	213.52	89.87	1.46
1044	SLU 11	-41	34	7684	224.5	93.49	1.58
1044	SLU 12	-40	54	7591	221.41	93	1.53
1044	SLU 13	-39	67	7461	217.3	91.68	1.48
1044	SLU 14	-42	34	7810	228.28	95.3	1.6
1044	SLU 15	-41	54	7717	225.18	94.81	1.55
1044	SLU 16	-41	33	7741	226.22	94.32	1.58
1044	SLU 17	-40	53	7648	223.13	93.82	1.53
1044	SLU 18	-42	33	7874	229.85	95.27	1.56
1044	SLU 19	-41	53	7781	226.76	94.78	1.51
1044	SLU 20	-42	33	7999	233.62	97.08	1.58
1044	SLU 21	-41	53	7906	230.53	96.59	1.53
1044	SLU 22	-43	36	7778	227.5	94.25	1.66
1044	SLU 23	-41	69	7624	222.35	93.43	1.59
1044	SLU 24	-44	36	7972	233.33	97.05	1.7
1044	SLU 25	-43	56	7879	230.24	96.55	1.66
1044	SLU 26	-42	69	7749	226.12	95.24	1.61
1044	SLU 27	-45	36	8098	237.1	98.86	1.72
1044	SLU 28	-44	56	8005	234.01	98.36	1.68
1044	SLU 29	-44	35	8029	235.05	97.87	1.7
1044	SLU 30	-43	55	7936	231.95	97.38	1.66
1044	SLU 31	-45	69	8518	248.41	104.11	1.64
1044	SLU 32	-48	36	8867	259.39	107.72	1.75
1044	SLU 33	-47	56	8774	256.3	107.23	1.71
1044	SLU 34	-45	69	8644	252.18	105.92	1.66
1044	SLU 35	-48	36	8992	263.16	109.53	1.77
1044	SLU 36	-47	56	8900	260.07	109.04	1.73
1044	SLU 37	-48	35	8924	261.11	108.55	1.75
1044	SLU 38	-47	55	8831	258.02	108.05	1.71
1044	SLU 39	-48	36	9056	264.74	109.5	1.73
1044	SLU 40	-47	56	8964	261.64	109.01	1.68
1044	SLU 41	-49	35	9182	268.51	111.31	1.75
1044	SLU 42	-48	56	9089	265.42	110.82	1.7
1044	SLU 43	-45	43	8168	238.44	99.15	1.88
1044	SLU 44	-44	76	8014	233.28	98.33	1.8
1044	SLU 45	-46	43	8362	244.26	101.94	1.92
1044	SLU 46	-45	63	8270	241.17	101.45	1.88
1044	SLU 47	-44	76	8139	237.06	100.14	1.82
1044	SLU 48	-47	43	8488	248.04	103.75	1.94
1044	SLU 49	-46	63	8395	244.94	103.26	1.9
1044	SLU 50	-47	42	8419	245.98	102.77	1.92
1044	SLU 51	-46	62	8327	242.89	102.28	1.87
1044	SLU 52	-47	76	8909	259.35	109	1.85
1044	SLU 53	-50	43	9257	270.33	112.62	1.96
1044	SLU 54	-49	63	9165	267.23	112.12	1.92
1044	SLU 55	-48	76	9034	263.12	110.81	1.87
1044	SLU 56	-51	43	9383	274.1	114.43	1.98
1044	SLU 57	-50	63	9290	271.01	113.93	1.94
1044	SLU 58	-50	42	9314	272.05	113.44	1.96
1044	SLU 59	-49	62	9222	268.95	112.95	1.92
1044	SLU 60	-50	43	9447	275.67	114.4	1.94
1044	SLU 61	-49	63	9354	272.58	113.9	1.9
1044	SLU 62	-51	43	9572	279.44	116.21	1.96
1044	SLU 63	-50	63	9479	276.35	115.71	1.92
1044	SLU 64	-52	45	9351	273.32	113.38	2.05
1044	SLU 65	-50	78	9197	268.17	112.56	1.98
1044	SLU 66	-53	45	9545	279.15	116.17	2.09
1044	SLU 67	-52	65	9452	276.06	115.68	2.05



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1044	SLU 68	-51	78	9322	271.94	114.37	2
1044	SLU 69	-53	45	9671	282.92	117.98	2.11
1044	SLU 70	-52	65	9578	279.83	117.49	2.07
1044	SLU 71	-53	45	9602	280.87	117	2.09
1044	SLU 72	-52	65	9509	277.78	116.51	2.05
1044	SLU 73	-54	78	10091	294.23	123.23	2.02
1044	SLU 74	-56	45	10440	305.21	126.85	2.14
1044	SLU 75	-55	65	10347	302.12	126.36	2.09
1044	SLU 76	-54	78	10217	298.01	125.04	2.04
1044	SLU 77	-57	45	10565	308.99	128.66	2.16
1044	SLU 78	-56	65	10473	305.89	128.17	2.11
1044	SLU 79	-56	45	10497	306.93	127.67	2.14
1044	SLU 80	-55	65	10404	303.84	127.18	2.09
1044	SLU 81	-57	45	10629	310.56	128.63	2.12
1044	SLU 82	-56	65	10537	307.47	128.14	2.07
1044	SLU 83	-57	45	10755	314.33	130.44	2.14
1044	SLU 84	-56	65	10662	311.24	129.95	2.09
1044	SLE RA 1	-38	34	6933	202.58	84.09	1.54
1044	SLE RA 2	-37	56	6830	199.15	83.54	1.49
1044	SLE RA 3	-39	34	7063	206.47	85.95	1.57
1044	SLE RA 4	-38	48	7001	204.4	85.62	1.54
1044	SLE RA 5	-38	56	6914	201.66	84.75	1.5
1044	SLE RA 6	-40	34	7146	208.98	87.16	1.58
1044	SLE RA 7	-39	47	7084	206.92	86.83	1.55
1044	SLE RA 8	-39	34	7101	207.61	86.5	1.57
1044	SLE RA 9	-38	47	7039	205.55	86.17	1.54
1044	SLE RA 10	-40	56	7427	216.52	90.66	1.52
1044	SLE RA 11	-42	34	7659	223.84	93.07	1.6
1044	SLE RA 12	-41	48	7597	221.78	92.74	1.57
1044	SLE RA 13	-40	56	7510	219.04	91.86	1.53
1044	SLE RA 14	-42	34	7743	226.36	94.27	1.61
1044	SLE RA 15	-41	47	7681	224.3	93.94	1.58
1044	SLE RA 16	-42	34	7697	224.99	93.62	1.6
1044	SLE RA 17	-41	47	7635	222.93	93.29	1.57
1044	SLE RA 18	-42	34	7785	227.4	94.25	1.58
1044	SLE RA 19	-41	47	7724	225.34	93.92	1.55
1044	SLE RA 20	-42	34	7869	229.92	95.46	1.6
1044	SLE RA 21	-42	47	7807	227.86	95.13	1.57
1044	SLE FR 1	-38	34	6933	202.58	84.09	1.54
1044	SLE FR 2	-38	38	6913	201.89	83.98	1.53
1044	SLE FR 3	-38	34	6967	203.59	84.57	1.54
1044	SLE FR 4	-39	38	7168	209.34	87.03	1.54
1044	SLE FR 5	-40	34	7222	211.03	87.62	1.56
1044	SLE FR 6	-40	34	7359	214.99	89.17	1.56
1044	SLE QP 1	-38	34	6933	202.58	84.09	1.54
1044	SLE QP 2	-39	34	7189	210.03	87.14	1.55
1044	SLD 1	814	263	6543	186.9	85.1	-27.83
1044	SLD 2	675	228	6583	188.36	86.27	-21.46
1044	SLD 3	770	-132	8504	252.13	96.58	-25.86
1044	SLD 4	631	-168	8544	253.59	97.75	-19.49
1044	SLD 5	309	709	4014	103.9	68.91	-11.39
1044	SLD 6	217	686	4041	104.87	69.68	-7.19
1044	SLD 7	162	-610	10550	321.32	107.17	-4.84
1044	SLD 8	70	-633	10576	322.28	107.94	-0.63
1044	SLD 9	-149	701	3801	97.77	66.34	3.74
1044	SLD 10	-240	678	3828	98.74	67.11	7.94
1044	SLD 11	-296	-618	10337	315.19	104.6	10.29
1044	SLD 12	-387	-641	10364	316.16	105.37	14.49
1044	SLD 13	-710	236	5834	166.47	76.53	22.6
1044	SLD 14	-849	200	5874	167.93	77.7	28.97
1044	SLD 15	-754	-160	7795	231.7	88.01	24.56
1044	SLD 16	-893	-195	7835	233.16	89.18	30.93
1044	SLV 1	1298	403	6125	172.1	83.8	-44.5
1044	SLV 2	1081	347	6189	174.39	85.63	-34.53
1044	SLV 3	1227	-236	9295	277.53	102.36	-41.34
1044	SLV 4	1010	-292	9358	279.82	104.19	-31.36
1044	SLV 5	510	1125	2051	38.32	57.64	-18.92
1044	SLV 6	364	1087	2094	39.86	58.87	-12.21
1044	SLV 7	274	-1006	12616	389.75	119.51	-8.38
1044	SLV 8	127	-1043	12658	391.29	120.75	-1.66
1044	SLV 9	-206	1111	1719	28.76	53.53	4.77
1044	SLV 10	-352	1074	1762	30.31	54.76	11.48
1044	SLV 11	-442	-1019	12284	380.19	115.4	15.31
1044	SLV 12	-589	-1056	12327	381.73	116.63	22.03
1044	SLV 13	-1088	360	5020	140.24	70.09	34.47
1044	SLV 14	-1306	304	5083	142.53	71.92	44.44
1044	SLV 15	-1159	-279	8189	245.67	88.65	37.63
1044	SLV 16	-1377	-335	8252	247.95	90.48	47.61
1044	SLV FO 1	1432	440	6019	168.31	83.46	-49.11
1044	SLV FO 2	1193	379	6089	170.83	85.48	-38.13
1044	SLV FO 3	1354	-263	9505	284.28	103.88	-45.63
1044	SLV FO 4	1115	-324	9575	286.8	105.89	-34.65
1044	SLV FO 5	565	1234	1537	21.15	54.69	-20.97
1044	SLV FO 6	404	1192	1584	22.85	56.05	-13.58
1044	SLV FO 7	305	-1110	13158	407.72	122.75	-9.37
1044	SLV FO 8	144	-1151	13205	409.42	124.11	-1.98
1044	SLV FO 9	-222	1219	1173	10.64	50.17	5.09
1044	SLV FO 10	-384	1178	1219	12.33	51.52	12.48
1044	SLV FO 11	-483	-1124	12793	397.21	118.23	16.69



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1044	SLV FO 12	-644	-1166	12840	398.9	119.58	24.08
1044	SLV FO 13	-1193	392	4803	133.26	68.38	37.76
1044	SLV FO 14	-1433	331	4872	135.78	70.4	48.73
1044	SLV FO 15	-1271	-311	8289	249.23	88.8	41.24
1044	SLV FO 16	-1511	-372	8359	251.75	90.81	52.21
1044	CRTFP Ux+	0	0	0	0	0	0
1044	CRTFP Ux-	0	0	0	0	0	0
1044	CRTFP Uy+	0	0	0	0	0	0
1044	CRTFP Uy-	0	0	0	0	0	0
1047	SLU 1	26	206	5666	174.12	-20.74	-2.44
1047	SLU 2	24	240	5526	169.33	-20.63	-2.39
1047	SLU 3	27	210	5826	179.25	-21.41	-2.54
1047	SLU 4	26	230	5742	176.38	-21.34	-2.51
1047	SLU 5	25	242	5629	172.65	-21.09	-2.47
1047	SLU 6	28	212	5929	182.56	-21.86	-2.62
1047	SLU 7	27	232	5845	179.69	-21.8	-2.59
1047	SLU 8	28	210	5872	180.75	-21.65	-2.6
1047	SLU 9	27	230	5788	177.88	-21.59	-2.57
1047	SLU 10	25	261	6289	192.78	-23.02	-2.58
1047	SLU 11	28	231	6589	202.7	-23.8	-2.73
1047	SLU 12	27	252	6505	199.83	-23.73	-2.7
1047	SLU 13	27	263	6392	196.1	-23.47	-2.66
1047	SLU 14	29	233	6692	206.01	-24.25	-2.81
1047	SLU 15	28	253	6608	203.14	-24.19	-2.78
1047	SLU 16	29	231	6635	204.2	-24.04	-2.79
1047	SLU 17	28	251	6551	201.33	-23.98	-2.76
1047	SLU 18	28	237	6756	207.61	-24.15	-2.72
1047	SLU 19	27	257	6672	204.74	-24.09	-2.69
1047	SLU 20	29	238	6859	210.93	-24.61	-2.8
1047	SLU 21	28	259	6775	208.06	-24.54	-2.77
1047	SLU 22	28	234	6668	205.34	-23.84	-2.78
1047	SLU 23	26	267	6528	200.55	-23.73	-2.73
1047	SLU 24	29	237	6827	210.47	-24.51	-2.88
1047	SLU 25	28	258	6743	207.6	-24.45	-2.84
1047	SLU 26	27	269	6631	203.87	-24.19	-2.8
1047	SLU 27	30	239	6930	213.78	-24.97	-2.95
1047	SLU 28	29	260	6846	210.91	-24.9	-2.92
1047	SLU 29	30	237	6874	211.97	-24.76	-2.94
1047	SLU 30	29	257	6790	209.1	-24.69	-2.9
1047	SLU 31	28	289	7291	224	-26.12	-2.92
1047	SLU 32	30	259	7590	233.92	-26.9	-3.07
1047	SLU 33	29	279	7506	231.05	-26.83	-3.04
1047	SLU 34	29	291	7394	227.32	-26.58	-3
1047	SLU 35	32	261	7693	237.23	-27.36	-3.15
1047	SLU 36	31	281	7609	234.36	-27.29	-3.11
1047	SLU 37	32	258	7637	235.42	-27.15	-3.13
1047	SLU 38	30	279	7553	232.55	-27.08	-3.1
1047	SLU 39	30	264	7758	238.84	-27.26	-3.05
1047	SLU 40	29	284	7674	235.96	-27.19	-3.02
1047	SLU 41	31	266	7861	242.15	-27.71	-3.13
1047	SLU 42	30	286	7777	239.28	-27.65	-3.1
1047	SLU 43	33	258	7022	215.65	-25.9	-3.06
1047	SLU 44	31	292	6882	210.86	-25.79	-3.01
1047	SLU 45	34	262	7182	220.78	-26.57	-3.16
1047	SLU 46	33	283	7098	217.91	-26.5	-3.13
1047	SLU 47	32	294	6986	214.18	-26.24	-3.09
1047	SLU 48	35	264	7285	224.09	-27.02	-3.24
1047	SLU 49	34	284	7201	221.22	-26.96	-3.21
1047	SLU 50	35	262	7229	222.28	-26.81	-3.22
1047	SLU 51	34	282	7145	219.41	-26.75	-3.19
1047	SLU 52	32	314	7646	234.31	-28.18	-3.2
1047	SLU 53	35	284	7945	244.23	-28.95	-3.35
1047	SLU 54	34	304	7861	241.36	-28.89	-3.32
1047	SLU 55	33	315	7749	237.63	-28.63	-3.28
1047	SLU 56	36	285	8048	247.54	-29.41	-3.43
1047	SLU 57	35	306	7964	244.67	-29.34	-3.4
1047	SLU 58	36	283	7992	245.73	-29.2	-3.41
1047	SLU 59	35	304	7908	242.86	-29.13	-3.38
1047	SLU 60	35	289	8113	249.14	-29.31	-3.34
1047	SLU 61	34	309	8029	246.27	-29.24	-3.31
1047	SLU 62	36	291	8216	252.46	-29.77	-3.42
1047	SLU 63	35	311	8132	249.59	-29.7	-3.39
1047	SLU 64	35	286	8024	246.87	-29	-3.4
1047	SLU 65	33	320	7884	242.08	-28.89	-3.34
1047	SLU 66	36	290	8184	252	-29.67	-3.49
1047	SLU 67	35	310	8100	249.13	-29.6	-3.46
1047	SLU 68	34	322	7987	245.4	-29.35	-3.42
1047	SLU 69	37	292	8287	255.31	-30.13	-3.57
1047	SLU 70	36	312	8203	252.44	-30.06	-3.54
1047	SLU 71	37	290	8230	253.5	-29.92	-3.55
1047	SLU 72	36	310	8146	250.63	-29.85	-3.52
1047	SLU 73	35	341	8647	265.53	-31.28	-3.54
1047	SLU 74	37	311	8947	275.45	-32.06	-3.69
1047	SLU 75	36	331	8863	272.58	-31.99	-3.66
1047	SLU 76	36	343	8750	268.85	-31.74	-3.62
1047	SLU 77	38	313	9050	278.76	-32.52	-3.77
1047	SLU 78	37	333	8966	275.89	-32.45	-3.73
1047	SLU 79	38	311	8993	276.95	-32.3	-3.75
1047	SLU 80	37	331	8909	274.08	-32.24	-3.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1047	SLU 81	37	316	9114	280.37	-32.41	-3.67
1047	SLU 82	36	337	9030	277.49	-32.35	-3.64
1047	SLU 83	38	318	9217	283.68	-32.87	-3.75
1047	SLU 84	37	338	9133	280.81	-32.8	-3.72
1047	SLE RA 1	26	214	5952	183.04	-21.63	-2.54
1047	SLE RA 2	25	236	5859	179.85	-21.55	-2.51
1047	SLE RA 3	27	217	6059	186.46	-22.07	-2.61
1047	SLE RA 4	26	230	6003	184.54	-22.03	-2.58
1047	SLE RA 5	26	238	5928	182.06	-21.86	-2.56
1047	SLE RA 6	28	218	6127	188.67	-22.38	-2.66
1047	SLE RA 7	27	231	6071	186.75	-22.33	-2.64
1047	SLE RA 8	28	216	6090	187.46	-22.24	-2.65
1047	SLE RA 9	27	230	6034	185.54	-22.19	-2.62
1047	SLE RA 10	26	251	6368	195.48	-23.15	-2.63
1047	SLE RA 11	28	231	6567	202.09	-23.66	-2.73
1047	SLE RA 12	27	244	6511	200.18	-23.62	-2.71
1047	SLE RA 13	27	252	6436	197.69	-23.45	-2.69
1047	SLE RA 14	29	232	6636	204.3	-23.97	-2.79
1047	SLE RA 15	28	245	6580	202.39	-23.92	-2.76
1047	SLE RA 16	29	231	6598	203.09	-23.83	-2.77
1047	SLE RA 17	28	244	6542	201.18	-23.78	-2.75
1047	SLE RA 18	28	234	6679	205.37	-23.9	-2.72
1047	SLE RA 19	27	248	6623	203.45	-23.86	-2.7
1047	SLE RA 20	28	235	6748	207.58	-24.21	-2.77
1047	SLE RA 21	28	249	6692	205.67	-24.16	-2.75
1047	SLE FR 1	26	214	5952	183.04	-21.63	-2.54
1047	SLE FR 2	26	218	5934	182.4	-21.61	-2.53
1047	SLE FR 3	27	214	5980	183.92	-21.75	-2.56
1047	SLE FR 4	26	224	6152	189.1	-22.3	-2.59
1047	SLE FR 5	27	220	6198	190.62	-22.43	-2.62
1047	SLE FR 6	27	224	6316	194.2	-22.77	-2.63
1047	SLE QP 1	26	214	5952	183.04	-21.63	-2.54
1047	SLE QP 2	27	220	6170	189.74	-22.31	-2.59
1047	SLD 1	842	368	4793	145.22	3.59	-29.91
1047	SLD 2	705	407	4775	144.51	3.98	-23.63
1047	SLD 3	858	-25	6544	204.96	2.14	-30.63
1047	SLD 4	721	14	6526	204.25	2.53	-24.35
1047	SLD 5	271	853	3105	85.9	-12.42	-10.82
1047	SLD 6	181	879	3093	85.44	-12.15	-6.68
1047	SLD 7	326	-456	8941	285.03	-17.24	-13.23
1047	SLD 8	235	-430	8929	284.57	-16.98	-9.09
1047	SLD 9	-181	870	3411	94.91	-27.64	3.9
1047	SLD 10	-272	896	3399	94.44	-27.38	8.04
1047	SLD 11	-127	-439	9247	294.04	-32.47	1.49
1047	SLD 12	-218	-413	9235	293.57	-32.2	5.64
1047	SLD 13	-667	426	5814	175.22	-47.15	19.16
1047	SLD 14	-805	465	5796	174.51	-46.76	25.44
1047	SLD 15	-651	33	7565	234.96	-48.6	18.44
1047	SLD 16	-789	72	7547	234.25	-48.21	24.72
1047	SLV 1	1303	462	3973	118.61	18.13	-45.34
1047	SLV 2	1087	523	3945	117.5	18.75	-35.51
1047	SLV 3	1330	-173	6803	215.18	15.77	-46.53
1047	SLV 4	1114	-112	6775	214.06	16.39	-36.7
1047	SLV 5	408	1244	1224	22.15	-6.72	-15.43
1047	SLV 6	263	1285	1205	21.4	-6.3	-8.82
1047	SLV 7	499	-872	10658	344.04	-14.57	-19.43
1047	SLV 8	354	-831	10639	343.29	-14.16	-12.81
1047	SLV 9	-301	1271	1702	36.18	-30.46	7.62
1047	SLV 10	-446	1312	1683	35.44	-30.05	14.24
1047	SLV 11	-210	-845	11136	358.07	-38.32	3.63
1047	SLV 12	-355	-804	11117	357.33	-37.9	10.25
1047	SLV 13	-1061	552	5565	165.41	-61.01	31.52
1047	SLV 14	-1276	613	5537	164.29	-60.39	41.35
1047	SLV 15	-1034	-83	8396	261.97	-63.37	30.32
1047	SLV 16	-1249	-22	8367	260.86	-62.75	40.15
1047	SLV FO 1	1430	486	3753	111.5	22.17	-49.61
1047	SLV FO 2	1193	553	3722	110.27	22.85	-38.8
1047	SLV FO 3	1460	-213	6867	217.72	19.58	-50.93
1047	SLV FO 4	1223	-146	6836	216.5	20.26	-40.11
1047	SLV FO 5	447	1346	729	5.39	-5.16	-16.72
1047	SLV FO 6	287	1391	708	4.56	-4.7	-9.44
1047	SLV FO 7	546	-981	11107	359.47	-13.8	-21.11
1047	SLV FO 8	387	-936	11086	358.64	-13.34	-13.83
1047	SLV FO 9	-333	1376	1255	20.83	-31.28	8.64
1047	SLV FO 10	-493	1421	1234	20.01	-30.82	15.92
1047	SLV FO 11	-234	-951	11632	374.91	-39.92	4.25
1047	SLV FO 12	-393	-906	11611	374.08	-39.46	11.53
1047	SLV FO 13	-1170	586	5505	162.97	-64.88	34.93
1047	SLV FO 14	-1407	652	5474	161.75	-64.2	45.74
1047	SLV FO 15	-1140	-113	8618	269.2	-67.47	33.61
1047	SLV FO 16	-1377	-46	8587	267.97	-66.79	44.42
1047	CRTFP Ux+	0	0	0	0	0	0
1047	CRTFP Ux-	0	0	0	0	0	0
1047	CRTFP Uy+	0	0	0	0	0	0
1047	CRTFP Uy-	0	0	0	0	0	0
1051	SLU 1	43	19	2467	-4.47	558.27	-4.55
1051	SLU 2	41	30	2402	-4.44	544.45	-7.31
1051	SLU 3	44	20	2543	-4.6	575	-4.64
1051	SLU 4	43	26	2505	-4.58	566.7	-6.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1051	SLU 5	42	31	2453	-4.53	555.56	-7.36
1051	SLU 6	46	20	2595	-4.69	586.11	-4.68
1051	SLU 7	45	27	2556	-4.67	577.81	-6.34
1051	SLU 8	45	20	2569	-4.65	580.49	-4.64
1051	SLU 9	44	26	2530	-4.63	572.2	-6.3
1051	SLU 10	45	33	2734	-5.06	618.14	-8.06
1051	SLU 11	49	23	2875	-5.22	648.68	-5.38
1051	SLU 12	48	29	2837	-5.2	640.39	-7.04
1051	SLU 13	46	34	2785	-5.15	629.25	-8.1
1051	SLU 14	50	23	2927	-5.31	659.79	-5.43
1051	SLU 15	49	30	2888	-5.29	651.5	-7.08
1051	SLU 16	50	23	2901	-5.27	654.18	-5.39
1051	SLU 17	48	30	2863	-5.25	645.89	-7.04
1051	SLU 18	49	24	2941	-5.36	663.54	-5.62
1051	SLU 19	48	30	2902	-5.34	655.25	-7.27
1051	SLU 20	50	24	2992	-5.45	674.65	-5.66
1051	SLU 21	49	31	2954	-5.43	666.36	-7.32
1051	SLU 22	49	22	2910	-5.25	656.26	-5.21
1051	SLU 23	47	33	2846	-5.22	642.44	-7.97
1051	SLU 24	51	23	2987	-5.38	672.98	-5.29
1051	SLU 25	50	29	2948	-5.36	664.69	-6.95
1051	SLU 26	49	33	2897	-5.31	653.55	-8.01
1051	SLU 27	52	23	3038	-5.47	684.09	-5.34
1051	SLU 28	51	29	2999	-5.45	675.8	-6.99
1051	SLU 29	52	23	3013	-5.43	678.48	-5.3
1051	SLU 30	51	29	2974	-5.41	670.19	-6.95
1051	SLU 31	52	36	3178	-5.84	716.13	-8.71
1051	SLU 32	55	26	3319	-6	746.67	-6.04
1051	SLU 33	54	32	3280	-5.98	738.38	-7.7
1051	SLU 34	53	37	3229	-5.93	727.24	-8.76
1051	SLU 35	56	26	3370	-6.09	757.78	-6.09
1051	SLU 36	55	33	3331	-6.07	749.49	-7.74
1051	SLU 37	56	26	3345	-6.05	752.17	-6.04
1051	SLU 38	55	32	3306	-6.03	743.87	-7.7
1051	SLU 39	55	27	3384	-6.14	761.53	-6.27
1051	SLU 40	54	33	3346	-6.12	753.23	-7.93
1051	SLU 41	57	27	3436	-6.23	772.64	-6.32
1051	SLU 42	55	33	3397	-6.21	764.34	-7.97
1051	SLU 43	53	24	3055	-5.55	692.16	-5.69
1051	SLU 44	51	35	2990	-5.51	678.34	-8.45
1051	SLU 45	55	25	3131	-5.67	708.88	-5.78
1051	SLU 46	54	31	3093	-5.65	700.59	-7.43
1051	SLU 47	53	35	3041	-5.6	689.45	-8.5
1051	SLU 48	56	25	3183	-5.76	719.99	-5.82
1051	SLU 49	55	31	3144	-5.74	711.7	-7.48
1051	SLU 50	56	25	3157	-5.72	714.38	-5.78
1051	SLU 51	55	31	3118	-5.7	706.08	-7.44
1051	SLU 52	56	38	3322	-6.14	752.02	-9.2
1051	SLU 53	59	28	3463	-6.3	782.57	-6.53
1051	SLU 54	58	34	3425	-6.28	774.28	-8.18
1051	SLU 55	57	39	3373	-6.22	763.13	-9.24
1051	SLU 56	60	28	3515	-6.38	793.68	-6.57
1051	SLU 57	59	35	3476	-6.36	785.39	-8.23
1051	SLU 58	60	28	3489	-6.34	788.06	-6.53
1051	SLU 59	59	34	3450	-6.32	779.77	-8.18
1051	SLU 60	59	29	3529	-6.44	797.43	-6.76
1051	SLU 61	58	35	3490	-6.42	789.13	-8.41
1051	SLU 62	61	29	3580	-6.52	808.53	-6.8
1051	SLU 63	59	35	3542	-6.5	800.24	-8.46
1051	SLU 64	60	27	3498	-6.33	790.15	-6.35
1051	SLU 65	58	38	3434	-6.29	776.33	-9.11
1051	SLU 66	61	27	3575	-6.45	806.87	-6.43
1051	SLU 67	60	34	3536	-6.43	798.58	-8.09
1051	SLU 68	59	38	3485	-6.38	787.44	-9.15
1051	SLU 69	63	28	3626	-6.54	817.98	-6.48
1051	SLU 70	62	34	3587	-6.52	809.69	-8.14
1051	SLU 71	62	27	3601	-6.5	812.37	-6.44
1051	SLU 72	61	34	3562	-6.48	804.07	-8.09
1051	SLU 73	62	41	3766	-6.92	850.01	-9.85
1051	SLU 74	66	31	3907	-7.08	880.56	-7.18
1051	SLU 75	65	37	3868	-7.06	872.26	-8.84
1051	SLU 76	63	41	3817	-7	861.12	-9.9
1051	SLU 77	67	31	3958	-7.16	891.67	-7.23
1051	SLU 78	66	37	3919	-7.14	883.37	-8.88
1051	SLU 79	67	31	3933	-7.12	886.05	-7.19
1051	SLU 80	66	37	3894	-7.1	877.76	-8.84
1051	SLU 81	66	31	3972	-7.22	895.41	-7.42
1051	SLU 82	65	38	3934	-7.2	887.12	-9.07
1051	SLU 83	67	32	4024	-7.3	906.52	-7.46
1051	SLU 84	66	38	3985	-7.28	898.23	-9.12
1051	SLE RA 1	45	20	2593	-4.69	586.27	-4.74
1051	SLE RA 2	43	28	2550	-4.67	577.06	-6.58
1051	SLE RA 3	46	20	2644	-4.78	597.42	-4.8
1051	SLE RA 4	45	25	2619	-4.77	591.89	-5.9
1051	SLE RA 5	44	28	2585	-4.73	584.46	-6.61
1051	SLE RA 6	47	21	2679	-4.84	604.82	-4.83
1051	SLE RA 7	46	25	2653	-4.82	599.3	-5.93
1051	SLE RA 8	46	20	2662	-4.81	601.08	-4.8
1051	SLE RA 9	46	25	2636	-4.8	595.55	-5.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1051	SLE RA 10	46	30	2772	-5.09	626.18	-7.08
1051	SLE RA 11	48	23	2866	-5.19	646.54	-5.29
1051	SLE RA 12	48	27	2840	-5.18	641.01	-6.4
1051	SLE RA 13	47	30	2806	-5.15	633.59	-7.11
1051	SLE RA 14	49	23	2900	-5.25	653.95	-5.32
1051	SLE RA 15	49	27	2874	-5.24	648.42	-6.43
1051	SLE RA 16	49	23	2883	-5.23	650.21	-5.3
1051	SLE RA 17	48	27	2857	-5.21	644.68	-6.4
1051	SLE RA 18	49	23	2910	-5.29	656.45	-5.45
1051	SLE RA 19	48	28	2884	-5.28	650.92	-6.55
1051	SLE RA 20	49	23	2944	-5.35	663.85	-5.48
1051	SLE RA 21	49	28	2918	-5.33	658.32	-6.58
1051	SLE FR 1	45	20	2593	-4.69	586.27	-4.74
1051	SLE FR 2	44	22	2585	-4.69	584.43	-5.11
1051	SLE FR 3	45	20	2607	-4.72	589.23	-4.75
1051	SLE FR 4	45	23	2680	-4.87	605.48	-5.32
1051	SLE FR 5	46	21	2702	-4.9	610.29	-4.97
1051	SLE FR 6	47	22	2751	-4.99	621.36	-5.1
1051	SLE QP 1	45	20	2593	-4.69	586.27	-4.74
1051	SLE QP 2	46	21	2688	-4.87	607.32	-4.95
1051	SLD 1	294	81	1921	-4.59	433.55	-19.98
1051	SLD 2	248	113	1875	-4.52	425.36	-27.95
1051	SLD 3	313	-40	2731	-5.05	606.64	10.6
1051	SLD 4	266	-9	2686	-4.97	598.46	2.63
1051	SLD 5	100	218	1237	-4.11	294.15	-54.41
1051	SLD 6	70	239	1207	-4.06	288.74	-59.67
1051	SLD 7	163	-188	3939	-5.63	871.11	47.53
1051	SLD 8	132	-167	3908	-5.58	865.71	42.26
1051	SLD 9	-40	209	1468	-4.16	348.94	-52.17
1051	SLD 10	-71	230	1438	-4.11	343.53	-57.43
1051	SLD 11	22	-197	4169	-5.69	925.91	49.76
1051	SLD 12	-9	-176	4139	-5.64	920.5	44.5
1051	SLD 13	-175	51	2691	-4.77	616.19	-12.53
1051	SLD 14	-221	83	2645	-4.7	608	-20.5
1051	SLD 15	-156	-71	3501	-5.23	789.28	18.05
1051	SLD 16	-203	-39	3455	-5.15	781.1	10.08
1051	SLV 1	434	119	1468	-4.41	331.36	-29.28
1051	SLV 2	361	168	1397	-4.3	318.54	-41.76
1051	SLV 3	465	-78	2779	-5.15	611.22	20.19
1051	SLV 4	392	-29	2707	-5.04	598.4	7.7
1051	SLV 5	130	340	348	-3.63	102.48	-84.94
1051	SLV 6	81	373	300	-3.55	93.84	-93.35
1051	SLV 7	231	-317	4716	-6.1	1035.34	79.94
1051	SLV 8	182	-283	4668	-6.02	1026.7	71.54
1051	SLV 9	-90	326	708	-3.72	187.94	-81.44
1051	SLV 10	-140	359	660	-3.64	179.31	-89.85
1051	SLV 11	11	-331	5076	-6.19	1120.8	83.44
1051	SLV 12	-38	-298	5028	-6.11	1112.17	75.04
1051	SLV 13	-300	71	2669	-4.71	616.25	-17.61
1051	SLV 14	-373	121	2598	-4.59	603.42	-30.1
1051	SLV 15	-270	-126	3980	-5.45	896.11	31.86
1051	SLV 16	-343	-76	3908	-5.33	883.28	19.37
1051	SLV FO 1	473	128	1346	-4.37	303.77	-31.71
1051	SLV FO 2	393	183	1268	-4.24	289.66	-45.44
1051	SLV FO 3	507	-88	2788	-5.18	611.61	22.7
1051	SLV FO 4	426	-34	2709	-5.05	597.51	8.97
1051	SLV FO 5	138	372	114	-3.51	51.99	-92.94
1051	SLV FO 6	84	409	61	-3.42	42.49	-102.19
1051	SLV FO 7	250	-351	4919	-6.23	1078.14	88.43
1051	SLV FO 8	196	-314	4866	-6.14	1068.64	79.19
1051	SLV FO 9	-104	356	510	-3.61	146	-89.09
1051	SLV FO 10	-158	393	457	-3.52	136.51	-98.34
1051	SLV FO 11	7	-366	5315	-6.32	1172.15	92.28
1051	SLV FO 12	-47	-330	5267	-6.24	1162.65	83.04
1051	SLV FO 13	-335	76	2662	-4.69	617.14	-18.88
1051	SLV FO 14	-415	131	2588	-4.56	603.03	-32.61
1051	SLV FO 15	-301	-141	4109	-5.51	924.98	35.54
1051	SLV FO 16	-382	-86	4030	-5.38	910.88	21.8
1051	CRTFP Ux+	0	0	0	0	0	0
1051	CRTFP Ux-	0	0	0	0	0	0
1051	CRTFP Uy+	0	0	0	0	0	0
1051	CRTFP Uy-	0	0	0	0	0	0
1053	SLU 1	-20	-6	2053	0.86	-482.9	-1.45
1053	SLU 2	-18	3	2002	0.79	-470.81	0.77
1053	SLU 3	-20	-6	2114	0.89	-497.24	-1.51
1053	SLU 4	-19	-1	2084	0.85	-489.99	-0.18
1053	SLU 5	-19	3	2042	0.82	-480.13	0.72
1053	SLU 6	-20	-6	2153	0.92	-506.55	-1.56
1053	SLU 7	-20	-1	2123	0.88	-499.3	-0.22
1053	SLU 8	-20	-6	2132	0.9	-501.53	-1.54
1053	SLU 9	-19	-1	2102	0.86	-494.28	-0.21
1053	SLU 10	-20	3	2276	0.9	-535.17	0.62
1053	SLU 11	-21	-6	2388	1	-561.59	-1.66
1053	SLU 12	-21	-1	2357	0.96	-554.34	-0.33
1053	SLU 13	-20	2	2316	0.93	-544.48	0.58
1053	SLU 14	-22	-7	2427	1.03	-570.91	-1.7
1053	SLU 15	-21	-1	2397	0.99	-563.65	-0.37
1053	SLU 16	-21	-7	2406	1.01	-565.88	-1.69
1053	SLU 17	-21	-1	2375	0.98	-558.63	-0.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1053	SLU 18	-21	-7	2444	1.01	-574.83	-1.66
1053	SLU 19	-21	-1	2414	0.98	-567.58	-0.33
1053	SLU 20	-22	-7	2484	1.04	-584.15	-1.71
1053	SLU 21	-21	-1	2453	1	-576.89	-0.38
1053	SLU 22	-22	-7	2419	1.03	-568.94	-1.75
1053	SLU 23	-21	2	2368	0.97	-556.85	0.46
1053	SLU 24	-23	-7	2480	1.07	-583.28	-1.82
1053	SLU 25	-22	-2	2449	1.03	-576.03	-0.48
1053	SLU 26	-21	2	2408	0.99	-566.17	0.42
1053	SLU 27	-23	-7	2519	1.09	-592.59	-1.86
1053	SLU 28	-22	-2	2489	1.05	-585.34	-0.53
1053	SLU 29	-23	-7	2498	1.08	-587.57	-1.84
1053	SLU 30	-22	-2	2468	1.04	-580.32	-0.51
1053	SLU 31	-22	1	2642	1.08	-621.21	0.32
1053	SLU 32	-24	-8	2754	1.18	-647.63	-1.96
1053	SLU 33	-23	-2	2723	1.14	-640.38	-0.63
1053	SLU 34	-23	1	2682	1.1	-630.52	0.27
1053	SLU 35	-24	-8	2793	1.2	-656.95	-2.01
1053	SLU 36	-24	-3	2763	1.16	-649.69	-0.68
1053	SLU 37	-24	-8	2772	1.19	-651.92	-1.99
1053	SLU 38	-23	-2	2741	1.15	-644.67	-0.66
1053	SLU 39	-24	-8	2810	1.19	-660.87	-1.97
1053	SLU 40	-23	-2	2780	1.15	-653.62	-0.64
1053	SLU 41	-24	-8	2850	1.21	-670.19	-2.01
1053	SLU 42	-24	-3	2819	1.18	-662.93	-0.68
1053	SLU 43	-25	-7	2543	1.05	-598.28	-1.78
1053	SLU 44	-23	2	2493	0.99	-586.19	0.44
1053	SLU 45	-25	-7	2604	1.09	-612.61	-1.84
1053	SLU 46	-24	-2	2574	1.05	-605.36	-0.51
1053	SLU 47	-24	2	2532	1.01	-595.5	0.39
1053	SLU 48	-25	-7	2644	1.11	-621.93	-1.89
1053	SLU 49	-25	-2	2614	1.07	-614.67	-0.56
1053	SLU 50	-25	-7	2623	1.1	-616.9	-1.87
1053	SLU 51	-24	-2	2592	1.06	-609.65	-0.54
1053	SLU 52	-25	1	2767	1.1	-650.54	0.29
1053	SLU 53	-26	-8	2878	1.2	-676.96	-1.99
1053	SLU 54	-26	-2	2848	1.16	-669.71	-0.66
1053	SLU 55	-25	1	2806	1.12	-659.85	0.24
1053	SLU 56	-27	-8	2918	1.22	-686.28	-2.04
1053	SLU 57	-26	-3	2887	1.18	-679.02	-0.71
1053	SLU 58	-26	-8	2896	1.21	-681.25	-2.02
1053	SLU 59	-26	-3	2866	1.17	-674	-0.69
1053	SLU 60	-26	-8	2935	1.21	-690.21	-2
1053	SLU 61	-26	-2	2904	1.17	-682.95	-0.66
1053	SLU 62	-27	-8	2974	1.23	-699.52	-2.04
1053	SLU 63	-26	-3	2944	1.2	-692.27	-0.71
1053	SLU 64	-27	-8	2909	1.23	-684.31	-2.09
1053	SLU 65	-26	1	2859	1.17	-672.23	0.13
1053	SLU 66	-28	-8	2970	1.26	-698.65	-2.15
1053	SLU 67	-27	-3	2940	1.23	-691.4	-0.82
1053	SLU 68	-26	1	2898	1.19	-681.54	0.09
1053	SLU 69	-28	-9	3010	1.29	-707.97	-2.19
1053	SLU 70	-27	-3	2979	1.25	-700.71	-0.86
1053	SLU 71	-28	-8	2988	1.28	-702.94	-2.17
1053	SLU 72	-27	-3	2958	1.24	-695.69	-0.84
1053	SLU 73	-27	0	3133	1.28	-736.58	-0.02
1053	SLU 74	-29	-9	3244	1.38	-763	-2.3
1053	SLU 75	-28	-4	3214	1.34	-755.75	-0.97
1053	SLU 76	-28	0	3172	1.3	-745.89	-0.06
1053	SLU 77	-29	-9	3284	1.4	-772.32	-2.34
1053	SLU 78	-29	-4	3253	1.36	-765.06	-1.01
1053	SLU 79	-29	-9	3262	1.39	-767.29	-2.32
1053	SLU 80	-28	-4	3232	1.35	-760.04	-0.99
1053	SLU 81	-29	-9	3300	1.39	-776.25	-2.3
1053	SLU 82	-28	-4	3270	1.35	-768.99	-0.97
1053	SLU 83	-29	-9	3340	1.41	-785.56	-2.34
1053	SLU 84	-29	-4	3310	1.37	-778.31	-1.01
1053	SLE RA 1	-20	-6	2158	0.91	-507.49	-1.54
1053	SLE RA 2	-20	0	2124	0.86	-499.43	-0.06
1053	SLE RA 3	-21	-6	2198	0.93	-517.04	-1.58
1053	SLE RA 4	-20	-3	2178	0.9	-512.21	-0.69
1053	SLE RA 5	-20	0	2150	0.88	-505.64	-0.09
1053	SLE RA 6	-21	-6	2224	0.95	-523.25	-1.61
1053	SLE RA 7	-20	-3	2204	0.92	-518.42	-0.72
1053	SLE RA 8	-21	-6	2210	0.94	-519.9	-1.59
1053	SLE RA 9	-20	-3	2190	0.91	-515.07	-0.71
1053	SLE RA 10	-20	0	2306	0.94	-542.33	-0.16
1053	SLE RA 11	-21	-7	2381	1	-559.95	-1.68
1053	SLE RA 12	-21	-3	2360	0.98	-555.11	-0.79
1053	SLE RA 13	-21	-1	2333	0.95	-548.54	-0.19
1053	SLE RA 14	-22	-7	2407	1.02	-566.15	-1.71
1053	SLE RA 15	-21	-3	2387	0.99	-561.32	-0.82
1053	SLE RA 16	-22	-7	2393	1.01	-562.81	-1.69
1053	SLE RA 17	-21	-3	2373	0.99	-557.97	-0.81
1053	SLE RA 18	-22	-7	2418	1.01	-568.77	-1.68
1053	SLE RA 19	-21	-3	2398	0.99	-563.94	-0.79
1053	SLE RA 20	-22	-7	2445	1.03	-574.98	-1.71
1053	SLE RA 21	-21	-3	2424	1	-570.15	-0.82
1053	SLE FR 1	-20	-6	2158	0.91	-507.49	-1.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1053	SLE FR 2	-20	-5	2151	0.9	-505.87	-1.24
1053	SLE FR 3	-20	-6	2168	0.91	-509.97	-1.55
1053	SLE FR 4	-21	-5	2229	0.93	-524.26	-1.28
1053	SLE FR 5	-21	-6	2246	0.94	-528.36	-1.59
1053	SLE FR 6	-21	-6	2288	0.96	-538.13	-1.61
1053	SLE QP 1	-20	-6	2158	0.91	-507.49	-1.54
1053	SLE QP 2	-21	-6	2236	0.94	-525.87	-1.58
1053	SLD 1	209	45	2204	0.75	-513.24	11.15
1053	SLD 2	170	19	2238	0.79	-521.43	4.71
1053	SLD 3	189	-59	2853	1.55	-668.28	-14.82
1053	SLD 4	150	-85	2887	1.59	-676.47	-21.25
1053	SLD 5	85	171	1235	-0.34	-285.45	42.77
1053	SLD 6	59	154	1258	-0.32	-290.86	38.52
1053	SLD 7	20	-175	3400	2.33	-802.27	-43.77
1053	SLD 8	-6	-192	3422	2.35	-807.68	-48.02
1053	SLD 9	-35	179	1049	-0.48	-244.07	44.85
1053	SLD 10	-61	162	1072	-0.45	-249.47	40.61
1053	SLD 11	-100	-167	3214	2.19	-760.88	-41.68
1053	SLD 12	-126	-184	3237	2.22	-766.29	-45.93
1053	SLD 13	-192	72	1584	0.29	-375.27	18.09
1053	SLD 14	-231	46	1618	0.32	-383.46	11.65
1053	SLD 15	-211	-31	2234	1.09	-530.32	-7.87
1053	SLD 16	-250	-57	2268	1.12	-538.51	-14.31
1053	SLV 1	339	77	2167	0.62	-501.77	18.99
1053	SLV 2	278	36	2221	0.68	-514.6	8.91
1053	SLV 3	308	-91	3217	1.92	-752.34	-22.93
1053	SLV 4	247	-132	3270	1.97	-765.17	-33.01
1053	SLV 5	146	280	613	-1.13	-136.21	70.05
1053	SLV 6	105	253	649	-1.09	-144.85	63.27
1053	SLV 7	42	-278	4112	3.19	-971.45	-69.68
1053	SLV 8	1	-306	4148	3.22	-980.09	-76.47
1053	SLV 9	-42	293	323	-1.35	-71.66	73.31
1053	SLV 10	-83	266	359	-1.31	-80.29	66.52
1053	SLV 11	-146	-265	3822	2.97	-906.89	-66.43
1053	SLV 12	-187	-293	3858	3.01	-915.53	-73.22
1053	SLV 13	-288	119	1201	-0.1	-286.57	29.85
1053	SLV 14	-349	79	1255	-0.04	-299.4	19.77
1053	SLV 15	-319	-48	2251	1.2	-537.15	-12.07
1053	SLV 16	-380	-89	2304	1.25	-549.97	-22.15
1053	SLV FO 1	375	85	2160	0.59	-499.36	21.05
1053	SLV FO 2	308	40	2219	0.65	-513.47	9.96
1053	SLV FO 3	341	-100	3315	2.02	-774.99	-25.06
1053	SLV FO 4	273	-144	3374	2.08	-789.1	-36.15
1053	SLV FO 5	163	309	451	-1.34	-97.25	77.22
1053	SLV FO 6	117	279	491	-1.3	-106.75	69.75
1053	SLV FO 7	48	-306	4300	3.41	-1016.01	-76.49
1053	SLV FO 8	3	-336	4339	3.45	-1025.51	-83.96
1053	SLV FO 9	-44	323	132	-1.58	-26.23	80.8
1053	SLV FO 10	-90	293	172	-1.53	-35.73	73.33
1053	SLV FO 11	-159	-291	3981	3.17	-945	-72.91
1053	SLV FO 12	-204	-321	4020	3.21	-954.5	-80.38
1053	SLV FO 13	-315	132	1098	-0.2	-262.64	32.99
1053	SLV FO 14	-382	87	1157	-0.14	-276.76	21.9
1053	SLV FO 15	-349	-53	2252	1.22	-538.27	-13.12
1053	SLV FO 16	-416	-97	2311	1.28	-552.38	-24.21
1053	CRTFP Ux+	0	0	0	0	0	0
1053	CRTFP Ux-	0	0	0	0	0	0
1053	CRTFP Uy+	0	0	0	0	0	0
1053	CRTFP Uy-	0	0	0	0	0	0
1094	SLU 1	-17	-6	2099	0.92	-487.41	-1.42
1094	SLU 2	-16	3	2045	0.86	-474.85	0.8
1094	SLU 3	-18	-6	2162	0.96	-501.96	-1.48
1094	SLU 4	-17	0	2130	0.92	-494.42	-0.15
1094	SLU 5	-17	3	2086	0.88	-484.3	0.75
1094	SLU 6	-18	-6	2203	0.99	-511.41	-1.52
1094	SLU 7	-17	-1	2170	0.95	-503.87	-0.19
1094	SLU 8	-18	-6	2181	0.97	-506.31	-1.5
1094	SLU 9	-17	-1	2148	0.93	-498.77	-0.17
1094	SLU 10	-18	3	2325	0.98	-539.57	0.65
1094	SLU 11	-19	-6	2442	1.08	-566.68	-1.63
1094	SLU 12	-18	-1	2410	1.04	-559.14	-0.3
1094	SLU 13	-18	3	2366	1	-549.02	0.61
1094	SLU 14	-19	-6	2483	1.11	-576.13	-1.67
1094	SLU 15	-19	-1	2450	1.07	-568.59	-0.34
1094	SLU 16	-19	-6	2461	1.1	-571.03	-1.65
1094	SLU 17	-19	-1	2428	1.06	-563.49	-0.32
1094	SLU 18	-19	-6	2499	1.1	-579.86	-1.63
1094	SLU 19	-19	-1	2467	1.06	-572.33	-0.3
1094	SLU 20	-19	-7	2540	1.12	-589.31	-1.67
1094	SLU 21	-19	-1	2507	1.08	-581.78	-0.34
1094	SLU 22	-20	-7	2475	1.12	-574.26	-1.72
1094	SLU 23	-19	2	2421	1.05	-561.7	0.5
1094	SLU 24	-20	-7	2538	1.15	-588.8	-1.78
1094	SLU 25	-20	-2	2505	1.11	-581.27	-0.45
1094	SLU 26	-19	2	2462	1.07	-571.15	0.46
1094	SLU 27	-21	-7	2578	1.18	-598.25	-1.82
1094	SLU 28	-20	-2	2546	1.14	-590.72	-0.49
1094	SLU 29	-20	-7	2556	1.17	-593.15	-1.8
1094	SLU 30	-20	-2	2524	1.13	-585.62	-0.47



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1094	SLU 31	-20	2	2701	1.17	-626.41	0.35
1094	SLU 32	-22	-8	2817	1.28	-653.52	-1.92
1094	SLU 33	-21	-2	2785	1.24	-645.99	-0.59
1094	SLU 34	-20	1	2741	1.2	-635.86	0.31
1094	SLU 35	-22	-8	2858	1.3	-662.97	-1.97
1094	SLU 36	-21	-2	2826	1.26	-655.43	-0.64
1094	SLU 37	-22	-8	2836	1.29	-657.87	-1.95
1094	SLU 38	-21	-2	2804	1.25	-650.34	-0.62
1094	SLU 39	-22	-8	2875	1.29	-666.71	-1.93
1094	SLU 40	-21	-2	2842	1.25	-659.17	-0.6
1094	SLU 41	-22	-8	2915	1.31	-676.16	-1.97
1094	SLU 42	-21	-2	2883	1.27	-668.62	-0.64
1094	SLU 43	-22	-7	2600	1.14	-603.86	-1.74
1094	SLU 44	-21	2	2546	1.07	-591.3	0.47
1094	SLU 45	-22	-7	2663	1.17	-618.41	-1.8
1094	SLU 46	-22	-2	2631	1.13	-610.87	-0.47
1094	SLU 47	-21	2	2587	1.09	-600.75	0.43
1094	SLU 48	-22	-7	2704	1.2	-627.86	-1.85
1094	SLU 49	-22	-2	2672	1.16	-620.32	-0.52
1094	SLU 50	-22	-7	2682	1.19	-622.76	-1.83
1094	SLU 51	-22	-2	2650	1.15	-615.22	-0.5
1094	SLU 52	-22	2	2826	1.19	-656.02	0.33
1094	SLU 53	-23	-8	2943	1.3	-683.12	-1.95
1094	SLU 54	-23	-2	2911	1.26	-675.59	-0.62
1094	SLU 55	-22	1	2867	1.22	-665.47	0.29
1094	SLU 56	-24	-8	2984	1.32	-692.57	-1.99
1094	SLU 57	-23	-2	2951	1.28	-685.04	-0.66
1094	SLU 58	-24	-8	2962	1.31	-687.48	-1.97
1094	SLU 59	-23	-2	2929	1.27	-679.94	-0.64
1094	SLU 60	-24	-8	3000	1.31	-696.31	-1.95
1094	SLU 61	-23	-2	2968	1.27	-688.78	-0.62
1094	SLU 62	-24	-8	3041	1.33	-705.76	-1.99
1094	SLU 63	-23	-2	3009	1.29	-698.23	-0.66
1094	SLU 64	-24	-8	2976	1.33	-690.7	-2.04
1094	SLU 65	-23	1	2922	1.26	-678.14	0.17
1094	SLU 66	-25	-8	3039	1.37	-705.25	-2.1
1094	SLU 67	-24	-3	3006	1.32	-697.72	-0.77
1094	SLU 68	-23	1	2963	1.28	-687.59	0.13
1094	SLU 69	-25	-8	3079	1.39	-714.7	-2.14
1094	SLU 70	-24	-3	3047	1.35	-707.17	-0.81
1094	SLU 71	-25	-8	3057	1.38	-709.6	-2.13
1094	SLU 72	-24	-3	3025	1.34	-702.07	-0.8
1094	SLU 73	-24	0	3202	1.38	-742.86	0.03
1094	SLU 74	-26	-9	3318	1.49	-769.97	-2.25
1094	SLU 75	-25	-3	3286	1.45	-762.43	-0.92
1094	SLU 76	-25	0	3242	1.41	-752.31	-0.01
1094	SLU 77	-26	-9	3359	1.51	-779.42	-2.29
1094	SLU 78	-26	-4	3327	1.47	-771.88	-0.96
1094	SLU 79	-26	-9	3337	1.5	-774.32	-2.27
1094	SLU 80	-25	-4	3305	1.46	-766.78	-0.94
1094	SLU 81	-26	-9	3376	1.5	-783.16	-2.25
1094	SLU 82	-25	-3	3343	1.46	-775.62	-0.92
1094	SLU 83	-26	-9	3416	1.53	-792.61	-2.29
1094	SLU 84	-26	-4	3384	1.49	-785.07	-0.96
1094	SLE RA 1	-18	-6	2207	0.98	-512.22	-1.5
1094	SLE RA 2	-17	0	2171	0.93	-503.85	-0.03
1094	SLE RA 3	-18	-6	2248	1	-521.92	-1.54
1094	SLE RA 4	-18	-2	2227	0.98	-516.9	-0.66
1094	SLE RA 5	-18	0	2198	0.95	-510.15	-0.06
1094	SLE RA 6	-19	-6	2276	1.02	-528.22	-1.57
1094	SLE RA 7	-18	-3	2254	0.99	-523.2	-0.69
1094	SLE RA 8	-18	-6	2261	1.01	-524.82	-1.56
1094	SLE RA 9	-18	-3	2239	0.99	-519.8	-0.67
1094	SLE RA 10	-18	0	2357	1.01	-547	-0.12
1094	SLE RA 11	-19	-6	2435	1.09	-565.07	-1.64
1094	SLE RA 12	-19	-3	2413	1.06	-560.04	-0.76
1094	SLE RA 13	-18	0	2384	1.03	-553.3	-0.15
1094	SLE RA 14	-19	-7	2462	1.1	-571.37	-1.67
1094	SLE RA 15	-19	-3	2441	1.08	-566.34	-0.78
1094	SLE RA 16	-19	-6	2448	1.09	-567.97	-1.66
1094	SLE RA 17	-19	-3	2426	1.07	-562.94	-0.77
1094	SLE RA 18	-19	-6	2473	1.09	-573.86	-1.64
1094	SLE RA 19	-19	-3	2451	1.07	-568.84	-0.76
1094	SLE RA 20	-19	-7	2500	1.11	-580.16	-1.67
1094	SLE RA 21	-19	-3	2479	1.08	-575.14	-0.79
1094	SLE FR 1	-18	-6	2207	0.98	-512.22	-1.5
1094	SLE FR 2	-18	-5	2199	0.97	-510.55	-1.21
1094	SLE FR 3	-18	-6	2217	0.99	-514.74	-1.52
1094	SLE FR 4	-18	-5	2279	1	-529.04	-1.25
1094	SLE FR 5	-18	-6	2297	1.02	-533.23	-1.56
1094	SLE FR 6	-19	-6	2340	1.04	-543.04	-1.57
1094	SLE QP 1	-18	-6	2207	0.98	-512.22	-1.5
1094	SLE QP 2	-18	-6	2287	1.01	-530.71	-1.55
1094	SLD 1	215	45	2244	0.81	-516.36	11.24
1094	SLD 2	175	19	2280	0.85	-524.59	4.8
1094	SLD 3	196	-58	2937	1.67	-677.35	-14.69
1094	SLD 4	156	-84	2973	1.71	-685.58	-21.14
1094	SLD 5	88	171	1216	-0.35	-280.76	42.79
1094	SLD 6	61	154	1240	-0.32	-286.2	38.53



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1094	SLD 7	25	-174	3526	2.5	-817.38	-43.67
1094	SLD 8	-2	-191	3550	2.52	-822.82	-47.92
1094	SLD 9	-35	179	1023	-0.49	-238.61	44.83
1094	SLD 10	-61	162	1047	-0.47	-244.04	40.58
1094	SLD 11	-98	-166	3333	2.35	-775.23	-41.63
1094	SLD 12	-125	-183	3357	2.37	-780.66	-45.88
1094	SLD 13	-193	72	1600	0.32	-375.85	18.05
1094	SLD 14	-233	46	1636	0.36	-384.08	11.6
1094	SLD 15	-212	-31	2293	1.18	-536.83	-7.89
1094	SLD 16	-252	-57	2329	1.21	-545.06	-14.33
1094	SLV 1	348	77	2201	0.68	-503.77	19.12
1094	SLV 2	284	36	2257	0.74	-516.66	9.03
1094	SLV 3	318	-91	3321	2.06	-763.95	-22.76
1094	SLV 4	254	-131	3377	2.12	-776.84	-32.86
1094	SLV 5	150	280	552	-1.19	-125.62	70.06
1094	SLV 6	107	253	590	-1.15	-134.3	63.26
1094	SLV 7	48	-278	4285	3.41	-992.89	-69.55
1094	SLV 8	5	-305	4323	3.45	-1001.57	-76.35
1094	SLV 9	-42	293	250	-1.42	-59.86	73.25
1094	SLV 10	-85	266	289	-1.38	-68.54	66.45
1094	SLV 11	-144	-265	3983	3.18	-927.13	-66.35
1094	SLV 12	-186	-293	4021	3.22	-935.81	-73.15
1094	SLV 13	-291	119	1196	-0.09	-284.59	29.76
1094	SLV 14	-354	78	1252	-0.03	-297.48	19.67
1094	SLV 15	-321	-48	2316	1.29	-544.77	-12.12
1094	SLV 16	-385	-89	2372	1.35	-557.66	-22.22
1094	SLV FO 1	385	85	2192	0.64	-501.07	21.19
1094	SLV FO 2	315	41	2255	0.71	-515.25	10.08
1094	SLV FO 3	351	-99	3424	2.16	-787.27	-24.88
1094	SLV FO 4	281	-144	3486	2.23	-801.45	-35.99
1094	SLV FO 5	166	309	378	-1.41	-85.11	77.22
1094	SLV FO 6	119	279	420	-1.37	-94.65	69.74
1094	SLV FO 7	55	-305	4484	3.65	-1039.1	-76.35
1094	SLV FO 8	8	-335	4526	3.69	-1048.65	-83.83
1094	SLV FO 9	-44	323	47	-1.66	-12.78	80.73
1094	SLV FO 10	-91	293	89	-1.62	-22.33	73.25
1094	SLV FO 11	-156	-291	4153	3.39	-966.77	-72.84
1094	SLV FO 12	-203	-321	4195	3.44	-976.32	-80.31
1094	SLV FO 13	-318	132	1087	-0.2	-259.98	32.89
1094	SLV FO 14	-388	87	1149	-0.13	-274.16	21.79
1094	SLV FO 15	-352	-53	2319	1.32	-546.17	-13.18
1094	SLV FO 16	-422	-97	2381	1.38	-560.36	-24.28
1094	CRTFP Ux+	0	0	0	0	0	0
1094	CRTFP Ux-	0	0	0	0	0	0
1094	CRTFP Uy+	0	0	0	0	0	0
1094	CRTFP Uy-	0	0	0	0	0	0
1099	SLU 1	29	16	2071	-43.49	463.63	-3.33
1099	SLU 2	28	25	2014	-42.35	451.58	-5.66
1099	SLU 3	30	16	2136	-44.85	477.57	-3.38
1099	SLU 4	30	22	2102	-44.16	470.34	-4.78
1099	SLU 5	29	26	2058	-43.25	460.8	-5.68
1099	SLU 6	31	17	2179	-45.75	486.79	-3.4
1099	SLU 7	31	22	2145	-45.07	479.56	-4.8
1099	SLU 8	31	16	2158	-45.3	482.08	-3.37
1099	SLU 9	30	22	2124	-44.62	474.85	-4.77
1099	SLU 10	31	28	2292	-48.2	512.48	-6.24
1099	SLU 11	33	19	2414	-50.7	538.48	-3.96
1099	SLU 12	33	25	2380	-50.01	531.24	-5.36
1099	SLU 13	32	28	2336	-49.1	521.71	-6.26
1099	SLU 14	34	19	2457	-51.6	547.7	-3.98
1099	SLU 15	33	25	2423	-50.92	540.47	-5.38
1099	SLU 16	34	19	2436	-51.16	542.98	-3.95
1099	SLU 17	33	25	2402	-50.47	535.75	-5.35
1099	SLU 18	33	20	2469	-51.85	550.64	-4.15
1099	SLU 19	33	25	2434	-51.17	543.41	-5.55
1099	SLU 20	34	20	2512	-52.76	559.86	-4.17
1099	SLU 21	34	26	2478	-52.07	552.63	-5.57
1099	SLU 22	34	18	2444	-51.31	545.03	-3.8
1099	SLU 23	32	28	2388	-50.17	532.98	-6.14
1099	SLU 24	35	19	2509	-52.67	558.97	-3.85
1099	SLU 25	34	24	2475	-51.98	551.74	-5.25
1099	SLU 26	33	28	2431	-51.07	542.2	-6.16
1099	SLU 27	36	19	2553	-53.57	568.19	-3.88
1099	SLU 28	35	24	2518	-52.89	560.96	-5.27
1099	SLU 29	36	19	2531	-53.12	563.48	-3.85
1099	SLU 30	35	24	2497	-52.44	556.25	-5.24
1099	SLU 31	35	30	2666	-56.02	593.88	-6.71
1099	SLU 32	38	21	2787	-58.52	619.87	-4.43
1099	SLU 33	37	27	2753	-57.83	612.64	-5.83
1099	SLU 34	36	30	2709	-56.93	603.11	-6.73
1099	SLU 35	39	22	2831	-59.43	629.1	-4.45
1099	SLU 36	38	27	2797	-58.74	621.87	-5.85
1099	SLU 37	39	21	2809	-58.98	624.38	-4.42
1099	SLU 38	38	27	2775	-58.29	617.15	-5.82
1099	SLU 39	38	22	2842	-59.68	632.04	-4.62
1099	SLU 40	37	28	2808	-58.99	624.8	-6.02
1099	SLU 41	39	22	2885	-60.58	641.26	-4.64
1099	SLU 42	38	28	2851	-59.89	634.03	-6.04
1099	SLU 43	37	20	2565	-53.86	574.81	-4.17



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLU 44	35	29	2508	-52.71	562.76	-6.5
1099	SLU 45	38	21	2630	-55.21	588.75	-4.22
1099	SLU 46	37	26	2595	-54.53	581.52	-5.62
1099	SLU 47	36	30	2551	-53.62	571.98	-6.52
1099	SLU 48	39	21	2673	-56.12	597.98	-4.24
1099	SLU 49	38	26	2639	-55.43	590.74	-5.64
1099	SLU 50	38	21	2651	-55.67	593.26	-4.21
1099	SLU 51	38	26	2617	-54.98	586.03	-5.61
1099	SLU 52	38	32	2786	-58.57	623.67	-7.07
1099	SLU 53	41	23	2908	-61.07	649.66	-4.79
1099	SLU 54	40	29	2874	-60.38	642.43	-6.19
1099	SLU 55	39	32	2829	-59.47	632.89	-7.1
1099	SLU 56	42	23	2951	-61.97	658.88	-4.81
1099	SLU 57	41	29	2917	-61.28	651.65	-6.21
1099	SLU 58	41	23	2929	-61.52	654.17	-4.78
1099	SLU 59	40	29	2895	-60.83	646.93	-6.18
1099	SLU 60	41	24	2962	-62.22	661.82	-4.99
1099	SLU 61	40	29	2928	-61.53	654.59	-6.39
1099	SLU 62	42	24	3005	-63.13	671.04	-5.01
1099	SLU 63	41	30	2971	-62.44	663.81	-6.41
1099	SLU 64	41	23	2938	-61.68	656.21	-4.64
1099	SLU 65	40	32	2881	-60.54	644.16	-6.97
1099	SLU 66	42	23	3003	-63.04	670.15	-4.69
1099	SLU 67	41	28	2969	-62.35	662.92	-6.09
1099	SLU 68	41	32	2924	-61.44	653.38	-6.99
1099	SLU 69	43	23	3046	-63.94	679.37	-4.71
1099	SLU 70	42	29	3012	-63.25	672.14	-6.11
1099	SLU 71	43	23	3024	-63.49	674.66	-4.68
1099	SLU 72	42	28	2990	-62.8	667.43	-6.08
1099	SLU 73	43	34	3159	-66.39	705.06	-7.55
1099	SLU 74	45	25	3281	-68.89	731.05	-5.27
1099	SLU 75	44	31	3247	-68.2	723.82	-6.67
1099	SLU 76	43	34	3202	-67.29	714.29	-7.57
1099	SLU 77	46	26	3324	-69.79	740.28	-5.29
1099	SLU 78	45	31	3290	-69.1	733.05	-6.69
1099	SLU 79	46	25	3303	-69.34	735.56	-5.26
1099	SLU 80	45	31	3268	-68.66	728.33	-6.66
1099	SLU 81	45	26	3335	-70.04	743.22	-5.46
1099	SLU 82	44	32	3301	-69.35	735.99	-6.86
1099	SLU 83	46	26	3378	-70.95	752.44	-5.48
1099	SLU 84	45	32	3344	-70.26	745.21	-6.88
1099	SLE RA 1	31	17	2178	-45.73	486.89	-3.47
1099	SLE RA 2	30	23	2140	-44.96	478.85	-5.02
1099	SLE RA 3	31	17	2221	-46.63	496.18	-3.5
1099	SLE RA 4	31	21	2198	-46.17	491.36	-4.43
1099	SLE RA 5	30	23	2169	-45.57	485	-5.04
1099	SLE RA 6	32	17	2250	-47.23	502.33	-3.51
1099	SLE RA 7	31	21	2227	-46.78	497.51	-4.45
1099	SLE RA 8	32	17	2236	-46.93	499.19	-3.49
1099	SLE RA 9	31	21	2213	-46.48	494.37	-4.43
1099	SLE RA 10	32	25	2325	-48.87	519.46	-5.4
1099	SLE RA 11	33	19	2407	-50.53	536.78	-3.88
1099	SLE RA 12	33	22	2384	-50.07	531.96	-4.82
1099	SLE RA 13	32	25	2354	-49.47	525.61	-5.42
1099	SLE RA 14	34	19	2435	-51.14	542.93	-3.9
1099	SLE RA 15	33	23	2413	-50.68	538.11	-4.83
1099	SLE RA 16	34	19	2421	-50.84	539.79	-3.88
1099	SLE RA 17	33	22	2398	-50.38	534.97	-4.81
1099	SLE RA 18	33	19	2443	-51.3	544.89	-4.01
1099	SLE RA 19	33	23	2420	-50.84	540.07	-4.95
1099	SLE RA 20	34	19	2472	-51.91	551.04	-4.03
1099	SLE RA 21	33	23	2449	-51.45	546.22	-4.96
1099	SLE FR 1	31	17	2178	-45.73	486.89	-3.47
1099	SLE FR 2	30	18	2170	-45.58	485.28	-3.78
1099	SLE FR 3	31	17	2189	-45.97	489.35	-3.47
1099	SLE FR 4	31	19	2250	-47.25	502.68	-3.94
1099	SLE FR 5	32	18	2269	-47.64	506.75	-3.64
1099	SLE FR 6	32	18	2310	-48.52	515.89	-3.74
1099	SLE QP 1	31	17	2178	-45.73	486.89	-3.47
1099	SLE QP 2	31	18	2257	-47.4	504.29	-3.63
1099	SLD 1	248	68	1573	-33.76	348.77	-8.54
1099	SLD 2	207	94	1535	-32.95	342.49	-16.03
1099	SLD 3	261	-34	2288	-48.17	499.36	17.24
1099	SLD 4	221	-8	2249	-47.36	493.08	9.75
1099	SLD 5	84	183	976	-21.6	230.36	-42.86
1099	SLD 6	57	200	950	-21.07	226.22	-47.8
1099	SLD 7	128	-157	3357	-69.63	732.34	43.08
1099	SLD 8	101	-140	3332	-69.09	728.2	38.14
1099	SLD 9	-38	175	1183	-25.71	280.38	-45.4
1099	SLD 10	-65	193	1158	-25.17	276.24	-50.34
1099	SLD 11	6	-165	3565	-73.73	782.36	40.54
1099	SLD 12	-21	-147	3539	-73.2	778.22	35.59
1099	SLD 13	-158	43	2265	-47.44	515.5	-17.01
1099	SLD 14	-199	69	2227	-46.63	509.22	-24.5
1099	SLD 15	-145	-59	2980	-61.85	666.09	8.77
1099	SLD 16	-185	-33	2941	-61.04	659.81	1.28
1099	SLV 1	370	99	1170	-25.72	257.44	-11.99
1099	SLV 2	307	141	1110	-24.45	247.61	-23.72
1099	SLV 3	392	-66	2325	-49.01	500.92	29.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1099	SLV 4	328	-24	2265	-47.74	491.09	17.98
1099	SLV 5	112	284	191	-5.8	62.79	-67.2
1099	SLV 6	69	312	150	-4.95	56.17	-75.1
1099	SLV 7	184	-266	4041	-83.45	874.39	71.82
1099	SLV 8	141	-237	4001	-82.6	867.77	63.92
1099	SLV 9	-78	273	514	-12.2	140.81	-71.18
1099	SLV 10	-121	301	474	-11.35	134.19	-79.08
1099	SLV 11	-7	-277	4365	-89.85	952.41	67.84
1099	SLV 12	-50	-249	4324	-89	945.79	59.94
1099	SLV 13	-265	59	2249	-47.06	517.49	-25.25
1099	SLV 14	-329	101	2189	-45.79	507.66	-36.98
1099	SLV 15	-244	-106	3405	-70.35	760.97	16.46
1099	SLV 16	-308	-64	3344	-69.08	751.14	4.73
1099	SLV FO 1	404	107	1062	-23.55	232.76	-12.83
1099	SLV FO 2	334	153	995	-22.15	221.94	-25.73
1099	SLV FO 3	428	-74	2332	-49.17	500.59	33.05
1099	SLV FO 4	358	-28	2266	-47.78	489.77	20.15
1099	SLV FO 5	121	311	-16	-1.64	18.64	-73.56
1099	SLV FO 6	73	342	-61	-0.7	11.36	-82.25
1099	SLV FO 7	199	-294	4219	-87.06	911.41	79.36
1099	SLV FO 8	152	-263	4175	-86.12	904.12	70.67
1099	SLV FO 9	-89	298	340	-8.68	104.46	-77.94
1099	SLV FO 10	-137	329	295	-7.74	97.18	-86.62
1099	SLV FO 11	-10	-307	4575	-94.1	997.22	74.99
1099	SLV FO 12	-58	-276	4531	-93.16	989.94	66.3
1099	SLV FO 13	-295	64	2249	-47.02	518.81	-27.41
1099	SLV FO 14	-365	109	2182	-45.63	508	-40.31
1099	SLV FO 15	-271	-118	3519	-72.65	786.64	18.47
1099	SLV FO 16	-342	-72	3453	-71.25	775.82	5.57
1099	CRTFP Ux+	0	0	0	0	0	0
1099	CRTFP Ux-	0	0	0	0	0	0
1099	CRTFP Uy+	0	0	0	0	0	0
1099	CRTFP Uy-	0	0	0	0	0	0
1100	SLU 1	-28	-8	3496	-860.42	-524.17	-8.65
1100	SLU 2	-26	6	3407	-840.29	-510.65	-5.99
1100	SLU 3	-28	-9	3601	-885.64	-539.84	-8.91
1100	SLU 4	-27	0	3547	-873.56	-531.73	-7.32
1100	SLU 5	-26	6	3475	-856.66	-520.83	-6.15
1100	SLU 6	-29	-9	3669	-902	-550.02	-9.07
1100	SLU 7	-28	0	3615	-889.93	-541.91	-7.47
1100	SLU 8	-28	-9	3632	-893.16	-544.53	-8.97
1100	SLU 9	-27	0	3578	-881.08	-536.42	-7.37
1100	SLU 10	-28	5	3873	-954.92	-580.39	-6.68
1100	SLU 11	-30	-10	4067	-1000.26	-609.58	-9.61
1100	SLU 12	-29	-1	4013	-988.18	-601.47	-8.01
1100	SLU 13	-29	5	3941	-971.28	-590.57	-6.84
1100	SLU 14	-31	-10	4135	-1016.63	-619.76	-9.77
1100	SLU 15	-30	-1	4081	-1004.55	-611.65	-8.17
1100	SLU 16	-30	-10	4098	-1007.78	-614.27	-9.66
1100	SLU 17	-30	-1	4045	-995.7	-606.16	-8.07
1100	SLU 18	-31	-10	4163	-1024.17	-623.8	-9.64
1100	SLU 19	-30	-1	4109	-1012.09	-615.69	-8.05
1100	SLU 20	-31	-10	4230	-1040.54	-633.98	-9.8
1100	SLU 21	-30	-1	4177	-1028.46	-625.87	-8.21
1100	SLU 22	-31	-10	4122	-1012.96	-617.79	-9.99
1100	SLU 23	-30	4	4032	-992.83	-604.27	-7.32
1100	SLU 24	-32	-11	4226	-1038.17	-633.46	-10.25
1100	SLU 25	-31	-2	4173	-1026.09	-625.35	-8.65
1100	SLU 26	-30	4	4100	-1009.19	-614.45	-7.48
1100	SLU 27	-33	-11	4294	-1054.54	-643.64	-10.41
1100	SLU 28	-32	-2	4240	-1042.46	-635.53	-8.81
1100	SLU 29	-32	-11	4258	-1045.69	-638.15	-10.3
1100	SLU 30	-31	-2	4204	-1033.61	-630.04	-8.71
1100	SLU 31	-32	3	4499	-1107.45	-674.01	-8.02
1100	SLU 32	-34	-12	4693	-1152.8	-703.2	-10.95
1100	SLU 33	-33	-3	4639	-1140.72	-695.09	-9.35
1100	SLU 34	-32	3	4566	-1123.82	-684.19	-8.18
1100	SLU 35	-35	-12	4761	-1169.17	-713.38	-11.11
1100	SLU 36	-34	-3	4707	-1157.09	-705.27	-9.51
1100	SLU 37	-34	-12	4724	-1160.32	-707.89	-11
1100	SLU 38	-34	-3	4670	-1148.24	-699.78	-9.4
1100	SLU 39	-34	-12	4788	-1176.71	-717.42	-10.98
1100	SLU 40	-34	-3	4734	-1164.63	-709.31	-9.39
1100	SLU 41	-35	-12	4856	-1193.08	-727.6	-11.14
1100	SLU 42	-34	-3	4802	-1181	-719.49	-9.54
1100	SLU 43	-34	-10	4331	-1066.25	-649.32	-10.78
1100	SLU 44	-33	5	4241	-1046.12	-635.8	-8.12
1100	SLU 45	-35	-11	4435	-1091.47	-664.99	-11.05
1100	SLU 46	-34	-2	4381	-1079.39	-656.88	-9.45
1100	SLU 47	-33	4	4309	-1062.49	-645.98	-8.28
1100	SLU 48	-36	-11	4503	-1107.83	-675.17	-11.21
1100	SLU 49	-35	-2	4449	-1095.76	-667.06	-9.61
1100	SLU 50	-35	-11	4467	-1098.99	-669.68	-11.1
1100	SLU 51	-34	-2	4413	-1086.91	-661.57	-9.5
1100	SLU 52	-35	4	4707	-1160.75	-705.54	-8.82
1100	SLU 53	-37	-11	4902	-1206.09	-734.74	-11.75
1100	SLU 54	-36	-3	4848	-1194.01	-726.63	-10.15
1100	SLU 55	-35	3	4775	-1177.11	-715.72	-8.98
1100	SLU 56	-38	-12	4970	-1222.46	-744.92	-11.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLU 57	-37	-3	4916	-1210.38	-736.81	-10.31
1100	SLU 58	-37	-12	4933	-1213.61	-739.42	-11.8
1100	SLU 59	-36	-3	4879	-1201.53	-731.31	-10.2
1100	SLU 60	-37	-11	4997	-1230	-748.95	-11.78
1100	SLU 61	-36	-3	4943	-1217.92	-740.84	-10.18
1100	SLU 62	-38	-12	5065	-1246.37	-759.13	-11.94
1100	SLU 63	-37	-3	5011	-1234.29	-751.02	-10.34
1100	SLU 64	-38	-12	4956	-1218.79	-742.94	-12.12
1100	SLU 65	-37	3	4867	-1198.66	-729.42	-9.46
1100	SLU 66	-39	-12	5061	-1244	-758.61	-12.39
1100	SLU 67	-38	-4	5007	-1231.92	-750.5	-10.79
1100	SLU 68	-37	2	4934	-1215.02	-739.6	-9.62
1100	SLU 69	-40	-13	5129	-1260.37	-768.79	-12.55
1100	SLU 70	-39	-4	5075	-1248.29	-760.68	-10.95
1100	SLU 71	-39	-13	5092	-1251.52	-763.3	-12.44
1100	SLU 72	-38	-4	5038	-1239.44	-755.19	-10.84
1100	SLU 73	-39	2	5333	-1313.28	-799.16	-10.16
1100	SLU 74	-41	-13	5527	-1358.63	-828.36	-13.08
1100	SLU 75	-40	-5	5473	-1346.55	-820.25	-11.49
1100	SLU 76	-39	1	5401	-1329.65	-809.34	-10.32
1100	SLU 77	-42	-14	5595	-1374.99	-838.54	-13.24
1100	SLU 78	-41	-5	5541	-1362.92	-830.42	-11.65
1100	SLU 79	-41	-14	5558	-1366.15	-833.04	-13.14
1100	SLU 80	-40	-5	5505	-1354.07	-824.93	-11.54
1100	SLU 81	-41	-13	5622	-1382.54	-842.57	-13.12
1100	SLU 82	-40	-5	5569	-1370.46	-834.46	-11.52
1100	SLU 83	-42	-14	5690	-1398.9	-852.75	-13.28
1100	SLU 84	-41	-5	5637	-1386.83	-844.64	-11.68
1100	SLE RA 1	-29	-9	3675	-904	-550.92	-9.03
1100	SLE RA 2	-28	1	3615	-890.58	-541.9	-7.26
1100	SLE RA 3	-29	-9	3745	-920.81	-561.37	-9.21
1100	SLE RA 4	-29	-3	3709	-912.76	-555.96	-8.14
1100	SLE RA 5	-28	1	3661	-901.5	-548.69	-7.36
1100	SLE RA 6	-29	-9	3790	-931.73	-568.15	-9.31
1100	SLE RA 7	-29	-3	3754	-923.67	-562.75	-8.25
1100	SLE RA 8	-29	-9	3766	-925.83	-564.49	-9.24
1100	SLE RA 9	-29	-3	3730	-917.77	-559.08	-8.18
1100	SLE RA 10	-29	0	3926	-967	-588.4	-7.72
1100	SLE RA 11	-31	-10	4056	-997.23	-607.86	-9.67
1100	SLE RA 12	-30	-4	4020	-989.18	-602.45	-8.61
1100	SLE RA 13	-29	0	3971	-977.91	-595.19	-7.83
1100	SLE RA 14	-31	-10	4101	-1008.14	-614.65	-9.78
1100	SLE RA 15	-30	-4	4065	-1000.09	-609.24	-8.71
1100	SLE RA 16	-31	-10	4076	-1002.24	-610.98	-9.71
1100	SLE RA 17	-30	-4	4041	-994.19	-605.58	-8.64
1100	SLE RA 18	-31	-10	4119	-1013.17	-617.34	-9.69
1100	SLE RA 19	-30	-4	4083	-1005.12	-611.93	-8.63
1100	SLE RA 20	-31	-10	4164	-1024.08	-624.12	-9.8
1100	SLE RA 21	-30	-4	4129	-1016.03	-618.72	-8.74
1100	SLE FR 1	-29	-9	3675	-904	-550.92	-9.03
1100	SLE FR 2	-28	-7	3663	-901.32	-549.11	-8.68
1100	SLE FR 3	-29	-9	3693	-908.37	-553.63	-9.07
1100	SLE FR 4	-29	-7	3796	-934.07	-569.04	-8.88
1100	SLE FR 5	-29	-9	3826	-941.12	-573.56	-9.27
1100	SLE FR 6	-30	-9	3897	-958.59	-584.13	-9.36
1100	SLE QP 1	-29	-9	3675	-904	-550.92	-9.03
1100	SLE QP 2	-29	-9	3808	-936.75	-570.84	-9.23
1100	SLD 1	359	77	3746	-930.49	-558.58	106.32
1100	SLD 2	292	33	3807	-944.46	-567.49	82.25
1100	SLD 3	329	-95	4897	-1189.47	-731.95	72.22
1100	SLD 4	262	-139	4957	-1203.44	-740.86	48.15
1100	SLD 5	145	285	2033	-539.57	-302.61	81.49
1100	SLD 6	101	256	2074	-548.8	-308.49	65.6
1100	SLD 7	44	-287	5869	-1402.84	-880.52	-32.18
1100	SLD 8	0	-316	5909	-1412.06	-886.4	-48.07
1100	SLD 9	-59	298	1707	-461.44	-255.29	29.61
1100	SLD 10	-103	269	1748	-470.67	-261.16	13.72
1100	SLD 11	-159	-274	5543	-1324.71	-833.19	-84.06
1100	SLD 12	-204	-303	5583	-1333.94	-839.07	-99.95
1100	SLD 13	-320	120	2659	-670.07	-400.83	-66.61
1100	SLD 14	-387	77	2720	-684.04	-409.73	-90.68
1100	SLD 15	-350	-51	3810	-929.05	-574.2	-100.71
1100	SLD 16	-417	-95	3871	-943.02	-583.1	-124.78
1100	SLV 1	579	130	3678	-919.65	-546.8	172.52
1100	SLV 2	474	61	3773	-941.54	-560.75	134.81
1100	SLV 3	530	-148	5538	-1338.18	-827	117.54
1100	SLV 4	425	-216	5633	-1360.08	-840.95	79.84
1100	SLV 5	247	466	931	-292.76	-136.06	135.71
1100	SLV 6	176	420	995	-307.5	-145.45	110.33
1100	SLV 7	85	-458	7130	-1687.88	-1070.05	-47.54
1100	SLV 8	14	-504	7194	-1702.62	-1079.44	-72.93
1100	SLV 9	-72	486	423	-170.89	-62.24	54.47
1100	SLV 10	-143	440	487	-185.63	-71.63	29.08
1100	SLV 11	-234	-438	6621	-1566.01	-996.23	-128.79
1100	SLV 12	-305	-484	6685	-1580.75	-1005.62	-154.17
1100	SLV 13	-484	198	1983	-513.43	-300.74	-98.3
1100	SLV 14	-589	129	2079	-535.33	-314.69	-136
1100	SLV 15	-532	-80	3843	-931.97	-580.93	-153.27
1100	SLV 16	-637	-148	3938	-953.86	-594.88	-190.98



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1100	SLV FO 1	640	143	3665	-917.94	-544.4	190.69
1100	SLV FO 2	524	68	3770	-942.02	-559.74	149.22
1100	SLV FO 3	586	-162	5711	-1378.33	-852.61	130.22
1100	SLV FO 4	471	-237	5816	-1402.41	-867.96	88.74
1100	SLV FO 5	274	513	643	-228.36	-92.58	150.21
1100	SLV FO 6	196	463	714	-244.57	-102.91	122.28
1100	SLV FO 7	96	-503	7462	-1762.99	-1119.97	-51.38
1100	SLV FO 8	18	-554	7532	-1779.2	-1130.3	-79.3
1100	SLV FO 9	-77	536	84	-94.31	-11.38	60.84
1100	SLV FO 10	-154	485	155	-110.52	-21.71	32.91
1100	SLV FO 11	-255	-481	6903	-1628.94	-1038.77	-140.74
1100	SLV FO 12	-333	-532	6973	-1645.15	-1049.1	-168.67
1100	SLV FO 13	-529	218	1801	-471.1	-273.73	-107.2
1100	SLV FO 14	-645	143	1906	-495.18	-289.07	-148.68
1100	SLV FO 15	-583	-87	3847	-931.49	-581.94	-167.68
1100	SLV FO 16	-698	-162	3951	-955.57	-597.29	-209.15
1100	CRTFP Ux+	0	0	0	0	0	0
1100	CRTFP Ux-	0	0	0	0	0	0
1100	CRTFP Uy+	0	0	0	0	0	0
1100	CRTFP Uy-	0	0	0	0	0	0
1102	SLU 1	-29	-10	3495	-1071.17	-59.77	-10.36
1102	SLU 2	-27	5	3407	-1047.15	-58.29	-9.54
1102	SLU 3	-30	-11	3599	-1102.11	-61.53	-10.66
1102	SLU 4	-29	-1	3546	-1087.7	-60.65	-10.17
1102	SLU 5	-28	5	3475	-1067.22	-59.43	-9.71
1102	SLU 6	-30	-11	3666	-1122.19	-62.68	-10.83
1102	SLU 7	-29	-2	3614	-1107.77	-61.79	-10.34
1102	SLU 8	-30	-11	3630	-1111.32	-62.06	-10.7
1102	SLU 9	-29	-2	3577	-1096.91	-61.17	-10.21
1102	SLU 10	-30	4	3872	-1188.44	-66.19	-10.34
1102	SLU 11	-32	-12	4064	-1243.41	-69.43	-11.45
1102	SLU 12	-31	-2	4011	-1229	-68.55	-10.96
1102	SLU 13	-30	4	3940	-1208.52	-67.34	-10.51
1102	SLU 14	-32	-12	4131	-1263.49	-70.58	-11.62
1102	SLU 15	-31	-3	4079	-1249.07	-69.7	-11.13
1102	SLU 16	-32	-12	4095	-1252.62	-69.96	-11.5
1102	SLU 17	-31	-3	4042	-1238.21	-69.07	-11
1102	SLU 18	-32	-12	4159	-1273.02	-71.05	-11.49
1102	SLU 19	-31	-2	4107	-1258.61	-70.17	-11
1102	SLU 20	-33	-12	4227	-1293.1	-72.2	-11.67
1102	SLU 21	-32	-3	4174	-1278.69	-71.31	-11.17
1102	SLU 22	-33	-12	4118	-1258.73	-70.34	-11.85
1102	SLU 23	-32	3	4030	-1234.71	-68.86	-11.03
1102	SLU 24	-34	-13	4221	-1289.67	-72.11	-12.15
1102	SLU 25	-33	-3	4169	-1275.26	-71.22	-11.65
1102	SLU 26	-32	3	4097	-1254.78	-70.01	-11.2
1102	SLU 27	-34	-13	4289	-1309.75	-73.26	-12.32
1102	SLU 28	-33	-4	4236	-1295.34	-72.37	-11.82
1102	SLU 29	-34	-13	4253	-1298.88	-72.64	-12.19
1102	SLU 30	-33	-4	4200	-1284.47	-71.75	-11.7
1102	SLU 31	-34	2	4495	-1376.01	-76.76	-11.82
1102	SLU 32	-36	-14	4686	-1430.97	-80.01	-12.94
1102	SLU 33	-35	-5	4634	-1416.56	-79.12	-12.45
1102	SLU 34	-34	2	4562	-1396.08	-77.91	-11.99
1102	SLU 35	-37	-14	4754	-1451.05	-81.16	-13.11
1102	SLU 36	-36	-5	4701	-1436.63	-80.27	-12.62
1102	SLU 37	-36	-14	4717	-1440.18	-80.54	-12.98
1102	SLU 38	-35	-5	4665	-1425.77	-79.65	-12.49
1102	SLU 39	-36	-14	4782	-1460.58	-81.63	-12.98
1102	SLU 40	-35	-5	4729	-1446.17	-80.74	-12.49
1102	SLU 41	-37	-14	4849	-1480.66	-82.78	-13.15
1102	SLU 42	-36	-5	4797	-1466.25	-81.89	-12.66
1102	SLU 43	-36	-13	4330	-1328.21	-74.07	-12.96
1102	SLU 44	-35	3	4243	-1304.19	-72.59	-12.14
1102	SLU 45	-37	-13	4434	-1359.15	-75.84	-13.26
1102	SLU 46	-36	-4	4381	-1344.74	-74.95	-12.76
1102	SLU 47	-35	2	4310	-1324.27	-73.74	-12.31
1102	SLU 48	-37	-13	4501	-1379.23	-76.98	-13.43
1102	SLU 49	-37	-4	4449	-1364.82	-76.1	-12.93
1102	SLU 50	-37	-13	4465	-1368.36	-76.36	-13.3
1102	SLU 51	-36	-4	4412	-1353.95	-75.48	-12.81
1102	SLU 52	-37	2	4707	-1445.49	-80.49	-12.93
1102	SLU 53	-39	-14	4899	-1500.45	-83.74	-14.05
1102	SLU 54	-38	-5	4846	-1486.04	-82.85	-13.56
1102	SLU 55	-37	1	4775	-1465.57	-81.64	-13.1
1102	SLU 56	-40	-14	4966	-1520.53	-84.89	-14.22
1102	SLU 57	-39	-5	4914	-1506.12	-84	-13.73
1102	SLU 58	-39	-14	4930	-1509.66	-84.27	-14.09
1102	SLU 59	-38	-5	4877	-1495.25	-83.38	-13.6
1102	SLU 60	-39	-14	4994	-1530.06	-85.36	-14.09
1102	SLU 61	-38	-5	4942	-1515.65	-84.47	-13.6
1102	SLU 62	-40	-14	5062	-1550.14	-86.5	-14.26
1102	SLU 63	-39	-5	5009	-1535.73	-85.62	-13.77
1102	SLU 64	-40	-15	4953	-1515.77	-84.65	-14.45
1102	SLU 65	-39	1	4865	-1491.75	-83.17	-13.63
1102	SLU 66	-41	-15	5057	-1546.71	-86.41	-14.74
1102	SLU 67	-40	-6	5004	-1532.3	-85.53	-14.25
1102	SLU 68	-39	0	4932	-1511.83	-84.31	-13.8
1102	SLU 69	-42	-15	5124	-1566.79	-87.56	-14.91



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLU 70	-41	-6	5071	-1552.38	-86.67	-14.42
1102	SLU 71	-41	-15	5088	-1555.92	-86.94	-14.79
1102	SLU 72	-40	-6	5035	-1541.51	-86.05	-14.3
1102	SLU 73	-41	0	5330	-1633.05	-91.07	-14.42
1102	SLU 74	-43	-16	5521	-1688.01	-94.31	-15.54
1102	SLU 75	-42	-7	5469	-1673.6	-93.43	-15.05
1102	SLU 76	-41	-1	5397	-1653.13	-92.22	-14.59
1102	SLU 77	-44	-16	5589	-1708.09	-95.46	-15.71
1102	SLU 78	-43	-7	5536	-1693.68	-94.57	-15.22
1102	SLU 79	-43	-16	5552	-1697.22	-94.84	-15.58
1102	SLU 80	-43	-7	5500	-1682.81	-93.95	-15.09
1102	SLU 81	-43	-16	5617	-1717.62	-95.93	-15.58
1102	SLU 82	-43	-7	5564	-1703.21	-95.05	-15.09
1102	SLU 83	-44	-16	5684	-1737.7	-97.08	-15.75
1102	SLU 84	-43	-7	5632	-1723.29	-96.19	-15.26
1102	SLE RA 1	-30	-11	3673	-1124.75	-62.79	-10.79
1102	SLE RA 2	-29	-1	3615	-1108.74	-61.8	-10.24
1102	SLE RA 3	-31	-11	3742	-1145.38	-63.97	-10.98
1102	SLE RA 4	-30	-5	3707	-1135.78	-63.37	-10.66
1102	SLE RA 5	-29	-1	3659	-1122.13	-62.57	-10.36
1102	SLE RA 6	-31	-11	3787	-1158.77	-64.73	-11.1
1102	SLE RA 7	-30	-5	3752	-1149.16	-64.14	-10.77
1102	SLE RA 8	-31	-11	3763	-1151.52	-64.32	-11.01
1102	SLE RA 9	-30	-5	3728	-1141.92	-63.73	-10.69
1102	SLE RA 10	-31	-1	3924	-1202.94	-67.07	-10.77
1102	SLE RA 11	-32	-12	4052	-1239.58	-69.23	-11.51
1102	SLE RA 12	-32	-6	4017	-1229.97	-68.64	-11.19
1102	SLE RA 13	-31	-1	3969	-1216.33	-67.83	-10.88
1102	SLE RA 14	-32	-12	4097	-1252.97	-70	-11.63
1102	SLE RA 15	-32	-6	4062	-1243.36	-69.41	-11.3
1102	SLE RA 16	-32	-12	4073	-1245.72	-69.58	-11.54
1102	SLE RA 17	-32	-6	4038	-1236.12	-68.99	-11.22
1102	SLE RA 18	-32	-12	4116	-1259.32	-70.31	-11.54
1102	SLE RA 19	-32	-6	4081	-1249.72	-69.72	-11.22
1102	SLE RA 20	-33	-12	4161	-1272.71	-71.08	-11.66
1102	SLE RA 21	-32	-6	4126	-1263.1	-70.49	-11.33
1102	SLE FR 1	-30	-11	3673	-1124.75	-62.79	-10.79
1102	SLE FR 2	-30	-9	3661	-1121.55	-62.59	-10.68
1102	SLE FR 3	-30	-11	3691	-1130.11	-63.09	-10.83
1102	SLE FR 4	-31	-9	3794	-1161.92	-64.85	-10.91
1102	SLE FR 5	-31	-11	3824	-1170.48	-65.35	-11.06
1102	SLE FR 6	-31	-11	3894	-1192.04	-66.55	-11.17
1102	SLE QP 1	-30	-11	3673	-1124.75	-62.79	-10.79
1102	SLE QP 2	-31	-11	3806	-1165.13	-65.04	-11.01
1102	SLD 1	376	78	3735	-1156.1	-63.2	133.08
1102	SLD 2	307	34	3792	-1172.48	-64.1	107.99
1102	SLD 3	345	-101	4859	-1465.37	-82.16	119.11
1102	SLD 4	276	-145	4917	-1481.75	-83.06	94.03
1102	SLD 5	151	295	2068	-690.41	-35.58	57.91
1102	SLD 6	105	266	2107	-701.22	-36.18	41.35
1102	SLD 7	48	-301	5817	-1721.31	-98.77	11.37
1102	SLD 8	2	-330	5855	-1732.12	-99.36	-5.2
1102	SLD 9	-63	308	1756	-598.13	-30.73	-16.83
1102	SLD 10	-109	279	1795	-608.95	-31.32	-33.4
1102	SLD 11	-166	-288	5505	-1629.03	-93.91	-63.37
1102	SLD 12	-212	-317	5543	-1639.84	-94.51	-79.94
1102	SLD 13	-337	123	2695	-848.5	-47.03	-116.06
1102	SLD 14	-407	79	2752	-864.88	-47.93	-141.14
1102	SLD 15	-368	-56	3819	-1157.77	-65.98	-130.02
1102	SLD 16	-438	-100	3877	-1174.15	-66.88	-155.11
1102	SLV 1	607	132	3663	-1142.3	-61.64	214.92
1102	SLV 2	498	64	3753	-1167.96	-63.05	175.62
1102	SLV 3	558	-156	5480	-1642.11	-92.27	192.46
1102	SLV 4	449	-225	5571	-1667.77	-93.68	153.16
1102	SLV 5	256	483	990	-395.44	-17.29	98.17
1102	SLV 6	183	437	1050	-412.72	-18.24	71.71
1102	SLV 7	91	-480	7048	-2061.48	-119.41	23.3
1102	SLV 8	17	-526	7109	-2078.75	-120.36	-3.16
1102	SLV 9	-79	504	503	-251.5	-9.73	-18.87
1102	SLV 10	-152	458	564	-268.78	-10.68	-45.32
1102	SLV 11	-244	-459	6561	-1917.53	-111.85	-93.74
1102	SLV 12	-318	-505	6622	-1934.81	-112.8	-120.2
1102	SLV 13	-510	203	2041	-662.48	-36.41	-175.19
1102	SLV 14	-619	134	2131	-688.14	-37.82	-214.49
1102	SLV 15	-560	-86	3858	-1162.29	-67.04	-197.65
1102	SLV 16	-669	-154	3949	-1187.95	-68.45	-236.95
1102	SLV FO 1	671	147	3649	-1140.02	-61.3	237.52
1102	SLV FO 2	551	71	3748	-1168.25	-62.85	194.29
1102	SLV FO 3	616	-171	5648	-1689.81	-95	212.81
1102	SLV FO 4	496	-246	5747	-1718.04	-96.55	169.58
1102	SLV FO 5	285	532	708	-318.48	-12.52	109.09
1102	SLV FO 6	204	481	775	-337.48	-13.56	79.98
1102	SLV FO 7	103	-527	7372	-2151.11	-124.85	26.73
1102	SLV FO 8	22	-577	7439	-2170.12	-125.9	-2.38
1102	SLV FO 9	-84	555	173	-160.13	-4.19	-19.65
1102	SLV FO 10	-164	505	240	-179.14	-5.24	-48.76
1102	SLV FO 11	-266	-503	6837	-1992.77	-116.53	-102.01
1102	SLV FO 12	-346	-554	6904	-2011.78	-117.57	-131.12
1102	SLV FO 13	-558	224	1864	-612.21	-33.54	-191.61



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1102	SLV FO 14	-678	149	1964	-640.44	-35.09	-234.84
1102	SLV FO 15	-613	-93	3863	-1162.01	-67.24	-216.31
1102	SLV FO 16	-732	-169	3963	-1190.23	-68.79	-259.54
1102	CRTFP Ux+	0	0	0	0	0	0
1102	CRTFP Ux-	0	0	0	0	0	0
1102	CRTFP Uy+	0	0	0	0	0	0
1102	CRTFP Uy-	0	0	0	0	0	0
1103	SLU 1	-31	-13	3667	-1033.41	6.45	-11.02
1103	SLU 2	-30	4	3575	-1010.91	6.27	-10.45
1103	SLU 3	-32	-13	3775	-1062.88	6.65	-11.34
1103	SLU 4	-31	-3	3721	-1049.38	6.54	-10.99
1103	SLU 5	-30	4	3646	-1030.02	6.4	-10.63
1103	SLU 6	-33	-14	3846	-1081.99	6.78	-11.52
1103	SLU 7	-32	-4	3791	-1068.49	6.67	-11.17
1103	SLU 8	-32	-13	3808	-1071.64	6.71	-11.39
1103	SLU 9	-31	-3	3753	-1058.14	6.6	-11.04
1103	SLU 10	-32	3	4061	-1145.61	7.18	-11.3
1103	SLU 11	-35	-14	4261	-1197.58	7.57	-12.19
1103	SLU 12	-34	-4	4206	-1184.08	7.46	-11.85
1103	SLU 13	-33	2	4132	-1164.73	7.31	-11.48
1103	SLU 14	-35	-15	4332	-1216.7	7.7	-12.37
1103	SLU 15	-34	-5	4277	-1203.2	7.59	-12.03
1103	SLU 16	-35	-15	4294	-1206.34	7.63	-12.24
1103	SLU 17	-34	-5	4239	-1192.84	7.52	-11.89
1103	SLU 18	-35	-14	4361	-1225.85	7.76	-12.24
1103	SLU 19	-34	-4	4306	-1212.34	7.65	-11.9
1103	SLU 20	-35	-15	4431	-1244.96	7.89	-12.42
1103	SLU 21	-34	-5	4377	-1231.46	7.78	-12.08
1103	SLU 22	-36	-15	4317	-1211.97	7.68	-12.62
1103	SLU 23	-34	2	4226	-1189.47	7.5	-12.04
1103	SLU 24	-37	-15	4426	-1241.44	7.88	-12.93
1103	SLU 25	-36	-5	4371	-1227.94	7.77	-12.59
1103	SLU 26	-35	1	4296	-1208.58	7.63	-12.22
1103	SLU 27	-37	-16	4496	-1260.55	8.01	-13.11
1103	SLU 28	-36	-6	4442	-1247.05	7.9	-12.77
1103	SLU 29	-37	-16	4458	-1250.2	7.94	-12.98
1103	SLU 30	-36	-6	4403	-1236.69	7.83	-12.63
1103	SLU 31	-37	1	4712	-1324.17	8.41	-12.89
1103	SLU 32	-39	-17	4912	-1376.14	8.79	-13.79
1103	SLU 33	-38	-7	4857	-1362.64	8.68	-13.44
1103	SLU 34	-37	0	4782	-1343.28	8.54	-13.08
1103	SLU 35	-40	-17	4982	-1395.26	8.92	-13.97
1103	SLU 36	-39	-7	4927	-1381.75	8.81	-13.62
1103	SLU 37	-39	-17	4944	-1384.9	8.85	-13.83
1103	SLU 38	-38	-7	4889	-1371.4	8.74	-13.49
1103	SLU 39	-39	-17	5011	-1404.4	8.98	-13.84
1103	SLU 40	-38	-7	4956	-1390.9	8.87	-13.49
1103	SLU 41	-40	-17	5082	-1423.52	9.11	-14.02
1103	SLU 42	-39	-7	5027	-1410.02	9	-13.67
1103	SLU 43	-39	-16	4544	-1282.21	7.97	-13.78
1103	SLU 44	-38	1	4452	-1259.71	7.78	-13.21
1103	SLU 45	-40	-16	4652	-1311.68	8.17	-14.1
1103	SLU 46	-39	-6	4598	-1298.18	8.06	-13.75
1103	SLU 47	-38	1	4523	-1278.82	7.91	-13.39
1103	SLU 48	-41	-17	4723	-1330.8	8.3	-14.28
1103	SLU 49	-40	-7	4668	-1317.29	8.19	-13.93
1103	SLU 50	-40	-16	4685	-1320.44	8.23	-14.15
1103	SLU 51	-39	-6	4630	-1306.94	8.12	-13.8
1103	SLU 52	-40	0	4938	-1394.42	8.7	-14.06
1103	SLU 53	-43	-17	5138	-1446.39	9.08	-14.95
1103	SLU 54	-42	-7	5083	-1432.89	8.97	-14.61
1103	SLU 55	-41	-1	5009	-1413.53	8.83	-14.24
1103	SLU 56	-43	-18	5209	-1465.5	9.21	-15.13
1103	SLU 57	-42	-8	5154	-1452	9.1	-14.79
1103	SLU 58	-43	-18	5171	-1455.15	9.14	-15
1103	SLU 59	-42	-8	5116	-1441.64	9.03	-14.65
1103	SLU 60	-43	-17	5238	-1474.65	9.27	-15
1103	SLU 61	-42	-7	5183	-1461.15	9.16	-14.66
1103	SLU 62	-43	-18	5308	-1493.76	9.4	-15.18
1103	SLU 63	-42	-8	5254	-1480.26	9.29	-14.84
1103	SLU 64	-44	-18	5194	-1460.77	9.19	-15.38
1103	SLU 65	-42	-1	5103	-1438.27	9.01	-14.8
1103	SLU 66	-45	-19	5303	-1490.24	9.4	-15.69
1103	SLU 67	-44	-8	5248	-1476.74	9.28	-15.35
1103	SLU 68	-43	-2	5173	-1457.38	9.14	-14.98
1103	SLU 69	-45	-19	5373	-1509.35	9.53	-15.87
1103	SLU 70	-44	-9	5319	-1495.85	9.42	-15.53
1103	SLU 71	-45	-19	5335	-1499	9.46	-15.74
1103	SLU 72	-44	-9	5280	-1485.5	9.35	-15.39
1103	SLU 73	-45	-2	5589	-1572.97	9.92	-15.65
1103	SLU 74	-47	-20	5789	-1624.94	10.31	-16.55
1103	SLU 75	-46	-10	5734	-1611.44	10.2	-16.2
1103	SLU 76	-45	-3	5659	-1592.09	10.05	-15.84
1103	SLU 77	-48	-20	5859	-1644.06	10.44	-16.73
1103	SLU 78	-47	-10	5804	-1630.56	10.33	-16.38
1103	SLU 79	-47	-20	5821	-1633.7	10.37	-16.59
1103	SLU 80	-46	-10	5766	-1620.2	10.26	-16.25
1103	SLU 81	-47	-20	5888	-1653.21	10.5	-16.6
1103	SLU 82	-46	-10	5833	-1639.71	10.39	-16.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1103	SLU 83	-48	-20	5959	-1672.32	10.63	-16.78
1103	SLU 84	-47	-10	5904	-1658.82	10.52	-16.43
1103	SLE RA 1	-33	-13	3852	-1084.43	6.8	-11.48
1103	SLE RA 2	-32	-2	3792	-1069.42	6.68	-11.09
1103	SLE RA 3	-33	-14	3925	-1104.07	6.94	-11.69
1103	SLE RA 4	-33	-7	3888	-1095.07	6.86	-11.46
1103	SLE RA 5	-32	-2	3839	-1082.17	6.77	-11.22
1103	SLE RA 6	-34	-14	3972	-1116.81	7.02	-11.81
1103	SLE RA 7	-33	-7	3935	-1107.81	6.95	-11.58
1103	SLE RA 8	-33	-14	3947	-1109.91	6.98	-11.72
1103	SLE RA 9	-33	-7	3910	-1100.91	6.9	-11.49
1103	SLE RA 10	-33	-3	4116	-1159.23	7.29	-11.66
1103	SLE RA 11	-35	-14	4249	-1193.88	7.55	-12.26
1103	SLE RA 12	-34	-8	4212	-1184.87	7.47	-12.03
1103	SLE RA 13	-34	-3	4163	-1171.97	7.38	-11.78
1103	SLE RA 14	-35	-15	4296	-1206.62	7.63	-12.38
1103	SLE RA 15	-35	-8	4259	-1197.62	7.56	-12.15
1103	SLE RA 16	-35	-15	4270	-1199.71	7.59	-12.29
1103	SLE RA 17	-34	-8	4234	-1190.71	7.51	-12.06
1103	SLE RA 18	-35	-14	4315	-1212.72	7.67	-12.29
1103	SLE RA 19	-34	-8	4279	-1203.72	7.6	-12.06
1103	SLE RA 20	-35	-15	4362	-1225.46	7.76	-12.41
1103	SLE RA 21	-35	-8	4326	-1216.46	7.69	-12.18
1103	SLE FR 1	-33	-13	3852	-1084.43	6.8	-11.48
1103	SLE FR 2	-33	-11	3840	-1081.43	6.78	-11.4
1103	SLE FR 3	-33	-13	3871	-1089.52	6.84	-11.53
1103	SLE FR 4	-33	-11	3979	-1119.91	7.04	-11.65
1103	SLE FR 5	-34	-14	4010	-1128.01	7.1	-11.77
1103	SLE FR 6	-34	-14	4084	-1148.57	7.24	-11.88
1103	SLE QP 1	-33	-13	3852	-1084.43	6.8	-11.48
1103	SLE QP 2	-33	-14	3991	-1122.91	7.06	-11.72
1103	SLD 1	419	83	3890	-1108.41	7.8	146.55
1103	SLD 2	342	38	3947	-1123.07	8.02	119.64
1103	SLD 3	385	-112	5059	-1398.07	10.19	134.85
1103	SLD 4	308	-158	5116	-1412.73	10.41	107.93
1103	SLD 5	167	321	2177	-676.61	3.62	58.36
1103	SLD 6	116	291	2215	-686.29	3.77	40.58
1103	SLD 7	55	-332	6075	-1642.13	11.59	19.35
1103	SLD 8	4	-362	6112	-1651.81	11.73	1.58
1103	SLD 9	-71	335	1870	-594.01	2.4	-25.02
1103	SLD 10	-122	305	1908	-603.69	2.54	-42.8
1103	SLD 11	-183	-318	5768	-1559.54	10.36	-64.03
1103	SLD 12	-234	-348	5805	-1569.22	10.51	-81.8
1103	SLD 13	-375	130	2866	-833.1	3.71	-131.38
1103	SLD 14	-452	85	2923	-847.76	3.94	-158.3
1103	SLD 15	-409	-65	4035	-1122.75	6.1	-143.08
1103	SLD 16	-486	-111	4092	-1137.41	6.32	-170
1103	SLV 1	676	143	3800	-1092.11	8.15	236.37
1103	SLV 2	555	72	3890	-1115.08	8.5	194.2
1103	SLV 3	621	-173	5690	-1560.23	12.01	217.55
1103	SLV 4	500	-244	5779	-1583.2	12.36	175.38
1103	SLV 5	284	526	1051	-399.4	1.47	99.12
1103	SLV 6	203	478	1111	-414.87	1.71	70.73
1103	SLV 7	103	-528	7350	-1959.81	14.34	36.39
1103	SLV 8	22	-576	7411	-1975.27	14.57	7.99
1103	SLV 9	-89	548	572	-270.56	-0.44	-31.44
1103	SLV 10	-170	500	632	-286.02	-0.21	-59.83
1103	SLV 11	-269	-506	6871	-1830.96	12.42	-94.17
1103	SLV 12	-351	-554	6931	-1846.42	12.66	-122.57
1103	SLV 13	-567	217	2203	-662.63	1.77	-198.82
1103	SLV 14	-688	146	2292	-685.59	2.12	-240.99
1103	SLV 15	-621	-100	4093	-1130.75	5.63	-217.64
1103	SLV 16	-742	-171	4182	-1153.72	5.98	-259.82
1103	SLV FO 1	746	159	3781	-1089.03	8.26	261.18
1103	SLV FO 2	613	81	3880	-1114.3	8.64	214.79
1103	SLV FO 3	687	-189	5860	-1603.96	12.5	240.48
1103	SLV FO 4	554	-267	5958	-1629.23	12.88	194.09
1103	SLV FO 5	316	580	757	-327.05	0.91	110.21
1103	SLV FO 6	226	528	823	-344.06	1.17	78.97
1103	SLV FO 7	117	-579	7686	-2043.5	15.06	41.2
1103	SLV FO 8	28	-632	7752	-2060.51	15.32	9.96
1103	SLV FO 9	-94	604	230	-185.32	-1.19	-33.41
1103	SLV FO 10	-184	552	296	-202.33	-0.93	-64.64
1103	SLV FO 11	-293	-555	7159	-1901.77	12.96	-102.42
1103	SLV FO 12	-383	-608	7225	-1918.78	13.21	-133.65
1103	SLV FO 13	-621	240	2024	-616.6	1.24	-217.53
1103	SLV FO 14	-754	161	2122	-641.86	1.62	-263.92
1103	SLV FO 15	-680	-108	4103	-1131.53	5.49	-238.23
1103	SLV FO 16	-813	-186	4201	-1156.8	5.87	-284.62
1103	CRTFP Ux+	0	0	0	0	0	0
1103	CRTFP Ux-	0	0	0	0	0	0
1103	CRTFP Uy+	0	0	0	0	0	0
1103	CRTFP Uy-	0	0	0	0	0	0
1104	SLU 1	-31	-13	3479	-902.47	5.12	-10.74
1104	SLU 2	-29	4	3393	-883.41	4.97	-10.18
1104	SLU 3	-32	-13	3582	-927.88	5.28	-11.05
1104	SLU 4	-31	-3	3530	-916.45	5.19	-10.71
1104	SLU 5	-30	3	3460	-899.89	5.08	-10.36
1104	SLU 6	-32	-14	3648	-944.36	5.38	-11.23



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLU 7	-31	-4	3597	-932.93	5.29	-10.89
1104	SLU 8	-32	-14	3612	-935.42	5.33	-11.09
1104	SLU 9	-31	-4	3561	-923.99	5.24	-10.76
1104	SLU 10	-32	3	3852	-999.6	5.69	-11.02
1104	SLU 11	-34	-14	4041	-1044.07	5.99	-11.89
1104	SLU 12	-33	-5	3989	-1032.64	5.91	-11.56
1104	SLU 13	-32	2	3919	-1016.08	5.79	-11.2
1104	SLU 14	-35	-15	4108	-1060.54	6.1	-12.07
1104	SLU 15	-34	-5	4056	-1049.11	6.01	-11.74
1104	SLU 16	-34	-15	4072	-1051.61	6.04	-11.94
1104	SLU 17	-33	-5	4020	-1040.17	5.96	-11.61
1104	SLU 18	-34	-14	4135	-1068.45	6.14	-11.95
1104	SLU 19	-33	-4	4083	-1057.01	6.06	-11.61
1104	SLU 20	-35	-15	4202	-1084.92	6.25	-12.13
1104	SLU 21	-34	-5	4150	-1073.49	6.16	-11.79
1104	SLU 22	-35	-15	4094	-1056.25	6.09	-12.31
1104	SLU 23	-34	2	4008	-1037.2	5.94	-11.75
1104	SLU 24	-36	-15	4196	-1081.67	6.24	-12.62
1104	SLU 25	-35	-5	4145	-1070.24	6.16	-12.29
1104	SLU 26	-34	1	4074	-1053.68	6.04	-11.93
1104	SLU 27	-37	-16	4263	-1098.15	6.35	-12.8
1104	SLU 28	-36	-6	4212	-1086.71	6.26	-12.46
1104	SLU 29	-36	-16	4227	-1089.21	6.29	-12.67
1104	SLU 30	-35	-6	4176	-1077.78	6.2	-12.33
1104	SLU 31	-36	1	4467	-1153.39	6.66	-12.6
1104	SLU 32	-39	-16	4656	-1197.86	6.96	-13.47
1104	SLU 33	-38	-7	4604	-1186.42	6.87	-13.13
1104	SLU 34	-37	0	4534	-1169.86	6.76	-12.78
1104	SLU 35	-39	-17	4723	-1214.33	7.06	-13.65
1104	SLU 36	-38	-7	4671	-1202.9	6.97	-13.31
1104	SLU 37	-39	-17	4686	-1205.4	7.01	-13.51
1104	SLU 38	-38	-7	4635	-1193.96	6.92	-13.18
1104	SLU 39	-39	-16	4750	-1222.24	7.11	-13.52
1104	SLU 40	-38	-6	4698	-1210.8	7.02	-13.18
1104	SLU 41	-39	-17	4817	-1238.71	7.21	-13.7
1104	SLU 42	-38	-7	4765	-1227.28	7.12	-13.36
1104	SLU 43	-38	-16	4311	-1120.48	6.33	-13.42
1104	SLU 44	-37	0	4226	-1101.42	6.18	-12.86
1104	SLU 45	-39	-17	4414	-1145.89	6.48	-13.73
1104	SLU 46	-38	-7	4363	-1134.46	6.4	-13.39
1104	SLU 47	-37	0	4292	-1117.9	6.28	-13.04
1104	SLU 48	-40	-17	4481	-1162.37	6.59	-13.91
1104	SLU 49	-39	-7	4430	-1150.94	6.5	-13.57
1104	SLU 50	-39	-17	4445	-1153.43	6.53	-13.77
1104	SLU 51	-38	-7	4394	-1142	6.44	-13.44
1104	SLU 52	-39	-1	4685	-1217.61	6.9	-13.71
1104	SLU 53	-42	-18	4874	-1262.08	7.2	-14.58
1104	SLU 54	-41	-8	4822	-1250.65	7.11	-14.24
1104	SLU 55	-40	-1	4752	-1234.09	7	-13.88
1104	SLU 56	-42	-18	4940	-1278.56	7.3	-14.75
1104	SLU 57	-41	-8	4889	-1267.12	7.22	-14.42
1104	SLU 58	-42	-18	4904	-1269.62	7.25	-14.62
1104	SLU 59	-41	-8	4853	-1258.19	7.16	-14.29
1104	SLU 60	-42	-17	4968	-1286.46	7.35	-14.63
1104	SLU 61	-41	-8	4916	-1275.03	7.26	-14.29
1104	SLU 62	-42	-18	5035	-1302.94	7.45	-14.81
1104	SLU 63	-41	-8	4983	-1291.5	7.36	-14.47
1104	SLU 64	-43	-18	4926	-1274.27	7.29	-14.99
1104	SLU 65	-41	-2	4841	-1255.21	7.15	-14.43
1104	SLU 66	-44	-19	5029	-1299.68	7.45	-15.3
1104	SLU 67	-43	-9	4978	-1288.25	7.36	-14.97
1104	SLU 68	-42	-2	4907	-1271.69	7.25	-14.61
1104	SLU 69	-44	-19	5096	-1316.16	7.55	-15.48
1104	SLU 70	-43	-9	5044	-1304.73	7.46	-15.15
1104	SLU 71	-44	-19	5060	-1307.22	7.5	-15.35
1104	SLU 72	-43	-9	5008	-1295.79	7.41	-15.01
1104	SLU 73	-44	-3	5300	-1371.4	7.86	-15.28
1104	SLU 74	-46	-20	5489	-1415.87	8.17	-16.15
1104	SLU 75	-45	-10	5437	-1404.44	8.08	-15.81
1104	SLU 76	-44	-3	5367	-1387.88	7.96	-15.46
1104	SLU 77	-47	-20	5555	-1432.35	8.27	-16.33
1104	SLU 78	-46	-10	5504	-1420.91	8.18	-15.99
1104	SLU 79	-46	-20	5519	-1423.41	8.21	-16.19
1104	SLU 80	-45	-10	5468	-1411.97	8.13	-15.86
1104	SLU 81	-46	-19	5583	-1440.25	8.31	-16.2
1104	SLU 82	-45	-10	5531	-1428.82	8.23	-15.87
1104	SLU 83	-47	-20	5649	-1456.73	8.42	-16.38
1104	SLU 84	-46	-10	5598	-1445.29	8.33	-16.04
1104	SLE RA 1	-32	-13	3654	-946.41	5.4	-11.18
1104	SLE RA 2	-31	-2	3597	-933.7	5.3	-10.81
1104	SLE RA 3	-33	-14	3723	-963.35	5.5	-11.39
1104	SLE RA 4	-32	-7	3689	-955.73	5.44	-11.17
1104	SLE RA 5	-31	-3	3642	-944.69	5.37	-10.93
1104	SLE RA 6	-33	-14	3767	-974.33	5.57	-11.51
1104	SLE RA 7	-32	-7	3733	-966.71	5.51	-11.29
1104	SLE RA 8	-33	-14	3743	-968.38	5.53	-11.42
1104	SLE RA 9	-32	-7	3709	-960.75	5.48	-11.2
1104	SLE RA 10	-33	-3	3903	-1011.16	5.78	-11.38
1104	SLE RA 11	-34	-14	4029	-1040.81	5.98	-11.96



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1104	SLE RA 12	-34	-8	3995	-1033.18	5.92	-11.73
1104	SLE RA 13	-33	-3	3948	-1022.15	5.85	-11.5
1104	SLE RA 14	-35	-15	4074	-1051.79	6.05	-12.08
1104	SLE RA 15	-34	-8	4039	-1044.17	5.99	-11.85
1104	SLE RA 16	-34	-15	4050	-1045.83	6.01	-11.99
1104	SLE RA 17	-34	-8	4015	-1038.21	5.95	-11.77
1104	SLE RA 18	-34	-14	4092	-1057.06	6.08	-11.99
1104	SLE RA 19	-34	-8	4058	-1049.44	6.02	-11.77
1104	SLE RA 20	-35	-15	4136	-1068.04	6.15	-12.11
1104	SLE RA 21	-34	-8	4102	-1060.42	6.09	-11.89
1104	SLE FR 1	-32	-13	3654	-946.41	5.4	-11.18
1104	SLE FR 2	-32	-11	3643	-943.87	5.38	-11.11
1104	SLE FR 3	-32	-14	3672	-950.8	5.42	-11.23
1104	SLE FR 4	-32	-12	3774	-977.06	5.58	-11.35
1104	SLE FR 5	-33	-14	3803	-984	5.63	-11.47
1104	SLE FR 6	-33	-14	3873	-1001.73	5.74	-11.59
1104	SLE QP 1	-32	-13	3654	-946.41	5.4	-11.18
1104	SLE QP 2	-33	-14	3786	-979.6	5.6	-11.43
1104	SLD 1	420	84	3660	-959.2	6.39	147.14
1104	SLD 2	343	41	3710	-970.67	6.59	120.22
1104	SLD 3	387	-110	4759	-1204.29	8.3	135.65
1104	SLD 4	310	-152	4810	-1215.76	8.5	108.73
1104	SLD 5	167	316	2071	-599.69	2.91	58.42
1104	SLD 6	116	288	2104	-607.27	3.04	40.64
1104	SLD 7	57	-328	5736	-1416.66	9.27	20.12
1104	SLD 8	6	-356	5770	-1424.24	9.4	2.34
1104	SLD 9	-72	329	1802	-534.97	1.8	-25.2
1104	SLD 10	-123	301	1835	-542.54	1.93	-42.98
1104	SLD 11	-182	-316	5467	-1351.94	8.16	-63.49
1104	SLD 12	-233	-344	5500	-1359.51	8.29	-81.27
1104	SLD 13	-376	125	2762	-743.44	2.71	-131.58
1104	SLD 14	-453	82	2812	-754.92	2.9	-158.5
1104	SLD 15	-409	-68	3861	-988.53	4.61	-143.07
1104	SLD 16	-486	-111	3911	-1000.01	4.81	-169.99
1104	SLV 1	677	143	3558	-940.85	6.78	237.11
1104	SLV 2	556	77	3637	-958.83	7.09	194.93
1104	SLV 3	624	-169	5335	-1336.96	9.86	218.63
1104	SLV 4	503	-235	5414	-1354.93	10.17	176.45
1104	SLV 5	283	519	1007	-363.87	1.22	99.03
1104	SLV 6	202	475	1060	-375.97	1.43	70.63
1104	SLV 7	106	-521	6931	-1684.21	11.5	37.44
1104	SLV 8	25	-566	6984	-1696.31	11.7	9.04
1104	SLV 9	-90	539	587	-262.89	-0.5	-31.89
1104	SLV 10	-172	494	640	-275	-0.29	-60.29
1104	SLV 11	-267	-502	6511	-1583.23	9.77	-93.49
1104	SLV 12	-349	-547	6564	-1595.34	9.98	-121.88
1104	SLV 13	-569	208	2157	-604.27	1.03	-199.31
1104	SLV 14	-690	142	2236	-622.25	1.34	-241.48
1104	SLV 15	-622	-104	3934	-1000.38	4.11	-217.78
1104	SLV 16	-743	-171	4013	-1018.35	4.42	-259.96
1104	SLV FO 1	748	159	3536	-936.98	6.9	261.96
1104	SLV FO 2	615	86	3622	-956.75	7.24	215.57
1104	SLV FO 3	690	-184	5490	-1372.69	10.29	241.64
1104	SLV FO 4	557	-258	5577	-1392.46	10.63	195.24
1104	SLV FO 5	315	573	729	-302.29	0.79	110.08
1104	SLV FO 6	225	523	788	-315.61	1.01	78.84
1104	SLV FO 7	120	-572	7246	-1754.67	12.09	42.32
1104	SLV FO 8	31	-622	7304	-1767.98	12.31	11.09
1104	SLV FO 9	-96	594	267	-191.22	-1.11	-33.94
1104	SLV FO 10	-186	545	325	-204.54	-0.88	-65.18
1104	SLV FO 11	-291	-551	6783	-1643.6	10.19	-101.69
1104	SLV FO 12	-380	-600	6842	-1656.91	10.42	-132.93
1104	SLV FO 13	-622	230	1994	-566.74	0.57	-218.09
1104	SLV FO 14	-755	157	2081	-586.51	0.91	-264.49
1104	SLV FO 15	-681	-113	3949	-1002.45	3.96	-238.42
1104	SLV FO 16	-814	-186	4036	-1022.23	4.3	-284.82
1104	CRTFP Ux+	0	0	0	0	0	0
1104	CRTFP Ux-	0	0	0	0	0	0
1104	CRTFP Uy+	0	0	0	0	0	0
1104	CRTFP Uy-	0	0	0	0	0	0
1105	SLU 1	-30	-12	3339	-810.49	3.5	-10.43
1105	SLU 2	-28	5	3257	-793.86	3.39	-9.89
1105	SLU 3	-31	-12	3438	-833.1	3.6	-10.73
1105	SLU 4	-30	-2	3389	-823.12	3.54	-10.41
1105	SLU 5	-29	4	3321	-808.51	3.46	-10.06
1105	SLU 6	-31	-12	3502	-847.75	3.67	-10.91
1105	SLU 7	-30	-3	3452	-837.78	3.61	-10.58
1105	SLU 8	-31	-12	3467	-839.79	3.63	-10.78
1105	SLU 9	-30	-3	3418	-829.82	3.57	-10.45
1105	SLU 10	-31	4	3697	-897.17	3.87	-10.72
1105	SLU 11	-33	-13	3878	-936.41	4.08	-11.57
1105	SLU 12	-32	-3	3829	-926.44	4.02	-11.25
1105	SLU 13	-31	3	3761	-911.82	3.94	-10.9
1105	SLU 14	-34	-13	3942	-951.07	4.15	-11.75
1105	SLU 15	-33	-4	3893	-941.09	4.09	-11.42
1105	SLU 16	-33	-13	3907	-943.11	4.11	-11.61
1105	SLU 17	-32	-3	3858	-933.13	4.05	-11.29
1105	SLU 18	-33	-13	3968	-958.08	4.17	-11.62
1105	SLU 19	-32	-3	3919	-948.1	4.11	-11.3



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLU 20	-34	-13	4032	-972.73	4.24	-11.8
1105	SLU 21	-33	-4	3983	-962.75	4.18	-11.47
1105	SLU 22	-34	-13	3928	-947.04	4.14	-11.97
1105	SLU 23	-33	3	3846	-930.41	4.04	-11.43
1105	SLU 24	-35	-14	4026	-969.65	4.25	-12.28
1105	SLU 25	-34	-4	3977	-959.67	4.19	-11.96
1105	SLU 26	-33	3	3910	-945.06	4.11	-11.61
1105	SLU 27	-36	-14	4090	-984.3	4.32	-12.46
1105	SLU 28	-35	-4	4041	-974.32	4.26	-12.13
1105	SLU 29	-35	-14	4056	-976.34	4.28	-12.32
1105	SLU 30	-34	-4	4007	-966.36	4.22	-12
1105	SLU 31	-35	2	4286	-1033.72	4.52	-12.27
1105	SLU 32	-38	-15	4466	-1072.96	4.72	-13.12
1105	SLU 33	-37	-5	4417	-1062.98	4.66	-12.79
1105	SLU 34	-36	2	4350	-1048.37	4.58	-12.45
1105	SLU 35	-38	-15	4530	-1087.61	4.79	-13.29
1105	SLU 36	-37	-5	4481	-1077.64	4.73	-12.97
1105	SLU 37	-38	-15	4496	-1079.65	4.76	-13.16
1105	SLU 38	-37	-5	4447	-1069.68	4.69	-12.84
1105	SLU 39	-38	-15	4556	-1094.63	4.82	-13.17
1105	SLU 40	-37	-5	4507	-1084.65	4.76	-12.85
1105	SLU 41	-38	-15	4620	-1109.28	4.89	-13.35
1105	SLU 42	-37	-5	4571	-1099.3	4.83	-13.02
1105	SLU 43	-37	-15	4139	-1006.82	4.32	-13.02
1105	SLU 44	-36	2	4057	-990.19	4.22	-12.48
1105	SLU 45	-38	-15	4237	-1029.43	4.43	-13.33
1105	SLU 46	-37	-5	4188	-1019.45	4.37	-13.01
1105	SLU 47	-36	1	4121	-1004.84	4.29	-12.66
1105	SLU 48	-39	-15	4301	-1044.08	4.5	-13.51
1105	SLU 49	-38	-6	4252	-1034.11	4.44	-13.18
1105	SLU 50	-38	-15	4267	-1036.12	4.46	-13.37
1105	SLU 51	-37	-6	4218	-1026.15	4.4	-13.05
1105	SLU 52	-38	1	4497	-1093.5	4.7	-13.32
1105	SLU 53	-41	-16	4678	-1132.74	4.9	-14.17
1105	SLU 54	-40	-6	4628	-1122.77	4.84	-13.84
1105	SLU 55	-39	0	4561	-1108.15	4.77	-13.5
1105	SLU 56	-41	-16	4742	-1147.4	4.97	-14.34
1105	SLU 57	-40	-7	4692	-1137.42	4.91	-14.02
1105	SLU 58	-41	-16	4707	-1139.44	4.94	-14.21
1105	SLU 59	-40	-6	4658	-1129.46	4.88	-13.89
1105	SLU 60	-41	-16	4768	-1154.41	5	-14.22
1105	SLU 61	-40	-6	4718	-1144.43	4.94	-13.9
1105	SLU 62	-41	-16	4832	-1169.06	5.07	-14.39
1105	SLU 63	-40	-6	4782	-1159.08	5.01	-14.07
1105	SLU 64	-42	-16	4728	-1143.37	4.97	-14.57
1105	SLU 65	-40	0	4646	-1126.74	4.87	-14.03
1105	SLU 66	-43	-17	4826	-1165.98	5.07	-14.88
1105	SLU 67	-42	-7	4777	-1156	5.01	-14.55
1105	SLU 68	-41	0	4710	-1141.39	4.94	-14.21
1105	SLU 69	-43	-17	4890	-1180.63	5.14	-15.05
1105	SLU 70	-42	-7	4841	-1170.65	5.08	-14.73
1105	SLU 71	-43	-17	4856	-1172.67	5.11	-14.92
1105	SLU 72	-42	-7	4806	-1162.69	5.05	-14.6
1105	SLU 73	-43	-1	5086	-1230.05	5.34	-14.87
1105	SLU 74	-45	-18	5266	-1269.29	5.55	-15.71
1105	SLU 75	-44	-8	5217	-1259.31	5.49	-15.39
1105	SLU 76	-43	-1	5150	-1244.7	5.41	-15.04
1105	SLU 77	-46	-18	5330	-1283.94	5.62	-15.89
1105	SLU 78	-45	-8	5281	-1273.97	5.56	-15.57
1105	SLU 79	-45	-18	5296	-1275.98	5.58	-15.76
1105	SLU 80	-44	-8	5247	-1266.01	5.52	-15.44
1105	SLU 81	-45	-18	5356	-1290.96	5.65	-15.77
1105	SLU 82	-44	-8	5307	-1280.98	5.59	-15.44
1105	SLU 83	-46	-18	5420	-1305.61	5.72	-15.94
1105	SLU 84	-45	-8	5371	-1295.63	5.66	-15.62
1105	SLE RA 1	-31	-12	3507	-849.5	3.68	-10.87
1105	SLE RA 2	-30	-1	3453	-838.42	3.61	-10.51
1105	SLE RA 3	-32	-12	3573	-864.58	3.75	-11.07
1105	SLE RA 4	-31	-6	3540	-857.92	3.71	-10.86
1105	SLE RA 5	-31	-2	3495	-848.18	3.66	-10.63
1105	SLE RA 6	-32	-13	3616	-874.35	3.8	-11.19
1105	SLE RA 7	-32	-6	3583	-867.69	3.76	-10.97
1105	SLE RA 8	-32	-13	3593	-869.04	3.77	-11.1
1105	SLE RA 9	-31	-6	3560	-862.39	3.73	-10.89
1105	SLE RA 10	-32	-2	3746	-907.29	3.93	-11.07
1105	SLE RA 11	-33	-13	3866	-933.45	4.07	-11.63
1105	SLE RA 12	-33	-7	3834	-926.8	4.03	-11.41
1105	SLE RA 13	-32	-2	3789	-917.06	3.98	-11.18
1105	SLE RA 14	-34	-13	3909	-943.22	4.11	-11.75
1105	SLE RA 15	-33	-7	3876	-936.57	4.07	-11.53
1105	SLE RA 16	-33	-13	3886	-937.91	4.09	-11.66
1105	SLE RA 17	-33	-7	3853	-931.26	4.05	-11.44
1105	SLE RA 18	-34	-13	3926	-947.9	4.13	-11.67
1105	SLE RA 19	-33	-6	3894	-941.24	4.09	-11.45
1105	SLE RA 20	-34	-13	3969	-957.66	4.18	-11.78
1105	SLE RA 21	-33	-7	3936	-951.01	4.14	-11.57
1105	SLE FR 1	-31	-12	3507	-849.5	3.68	-10.87
1105	SLE FR 2	-31	-10	3496	-847.28	3.67	-10.8
1105	SLE FR 3	-31	-12	3524	-853.41	3.7	-10.92



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1105	SLE FR 4	-32	-10	3622	-876.8	3.8	-11.04
1105	SLE FR 5	-32	-12	3650	-882.93	3.83	-11.15
1105	SLE FR 6	-32	-13	3717	-898.7	3.91	-11.27
1105	SLE QP 1	-31	-12	3507	-849.5	3.68	-10.87
1105	SLE QP 2	-32	-12	3633	-879.02	3.82	-11.11
1105	SLD 1	422	86	3481	-850.97	4.67	147.66
1105	SLD 2	344	46	3525	-859.9	4.84	120.75
1105	SLD 3	389	-106	4528	-1064.61	6.01	136.4
1105	SLD 4	312	-146	4572	-1073.54	6.18	109.49
1105	SLD 5	167	315	1991	-544.98	2.01	58.45
1105	SLD 6	116	289	2021	-550.87	2.12	40.68
1105	SLD 7	59	-324	5481	-1257.11	6.48	20.91
1105	SLD 8	8	-350	5511	-1263	6.59	3.14
1105	SLD 9	-72	325	1755	-495.04	1.04	-25.36
1105	SLD 10	-123	299	1785	-500.93	1.15	-43.13
1105	SLD 11	-180	-313	5245	-1207.17	5.51	-62.89
1105	SLD 12	-231	-340	5275	-1213.06	5.62	-80.67
1105	SLD 13	-376	121	2694	-684.5	1.45	-131.7
1105	SLD 14	-453	81	2738	-693.43	1.62	-158.62
1105	SLD 15	-408	-71	3741	-898.14	2.79	-142.96
1105	SLD 16	-485	-111	3785	-907.07	2.96	-169.88
1105	SLV 1	679	146	3366	-829.24	5.11	237.74
1105	SLV 2	558	84	3435	-843.22	5.38	195.58
1105	SLV 3	627	-163	5058	-1174.52	7.28	219.63
1105	SLV 4	506	-226	5127	-1188.5	7.54	177.46
1105	SLV 5	283	516	973	-337.8	0.87	98.89
1105	SLV 6	201	474	1020	-347.22	1.05	70.5
1105	SLV 7	110	-515	6614	-1488.74	8.09	38.51
1105	SLV 8	28	-557	6661	-1498.15	8.27	10.12
1105	SLV 9	-92	533	605	-259.89	-0.64	-32.34
1105	SLV 10	-173	491	652	-269.3	-0.46	-60.73
1105	SLV 11	-265	-499	6246	-1410.83	6.58	-92.71
1105	SLV 12	-346	-541	6293	-1420.24	6.76	-121.1
1105	SLV 13	-570	201	2139	-569.54	0.09	-199.68
1105	SLV 14	-691	138	2208	-583.52	0.35	-241.85
1105	SLV 15	-622	-109	3831	-914.82	2.25	-217.79
1105	SLV 16	-743	-171	3900	-928.8	2.52	-259.96
1105	SLV FO 1	750	162	3339	-824.27	5.24	262.63
1105	SLV FO 2	617	93	3415	-839.64	5.53	216.24
1105	SLV FO 3	693	-178	5200	-1204.07	7.63	242.7
1105	SLV FO 4	560	-247	5277	-1219.45	7.92	196.32
1105	SLV FO 5	314	569	707	-283.68	0.58	109.89
1105	SLV FO 6	225	523	759	-294.03	0.77	78.66
1105	SLV FO 7	124	-566	6912	-1549.71	8.52	43.48
1105	SLV FO 8	34	-612	6964	-1560.06	8.71	12.25
1105	SLV FO 9	-98	587	302	-197.98	-1.08	-34.46
1105	SLV FO 10	-187	541	354	-208.33	-0.89	-65.69
1105	SLV FO 11	-288	-548	6507	-1464.01	6.86	-100.87
1105	SLV FO 12	-378	-594	6559	-1474.36	7.06	-132.1
1105	SLV FO 13	-624	222	1989	-538.59	-0.29	-218.54
1105	SLV FO 14	-757	153	2066	-553.97	0.01	-264.92
1105	SLV FO 15	-681	-118	3851	-918.4	2.1	-238.46
1105	SLV FO 16	-814	-187	3927	-933.77	2.39	-284.84
1105	CRTFP Ux+	0	0	0	0	0	0
1105	CRTFP Ux-	0	0	0	0	0	0
1105	CRTFP Uy+	0	0	0	0	0	0
1105	CRTFP Uy-	0	0	0	0	0	0
1106	SLU 1	-29	-9	3254	-760.38	1.78	-10.08
1106	SLU 2	-28	7	3175	-745.1	1.72	-9.56
1106	SLU 3	-30	-10	3350	-781.52	1.83	-10.38
1106	SLU 4	-29	0	3302	-772.35	1.8	-10.07
1106	SLU 5	-28	6	3237	-758.79	1.76	-9.73
1106	SLU 6	-30	-10	3412	-795.21	1.86	-10.55
1106	SLU 7	-30	0	3365	-786.04	1.83	-10.24
1106	SLU 8	-30	-10	3378	-787.76	1.85	-10.43
1106	SLU 9	-29	0	3331	-778.59	1.81	-10.11
1106	SLU 10	-30	6	3603	-841.6	1.95	-10.39
1106	SLU 11	-32	-11	3779	-878.02	2.05	-11.21
1106	SLU 12	-31	-1	3731	-868.85	2.02	-10.89
1106	SLU 13	-30	6	3666	-855.29	1.98	-10.56
1106	SLU 14	-33	-11	3841	-891.71	2.09	-11.38
1106	SLU 15	-32	-1	3793	-882.54	2.05	-11.06
1106	SLU 16	-32	-11	3807	-884.26	2.07	-11.25
1106	SLU 17	-31	-1	3760	-875.09	2.04	-10.94
1106	SLU 18	-32	-10	3866	-898.24	2.1	-11.26
1106	SLU 19	-32	-1	3819	-889.07	2.06	-10.95
1106	SLU 20	-33	-11	3929	-911.93	2.13	-11.43
1106	SLU 21	-32	-1	3881	-902.76	2.1	-11.12
1106	SLU 22	-33	-11	3827	-887.74	2.09	-11.6
1106	SLU 23	-32	5	3748	-872.46	2.03	-11.08
1106	SLU 24	-34	-11	3923	-908.88	2.14	-11.9
1106	SLU 25	-33	-1	3876	-899.71	2.11	-11.59
1106	SLU 26	-32	5	3810	-886.15	2.07	-11.25
1106	SLU 27	-35	-11	3985	-922.57	2.17	-12.07
1106	SLU 28	-34	-2	3938	-913.4	2.14	-11.76
1106	SLU 29	-34	-11	3952	-915.12	2.16	-11.94
1106	SLU 30	-33	-2	3904	-905.95	2.12	-11.63
1106	SLU 31	-34	5	4177	-968.96	2.26	-11.9
1106	SLU 32	-37	-12	4352	-1005.38	2.36	-12.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLU 33	-36	-2	4304	-996.21	2.33	-12.41
1106	SLU 34	-35	4	4239	-982.65	2.29	-12.07
1106	SLU 35	-37	-12	4414	-1019.07	2.4	-12.89
1106	SLU 36	-36	-3	4367	-1009.9	2.36	-12.58
1106	SLU 37	-37	-12	4380	-1011.62	2.38	-12.76
1106	SLU 38	-36	-2	4333	-1002.45	2.35	-12.45
1106	SLU 39	-37	-12	4440	-1025.6	2.41	-12.77
1106	SLU 40	-36	-2	4392	-1016.43	2.37	-12.46
1106	SLU 41	-37	-12	4502	-1039.29	2.44	-12.94
1106	SLU 42	-36	-2	4454	-1030.12	2.41	-12.63
1106	SLU 43	-36	-12	4033	-944.83	2.21	-12.59
1106	SLU 44	-35	4	3954	-929.55	2.15	-12.07
1106	SLU 45	-37	-12	4129	-965.97	2.26	-12.89
1106	SLU 46	-36	-3	4082	-956.8	2.22	-12.58
1106	SLU 47	-35	4	4016	-943.24	2.19	-12.24
1106	SLU 48	-38	-13	4192	-979.66	2.29	-13.06
1106	SLU 49	-37	-3	4144	-970.49	2.26	-12.75
1106	SLU 50	-37	-12	4158	-972.21	2.27	-12.93
1106	SLU 51	-36	-3	4110	-963.04	2.24	-12.62
1106	SLU 52	-37	4	4383	-1026.05	2.37	-12.89
1106	SLU 53	-39	-13	4558	-1062.46	2.48	-13.71
1106	SLU 54	-39	-3	4511	-1053.3	2.45	-13.4
1106	SLU 55	-38	3	4445	-1039.74	2.41	-13.06
1106	SLU 56	-40	-13	4621	-1076.15	2.51	-13.88
1106	SLU 57	-39	-4	4573	-1066.99	2.48	-13.57
1106	SLU 58	-40	-13	4587	-1068.71	2.5	-13.75
1106	SLU 59	-39	-3	4539	-1059.54	2.46	-13.44
1106	SLU 60	-40	-13	4646	-1082.68	2.52	-13.76
1106	SLU 61	-39	-3	4598	-1073.52	2.49	-13.45
1106	SLU 62	-40	-13	4708	-1096.37	2.56	-13.94
1106	SLU 63	-39	-3	4661	-1087.21	2.52	-13.62
1106	SLU 64	-41	-13	4607	-1072.19	2.52	-14.1
1106	SLU 65	-39	3	4527	-1056.91	2.46	-13.58
1106	SLU 66	-41	-14	4703	-1093.33	2.57	-14.4
1106	SLU 67	-41	-4	4655	-1084.16	2.53	-14.09
1106	SLU 68	-40	3	4590	-1070.6	2.5	-13.76
1106	SLU 69	-42	-14	4765	-1107.02	2.6	-14.58
1106	SLU 70	-41	-4	4717	-1097.85	2.57	-14.26
1106	SLU 71	-42	-14	4731	-1099.57	2.58	-14.45
1106	SLU 72	-41	-4	4684	-1090.4	2.55	-14.13
1106	SLU 73	-41	2	4956	-1153.41	2.68	-14.41
1106	SLU 74	-44	-14	5131	-1189.83	2.79	-15.23
1106	SLU 75	-43	-5	5084	-1180.66	2.76	-14.91
1106	SLU 76	-42	2	5018	-1167.1	2.72	-14.58
1106	SLU 77	-44	-15	5194	-1203.51	2.82	-15.4
1106	SLU 78	-43	-5	5146	-1194.35	2.79	-15.09
1106	SLU 79	-44	-14	5160	-1196.07	2.81	-15.27
1106	SLU 80	-43	-5	5112	-1186.9	2.77	-14.96
1106	SLU 81	-44	-14	5219	-1210.05	2.83	-15.28
1106	SLU 82	-43	-4	5172	-1200.88	2.8	-14.97
1106	SLU 83	-44	-14	5281	-1223.73	2.87	-15.45
1106	SLU 84	-44	-5	5234	-1214.57	2.83	-15.14
1106	SLE RA 1	-30	-10	3418	-796.77	1.87	-10.52
1106	SLE RA 2	-29	1	3365	-786.58	1.83	-10.17
1106	SLE RA 3	-31	-10	3482	-810.86	1.9	-10.72
1106	SLE RA 4	-30	-4	3450	-804.75	1.88	-10.51
1106	SLE RA 5	-30	1	3406	-795.71	1.85	-10.28
1106	SLE RA 6	-31	-10	3523	-819.99	1.92	-10.83
1106	SLE RA 7	-31	-4	3491	-813.88	1.9	-10.62
1106	SLE RA 8	-31	-10	3501	-815.02	1.91	-10.74
1106	SLE RA 9	-30	-4	3469	-808.91	1.89	-10.54
1106	SLE RA 10	-31	0	3651	-850.92	1.98	-10.72
1106	SLE RA 11	-32	-11	3767	-875.19	2.05	-11.26
1106	SLE RA 12	-32	-4	3736	-869.08	2.03	-11.06
1106	SLE RA 13	-31	0	3692	-860.04	2	-10.83
1106	SLE RA 14	-33	-11	3809	-884.32	2.07	-11.38
1106	SLE RA 15	-32	-4	3777	-878.21	2.05	-11.17
1106	SLE RA 16	-33	-11	3786	-879.35	2.06	-11.29
1106	SLE RA 17	-32	-4	3755	-873.24	2.04	-11.08
1106	SLE RA 18	-33	-11	3826	-888.67	2.08	-11.3
1106	SLE RA 19	-32	-4	3794	-882.56	2.06	-11.09
1106	SLE RA 20	-33	-11	3867	-897.8	2.1	-11.41
1106	SLE RA 21	-32	-4	3836	-891.69	2.08	-11.21
1106	SLE FR 1	-30	-10	3418	-796.77	1.87	-10.52
1106	SLE FR 2	-30	-8	3407	-794.73	1.86	-10.45
1106	SLE FR 3	-30	-10	3434	-800.42	1.88	-10.56
1106	SLE FR 4	-31	-8	3530	-822.3	1.92	-10.68
1106	SLE FR 5	-31	-10	3557	-827.99	1.94	-10.8
1106	SLE FR 6	-31	-10	3622	-842.72	1.97	-10.91
1106	SLE QP 1	-30	-10	3418	-796.77	1.87	-10.52
1106	SLE QP 2	-31	-10	3540	-824.34	1.93	-10.75
1106	SLD 1	423	90	3359	-786.61	2.86	148.13
1106	SLD 2	346	52	3398	-793.68	3	121.24
1106	SLD 3	391	-101	4372	-982.55	3.61	137.12
1106	SLD 4	314	-139	4412	-989.62	3.75	110.23
1106	SLD 5	167	317	1942	-514.57	1.05	58.46
1106	SLD 6	116	292	1968	-519.24	1.14	40.7
1106	SLD 7	62	-320	5319	-1167.71	3.55	21.76
1106	SLD 8	11	-345	5345	-1172.38	3.64	4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1106	SLD 9	-73	325	1735	-476.31	0.22	-25.5
1106	SLD 10	-124	300	1761	-480.97	0.32	-43.26
1106	SLD 11	-178	-312	5112	-1129.45	2.72	-62.2
1106	SLD 12	-229	-337	5138	-1134.11	2.82	-79.96
1106	SLD 13	-376	119	2669	-659.06	0.11	-131.73
1106	SLD 14	-453	81	2708	-666.13	0.25	-158.62
1106	SLD 15	-408	-72	3682	-855.01	0.86	-142.74
1106	SLD 16	-485	-110	3721	-862.07	1	-169.63
1106	SLV 1	680	151	3229	-759.96	3.36	238.27
1106	SLV 2	559	92	3290	-771.03	3.58	196.13
1106	SLV 3	629	-157	4867	-1076.64	4.57	220.56
1106	SLV 4	509	-216	4928	-1087.72	4.79	178.42
1106	SLV 5	282	517	951	-322.66	0.48	98.68
1106	SLV 6	200	478	993	-330.11	0.63	70.31
1106	SLV 7	113	-511	6410	-1378.27	4.52	39.64
1106	SLV 8	32	-551	6452	-1385.73	4.67	11.28
1106	SLV 9	-94	531	628	-262.96	-0.8	-32.78
1106	SLV 10	-175	491	670	-270.41	-0.66	-61.15
1106	SLV 11	-262	-498	6087	-1318.57	3.23	-91.81
1106	SLV 12	-344	-537	6129	-1326.03	3.38	-120.18
1106	SLV 13	-571	196	2152	-560.97	-0.92	-199.93
1106	SLV 14	-691	137	2214	-572.04	-0.7	-242.06
1106	SLV 15	-621	-112	3790	-877.65	0.29	-217.64
1106	SLV 16	-742	-171	3851	-888.72	0.51	-259.77
1106	SLV FO 1	751	167	3198	-753.52	3.5	263.17
1106	SLV FO 2	618	103	3266	-765.7	3.74	216.82
1106	SLV FO 3	696	-172	4999	-1101.88	4.83	243.69
1106	SLV FO 4	563	-237	5067	-1114.05	5.07	197.34
1106	SLV FO 5	313	570	693	-272.49	0.34	109.62
1106	SLV FO 6	223	526	738	-280.69	0.5	78.42
1106	SLV FO 7	127	-561	6697	-1433.66	4.78	44.68
1106	SLV FO 8	38	-605	6743	-1441.86	4.94	13.48
1106	SLV FO 9	-100	585	337	-206.82	-1.08	-34.98
1106	SLV FO 10	-189	541	383	-215.02	-0.91	-66.19
1106	SLV FO 11	-285	-546	6342	-1368	3.36	-99.92
1106	SLV FO 12	-375	-590	6388	-1376.2	3.53	-131.12
1106	SLV FO 13	-625	217	2013	-534.63	-1.21	-218.84
1106	SLV FO 14	-757	152	2081	-546.81	-0.97	-265.19
1106	SLV FO 15	-680	-123	3815	-882.98	0.12	-238.32
1106	SLV FO 16	-813	-187	3882	-895.16	0.36	-284.67
1106	CRTFP Ux+	0	0	0	0	0	0
1106	CRTFP Ux-	0	0	0	0	0	0
1106	CRTFP Uy+	0	0	0	0	0	0
1106	CRTFP Uy-	0	0	0	0	0	0
1107	SLU 1	-28	-7	3223	-751.3	0.14	-9.71
1107	SLU 2	-27	10	3145	-736.32	0.13	-9.21
1107	SLU 3	-29	-7	3318	-772.25	0.14	-10
1107	SLU 4	-28	3	3271	-763.26	0.13	-9.7
1107	SLU 5	-27	9	3207	-749.88	0.13	-9.37
1107	SLU 6	-29	-7	3380	-785.81	0.14	-10.16
1107	SLU 7	-28	3	3333	-776.82	0.14	-9.86
1107	SLU 8	-29	-7	3347	-778.42	0.14	-10.04
1107	SLU 9	-28	3	3300	-769.44	0.14	-9.74
1107	SLU 10	-29	9	3570	-831.95	0.11	-10.01
1107	SLU 11	-31	-7	3744	-867.87	0.12	-10.8
1107	SLU 12	-30	2	3697	-858.89	0.11	-10.5
1107	SLU 13	-29	9	3632	-845.51	0.11	-10.18
1107	SLU 14	-32	-8	3806	-881.43	0.12	-10.97
1107	SLU 15	-31	2	3759	-872.45	0.11	-10.67
1107	SLU 16	-31	-8	3772	-874.04	0.12	-10.84
1107	SLU 17	-30	2	3725	-865.06	0.12	-10.54
1107	SLU 18	-31	-7	3831	-887.9	0.11	-10.85
1107	SLU 19	-30	2	3784	-878.92	0.11	-10.55
1107	SLU 20	-32	-8	3893	-901.46	0.11	-11.02
1107	SLU 21	-31	2	3846	-892.48	0.11	-10.72
1107	SLU 22	-32	-7	3792	-877.35	0.13	-11.18
1107	SLU 23	-31	9	3713	-862.38	0.12	-10.68
1107	SLU 24	-33	-8	3887	-898.3	0.13	-11.47
1107	SLU 25	-32	2	3840	-889.32	0.12	-11.17
1107	SLU 26	-31	8	3775	-875.94	0.12	-10.85
1107	SLU 27	-34	-8	3949	-911.87	0.13	-11.64
1107	SLU 28	-33	2	3902	-902.88	0.12	-11.34
1107	SLU 29	-33	-8	3915	-904.48	0.13	-11.51
1107	SLU 30	-32	2	3868	-895.49	0.13	-11.21
1107	SLU 31	-33	8	4139	-958	0.1	-11.48
1107	SLU 32	-35	-8	4312	-993.93	0.11	-12.28
1107	SLU 33	-35	1	4266	-984.94	0.1	-11.98
1107	SLU 34	-34	8	4201	-971.57	0.1	-11.65
1107	SLU 35	-36	-9	4374	-1007.49	0.11	-12.44
1107	SLU 36	-35	1	4327	-998.51	0.1	-12.14
1107	SLU 37	-36	-9	4341	-1000.1	0.11	-12.31
1107	SLU 38	-35	1	4294	-991.12	0.1	-12.02
1107	SLU 39	-36	-8	4400	-1013.96	0.1	-12.33
1107	SLU 40	-35	1	4353	-1004.98	0.09	-12.03
1107	SLU 41	-36	-9	4461	-1027.52	0.1	-12.49
1107	SLU 42	-35	1	4414	-1018.54	0.1	-12.19
1107	SLU 43	-35	-8	3995	-933.46	0.19	-12.11
1107	SLU 44	-34	8	3917	-918.49	0.18	-11.61
1107	SLU 45	-36	-8	4090	-954.41	0.19	-12.4



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1107	SLU 46	-35	1	4043	-945.43	0.18	-12.11
1107	SLU 47	-34	8	3979	-932.05	0.18	-11.78
1107	SLU 48	-36	-9	4152	-967.98	0.19	-12.57
1107	SLU 49	-35	1	4105	-958.99	0.18	-12.27
1107	SLU 50	-36	-9	4119	-960.59	0.19	-12.44
1107	SLU 51	-35	1	4072	-951.6	0.18	-12.14
1107	SLU 52	-36	7	4342	-1014.11	0.16	-12.42
1107	SLU 53	-38	-9	4516	-1050.04	0.17	-13.21
1107	SLU 54	-37	1	4469	-1041.05	0.16	-12.91
1107	SLU 55	-36	7	4404	-1027.68	0.16	-12.58
1107	SLU 56	-39	-9	4578	-1063.6	0.17	-13.37
1107	SLU 57	-38	0	4531	-1054.62	0.16	-13.07
1107	SLU 58	-38	-9	4544	-1056.21	0.17	-13.25
1107	SLU 59	-37	0	4497	-1047.23	0.16	-12.95
1107	SLU 60	-38	-9	4603	-1070.07	0.16	-13.26
1107	SLU 61	-37	1	4556	-1061.09	0.15	-12.96
1107	SLU 62	-39	-9	4665	-1083.63	0.16	-13.42
1107	SLU 63	-38	0	4618	-1074.65	0.15	-13.12
1107	SLU 64	-39	-9	4564	-1059.52	0.18	-13.59
1107	SLU 65	-38	7	4485	-1044.55	0.17	-13.09
1107	SLU 66	-40	-9	4659	-1080.47	0.18	-13.88
1107	SLU 67	-39	0	4612	-1071.49	0.17	-13.58
1107	SLU 68	-38	7	4547	-1058.11	0.17	-13.25
1107	SLU 69	-41	-10	4721	-1094.03	0.18	-14.05
1107	SLU 70	-40	0	4674	-1085.05	0.17	-13.75
1107	SLU 71	-40	-10	4687	-1086.65	0.18	-13.92
1107	SLU 72	-39	0	4640	-1077.66	0.17	-13.62
1107	SLU 73	-40	6	4911	-1140.17	0.15	-13.89
1107	SLU 74	-42	-10	5084	-1176.1	0.16	-14.68
1107	SLU 75	-42	0	5038	-1167.11	0.15	-14.38
1107	SLU 76	-41	6	4973	-1153.74	0.15	-14.06
1107	SLU 77	-43	-10	5146	-1189.66	0.16	-14.85
1107	SLU 78	-42	-1	5099	-1180.67	0.15	-14.55
1107	SLU 79	-42	-10	5113	-1182.27	0.16	-14.72
1107	SLU 80	-42	-1	5066	-1173.29	0.15	-14.42
1107	SLU 81	-43	-10	5172	-1196.13	0.15	-14.73
1107	SLU 82	-42	0	5125	-1187.15	0.14	-14.43
1107	SLU 83	-43	-10	5233	-1209.69	0.15	-14.9
1107	SLU 84	-42	-1	5186	-1200.71	0.14	-14.6
1107	SLE RA 1	-29	-7	3385	-787.31	0.14	-10.13
1107	SLE RA 2	-28	4	3333	-777.33	0.13	-9.8
1107	SLE RA 3	-30	-7	3449	-801.28	0.14	-10.32
1107	SLE RA 4	-29	-1	3418	-795.29	0.13	-10.12
1107	SLE RA 5	-29	4	3375	-786.37	0.13	-9.91
1107	SLE RA 6	-30	-7	3490	-810.32	0.14	-10.43
1107	SLE RA 7	-30	-1	3459	-804.33	0.13	-10.23
1107	SLE RA 8	-30	-7	3468	-805.4	0.14	-10.35
1107	SLE RA 9	-29	-1	3437	-799.41	0.14	-10.15
1107	SLE RA 10	-30	4	3617	-841.08	0.12	-10.33
1107	SLE RA 11	-31	-7	3733	-865.03	0.12	-10.86
1107	SLE RA 12	-31	-1	3701	-859.04	0.12	-10.66
1107	SLE RA 13	-30	3	3658	-850.12	0.12	-10.44
1107	SLE RA 14	-32	-8	3774	-874.07	0.12	-10.97
1107	SLE RA 15	-31	-1	3743	-868.08	0.12	-10.77
1107	SLE RA 16	-31	-8	3752	-869.14	0.13	-10.88
1107	SLE RA 17	-31	-1	3720	-863.16	0.12	-10.68
1107	SLE RA 18	-31	-7	3791	-878.38	0.12	-10.89
1107	SLE RA 19	-31	-1	3760	-872.39	0.11	-10.69
1107	SLE RA 20	-32	-8	3832	-887.43	0.12	-11
1107	SLE RA 21	-31	-1	3801	-881.44	0.12	-10.8
1107	SLE FR 1	-29	-7	3385	-787.31	0.14	-10.13
1107	SLE FR 2	-29	-5	3375	-785.32	0.14	-10.06
1107	SLE FR 3	-29	-7	3402	-790.93	0.14	-10.17
1107	SLE FR 4	-30	-5	3497	-812.64	0.13	-10.29
1107	SLE FR 5	-30	-7	3524	-818.25	0.13	-10.4
1107	SLE FR 6	-30	-7	3588	-832.85	0.13	-10.51
1107	SLE QP 1	-29	-7	3385	-787.31	0.14	-10.13
1107	SLE QP 2	-30	-7	3507	-814.63	0.13	-10.36
1107	SLD 1	424	119	3295	-765.31	1.13	148.54
1107	SLD 2	347	83	3330	-771.18	1.24	121.68
1107	SLD 3	393	-73	4293	-956.93	1.31	137.8
1107	SLD 4	316	-108	4329	-962.8	1.42	110.95
1107	SLD 5	166	328	1923	-508.15	0.13	58.43
1107	SLD 6	116	304	1946	-512.03	0.2	40.69
1107	SLD 7	65	-311	5251	-1146.89	0.75	22.65
1107	SLD 8	14	-335	5274	-1150.77	0.82	4.92
1107	SLD 9	-74	321	1740	-478.5	-0.56	-25.63
1107	SLD 10	-124	297	1764	-482.37	-0.48	-43.37
1107	SLD 11	-175	-318	5068	-1117.24	0.06	-61.41
1107	SLD 12	-226	-342	5091	-1121.12	0.14	-79.14
1107	SLD 13	-376	95	2686	-666.46	-1.16	-131.66
1107	SLD 14	-453	59	2721	-672.33	-1.05	-158.52
1107	SLD 15	-407	-97	3684	-858.09	-0.97	-142.4
1107	SLD 16	-484	-133	3719	-863.96	-0.86	-169.25
1107	SLV 1	681	195	3148	-732.3	1.68	238.67
1107	SLV 2	561	139	3203	-741.49	1.85	196.59
1107	SLV 3	632	-115	4762	-1042.01	1.98	221.4
1107	SLV 4	511	-170	4817	-1051.21	2.15	179.33
1107	SLV 5	280	534	942	-318.49	0.11	98.38



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1107	SLV 6	199	496	979	-324.68	0.23	70.06
1107	SLV 7	117	-498	6320	-1350.86	1.11	40.84
1107	SLV 8	35	-536	6357	-1357.05	1.23	12.51
1107	SLV 9	-95	522	657	-272.21	-0.96	-33.23
1107	SLV 10	-176	485	694	-278.41	-0.84	-61.56
1107	SLV 11	-259	-510	6035	-1304.59	0.04	-90.77
1107	SLV 12	-340	-547	6072	-1310.78	0.16	-119.1
1107	SLV 13	-571	157	2197	-578.06	-1.89	-200.04
1107	SLV 14	-692	101	2253	-587.26	-1.71	-242.12
1107	SLV 15	-620	-153	3811	-887.77	-1.59	-217.31
1107	SLV 16	-741	-209	3866	-896.97	-1.41	-259.38
1107	SLV FO 1	752	215	3112	-724.06	1.83	263.57
1107	SLV FO 2	620	154	3173	-734.18	2.02	217.29
1107	SLV FO 3	698	-126	4887	-1064.75	2.16	244.58
1107	SLV FO 4	566	-187	4948	-1074.86	2.36	198.3
1107	SLV FO 5	311	588	685	-268.87	0.11	109.26
1107	SLV FO 6	222	546	726	-275.68	0.24	78.1
1107	SLV FO 7	131	-548	6602	-1404.48	1.21	45.96
1107	SLV FO 8	42	-589	6643	-1411.3	1.34	14.8
1107	SLV FO 9	-102	575	372	-217.97	-1.07	-35.52
1107	SLV FO 10	-191	534	413	-224.78	-0.94	-66.68
1107	SLV FO 11	-282	-560	6288	-1353.59	0.03	-98.81
1107	SLV FO 12	-371	-601	6329	-1360.4	0.16	-129.97
1107	SLV FO 13	-625	173	2067	-554.4	-2.09	-219.01
1107	SLV FO 14	-758	112	2127	-564.52	-1.89	-265.3
1107	SLV FO 15	-679	-168	3841	-895.09	-1.76	-238
1107	SLV FO 16	-812	-229	3902	-905.2	-1.56	-284.28
1107	CRTFP Ux+	0	0	0	0	0	0
1107	CRTFP Ux-	0	0	0	0	0	0
1107	CRTFP Uy+	0	0	0	0	0	0
1107	CRTFP Uy-	0	0	0	0	0	0
1108	SLU 1	-27	-3	3242	-779.17	-1.25	-9.3
1108	SLU 2	-26	13	3163	-763.56	-1.23	-8.82
1108	SLU 3	-28	-3	3338	-801.09	-1.3	-9.58
1108	SLU 4	-27	6	3291	-791.72	-1.28	-9.3
1108	SLU 5	-26	13	3225	-777.74	-1.25	-8.98
1108	SLU 6	-28	-4	3400	-815.27	-1.33	-9.74
1108	SLU 7	-27	6	3353	-805.9	-1.31	-9.45
1108	SLU 8	-28	-4	3366	-807.54	-1.31	-9.62
1108	SLU 9	-27	6	3319	-798.17	-1.29	-9.33
1108	SLU 10	-28	13	3593	-863.67	-1.45	-9.6
1108	SLU 11	-30	-4	3768	-901.2	-1.53	-10.36
1108	SLU 12	-29	6	3720	-891.83	-1.51	-10.07
1108	SLU 13	-28	12	3655	-877.85	-1.48	-9.76
1108	SLU 14	-30	-4	3830	-915.38	-1.56	-10.52
1108	SLU 15	-30	6	3783	-906.01	-1.54	-10.23
1108	SLU 16	-30	-4	3796	-907.65	-1.54	-10.39
1108	SLU 17	-29	6	3749	-898.28	-1.52	-10.11
1108	SLU 18	-30	-4	3856	-922.19	-1.58	-10.41
1108	SLU 19	-29	6	3809	-912.82	-1.56	-10.13
1108	SLU 20	-31	-4	3918	-936.37	-1.61	-10.57
1108	SLU 21	-30	6	3871	-927	-1.59	-10.28
1108	SLU 22	-31	-4	3815	-911.04	-1.54	-10.73
1108	SLU 23	-30	13	3737	-895.42	-1.51	-10.25
1108	SLU 24	-32	-4	3911	-932.95	-1.58	-11.01
1108	SLU 25	-31	6	3864	-923.58	-1.57	-10.73
1108	SLU 26	-30	12	3799	-909.6	-1.54	-10.41
1108	SLU 27	-32	-4	3973	-947.13	-1.61	-11.17
1108	SLU 28	-31	6	3926	-937.76	-1.6	-10.88
1108	SLU 29	-32	-4	3940	-939.4	-1.6	-11.05
1108	SLU 30	-31	6	3893	-930.03	-1.58	-10.76
1108	SLU 31	-32	12	4166	-995.53	-1.74	-11.03
1108	SLU 32	-34	-4	4341	-1033.06	-1.81	-11.79
1108	SLU 33	-33	5	4294	-1023.69	-1.8	-11.5
1108	SLU 34	-32	12	4229	-1009.71	-1.77	-11.19
1108	SLU 35	-35	-5	4403	-1047.25	-1.84	-11.95
1108	SLU 36	-34	5	4356	-1037.88	-1.82	-11.66
1108	SLU 37	-34	-5	4369	-1039.51	-1.82	-11.83
1108	SLU 38	-33	5	4322	-1030.14	-1.81	-11.54
1108	SLU 39	-34	-4	4429	-1054.05	-1.86	-11.84
1108	SLU 40	-33	5	4382	-1044.68	-1.85	-11.56
1108	SLU 41	-35	-5	4491	-1068.24	-1.89	-12
1108	SLU 42	-34	5	4444	-1058.87	-1.88	-11.72
1108	SLU 43	-34	-4	4018	-967.72	-1.53	-11.6
1108	SLU 44	-32	13	3939	-952.1	-1.51	-11.12
1108	SLU 45	-34	-4	4114	-989.63	-1.58	-11.88
1108	SLU 46	-34	6	4067	-980.26	-1.56	-11.59
1108	SLU 47	-33	12	4001	-966.28	-1.53	-11.28
1108	SLU 48	-35	-4	4176	-1003.81	-1.61	-12.04
1108	SLU 49	-34	5	4129	-994.44	-1.59	-11.75
1108	SLU 50	-34	-4	4142	-996.08	-1.59	-11.92
1108	SLU 51	-34	5	4095	-986.71	-1.57	-11.63
1108	SLU 52	-34	12	4369	-1052.21	-1.73	-11.9
1108	SLU 53	-37	-5	4543	-1089.74	-1.81	-12.66
1108	SLU 54	-36	5	4496	-1080.37	-1.79	-12.37
1108	SLU 55	-35	12	4431	-1066.39	-1.76	-12.06
1108	SLU 56	-37	-5	4606	-1103.93	-1.83	-12.82
1108	SLU 57	-36	5	4559	-1094.56	-1.82	-12.53
1108	SLU 58	-37	-5	4572	-1096.19	-1.82	-12.69



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1108	SLU 59	-36	5	4525	-1086.82	-1.8	-12.41
1108	SLU 60	-37	-4	4632	-1110.73	-1.86	-12.71
1108	SLU 61	-36	5	4585	-1101.36	-1.84	-12.42
1108	SLU 62	-37	-5	4694	-1124.92	-1.89	-12.87
1108	SLU 63	-36	5	4647	-1115.55	-1.87	-12.58
1108	SLU 64	-38	-4	4591	-1099.58	-1.82	-13.03
1108	SLU 65	-36	12	4513	-1083.96	-1.79	-12.55
1108	SLU 66	-38	-5	4687	-1121.49	-1.86	-13.31
1108	SLU 67	-38	5	4640	-1112.12	-1.85	-13.03
1108	SLU 68	-37	12	4575	-1098.15	-1.82	-12.71
1108	SLU 69	-39	-5	4749	-1135.68	-1.89	-13.47
1108	SLU 70	-38	5	4702	-1126.31	-1.87	-13.18
1108	SLU 71	-39	-5	4716	-1127.94	-1.87	-13.35
1108	SLU 72	-38	5	4668	-1118.57	-1.86	-13.06
1108	SLU 73	-39	11	4942	-1184.08	-2.02	-13.33
1108	SLU 74	-41	-5	5117	-1221.61	-2.09	-14.09
1108	SLU 75	-40	5	5070	-1212.24	-2.07	-13.8
1108	SLU 76	-39	11	5005	-1198.26	-2.05	-13.49
1108	SLU 77	-41	-5	5179	-1235.79	-2.12	-14.25
1108	SLU 78	-40	4	5132	-1226.42	-2.1	-13.96
1108	SLU 79	-41	-5	5145	-1228.05	-2.1	-14.12
1108	SLU 80	-40	4	5098	-1218.69	-2.09	-13.84
1108	SLU 81	-41	-5	5205	-1242.6	-2.14	-14.14
1108	SLU 82	-40	5	5158	-1233.23	-2.13	-13.86
1108	SLU 83	-41	-5	5267	-1256.78	-2.17	-14.3
1108	SLU 84	-41	4	5220	-1247.41	-2.16	-14.01
1108	SLE RA 1	-28	-3	3406	-816.85	-1.34	-9.71
1108	SLE RA 2	-27	8	3353	-806.44	-1.32	-9.39
1108	SLE RA 3	-29	-3	3470	-831.46	-1.37	-9.9
1108	SLE RA 4	-28	3	3438	-825.21	-1.35	-9.71
1108	SLE RA 5	-27	7	3395	-815.89	-1.34	-9.5
1108	SLE RA 6	-29	-4	3511	-840.91	-1.38	-10
1108	SLE RA 7	-28	3	3480	-834.67	-1.37	-9.81
1108	SLE RA 8	-29	-4	3489	-835.76	-1.37	-9.92
1108	SLE RA 9	-28	3	3457	-829.51	-1.36	-9.73
1108	SLE RA 10	-29	7	3640	-873.18	-1.47	-9.91
1108	SLE RA 11	-30	-4	3756	-898.2	-1.52	-10.41
1108	SLE RA 12	-30	3	3725	-891.95	-1.51	-10.22
1108	SLE RA 13	-29	7	3681	-882.63	-1.49	-10.02
1108	SLE RA 14	-30	-4	3798	-907.66	-1.54	-10.52
1108	SLE RA 15	-30	3	3766	-901.41	-1.53	-10.33
1108	SLE RA 16	-30	-4	3775	-902.5	-1.53	-10.44
1108	SLE RA 17	-30	3	3744	-896.25	-1.51	-10.25
1108	SLE RA 18	-30	-4	3815	-912.19	-1.55	-10.45
1108	SLE RA 19	-30	3	3783	-905.95	-1.54	-10.26
1108	SLE RA 20	-30	-4	3856	-921.65	-1.57	-10.55
1108	SLE RA 21	-30	3	3825	-915.4	-1.56	-10.36
1108	SLE FR 1	-28	-3	3406	-816.85	-1.34	-9.71
1108	SLE FR 2	-28	-1	3395	-814.77	-1.33	-9.64
1108	SLE FR 3	-28	-3	3422	-820.63	-1.34	-9.75
1108	SLE FR 4	-29	-1	3518	-843.37	-1.4	-9.87
1108	SLE FR 5	-29	-3	3545	-849.23	-1.41	-9.97
1108	SLE FR 6	-29	-3	3610	-864.52	-1.44	-10.08
1108	SLE QP 1	-28	-3	3406	-816.85	-1.34	-9.71
1108	SLE QP 2	-29	-3	3528	-845.45	-1.4	-9.93
1108	SLD 1	425	121	3283	-783.21	-0.36	148.87
1108	SLD 2	348	88	3315	-788.44	-0.27	122.07
1108	SLD 3	395	-72	4284	-982.61	-0.67	138.45
1108	SLD 4	318	-106	4316	-987.85	-0.58	111.64
1108	SLD 5	166	334	1932	-523.4	-0.63	58.35
1108	SLD 6	115	311	1953	-526.86	-0.57	40.65
1108	SLD 7	67	-311	5267	-1188.09	-1.67	23.6
1108	SLD 8	17	-334	5288	-1191.55	-1.62	5.91
1108	SLD 9	-74	327	1769	-499.36	-1.19	-25.77
1108	SLD 10	-125	305	1790	-502.82	-1.13	-43.46
1108	SLD 11	-173	-318	5104	-1164.04	-2.23	-60.51
1108	SLD 12	-223	-340	5125	-1167.5	-2.17	-78.2
1108	SLD 13	-376	99	2741	-703.06	-2.22	-131.5
1108	SLD 14	-453	65	2773	-708.29	-2.13	-158.3
1108	SLD 15	-405	-95	3741	-902.46	-2.53	-141.93
1108	SLD 16	-482	-128	3773	-907.7	-2.45	-168.73
1108	SLV 1	682	197	3118	-742.74	0.24	238.94
1108	SLV 2	562	144	3168	-750.94	0.37	196.95
1108	SLV 3	634	-115	4735	-1065.04	-0.27	222.17
1108	SLV 4	514	-168	4785	-1073.24	-0.13	180.18
1108	SLV 5	279	541	943	-324.29	-0.16	97.99
1108	SLV 6	198	505	977	-329.81	-0.07	69.72
1108	SLV 7	120	-501	6334	-1398.62	-1.86	42.11
1108	SLV 8	39	-537	6368	-1404.14	-1.76	13.84
1108	SLV 9	-97	530	689	-286.77	-1.04	-33.7
1108	SLV 10	-178	494	723	-292.29	-0.94	-61.97
1108	SLV 11	-256	-512	6080	-1361.09	-2.73	-89.58
1108	SLV 12	-336	-547	6114	-1366.62	-2.64	-117.85
1108	SLV 13	-571	161	2271	-617.66	-2.67	-200.04
1108	SLV 14	-692	109	2322	-625.86	-2.53	-242.03
1108	SLV 15	-619	-151	3889	-939.96	-3.18	-216.81
1108	SLV 16	-739	-204	3939	-948.16	-3.04	-258.79
1108	SLV FO 1	753	217	3077	-732.47	0.4	263.82
1108	SLV FO 2	621	159	3132	-741.49	0.55	217.63



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1108	SLV FO 3	701	-127	4856	-1087	-0.16	245.38
1108	SLV FO 4	568	-185	4911	-1096.02	-0.01	199.19
1108	SLV FO 5	310	595	685	-272.17	-0.04	108.78
1108	SLV FO 6	221	556	722	-278.25	0.06	77.69
1108	SLV FO 7	135	-551	6614	-1453.93	-1.9	47.32
1108	SLV FO 8	46	-590	6652	-1460.01	-1.8	16.22
1108	SLV FO 9	-104	583	405	-230.9	-1	-36.08
1108	SLV FO 10	-193	544	442	-236.97	-0.9	-67.17
1108	SLV FO 11	-278	-563	6335	-1412.66	-2.86	-97.55
1108	SLV FO 12	-367	-602	6372	-1418.73	-2.76	-128.64
1108	SLV FO 13	-626	178	2146	-594.88	-2.8	-219.05
1108	SLV FO 14	-758	120	2201	-603.91	-2.64	-265.24
1108	SLV FO 15	-678	-166	3925	-949.41	-3.35	-237.49
1108	SLV FO 16	-810	-224	3980	-958.43	-3.2	-283.68
1108	CRTFP Ux+	0	0	0	0	0	0
1108	CRTFP Ux-	0	0	0	0	0	0
1108	CRTFP Uy+	0	0	0	0	0	0
1108	CRTFP Uy-	0	0	0	0	0	0
1109	SLU 1	-26	1	3299	-836.79	-2.23	-8.86
1109	SLU 2	-24	17	3219	-819.75	-2.17	-8.41
1109	SLU 3	-26	1	3397	-860.59	-2.3	-9.13
1109	SLU 4	-26	10	3349	-850.37	-2.27	-8.86
1109	SLU 5	-25	17	3283	-835.15	-2.22	-8.56
1109	SLU 6	-27	0	3461	-875.98	-2.35	-9.28
1109	SLU 7	-26	10	3413	-865.76	-2.32	-9.02
1109	SLU 8	-27	0	3426	-867.58	-2.33	-9.16
1109	SLU 9	-26	10	3378	-857.36	-2.29	-8.9
1109	SLU 10	-27	17	3659	-928.67	-2.55	-9.17
1109	SLU 11	-29	0	3837	-969.51	-2.68	-9.89
1109	SLU 12	-28	10	3789	-959.29	-2.64	-9.62
1109	SLU 13	-27	17	3722	-944.07	-2.59	-9.32
1109	SLU 14	-29	0	3900	-984.9	-2.73	-10.04
1109	SLU 15	-28	10	3852	-974.68	-2.69	-9.77
1109	SLU 16	-29	0	3866	-976.5	-2.7	-9.92
1109	SLU 17	-28	10	3818	-966.28	-2.66	-9.65
1109	SLU 18	-29	0	3927	-992.39	-2.76	-9.94
1109	SLU 19	-28	10	3879	-982.17	-2.73	-9.67
1109	SLU 20	-29	0	3991	-1007.78	-2.81	-10.09
1109	SLU 21	-28	10	3943	-997.56	-2.78	-9.82
1109	SLU 22	-30	1	3885	-980.18	-2.71	-10.24
1109	SLU 23	-28	17	3805	-963.15	-2.65	-9.8
1109	SLU 24	-30	0	3983	-1003.98	-2.78	-10.52
1109	SLU 25	-30	10	3935	-993.76	-2.75	-10.25
1109	SLU 26	-29	17	3869	-978.54	-2.7	-9.95
1109	SLU 27	-31	0	4047	-1019.37	-2.83	-10.67
1109	SLU 28	-30	10	3999	-1009.15	-2.8	-10.4
1109	SLU 29	-31	0	4012	-1010.97	-2.8	-10.55
1109	SLU 30	-30	10	3964	-1000.75	-2.77	-10.28
1109	SLU 31	-31	17	4245	-1072.06	-3.02	-10.55
1109	SLU 32	-33	0	4423	-1112.9	-3.15	-11.27
1109	SLU 33	-32	10	4375	-1102.68	-3.12	-11
1109	SLU 34	-31	16	4308	-1087.46	-3.07	-10.7
1109	SLU 35	-33	0	4486	-1128.29	-3.2	-11.42
1109	SLU 36	-32	10	4438	-1118.07	-3.17	-11.15
1109	SLU 37	-33	0	4452	-1119.89	-3.18	-11.3
1109	SLU 38	-32	10	4404	-1109.67	-3.14	-11.03
1109	SLU 39	-33	0	4513	-1135.78	-3.24	-11.32
1109	SLU 40	-32	10	4465	-1125.56	-3.21	-11.05
1109	SLU 41	-33	0	4577	-1151.17	-3.29	-11.47
1109	SLU 42	-32	10	4529	-1140.95	-3.25	-11.2
1109	SLU 43	-32	1	4088	-1038.66	-2.73	-11.05
1109	SLU 44	-31	18	4008	-1021.63	-2.68	-10.6
1109	SLU 45	-33	1	4186	-1062.46	-2.81	-11.32
1109	SLU 46	-32	11	4138	-1052.24	-2.78	-11.05
1109	SLU 47	-31	17	4072	-1037.02	-2.73	-10.75
1109	SLU 48	-33	1	4250	-1077.86	-2.86	-11.47
1109	SLU 49	-32	11	4202	-1067.64	-2.82	-11.2
1109	SLU 50	-33	1	4215	-1069.45	-2.83	-11.35
1109	SLU 51	-32	11	4167	-1059.23	-2.8	-11.08
1109	SLU 52	-33	17	4448	-1130.55	-3.05	-11.35
1109	SLU 53	-35	1	4626	-1171.38	-3.18	-12.07
1109	SLU 54	-34	10	4578	-1161.16	-3.15	-11.8
1109	SLU 55	-33	17	4511	-1145.94	-3.1	-11.5
1109	SLU 56	-35	0	4689	-1186.77	-3.23	-12.22
1109	SLU 57	-35	10	4641	-1176.55	-3.2	-11.95
1109	SLU 58	-35	0	4655	-1178.37	-3.2	-12.1
1109	SLU 59	-34	10	4607	-1168.15	-3.17	-11.83
1109	SLU 60	-35	1	4716	-1194.26	-3.27	-12.12
1109	SLU 61	-34	10	4668	-1184.04	-3.23	-11.85
1109	SLU 62	-36	0	4780	-1209.66	-3.32	-12.27
1109	SLU 63	-35	10	4732	-1199.44	-3.28	-12.01
1109	SLU 64	-36	1	4674	-1182.05	-3.21	-12.43
1109	SLU 65	-35	17	4594	-1165.02	-3.16	-11.98
1109	SLU 66	-37	1	4772	-1205.85	-3.29	-12.7
1109	SLU 67	-36	11	4724	-1195.63	-3.25	-12.43
1109	SLU 68	-35	17	4658	-1180.42	-3.2	-12.13
1109	SLU 69	-37	0	4835	-1221.25	-3.33	-12.85
1109	SLU 70	-36	10	4788	-1211.03	-3.3	-12.58
1109	SLU 71	-37	0	4801	-1212.85	-3.31	-12.73



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1109	SLU 72	-36	10	4753	-1202.63	-3.27	-12.46
1109	SLU 73	-37	17	5034	-1273.94	-3.53	-12.73
1109	SLU 74	-39	0	5212	-1314.77	-3.66	-13.45
1109	SLU 75	-38	10	5164	-1304.55	-3.63	-13.19
1109	SLU 76	-37	17	5097	-1289.33	-3.58	-12.89
1109	SLU 77	-39	0	5275	-1330.17	-3.71	-13.61
1109	SLU 78	-39	10	5227	-1319.95	-3.67	-13.34
1109	SLU 79	-39	0	5241	-1321.76	-3.68	-13.49
1109	SLU 80	-38	10	5193	-1311.54	-3.65	-13.22
1109	SLU 81	-39	0	5302	-1337.65	-3.74	-13.51
1109	SLU 82	-38	10	5254	-1327.43	-3.71	-13.24
1109	SLU 83	-40	0	5366	-1353.05	-3.79	-13.66
1109	SLU 84	-39	10	5318	-1342.83	-3.76	-13.39
1109	SLE RA 1	-27	1	3467	-877.76	-2.37	-9.26
1109	SLE RA 2	-26	12	3413	-866.4	-2.33	-8.96
1109	SLE RA 3	-27	1	3532	-893.62	-2.42	-9.44
1109	SLE RA 4	-27	7	3500	-886.81	-2.39	-9.26
1109	SLE RA 5	-26	12	3456	-876.67	-2.36	-9.06
1109	SLE RA 6	-28	0	3574	-903.89	-2.45	-9.54
1109	SLE RA 7	-27	7	3542	-897.07	-2.43	-9.36
1109	SLE RA 8	-27	0	3551	-898.29	-2.43	-9.46
1109	SLE RA 9	-27	7	3519	-891.47	-2.41	-9.28
1109	SLE RA 10	-27	11	3706	-939.01	-2.58	-9.46
1109	SLE RA 11	-29	0	3825	-966.23	-2.66	-9.94
1109	SLE RA 12	-28	7	3793	-959.42	-2.64	-9.76
1109	SLE RA 13	-28	11	3749	-949.28	-2.61	-9.56
1109	SLE RA 14	-29	0	3867	-976.5	-2.7	-10.04
1109	SLE RA 15	-29	7	3835	-969.69	-2.67	-9.86
1109	SLE RA 16	-29	0	3844	-970.9	-2.68	-9.96
1109	SLE RA 17	-28	7	3812	-964.08	-2.66	-9.78
1109	SLE RA 18	-29	0	3885	-981.49	-2.72	-9.97
1109	SLE RA 19	-28	7	3853	-974.68	-2.7	-9.8
1109	SLE RA 20	-29	0	3928	-991.75	-2.75	-10.08
1109	SLE RA 21	-29	7	3896	-984.94	-2.73	-9.9
1109	SLE FR 1	-27	1	3467	-877.76	-2.37	-9.26
1109	SLE FR 2	-27	3	3456	-875.49	-2.36	-9.2
1109	SLE FR 3	-27	1	3484	-881.86	-2.38	-9.3
1109	SLE FR 4	-27	3	3582	-906.61	-2.46	-9.41
1109	SLE FR 5	-28	1	3609	-912.98	-2.49	-9.51
1109	SLE FR 6	-28	1	3676	-929.62	-2.54	-9.62
1109	SLE QP 1	-27	1	3467	-877.76	-2.37	-9.26
1109	SLE QP 2	-27	1	3592	-908.88	-2.47	-9.47
1109	SLD 1	425	126	3313	-833.4	-1.42	149.12
1109	SLD 2	349	94	3343	-838.42	-1.35	122.4
1109	SLD 3	397	-70	4330	-1050.51	-2.1	139.05
1109	SLD 4	320	-102	4360	-1055.53	-2.04	112.32
1109	SLD 5	166	341	1961	-556.04	-1.13	58.2
1109	SLD 6	115	321	1981	-559.36	-1.09	40.56
1109	SLD 7	70	-313	5351	-1279.75	-3.41	24.62
1109	SLD 8	20	-333	5370	-1283.07	-3.36	6.97
1109	SLD 9	-75	335	1814	-534.69	-1.58	-25.91
1109	SLD 10	-125	314	1834	-538	-1.54	-43.56
1109	SLD 11	-170	-319	5204	-1258.4	-3.85	-59.5
1109	SLD 12	-220	-340	5223	-1261.71	-3.81	-77.15
1109	SLD 13	-375	103	2825	-762.22	-2.91	-131.26
1109	SLD 14	-452	72	2854	-767.24	-2.84	-157.99
1109	SLD 15	-404	-93	3841	-979.33	-3.59	-141.34
1109	SLD 16	-480	-125	3871	-984.36	-3.52	-168.07
1109	SLV 1	682	202	3129	-785.02	-0.81	239.06
1109	SLV 2	562	152	3175	-792.89	-0.71	197.19
1109	SLV 3	636	-115	4772	-1135.95	-1.92	222.86
1109	SLV 4	516	-165	4818	-1143.82	-1.81	180.98
1109	SLV 5	278	551	952	-338.02	-0.32	97.49
1109	SLV 6	197	517	983	-343.32	-0.25	69.29
1109	SLV 7	124	-505	6431	-1507.76	-4	43.46
1109	SLV 8	44	-539	6462	-1513.06	-3.93	15.27
1109	SLV 9	-99	540	723	-304.69	-1.02	-34.21
1109	SLV 10	-179	507	754	-309.99	-0.95	-62.4
1109	SLV 11	-252	-516	6202	-1474.44	-4.69	-88.24
1109	SLV 12	-332	-550	6233	-1479.74	-4.62	-116.43
1109	SLV 13	-571	166	2366	-673.94	-3.13	-199.93
1109	SLV 14	-691	116	2412	-681.81	-3.03	-241.8
1109	SLV 15	-617	-151	4010	-1024.86	-4.24	-216.14
1109	SLV 16	-737	-201	4056	-1032.73	-4.13	-258.01
1109	SLV FO 1	753	222	3082	-772.64	-0.65	263.92
1109	SLV FO 2	621	167	3133	-781.29	-0.53	217.86
1109	SLV FO 3	703	-127	4890	-1158.65	-1.86	246.09
1109	SLV FO 4	571	-181	4941	-1167.31	-1.74	200.03
1109	SLV FO 5	308	606	688	-280.93	-0.11	108.18
1109	SLV FO 6	219	569	722	-286.76	-0.03	77.17
1109	SLV FO 7	140	-556	6714	-1567.65	-4.15	48.75
1109	SLV FO 8	51	-593	6749	-1573.48	-4.07	17.74
1109	SLV FO 9	-106	594	436	-244.27	-0.87	-36.69
1109	SLV FO 10	-195	557	470	-250.1	-0.8	-67.7
1109	SLV FO 11	-274	-568	6463	-1530.99	-4.92	-96.12
1109	SLV FO 12	-363	-605	6497	-1536.82	-4.84	-127.13
1109	SLV FO 13	-626	182	2243	-650.44	-3.2	-218.97
1109	SLV FO 14	-758	128	2294	-659.1	-3.09	-265.03
1109	SLV FO 15	-676	-166	4051	-1036.46	-4.41	-236.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1109	SLV FO 16	-808	-221	4102	-1045.12	-4.3	-282.86
1109	CRTFP Ux+	0	0	0	0	0	0
1109	CRTFP Ux-	0	0	0	0	0	0
1109	CRTFP Uy+	0	0	0	0	0	0
1109	CRTFP Uy-	0	0	0	0	0	0
1110	SLU 1	-24	5	3378	-913.4	-2.56	-8.4
1110	SLU 2	-23	22	3296	-894.42	-2.49	-7.98
1110	SLU 3	-25	5	3479	-939.65	-2.65	-8.66
1110	SLU 4	-24	15	3430	-928.26	-2.61	-8.4
1110	SLU 5	-24	22	3362	-911.4	-2.55	-8.12
1110	SLU 6	-26	5	3544	-956.63	-2.7	-8.8
1110	SLU 7	-25	15	3495	-945.24	-2.66	-8.55
1110	SLU 8	-25	5	3509	-947.36	-2.67	-8.68
1110	SLU 9	-25	15	3460	-935.97	-2.63	-8.43
1110	SLU 10	-25	22	3749	-1014.9	-2.92	-8.7
1110	SLU 11	-27	5	3932	-1060.13	-3.07	-9.38
1110	SLU 12	-27	15	3883	-1048.74	-3.03	-9.13
1110	SLU 13	-26	21	3814	-1031.88	-2.97	-8.85
1110	SLU 14	-28	4	3997	-1077.11	-3.13	-9.53
1110	SLU 15	-27	14	3948	-1065.72	-3.08	-9.27
1110	SLU 16	-27	4	3961	-1067.84	-3.09	-9.41
1110	SLU 17	-27	14	3912	-1056.45	-3.05	-9.16
1110	SLU 18	-27	5	4025	-1085.52	-3.17	-9.43
1110	SLU 19	-27	15	3976	-1074.13	-3.13	-9.18
1110	SLU 20	-28	4	4090	-1102.5	-3.22	-9.58
1110	SLU 21	-27	15	4041	-1091.11	-3.18	-9.33
1110	SLU 22	-28	5	3981	-1071.98	-3.11	-9.73
1110	SLU 23	-27	22	3899	-1053	-3.04	-9.31
1110	SLU 24	-29	5	4082	-1098.23	-3.19	-9.99
1110	SLU 25	-28	15	4033	-1086.84	-3.15	-9.74
1110	SLU 26	-27	22	3964	-1069.98	-3.09	-9.45
1110	SLU 27	-29	5	4147	-1115.21	-3.25	-10.13
1110	SLU 28	-29	15	4098	-1103.82	-3.2	-9.88
1110	SLU 29	-29	5	4111	-1105.94	-3.22	-10.01
1110	SLU 30	-28	15	4062	-1094.55	-3.17	-9.76
1110	SLU 31	-29	22	4352	-1173.48	-3.46	-10.04
1110	SLU 32	-31	5	4535	-1218.71	-3.62	-10.71
1110	SLU 33	-30	15	4485	-1207.32	-3.57	-10.46
1110	SLU 34	-30	21	4417	-1190.46	-3.51	-10.18
1110	SLU 35	-31	5	4600	-1235.69	-3.67	-10.86
1110	SLU 36	-31	15	4550	-1224.3	-3.63	-10.61
1110	SLU 37	-31	4	4564	-1226.42	-3.64	-10.74
1110	SLU 38	-30	15	4515	-1215.03	-3.6	-10.49
1110	SLU 39	-31	5	4628	-1244.1	-3.71	-10.77
1110	SLU 40	-31	15	4579	-1232.71	-3.67	-10.52
1110	SLU 41	-32	5	4693	-1261.08	-3.77	-10.91
1110	SLU 42	-31	15	4644	-1249.69	-3.72	-10.66
1110	SLU 43	-30	7	4185	-1133.05	-3.15	-10.46
1110	SLU 44	-29	23	4103	-1114.07	-3.08	-10.04
1110	SLU 45	-31	6	4286	-1159.3	-3.23	-10.72
1110	SLU 46	-30	17	4237	-1147.91	-3.19	-10.47
1110	SLU 47	-30	23	4168	-1131.05	-3.13	-10.18
1110	SLU 48	-32	6	4351	-1176.28	-3.29	-10.86
1110	SLU 49	-31	16	4302	-1164.89	-3.24	-10.61
1110	SLU 50	-31	6	4316	-1167.01	-3.26	-10.74
1110	SLU 51	-31	16	4266	-1155.62	-3.21	-10.49
1110	SLU 52	-31	23	4556	-1234.55	-3.5	-10.77
1110	SLU 53	-33	6	4739	-1279.78	-3.65	-11.45
1110	SLU 54	-33	16	4689	-1268.39	-3.61	-11.19
1110	SLU 55	-32	23	4621	-1251.53	-3.55	-10.91
1110	SLU 56	-34	6	4804	-1296.76	-3.71	-11.59
1110	SLU 57	-33	16	4755	-1285.37	-3.67	-11.34
1110	SLU 58	-33	6	4768	-1287.49	-3.68	-11.47
1110	SLU 59	-33	16	4719	-1276.1	-3.64	-11.22
1110	SLU 60	-33	6	4832	-1305.17	-3.75	-11.5
1110	SLU 61	-33	16	4783	-1293.78	-3.71	-11.25
1110	SLU 62	-34	6	4897	-1322.15	-3.81	-11.64
1110	SLU 63	-33	16	4848	-1310.76	-3.76	-11.39
1110	SLU 64	-34	7	4788	-1291.63	-3.69	-11.79
1110	SLU 65	-33	23	4706	-1272.65	-3.62	-11.37
1110	SLU 66	-35	7	4889	-1317.88	-3.78	-12.05
1110	SLU 67	-34	17	4839	-1306.49	-3.73	-11.8
1110	SLU 68	-33	23	4771	-1289.63	-3.67	-11.51
1110	SLU 69	-35	6	4954	-1334.86	-3.83	-12.19
1110	SLU 70	-35	16	4905	-1323.47	-3.79	-11.94
1110	SLU 71	-35	6	4918	-1325.59	-3.8	-12.08
1110	SLU 72	-34	16	4869	-1314.2	-3.76	-11.82
1110	SLU 73	-35	23	5159	-1393.13	-4.04	-12.1
1110	SLU 74	-37	6	5341	-1438.36	-4.2	-12.78
1110	SLU 75	-36	16	5292	-1426.97	-4.16	-12.53
1110	SLU 76	-36	23	5224	-1410.11	-4.1	-12.24
1110	SLU 77	-37	6	5407	-1455.34	-4.25	-12.92
1110	SLU 78	-37	16	5357	-1443.95	-4.21	-12.67
1110	SLU 79	-37	6	5371	-1446.07	-4.22	-12.8
1110	SLU 80	-36	16	5322	-1434.68	-4.18	-12.55
1110	SLU 81	-37	6	5435	-1463.75	-4.3	-12.83
1110	SLU 82	-37	16	5386	-1452.36	-4.25	-12.58
1110	SLU 83	-38	6	5500	-1480.73	-4.35	-12.97
1110	SLU 84	-37	16	5451	-1469.34	-4.31	-12.72



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1110	SLE RA 1	-25	5	3551	-958.71	-2.72	-8.78
1110	SLE RA 2	-25	16	3496	-946.05	-2.67	-8.5
1110	SLE RA 3	-26	5	3618	-976.21	-2.78	-8.95
1110	SLE RA 4	-26	12	3585	-968.62	-2.75	-8.78
1110	SLE RA 5	-25	16	3539	-957.37	-2.71	-8.59
1110	SLE RA 6	-26	5	3661	-987.53	-2.81	-9.04
1110	SLE RA 7	-26	12	3628	-979.94	-2.78	-8.88
1110	SLE RA 8	-26	5	3637	-981.35	-2.79	-8.97
1110	SLE RA 9	-26	12	3605	-973.75	-2.76	-8.8
1110	SLE RA 10	-26	16	3798	-1026.38	-2.95	-8.98
1110	SLE RA 11	-27	5	3920	-1056.53	-3.06	-9.43
1110	SLE RA 12	-27	12	3887	-1048.94	-3.03	-9.27
1110	SLE RA 13	-26	16	3841	-1037.7	-2.99	-9.08
1110	SLE RA 14	-28	5	3963	-1067.85	-3.09	-9.53
1110	SLE RA 15	-27	11	3930	-1060.26	-3.07	-9.36
1110	SLE RA 16	-27	5	3939	-1061.67	-3.07	-9.45
1110	SLE RA 17	-27	11	3907	-1054.08	-3.05	-9.28
1110	SLE RA 18	-27	5	3982	-1073.45	-3.12	-9.47
1110	SLE RA 19	-27	12	3949	-1065.86	-3.09	-9.3
1110	SLE RA 20	-28	5	4025	-1084.77	-3.16	-9.56
1110	SLE RA 21	-27	11	3992	-1077.18	-3.13	-9.4
1110	SLE FR 1	-25	5	3551	-958.71	-2.72	-8.78
1110	SLE FR 2	-25	7	3540	-956.18	-2.71	-8.72
1110	SLE FR 3	-26	5	3568	-963.24	-2.73	-8.81
1110	SLE FR 4	-26	7	3669	-990.6	-2.83	-8.93
1110	SLE FR 5	-26	5	3697	-997.66	-2.86	-9.02
1110	SLE FR 6	-26	5	3766	-1016.08	-2.92	-9.12
1110	SLE QP 1	-25	5	3551	-958.71	-2.72	-8.78
1110	SLE QP 2	-26	5	3680	-993.13	-2.84	-8.98
1110	SLD 1	426	131	3368	-905.44	-1.85	149.3
1110	SLD 2	350	102	3396	-910.55	-1.8	122.66
1110	SLD 3	399	-68	4411	-1147.06	-2.72	139.61
1110	SLD 4	322	-98	4438	-1152.17	-2.67	112.97
1110	SLD 5	165	350	2001	-599.45	-1.25	58
1110	SLD 6	115	331	2019	-602.83	-1.21	40.41
1110	SLD 7	73	-314	5475	-1404.84	-4.12	25.69
1110	SLD 8	23	-333	5493	-1408.21	-4.09	8.11
1110	SLD 9	-75	343	1867	-578.05	-1.6	-26.08
1110	SLD 10	-126	324	1885	-581.42	-1.56	-43.66
1110	SLD 11	-167	-321	5341	-1383.44	-4.47	-58.38
1110	SLD 12	-217	-340	5359	-1386.81	-4.44	-75.96
1110	SLD 13	-374	108	2922	-834.1	-3.02	-130.94
1110	SLD 14	-451	79	2949	-839.2	-2.97	-157.57
1110	SLD 15	-402	-91	3964	-1075.71	-3.88	-140.63
1110	SLD 16	-478	-121	3992	-1080.82	-3.83	-167.27
1110	SLV 1	682	207	3164	-849.54	-1.28	239.05
1110	SLV 2	563	161	3207	-857.54	-1.2	197.32
1110	SLV 3	638	-115	4849	-1240.07	-2.67	223.46
1110	SLV 4	519	-161	4892	-1248.07	-2.59	181.74
1110	SLV 5	276	562	962	-356.25	-0.27	96.86
1110	SLV 6	195	531	991	-361.64	-0.22	68.76
1110	SLV 7	129	-510	6578	-1658.03	-4.92	44.9
1110	SLV 8	48	-541	6607	-1663.41	-4.86	16.8
1110	SLV 9	-100	551	753	-322.85	-0.82	-34.77
1110	SLV 10	-181	521	782	-328.24	-0.76	-62.86
1110	SLV 11	-247	-521	6369	-1624.62	-5.46	-86.73
1110	SLV 12	-328	-552	6398	-1630.01	-5.41	-114.82
1110	SLV 13	-571	171	2468	-738.2	-3.09	-199.7
1110	SLV 14	-690	125	2511	-746.2	-3.01	-241.43
1110	SLV 15	-615	-151	4153	-1128.73	-4.48	-215.29
1110	SLV 16	-735	-197	4196	-1136.73	-4.4	-257.02
1110	SLV FO 1	753	227	3113	-835.18	-1.12	263.86
1110	SLV FO 2	622	177	3160	-843.98	-1.03	217.96
1110	SLV FO 3	705	-127	4966	-1264.76	-2.65	246.71
1110	SLV FO 4	573	-177	5013	-1273.56	-2.57	200.81
1110	SLV FO 5	306	618	690	-292.57	-0.02	107.44
1110	SLV FO 6	217	584	722	-298.49	0.04	76.54
1110	SLV FO 7	144	-562	6868	-1724.52	-5.13	50.29
1110	SLV FO 8	56	-596	6900	-1730.44	-5.07	19.38
1110	SLV FO 9	-108	606	460	-255.82	-0.62	-37.35
1110	SLV FO 10	-196	572	492	-261.75	-0.56	-68.25
1110	SLV FO 11	-270	-574	6638	-1687.77	-5.72	-94.5
1110	SLV FO 12	-358	-608	6670	-1693.7	-5.66	-125.41
1110	SLV FO 13	-625	187	2347	-712.7	-3.12	-218.78
1110	SLV FO 14	-757	137	2394	-721.5	-3.03	-264.68
1110	SLV FO 15	-674	-167	4200	-1142.29	-4.65	-235.92
1110	SLV FO 16	-805	-217	4247	-1151.09	-4.56	-281.82
1110	CRTFP Ux+	0	0	0	0	0	0
1110	CRTFP Ux-	0	0	0	0	0	0
1110	CRTFP Uy+	0	0	0	0	0	0
1110	CRTFP Uy-	0	0	0	0	0	0
1111	SLU 1	-23	10	3454	-994.57	-1.98	-7.88
1111	SLU 2	-22	27	3370	-973.44	-1.91	-7.5
1111	SLU 3	-24	10	3557	-1023.38	-2.04	-8.13
1111	SLU 4	-23	20	3507	-1010.7	-2	-7.9
1111	SLU 5	-22	27	3437	-992.07	-1.95	-7.63
1111	SLU 6	-24	10	3624	-1042.01	-2.08	-8.26
1111	SLU 7	-23	20	3573	-1029.32	-2.04	-8.03
1111	SLU 8	-24	10	3588	-1031.83	-2.06	-8.15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1111	SLU 9	-23	20	3537	-1019.15	-2.02	-7.92
1111	SLU 10	-24	27	3835	-1106.12	-2.25	-8.19
1111	SLU 11	-26	10	4023	-1156.06	-2.38	-8.83
1111	SLU 12	-25	20	3972	-1143.38	-2.34	-8.6
1111	SLU 13	-24	26	3902	-1124.75	-2.29	-8.33
1111	SLU 14	-26	9	4089	-1174.69	-2.42	-8.96
1111	SLU 15	-25	20	4039	-1162.01	-2.38	-8.73
1111	SLU 16	-26	9	4053	-1164.52	-2.39	-8.85
1111	SLU 17	-25	20	4002	-1151.83	-2.36	-8.62
1111	SLU 18	-26	10	4119	-1184.12	-2.46	-8.88
1111	SLU 19	-25	20	4068	-1171.44	-2.42	-8.65
1111	SLU 20	-26	9	4186	-1202.75	-2.5	-9.01
1111	SLU 21	-26	20	4135	-1190.07	-2.46	-8.78
1111	SLU 22	-27	10	4073	-1169.21	-2.41	-9.16
1111	SLU 23	-26	27	3989	-1148.07	-2.35	-8.77
1111	SLU 24	-27	10	4176	-1198.01	-2.47	-9.4
1111	SLU 25	-27	20	4126	-1185.33	-2.43	-9.17
1111	SLU 26	-26	27	4056	-1166.7	-2.39	-8.9
1111	SLU 27	-28	10	4243	-1216.64	-2.51	-9.54
1111	SLU 28	-27	20	4192	-1203.96	-2.47	-9.31
1111	SLU 29	-27	10	4207	-1206.47	-2.49	-9.42
1111	SLU 30	-27	20	4156	-1193.78	-2.45	-9.19
1111	SLU 31	-28	27	4454	-1280.76	-2.68	-9.47
1111	SLU 32	-29	10	4642	-1330.7	-2.81	-10.1
1111	SLU 33	-29	20	4591	-1318.02	-2.77	-9.87
1111	SLU 34	-28	27	4521	-1299.39	-2.72	-9.6
1111	SLU 35	-30	10	4708	-1349.33	-2.85	-10.23
1111	SLU 36	-29	20	4658	-1336.65	-2.81	-10
1111	SLU 37	-29	10	4672	-1339.15	-2.82	-10.12
1111	SLU 38	-29	20	4621	-1326.47	-2.79	-9.89
1111	SLU 39	-29	10	4738	-1358.76	-2.89	-10.15
1111	SLU 40	-29	20	4687	-1346.08	-2.85	-9.92
1111	SLU 41	-30	10	4805	-1377.39	-2.93	-10.29
1111	SLU 42	-29	20	4754	-1364.71	-2.89	-10.06
1111	SLU 43	-29	13	4278	-1233.07	-2.42	-9.81
1111	SLU 44	-27	30	4194	-1211.93	-2.36	-9.42
1111	SLU 45	-29	13	4381	-1261.87	-2.49	-10.06
1111	SLU 46	-29	23	4331	-1249.19	-2.45	-9.83
1111	SLU 47	-28	29	4261	-1230.56	-2.4	-9.56
1111	SLU 48	-30	12	4448	-1280.5	-2.53	-10.19
1111	SLU 49	-29	23	4397	-1267.82	-2.49	-9.96
1111	SLU 50	-29	12	4412	-1270.33	-2.5	-10.08
1111	SLU 51	-29	22	4361	-1257.65	-2.47	-9.85
1111	SLU 52	-29	29	4659	-1344.62	-2.7	-10.12
1111	SLU 53	-31	12	4847	-1394.56	-2.82	-10.75
1111	SLU 54	-31	23	4796	-1381.88	-2.78	-10.52
1111	SLU 55	-30	29	4726	-1363.25	-2.74	-10.26
1111	SLU 56	-32	12	4913	-1413.19	-2.86	-10.89
1111	SLU 57	-31	22	4863	-1400.51	-2.82	-10.66
1111	SLU 58	-31	12	4877	-1403.01	-2.84	-10.77
1111	SLU 59	-31	22	4826	-1390.33	-2.8	-10.54
1111	SLU 60	-31	12	4943	-1422.62	-2.9	-10.81
1111	SLU 61	-31	22	4892	-1409.94	-2.87	-10.58
1111	SLU 62	-32	12	5010	-1441.25	-2.94	-10.94
1111	SLU 63	-31	22	4959	-1428.57	-2.91	-10.71
1111	SLU 64	-32	13	4897	-1407.7	-2.85	-11.09
1111	SLU 65	-31	30	4813	-1386.57	-2.79	-10.7
1111	SLU 66	-33	13	5000	-1436.51	-2.92	-11.33
1111	SLU 67	-32	23	4950	-1423.83	-2.88	-11.1
1111	SLU 68	-32	30	4880	-1405.2	-2.83	-10.83
1111	SLU 69	-33	13	5067	-1455.14	-2.96	-11.47
1111	SLU 70	-33	23	5016	-1442.46	-2.92	-11.23
1111	SLU 71	-33	13	5031	-1444.96	-2.93	-11.35
1111	SLU 72	-32	23	4980	-1432.28	-2.9	-11.12
1111	SLU 73	-33	30	5278	-1519.25	-3.13	-11.4
1111	SLU 74	-35	13	5466	-1569.19	-3.25	-12.03
1111	SLU 75	-34	23	5415	-1556.51	-3.22	-11.8
1111	SLU 76	-34	30	5345	-1537.88	-3.17	-11.53
1111	SLU 77	-35	13	5532	-1587.82	-3.29	-12.16
1111	SLU 78	-35	23	5482	-1575.14	-3.26	-11.93
1111	SLU 79	-35	13	5496	-1577.65	-3.27	-12.05
1111	SLU 80	-34	23	5445	-1564.97	-3.23	-11.82
1111	SLU 81	-35	13	5562	-1597.26	-3.33	-12.08
1111	SLU 82	-34	23	5512	-1584.57	-3.3	-11.85
1111	SLU 83	-36	13	5629	-1615.88	-3.37	-12.21
1111	SLU 84	-35	23	5578	-1603.2	-3.34	-11.98
1111	SLE RA 1	-24	10	3631	-1044.47	-2.1	-8.25
1111	SLE RA 2	-23	21	3575	-1030.38	-2.06	-7.99
1111	SLE RA 3	-24	10	3700	-1063.67	-2.14	-8.41
1111	SLE RA 4	-24	17	3666	-1055.22	-2.12	-8.26
1111	SLE RA 5	-24	21	3619	-1042.8	-2.09	-8.08
1111	SLE RA 6	-25	10	3744	-1076.09	-2.17	-8.5
1111	SLE RA 7	-24	17	3711	-1067.64	-2.14	-8.35
1111	SLE RA 8	-25	10	3720	-1069.31	-2.15	-8.42
1111	SLE RA 9	-24	17	3686	-1060.85	-2.13	-8.27
1111	SLE RA 10	-25	21	3885	-1118.83	-2.28	-8.45
1111	SLE RA 11	-26	10	4010	-1152.13	-2.37	-8.88
1111	SLE RA 12	-25	17	3976	-1143.67	-2.34	-8.72
1111	SLE RA 13	-25	21	3930	-1131.25	-2.31	-8.54



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1111	SLE RA 14	-26	10	4054	-1164.55	-2.39	-8.97
1111	SLE RA 15	-26	16	4021	-1156.09	-2.37	-8.81
1111	SLE RA 16	-26	10	4030	-1157.76	-2.38	-8.89
1111	SLE RA 17	-25	16	3997	-1149.31	-2.35	-8.74
1111	SLE RA 18	-26	10	4074	-1170.84	-2.42	-8.91
1111	SLE RA 19	-25	17	4041	-1162.38	-2.4	-8.76
1111	SLE RA 20	-26	10	4119	-1183.25	-2.45	-9
1111	SLE RA 21	-26	16	4085	-1174.8	-2.42	-8.85
1111	SLE FR 1	-24	10	3631	-1044.47	-2.1	-8.25
1111	SLE FR 2	-24	12	3620	-1041.65	-2.09	-8.2
1111	SLE FR 3	-24	10	3649	-1049.44	-2.11	-8.28
1111	SLE FR 4	-24	12	3753	-1079.56	-2.19	-8.39
1111	SLE FR 5	-25	10	3782	-1087.35	-2.21	-8.48
1111	SLE FR 6	-25	10	3853	-1107.65	-2.26	-8.58
1111	SLE QP 1	-24	10	3631	-1044.47	-2.1	-8.25
1111	SLE QP 2	-25	10	3764	-1082.38	-2.2	-8.45
1111	SLD 1	427	135	3423	-985.23	-1.39	149.42
1111	SLD 2	351	108	3449	-990.6	-1.34	122.89
1111	SLD 3	400	-67	4492	-1254.02	-2.16	140.16
1111	SLD 4	324	-94	4519	-1259.39	-2.12	113.64
1111	SLD 5	164	358	2035	-644.61	-0.79	57.73
1111	SLD 6	114	341	2052	-648.16	-0.76	40.22
1111	SLD 7	77	-315	5600	-1540.56	-3.36	26.87
1111	SLD 8	27	-332	5617	-1544.11	-3.34	9.36
1111	SLD 9	-76	352	1911	-620.65	-1.06	-26.25
1111	SLD 10	-126	335	1928	-624.2	-1.03	-43.77
1111	SLD 11	-163	-321	5476	-1516.6	-3.63	-57.11
1111	SLD 12	-213	-339	5493	-1520.15	-3.6	-74.62
1111	SLD 13	-373	113	3009	-905.37	-2.28	-130.53
1111	SLD 14	-450	87	3036	-910.74	-2.24	-157.05
1111	SLD 15	-400	-89	4079	-1174.15	-3.05	-139.79
1111	SLD 16	-476	-115	4105	-1179.52	-3.01	-166.31
1111	SLV 1	682	211	3202	-923.25	-0.91	238.92
1111	SLV 2	563	169	3243	-931.66	-0.84	197.37
1111	SLV 3	640	-116	4930	-1357.7	-2.16	224.03
1111	SLV 4	521	-157	4971	-1366.12	-2.09	182.48
1111	SLV 5	274	572	966	-374.15	0.07	96.11
1111	SLV 6	194	545	994	-379.82	0.11	68.13
1111	SLV 7	133	-515	6728	-1822.32	-4.09	46.47
1111	SLV 8	53	-543	6755	-1827.99	-4.04	18.49
1111	SLV 9	-102	562	773	-336.77	-0.35	-35.38
1111	SLV 10	-182	534	800	-342.43	-0.3	-63.36
1111	SLV 11	-243	-525	6534	-1784.94	-4.51	-85.02
1111	SLV 12	-323	-553	6562	-1790.61	-4.46	-113
1111	SLV 13	-570	177	2557	-798.64	-2.3	-199.37
1111	SLV 14	-689	135	2598	-807.06	-2.24	-240.92
1111	SLV 15	-612	-149	4285	-1233.09	-3.55	-214.26
1111	SLV 16	-732	-191	4326	-1241.51	-3.48	-255.82
1111	SLV FO 1	753	231	3146	-907.33	-0.78	263.66
1111	SLV FO 2	622	185	3191	-916.59	-0.71	217.95
1111	SLV FO 3	707	-128	5047	-1385.23	-2.15	247.28
1111	SLV FO 4	576	-174	5092	-1394.49	-2.08	201.57
1111	SLV FO 5	304	629	686	-303.33	0.29	106.56
1111	SLV FO 6	215	598	717	-309.56	0.34	75.79
1111	SLV FO 7	149	-567	7024	-1896.32	-4.28	51.96
1111	SLV FO 8	61	-598	7054	-1902.55	-4.23	21.18
1111	SLV FO 9	-110	618	474	-262.21	-0.16	-38.08
1111	SLV FO 10	-198	587	504	-268.44	-0.12	-68.85
1111	SLV FO 11	-265	-578	6811	-1855.2	-4.74	-92.68
1111	SLV FO 12	-353	-609	6842	-1861.43	-4.69	-123.45
1111	SLV FO 13	-625	194	2436	-770.27	-2.31	-218.46
1111	SLV FO 14	-756	148	2481	-779.53	-2.24	-264.17
1111	SLV FO 15	-671	-165	4337	-1248.16	-3.69	-234.84
1111	SLV FO 16	-802	-211	4382	-1257.42	-3.61	-280.55
1111	CRTFP Ux+	0	0	0	0	0	0
1111	CRTFP Ux-	0	0	0	0	0	0
1111	CRTFP Uy+	0	0	0	0	0	0
1111	CRTFP Uy-	0	0	0	0	0	0
1112	SLU 1	-19	13	3147	-957.49	58.38	-6.85
1112	SLU 2	-18	28	3070	-936.7	56.97	-6.82
1112	SLU 3	-20	13	3241	-985.32	60.13	-7.06
1112	SLU 4	-19	22	3195	-972.84	59.28	-7.04
1112	SLU 5	-19	28	3131	-954.7	58.1	-6.93
1112	SLU 6	-20	13	3302	-1003.31	61.25	-7.16
1112	SLU 7	-20	22	3255	-990.84	60.41	-7.15
1112	SLU 8	-20	13	3269	-993.48	60.64	-7.06
1112	SLU 9	-19	22	3222	-981.01	59.79	-7.05
1112	SLU 10	-20	28	3495	-1065.47	64.83	-7.41
1112	SLU 11	-21	13	3667	-1114.08	67.99	-7.65
1112	SLU 12	-21	22	3620	-1101.61	67.14	-7.63
1112	SLU 13	-20	28	3556	-1083.46	65.96	-7.52
1112	SLU 14	-22	13	3727	-1132.08	69.12	-7.76
1112	SLU 15	-21	22	3681	-1119.6	68.27	-7.74
1112	SLU 16	-22	13	3694	-1122.25	68.5	-7.66
1112	SLU 17	-21	22	3648	-1109.77	67.65	-7.64
1112	SLU 18	-22	13	3755	-1141.44	69.61	-7.69
1112	SLU 19	-21	22	3709	-1128.97	68.76	-7.68
1112	SLU 20	-22	13	3816	-1159.44	70.74	-7.8
1112	SLU 21	-21	22	3770	-1146.96	69.89	-7.79



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1112	SLU 22	-22	14	3713	-1126.98	68.84	-7.95
1112	SLU 23	-21	29	3636	-1106.19	67.43	-7.92
1112	SLU 24	-23	14	3807	-1154.81	70.59	-8.16
1112	SLU 25	-22	23	3760	-1142.33	69.74	-8.14
1112	SLU 26	-22	29	3696	-1124.18	68.55	-8.03
1112	SLU 27	-23	14	3868	-1172.8	71.71	-8.27
1112	SLU 28	-23	23	3821	-1160.33	70.87	-8.25
1112	SLU 29	-23	13	3834	-1162.97	71.1	-8.17
1112	SLU 30	-22	23	3788	-1150.5	70.25	-8.15
1112	SLU 31	-23	29	4061	-1234.95	75.29	-8.52
1112	SLU 32	-25	14	4232	-1283.57	78.45	-8.75
1112	SLU 33	-24	23	4186	-1271.1	77.6	-8.74
1112	SLU 34	-23	29	4122	-1252.95	76.42	-8.63
1112	SLU 35	-25	14	4293	-1301.57	79.58	-8.86
1112	SLU 36	-24	23	4247	-1289.09	78.73	-8.85
1112	SLU 37	-25	13	4260	-1291.73	78.96	-8.76
1112	SLU 38	-24	23	4214	-1279.26	78.11	-8.75
1112	SLU 39	-25	14	4321	-1310.93	80.07	-8.8
1112	SLU 40	-24	23	4275	-1298.46	79.22	-8.78
1112	SLU 41	-25	14	4382	-1328.92	81.2	-8.91
1112	SLU 42	-25	23	4335	-1316.45	80.35	-8.89
1112	SLU 43	-24	16	3897	-1186.63	72.31	-8.52
1112	SLU 44	-23	32	3820	-1165.84	70.89	-8.49
1112	SLU 45	-24	16	3991	-1214.46	74.05	-8.73
1112	SLU 46	-24	26	3945	-1201.98	73.2	-8.71
1112	SLU 47	-23	32	3881	-1183.83	72.02	-8.6
1112	SLU 48	-25	16	4052	-1232.45	75.18	-8.84
1112	SLU 49	-24	26	4006	-1219.98	74.33	-8.82
1112	SLU 50	-24	16	4019	-1222.62	74.57	-8.74
1112	SLU 51	-24	25	3972	-1210.14	73.72	-8.72
1112	SLU 52	-25	32	4246	-1294.6	78.76	-9.09
1112	SLU 53	-26	16	4417	-1343.22	81.92	-9.33
1112	SLU 54	-26	26	4370	-1330.75	81.07	-9.31
1112	SLU 55	-25	32	4306	-1312.6	79.89	-9.2
1112	SLU 56	-26	16	4478	-1361.22	83.05	-9.43
1112	SLU 57	-26	26	4431	-1348.74	82.2	-9.42
1112	SLU 58	-26	16	4444	-1351.38	82.43	-9.33
1112	SLU 59	-26	25	4398	-1338.91	81.58	-9.32
1112	SLU 60	-26	16	4505	-1370.58	83.54	-9.37
1112	SLU 61	-26	26	4459	-1358.1	82.69	-9.35
1112	SLU 62	-27	16	4566	-1388.57	84.67	-9.48
1112	SLU 63	-26	26	4520	-1376.1	83.82	-9.46
1112	SLU 64	-27	17	4463	-1356.12	82.77	-9.63
1112	SLU 65	-26	33	4386	-1335.33	81.35	-9.6
1112	SLU 66	-28	17	4557	-1383.94	84.51	-9.84
1112	SLU 67	-27	26	4511	-1371.47	83.66	-9.82
1112	SLU 68	-26	33	4447	-1353.32	82.48	-9.71
1112	SLU 69	-28	17	4618	-1401.94	85.64	-9.94
1112	SLU 70	-27	26	4571	-1389.46	84.79	-9.93
1112	SLU 71	-28	17	4585	-1392.11	85.03	-9.84
1112	SLU 72	-27	26	4538	-1379.63	84.18	-9.83
1112	SLU 73	-28	33	4811	-1464.09	89.22	-10.19
1112	SLU 74	-29	17	4983	-1512.71	92.38	-10.43
1112	SLU 75	-29	26	4936	-1500.23	91.53	-10.41
1112	SLU 76	-28	32	4872	-1482.09	90.35	-10.3
1112	SLU 77	-30	17	5043	-1530.7	93.5	-10.54
1112	SLU 78	-29	26	4997	-1518.23	92.66	-10.52
1112	SLU 79	-29	17	5010	-1520.87	92.89	-10.44
1112	SLU 80	-29	26	4964	-1508.4	92.04	-10.42
1112	SLU 81	-29	17	5071	-1540.07	94	-10.47
1112	SLU 82	-29	26	5025	-1527.59	93.15	-10.46
1112	SLU 83	-30	17	5132	-1558.06	95.13	-10.58
1112	SLU 84	-29	26	5085	-1545.59	94.28	-10.57
1112	SLE RA 1	-20	13	3309	-1005.92	61.37	-7.16
1112	SLE RA 2	-19	23	3257	-992.06	60.43	-7.14
1112	SLE RA 3	-20	13	3371	-1024.47	62.53	-7.3
1112	SLE RA 4	-20	19	3340	-1016.15	61.97	-7.29
1112	SLE RA 5	-20	23	3298	-1004.05	61.18	-7.22
1112	SLE RA 6	-21	13	3412	-1036.46	63.29	-7.37
1112	SLE RA 7	-20	19	3381	-1028.15	62.72	-7.36
1112	SLE RA 8	-20	13	3390	-1029.91	62.88	-7.31
1112	SLE RA 9	-20	19	3359	-1021.59	62.31	-7.3
1112	SLE RA 10	-21	23	3541	-1077.9	65.67	-7.54
1112	SLE RA 11	-22	13	3655	-1110.31	67.77	-7.7
1112	SLE RA 12	-21	19	3624	-1102	67.21	-7.69
1112	SLE RA 13	-21	23	3582	-1089.9	66.42	-7.61
1112	SLE RA 14	-22	13	3696	-1122.31	68.53	-7.77
1112	SLE RA 15	-21	19	3665	-1113.99	67.96	-7.76
1112	SLE RA 16	-22	13	3674	-1115.75	68.12	-7.7
1112	SLE RA 17	-21	19	3643	-1107.44	67.55	-7.69
1112	SLE RA 18	-22	13	3714	-1128.55	68.86	-7.73
1112	SLE RA 19	-21	19	3683	-1120.23	68.29	-7.72
1112	SLE RA 20	-22	13	3755	-1140.55	69.61	-7.8
1112	SLE RA 21	-22	19	3724	-1132.23	69.04	-7.79
1112	SLE FR 1	-20	13	3309	-1005.92	61.37	-7.16
1112	SLE FR 2	-20	15	3298	-1003.15	61.18	-7.16
1112	SLE FR 3	-20	13	3325	-1010.72	61.67	-7.19
1112	SLE FR 4	-20	15	3420	-1039.94	63.43	-7.33
1112	SLE FR 5	-21	13	3447	-1047.51	63.92	-7.36



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1112	SLE FR 6	-21	13	3511	-1067.23	65.11	-7.44
1112	SLE QP 1	-20	13	3309	-1005.92	61.37	-7.16
1112	SLE QP 2	-21	13	3430	-1042.71	63.62	-7.33
1112	SLD 1	385	123	3105	-951.06	57.92	132.77
1112	SLD 2	317	102	3127	-956.24	58.37	109.34
1112	SLD 3	363	-60	4085	-1215.33	75.91	127.86
1112	SLD 4	294	-81	4107	-1220.51	76.35	104.43
1112	SLD 5	148	328	1842	-613.48	34.54	46.38
1112	SLD 6	103	314	1857	-616.9	34.84	30.9
1112	SLD 7	72	-283	5109	-1494.36	94.5	29.99
1112	SLD 8	27	-297	5124	-1497.79	94.8	14.52
1112	SLD 9	-68	323	1737	-587.63	32.43	-29.18
1112	SLD 10	-114	309	1752	-591.05	32.73	-44.65
1112	SLD 11	-144	-288	5004	-1468.52	92.39	-45.57
1112	SLD 12	-189	-302	5018	-1471.94	92.69	-61.04
1112	SLD 13	-335	107	2754	-864.9	50.88	-119.09
1112	SLD 14	-404	86	2776	-870.09	51.33	-142.52
1112	SLD 15	-358	-76	3734	-1129.17	68.87	-124.01
1112	SLD 16	-426	-97	3756	-1134.35	69.31	-147.44
1112	SLV 1	615	190	2895	-892.26	54.22	212.16
1112	SLV 2	508	157	2930	-900.39	54.92	175.45
1112	SLV 3	579	-106	4479	-1319.42	83.29	204.21
1112	SLV 4	472	-139	4514	-1327.54	83.99	167.51
1112	SLV 5	245	521	860	-348.21	16.57	77.41
1112	SLV 6	173	499	884	-353.68	17.04	52.69
1112	SLV 7	124	-466	6141	-1772.05	113.49	50.94
1112	SLV 8	52	-488	6164	-1777.52	113.96	26.23
1112	SLV 9	-93	514	696	-307.89	13.27	-40.89
1112	SLV 10	-165	492	720	-313.36	13.75	-65.6
1112	SLV 11	-214	-473	5977	-1731.73	110.19	-67.36
1112	SLV 12	-286	-495	6000	-1737.2	110.66	-92.07
1112	SLV 13	-513	165	2347	-757.88	43.24	-182.17
1112	SLV 14	-620	132	2382	-766	43.94	-218.88
1112	SLV 15	-549	-131	3931	-1185.03	72.31	-190.11
1112	SLV 16	-656	-164	3966	-1193.15	73.01	-226.82
1112	SLV FO 1	679	207	2841	-877.22	53.28	234.1
1112	SLV FO 2	561	172	2880	-886.15	54.05	193.73
1112	SLV FO 3	639	-118	4584	-1347.09	85.26	225.37
1112	SLV FO 4	521	-154	4622	-1356.02	86.03	184.99
1112	SLV FO 5	272	572	604	-278.76	11.86	85.88
1112	SLV FO 6	193	548	629	-284.78	12.38	58.7
1112	SLV FO 7	139	-514	6412	-1844.99	118.47	56.77
1112	SLV FO 8	59	-538	6438	-1851	118.99	29.58
1112	SLV FO 9	-100	564	423	-234.41	8.24	-44.24
1112	SLV FO 10	-180	540	449	-240.43	8.76	-71.43
1112	SLV FO 11	-234	-522	6231	-1800.64	114.85	-73.36
1112	SLV FO 12	-313	-546	6257	-1806.65	115.37	-100.55
1112	SLV FO 13	-562	180	2239	-729.39	41.2	-199.65
1112	SLV FO 14	-680	144	2277	-738.33	41.97	-240.03
1112	SLV FO 15	-602	-146	3981	-1199.26	73.18	-208.39
1112	SLV FO 16	-720	-181	4020	-1208.19	73.95	-248.77
1112	CRTFP Ux+	0	0	0	0	0	0
1112	CRTFP Ux-	0	0	0	0	0	0
1112	CRTFP Uy+	0	0	0	0	0	0
1112	CRTFP Uy-	0	0	0	0	0	0
1114	SLU 1	-55	48	9672	-2310.69	83.91	-13
1114	SLU 2	-52	96	9427	-2255.99	82.65	-12.52
1114	SLU 3	-57	49	9962	-2378.72	86.72	-13.42
1114	SLU 4	-55	77	9814	-2345.89	85.96	-13.13
1114	SLU 5	-53	96	9614	-2299.99	84.47	-12.73
1114	SLU 6	-57	49	10149	-2422.73	88.54	-13.63
1114	SLU 7	-56	77	10002	-2389.9	87.78	-13.34
1114	SLU 8	-57	48	10047	-2398.71	87.55	-13.43
1114	SLU 9	-55	77	9900	-2365.89	86.79	-13.14
1114	SLU 10	-57	96	10737	-2568.87	93.82	-13.73
1114	SLU 11	-61	49	11272	-2691.6	97.88	-14.63
1114	SLU 12	-60	77	11125	-2658.77	97.12	-14.34
1114	SLU 13	-58	96	10925	-2612.88	95.63	-13.94
1114	SLU 14	-62	49	11460	-2735.61	99.7	-14.84
1114	SLU 15	-61	77	11312	-2702.78	98.94	-14.55
1114	SLU 16	-61	48	11358	-2711.59	98.72	-14.64
1114	SLU 17	-60	77	11210	-2678.77	97.96	-14.35
1114	SLU 18	-62	49	11545	-2757.66	99.87	-14.73
1114	SLU 19	-60	77	11397	-2724.84	99.11	-14.44
1114	SLU 20	-63	49	11732	-2801.67	101.69	-14.95
1114	SLU 21	-61	77	11585	-2768.85	100.93	-14.66
1114	SLU 22	-64	52	11418	-2724.71	98.85	-15.22
1114	SLU 23	-61	99	11172	-2670.01	97.58	-14.73
1114	SLU 24	-66	52	11707	-2792.74	101.65	-15.63
1114	SLU 25	-64	80	11560	-2759.91	100.89	-15.34
1114	SLU 26	-62	99	11359	-2714.01	99.4	-14.94
1114	SLU 27	-66	52	11894	-2836.75	103.47	-15.85
1114	SLU 28	-65	80	11747	-2803.92	102.71	-15.55
1114	SLU 29	-66	51	11792	-2812.73	102.48	-15.64
1114	SLU 30	-64	80	11645	-2779.91	101.73	-15.35
1114	SLU 31	-66	99	12483	-2982.89	108.75	-15.95
1114	SLU 32	-70	52	13018	-3105.62	112.82	-16.85
1114	SLU 33	-69	81	12870	-3072.79	112.06	-16.56
1114	SLU 34	-67	99	12670	-3026.9	110.57	-16.16



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1114	SLU 35	-71	52	13205	-3149.63	114.64	-17.06
1114	SLU 36	-70	80	13058	-3116.8	113.88	-16.77
1114	SLU 37	-70	52	13103	-3125.61	113.65	-16.86
1114	SLU 38	-69	80	12955	-3092.79	112.89	-16.57
1114	SLU 39	-71	52	13290	-3171.68	114.8	-16.95
1114	SLU 40	-69	80	13143	-3138.86	114.04	-16.66
1114	SLU 41	-72	52	13477	-3215.69	116.62	-17.16
1114	SLU 42	-70	80	13330	-3182.87	115.86	-16.87
1114	SLU 43	-68	62	11976	-2861.95	103.97	-16.14
1114	SLU 44	-66	109	11730	-2807.24	102.7	-15.66
1114	SLU 45	-70	62	12265	-2929.97	106.77	-16.56
1114	SLU 46	-68	91	12118	-2897.15	106.01	-16.27
1114	SLU 47	-67	109	11917	-2851.25	104.52	-15.87
1114	SLU 48	-71	62	12452	-2973.98	108.59	-16.77
1114	SLU 49	-69	90	12305	-2941.16	107.83	-16.48
1114	SLU 50	-70	62	12350	-2949.96	107.61	-16.57
1114	SLU 51	-68	90	12203	-2917.14	106.85	-16.28
1114	SLU 52	-70	109	13041	-3120.12	113.87	-16.87
1114	SLU 53	-75	62	13576	-3242.85	117.94	-17.77
1114	SLU 54	-73	91	13428	-3210.03	117.18	-17.48
1114	SLU 55	-71	109	13228	-3164.13	115.69	-17.08
1114	SLU 56	-76	62	13763	-3286.86	119.76	-17.98
1114	SLU 57	-74	91	13616	-3254.04	119	-17.69
1114	SLU 58	-75	62	13661	-3262.85	118.77	-17.78
1114	SLU 59	-73	90	13514	-3230.02	118.01	-17.49
1114	SLU 60	-75	62	13848	-3308.92	119.92	-17.87
1114	SLU 61	-74	91	13701	-3276.1	119.16	-17.58
1114	SLU 62	-76	62	14035	-3352.93	121.74	-18.09
1114	SLU 63	-74	90	13888	-3320.11	120.98	-17.8
1114	SLU 64	-77	65	13721	-3275.97	118.9	-18.36
1114	SLU 65	-75	112	13475	-3221.26	117.64	-17.87
1114	SLU 66	-79	65	14010	-3343.99	121.7	-18.77
1114	SLU 67	-77	94	13863	-3311.17	120.95	-18.48
1114	SLU 68	-76	112	13663	-3265.27	119.46	-18.09
1114	SLU 69	-80	65	14198	-3388	123.52	-18.99
1114	SLU 70	-78	94	14050	-3355.18	122.76	-18.7
1114	SLU 71	-79	65	14096	-3363.98	122.54	-18.78
1114	SLU 72	-77	93	13948	-3331.16	121.78	-18.49
1114	SLU 73	-79	113	14786	-3534.14	128.8	-19.09
1114	SLU 74	-84	66	15321	-3656.87	132.87	-19.99
1114	SLU 75	-82	94	15174	-3624.05	132.11	-19.7
1114	SLU 76	-80	112	14973	-3578.15	130.62	-19.3
1114	SLU 77	-85	65	15508	-3700.88	134.69	-20.2
1114	SLU 78	-83	94	15361	-3668.06	133.93	-19.91
1114	SLU 79	-84	65	15406	-3676.87	133.71	-20
1114	SLU 80	-82	93	15259	-3644.04	132.95	-19.71
1114	SLU 81	-84	65	15593	-3722.94	134.85	-20.09
1114	SLU 82	-83	94	15446	-3690.12	134.1	-19.8
1114	SLU 83	-85	65	15781	-3766.95	136.67	-20.3
1114	SLU 84	-83	94	15633	-3734.13	135.91	-20.01
1114	SLE RA 1	-57	49	10171	-2428.98	88.18	-13.63
1114	SLE RA 2	-56	81	10007	-2392.51	87.34	-13.31
1114	SLE RA 3	-59	50	10364	-2474.33	90.05	-13.91
1114	SLE RA 4	-58	69	10266	-2452.45	89.54	-13.72
1114	SLE RA 5	-56	81	10132	-2421.85	88.55	-13.45
1114	SLE RA 6	-59	50	10489	-2503.67	91.26	-14.05
1114	SLE RA 7	-58	68	10391	-2481.79	90.76	-13.86
1114	SLE RA 8	-59	49	10421	-2487.66	90.61	-13.92
1114	SLE RA 9	-58	68	10323	-2465.78	90.1	-13.72
1114	SLE RA 10	-59	81	10881	-2601.1	94.78	-14.12
1114	SLE RA 11	-62	50	11238	-2682.92	97.49	-14.72
1114	SLE RA 12	-61	69	11139	-2661.04	96.99	-14.53
1114	SLE RA 13	-60	81	11006	-2630.44	95.99	-14.26
1114	SLE RA 14	-62	50	11363	-2712.26	98.71	-14.86
1114	SLE RA 15	-61	69	11264	-2690.38	98.2	-14.67
1114	SLE RA 16	-62	49	11295	-2696.25	98.05	-14.73
1114	SLE RA 17	-61	68	11196	-2674.37	97.54	-14.53
1114	SLE RA 18	-62	50	11419	-2726.96	98.82	-14.79
1114	SLE RA 19	-61	68	11321	-2705.08	98.31	-14.6
1114	SLE RA 20	-63	49	11544	-2756.3	100.03	-14.93
1114	SLE RA 21	-62	68	11446	-2734.42	99.52	-14.74
1114	SLE FR 1	-57	49	10171	-2428.98	88.18	-13.63
1114	SLE FR 2	-57	56	10138	-2421.69	88.01	-13.57
1114	SLE FR 3	-58	49	10221	-2440.72	88.67	-13.69
1114	SLE FR 4	-58	56	10513	-2511.08	91.2	-13.92
1114	SLE FR 5	-59	49	10595	-2530.11	91.86	-14.04
1114	SLE FR 6	-60	49	10795	-2577.97	93.5	-14.21
1114	SLE QP 1	-57	49	10171	-2428.98	88.18	-13.63
1114	SLE QP 2	-59	49	10546	-2518.38	91.37	-13.98
1114	SLD 1	1189	375	9471	-2287.61	89.79	294.05
1114	SLD 2	976	324	9539	-2302.03	91.08	243.05
1114	SLD 3	1122	-186	12585	-2981.74	106.69	279.19
1114	SLD 4	909	-237	12652	-2996.17	107.99	228.19
1114	SLD 5	455	1007	5489	-1393.77	65.02	110.16
1114	SLD 6	315	973	5534	-1403.29	65.88	76.49
1114	SLD 7	232	-863	15867	-3707.56	121.37	60.61
1114	SLD 8	92	-896	15912	-3717.09	122.23	26.94
1114	SLD 9	-210	995	5179	-1319.66	60.51	-54.9
1114	SLD 10	-350	962	5224	-1329.19	61.37	-88.57



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1114	SLD 11	-433	-875	15557	-3633.46	116.86	-104.45
1114	SLD 12	-573	-908	15602	-3642.98	117.72	-138.12
1114	SLD 13	-1027	336	8439	-2040.58	74.76	-256.15
1114	SLD 14	-1239	285	8506	-2055.01	76.05	-307.15
1114	SLD 15	-1094	-225	11552	-2734.72	91.66	-271.01
1114	SLD 16	-1306	-276	11620	-2749.14	92.96	-322.01
1114	SLV 1	1896	573	8782	-2138.7	88.47	468.63
1114	SLV 2	1563	494	8888	-2161.3	90.5	388.72
1114	SLV 3	1788	-333	13814	-3260.71	115.8	444.71
1114	SLV 4	1455	-412	13920	-3283.3	117.83	364.8
1114	SLV 5	753	1596	2364	-698.56	48.67	182
1114	SLV 6	529	1542	2435	-713.77	50.04	128.2
1114	SLV 7	394	-1425	19139	-4438.56	139.77	102.26
1114	SLV 8	170	-1478	19210	-4453.77	141.14	48.46
1114	SLV 9	-288	1577	1881	-582.98	41.6	-76.42
1114	SLV 10	-512	1524	1952	-598.19	42.97	-130.22
1114	SLV 11	-647	-1443	18656	-4322.98	132.71	-156.16
1114	SLV 12	-870	-1497	18727	-4338.19	134.07	-209.96
1114	SLV 13	-1573	511	7171	-1753.45	64.91	-392.76
1114	SLV 14	-1906	432	7277	-1776.05	66.94	-472.67
1114	SLV 15	-1681	-395	12203	-2875.45	92.24	-416.68
1114	SLV 16	-2013	-474	12310	-2898.05	94.27	-496.59
1114	SLV FO 1	2091	625	8605	-2100.74	88.18	516.89
1114	SLV FO 2	1725	538	8722	-2125.59	90.41	428.99
1114	SLV FO 3	1973	-371	14141	-3334.94	118.25	490.57
1114	SLV FO 4	1607	-458	14258	-3359.79	120.48	402.68
1114	SLV FO 5	834	1750	1546	-516.57	44.4	201.6
1114	SLV FO 6	588	1692	1624	-533.31	45.9	142.42
1114	SLV FO 7	439	-1572	19998	-4630.58	144.61	113.88
1114	SLV FO 8	193	-1631	20077	-4647.31	146.12	54.7
1114	SLV FO 9	-311	1730	1014	-389.44	36.63	-82.66
1114	SLV FO 10	-557	1671	1093	-406.17	38.13	-141.84
1114	SLV FO 11	-705	-1593	19467	-4503.44	136.84	-170.38
1114	SLV FO 12	-952	-1651	19545	-4520.18	138.34	-229.56
1114	SLV FO 13	-1724	557	6833	-1676.96	62.27	-430.64
1114	SLV FO 14	-2090	470	6950	-1701.81	64.49	-518.53
1114	SLV FO 15	-1843	-439	12369	-2911.16	92.33	-456.95
1114	SLV FO 16	-2209	-527	12486	-2936.01	94.56	-544.85
1114	CRTFP Ux+	0	0	0	0	0	0
1114	CRTFP Ux-	0	0	0	0	0	0
1114	CRTFP Uy+	0	0	0	-0.01	0	0
1114	CRTFP Uy-	0	0	0	0.01	0	0
1116	SLU 1	-14	17	2806	-826.92	-50.06	-4.61
1116	SLU 2	-13	31	2735	-807.99	-48.8	-4.11
1116	SLU 3	-15	17	2889	-850.61	-51.54	-4.77
1116	SLU 4	-14	25	2847	-839.25	-50.78	-4.47
1116	SLU 5	-14	31	2789	-823.32	-49.75	-4.19
1116	SLU 6	-15	17	2943	-865.93	-52.49	-4.84
1116	SLU 7	-14	25	2901	-854.57	-51.73	-4.55
1116	SLU 8	-15	16	2913	-857.57	-51.97	-4.77
1116	SLU 9	-14	25	2871	-846.21	-51.21	-4.47
1116	SLU 10	-15	31	3116	-918.95	-55.57	-4.56
1116	SLU 11	-16	17	3269	-961.57	-58.31	-5.21
1116	SLU 12	-15	25	3227	-950.21	-57.55	-4.92
1116	SLU 13	-15	31	3169	-934.27	-56.52	-4.64
1116	SLU 14	-16	17	3323	-976.89	-59.26	-5.29
1116	SLU 15	-16	25	3281	-965.53	-58.5	-4.99
1116	SLU 16	-16	17	3293	-968.52	-58.74	-5.21
1116	SLU 17	-15	25	3251	-957.17	-57.98	-4.92
1116	SLU 18	-16	17	3349	-985.43	-59.74	-5.25
1116	SLU 19	-16	25	3307	-974.07	-58.98	-4.95
1116	SLU 20	-16	17	3403	-1000.75	-60.69	-5.33
1116	SLU 21	-16	25	3360	-989.4	-59.93	-5.03
1116	SLU 22	-17	18	3311	-973.13	-59.06	-5.44
1116	SLU 23	-16	32	3240	-954.2	-57.79	-4.94
1116	SLU 24	-17	18	3394	-996.81	-60.53	-5.6
1116	SLU 25	-17	26	3352	-985.45	-59.77	-5.3
1116	SLU 26	-16	32	3294	-969.52	-58.74	-5.02
1116	SLU 27	-17	18	3448	-1012.13	-61.48	-5.67
1116	SLU 28	-17	26	3405	-1000.78	-60.72	-5.38
1116	SLU 29	-17	18	3418	-1003.77	-60.96	-5.6
1116	SLU 30	-17	26	3376	-992.41	-60.2	-5.3
1116	SLU 31	-17	32	3620	-1065.15	-64.56	-5.39
1116	SLU 32	-18	18	3774	-1107.77	-67.3	-6.04
1116	SLU 33	-18	26	3732	-1096.41	-66.54	-5.75
1116	SLU 34	-17	32	3674	-1080.47	-65.51	-5.47
1116	SLU 35	-19	18	3828	-1123.09	-68.25	-6.12
1116	SLU 36	-18	26	3786	-1111.73	-67.49	-5.82
1116	SLU 37	-18	18	3798	-1114.73	-67.73	-6.04
1116	SLU 38	-18	26	3756	-1103.37	-66.97	-5.75
1116	SLU 39	-18	18	3854	-1131.64	-68.73	-6.08
1116	SLU 40	-18	26	3811	-1120.28	-67.97	-5.78
1116	SLU 41	-19	18	3907	-1146.96	-69.68	-6.16
1116	SLU 42	-18	26	3865	-1135.6	-68.92	-5.86
1116	SLU 43	-18	21	3474	-1024.88	-62	-5.71
1116	SLU 44	-17	35	3404	-1005.95	-60.73	-5.21
1116	SLU 45	-18	21	3558	-1048.56	-63.48	-5.86
1116	SLU 46	-18	30	3515	-1037.2	-62.72	-5.57
1116	SLU 47	-17	35	3458	-1021.27	-61.69	-5.29



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1116	SLU 48	-18	21	3611	-1063.88	-64.43	-5.94
1116	SLU 49	-18	30	3569	-1052.52	-63.67	-5.65
1116	SLU 50	-18	21	3582	-1055.52	-63.91	-5.86
1116	SLU 51	-18	30	3540	-1044.16	-63.15	-5.57
1116	SLU 52	-18	35	3784	-1116.9	-67.5	-5.66
1116	SLU 53	-19	21	3938	-1159.52	-70.25	-6.31
1116	SLU 54	-19	30	3895	-1148.16	-69.49	-6.01
1116	SLU 55	-18	35	3838	-1132.22	-68.46	-5.74
1116	SLU 56	-20	21	3991	-1174.84	-71.2	-6.39
1116	SLU 57	-19	30	3949	-1163.48	-70.44	-6.09
1116	SLU 58	-19	21	3962	-1166.47	-70.68	-6.31
1116	SLU 59	-19	30	3920	-1155.12	-69.92	-6.02
1116	SLU 60	-19	21	4017	-1183.38	-71.67	-6.35
1116	SLU 61	-19	30	3975	-1172.02	-70.91	-6.05
1116	SLU 62	-20	21	4071	-1198.7	-72.63	-6.43
1116	SLU 63	-19	30	4029	-1187.35	-71.87	-6.13
1116	SLU 64	-20	22	3979	-1171.08	-70.99	-6.54
1116	SLU 65	-19	36	3909	-1152.15	-69.73	-6.04
1116	SLU 66	-20	22	4063	-1194.76	-72.47	-6.69
1116	SLU 67	-20	31	4020	-1183.41	-71.71	-6.4
1116	SLU 68	-20	36	3963	-1167.47	-70.68	-6.12
1116	SLU 69	-21	22	4116	-1210.09	-73.42	-6.77
1116	SLU 70	-20	31	4074	-1198.73	-72.66	-6.47
1116	SLU 71	-20	22	4087	-1201.72	-72.9	-6.69
1116	SLU 72	-20	31	4045	-1190.36	-72.14	-6.4
1116	SLU 73	-21	36	4289	-1263.1	-76.5	-6.49
1116	SLU 74	-22	22	4443	-1305.72	-79.24	-7.14
1116	SLU 75	-21	31	4400	-1294.36	-78.48	-6.84
1116	SLU 76	-21	36	4343	-1278.43	-77.45	-6.57
1116	SLU 77	-22	22	4496	-1321.04	-80.19	-7.22
1116	SLU 78	-22	31	4454	-1309.68	-79.43	-6.92
1116	SLU 79	-22	22	4467	-1312.68	-79.67	-7.14
1116	SLU 80	-21	31	4425	-1301.32	-78.91	-6.84
1116	SLU 81	-22	22	4522	-1329.59	-80.66	-7.18
1116	SLU 82	-21	31	4480	-1318.23	-79.9	-6.88
1116	SLU 83	-22	22	4576	-1344.91	-81.62	-7.25
1116	SLU 84	-22	31	4534	-1333.55	-80.86	-6.96
1116	SLE RA 1	-15	17	2950	-868.7	-52.63	-4.85
1116	SLE RA 2	-14	26	2903	-856.08	-51.79	-4.52
1116	SLE RA 3	-15	17	3006	-884.49	-53.62	-4.95
1116	SLE RA 4	-15	23	2977	-876.92	-53.11	-4.75
1116	SLE RA 5	-15	26	2939	-866.29	-52.42	-4.57
1116	SLE RA 6	-15	17	3041	-894.7	-54.25	-5
1116	SLE RA 7	-15	23	3013	-887.13	-53.75	-4.8
1116	SLE RA 8	-15	17	3022	-889.13	-53.9	-4.95
1116	SLE RA 9	-15	23	2994	-881.55	-53.4	-4.75
1116	SLE RA 10	-15	26	3157	-930.05	-56.3	-4.81
1116	SLE RA 11	-16	17	3259	-958.46	-58.13	-5.25
1116	SLE RA 12	-16	23	3231	-950.89	-57.62	-5.05
1116	SLE RA 13	-15	26	3192	-940.26	-56.94	-4.87
1116	SLE RA 14	-16	17	3295	-968.67	-58.77	-5.3
1116	SLE RA 15	-16	23	3267	-961.1	-58.26	-5.1
1116	SLE RA 16	-16	17	3275	-963.1	-58.42	-5.25
1116	SLE RA 17	-16	23	3247	-955.52	-57.91	-5.05
1116	SLE RA 18	-16	17	3312	-974.37	-59.08	-5.27
1116	SLE RA 19	-16	23	3284	-966.8	-58.57	-5.07
1116	SLE RA 20	-16	17	3348	-984.58	-59.72	-5.32
1116	SLE RA 21	-16	23	3320	-977.01	-59.21	-5.13
1116	SLE FR 1	-15	17	2950	-868.7	-52.63	-4.85
1116	SLE FR 2	-15	19	2941	-866.17	-52.46	-4.78
1116	SLE FR 3	-15	17	2964	-872.78	-52.89	-4.87
1116	SLE FR 4	-15	19	3049	-897.87	-54.4	-4.91
1116	SLE FR 5	-15	17	3073	-904.48	-54.82	-4.99
1116	SLE FR 6	-15	17	3131	-921.53	-55.86	-5.06
1116	SLE QP 1	-15	17	2950	-868.7	-52.63	-4.85
1116	SLE QP 2	-15	17	3059	-900.4	-54.57	-4.97
1116	SLD 1	360	99	2748	-828.28	-48.76	127.83
1116	SLD 2	297	87	2766	-833.18	-49.05	105.56
1116	SLD 3	341	-70	3639	-1068.5	-64.78	118.28
1116	SLD 4	278	-81	3657	-1073.41	-65.07	96.01
1116	SLD 5	138	299	1611	-513.54	-28.48	53.35
1116	SLD 6	96	291	1623	-516.78	-28.68	38.65
1116	SLD 7	74	-262	4581	-1314.28	-81.86	21.54
1116	SLD 8	33	-270	4592	-1317.52	-82.06	6.84
1116	SLD 9	-63	303	1525	-483.27	-27.08	-16.78
1116	SLD 10	-105	296	1537	-486.51	-27.27	-31.49
1116	SLD 11	-126	-257	4494	-1284.02	-80.46	-48.6
1116	SLD 12	-168	-265	4506	-1287.26	-80.65	-63.3
1116	SLD 13	-309	115	2461	-727.39	-44.07	-105.96
1116	SLD 14	-372	103	2479	-732.3	-44.36	-128.23
1116	SLD 15	-328	-54	3352	-967.61	-60.08	-115.51
1116	SLD 16	-391	-65	3370	-972.52	-60.37	-137.77
1116	SLV 1	573	149	2548	-781.07	-45.06	203.15
1116	SLV 2	474	131	2577	-788.76	-45.52	168.27
1116	SLV 3	543	-123	3988	-1169.37	-70.94	187.8
1116	SLV 4	444	-141	4016	-1177.06	-71.4	152.92
1116	SLV 5	226	472	716	-274.25	-12.37	87.26
1116	SLV 6	160	460	735	-279.42	-12.68	63.77
1116	SLV 7	124	-434	5516	-1568.58	-98.65	36.09



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1116	SLV 8	58	-446	5535	-1573.75	-98.96	12.6
1116	SLV 9	-88	480	582	-227.05	-22.55	-22.55
1116	SLV 10	-155	468	601	-232.22	-10.48	-46.04
1116	SLV 11	-190	-426	5382	-1521.38	-96.46	-73.72
1116	SLV 12	-257	-438	5401	-1526.55	-96.77	-97.21
1116	SLV 13	-474	174	2101	-623.74	-37.73	-162.86
1116	SLV 14	-573	157	2129	-631.43	-38.19	-197.75
1116	SLV 15	-505	-97	3541	-1012.04	-63.62	-178.22
1116	SLV 16	-604	-115	3569	-1019.72	-64.08	-213.1
1116	SLV FO 1	632	162	2497	-769.14	-44.1	223.97
1116	SLV FO 2	523	143	2528	-777.59	-44.61	185.59
1116	SLV FO 3	599	-137	4081	-1196.27	-72.58	207.08
1116	SLV FO 4	490	-156	4112	-1204.72	-73.08	168.71
1116	SLV FO 5	250	518	482	-211.63	-8.15	96.48
1116	SLV FO 6	177	504	503	-217.32	-8.49	70.64
1116	SLV FO 7	138	-479	5762	-1635.39	-103.06	40.19
1116	SLV FO 8	65	-492	5783	-1641.09	-103.4	14.36
1116	SLV FO 9	-95	526	335	-159.71	-5.73	-24.31
1116	SLV FO 10	-169	513	355	-165.4	-6.07	-50.14
1116	SLV FO 11	-207	-471	5614	-1583.47	-100.64	-80.59
1116	SLV FO 12	-281	-484	5635	-1589.17	-100.99	-106.43
1116	SLV FO 13	-520	190	2005	-596.07	-36.05	-178.65
1116	SLV FO 14	-629	170	2036	-604.53	-36.56	-217.03
1116	SLV FO 15	-554	-109	3589	-1023.2	-64.52	-195.54
1116	SLV FO 16	-663	-128	3620	-1031.66	-65.03	-233.91
1116	CRTFP Ux+	0	0	0	0	0	0
1116	CRTFP Ux-	0	0	0	0	0	0
1116	CRTFP Uy+	0	0	0	0	0	0
1116	CRTFP Uy-	0	0	0	0	0	0
1117	SLU 1	-14	21	3028	-822.52	3.55	-4.75
1117	SLU 2	-13	36	2952	-803.36	3.47	-4.53
1117	SLU 3	-14	21	3117	-845.74	3.67	-4.91
1117	SLU 4	-14	30	3072	-834.24	3.62	-4.78
1117	SLU 5	-13	36	3010	-818.38	3.54	-4.61
1117	SLU 6	-14	21	3175	-860.76	3.74	-4.98
1117	SLU 7	-14	30	3129	-849.27	3.69	-4.85
1117	SLU 8	-14	21	3144	-852.56	3.7	-4.9
1117	SLU 9	-14	30	3098	-841.07	3.65	-4.77
1117	SLU 10	-14	37	3361	-912.58	3.98	-4.98
1117	SLU 11	-16	21	3527	-954.95	4.18	-5.35
1117	SLU 12	-15	30	3481	-943.46	4.13	-5.22
1117	SLU 13	-15	37	3419	-927.6	4.05	-5.05
1117	SLU 14	-16	21	3585	-969.98	4.26	-5.43
1117	SLU 15	-15	30	3539	-958.48	4.21	-5.29
1117	SLU 16	-16	21	3553	-961.78	4.21	-5.34
1117	SLU 17	-15	30	3507	-950.29	4.16	-5.21
1117	SLU 18	-16	21	3613	-978.54	4.28	-5.39
1117	SLU 19	-15	30	3567	-967.05	4.23	-5.26
1117	SLU 20	-16	21	3671	-993.56	4.36	-5.46
1117	SLU 21	-15	30	3625	-982.07	4.31	-5.33
1117	SLU 22	-16	22	3572	-966.54	4.23	-5.61
1117	SLU 23	-16	38	3496	-947.39	4.15	-5.39
1117	SLU 24	-17	22	3661	-989.76	4.35	-5.77
1117	SLU 25	-16	32	3615	-978.27	4.3	-5.64
1117	SLU 26	-16	38	3553	-962.41	4.23	-5.46
1117	SLU 27	-17	22	3719	-1004.79	4.43	-5.84
1117	SLU 28	-17	32	3673	-993.29	4.38	-5.71
1117	SLU 29	-17	22	3687	-996.59	4.39	-5.76
1117	SLU 30	-16	32	3642	-985.09	4.34	-5.62
1117	SLU 31	-17	38	3905	-1056.6	4.66	-5.83
1117	SLU 32	-18	22	4070	-1098.98	4.86	-6.21
1117	SLU 33	-18	32	4025	-1087.49	4.81	-6.08
1117	SLU 34	-17	38	3963	-1071.63	4.74	-5.91
1117	SLU 35	-18	22	4128	-1114	4.94	-6.28
1117	SLU 36	-18	32	4082	-1102.51	4.89	-6.15
1117	SLU 37	-18	22	4097	-1105.81	4.9	-6.2
1117	SLU 38	-18	32	4051	-1094.31	4.85	-6.07
1117	SLU 39	-18	22	4157	-1122.57	4.96	-6.25
1117	SLU 40	-18	32	4111	-1111.08	4.91	-6.11
1117	SLU 41	-18	22	4214	-1137.59	5.04	-6.32
1117	SLU 42	-18	32	4169	-1126.1	4.99	-6.19
1117	SLU 43	-17	26	3750	-1019.89	4.38	-5.89
1117	SLU 44	-16	42	3674	-1000.73	4.3	-5.67
1117	SLU 45	-18	27	3839	-1043.11	4.5	-6.04
1117	SLU 46	-17	36	3794	-1031.62	4.45	-5.91
1117	SLU 47	-17	42	3732	-1015.76	4.37	-5.74
1117	SLU 48	-18	27	3897	-1058.13	4.57	-6.12
1117	SLU 49	-17	36	3851	-1046.64	4.52	-5.98
1117	SLU 50	-18	26	3866	-1049.94	4.53	-6.03
1117	SLU 51	-17	36	3820	-1038.44	4.48	-5.9
1117	SLU 52	-18	42	4083	-1109.95	4.81	-6.11
1117	SLU 53	-19	27	4249	-1152.33	5.01	-6.49
1117	SLU 54	-18	36	4203	-1140.83	4.96	-6.35
1117	SLU 55	-18	42	4141	-1124.97	4.88	-6.18
1117	SLU 56	-19	27	4307	-1167.35	5.09	-6.56
1117	SLU 57	-19	36	4261	-1155.86	5.04	-6.43
1117	SLU 58	-19	27	4275	-1159.15	5.05	-6.48
1117	SLU 59	-18	36	4229	-1147.66	4.99	-6.34
1117	SLU 60	-19	27	4335	-1175.92	5.11	-6.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1117	SLU 61	-19	36	4289	-1164.42	5.06	-6.39
1117	SLU 62	-19	27	4393	-1190.94	5.19	-6.59
1117	SLU 63	-19	36	4347	-1179.45	5.14	-6.46
1117	SLU 64	-20	28	4294	-1163.92	5.06	-6.74
1117	SLU 65	-19	44	4218	-1144.76	4.98	-6.52
1117	SLU 66	-20	28	4383	-1187.14	5.18	-6.9
1117	SLU 67	-20	37	4337	-1175.64	5.13	-6.77
1117	SLU 68	-19	44	4275	-1159.78	5.06	-6.6
1117	SLU 69	-20	28	4441	-1202.16	5.26	-6.97
1117	SLU 70	-20	37	4395	-1190.67	5.21	-6.84
1117	SLU 71	-20	28	4409	-1193.96	5.22	-6.89
1117	SLU 72	-20	37	4364	-1182.47	5.17	-6.76
1117	SLU 73	-20	44	4627	-1253.98	5.49	-6.97
1117	SLU 74	-21	28	4792	-1296.36	5.69	-7.34
1117	SLU 75	-21	38	4747	-1284.86	5.64	-7.21
1117	SLU 76	-20	44	4685	-1269	5.57	-7.04
1117	SLU 77	-22	28	4850	-1311.38	5.77	-7.42
1117	SLU 78	-21	38	4804	-1299.88	5.72	-7.28
1117	SLU 79	-21	28	4819	-1303.18	5.73	-7.33
1117	SLU 80	-21	37	4773	-1291.69	5.68	-7.2
1117	SLU 81	-21	28	4879	-1319.94	5.79	-7.38
1117	SLU 82	-21	37	4833	-1308.45	5.74	-7.25
1117	SLU 83	-22	28	4936	-1334.97	5.87	-7.45
1117	SLU 84	-21	37	4891	-1323.47	5.82	-7.32
1117	SLE RA 1	-15	21	3183	-863.67	3.74	-5
1117	SLE RA 2	-14	32	3133	-850.9	3.69	-4.85
1117	SLE RA 3	-15	21	3243	-879.15	3.82	-5.1
1117	SLE RA 4	-15	28	3212	-871.48	3.79	-5.02
1117	SLE RA 5	-14	32	3171	-860.91	3.74	-4.9
1117	SLE RA 6	-15	21	3281	-889.16	3.87	-5.15
1117	SLE RA 7	-15	28	3251	-881.5	3.84	-5.06
1117	SLE RA 8	-15	21	3260	-883.7	3.85	-5.1
1117	SLE RA 9	-15	27	3230	-876.03	3.81	-5.01
1117	SLE RA 10	-15	32	3406	-923.71	4.03	-5.15
1117	SLE RA 11	-16	21	3516	-951.96	4.16	-5.4
1117	SLE RA 12	-15	28	3485	-944.3	4.13	-5.31
1117	SLE RA 13	-15	32	3444	-933.72	4.08	-5.2
1117	SLE RA 14	-16	21	3554	-961.97	4.22	-5.45
1117	SLE RA 15	-16	28	3524	-954.31	4.18	-5.36
1117	SLE RA 16	-16	21	3533	-956.51	4.19	-5.39
1117	SLE RA 17	-15	27	3503	-948.85	4.15	-5.3
1117	SLE RA 18	-16	21	3573	-967.68	4.23	-5.42
1117	SLE RA 19	-15	27	3543	-960.02	4.2	-5.33
1117	SLE RA 20	-16	21	3612	-977.7	4.28	-5.47
1117	SLE RA 21	-16	27	3581	-970.04	4.25	-5.38
1117	SLE FR 1	-15	21	3183	-863.67	3.74	-5
1117	SLE FR 2	-14	23	3173	-861.11	3.73	-4.97
1117	SLE FR 3	-15	21	3199	-867.67	3.77	-5.02
1117	SLE FR 4	-15	23	3290	-892.32	3.88	-5.1
1117	SLE FR 5	-15	21	3316	-898.88	3.91	-5.15
1117	SLE FR 6	-15	21	3378	-915.68	3.99	-5.21
1117	SLE QP 1	-15	21	3183	-863.67	3.74	-5
1117	SLE QP 2	-15	21	3300	-894.87	3.89	-5.13
1117	SLD 1	405	107	2952	-825.31	3.95	141.74
1117	SLD 2	334	98	2970	-830.22	4.01	117.06
1117	SLD 3	385	-78	3916	-1068.17	5.03	134.78
1117	SLD 4	314	-88	3934	-1073.09	5.1	110.1
1117	SLD 5	154	330	1729	-504.77	2.25	53.93
1117	SLD 6	108	324	1741	-508.01	2.29	37.64
1117	SLD 7	87	-288	4945	-1314.33	5.87	30.74
1117	SLD 8	41	-295	4957	-1317.57	5.91	14.44
1117	SLD 9	-70	337	1644	-472.17	1.87	-24.7
1117	SLD 10	-117	331	1656	-475.42	1.91	-40.99
1117	SLD 11	-137	-282	4859	-1281.73	5.49	-47.89
1117	SLD 12	-184	-288	4871	-1284.98	5.53	-64.19
1117	SLD 13	-344	130	2666	-716.66	2.68	-120.36
1117	SLD 14	-415	120	2685	-721.57	2.75	-145.03
1117	SLD 15	-364	-56	3631	-959.53	3.77	-127.31
1117	SLD 16	-435	-65	3649	-964.44	3.83	-151.99
1117	SLV 1	643	161	2729	-779.45	3.95	224.97
1117	SLV 2	532	146	2757	-787.15	4.05	186.31
1117	SLV 3	611	-139	4288	-1172.03	5.7	213.77
1117	SLV 4	500	-154	4316	-1179.73	5.8	175.11
1117	SLV 5	252	520	759	-263.4	1.23	88.1
1117	SLV 6	178	510	778	-268.58	1.3	62.07
1117	SLV 7	144	-479	5956	-1571.99	7.07	50.77
1117	SLV 8	70	-489	5975	-1577.18	7.14	24.74
1117	SLV 9	-100	531	625	-212.57	0.64	-35
1117	SLV 10	-174	521	644	-217.75	0.71	-61.03
1117	SLV 11	-207	-468	5823	-1521.16	6.48	-72.33
1117	SLV 12	-282	-478	5842	-1526.35	6.55	-98.36
1117	SLV 13	-530	196	2284	-610.02	1.98	-185.36
1117	SLV 14	-641	181	2313	-617.72	2.08	-224.02
1117	SLV 15	-562	-104	3844	-1002.6	3.73	-196.56
1117	SLV 16	-673	-119	3872	-1010.29	3.83	-235.22
1117	SLV FO 1	709	175	2672	-767.91	3.95	247.98
1117	SLV FO 2	587	158	2703	-776.38	4.07	205.45
1117	SLV FO 3	673	-155	4387	-1199.75	5.88	235.66
1117	SLV FO 4	551	-171	4418	-1208.21	6	193.13



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1117	SLV FO 5	279	570	505	-200.25	0.96	97.43
1117	SLV FO 6	197	559	526	-205.95	1.04	68.79
1117	SLV FO 7	160	-529	6222	-1639.71	7.39	56.36
1117	SLV FO 8	78	-540	6243	-1645.41	7.47	27.73
1117	SLV FO 9	-108	582	358	-144.34	0.31	-37.98
1117	SLV FO 10	-190	571	379	-150.04	0.39	-66.62
1117	SLV FO 11	-227	-517	6075	-1583.79	6.74	-79.05
1117	SLV FO 12	-309	-528	6096	-1589.49	6.82	-107.68
1117	SLV FO 13	-581	214	2183	-581.53	1.79	-203.38
1117	SLV FO 14	-703	197	2214	-590	1.9	-245.91
1117	SLV FO 15	-617	-116	3898	-1013.37	3.71	-215.7
1117	SLV FO 16	-739	-132	3929	-1021.84	3.83	-258.23
1117	CRTFP Ux+	0	0	0	0	0	0
1117	CRTFP Ux-	0	0	0	0	0	0
1117	CRTFP Uy+	0	0	0	0	0	0
1117	CRTFP Uy-	0	0	0	0	0	0
1118	SLU 1	-12	24	2904	-723.8	3.59	-4.04
1118	SLU 2	-11	40	2830	-706.81	3.5	-3.86
1118	SLU 3	-12	25	2989	-743.87	3.71	-4.18
1118	SLU 4	-12	34	2945	-733.67	3.66	-4.06
1118	SLU 5	-12	40	2885	-719.79	3.58	-3.91
1118	SLU 6	-12	25	3044	-756.85	3.79	-4.23
1118	SLU 7	-12	34	3000	-746.66	3.73	-4.12
1118	SLU 8	-12	24	3014	-749.77	3.75	-4.15
1118	SLU 9	-12	34	2970	-739.57	3.69	-4.04
1118	SLU 10	-13	40	3222	-801.55	4.02	-4.25
1118	SLU 11	-13	25	3380	-838.61	4.23	-4.57
1118	SLU 12	-13	34	3336	-828.41	4.18	-4.46
1118	SLU 13	-13	40	3277	-814.53	4.1	-4.3
1118	SLU 14	-14	25	3435	-851.59	4.31	-4.62
1118	SLU 15	-13	34	3391	-841.4	4.26	-4.51
1118	SLU 16	-13	25	3405	-844.51	4.27	-4.55
1118	SLU 17	-13	34	3361	-834.31	4.22	-4.44
1118	SLU 18	-14	25	3463	-859.14	4.34	-4.6
1118	SLU 19	-13	34	3419	-848.95	4.28	-4.49
1118	SLU 20	-14	25	3518	-872.13	4.42	-4.66
1118	SLU 21	-13	34	3474	-861.93	4.36	-4.55
1118	SLU 22	-14	26	3423	-848.8	4.29	-4.81
1118	SLU 23	-14	42	3350	-831.81	4.2	-4.63
1118	SLU 24	-15	26	3508	-868.87	4.41	-4.95
1118	SLU 25	-14	36	3464	-858.68	4.36	-4.83
1118	SLU 26	-14	42	3405	-844.79	4.28	-4.68
1118	SLU 27	-15	26	3563	-881.86	4.49	-5
1118	SLU 28	-14	36	3519	-871.66	4.43	-4.89
1118	SLU 29	-14	26	3533	-874.77	4.45	-4.92
1118	SLU 30	-14	35	3489	-864.57	4.39	-4.81
1118	SLU 31	-15	42	3741	-926.55	4.72	-5.02
1118	SLU 32	-16	27	3900	-963.61	4.93	-5.34
1118	SLU 33	-15	36	3856	-953.42	4.88	-5.23
1118	SLU 34	-15	42	3796	-939.53	4.8	-5.07
1118	SLU 35	-16	27	3955	-976.6	5.01	-5.39
1118	SLU 36	-16	36	3911	-966.4	4.96	-5.28
1118	SLU 37	-16	27	3925	-969.51	4.97	-5.32
1118	SLU 38	-15	36	3881	-959.31	4.92	-5.21
1118	SLU 39	-16	27	3982	-984.14	5.04	-5.37
1118	SLU 40	-15	36	3938	-973.95	4.98	-5.26
1118	SLU 41	-16	27	4037	-997.13	5.12	-5.43
1118	SLU 42	-16	36	3993	-986.93	5.06	-5.32
1118	SLU 43	-15	31	3597	-898.08	4.43	-4.99
1118	SLU 44	-14	46	3523	-881.09	4.34	-4.8
1118	SLU 45	-15	31	3682	-918.15	4.55	-5.12
1118	SLU 46	-15	40	3638	-907.95	4.49	-5.01
1118	SLU 47	-14	46	3578	-894.07	4.41	-4.86
1118	SLU 48	-15	31	3737	-931.13	4.62	-5.18
1118	SLU 49	-15	40	3693	-920.94	4.57	-5.07
1118	SLU 50	-15	31	3707	-924.05	4.58	-5.1
1118	SLU 51	-15	40	3663	-913.85	4.53	-4.99
1118	SLU 52	-15	47	3915	-975.83	4.86	-5.2
1118	SLU 53	-16	32	4073	-1012.89	5.07	-5.52
1118	SLU 54	-16	41	4029	-1002.7	5.02	-5.41
1118	SLU 55	-15	47	3970	-988.81	4.94	-5.25
1118	SLU 56	-16	32	4128	-1025.87	5.15	-5.57
1118	SLU 57	-16	41	4084	-1015.68	5.09	-5.46
1118	SLU 58	-16	31	4098	-1018.79	5.11	-5.5
1118	SLU 59	-16	41	4054	-1008.59	5.05	-5.38
1118	SLU 60	-16	31	4156	-1033.42	5.18	-5.55
1118	SLU 61	-16	41	4112	-1023.23	5.12	-5.44
1118	SLU 62	-17	31	4211	-1046.41	5.25	-5.61
1118	SLU 63	-16	41	4167	-1036.21	5.2	-5.5
1118	SLU 64	-17	33	4116	-1023.08	5.13	-5.76
1118	SLU 65	-16	48	4043	-1006.09	5.04	-5.58
1118	SLU 66	-17	33	4201	-1043.15	5.25	-5.89
1118	SLU 67	-17	42	4157	-1032.96	5.19	-5.78
1118	SLU 68	-17	48	4098	-1019.07	5.12	-5.63
1118	SLU 69	-18	33	4256	-1056.14	5.33	-5.95
1118	SLU 70	-17	42	4212	-1045.94	5.27	-5.84
1118	SLU 71	-17	33	4226	-1049.05	5.28	-5.87
1118	SLU 72	-17	42	4182	-1038.85	5.23	-5.76
1118	SLU 73	-18	49	4434	-1100.83	5.56	-5.97



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1118	SLU 74	-18	33	4593	-1137.89	5.77	-6.29
1118	SLU 75	-18	43	4549	-1127.7	5.72	-6.18
1118	SLU 76	-18	49	4489	-1113.81	5.64	-6.02
1118	SLU 77	-19	33	4648	-1150.88	5.85	-6.34
1118	SLU 78	-18	43	4604	-1140.68	5.79	-6.23
1118	SLU 79	-18	33	4618	-1143.79	5.81	-6.27
1118	SLU 80	-18	42	4574	-1133.59	5.75	-6.15
1118	SLU 81	-19	33	4675	-1158.43	5.88	-6.32
1118	SLU 82	-18	43	4631	-1148.23	5.82	-6.21
1118	SLU 83	-19	33	4730	-1171.41	5.95	-6.38
1118	SLU 84	-18	43	4686	-1161.21	5.9	-6.27
1118	SLE RA 1	-13	25	3052	-759.51	3.79	-4.26
1118	SLE RA 2	-12	35	3003	-748.18	3.73	-4.14
1118	SLE RA 3	-13	25	3109	-772.89	3.87	-4.35
1118	SLE RA 4	-13	31	3080	-766.1	3.83	-4.28
1118	SLE RA 5	-12	35	3040	-756.84	3.78	-4.18
1118	SLE RA 6	-13	25	3146	-781.55	3.92	-4.39
1118	SLE RA 7	-13	31	3116	-774.75	3.89	-4.31
1118	SLE RA 8	-13	25	3125	-776.82	3.89	-4.34
1118	SLE RA 9	-13	31	3096	-770.03	3.86	-4.26
1118	SLE RA 10	-13	35	3264	-811.35	4.08	-4.4
1118	SLE RA 11	-14	25	3370	-836.05	4.22	-4.61
1118	SLE RA 12	-13	31	3340	-829.26	4.18	-4.54
1118	SLE RA 13	-13	35	3301	-820	4.13	-4.44
1118	SLE RA 14	-14	25	3406	-844.71	4.27	-4.65
1118	SLE RA 15	-13	31	3377	-837.91	4.23	-4.58
1118	SLE RA 16	-14	25	3386	-839.98	4.24	-4.6
1118	SLE RA 17	-13	31	3357	-833.19	4.21	-4.52
1118	SLE RA 18	-14	25	3425	-849.74	4.29	-4.64
1118	SLE RA 19	-13	31	3395	-842.95	4.25	-4.56
1118	SLE RA 20	-14	25	3461	-858.4	4.34	-4.67
1118	SLE RA 21	-14	31	3432	-851.6	4.3	-4.6
1118	SLE FR 1	-13	25	3052	-759.51	3.79	-4.26
1118	SLE FR 2	-12	27	3042	-757.25	3.78	-4.24
1118	SLE FR 3	-13	25	3067	-762.98	3.81	-4.28
1118	SLE FR 4	-13	27	3154	-784.32	3.93	-4.35
1118	SLE FR 5	-13	25	3179	-790.04	3.96	-4.39
1118	SLE FR 6	-13	25	3238	-804.63	4.04	-4.45
1118	SLE QP 1	-13	25	3052	-759.51	3.79	-4.26
1118	SLE QP 2	-13	25	3164	-786.58	3.94	-4.37
1118	SLD 1	407	107	2812	-726.06	4.07	142.52
1118	SLD 2	336	100	2828	-730.18	4.14	117.81
1118	SLD 3	388	-75	3737	-941.33	5.24	135.97
1118	SLD 4	317	-82	3753	-945.44	5.32	111.26
1118	SLD 5	155	327	1652	-441.2	2.18	54.08
1118	SLD 6	108	322	1663	-443.92	2.23	37.76
1118	SLD 7	91	-280	4736	-1158.75	6.1	32.25
1118	SLD 8	45	-285	4746	-1161.46	6.15	15.93
1118	SLD 9	-70	334	1581	-411.7	1.73	-24.67
1118	SLD 10	-117	330	1592	-414.42	1.78	-40.99
1118	SLD 11	-134	-273	4665	-1129.25	5.65	-46.51
1118	SLD 12	-180	-277	4675	-1131.96	5.7	-62.83
1118	SLD 13	-343	132	2575	-627.72	2.56	-120
1118	SLD 14	-414	125	2590	-631.84	2.64	-144.72
1118	SLD 15	-362	-50	3500	-842.99	3.74	-126.56
1118	SLD 16	-433	-57	3516	-847.1	3.81	-151.27
1118	SLV 1	645	158	2589	-686.06	4.11	225.77
1118	SLV 2	534	147	2613	-692.5	4.22	187.04
1118	SLV 3	615	-137	4084	-1034.02	6.01	215.22
1118	SLV 4	504	-147	4109	-1040.47	6.12	176.49
1118	SLV 5	252	513	719	-227.47	1.09	87.89
1118	SLV 6	177	506	735	-231.81	1.16	61.82
1118	SLV 7	150	-468	5703	-1387.37	7.42	52.73
1118	SLV 8	75	-475	5720	-1391.7	7.5	26.66
1118	SLV 9	-101	525	608	-181.46	0.38	-35.41
1118	SLV 10	-175	518	624	-185.8	0.46	-61.48
1118	SLV 11	-203	-456	5592	-1341.36	6.72	-70.57
1118	SLV 12	-277	-463	5609	-1345.7	6.79	-96.64
1118	SLV 13	-529	197	2219	-532.7	1.76	-185.24
1118	SLV 14	-640	186	2243	-539.14	1.87	-223.97
1118	SLV 15	-560	-97	3714	-880.67	3.66	-195.79
1118	SLV 16	-671	-108	3739	-887.11	3.77	-234.51
1118	SLV FO 1	711	171	2531	-676	4.12	248.78
1118	SLV FO 2	589	159	2558	-683.09	4.25	206.18
1118	SLV FO 3	677	-153	4176	-1058.77	6.21	237.18
1118	SLV FO 4	555	-165	4203	-1065.86	6.34	194.58
1118	SLV FO 5	278	562	474	-171.56	0.8	97.12
1118	SLV FO 6	196	554	492	-176.33	0.88	68.44
1118	SLV FO 7	166	-517	5957	-1447.44	7.77	58.45
1118	SLV FO 8	84	-525	5976	-1452.22	7.85	29.77
1118	SLV FO 9	-110	575	352	-120.95	0.03	-38.51
1118	SLV FO 10	-192	567	370	-125.72	0.11	-67.19
1118	SLV FO 11	-222	-504	5835	-1396.84	7	-77.19
1118	SLV FO 12	-304	-512	5853	-1401.61	7.08	-105.87
1118	SLV FO 13	-581	214	2124	-507.31	1.54	-203.33
1118	SLV FO 14	-703	202	2151	-514.4	1.67	-245.93
1118	SLV FO 15	-615	-110	3769	-890.07	3.63	-214.93
1118	SLV FO 16	-737	-121	3796	-897.16	3.76	-257.53
1118	CRTFP Ux+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1118	CRTFP Ux-	0	0	0	0	0	0
1118	CRTFP Uy+	0	0	0	0	0	0
1118	CRTFP Uy-	0	0	0	0	0	0
1119	SLU 1	-10	29	2785	-636.35	3.25	-3.35
1119	SLU 2	-10	44	2715	-621.4	3.17	-3.2
1119	SLU 3	-10	30	2866	-653.64	3.36	-3.46
1119	SLU 4	-10	39	2824	-644.67	3.31	-3.37
1119	SLU 5	-10	45	2767	-632.58	3.24	-3.23
1119	SLU 6	-10	30	2918	-664.81	3.43	-3.5
1119	SLU 7	-10	39	2876	-655.84	3.38	-3.41
1119	SLU 8	-10	29	2890	-658.7	3.39	-3.43
1119	SLU 9	-10	39	2848	-649.73	3.34	-3.34
1119	SLU 10	-11	45	3088	-703.25	3.64	-3.54
1119	SLU 11	-11	31	3240	-735.49	3.84	-3.8
1119	SLU 12	-11	40	3198	-726.52	3.78	-3.71
1119	SLU 13	-11	45	3141	-714.43	3.71	-3.58
1119	SLU 14	-12	31	3292	-746.66	3.91	-3.84
1119	SLU 15	-11	40	3250	-737.69	3.86	-3.75
1119	SLU 16	-11	30	3264	-740.56	3.87	-3.77
1119	SLU 17	-11	40	3221	-731.58	3.82	-3.68
1119	SLU 18	-12	30	3319	-753.28	3.93	-3.84
1119	SLU 19	-11	40	3277	-744.31	3.88	-3.75
1119	SLU 20	-12	31	3371	-764.46	4	-3.88
1119	SLU 21	-11	40	3329	-755.49	3.95	-3.79
1119	SLU 22	-12	32	3281	-744.38	3.89	-4.03
1119	SLU 23	-12	47	3211	-729.43	3.8	-3.88
1119	SLU 24	-12	32	3362	-761.66	4	-4.14
1119	SLU 25	-12	41	3320	-752.69	3.95	-4.05
1119	SLU 26	-12	47	3263	-740.6	3.87	-3.92
1119	SLU 27	-13	32	3415	-772.84	4.07	-4.18
1119	SLU 28	-12	42	3373	-763.87	4.02	-4.09
1119	SLU 29	-12	32	3386	-766.73	4.03	-4.11
1119	SLU 30	-12	41	3344	-757.76	3.98	-4.02
1119	SLU 31	-13	48	3585	-811.28	4.28	-4.22
1119	SLU 32	-13	33	3736	-843.51	4.47	-4.49
1119	SLU 33	-13	42	3694	-834.54	4.42	-4.4
1119	SLU 34	-13	48	3637	-822.45	4.35	-4.26
1119	SLU 35	-14	33	3788	-854.69	4.54	-4.53
1119	SLU 36	-13	42	3746	-845.72	4.49	-4.44
1119	SLU 37	-13	33	3760	-848.58	4.51	-4.45
1119	SLU 38	-13	42	3718	-839.61	4.46	-4.36
1119	SLU 39	-14	33	3815	-861.31	4.57	-4.52
1119	SLU 40	-13	42	3773	-852.34	4.52	-4.43
1119	SLU 41	-14	33	3868	-872.48	4.64	-4.56
1119	SLU 42	-13	42	3825	-863.51	4.59	-4.47
1119	SLU 43	-12	37	3450	-790.22	4.01	-4.12
1119	SLU 44	-12	52	3380	-775.27	3.92	-3.96
1119	SLU 45	-13	38	3531	-807.5	4.12	-4.23
1119	SLU 46	-12	47	3489	-798.53	4.06	-4.14
1119	SLU 47	-12	52	3432	-786.44	3.99	-4
1119	SLU 48	-13	38	3584	-818.68	4.19	-4.27
1119	SLU 49	-13	47	3541	-809.71	4.13	-4.18
1119	SLU 50	-13	37	3555	-812.57	4.15	-4.2
1119	SLU 51	-12	46	3513	-803.6	4.1	-4.1
1119	SLU 52	-13	53	3754	-857.12	4.4	-4.31
1119	SLU 53	-14	38	3905	-889.35	4.59	-4.57
1119	SLU 54	-13	48	3863	-880.38	4.54	-4.48
1119	SLU 55	-13	53	3806	-868.29	4.47	-4.35
1119	SLU 56	-14	39	3957	-900.53	4.66	-4.61
1119	SLU 57	-14	48	3915	-891.56	4.61	-4.52
1119	SLU 58	-14	38	3929	-894.42	4.62	-4.54
1119	SLU 59	-13	47	3887	-885.45	4.57	-4.45
1119	SLU 60	-14	38	3984	-907.15	4.69	-4.61
1119	SLU 61	-14	47	3942	-898.18	4.64	-4.52
1119	SLU 62	-14	39	4037	-918.32	4.76	-4.65
1119	SLU 63	-14	48	3994	-909.35	4.71	-4.56
1119	SLU 64	-14	40	3946	-898.24	4.65	-4.8
1119	SLU 65	-14	55	3876	-883.29	4.56	-4.65
1119	SLU 66	-15	40	4027	-915.53	4.75	-4.91
1119	SLU 67	-14	49	3985	-906.56	4.7	-4.82
1119	SLU 68	-14	55	3929	-894.47	4.63	-4.69
1119	SLU 69	-15	40	4080	-926.71	4.82	-4.95
1119	SLU 70	-15	49	4038	-917.74	4.77	-4.86
1119	SLU 71	-15	40	4051	-920.6	4.79	-4.88
1119	SLU 72	-14	49	4009	-911.63	4.74	-4.79
1119	SLU 73	-15	56	4250	-965.14	5.04	-4.99
1119	SLU 74	-16	41	4401	-997.38	5.23	-5.26
1119	SLU 75	-15	50	4359	-988.41	5.18	-5.16
1119	SLU 76	-15	56	4302	-976.32	5.11	-5.03
1119	SLU 77	-16	41	4454	-1008.56	5.3	-5.3
1119	SLU 78	-16	50	4412	-999.59	5.25	-5.2
1119	SLU 79	-16	41	4425	-1002.45	5.26	-5.22
1119	SLU 80	-15	50	4383	-993.48	5.21	-5.13
1119	SLU 81	-16	41	4480	-1015.17	5.33	-5.29
1119	SLU 82	-16	50	4438	-1006.2	5.28	-5.2
1119	SLU 83	-16	41	4533	-1026.35	5.4	-5.33
1119	SLU 84	-16	50	4491	-1017.38	5.35	-5.24
1119	SLE RA 1	-11	30	2926	-667.22	3.43	-3.54
1119	SLE RA 2	-10	40	2880	-657.25	3.38	-3.44



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1119	SLE RA 3	-11	30	2981	-678.74	3.51	-3.62
1119	SLE RA 4	-11	36	2953	-672.76	3.47	-3.56
1119	SLE RA 5	-10	40	2915	-664.7	3.42	-3.47
1119	SLE RA 6	-11	30	3016	-686.19	3.55	-3.64
1119	SLE RA 7	-11	36	2988	-680.21	3.52	-3.58
1119	SLE RA 8	-11	30	2996	-682.12	3.53	-3.6
1119	SLE RA 9	-11	36	2968	-676.14	3.49	-3.53
1119	SLE RA 10	-11	41	3129	-711.81	3.69	-3.67
1119	SLE RA 11	-12	31	3230	-733.31	3.82	-3.85
1119	SLE RA 12	-11	37	3202	-727.33	3.79	-3.79
1119	SLE RA 13	-11	41	3164	-719.27	3.74	-3.7
1119	SLE RA 14	-12	31	3265	-740.76	3.87	-3.87
1119	SLE RA 15	-11	37	3237	-734.78	3.84	-3.81
1119	SLE RA 16	-11	31	3246	-736.69	3.85	-3.82
1119	SLE RA 17	-11	37	3218	-730.7	3.81	-3.76
1119	SLE RA 18	-12	31	3283	-745.17	3.89	-3.87
1119	SLE RA 19	-11	37	3254	-739.19	3.85	-3.81
1119	SLE RA 20	-12	31	3318	-752.62	3.93	-3.9
1119	SLE RA 21	-11	37	3289	-746.64	3.9	-3.84
1119	SLE FR 1	-11	30	2926	-667.22	3.43	-3.54
1119	SLE FR 2	-11	32	2917	-665.22	3.42	-3.52
1119	SLE FR 3	-11	30	2940	-670.2	3.45	-3.55
1119	SLE FR 4	-11	32	3024	-688.61	3.56	-3.62
1119	SLE FR 5	-11	30	3047	-693.58	3.59	-3.65
1119	SLE FR 6	-11	30	3104	-706.19	3.66	-3.71
1119	SLE QP 1	-11	30	2926	-667.22	3.43	-3.54
1119	SLE QP 2	-11	30	3033	-690.6	3.57	-3.64
1119	SLD 1	409	109	2676	-636.11	3.8	143.23
1119	SLD 2	338	105	2689	-639.34	3.88	118.49
1119	SLD 3	391	-70	3561	-825.35	4.9	137.08
1119	SLD 4	320	-74	3574	-828.59	4.98	112.33
1119	SLD 5	155	326	1581	-386.65	1.96	54.22
1119	SLD 6	108	323	1589	-388.78	2.01	37.88
1119	SLD 7	95	-270	4532	-1017.47	5.63	33.69
1119	SLD 8	49	-273	4541	-1019.6	5.68	17.35
1119	SLD 9	-70	333	1526	-361.6	1.46	-24.64
1119	SLD 10	-117	330	1534	-363.74	1.51	-40.98
1119	SLD 11	-130	-262	4477	-992.42	5.13	-45.16
1119	SLD 12	-177	-265	4486	-994.55	5.18	-61.5
1119	SLD 13	-342	135	2492	-552.62	2.16	-119.61
1119	SLD 14	-413	130	2505	-555.85	2.23	-144.36
1119	SLD 15	-360	-44	3378	-741.86	3.26	-125.77
1119	SLD 16	-431	-49	3391	-745.09	3.34	-150.51
1119	SLV 1	647	158	2450	-600.21	3.9	226.46
1119	SLV 2	536	151	2471	-605.27	4.02	187.69
1119	SLV 3	618	-131	3881	-906.13	5.68	216.54
1119	SLV 4	507	-138	3902	-911.2	5.8	177.77
1119	SLV 5	251	508	684	-198.56	0.95	87.66
1119	SLV 6	176	503	698	-201.96	1.03	61.56
1119	SLV 7	155	-455	5455	-1218.3	6.88	54.61
1119	SLV 8	80	-460	5468	-1221.71	6.96	28.51
1119	SLV 9	-102	520	598	-159.49	0.18	-35.79
1119	SLV 10	-177	515	612	-162.9	0.26	-61.89
1119	SLV 11	-198	-443	5369	-1179.24	6.11	-68.84
1119	SLV 12	-273	-448	5383	-1182.65	6.19	-94.94
1119	SLV 13	-529	198	2165	-470	1.34	-185.05
1119	SLV 14	-640	191	2185	-475.07	1.46	-223.82
1119	SLV 15	-558	-91	3596	-775.93	3.12	-194.97
1119	SLV 16	-669	-98	3616	-780.99	3.24	-233.74
1119	SLV FO 1	713	171	2392	-591.17	3.94	249.46
1119	SLV FO 2	590	163	2414	-596.74	4.06	206.82
1119	SLV FO 3	681	-147	3966	-927.69	5.89	238.56
1119	SLV FO 4	559	-155	3989	-933.26	6.02	195.91
1119	SLV FO 5	277	556	449	-149.35	0.69	96.79
1119	SLV FO 6	195	550	464	-153.1	0.77	68.08
1119	SLV FO 7	172	-503	5697	-1271.07	7.21	60.44
1119	SLV FO 8	89	-509	5712	-1274.82	7.3	31.72
1119	SLV FO 9	-111	569	354	-106.38	-0.16	-39
1119	SLV FO 10	-193	564	370	-110.13	-0.07	-67.72
1119	SLV FO 11	-216	-490	5603	-1228.1	6.37	-75.36
1119	SLV FO 12	-299	-495	5618	-1231.85	6.45	-104.07
1119	SLV FO 13	-581	215	2078	-447.94	1.12	-203.19
1119	SLV FO 14	-703	207	2100	-453.51	1.24	-245.84
1119	SLV FO 15	-612	-103	3652	-784.46	3.07	-214.1
1119	SLV FO 16	-734	-111	3675	-790.03	3.2	-256.75
1119	CRTFP Ux+	0	0	0	0	0	0
1119	CRTFP Ux-	0	0	0	0	0	0
1119	CRTFP Uy+	0	0	0	0	0	0
1119	CRTFP Uy-	0	0	0	0	0	0
1120	SLU 1	-8	36	2682	-564.93	2.66	-2.65
1120	SLU 2	-8	51	2615	-551.71	2.59	-2.53
1120	SLU 3	-8	36	2760	-579.94	2.75	-2.74
1120	SLU 4	-8	45	2719	-572	2.71	-2.67
1120	SLU 5	-8	51	2665	-561.41	2.65	-2.55
1120	SLU 6	-8	36	2810	-589.64	2.81	-2.76
1120	SLU 7	-8	45	2770	-581.7	2.77	-2.69
1120	SLU 8	-8	36	2782	-584.33	2.78	-2.69
1120	SLU 9	-8	45	2742	-576.39	2.74	-2.62
1120	SLU 10	-9	52	2973	-623	2.98	-2.83



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1120	SLU 11	-9	38	3119	-651.24	3.14	-3.03
1120	SLU 12	-9	47	3078	-643.3	3.1	-2.96
1120	SLU 13	-9	52	3024	-632.7	3.04	-2.85
1120	SLU 14	-9	38	3169	-660.94	3.2	-3.05
1120	SLU 15	-9	47	3128	-653	3.16	-2.98
1120	SLU 16	-9	38	3141	-655.63	3.17	-2.99
1120	SLU 17	-9	47	3101	-647.69	3.13	-2.92
1120	SLU 18	-9	38	3195	-666.78	3.22	-3.07
1120	SLU 19	-9	47	3154	-658.85	3.18	-3
1120	SLU 20	-10	38	3245	-676.48	3.28	-3.09
1120	SLU 21	-9	47	3204	-668.55	3.24	-3.02
1120	SLU 22	-10	39	3158	-659.03	3.19	-3.25
1120	SLU 23	-10	54	3091	-645.8	3.12	-3.13
1120	SLU 24	-10	40	3236	-674.04	3.28	-3.33
1120	SLU 25	-10	49	3195	-666.1	3.23	-3.26
1120	SLU 26	-10	54	3141	-655.5	3.18	-3.15
1120	SLU 27	-10	40	3286	-683.73	3.33	-3.36
1120	SLU 28	-10	49	3246	-675.8	3.29	-3.29
1120	SLU 29	-10	40	3259	-678.43	3.3	-3.29
1120	SLU 30	-10	49	3218	-670.49	3.26	-3.22
1120	SLU 31	-10	56	3450	-717.1	3.51	-3.42
1120	SLU 32	-11	41	3595	-745.33	3.67	-3.63
1120	SLU 33	-11	50	3554	-737.4	3.62	-3.56
1120	SLU 34	-11	56	3500	-726.8	3.57	-3.45
1120	SLU 35	-11	42	3645	-755.03	3.73	-3.65
1120	SLU 36	-11	51	3604	-747.1	3.68	-3.58
1120	SLU 37	-11	41	3617	-749.72	3.69	-3.59
1120	SLU 38	-11	50	3577	-741.79	3.65	-3.52
1120	SLU 39	-11	41	3671	-760.88	3.74	-3.67
1120	SLU 40	-11	50	3630	-752.95	3.7	-3.6
1120	SLU 41	-11	42	3721	-770.58	3.8	-3.69
1120	SLU 42	-11	51	3680	-762.65	3.76	-3.62
1120	SLU 43	-10	45	3323	-702.15	3.28	-3.24
1120	SLU 44	-10	60	3256	-688.92	3.21	-3.12
1120	SLU 45	-10	46	3401	-717.16	3.37	-3.33
1120	SLU 46	-10	55	3361	-709.22	3.33	-3.25
1120	SLU 47	-10	60	3306	-698.62	3.27	-3.14
1120	SLU 48	-10	46	3451	-726.86	3.43	-3.35
1120	SLU 49	-10	55	3411	-718.92	3.39	-3.28
1120	SLU 50	-10	45	3424	-721.55	3.4	-3.28
1120	SLU 51	-10	54	3383	-713.61	3.36	-3.21
1120	SLU 52	-11	62	3615	-760.22	3.6	-3.42
1120	SLU 53	-11	47	3760	-788.45	3.76	-3.62
1120	SLU 54	-11	56	3720	-780.52	3.72	-3.55
1120	SLU 55	-11	62	3665	-769.92	3.66	-3.44
1120	SLU 56	-11	48	3810	-798.15	3.82	-3.64
1120	SLU 57	-11	57	3770	-790.22	3.78	-3.57
1120	SLU 58	-11	47	3783	-792.85	3.79	-3.58
1120	SLU 59	-11	56	3742	-784.91	3.75	-3.51
1120	SLU 60	-11	47	3836	-804	3.84	-3.66
1120	SLU 61	-11	56	3796	-796.07	3.8	-3.59
1120	SLU 62	-11	48	3886	-813.7	3.9	-3.68
1120	SLU 63	-11	57	3846	-805.77	3.85	-3.61
1120	SLU 64	-12	49	3799	-796.24	3.81	-3.84
1120	SLU 65	-11	64	3732	-783.02	3.74	-3.72
1120	SLU 66	-12	49	3877	-811.25	3.89	-3.92
1120	SLU 67	-12	58	3837	-803.32	3.85	-3.85
1120	SLU 68	-11	64	3782	-792.72	3.79	-3.74
1120	SLU 69	-12	49	3927	-820.95	3.95	-3.95
1120	SLU 70	-12	58	3887	-813.02	3.91	-3.87
1120	SLU 71	-12	49	3900	-815.64	3.92	-3.88
1120	SLU 72	-12	58	3859	-807.71	3.88	-3.81
1120	SLU 73	-12	65	4091	-854.32	4.13	-4.01
1120	SLU 74	-13	51	4236	-882.55	4.29	-4.22
1120	SLU 75	-13	60	4196	-874.62	4.24	-4.15
1120	SLU 76	-12	65	4141	-864.02	4.18	-4.04
1120	SLU 77	-13	51	4286	-892.25	4.34	-4.24
1120	SLU 78	-13	60	4246	-884.32	4.3	-4.17
1120	SLU 79	-13	51	4259	-886.94	4.31	-4.18
1120	SLU 80	-13	60	4218	-879.01	4.27	-4.11
1120	SLU 81	-13	51	4312	-898.1	4.36	-4.26
1120	SLU 82	-13	60	4272	-890.16	4.32	-4.19
1120	SLU 83	-13	51	4362	-907.8	4.42	-4.28
1120	SLU 84	-13	60	4322	-899.86	4.38	-4.21
1120	SLE RA 1	-9	37	2818	-591.81	2.81	-2.82
1120	SLE RA 2	-8	47	2773	-583	2.76	-2.74
1120	SLE RA 3	-9	37	2870	-601.82	2.87	-2.88
1120	SLE RA 4	-9	43	2843	-596.53	2.84	-2.83
1120	SLE RA 5	-8	47	2807	-589.46	2.8	-2.76
1120	SLE RA 6	-9	37	2903	-608.29	2.91	-2.89
1120	SLE RA 7	-9	43	2876	-603	2.88	-2.85
1120	SLE RA 8	-9	37	2885	-604.75	2.89	-2.85
1120	SLE RA 9	-9	43	2858	-599.46	2.86	-2.8
1120	SLE RA 10	-9	48	3012	-630.53	3.03	-2.94
1120	SLE RA 11	-9	38	3109	-649.35	3.13	-3.07
1120	SLE RA 12	-9	44	3082	-644.06	3.1	-3.03
1120	SLE RA 13	-9	48	3046	-637	3.06	-2.95
1120	SLE RA 14	-9	38	3143	-655.82	3.17	-3.09
1120	SLE RA 15	-9	44	3116	-650.53	3.14	-3.04



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1120	SLE RA 16	-9	38	3124	-652.28	3.15	-3.05
1120	SLE RA 17	-9	44	3097	-646.99	3.12	-3
1120	SLE RA 18	-10	38	3160	-659.72	3.18	-3.1
1120	SLE RA 19	-9	44	3133	-654.43	3.16	-3.05
1120	SLE RA 20	-10	38	3193	-666.18	3.22	-3.12
1120	SLE RA 21	-9	44	3166	-660.89	3.19	-3.07
1120	SLE FR 1	-9	37	2818	-591.81	2.81	-2.82
1120	SLE FR 2	-9	39	2809	-590.05	2.8	-2.8
1120	SLE FR 3	-9	37	2831	-594.4	2.83	-2.82
1120	SLE FR 4	-9	39	2912	-610.42	2.91	-2.89
1120	SLE FR 5	-9	37	2934	-614.77	2.94	-2.91
1120	SLE FR 6	-9	37	2989	-625.77	3	-2.96
1120	SLE QP 1	-9	37	2818	-591.81	2.81	-2.82
1120	SLE QP 2	-9	37	2921	-612.19	2.92	-2.9
1120	SLD 1	411	114	2553	-560.07	3.29	143.89
1120	SLD 2	340	111	2564	-562.43	3.36	119.12
1120	SLD 3	394	-62	3403	-727.31	4.2	138.12
1120	SLD 4	323	-64	3414	-729.67	4.28	113.35
1120	SLD 5	155	327	1519	-342.48	1.63	54.34
1120	SLD 6	108	325	1525	-344.04	1.68	37.99
1120	SLD 7	99	-259	4353	-899.95	4.68	35.12
1120	SLD 8	53	-260	4360	-901.51	4.73	18.77
1120	SLD 9	-70	335	1481	-322.87	1.12	-24.57
1120	SLD 10	-117	333	1488	-324.42	1.17	-40.92
1120	SLD 11	-126	-251	4316	-880.34	4.16	-43.8
1120	SLD 12	-173	-253	4323	-881.89	4.21	-60.15
1120	SLD 13	-341	138	2427	-494.7	1.57	-119.16
1120	SLD 14	-412	136	2438	-497.06	1.64	-143.93
1120	SLD 15	-358	-37	3278	-661.94	2.48	-124.93
1120	SLD 16	-428	-40	3288	-664.3	2.56	-149.69
1120	SLV 1	648	162	2323	-526.13	3.47	227.05
1120	SLV 2	537	158	2340	-529.83	3.58	188.25
1120	SLV 3	621	-122	3698	-796.5	4.94	217.76
1120	SLV 4	510	-126	3714	-800.19	5.06	178.96
1120	SLV 5	250	506	653	-175.63	0.83	87.42
1120	SLV 6	175	503	664	-178.12	0.9	61.3
1120	SLV 7	160	-441	5236	-1076.84	5.75	56.44
1120	SLV 8	85	-443	5247	-1079.33	5.83	30.32
1120	SLV 9	-103	517	594	-145.04	0.02	-36.13
1120	SLV 10	-178	515	605	-147.53	0.1	-62.25
1120	SLV 11	-193	-429	5177	-1046.25	4.94	-67.1
1120	SLV 12	-268	-432	5188	-1048.74	5.02	-93.22
1120	SLV 13	-528	200	2127	-424.18	0.79	-184.77
1120	SLV 14	-639	196	2143	-427.88	0.9	-223.57
1120	SLV 15	-555	-84	3501	-694.54	2.26	-194.06
1120	SLV 16	-666	-88	3518	-698.24	2.38	-232.86
1120	SLV FO 1	714	175	2263	-517.53	3.52	250.05
1120	SLV FO 2	592	170	2282	-521.59	3.65	207.37
1120	SLV FO 3	684	-138	3776	-814.93	5.15	239.83
1120	SLV FO 4	562	-142	3794	-818.99	5.28	197.15
1120	SLV FO 5	276	553	427	-131.97	0.62	96.45
1120	SLV FO 6	193	550	439	-134.71	0.7	67.72
1120	SLV FO 7	177	-488	5467	-1123.31	6.03	62.38
1120	SLV FO 8	95	-491	5479	-1126.04	6.12	33.64
1120	SLV FO 9	-113	565	362	-98.33	-0.27	-39.45
1120	SLV FO 10	-195	562	374	-101.06	-0.18	-68.18
1120	SLV FO 11	-211	-476	5402	-1089.66	5.14	-73.52
1120	SLV FO 12	-293	-479	5415	-1092.4	5.23	-102.26
1120	SLV FO 13	-580	217	2047	-405.38	0.57	-202.95
1120	SLV FO 14	-702	212	2066	-409.44	0.7	-245.63
1120	SLV FO 15	-610	-96	3560	-702.78	2.2	-213.18
1120	SLV FO 16	-732	-101	3578	-706.84	2.33	-255.85
1120	CRTFP Ux+	0	0	0	0	0	0
1120	CRTFP Ux-	0	0	0	0	0	0
1120	CRTFP Uy+	0	0	0	0	0	0
1120	CRTFP Uy-	0	0	0	0	0	0
1121	SLU 1	-6	43	2602	-512.89	1.92	-1.94
1121	SLU 2	-6	58	2537	-500.94	1.87	-1.85
1121	SLU 3	-6	44	2678	-526.23	1.99	-2
1121	SLU 4	-6	53	2638	-519.06	1.96	-1.95
1121	SLU 5	-6	58	2586	-509.55	1.92	-1.86
1121	SLU 6	-6	44	2726	-534.85	2.03	-2
1121	SLU 7	-6	53	2687	-527.68	2	-1.95
1121	SLU 8	-6	44	2699	-530.12	2.01	-1.95
1121	SLU 9	-6	53	2660	-522.95	1.98	-1.9
1121	SLU 10	-7	60	2884	-564.54	2.16	-2.1
1121	SLU 11	-7	46	3025	-589.84	2.27	-2.24
1121	SLU 12	-7	55	2986	-582.67	2.24	-2.2
1121	SLU 13	-7	61	2933	-573.16	2.2	-2.1
1121	SLU 14	-7	47	3073	-598.45	2.31	-2.25
1121	SLU 15	-7	56	3034	-591.28	2.28	-2.2
1121	SLU 16	-7	46	3047	-593.73	2.29	-2.19
1121	SLU 17	-7	55	3007	-586.56	2.26	-2.14
1121	SLU 18	-7	47	3098	-603.76	2.33	-2.29
1121	SLU 19	-7	55	3059	-596.59	2.3	-2.24
1121	SLU 20	-7	47	3147	-612.37	2.37	-2.29
1121	SLU 21	-7	56	3108	-605.2	2.34	-2.24
1121	SLU 22	-8	48	3063	-596.8	2.3	-2.44
1121	SLU 23	-7	62	2998	-584.85	2.26	-2.36



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1121	SLU 24	-8	48	3138	-610.14	2.37	-2.51
1121	SLU 25	-8	57	3099	-602.97	2.34	-2.46
1121	SLU 26	-8	63	3046	-593.46	2.3	-2.36
1121	SLU 27	-8	49	3186	-618.76	2.41	-2.51
1121	SLU 28	-8	58	3147	-611.58	2.38	-2.46
1121	SLU 29	-8	48	3160	-614.03	2.39	-2.45
1121	SLU 30	-8	57	3121	-606.86	2.36	-2.4
1121	SLU 31	-8	65	3345	-648.45	2.54	-2.61
1121	SLU 32	-9	51	3485	-673.75	2.65	-2.75
1121	SLU 33	-9	60	3446	-666.57	2.62	-2.7
1121	SLU 34	-8	65	3393	-657.07	2.58	-2.61
1121	SLU 35	-9	51	3534	-682.36	2.7	-2.75
1121	SLU 36	-9	60	3494	-675.19	2.67	-2.71
1121	SLU 37	-9	51	3507	-677.64	2.67	-2.7
1121	SLU 38	-8	60	3468	-670.47	2.64	-2.65
1121	SLU 39	-9	51	3559	-687.67	2.71	-2.79
1121	SLU 40	-9	60	3520	-680.49	2.68	-2.74
1121	SLU 41	-9	52	3607	-696.28	2.75	-2.8
1121	SLU 42	-9	60	3568	-689.11	2.72	-2.75
1121	SLU 43	-8	54	3225	-637.99	2.37	-2.35
1121	SLU 44	-7	69	3160	-626.04	2.32	-2.26
1121	SLU 45	-8	55	3300	-651.33	2.44	-2.41
1121	SLU 46	-8	64	3261	-644.16	2.41	-2.36
1121	SLU 47	-7	69	3209	-634.65	2.36	-2.27
1121	SLU 48	-8	55	3349	-659.95	2.48	-2.41
1121	SLU 49	-8	64	3310	-652.78	2.45	-2.36
1121	SLU 50	-8	55	3322	-655.22	2.46	-2.35
1121	SLU 51	-7	64	3283	-648.05	2.43	-2.3
1121	SLU 52	-8	72	3507	-689.64	2.6	-2.51
1121	SLU 53	-8	58	3648	-714.94	2.72	-2.65
1121	SLU 54	-8	66	3608	-707.77	2.69	-2.6
1121	SLU 55	-8	72	3556	-698.26	2.65	-2.51
1121	SLU 56	-9	58	3696	-723.55	2.76	-2.66
1121	SLU 57	-8	67	3657	-716.38	2.73	-2.61
1121	SLU 58	-8	57	3670	-718.83	2.74	-2.6
1121	SLU 59	-8	66	3630	-711.66	2.71	-2.55
1121	SLU 60	-9	58	3721	-728.86	2.77	-2.7
1121	SLU 61	-8	67	3682	-721.69	2.74	-2.65
1121	SLU 62	-9	58	3770	-737.47	2.82	-2.7
1121	SLU 63	-8	67	3731	-730.3	2.79	-2.65
1121	SLU 64	-9	59	3686	-721.9	2.75	-2.85
1121	SLU 65	-9	74	3620	-709.95	2.7	-2.77
1121	SLU 66	-9	60	3761	-735.24	2.82	-2.91
1121	SLU 67	-9	69	3722	-728.07	2.79	-2.86
1121	SLU 68	-9	74	3669	-718.56	2.74	-2.77
1121	SLU 69	-9	60	3809	-743.86	2.86	-2.92
1121	SLU 70	-9	69	3770	-736.68	2.83	-2.87
1121	SLU 71	-9	60	3783	-739.13	2.84	-2.86
1121	SLU 72	-9	69	3744	-731.96	2.81	-2.81
1121	SLU 73	-10	76	3968	-773.55	2.98	-3.01
1121	SLU 74	-10	62	4108	-798.85	3.1	-3.16
1121	SLU 75	-10	71	4069	-791.67	3.07	-3.11
1121	SLU 76	-10	77	4016	-782.17	3.03	-3.02
1121	SLU 77	-10	63	4157	-807.46	3.14	-3.16
1121	SLU 78	-10	72	4117	-800.29	3.11	-3.11
1121	SLU 79	-10	62	4130	-802.74	3.12	-3.1
1121	SLU 80	-10	71	4091	-795.57	3.09	-3.06
1121	SLU 81	-10	63	4182	-812.77	3.15	-3.2
1121	SLU 82	-10	71	4143	-805.59	3.12	-3.15
1121	SLU 83	-10	63	4230	-821.38	3.2	-3.21
1121	SLU 84	-10	72	4191	-814.21	3.17	-3.16
1121	SLE RA 1	-7	44	2734	-536.87	2.03	-2.08
1121	SLE RA 2	-6	54	2690	-528.9	2	-2.03
1121	SLE RA 3	-7	45	2784	-545.76	2.08	-2.12
1121	SLE RA 4	-7	51	2758	-540.98	2.06	-2.09
1121	SLE RA 5	-6	54	2723	-534.64	2.03	-2.03
1121	SLE RA 6	-7	45	2816	-551.5	2.11	-2.13
1121	SLE RA 7	-7	51	2790	-546.72	2.09	-2.09
1121	SLE RA 8	-7	45	2799	-548.35	2.09	-2.09
1121	SLE RA 9	-7	51	2773	-543.57	2.07	-2.05
1121	SLE RA 10	-7	56	2922	-571.3	2.19	-2.19
1121	SLE RA 11	-7	47	3016	-588.16	2.26	-2.29
1121	SLE RA 12	-7	52	2989	-583.38	2.24	-2.25
1121	SLE RA 13	-7	56	2954	-577.04	2.22	-2.19
1121	SLE RA 14	-7	47	3048	-593.91	2.29	-2.29
1121	SLE RA 15	-7	53	3022	-589.13	2.27	-2.26
1121	SLE RA 16	-7	46	3030	-590.76	2.28	-2.25
1121	SLE RA 17	-7	52	3004	-585.98	2.26	-2.22
1121	SLE RA 18	-7	47	3065	-597.44	2.3	-2.32
1121	SLE RA 19	-7	53	3039	-592.66	2.28	-2.28
1121	SLE RA 20	-7	47	3097	-603.19	2.33	-2.32
1121	SLE RA 21	-7	53	3071	-598.41	2.31	-2.29
1121	SLE FR 1	-7	44	2734	-536.87	2.03	-2.08
1121	SLE FR 2	-7	46	2725	-535.27	2.03	-2.07
1121	SLE FR 3	-7	44	2747	-539.16	2.04	-2.08
1121	SLE FR 4	-7	47	2825	-553.45	2.11	-2.14
1121	SLE FR 5	-7	45	2846	-557.34	2.12	-2.15
1121	SLE FR 6	-7	45	2899	-567.16	2.17	-2.2
1121	SLE QP 1	-7	44	2734	-536.87	2.03	-2.08



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1121	SLE QP 2	-7	45	2833	-555.04	2.11	-2.15
1121	SLD 1	412	121	2452	-501.25	2.63	144.48
1121	SLD 2	341	120	2460	-502.8	2.7	119.71
1121	SLD 3	397	-52	3275	-652.25	3.28	139.11
1121	SLD 4	326	-53	3283	-653.8	3.36	114.33
1121	SLD 5	155	331	1469	-309.61	1.26	54.46
1121	SLD 6	108	331	1474	-310.63	1.31	38.1
1121	SLD 7	103	-247	4213	-812.94	3.44	36.53
1121	SLD 8	57	-248	4218	-813.96	3.49	20.17
1121	SLD 9	-70	338	1448	-296.12	0.73	-24.48
1121	SLD 10	-117	337	1453	-297.14	0.78	-40.84
1121	SLD 11	-122	-241	4192	-799.45	2.92	-42.41
1121	SLD 12	-169	-241	4198	-800.47	2.96	-58.76
1121	SLD 13	-339	143	2383	-456.28	0.87	-118.64
1121	SLD 14	-410	142	2391	-457.83	0.94	-143.41
1121	SLD 15	-355	-30	3207	-607.28	1.52	-124.02
1121	SLD 16	-426	-31	3214	-608.83	1.6	-148.79
1121	SLV 1	649	169	2215	-466.84	2.9	227.56
1121	SLV 2	538	167	2228	-469.27	3.01	188.75
1121	SLV 3	625	-112	3546	-710.96	3.96	218.89
1121	SLV 4	513	-114	3558	-713.38	4.07	180.08
1121	SLV 5	249	508	627	-157.88	0.72	87.16
1121	SLV 6	174	507	636	-159.52	0.8	61.03
1121	SLV 7	165	-427	5063	-971.61	4.25	58.25
1121	SLV 8	91	-428	5071	-973.24	4.33	32.12
1121	SLV 9	-104	518	595	-136.84	-0.1	-36.42
1121	SLV 10	-179	517	603	-138.47	-0.02	-62.55
1121	SLV 11	-188	-417	5031	-950.56	3.43	-65.33
1121	SLV 12	-262	-418	5039	-952.2	3.5	-91.46
1121	SLV 13	-527	204	2108	-396.7	0.15	-184.38
1121	SLV 14	-638	202	2121	-399.12	0.27	-223.19
1121	SLV 15	-552	-77	3439	-640.81	1.21	-193.05
1121	SLV 16	-663	-79	3451	-643.24	1.33	-231.86
1121	SLV FO 1	715	181	2153	-458.02	2.98	250.53
1121	SLV FO 2	593	179	2167	-460.69	3.1	207.84
1121	SLV FO 3	688	-127	3617	-726.55	4.14	240.99
1121	SLV FO 4	565	-129	3631	-729.22	4.27	198.3
1121	SLV FO 5	274	554	407	-118.17	0.58	96.09
1121	SLV FO 6	192	553	416	-119.96	0.67	67.34
1121	SLV FO 7	183	-474	5286	-1013.26	4.46	64.29
1121	SLV FO 8	100	-476	5295	-1015.06	4.55	35.55
1121	SLV FO 9	-114	566	371	-95.02	-0.32	-39.85
1121	SLV FO 10	-196	564	380	-96.82	-0.24	-68.59
1121	SLV FO 11	-206	-463	5251	-990.12	3.56	-71.65
1121	SLV FO 12	-288	-464	5260	-991.91	3.64	-100.39
1121	SLV FO 13	-579	219	2036	-380.86	-0.04	-202.6
1121	SLV FO 14	-701	217	2049	-383.53	0.09	-245.29
1121	SLV FO 15	-607	-89	3499	-649.39	1.12	-212.14
1121	SLV FO 16	-729	-91	3513	-652.06	1.25	-254.83
1121	CRTFP Ux+	0	0	0	0	0	0
1121	CRTFP Ux-	0	0	0	0	0	0
1121	CRTFP Uy+	0	0	0	0	0	0
1121	CRTFP Uy-	0	0	0	0	0	0
1122	SLU 1	-4	51	2550	-482	1.11	-1.21
1122	SLU 2	-4	66	2486	-470.77	1.09	-1.16
1122	SLU 3	-4	52	2623	-494.33	1.15	-1.25
1122	SLU 4	-4	61	2585	-487.59	1.14	-1.22
1122	SLU 5	-4	66	2533	-478.73	1.11	-1.15
1122	SLU 6	-4	53	2670	-502.28	1.18	-1.23
1122	SLU 7	-4	61	2632	-495.55	1.16	-1.2
1122	SLU 8	-4	52	2644	-497.92	1.16	-1.18
1122	SLU 9	-4	61	2606	-491.18	1.15	-1.15
1122	SLU 10	-5	69	2825	-529.82	1.25	-1.36
1122	SLU 11	-5	56	2963	-553.37	1.31	-1.44
1122	SLU 12	-5	64	2924	-546.64	1.3	-1.41
1122	SLU 13	-5	70	2873	-537.78	1.27	-1.34
1122	SLU 14	-5	56	3010	-561.33	1.34	-1.42
1122	SLU 15	-5	65	2972	-554.6	1.32	-1.4
1122	SLU 16	-5	56	2984	-556.96	1.33	-1.37
1122	SLU 17	-5	64	2946	-550.23	1.31	-1.35
1122	SLU 18	-5	56	3035	-566.35	1.34	-1.49
1122	SLU 19	-5	65	2997	-559.62	1.33	-1.46
1122	SLU 20	-5	57	3082	-574.31	1.37	-1.47
1122	SLU 21	-5	65	3044	-567.58	1.35	-1.44
1122	SLU 22	-5	57	3000	-559.83	1.33	-1.62
1122	SLU 23	-5	72	2936	-548.6	1.31	-1.58
1122	SLU 24	-6	58	3073	-572.15	1.37	-1.66
1122	SLU 25	-5	67	3035	-565.42	1.36	-1.63
1122	SLU 26	-5	72	2983	-556.56	1.33	-1.56
1122	SLU 27	-6	59	3120	-580.11	1.4	-1.64
1122	SLU 28	-5	67	3082	-573.38	1.38	-1.61
1122	SLU 29	-5	58	3094	-575.74	1.39	-1.59
1122	SLU 30	-5	67	3056	-569.01	1.37	-1.56
1122	SLU 31	-6	75	3275	-607.65	1.47	-1.77
1122	SLU 32	-6	62	3413	-631.2	1.53	-1.85
1122	SLU 33	-6	70	3374	-624.46	1.52	-1.82
1122	SLU 34	-6	76	3323	-615.61	1.49	-1.75
1122	SLU 35	-6	62	3460	-639.16	1.56	-1.84
1122	SLU 36	-6	71	3422	-632.42	1.54	-1.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1122	SLU 37	-6	61	3434	-634.79	1.55	-1.78
1122	SLU 38	-6	70	3396	-628.05	1.53	-1.76
1122	SLU 39	-6	62	3485	-644.18	1.56	-1.9
1122	SLU 40	-6	71	3447	-637.44	1.55	-1.87
1122	SLU 41	-6	63	3532	-652.14	1.59	-1.88
1122	SLU 42	-6	71	3494	-645.4	1.57	-1.85
1122	SLU 43	-5	64	3161	-599.92	1.37	-1.43
1122	SLU 44	-5	79	3097	-588.69	1.34	-1.39
1122	SLU 45	-5	65	3234	-612.24	1.41	-1.47
1122	SLU 46	-5	74	3195	-605.51	1.39	-1.44
1122	SLU 47	-5	80	3144	-596.65	1.37	-1.37
1122	SLU 48	-5	66	3281	-620.2	1.44	-1.45
1122	SLU 49	-5	75	3243	-613.47	1.42	-1.43
1122	SLU 50	-5	65	3255	-615.83	1.42	-1.4
1122	SLU 51	-5	74	3217	-609.1	1.41	-1.37
1122	SLU 52	-5	83	3436	-647.74	1.5	-1.58
1122	SLU 53	-6	69	3573	-671.29	1.57	-1.66
1122	SLU 54	-6	78	3535	-664.55	1.55	-1.63
1122	SLU 55	-5	83	3483	-655.7	1.53	-1.56
1122	SLU 56	-6	69	3621	-679.25	1.6	-1.65
1122	SLU 57	-6	78	3582	-672.51	1.58	-1.62
1122	SLU 58	-6	69	3595	-674.88	1.58	-1.6
1122	SLU 59	-5	78	3556	-668.14	1.57	-1.57
1122	SLU 60	-6	69	3646	-684.27	1.6	-1.71
1122	SLU 61	-6	78	3607	-677.53	1.58	-1.68
1122	SLU 62	-6	70	3693	-692.23	1.63	-1.7
1122	SLU 63	-6	79	3655	-685.49	1.61	-1.67
1122	SLU 64	-6	70	3611	-677.74	1.59	-1.85
1122	SLU 65	-6	85	3547	-666.52	1.57	-1.8
1122	SLU 66	-6	71	3684	-690.07	1.63	-1.88
1122	SLU 67	-6	80	3645	-683.33	1.62	-1.85
1122	SLU 68	-6	85	3594	-674.48	1.59	-1.78
1122	SLU 69	-6	72	3731	-698.03	1.66	-1.86
1122	SLU 70	-6	81	3693	-691.29	1.64	-1.84
1122	SLU 71	-6	71	3705	-693.66	1.64	-1.81
1122	SLU 72	-6	80	3667	-686.92	1.63	-1.79
1122	SLU 73	-7	89	3886	-725.56	1.73	-1.99
1122	SLU 74	-7	75	4023	-749.12	1.79	-2.07
1122	SLU 75	-7	84	3985	-742.38	1.78	-2.05
1122	SLU 76	-7	89	3933	-733.52	1.75	-1.98
1122	SLU 77	-7	75	4071	-757.07	1.82	-2.06
1122	SLU 78	-7	84	4032	-750.34	1.8	-2.03
1122	SLU 79	-7	75	4045	-752.71	1.8	-2.01
1122	SLU 80	-7	84	4006	-745.97	1.79	-1.98
1122	SLU 81	-7	75	4096	-762.1	1.82	-2.12
1122	SLU 82	-7	84	4057	-755.36	1.8	-2.09
1122	SLU 83	-7	76	4143	-770.05	1.85	-2.11
1122	SLU 84	-7	85	4104	-763.32	1.83	-2.08
1122	SLE RA 1	-5	53	2678	-504.24	1.18	-1.33
1122	SLE RA 2	-4	63	2636	-496.75	1.16	-1.3
1122	SLE RA 3	-5	53	2727	-512.45	1.2	-1.35
1122	SLE RA 4	-5	59	2702	-507.96	1.19	-1.33
1122	SLE RA 5	-4	63	2667	-502.06	1.18	-1.29
1122	SLE RA 6	-5	54	2759	-517.76	1.22	-1.34
1122	SLE RA 7	-5	60	2733	-513.27	1.21	-1.32
1122	SLE RA 8	-4	53	2741	-514.85	1.21	-1.31
1122	SLE RA 9	-4	59	2716	-510.36	1.2	-1.29
1122	SLE RA 10	-5	65	2862	-536.12	1.27	-1.43
1122	SLE RA 11	-5	56	2954	-551.82	1.31	-1.48
1122	SLE RA 12	-5	62	2928	-547.33	1.3	-1.46
1122	SLE RA 13	-5	65	2894	-541.42	1.28	-1.42
1122	SLE RA 14	-5	56	2985	-557.12	1.33	-1.47
1122	SLE RA 15	-5	62	2960	-552.63	1.32	-1.45
1122	SLE RA 16	-5	56	2968	-554.21	1.32	-1.44
1122	SLE RA 17	-5	62	2942	-549.72	1.31	-1.42
1122	SLE RA 18	-5	56	3002	-560.47	1.33	-1.51
1122	SLE RA 19	-5	62	2976	-555.98	1.32	-1.49
1122	SLE RA 20	-5	56	3033	-565.78	1.35	-1.5
1122	SLE RA 21	-5	62	3008	-561.29	1.34	-1.48
1122	SLE FR 1	-5	53	2678	-504.24	1.18	-1.33
1122	SLE FR 2	-5	55	2670	-502.74	1.17	-1.32
1122	SLE FR 3	-5	53	2691	-506.36	1.18	-1.33
1122	SLE FR 4	-5	56	2767	-519.61	1.22	-1.38
1122	SLE FR 5	-5	54	2788	-523.23	1.23	-1.38
1122	SLE FR 6	-5	54	2840	-532.35	1.25	-1.42
1122	SLE QP 1	-5	53	2678	-504.24	1.18	-1.33
1122	SLE QP 2	-5	54	2775	-521.11	1.22	-1.38
1122	SLD 1	414	130	2356	-461.5	1.9	145.02
1122	SLD 2	343	130	2361	-462.31	1.97	120.26
1122	SLD 3	399	-42	3162	-603.05	2.26	140.03
1122	SLD 4	328	-42	3167	-603.86	2.33	115.27
1122	SLD 5	155	338	1427	-288.4	0.87	54.57
1122	SLD 6	108	339	1430	-288.93	0.92	38.21
1122	SLD 7	108	-237	4112	-760.23	2.06	37.94
1122	SLD 8	61	-237	4116	-760.76	2.11	21.58
1122	SLD 9	-70	344	1435	-281.45	0.33	-24.35
1122	SLD 10	-117	344	1439	-281.99	0.38	-40.71
1122	SLD 11	-118	-231	4121	-753.28	1.52	-40.98
1122	SLD 12	-165	-231	4124	-753.81	1.57	-57.34



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1122	SLD 13	-338	150	2384	-438.35	0.11	-118.04
1122	SLD 14	-409	150	2389	-439.16	0.19	-142.8
1122	SLD 15	-352	-23	3190	-579.9	0.47	-123.03
1122	SLD 16	-423	-23	3195	-580.71	0.54	-147.79
1122	SLV 1	650	178	2098	-424.12	2.27	227.96
1122	SLV 2	539	178	2106	-425.38	2.38	189.16
1122	SLV 3	627	-101	3400	-652.96	2.84	219.91
1122	SLV 4	516	-101	3409	-654.22	2.96	181.11
1122	SLV 5	248	514	595	-144.69	0.64	86.87
1122	SLV 6	173	514	601	-145.54	0.72	60.75
1122	SLV 7	171	-416	4937	-907.51	2.56	60.03
1122	SLV 8	96	-415	4942	-908.36	2.64	33.91
1122	SLV 9	-105	523	609	-133.85	-0.2	-36.68
1122	SLV 10	-180	523	614	-134.7	-0.12	-62.8
1122	SLV 11	-182	-406	4950	-896.67	1.73	-63.52
1122	SLV 12	-257	-406	4956	-897.52	1.8	-89.64
1122	SLV 13	-526	208	2142	-387.99	-0.52	-183.88
1122	SLV 14	-637	209	2151	-389.25	-0.4	-222.68
1122	SLV 15	-549	-70	3445	-616.83	0.06	-191.93
1122	SLV 16	-660	-70	3453	-618.1	0.18	-230.73
1122	SLV FO 1	716	190	2030	-414.42	2.37	250.9
1122	SLV FO 2	594	190	2039	-415.81	2.5	208.21
1122	SLV FO 3	691	-117	3463	-666.15	3.01	242.04
1122	SLV FO 4	568	-116	3472	-667.54	3.13	199.36
1122	SLV FO 5	273	560	377	-107.05	0.58	95.7
1122	SLV FO 6	191	560	383	-107.99	0.67	66.96
1122	SLV FO 7	188	-463	5153	-946.15	2.69	66.17
1122	SLV FO 8	106	-462	5159	-947.09	2.78	37.44
1122	SLV FO 9	-115	570	392	-95.13	-0.34	-40.21
1122	SLV FO 10	-198	570	398	-96.06	-0.25	-68.94
1122	SLV FO 11	-200	-452	5167	-934.23	1.78	-69.73
1122	SLV FO 12	-282	-452	5174	-935.16	1.86	-98.47
1122	SLV FO 13	-578	224	2079	-374.68	-0.69	-202.13
1122	SLV FO 14	-700	224	2088	-376.07	-0.56	-244.81
1122	SLV FO 15	-603	-83	3511	-626.41	-0.06	-210.98
1122	SLV FO 16	-725	-82	3521	-627.8	0.07	-253.67
1122	CRTFP Ux+	0	0	0	0	0	0
1122	CRTFP Ux-	0	0	0	0	0	0
1122	CRTFP Uy+	0	0	0	0	0	0
1122	CRTFP Uy-	0	0	0	0	0	0
1123	SLU 1	-2	60	2526	-472.81	0.29	-0.47
1123	SLU 2	-2	74	2462	-461.73	0.29	-0.46
1123	SLU 3	-2	61	2598	-484.79	0.3	-0.48
1123	SLU 4	-2	70	2560	-478.15	0.3	-0.47
1123	SLU 5	-2	75	2509	-469.47	0.29	-0.43
1123	SLU 6	-2	61	2645	-492.53	0.31	-0.44
1123	SLU 7	-2	70	2607	-485.88	0.31	-0.44
1123	SLU 8	-2	61	2619	-488.28	0.3	-0.4
1123	SLU 9	-2	70	2581	-481.64	0.3	-0.39
1123	SLU 10	-3	79	2798	-519.44	0.32	-0.6
1123	SLU 11	-3	65	2934	-542.5	0.34	-0.62
1123	SLU 12	-3	74	2896	-535.86	0.34	-0.61
1123	SLU 13	-2	80	2845	-527.18	0.33	-0.56
1123	SLU 14	-2	66	2981	-550.23	0.35	-0.58
1123	SLU 15	-2	75	2943	-543.59	0.35	-0.58
1123	SLU 16	-2	65	2955	-545.99	0.34	-0.54
1123	SLU 17	-2	74	2917	-539.34	0.34	-0.53
1123	SLU 18	-3	66	3006	-555.25	0.34	-0.67
1123	SLU 19	-3	75	2968	-548.61	0.34	-0.67
1123	SLU 20	-3	67	3053	-562.99	0.35	-0.64
1123	SLU 21	-3	76	3015	-556.34	0.35	-0.63
1123	SLU 22	-3	67	2971	-548.78	0.34	-0.78
1123	SLU 23	-3	82	2907	-537.71	0.34	-0.77
1123	SLU 24	-3	68	3043	-560.76	0.36	-0.79
1123	SLU 25	-3	77	3005	-554.12	0.36	-0.78
1123	SLU 26	-3	82	2954	-545.44	0.35	-0.74
1123	SLU 27	-3	69	3090	-568.5	0.37	-0.75
1123	SLU 28	-3	77	3052	-561.85	0.37	-0.75
1123	SLU 29	-3	68	3064	-564.25	0.36	-0.71
1123	SLU 30	-3	77	3026	-557.61	0.36	-0.7
1123	SLU 31	-4	86	3243	-595.41	0.38	-0.91
1123	SLU 32	-4	73	3379	-618.47	0.4	-0.93
1123	SLU 33	-4	82	3341	-611.83	0.39	-0.92
1123	SLU 34	-3	87	3290	-603.15	0.39	-0.88
1123	SLU 35	-3	73	3426	-626.21	0.4	-0.89
1123	SLU 36	-3	82	3388	-619.56	0.4	-0.89
1123	SLU 37	-3	73	3400	-621.96	0.4	-0.85
1123	SLU 38	-3	81	3362	-615.32	0.4	-0.84
1123	SLU 39	-4	73	3451	-631.22	0.4	-0.98
1123	SLU 40	-4	82	3413	-624.58	0.4	-0.98
1123	SLU 41	-4	74	3498	-638.96	0.41	-0.95
1123	SLU 42	-4	83	3460	-632.31	0.41	-0.94
1123	SLU 43	-2	75	3131	-588.6	0.35	-0.51
1123	SLU 44	-2	90	3067	-577.53	0.35	-0.5
1123	SLU 45	-2	76	3203	-600.59	0.37	-0.52
1123	SLU 46	-2	85	3165	-593.94	0.37	-0.51
1123	SLU 47	-2	90	3114	-585.27	0.36	-0.46
1123	SLU 48	-2	77	3250	-608.32	0.38	-0.48
1123	SLU 49	-2	86	3212	-601.68	0.37	-0.47



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1123	SLU 50	-2	76	3224	-604.07	0.37	-0.43
1123	SLU 51	-2	85	3186	-597.43	0.37	-0.43
1123	SLU 52	-3	94	3403	-635.24	0.39	-0.64
1123	SLU 53	-3	81	3539	-658.29	0.4	-0.65
1123	SLU 54	-3	90	3501	-651.65	0.4	-0.65
1123	SLU 55	-3	95	3450	-642.97	0.4	-0.6
1123	SLU 56	-3	81	3586	-666.03	0.41	-0.62
1123	SLU 57	-3	90	3548	-659.39	0.41	-0.61
1123	SLU 58	-3	81	3560	-661.78	0.41	-0.57
1123	SLU 59	-3	90	3522	-655.14	0.41	-0.57
1123	SLU 60	-3	82	3611	-671.04	0.41	-0.71
1123	SLU 61	-3	90	3573	-664.4	0.41	-0.7
1123	SLU 62	-3	82	3658	-678.78	0.42	-0.67
1123	SLU 63	-3	91	3620	-672.14	0.41	-0.66
1123	SLU 64	-3	82	3576	-664.57	0.41	-0.82
1123	SLU 65	-3	97	3512	-653.5	0.41	-0.81
1123	SLU 66	-3	83	3648	-676.56	0.42	-0.83
1123	SLU 67	-3	92	3610	-669.91	0.42	-0.82
1123	SLU 68	-3	98	3559	-661.24	0.42	-0.77
1123	SLU 69	-3	84	3695	-684.29	0.43	-0.79
1123	SLU 70	-3	93	3657	-677.65	0.43	-0.78
1123	SLU 71	-3	83	3669	-680.05	0.43	-0.75
1123	SLU 72	-3	92	3631	-673.4	0.43	-0.74
1123	SLU 73	-4	102	3849	-711.21	0.45	-0.95
1123	SLU 74	-4	88	3984	-734.27	0.46	-0.97
1123	SLU 75	-4	97	3946	-727.62	0.46	-0.96
1123	SLU 76	-4	102	3895	-718.95	0.46	-0.91
1123	SLU 77	-4	89	4031	-742	0.47	-0.93
1123	SLU 78	-4	98	3993	-735.36	0.47	-0.92
1123	SLU 79	-4	88	4005	-737.75	0.47	-0.89
1123	SLU 80	-4	97	3967	-731.11	0.47	-0.88
1123	SLU 81	-4	89	4056	-747.02	0.46	-1.02
1123	SLU 82	-4	98	4018	-740.37	0.46	-1.01
1123	SLU 83	-4	89	4103	-754.75	0.47	-0.98
1123	SLU 84	-4	98	4065	-748.11	0.47	-0.98
1123	SLE RA 1	-2	62	2653	-494.51	0.3	-0.56
1123	SLE RA 2	-2	71	2611	-487.13	0.3	-0.55
1123	SLE RA 3	-2	63	2701	-502.5	0.31	-0.57
1123	SLE RA 4	-2	68	2676	-498.07	0.31	-0.56
1123	SLE RA 5	-2	72	2642	-492.29	0.31	-0.53
1123	SLE RA 6	-2	63	2732	-507.66	0.32	-0.54
1123	SLE RA 7	-2	69	2707	-503.23	0.32	-0.54
1123	SLE RA 8	-2	62	2715	-504.83	0.32	-0.51
1123	SLE RA 9	-2	68	2690	-500.4	0.31	-0.51
1123	SLE RA 10	-3	75	2835	-525.6	0.33	-0.65
1123	SLE RA 11	-3	66	2925	-540.98	0.34	-0.66
1123	SLE RA 12	-3	71	2900	-536.55	0.34	-0.65
1123	SLE RA 13	-3	75	2866	-530.76	0.33	-0.62
1123	SLE RA 14	-3	66	2956	-546.13	0.34	-0.63
1123	SLE RA 15	-3	72	2931	-541.7	0.34	-0.63
1123	SLE RA 16	-3	66	2939	-543.3	0.34	-0.61
1123	SLE RA 17	-3	71	2914	-538.87	0.34	-0.6
1123	SLE RA 18	-3	66	2973	-549.48	0.34	-0.69
1123	SLE RA 19	-3	72	2948	-545.05	0.34	-0.69
1123	SLE RA 20	-3	66	3004	-554.63	0.34	-0.67
1123	SLE RA 21	-3	72	2979	-550.2	0.34	-0.67
1123	SLE FR 1	-2	62	2653	-494.51	0.3	-0.56
1123	SLE FR 2	-2	64	2644	-493.04	0.3	-0.56
1123	SLE FR 3	-2	62	2665	-496.58	0.31	-0.55
1123	SLE FR 4	-2	65	2741	-509.53	0.31	-0.6
1123	SLE FR 5	-2	63	2761	-513.07	0.32	-0.59
1123	SLE FR 6	-3	64	2813	-521.99	0.32	-0.63
1123	SLE QP 1	-2	62	2653	-494.51	0.3	-0.56
1123	SLE QP 2	-2	63	2749	-511	0.31	-0.6
1123	SLD 1	415	140	2315	-438.94	1.15	145.5
1123	SLD 2	344	142	2317	-439.06	1.23	120.75
1123	SLD 3	402	-33	3113	-578.26	1.21	140.9
1123	SLD 4	331	-31	3116	-578.38	1.28	116.15
1123	SLD 5	155	348	1407	-278.05	0.46	54.67
1123	SLD 6	109	349	1409	-278.14	0.51	38.32
1123	SLD 7	112	-228	4069	-742.46	0.66	39.33
1123	SLD 8	65	-227	4071	-742.54	0.71	22.99
1123	SLD 9	-70	353	1427	-279.46	-0.08	-24.19
1123	SLD 10	-117	354	1429	-279.54	-0.03	-40.53
1123	SLD 11	-114	-223	4089	-743.87	0.12	-39.53
1123	SLD 12	-160	-222	4091	-743.95	0.16	-55.87
1123	SLD 13	-336	157	2382	-443.62	-0.66	-117.36
1123	SLD 14	-407	159	2385	-443.75	-0.58	-142.1
1123	SLD 15	-349	-16	3181	-582.95	-0.6	-121.96
1123	SLD 16	-420	-14	3183	-583.07	-0.53	-146.71
1123	SLV 1	651	188	2049	-394.55	1.62	228.26
1123	SLV 2	540	190	2053	-394.74	1.73	189.49
1123	SLV 3	630	-91	3340	-619.8	1.72	220.83
1123	SLV 4	519	-89	3344	-619.99	1.83	182.05
1123	SLV 5	246	523	580	-134.4	0.54	86.57
1123	SLV 6	172	525	583	-134.53	0.62	60.47
1123	SLV 7	176	-407	4884	-885.23	0.86	61.78
1123	SLV 8	101	-405	4887	-885.37	0.93	35.68
1123	SLV 9	-106	531	611	-136.64	-0.3	-36.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1123	SLV 10	-181	533	614	-136.77	-0.23	-62.99
1123	SLV 11	-177	-399	4915	-887.47	0.01	-61.67
1123	SLV 12	-251	-397	4918	-887.6	0.09	-87.78
1123	SLV 13	-524	215	2154	-402.01	-1.2	-183.26
1123	SLV 14	-635	217	2158	-402.21	-1.09	-222.03
1123	SLV 15	-545	-64	3445	-627.26	-1.11	-190.69
1123	SLV 16	-656	-62	3449	-627.46	-0.99	-229.47
1123	SLV FO 1	717	200	1979	-382.9	1.75	251.15
1123	SLV FO 2	595	203	1984	-383.12	1.88	208.5
1123	SLV FO 3	693	-107	3399	-630.68	1.86	242.97
1123	SLV FO 4	571	-104	3404	-630.89	1.98	200.32
1123	SLV FO 5	271	569	363	-96.74	0.57	95.29
1123	SLV FO 6	189	571	366	-96.88	0.65	66.57
1123	SLV FO 7	194	-454	5097	-922.66	0.91	68.02
1123	SLV FO 8	112	-452	5101	-922.8	0.99	39.31
1123	SLV FO 9	-117	578	397	-99.2	-0.37	-40.51
1123	SLV FO 10	-199	580	401	-99.35	-0.28	-69.23
1123	SLV FO 11	-194	-445	5132	-925.12	-0.02	-67.78
1123	SLV FO 12	-276	-443	5135	-925.27	0.06	-96.49
1123	SLV FO 13	-576	230	2094	-391.11	-1.35	-201.52
1123	SLV FO 14	-698	233	2099	-391.33	-1.23	-244.17
1123	SLV FO 15	-600	-77	3514	-638.89	-1.25	-209.7
1123	SLV FO 16	-722	-74	3519	-639.1	-1.13	-252.35
1123	CRTFP Ux+	0	0	0	0	0	0
1123	CRTFP Ux-	0	0	0	0	0	0
1123	CRTFP Uy+	0	0	0	0	0	0
1123	CRTFP Uy-	0	0	0	0	0	0
1124	SLU 1	0	68	2530	-484.92	-0.5	0.28
1124	SLU 2	0	83	2466	-473.42	-0.48	0.25
1124	SLU 3	0	70	2602	-497.21	-0.51	0.3
1124	SLU 4	0	79	2564	-490.31	-0.5	0.28
1124	SLU 5	0	84	2512	-481.36	-0.48	0.31
1124	SLU 6	0	70	2649	-505.15	-0.52	0.36
1124	SLU 7	0	79	2610	-498.25	-0.51	0.34
1124	SLU 8	0	70	2623	-500.79	-0.51	0.39
1124	SLU 9	0	79	2585	-493.9	-0.5	0.38
1124	SLU 10	0	89	2803	-532.96	-0.56	0.17
1124	SLU 11	0	75	2939	-556.75	-0.59	0.21
1124	SLU 12	0	84	2900	-549.85	-0.58	0.2
1124	SLU 13	0	89	2849	-540.9	-0.56	0.22
1124	SLU 14	0	76	2985	-564.69	-0.6	0.27
1124	SLU 15	0	85	2947	-557.79	-0.58	0.26
1124	SLU 16	0	75	2960	-560.33	-0.59	0.31
1124	SLU 17	0	84	2921	-553.44	-0.58	0.29
1124	SLU 18	0	76	3011	-569.97	-0.61	0.16
1124	SLU 19	0	85	2973	-563.08	-0.6	0.14
1124	SLU 20	0	77	3058	-577.91	-0.62	0.21
1124	SLU 21	0	86	3019	-571.02	-0.61	0.2
1124	SLU 22	-1	77	2975	-563.19	-0.6	0.07
1124	SLU 23	-1	92	2912	-551.69	-0.57	0.04
1124	SLU 24	-1	78	3048	-575.48	-0.61	0.09
1124	SLU 25	-1	87	3009	-568.58	-0.6	0.07
1124	SLU 26	-1	92	2958	-559.63	-0.58	0.1
1124	SLU 27	0	79	3094	-583.42	-0.62	0.15
1124	SLU 28	0	88	3056	-576.52	-0.6	0.13
1124	SLU 29	0	78	3069	-579.06	-0.61	0.18
1124	SLU 30	0	87	3030	-572.17	-0.6	0.17
1124	SLU 31	-1	97	3248	-611.23	-0.65	-0.04
1124	SLU 32	-1	84	3385	-635.02	-0.69	0.01
1124	SLU 33	-1	93	3346	-628.12	-0.68	-0.01
1124	SLU 34	-1	98	3295	-619.17	-0.66	0.01
1124	SLU 35	-1	85	3431	-642.96	-0.7	0.06
1124	SLU 36	-1	93	3393	-636.06	-0.68	0.05
1124	SLU 37	-1	84	3406	-638.6	-0.69	0.1
1124	SLU 38	-1	93	3367	-631.71	-0.68	0.08
1124	SLU 39	-1	85	3457	-648.25	-0.71	-0.05
1124	SLU 40	-1	94	3418	-641.35	-0.7	-0.07
1124	SLU 41	-1	86	3503	-656.18	-0.72	0.01
1124	SLU 42	-1	94	3465	-649.29	-0.71	-0.01
1124	SLU 43	0	86	3136	-603.56	-0.62	0.43
1124	SLU 44	0	101	3072	-592.06	-0.59	0.4
1124	SLU 45	0	87	3208	-615.85	-0.63	0.45
1124	SLU 46	0	96	3170	-608.95	-0.61	0.44
1124	SLU 47	0	101	3118	-600	-0.6	0.46
1124	SLU 48	1	88	3255	-623.79	-0.64	0.51
1124	SLU 49	0	97	3216	-616.89	-0.62	0.5
1124	SLU 50	1	87	3229	-619.43	-0.63	0.55
1124	SLU 51	1	96	3191	-612.54	-0.62	0.53
1124	SLU 52	0	106	3409	-651.6	-0.67	0.32
1124	SLU 53	0	93	3545	-675.39	-0.71	0.37
1124	SLU 54	0	102	3507	-668.49	-0.69	0.35
1124	SLU 55	0	107	3455	-659.54	-0.68	0.38
1124	SLU 56	0	94	3591	-683.33	-0.71	0.43
1124	SLU 57	0	103	3553	-676.43	-0.7	0.41
1124	SLU 58	0	93	3566	-678.97	-0.71	0.46
1124	SLU 59	0	102	3527	-672.08	-0.7	0.45
1124	SLU 60	0	94	3617	-688.61	-0.73	0.31
1124	SLU 61	0	103	3579	-681.72	-0.72	0.29
1124	SLU 62	0	95	3664	-696.55	-0.74	0.37



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1124	SLU 63	0	104	3625	-689.65	-0.72	0.35
1124	SLU 64	0	94	3581	-681.83	-0.71	0.22
1124	SLU 65	0	109	3518	-670.33	-0.69	0.19
1124	SLU 66	0	96	3654	-694.12	-0.73	0.24
1124	SLU 67	0	105	3615	-687.22	-0.71	0.23
1124	SLU 68	0	110	3564	-678.27	-0.7	0.25
1124	SLU 69	0	96	3700	-702.06	-0.73	0.3
1124	SLU 70	0	105	3662	-695.16	-0.72	0.29
1124	SLU 71	0	96	3675	-697.7	-0.73	0.34
1124	SLU 72	0	105	3636	-690.81	-0.71	0.32
1124	SLU 73	-1	115	3854	-729.87	-0.77	0.11
1124	SLU 74	-1	101	3991	-753.66	-0.81	0.16
1124	SLU 75	-1	110	3952	-746.76	-0.79	0.14
1124	SLU 76	-1	116	3901	-737.81	-0.78	0.17
1124	SLU 77	0	102	4037	-761.6	-0.81	0.22
1124	SLU 78	-1	111	3999	-754.7	-0.8	0.2
1124	SLU 79	0	101	4012	-757.24	-0.81	0.25
1124	SLU 80	0	110	3973	-750.35	-0.79	0.24
1124	SLU 81	-1	102	4063	-766.89	-0.83	0.1
1124	SLU 82	-1	111	4024	-759.99	-0.81	0.09
1124	SLU 83	-1	103	4109	-774.82	-0.83	0.16
1124	SLU 84	-1	112	4071	-767.93	-0.82	0.14
1124	SLE RA 1	0	71	2657	-507.28	-0.53	0.22
1124	SLE RA 2	0	81	2614	-499.62	-0.51	0.2
1124	SLE RA 3	0	72	2705	-515.48	-0.54	0.23
1124	SLE RA 4	0	78	2680	-510.88	-0.53	0.22
1124	SLE RA 5	0	81	2645	-504.91	-0.52	0.24
1124	SLE RA 6	0	72	2736	-520.77	-0.54	0.27
1124	SLE RA 7	0	78	2711	-516.17	-0.53	0.26
1124	SLE RA 8	0	72	2719	-517.86	-0.54	0.29
1124	SLE RA 9	0	78	2694	-513.27	-0.53	0.28
1124	SLE RA 10	0	84	2839	-539.31	-0.57	0.14
1124	SLE RA 11	0	75	2930	-555.17	-0.59	0.17
1124	SLE RA 12	0	81	2904	-550.57	-0.58	0.16
1124	SLE RA 13	0	85	2870	-544.6	-0.57	0.18
1124	SLE RA 14	0	76	2961	-560.46	-0.59	0.21
1124	SLE RA 15	0	82	2935	-555.86	-0.58	0.2
1124	SLE RA 16	0	75	2944	-557.56	-0.59	0.24
1124	SLE RA 17	0	81	2918	-552.96	-0.58	0.23
1124	SLE RA 18	0	76	2978	-563.99	-0.6	0.14
1124	SLE RA 19	0	82	2952	-559.39	-0.59	0.13
1124	SLE RA 20	0	77	3009	-569.28	-0.61	0.17
1124	SLE RA 21	0	82	2983	-564.68	-0.6	0.16
1124	SLE FR 1	0	71	2657	-507.28	-0.53	0.22
1124	SLE FR 2	0	73	2648	-505.75	-0.52	0.21
1124	SLE FR 3	0	71	2669	-509.4	-0.53	0.23
1124	SLE FR 4	0	74	2745	-522.76	-0.55	0.19
1124	SLE FR 5	0	72	2766	-526.41	-0.55	0.21
1124	SLE FR 6	0	73	2817	-535.63	-0.57	0.18
1124	SLE QP 1	0	71	2657	-507.28	-0.53	0.22
1124	SLE QP 2	0	72	2753	-524.29	-0.55	0.19
1124	SLD 1	416	150	2288	-440.39	0.46	145.92
1124	SLD 2	345	153	2289	-439.86	0.53	121.2
1124	SLD 3	404	-24	3091	-584.64	0.21	141.7
1124	SLD 4	333	-21	3091	-584.11	0.28	116.98
1124	SLD 5	155	359	1397	-280.44	0.13	54.76
1124	SLD 6	109	361	1397	-280.09	0.18	38.44
1124	SLD 7	116	-221	4071	-761.27	-0.73	40.7
1124	SLD 8	69	-219	4072	-760.92	-0.68	24.38
1124	SLD 9	-69	364	1435	-287.66	-0.42	-24
1124	SLD 10	-116	366	1435	-287.32	-0.38	-40.32
1124	SLD 11	-109	-217	4110	-768.49	-1.28	-38.05
1124	SLD 12	-156	-215	4110	-768.15	-1.23	-54.38
1124	SLD 13	-334	166	2415	-464.47	-1.38	-116.6
1124	SLD 14	-405	169	2416	-463.95	-1.31	-141.32
1124	SLD 15	-346	-9	3218	-608.72	-1.63	-120.82
1124	SLD 16	-416	-6	3218	-608.2	-1.56	-145.54
1124	SLV 1	652	198	2005	-389.3	1.04	228.46
1124	SLV 2	541	203	2006	-388.47	1.15	189.74
1124	SLV 3	632	-83	3302	-622.51	0.62	221.63
1124	SLV 4	522	-78	3303	-621.69	0.73	182.91
1124	SLV 5	245	536	561	-130.24	0.54	86.26
1124	SLV 6	171	539	562	-129.68	0.61	60.19
1124	SLV 7	181	-402	4885	-907.62	-0.85	63.49
1124	SLV 8	106	-399	4886	-907.07	-0.78	37.42
1124	SLV 9	-107	543	621	-141.52	-0.32	-37.03
1124	SLV 10	-181	546	621	-140.96	-0.25	-63.11
1124	SLV 11	-171	-395	4945	-918.9	-1.71	-59.8
1124	SLV 12	-246	-391	4945	-918.35	-1.64	-85.88
1124	SLV 13	-522	223	2204	-426.9	-1.83	-182.52
1124	SLV 14	-633	228	2204	-426.07	-1.72	-221.25
1124	SLV 15	-541	-59	3501	-660.11	-2.25	-189.35
1124	SLV 16	-652	-54	3501	-659.29	-2.14	-228.08
1124	SLV FO 1	717	211	1930	-375.8	1.2	251.29
1124	SLV FO 2	595	216	1931	-374.89	1.32	208.69
1124	SLV FO 3	696	-99	3357	-632.34	0.74	243.78
1124	SLV FO 4	574	-93	3358	-631.43	0.86	201.18
1124	SLV FO 5	270	582	342	-90.83	0.64	94.87
1124	SLV FO 6	188	586	343	-90.22	0.72	66.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1124	SLV FO 7	199	-449	5098	-945.96	-0.88	69.82
1124	SLV FO 8	117	-446	5099	-945.35	-0.8	41.14
1124	SLV FO 9	-117	590	408	-103.24	-0.3	-40.76
1124	SLV FO 10	-199	594	408	-102.63	-0.22	-69.44
1124	SLV FO 11	-188	-441	5164	-958.36	-1.82	-65.8
1124	SLV FO 12	-270	-438	5164	-957.75	-1.75	-94.49
1124	SLV FO 13	-574	238	2149	-417.16	-1.96	-200.79
1124	SLV FO 14	-696	243	2149	-416.25	-1.84	-243.39
1124	SLV FO 15	-596	-72	3576	-673.69	-2.42	-208.31
1124	SLV FO 16	-717	-66	3576	-672.79	-2.3	-250.91
1124	CRTFP Ux+	0	0	0	0	0	0
1124	CRTFP Ux-	0	0	0	0	0	0
1124	CRTFP Uy+	0	0	0	0	0	0
1124	CRTFP Uy-	0	0	0	0	0	0
1125	SLU 1	2	77	2559	-517.08	-1.19	1.03
1125	SLU 2	2	92	2494	-504.64	-1.15	0.97
1125	SLU 3	2	78	2632	-530.3	-1.23	1.09
1125	SLU 4	2	87	2593	-522.83	-1.2	1.05
1125	SLU 5	2	93	2541	-513.17	-1.17	1.05
1125	SLU 6	3	79	2679	-538.83	-1.25	1.17
1125	SLU 7	3	88	2640	-531.37	-1.22	1.13
1125	SLU 8	3	78	2653	-534.15	-1.23	1.19
1125	SLU 9	3	87	2614	-526.69	-1.21	1.16
1125	SLU 10	2	99	2836	-568.99	-1.33	0.94
1125	SLU 11	2	85	2974	-594.65	-1.41	1.06
1125	SLU 12	2	94	2935	-587.19	-1.38	1.02
1125	SLU 13	2	99	2883	-577.53	-1.35	1.02
1125	SLU 14	2	86	3021	-603.19	-1.43	1.14
1125	SLU 15	2	95	2982	-595.72	-1.4	1.1
1125	SLU 16	3	85	2995	-598.51	-1.42	1.17
1125	SLU 17	2	94	2956	-591.04	-1.39	1.13
1125	SLU 18	2	86	3047	-609.02	-1.45	0.99
1125	SLU 19	2	95	3008	-601.55	-1.43	0.95
1125	SLU 20	2	87	3094	-617.55	-1.47	1.07
1125	SLU 21	2	96	3055	-610.09	-1.45	1.04
1125	SLU 22	2	86	3011	-601.56	-1.42	0.93
1125	SLU 23	2	101	2946	-589.11	-1.38	0.86
1125	SLU 24	2	88	3084	-614.77	-1.46	0.98
1125	SLU 25	2	97	3045	-607.31	-1.43	0.94
1125	SLU 26	2	102	2993	-597.65	-1.4	0.94
1125	SLU 27	2	89	3131	-623.31	-1.48	1.06
1125	SLU 28	2	98	3092	-615.85	-1.45	1.02
1125	SLU 29	2	88	3105	-618.63	-1.47	1.09
1125	SLU 30	2	97	3066	-611.17	-1.44	1.05
1125	SLU 31	1	108	3287	-653.47	-1.56	0.84
1125	SLU 32	2	95	3425	-679.13	-1.64	0.95
1125	SLU 33	2	104	3386	-671.66	-1.61	0.91
1125	SLU 34	2	109	3334	-662.01	-1.59	0.92
1125	SLU 35	2	96	3473	-687.67	-1.66	1.03
1125	SLU 36	2	105	3433	-680.2	-1.64	1
1125	SLU 37	2	95	3447	-682.99	-1.65	1.06
1125	SLU 38	2	104	3408	-675.52	-1.62	1.02
1125	SLU 39	2	96	3499	-693.5	-1.68	0.89
1125	SLU 40	2	105	3460	-686.03	-1.66	0.85
1125	SLU 41	2	97	3546	-702.03	-1.71	0.97
1125	SLU 42	2	106	3507	-694.57	-1.68	0.93
1125	SLU 43	3	96	3172	-643.24	-1.47	1.38
1125	SLU 44	3	111	3107	-630.8	-1.43	1.31
1125	SLU 45	3	98	3245	-656.45	-1.5	1.43
1125	SLU 46	3	107	3206	-648.99	-1.48	1.39
1125	SLU 47	3	112	3154	-639.33	-1.45	1.39
1125	SLU 48	3	99	3292	-664.99	-1.52	1.51
1125	SLU 49	3	108	3253	-657.53	-1.5	1.47
1125	SLU 50	4	98	3266	-660.31	-1.51	1.54
1125	SLU 51	3	107	3227	-652.85	-1.49	1.5
1125	SLU 52	3	118	3448	-695.15	-1.61	1.29
1125	SLU 53	3	105	3587	-720.81	-1.68	1.4
1125	SLU 54	3	114	3548	-713.34	-1.66	1.36
1125	SLU 55	3	119	3496	-703.69	-1.63	1.37
1125	SLU 56	3	105	3634	-729.35	-1.71	1.48
1125	SLU 57	3	115	3595	-721.88	-1.68	1.45
1125	SLU 58	3	105	3608	-724.67	-1.69	1.51
1125	SLU 59	3	114	3569	-717.2	-1.67	1.47
1125	SLU 60	3	106	3660	-735.18	-1.73	1.34
1125	SLU 61	3	115	3621	-727.71	-1.7	1.3
1125	SLU 62	3	107	3707	-743.71	-1.75	1.42
1125	SLU 63	3	116	3668	-736.25	-1.72	1.38
1125	SLU 64	3	106	3624	-727.72	-1.7	1.27
1125	SLU 65	2	121	3559	-715.27	-1.66	1.21
1125	SLU 66	3	108	3697	-740.93	-1.74	1.33
1125	SLU 67	3	117	3658	-733.47	-1.71	1.29
1125	SLU 68	3	122	3606	-723.81	-1.68	1.29
1125	SLU 69	3	108	3744	-749.47	-1.76	1.41
1125	SLU 70	3	117	3705	-742	-1.73	1.37
1125	SLU 71	3	108	3718	-744.79	-1.75	1.44
1125	SLU 72	3	117	3679	-737.33	-1.72	1.4
1125	SLU 73	2	128	3900	-779.63	-1.84	1.18
1125	SLU 74	3	114	4038	-805.29	-1.92	1.3
1125	SLU 75	3	123	3999	-797.82	-1.89	1.26



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1125	SLU 76	3	129	3947	-788.17	-1.86	1.26
1125	SLU 77	3	115	4085	-813.83	-1.94	1.38
1125	SLU 78	3	124	4046	-806.36	-1.91	1.34
1125	SLU 79	3	114	4059	-809.15	-1.93	1.41
1125	SLU 80	3	123	4020	-801.68	-1.9	1.37
1125	SLU 81	2	116	4111	-819.65	-1.96	1.23
1125	SLU 82	2	125	4072	-812.19	-1.94	1.19
1125	SLU 83	3	117	4159	-828.19	-1.98	1.32
1125	SLU 84	3	126	4120	-820.73	-1.96	1.28
1125	SLE RA 1	2	79	2688	-541.22	-1.26	1
1125	SLE RA 2	2	89	2645	-532.92	-1.23	0.96
1125	SLE RA 3	2	81	2737	-550.03	-1.28	1.04
1125	SLE RA 4	2	87	2711	-545.05	-1.26	1.01
1125	SLE RA 5	2	90	2676	-538.61	-1.24	1.01
1125	SLE RA 6	2	81	2768	-555.72	-1.3	1.09
1125	SLE RA 7	2	87	2742	-550.74	-1.28	1.07
1125	SLE RA 8	2	80	2751	-552.6	-1.29	1.11
1125	SLE RA 9	2	87	2725	-547.62	-1.27	1.08
1125	SLE RA 10	2	94	2872	-575.82	-1.35	0.94
1125	SLE RA 11	2	85	2965	-592.93	-1.4	1.02
1125	SLE RA 12	2	91	2939	-587.95	-1.38	0.99
1125	SLE RA 13	2	95	2904	-581.52	-1.37	0.99
1125	SLE RA 14	2	86	2996	-598.62	-1.42	1.07
1125	SLE RA 15	2	92	2970	-593.64	-1.4	1.05
1125	SLE RA 16	2	85	2979	-595.5	-1.41	1.09
1125	SLE RA 17	2	91	2953	-590.53	-1.39	1.07
1125	SLE RA 18	2	86	3013	-602.51	-1.43	0.98
1125	SLE RA 19	2	92	2987	-597.53	-1.41	0.95
1125	SLE RA 20	2	86	3045	-608.2	-1.45	1.03
1125	SLE RA 21	2	92	3019	-603.22	-1.43	1
1125	SLE FR 1	2	79	2688	-541.22	-1.26	1
1125	SLE FR 2	2	81	2680	-539.56	-1.25	0.99
1125	SLE FR 3	2	80	2701	-543.49	-1.26	1.02
1125	SLE FR 4	2	83	2777	-557.94	-1.3	0.99
1125	SLE FR 5	2	82	2798	-561.88	-1.32	1.02
1125	SLE FR 6	2	83	2851	-571.86	-1.34	0.99
1125	SLE QP 1	2	79	2688	-541.22	-1.26	1
1125	SLE QP 2	2	81	2786	-559.6	-1.31	0.99
1125	SLD 1	406	160	2284	-458.73	-0.15	142.43
1125	SLD 2	336	165	2282	-457.57	-0.08	117.76
1125	SLD 3	417	-17	3099	-614.52	-0.66	146.28
1125	SLD 4	346	-12	3098	-613.36	-0.6	121.6
1125	SLD 5	120	372	1398	-293.27	-0.19	42.04
1125	SLD 6	73	375	1397	-292.51	-0.15	25.74
1125	SLD 7	156	-217	4117	-812.57	-1.91	54.86
1125	SLD 8	109	-214	4116	-811.8	-1.86	38.56
1125	SLD 9	-105	376	1455	-307.41	-0.76	-36.58
1125	SLD 10	-152	379	1454	-306.64	-0.71	-52.87
1125	SLD 11	-69	-212	4175	-826.7	-2.47	-23.76
1125	SLD 12	-115	-209	4173	-825.93	-2.43	-40.05
1125	SLD 13	-342	175	2474	-505.85	-2.02	-119.61
1125	SLD 14	-413	179	2472	-504.69	-1.96	-144.29
1125	SLD 15	-331	-2	3290	-661.63	-2.54	-115.77
1125	SLD 16	-402	3	3288	-660.47	-2.47	-140.44
1125	SLV 1	635	209	1979	-397.83	0.51	222.32
1125	SLV 2	524	216	1976	-396.01	0.62	183.66
1125	SLV 3	652	-76	3298	-649.69	-0.32	228.57
1125	SLV 4	541	-69	3295	-647.87	-0.21	189.91
1125	SLV 5	186	551	544	-129.41	0.48	65.13
1125	SLV 6	111	556	542	-128.19	0.55	39.1
1125	SLV 7	244	-400	4940	-968.96	-2.29	85.96
1125	SLV 8	170	-395	4938	-967.74	-2.22	59.93
1125	SLV 9	-166	558	633	-151.47	-0.4	-57.94
1125	SLV 10	-240	563	631	-150.24	-0.33	-83.97
1125	SLV 11	-107	-393	5029	-991.02	-3.17	-37.11
1125	SLV 12	-182	-388	5027	-989.79	-3.1	-63.14
1125	SLV 13	-537	232	2276	-471.33	-2.41	-187.92
1125	SLV 14	-648	239	2273	-469.51	-2.3	-226.58
1125	SLV 15	-520	-53	3595	-723.2	-3.24	-181.67
1125	SLV 16	-630	-46	3592	-721.38	-3.13	-220.33
1125	SLV FO 1	698	222	1899	-381.65	0.7	244.46
1125	SLV FO 2	576	230	1896	-379.65	0.81	201.93
1125	SLV FO 3	717	-92	3349	-658.7	-0.22	251.33
1125	SLV FO 4	595	-84	3346	-656.7	-0.11	208.8
1125	SLV FO 5	204	598	320	-86.4	0.66	71.55
1125	SLV FO 6	122	603	318	-85.05	0.73	42.91
1125	SLV FO 7	269	-448	5156	-1009.9	-2.39	94.46
1125	SLV FO 8	187	-443	5153	-1008.55	-2.31	65.82
1125	SLV FO 9	-183	606	418	-110.65	-0.31	-63.83
1125	SLV FO 10	-265	611	416	-109.31	-0.23	-92.47
1125	SLV FO 11	-118	-441	5254	-1034.16	-3.35	-40.93
1125	SLV FO 12	-200	-435	5251	-1032.81	-3.28	-69.56
1125	SLV FO 13	-591	247	2225	-462.51	-2.51	-206.81
1125	SLV FO 14	-713	255	2222	-460.51	-2.4	-249.34
1125	SLV FO 15	-572	-67	3676	-739.56	-3.43	-199.94
1125	SLV FO 16	-694	-59	3673	-737.56	-3.32	-242.47
1125	CRTFP Ux+	0	0	0	0	0	0
1125	CRTFP Ux-	0	0	0	0	0	0
1125	CRTFP Uy+	0	0	0	0	0	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1125	CRTFP Uy-	0	0	0	0	0	0
1126	SLU 1	5	85	2610	-567.1	-1.72	1.8
1126	SLU 2	4	100	2543	-553.27	-1.66	1.69
1126	SLU 3	5	86	2685	-581.79	-1.77	1.88
1126	SLU 4	5	96	2644	-573.49	-1.74	1.82
1126	SLU 5	4	101	2591	-562.76	-1.7	1.8
1126	SLU 6	5	87	2733	-591.29	-1.81	1.99
1126	SLU 7	5	96	2693	-582.99	-1.77	1.93
1126	SLU 8	5	86	2706	-586.09	-1.79	2.01
1126	SLU 9	5	96	2666	-577.79	-1.75	1.95
1126	SLU 10	4	108	2892	-625.1	-1.92	1.72
1126	SLU 11	5	94	3034	-653.63	-2.03	1.91
1126	SLU 12	5	103	2994	-645.32	-2	1.85
1126	SLU 13	4	109	2940	-634.59	-1.96	1.83
1126	SLU 14	5	95	3082	-663.12	-2.07	2.02
1126	SLU 15	5	104	3042	-654.82	-2.03	1.96
1126	SLU 16	5	94	3055	-657.92	-2.05	2.04
1126	SLU 17	5	103	3015	-649.62	-2.01	1.98
1126	SLU 18	5	96	3109	-669.72	-2.09	1.84
1126	SLU 19	4	105	3069	-661.42	-2.06	1.78
1126	SLU 20	5	97	3157	-679.21	-2.13	1.95
1126	SLU 21	5	106	3117	-670.91	-2.09	1.88
1126	SLU 22	4	96	3072	-661.26	-2.06	1.8
1126	SLU 23	4	111	3005	-647.43	-2	1.7
1126	SLU 24	5	97	3146	-675.95	-2.11	1.89
1126	SLU 25	4	107	3106	-667.65	-2.08	1.82
1126	SLU 26	4	112	3053	-656.92	-2.03	1.8
1126	SLU 27	5	98	3194	-685.45	-2.14	1.99
1126	SLU 28	5	107	3154	-677.15	-2.11	1.93
1126	SLU 29	5	97	3168	-680.25	-2.13	2.01
1126	SLU 30	5	106	3128	-671.95	-2.09	1.95
1126	SLU 31	4	119	3354	-719.26	-2.26	1.73
1126	SLU 32	5	105	3495	-747.79	-2.37	1.92
1126	SLU 33	4	114	3455	-739.49	-2.33	1.85
1126	SLU 34	4	120	3402	-728.75	-2.29	1.83
1126	SLU 35	5	106	3543	-757.28	-2.4	2.02
1126	SLU 36	5	115	3503	-748.98	-2.37	1.96
1126	SLU 37	5	105	3517	-752.08	-2.38	2.04
1126	SLU 38	5	114	3477	-743.78	-2.35	1.98
1126	SLU 39	4	107	3570	-763.88	-2.43	1.85
1126	SLU 40	4	116	3530	-755.58	-2.4	1.78
1126	SLU 41	5	108	3618	-773.37	-2.46	1.95
1126	SLU 42	5	117	3578	-765.07	-2.43	1.89
1126	SLU 43	6	106	3235	-704.95	-2.12	2.34
1126	SLU 44	6	122	3168	-691.12	-2.07	2.23
1126	SLU 45	6	108	3309	-719.64	-2.17	2.42
1126	SLU 46	6	117	3269	-711.34	-2.14	2.36
1126	SLU 47	6	123	3216	-700.61	-2.1	2.34
1126	SLU 48	6	109	3357	-729.13	-2.21	2.53
1126	SLU 49	6	118	3317	-720.83	-2.17	2.46
1126	SLU 50	6	108	3331	-723.94	-2.19	2.55
1126	SLU 51	6	117	3291	-715.64	-2.15	2.48
1126	SLU 52	6	129	3517	-762.95	-2.33	2.26
1126	SLU 53	6	116	3658	-791.47	-2.43	2.45
1126	SLU 54	6	125	3618	-783.17	-2.4	2.39
1126	SLU 55	6	130	3565	-772.44	-2.36	2.37
1126	SLU 56	6	117	3707	-800.97	-2.47	2.56
1126	SLU 57	6	126	3667	-792.67	-2.43	2.49
1126	SLU 58	6	116	3680	-795.77	-2.45	2.58
1126	SLU 59	6	125	3640	-787.47	-2.41	2.51
1126	SLU 60	6	117	3734	-807.57	-2.49	2.38
1126	SLU 61	6	127	3693	-799.27	-2.46	2.32
1126	SLU 62	6	118	3782	-817.06	-2.53	2.49
1126	SLU 63	6	128	3742	-808.76	-2.49	2.42
1126	SLU 64	6	117	3696	-799.11	-2.46	2.34
1126	SLU 65	5	133	3629	-785.28	-2.4	2.24
1126	SLU 66	6	119	3771	-813.8	-2.51	2.43
1126	SLU 67	6	128	3731	-805.5	-2.48	2.36
1126	SLU 68	6	133	3678	-794.77	-2.44	2.34
1126	SLU 69	6	120	3819	-823.29	-2.54	2.53
1126	SLU 70	6	129	3779	-814.99	-2.51	2.47
1126	SLU 71	6	119	3793	-818.1	-2.53	2.55
1126	SLU 72	6	128	3752	-809.8	-2.49	2.49
1126	SLU 73	5	140	3979	-857.11	-2.66	2.27
1126	SLU 74	6	127	4120	-885.63	-2.77	2.46
1126	SLU 75	6	136	4080	-877.33	-2.74	2.39
1126	SLU 76	6	141	4027	-866.6	-2.69	2.37
1126	SLU 77	6	128	4168	-895.13	-2.8	2.56
1126	SLU 78	6	137	4128	-886.83	-2.77	2.5
1126	SLU 79	6	127	4142	-889.93	-2.79	2.58
1126	SLU 80	6	136	4102	-881.63	-2.75	2.52
1126	SLU 81	6	128	4195	-901.73	-2.83	2.38
1126	SLU 82	6	138	4155	-893.43	-2.8	2.32
1126	SLU 83	6	129	4243	-911.22	-2.86	2.49
1126	SLU 84	6	138	4203	-902.92	-2.83	2.43
1126	SLE RA 1	4	88	2742	-594.01	-1.82	1.8
1126	SLE RA 2	4	98	2697	-584.78	-1.78	1.73
1126	SLE RA 3	5	89	2792	-603.8	-1.85	1.86
1126	SLE RA 4	5	95	2765	-598.27	-1.83	1.81



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1126	SLE RA 5	4	99	2729	-591.11	-1.8	1.8
1126	SLE RA 6	5	89	2824	-610.13	-1.87	1.93
1126	SLE RA 7	5	96	2797	-604.6	-1.85	1.88
1126	SLE RA 8	5	89	2806	-606.66	-1.86	1.94
1126	SLE RA 9	5	95	2779	-601.13	-1.84	1.9
1126	SLE RA 10	4	103	2930	-632.67	-1.95	1.75
1126	SLE RA 11	5	94	3024	-651.69	-2.03	1.88
1126	SLE RA 12	5	100	2998	-646.15	-2	1.83
1126	SLE RA 13	4	104	2962	-639	-1.97	1.82
1126	SLE RA 14	5	95	3056	-658.02	-2.05	1.95
1126	SLE RA 15	5	101	3030	-652.48	-2.02	1.9
1126	SLE RA 16	5	94	3039	-654.55	-2.04	1.96
1126	SLE RA 17	5	100	3012	-649.02	-2.01	1.92
1126	SLE RA 18	4	95	3074	-662.42	-2.07	1.83
1126	SLE RA 19	4	101	3048	-656.88	-2.04	1.79
1126	SLE RA 20	5	96	3106	-668.75	-2.09	1.9
1126	SLE RA 21	5	102	3080	-663.21	-2.06	1.86
1126	SLE FR 1	4	88	2742	-594.01	-1.82	1.8
1126	SLE FR 2	4	90	2733	-592.16	-1.81	1.79
1126	SLE FR 3	5	88	2755	-596.54	-1.83	1.83
1126	SLE FR 4	4	92	2833	-612.69	-1.88	1.79
1126	SLE FR 5	5	90	2854	-617.06	-1.9	1.84
1126	SLE FR 6	4	92	2908	-628.21	-1.94	1.81
1126	SLE QP 1	4	88	2742	-594.01	-1.82	1.8
1126	SLE QP 2	4	90	2842	-614.53	-1.89	1.81
1126	SLD 1	408	169	2298	-493.94	-0.62	143.09
1126	SLD 2	338	176	2294	-492.17	-0.56	118.47
1126	SLD 3	418	-10	3135	-666.82	-1.33	146.59
1126	SLD 4	348	-4	3131	-665.06	-1.27	121.97
1126	SLD 5	123	385	1410	-316.46	-0.46	43.32
1126	SLD 6	77	390	1407	-315.3	-0.42	27.07
1126	SLD 7	156	-214	4200	-892.74	-2.8	54.98
1126	SLD 8	110	-210	4197	-891.58	-2.76	38.73
1126	SLD 9	-101	390	1486	-337.48	-1.02	-35.11
1126	SLD 10	-147	394	1484	-336.32	-0.98	-51.37
1126	SLD 11	-68	-210	4276	-913.76	-3.37	-23.45
1126	SLD 12	-114	-205	4273	-912.6	-3.33	-39.71
1126	SLD 13	-339	184	2553	-564	-2.52	-118.35
1126	SLD 14	-409	190	2549	-562.24	-2.46	-142.97
1126	SLD 15	-329	4	3390	-736.89	-3.22	-114.85
1126	SLD 16	-399	11	3386	-735.12	-3.16	-139.48
1126	SLV 1	636	219	1969	-421.52	0.11	222.9
1126	SLV 2	526	229	1963	-418.75	0.2	184.32
1126	SLV 3	652	-72	3322	-701.02	-1.03	228.6
1126	SLV 4	542	-62	3316	-698.25	-0.94	190.03
1126	SLV 5	190	567	529	-133.24	0.41	66.68
1126	SLV 6	116	574	525	-131.38	0.48	40.71
1126	SLV 7	244	-401	5039	-1064.89	-3.38	85.7
1126	SLV 8	169	-394	5035	-1063.03	-3.31	59.73
1126	SLV 9	-161	574	649	-166.03	-0.47	-56.11
1126	SLV 10	-235	581	644	-164.17	-0.41	-82.08
1126	SLV 11	-107	-394	5158	-1097.68	-4.26	-37.09
1126	SLV 12	-181	-387	5154	-1095.82	-4.2	-63.06
1126	SLV 13	-533	242	2367	-530.81	-2.85	-186.41
1126	SLV 14	-643	252	2361	-528.04	-2.75	-224.99
1126	SLV 15	-517	-49	3720	-810.31	-3.99	-180.7
1126	SLV 16	-627	-38	3714	-807.54	-3.89	-219.28
1126	SLV FO 1	700	231	1882	-402.22	0.31	245
1126	SLV FO 2	578	242	1875	-399.18	0.41	202.57
1126	SLV FO 3	717	-88	3371	-709.67	-0.95	251.28
1126	SLV FO 4	596	-77	3364	-706.62	-0.84	208.85
1126	SLV FO 5	209	615	298	-85.11	0.64	73.17
1126	SLV FO 6	127	622	293	-83.06	0.71	44.6
1126	SLV FO 7	268	-450	5259	-1109.93	-3.52	94.09
1126	SLV FO 8	186	-443	5254	-1107.88	-3.45	65.52
1126	SLV FO 9	-177	623	429	-121.18	-0.33	-61.9
1126	SLV FO 10	-259	630	424	-119.13	-0.26	-90.47
1126	SLV FO 11	-118	-442	5390	-1146	-4.5	-40.98
1126	SLV FO 12	-200	-435	5385	-1143.95	-4.43	-69.55
1126	SLV FO 13	-587	257	2320	-522.44	-2.95	-205.23
1126	SLV FO 14	-708	268	2313	-519.4	-2.84	-247.66
1126	SLV FO 15	-569	-62	3808	-829.88	-4.2	-198.95
1126	SLV FO 16	-691	-51	3801	-826.84	-4.09	-241.39
1126	CRTFP Ux+	0	0	0	0	0	0
1126	CRTFP Ux-	0	0	0	0	0	0
1126	CRTFP Uy+	0	0	0	0	0	0
1126	CRTFP Uy-	0	0	0	0	0	0
1127	SLU 1	7	92	2675	-631.55	-2.01	2.59
1127	SLU 2	6	107	2606	-616.03	-1.94	2.44
1127	SLU 3	7	94	2752	-648.17	-2.07	2.71
1127	SLU 4	7	103	2710	-638.85	-2.03	2.62
1127	SLU 5	7	108	2656	-626.76	-1.98	2.57
1127	SLU 6	8	95	2801	-658.91	-2.11	2.84
1127	SLU 7	7	104	2760	-649.59	-2.07	2.75
1127	SLU 8	8	94	2774	-653.03	-2.09	2.85
1127	SLU 9	7	103	2733	-643.71	-2.05	2.76
1127	SLU 10	7	116	2965	-697.47	-2.24	2.53
1127	SLU 11	7	102	3111	-729.61	-2.37	2.8
1127	SLU 12	7	112	3069	-720.29	-2.33	2.71



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1127	SLU 13	7	117	3015	-708.2	-2.28	2.66
1127	SLU 14	8	103	3160	-740.34	-2.41	2.93
1127	SLU 15	7	113	3119	-731.03	-2.37	2.84
1127	SLU 16	8	102	3133	-734.47	-2.39	2.94
1127	SLU 17	7	112	3091	-725.15	-2.35	2.85
1127	SLU 18	7	104	3188	-747.9	-2.43	2.72
1127	SLU 19	7	114	3147	-738.58	-2.4	2.63
1127	SLU 20	7	105	3237	-758.63	-2.47	2.85
1127	SLU 21	7	115	3196	-749.32	-2.44	2.76
1127	SLU 22	7	104	3149	-738.18	-2.4	2.7
1127	SLU 23	7	119	3080	-722.65	-2.33	2.55
1127	SLU 24	7	106	3226	-754.79	-2.46	2.82
1127	SLU 25	7	115	3185	-745.47	-2.42	2.73
1127	SLU 26	7	120	3130	-733.38	-2.37	2.68
1127	SLU 27	8	107	3275	-765.53	-2.5	2.95
1127	SLU 28	8	116	3234	-756.21	-2.46	2.86
1127	SLU 29	8	106	3248	-759.65	-2.48	2.96
1127	SLU 30	8	115	3207	-750.33	-2.44	2.87
1127	SLU 31	7	128	3439	-804.09	-2.63	2.65
1127	SLU 32	8	115	3585	-836.23	-2.76	2.91
1127	SLU 33	7	124	3544	-826.91	-2.72	2.82
1127	SLU 34	7	129	3489	-814.82	-2.67	2.78
1127	SLU 35	8	115	3634	-846.97	-2.8	3.04
1127	SLU 36	8	125	3593	-837.65	-2.76	2.95
1127	SLU 37	8	114	3607	-841.09	-2.78	3.05
1127	SLU 38	8	124	3566	-831.77	-2.74	2.96
1127	SLU 39	7	116	3662	-854.52	-2.82	2.83
1127	SLU 40	7	126	3621	-845.2	-2.79	2.75
1127	SLU 41	8	117	3712	-865.26	-2.86	2.96
1127	SLU 42	7	127	3670	-855.94	-2.83	2.87
1127	SLU 43	9	115	3315	-784.46	-2.48	3.33
1127	SLU 44	8	131	3246	-768.94	-2.41	3.18
1127	SLU 45	9	117	3392	-801.08	-2.54	3.44
1127	SLU 46	9	126	3350	-791.76	-2.5	3.35
1127	SLU 47	9	132	3296	-779.67	-2.45	3.31
1127	SLU 48	10	118	3441	-811.82	-2.58	3.57
1127	SLU 49	9	127	3400	-802.5	-2.54	3.48
1127	SLU 50	10	117	3414	-805.94	-2.56	3.58
1127	SLU 51	9	126	3372	-796.62	-2.52	3.5
1127	SLU 52	9	140	3605	-850.38	-2.71	3.27
1127	SLU 53	9	126	3751	-882.52	-2.84	3.53
1127	SLU 54	9	135	3709	-873.2	-2.8	3.45
1127	SLU 55	9	141	3654	-861.11	-2.75	3.4
1127	SLU 56	10	127	3800	-893.26	-2.88	3.66
1127	SLU 57	9	136	3759	-883.94	-2.84	3.58
1127	SLU 58	10	126	3773	-887.38	-2.85	3.68
1127	SLU 59	9	135	3731	-878.06	-2.82	3.59
1127	SLU 60	9	128	3828	-900.81	-2.9	3.46
1127	SLU 61	9	137	3786	-891.49	-2.86	3.37
1127	SLU 62	9	129	3877	-911.55	-2.94	3.59
1127	SLU 63	9	138	3836	-902.23	-2.9	3.5
1127	SLU 64	9	127	3789	-891.09	-2.87	3.44
1127	SLU 65	9	143	3720	-875.56	-2.8	3.29
1127	SLU 66	9	129	3866	-907.7	-2.93	3.56
1127	SLU 67	9	138	3825	-898.38	-2.89	3.47
1127	SLU 68	9	144	3770	-886.29	-2.84	3.42
1127	SLU 69	10	130	3915	-918.44	-2.97	3.69
1127	SLU 70	9	139	3874	-909.12	-2.93	3.6
1127	SLU 71	10	129	3888	-912.56	-2.94	3.7
1127	SLU 72	10	138	3847	-903.24	-2.91	3.61
1127	SLU 73	9	152	4079	-957	-3.1	3.38
1127	SLU 74	10	138	4225	-989.14	-3.23	3.65
1127	SLU 75	9	147	4183	-979.82	-3.19	3.56
1127	SLU 76	9	153	4129	-967.73	-3.14	3.51
1127	SLU 77	10	139	4274	-999.88	-3.26	3.78
1127	SLU 78	10	148	4233	-990.56	-3.23	3.69
1127	SLU 79	10	138	4247	-994	-3.24	3.79
1127	SLU 80	10	147	4206	-984.68	-3.21	3.7
1127	SLU 81	9	140	4302	-1007.43	-3.29	3.57
1127	SLU 82	9	149	4261	-998.11	-3.25	3.48
1127	SLU 83	10	141	4352	-1018.17	-3.33	3.7
1127	SLU 84	9	150	4310	-1008.85	-3.29	3.61
1127	SLE RA 1	7	95	2811	-662.02	-2.12	2.62
1127	SLE RA 2	7	106	2765	-651.66	-2.08	2.52
1127	SLE RA 3	7	96	2862	-673.09	-2.16	2.7
1127	SLE RA 4	7	103	2834	-666.88	-2.13	2.64
1127	SLE RA 5	7	106	2798	-658.82	-2.1	2.61
1127	SLE RA 6	7	97	2895	-680.25	-2.19	2.79
1127	SLE RA 7	7	103	2867	-674.04	-2.16	2.73
1127	SLE RA 8	7	96	2877	-676.33	-2.17	2.79
1127	SLE RA 9	7	103	2849	-670.12	-2.15	2.73
1127	SLE RA 10	7	112	3004	-705.96	-2.28	2.58
1127	SLE RA 11	7	102	3101	-727.39	-2.36	2.76
1127	SLE RA 12	7	109	3073	-721.17	-2.33	2.7
1127	SLE RA 13	7	112	3037	-713.12	-2.3	2.67
1127	SLE RA 14	8	103	3134	-734.54	-2.38	2.85
1127	SLE RA 15	7	109	3106	-728.33	-2.36	2.79
1127	SLE RA 16	8	102	3116	-730.63	-2.37	2.86
1127	SLE RA 17	7	109	3088	-724.42	-2.35	2.8



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1127	SLE RA 18	7	104	3153	-739.58	-2.4	2.71
1127	SLE RA 19	7	110	3125	-733.37	-2.38	2.65
1127	SLE RA 20	7	104	3185	-746.74	-2.43	2.79
1127	SLE RA 21	7	111	3158	-740.53	-2.4	2.74
1127	SLE FR 1	7	95	2811	-662.02	-2.12	2.62
1127	SLE FR 2	7	97	2801	-659.95	-2.11	2.6
1127	SLE FR 3	7	95	2824	-664.88	-2.13	2.66
1127	SLE FR 4	7	100	2904	-683.22	-2.2	2.63
1127	SLE FR 5	7	98	2926	-688.15	-2.21	2.68
1127	SLE FR 6	7	99	2982	-700.8	-2.26	2.66
1127	SLE QP 1	7	95	2811	-662.02	-2.12	2.62
1127	SLE QP 2	7	98	2913	-685.29	-2.2	2.65
1127	SLD 1	410	177	2325	-543.16	-0.89	143.7
1127	SLD 2	340	186	2319	-540.86	-0.84	119.14
1127	SLD 3	419	-6	3188	-737.03	-1.68	146.89
1127	SLD 4	349	3	3182	-734.73	-1.62	122.33
1127	SLD 5	127	398	1429	-349.03	-0.63	44.55
1127	SLD 6	80	403	1425	-347.51	-0.59	28.33
1127	SLD 7	157	-213	4305	-995.26	-3.25	55.18
1127	SLD 8	111	-207	4301	-993.74	-3.21	38.96
1127	SLD 9	-97	402	1525	-376.83	-1.2	-33.67
1127	SLD 10	-143	408	1521	-375.32	-1.16	-49.89
1127	SLD 11	-67	-208	4402	-1023.06	-3.82	-23.04
1127	SLD 12	-113	-202	4397	-1021.54	-3.78	-39.25
1127	SLD 13	-335	193	2645	-635.84	-2.78	-117.03
1127	SLD 14	-405	201	2639	-633.54	-2.73	-141.59
1127	SLD 15	-326	10	3508	-829.71	-3.57	-113.84
1127	SLD 16	-396	18	3502	-827.41	-3.52	-138.4
1127	SLV 1	638	227	1971	-458.1	-0.14	223.36
1127	SLV 2	528	240	1961	-454.5	-0.05	184.88
1127	SLV 3	653	-69	3366	-771.51	-1.41	228.6
1127	SLV 4	542	-56	3356	-767.91	-1.32	190.12
1127	SLV 5	194	583	517	-142.47	0.33	68.1
1127	SLV 6	120	592	510	-140.04	0.39	42.2
1127	SLV 7	244	-404	5166	-1187.16	-3.91	85.55
1127	SLV 8	169	-395	5160	-1184.74	-3.85	59.65
1127	SLV 9	-156	590	666	-185.84	-0.56	-54.35
1127	SLV 10	-230	599	660	-183.41	-0.5	-80.26
1127	SLV 11	-106	-396	5316	-1230.53	-4.79	-36.9
1127	SLV 12	-180	-387	5310	-1228.11	-4.74	-62.81
1127	SLV 13	-528	251	2470	-602.67	-3.09	-184.82
1127	SLV 14	-639	265	2461	-599.07	-3	-223.3
1127	SLV 15	-514	-45	3865	-916.08	-4.36	-179.59
1127	SLV 16	-624	-31	3856	-912.47	-4.27	-218.07
1127	SLV FO 1	701	239	1877	-435.38	0.07	245.43
1127	SLV FO 2	580	254	1866	-431.42	0.16	203.11
1127	SLV FO 3	717	-86	3411	-780.13	-1.33	251.19
1127	SLV FO 4	596	-71	3401	-776.17	-1.23	208.87
1127	SLV FO 5	213	631	277	-88.18	0.58	74.65
1127	SLV FO 6	131	641	270	-85.52	0.64	46.15
1127	SLV FO 7	267	-454	5392	-1237.35	-4.08	93.84
1127	SLV FO 8	186	-444	5385	-1234.68	-4.02	65.35
1127	SLV FO 9	-172	639	442	-135.89	-0.39	-60.05
1127	SLV FO 10	-253	649	435	-133.22	-0.33	-88.55
1127	SLV FO 11	-118	-446	5557	-1285.06	-5.05	-40.86
1127	SLV FO 12	-199	-436	5550	-1282.39	-4.99	-69.35
1127	SLV FO 13	-582	267	2426	-594.4	-3.17	-203.57
1127	SLV FO 14	-703	282	2415	-590.44	-3.08	-245.9
1127	SLV FO 15	-566	-59	3960	-939.15	-4.57	-197.81
1127	SLV FO 16	-687	-44	3950	-935.19	-4.48	-240.14
1127	CRTFP Ux+	0	0	0	0	0	0
1127	CRTFP Ux-	0	0	0	0	0	0
1127	CRTFP Uy+	0	0	0	0	0	0
1127	CRTFP Uy-	0	0	0	0	0	0
1128	SLU 1	9	98	2744	-705.95	-1.94	3.42
1128	SLU 2	9	113	2673	-688.6	-1.88	3.23
1128	SLU 3	10	99	2823	-724.81	-1.99	3.58
1128	SLU 4	9	109	2780	-714.4	-1.96	3.46
1128	SLU 5	9	114	2724	-700.79	-1.92	3.38
1128	SLU 6	10	100	2874	-737	-2.03	3.73
1128	SLU 7	10	110	2831	-726.59	-2	3.61
1128	SLU 8	10	99	2846	-730.33	-2.01	3.73
1128	SLU 9	10	109	2803	-719.92	-1.98	3.62
1128	SLU 10	9	123	3042	-781.09	-2.16	3.39
1128	SLU 11	10	109	3192	-817.29	-2.28	3.74
1128	SLU 12	10	119	3149	-806.88	-2.24	3.62
1128	SLU 13	10	124	3093	-793.28	-2.2	3.55
1128	SLU 14	11	110	3243	-829.48	-2.32	3.89
1128	SLU 15	10	120	3200	-819.07	-2.28	3.77
1128	SLU 16	11	109	3215	-822.81	-2.3	3.9
1128	SLU 17	10	119	3172	-812.4	-2.26	3.78
1128	SLU 18	10	111	3272	-838.07	-2.34	3.65
1128	SLU 19	10	121	3229	-827.66	-2.31	3.54
1128	SLU 20	10	112	3322	-850.26	-2.38	3.81
1128	SLU 21	10	122	3280	-839.85	-2.34	3.69
1128	SLU 22	10	110	3232	-826.89	-2.31	3.66
1128	SLU 23	9	126	3161	-809.55	-2.25	3.47
1128	SLU 24	10	112	3311	-845.75	-2.36	3.81
1128	SLU 25	10	122	3268	-835.34	-2.33	3.7



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
1128	SLU 26	10	127	3212	-821.74	-2.29	3.62
1128	SLU 27	11	113	3361	-857.94	-2.4	3.97
1128	SLU 28	11	123	3319	-847.53	-2.37	3.85
1128	SLU 29	11	112	3333	-851.27	-2.38	3.97
1128	SLU 30	11	122	3291	-840.86	-2.35	3.85
1128	SLU 31	10	136	3530	-902.03	-2.53	3.63
1128	SLU 32	11	122	3680	-938.23	-2.65	3.97
1128	SLU 33	10	132	3637	-927.83	-2.61	3.86
1128	SLU 34	10	137	3581	-914.22	-2.57	3.78
1128	SLU 35	11	123	3730	-950.42	-2.69	4.13
1128	SLU 36	11	133	3688	-940.02	-2.65	4.01
1128	SLU 37	11	122	3703	-943.75	-2.67	4.13
1128	SLU 38	11	132	3660	-933.35	-2.63	4.02
1128	SLU 39	11	124	3759	-959.01	-2.71	3.89
1128	SLU 40	10	134	3717	-948.6	-2.68	3.77
1128	SLU 41	11	125	3810	-971.2	-2.75	4.05
1128	SLU 42	11	135	3767	-960.79	-2.71	3.93
1128	SLU 43	12	122	3400	-876.27	-2.39	4.37
1128	SLU 44	11	138	3329	-858.92	-2.33	4.17
1128	SLU 45	12	124	3479	-895.12	-2.45	4.52
1128	SLU 46	12	134	3436	-884.72	-2.41	4.4
1128	SLU 47	12	139	3380	-871.11	-2.37	4.33
1128	SLU 48	13	125	3530	-907.31	-2.49	4.68
1128	SLU 49	13	135	3487	-896.91	-2.45	4.56
1128	SLU 50	13	124	3502	-900.65	-2.47	4.68
1128	SLU 51	13	134	3459	-890.24	-2.43	4.56
1128	SLU 52	12	148	3698	-951.4	-2.61	4.34
1128	SLU 53	13	134	3848	-987.61	-2.73	4.68
1128	SLU 54	12	144	3806	-977.2	-2.7	4.57
1128	SLU 55	12	149	3749	-963.59	-2.65	4.49
1128	SLU 56	13	135	3899	-999.8	-2.77	4.84
1128	SLU 57	13	144	3856	-989.39	-2.74	4.72
1128	SLU 58	13	134	3871	-993.13	-2.75	4.84
1128	SLU 59	13	143	3828	-982.72	-2.71	4.72
1128	SLU 60	13	136	3928	-1008.39	-2.79	4.6
1128	SLU 61	12	146	3885	-997.98	-2.76	4.48
1128	SLU 62	13	137	3979	-1020.58	-2.83	4.75
1128	SLU 63	13	147	3936	-1010.17	-2.8	4.64
1128	SLU 64	13	135	3888	-997.21	-2.76	4.61
1128	SLU 65	12	151	3817	-979.87	-2.7	4.41
1128	SLU 66	13	137	3967	-1016.07	-2.82	4.76
1128	SLU 67	13	147	3924	-1005.66	-2.78	4.64
1128	SLU 68	12	152	3868	-992.05	-2.74	4.57
1128	SLU 69	13	138	4017	-1028.26	-2.86	4.91
1128	SLU 70	13	148	3975	-1017.85	-2.82	4.8
1128	SLU 71	13	137	3990	-1021.59	-2.84	4.92
1128	SLU 72	13	147	3947	-1011.18	-2.8	4.8
1128	SLU 73	12	161	4186	-1072.35	-2.98	4.57
1128	SLU 74	13	147	4336	-1108.55	-3.1	4.92
1128	SLU 75	13	156	4293	-1098.14	-3.07	4.8
1128	SLU 76	13	162	4237	-1084.54	-3.02	4.73
1128	SLU 77	14	148	4387	-1120.74	-3.14	5.07
1128	SLU 78	14	157	4344	-1110.33	-3.11	4.96
1128	SLU 79	14	147	4359	-1114.07	-3.12	5.08
1128	SLU 80	14	156	4316	-1103.67	-3.09	4.96
1128	SLU 81	13	149	4415	-1129.33	-3.16	4.84
1128	SLU 82	13	159	4373	-1118.92	-3.13	4.72
1128	SLU 83	14	150	4466	-1141.52	-3.2	4.99
1128	SLU 84	13	160	4423	-1131.11	-3.17	4.87
1128	SLE RA 1	10	101	2884	-740.5	-2.04	3.49
1128	SLE RA 2	9	112	2836	-728.94	-2	3.36
1128	SLE RA 3	10	102	2936	-753.08	-2.08	3.59
1128	SLE RA 4	10	109	2908	-746.14	-2.06	3.51
1128	SLE RA 5	9	112	2870	-737.07	-2.03	3.47
1128	SLE RA 6	10	103	2970	-761.2	-2.11	3.7
1128	SLE RA 7	10	109	2941	-754.26	-2.08	3.62
1128	SLE RA 8	10	102	2951	-756.76	-2.09	3.7
1128	SLE RA 9	10	109	2923	-749.82	-2.07	3.62
1128	SLE RA 10	9	118	3082	-790.6	-2.19	3.47
1128	SLE RA 11	10	109	3182	-814.73	-2.27	3.7
1128	SLE RA 12	10	115	3154	-807.79	-2.25	3.62
1128	SLE RA 13	10	119	3116	-798.72	-2.22	3.57
1128	SLE RA 14	10	110	3216	-822.86	-2.3	3.8
1128	SLE RA 15	10	116	3188	-815.92	-2.27	3.73
1128	SLE RA 16	10	109	3197	-818.41	-2.28	3.81
1128	SLE RA 17	10	115	3169	-811.47	-2.26	3.73
1128	SLE RA 18	10	110	3235	-828.58	-2.31	3.64
1128	SLE RA 19	10	117	3207	-821.65	-2.29	3.57
1128	SLE RA 20	10	111	3269	-836.71	-2.34	3.75
1128	SLE RA 21	10	117	3241	-829.77	-2.31	3.67
1128	SLE FR 1	10	101	2884	-740.5	-2.04	3.49
1128	SLE FR 2	9	103	2874	-738.19	-2.03	3.47
1128	SLE FR 3	10	101	2897	-743.76	-2.05	3.53
1128	SLE FR 4	10	106	2980	-764.62	-2.11	3.51
1128	SLE FR 5	10	104	3003	-770.18	-2.13	3.58
1128	SLE FR 6	10	106	3059	-784.54	-2.18	3.57
1128	SLE QP 1	10	101	2884	-740.5	-2.04	3.49
1128	SLE QP 2	10	104	2989	-766.93	-2.12	3.54
1128	SLD 1	412	183	2356	-602.58	-0.87	144.25



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1128	SLD 2	342	194	2348	-599.9	-0.82	119.77
1128	SLD 3	420	-4	3245	-819.08	-1.59	147.2
1128	SLD 4	350	8	3238	-816.41	-1.54	122.72
1128	SLD 5	130	408	1452	-389.73	-0.67	45.69
1128	SLD 6	84	415	1447	-387.97	-0.64	29.52
1128	SLD 7	158	-213	4416	-1111.43	-3.05	55.52
1128	SLD 8	112	-205	4411	-1109.66	-3.02	39.36
1128	SLD 9	-93	413	1567	-424.2	-1.22	-32.28
1128	SLD 10	-139	421	1562	-422.43	-1.19	-48.45
1128	SLD 11	-65	-207	4531	-1145.89	-3.61	-22.45
1128	SLD 12	-111	-200	4526	-1144.12	-3.57	-38.61
1128	SLD 13	-331	200	2741	-717.45	-2.71	-115.65
1128	SLD 14	-401	211	2733	-714.77	-2.66	-140.13
1128	SLD 15	-322	14	3630	-933.95	-3.42	-112.69
1128	SLD 16	-393	25	3622	-931.28	-3.37	-137.18
1128	SLV 1	639	232	1977	-504.44	-0.15	223.72
1128	SLV 2	529	249	1964	-500.25	-0.08	185.36
1128	SLV 3	653	-69	3414	-854.43	-1.31	228.6
1128	SLV 4	543	-51	3402	-850.25	-1.23	190.24
1128	SLV 5	198	595	507	-158.13	0.21	69.35
1128	SLV 6	124	607	499	-155.32	0.26	43.53
1128	SLV 7	244	-407	5299	-1324.79	-3.64	85.61
1128	SLV 8	170	-395	5291	-1321.97	-3.6	59.79
1128	SLV 9	-151	603	687	-211.88	-0.65	-52.71
1128	SLV 10	-225	615	679	-209.07	-0.6	-78.54
1128	SLV 11	-105	-399	5479	-1378.54	-4.5	-36.45
1128	SLV 12	-179	-387	5471	-1375.72	-4.45	-62.28
1128	SLV 13	-524	259	2576	-683.61	-3.01	-183.17
1128	SLV 14	-634	277	2564	-679.42	-2.94	-221.53
1128	SLV 15	-510	-41	4014	-1033.61	-4.17	-178.29
1128	SLV 16	-620	-24	4002	-1029.42	-4.1	-216.65
1128	SLV FO 1	702	244	1875	-478.19	0.05	245.74
1128	SLV FO 2	581	264	1862	-473.58	0.13	203.54
1128	SLV FO 3	717	-86	3457	-863.19	-1.22	251.11
1128	SLV FO 4	596	-67	3443	-858.58	-1.14	208.91
1128	SLV FO 5	217	644	259	-97.25	0.44	75.94
1128	SLV FO 6	135	657	250	-94.15	0.5	47.52
1128	SLV FO 7	268	-459	5530	-1380.58	-3.8	93.82
1128	SLV FO 8	186	-445	5521	-1377.48	-3.74	65.41
1128	SLV FO 9	-167	653	457	-156.38	-0.5	-58.34
1128	SLV FO 10	-248	667	448	-153.28	-0.45	-86.75
1128	SLV FO 11	-116	-449	5728	-1439.7	-4.74	-40.45
1128	SLV FO 12	-197	-436	5719	-1436.6	-4.69	-68.86
1128	SLV FO 13	-577	275	2535	-675.28	-3.1	-201.84
1128	SLV FO 14	-698	294	2522	-670.67	-3.02	-244.03
1128	SLV FO 15	-562	-56	4116	-1060.27	-4.37	-196.47
1128	SLV FO 16	-683	-36	4103	-1055.67	-4.29	-238.67
1128	CRTFP Ux+	0	0	0	0	0	0
1128	CRTFP Ux-	0	0	0	0	0	0
1128	CRTFP Uy+	0	0	0	0	0	0
1128	CRTFP Uy-	0	0	0	0	0	0
1129	SLU 1	11	90	2505	-701.07	45.6	2.16
1129	SLU 2	10	104	2440	-684.05	44.42	1.68
1129	SLU 3	11	92	2577	-720.07	46.91	2.3
1129	SLU 4	11	100	2538	-709.85	46.2	2.01
1129	SLU 5	11	105	2486	-696.32	45.26	1.83
1129	SLU 6	12	93	2623	-732.34	47.75	2.45
1129	SLU 7	11	101	2584	-722.12	47.04	2.16
1129	SLU 8	12	92	2598	-725.62	47.29	2.46
1129	SLU 9	11	100	2559	-715.4	46.58	2.17
1129	SLU 10	11	114	2777	-777.03	50.56	1.72
1129	SLU 11	12	101	2914	-813.05	53.05	2.34
1129	SLU 12	12	110	2875	-802.83	52.34	2.05
1129	SLU 13	11	114	2824	-789.3	51.4	1.87
1129	SLU 14	12	102	2961	-825.32	53.89	2.49
1129	SLU 15	12	110	2922	-815.1	53.18	2.2
1129	SLU 16	12	101	2935	-818.6	53.43	2.5
1129	SLU 17	12	110	2896	-808.39	52.72	2.21
1129	SLU 18	12	103	2987	-833.91	54.37	2.22
1129	SLU 19	11	112	2948	-823.69	53.66	1.93
1129	SLU 20	12	104	3033	-846.18	55.22	2.37
1129	SLU 21	12	113	2994	-835.96	54.51	2.08
1129	SLU 22	12	102	2951	-822.55	53.71	2.27
1129	SLU 23	11	116	2885	-805.52	52.53	1.79
1129	SLU 24	12	104	3022	-841.54	55.02	2.41
1129	SLU 25	12	112	2983	-831.32	54.31	2.11
1129	SLU 26	12	117	2932	-817.79	53.37	1.93
1129	SLU 27	13	105	3069	-853.81	55.86	2.55
1129	SLU 28	12	113	3030	-843.6	55.15	2.26
1129	SLU 29	13	104	3043	-847.1	55.4	2.57
1129	SLU 30	12	112	3004	-836.88	54.69	2.27
1129	SLU 31	12	126	3223	-898.5	58.67	1.83
1129	SLU 32	13	113	3360	-934.52	61.16	2.45
1129	SLU 33	12	122	3321	-924.31	60.45	2.16
1129	SLU 34	12	126	3269	-910.78	59.51	1.97
1129	SLU 35	13	114	3406	-946.8	62	2.59
1129	SLU 36	13	122	3367	-936.58	61.29	2.3
1129	SLU 37	13	113	3381	-940.08	61.54	2.61
1129	SLU 38	13	122	3342	-929.86	60.83	2.32



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1129	SLU 39	13	115	3433	-955.38	62.48	2.33
1129	SLU 40	12	124	3394	-945.16	61.77	2.04
1129	SLU 41	13	116	3479	-967.66	63.32	2.48
1129	SLU 42	13	125	3440	-957.44	62.61	2.19
1129	SLU 43	14	113	3104	-869.75	56.51	2.78
1129	SLU 44	13	127	3039	-852.72	55.32	2.29
1129	SLU 45	14	115	3175	-888.74	57.81	2.91
1129	SLU 46	14	123	3136	-878.52	57.1	2.62
1129	SLU 47	14	128	3085	-864.99	56.17	2.44
1129	SLU 48	15	115	3222	-901.01	58.66	3.06
1129	SLU 49	14	124	3183	-890.79	57.95	2.77
1129	SLU 50	15	115	3196	-894.29	58.19	3.07
1129	SLU 51	14	123	3157	-884.08	57.48	2.78
1129	SLU 52	14	136	3376	-945.7	61.46	2.33
1129	SLU 53	15	124	3513	-981.72	63.95	2.95
1129	SLU 54	15	132	3474	-971.5	63.24	2.66
1129	SLU 55	14	137	3422	-957.97	62.3	2.48
1129	SLU 56	15	125	3559	-993.99	64.79	3.1
1129	SLU 57	15	133	3520	-983.78	64.08	2.81
1129	SLU 58	15	124	3534	-987.28	64.33	3.11
1129	SLU 59	15	132	3495	-977.06	63.62	2.82
1129	SLU 60	15	126	3586	-1002.58	65.27	2.84
1129	SLU 61	14	135	3547	-992.36	64.56	2.55
1129	SLU 62	15	127	3632	-1014.85	66.12	2.98
1129	SLU 63	15	135	3593	-1004.63	65.41	2.69
1129	SLU 64	15	125	3549	-991.22	64.61	2.88
1129	SLU 65	14	139	3484	-974.19	63.43	2.4
1129	SLU 66	15	127	3621	-1010.21	65.92	3.02
1129	SLU 67	15	135	3582	-1000	65.21	2.73
1129	SLU 68	15	140	3531	-986.47	64.27	2.55
1129	SLU 69	16	127	3668	-1022.49	66.76	3.17
1129	SLU 70	15	136	3628	-1012.27	66.05	2.88
1129	SLU 71	16	127	3642	-1015.77	66.3	3.18
1129	SLU 72	15	135	3603	-1005.55	65.59	2.89
1129	SLU 73	15	148	3822	-1067.18	69.57	2.44
1129	SLU 74	16	136	3959	-1103.2	72.06	3.06
1129	SLU 75	15	144	3920	-1092.98	71.35	2.77
1129	SLU 76	15	149	3868	-1079.45	70.41	2.59
1129	SLU 77	16	137	4005	-1115.47	72.9	3.21
1129	SLU 78	16	145	3966	-1105.25	72.19	2.92
1129	SLU 79	16	136	3979	-1108.75	72.44	3.22
1129	SLU 80	16	144	3940	-1098.53	71.73	2.93
1129	SLU 81	16	138	4031	-1124.06	73.38	2.94
1129	SLU 82	15	147	3992	-1113.84	72.67	2.65
1129	SLU 83	16	139	4078	-1136.33	74.22	3.09
1129	SLU 84	16	147	4039	-1126.11	73.51	2.8
1129	SLE RA 1	11	93	2632	-735.78	47.92	2.19
1129	SLE RA 2	11	103	2589	-724.43	47.13	1.87
1129	SLE RA 3	11	95	2680	-748.44	48.79	2.29
1129	SLE RA 4	11	100	2654	-741.63	48.32	2.09
1129	SLE RA 5	11	104	2620	-732.61	47.69	1.97
1129	SLE RA 6	12	95	2711	-756.62	49.35	2.38
1129	SLE RA 7	12	101	2685	-749.81	48.88	2.19
1129	SLE RA 8	12	95	2694	-752.15	49.04	2.39
1129	SLE RA 9	12	100	2668	-745.33	48.57	2.2
1129	SLE RA 10	11	109	2814	-786.42	51.22	1.9
1129	SLE RA 11	12	101	2905	-810.43	52.88	2.31
1129	SLE RA 12	12	106	2879	-803.62	52.41	2.12
1129	SLE RA 13	11	110	2845	-794.6	51.79	2
1129	SLE RA 14	12	101	2936	-818.61	53.45	2.41
1129	SLE RA 15	12	107	2910	-811.8	52.97	2.22
1129	SLE RA 16	12	101	2919	-814.13	53.14	2.42
1129	SLE RA 17	12	106	2893	-807.32	52.66	2.23
1129	SLE RA 18	12	102	2954	-824.34	53.77	2.23
1129	SLE RA 19	11	108	2928	-817.52	53.29	2.04
1129	SLE RA 20	12	103	2985	-832.52	54.33	2.33
1129	SLE RA 21	12	108	2959	-825.71	53.85	2.14
1129	SLE FR 1	11	93	2632	-735.78	47.92	2.19
1129	SLE FR 2	11	95	2624	-733.51	47.76	2.13
1129	SLE FR 3	11	94	2645	-739.06	48.15	2.23
1129	SLE FR 4	11	98	2720	-760.08	49.52	2.14
1129	SLE FR 5	11	96	2741	-765.62	49.9	2.25
1129	SLE FR 6	11	98	2793	-780.06	50.84	2.21
1129	SLE QP 1	11	93	2632	-735.78	47.92	2.19
1129	SLE QP 2	11	96	2729	-762.35	49.67	2.21
1129	SLD 1	370	164	2128	-596.55	39.26	127.27
1129	SLD 2	308	177	2120	-594.09	39.13	105.18
1129	SLD 3	377	-4	2941	-809.24	54.07	131.14
1129	SLD 4	315	9	2933	-806.78	53.94	109.05
1129	SLD 5	119	369	1317	-390.48	24.12	37.83
1129	SLD 6	78	378	1311	-388.85	24.03	23.24
1129	SLD 7	143	-191	4027	-1099.44	73.47	50.74
1129	SLD 8	102	-183	4022	-1097.81	73.39	36.16
1129	SLD 9	-79	375	1436	-426.89	25.96	-31.74
1129	SLD 10	-121	383	1430	-425.26	25.88	-46.33
1129	SLD 11	-55	-186	4146	-1135.85	75.31	-18.83
1129	SLD 12	-97	-177	4140	-1134.22	75.23	-33.42
1129	SLD 13	-292	183	2524	-717.92	45.41	-104.64
1129	SLD 14	-355	196	2516	-715.45	45.28	-126.73



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1129	SLD 15	-285	15	3337	-930.61	60.21	-100.76
1129	SLD 16	-348	28	3329	-928.14	60.09	-122.86
1129	SLV 1	573	207	1769	-497.72	33.01	197.83
1129	SLV 2	475	227	1756	-493.85	32.81	163.22
1129	SLV 3	585	-65	3083	-841.54	56.95	204.26
1129	SLV 4	487	-44	3071	-837.67	56.75	169.65
1129	SLV 5	180	538	450	-162.22	8.42	57.6
1129	SLV 6	114	551	441	-159.62	8.28	34.3
1129	SLV 7	220	-368	4831	-1308.29	88.19	79.03
1129	SLV 8	154	-354	4822	-1305.68	88.06	55.73
1129	SLV 9	-131	546	635	-219.01	11.29	-51.32
1129	SLV 10	-197	560	626	-216.41	11.16	-74.62
1129	SLV 11	-91	-359	5016	-1365.08	91.07	-29.88
1129	SLV 12	-157	-346	5007	-1362.47	90.93	-53.19
1129	SLV 13	-464	236	2387	-687.02	42.6	-165.23
1129	SLV 14	-562	257	2374	-683.16	42.4	-199.85
1129	SLV 15	-452	-35	3701	-1030.84	66.54	-158.8
1129	SLV 16	-550	-15	3688	-1026.97	66.33	-193.42
1129	SLV FO 1	629	218	1673	-471.26	31.35	217.39
1129	SLV FO 2	521	240	1659	-467.01	31.13	179.32
1129	SLV FO 3	642	-81	3119	-849.46	57.67	224.47
1129	SLV FO 4	534	-58	3105	-845.21	57.45	186.39
1129	SLV FO 5	197	582	222	-102.21	4.29	63.14
1129	SLV FO 6	124	597	212	-99.35	4.14	37.51
1129	SLV FO 7	241	-414	5041	-1362.88	92.04	86.72
1129	SLV FO 8	168	-399	5032	-1360.02	91.89	61.08
1129	SLV FO 9	-146	592	426	-164.68	7.45	-56.67
1129	SLV FO 10	-218	607	416	-161.82	7.31	-82.3
1129	SLV FO 11	-101	-405	5245	-1425.35	95.21	-33.09
1129	SLV FO 12	-174	-390	5235	-1422.49	95.06	-58.73
1129	SLV FO 13	-512	251	2352	-679.49	41.9	-181.98
1129	SLV FO 14	-620	273	2338	-675.24	41.67	-220.05
1129	SLV FO 15	-498	-48	3798	-1057.69	68.22	-174.9
1129	SLV FO 16	-606	-26	3784	-1053.44	68	-212.98
1129	CRTFP Ux+	0	0	0	0	0	0
1129	CRTFP Ux-	0	0	0	0	0	0
1129	CRTFP Uy+	0	0	0	0	0	0
1129	CRTFP Uy-	0	0	0	0	0	0
1131	SLU 1	48	297	8663	-2014.54	-56.78	12.02
1131	SLU 2	45	346	8434	-1964.28	-55.61	11.64
1131	SLU 3	50	303	8914	-2071.31	-58.47	12.51
1131	SLU 4	48	332	8777	-2041.16	-57.77	12.28
1131	SLU 5	47	348	8597	-2000.96	-56.73	12.09
1131	SLU 6	51	305	9076	-2107.99	-59.59	12.95
1131	SLU 7	50	335	8939	-2077.84	-58.88	12.72
1131	SLU 8	51	302	8987	-2087.9	-59.01	12.91
1131	SLU 9	50	331	8850	-2057.74	-58.31	12.68
1131	SLU 10	48	376	9602	-2234.99	-62.86	12.46
1131	SLU 11	53	334	10081	-2342.02	-65.72	13.32
1131	SLU 12	51	363	9944	-2311.87	-65.02	13.1
1131	SLU 13	50	379	9764	-2271.67	-63.98	12.91
1131	SLU 14	54	336	10243	-2378.7	-66.84	13.77
1131	SLU 15	53	365	10106	-2348.55	-66.13	13.54
1131	SLU 16	54	333	10155	-2358.61	-66.26	13.73
1131	SLU 17	53	362	10017	-2328.45	-65.56	13.5
1131	SLU 18	52	341	10330	-2401.27	-67.14	13.19
1131	SLU 19	50	370	10193	-2371.12	-66.44	12.96
1131	SLU 20	54	344	10493	-2437.95	-68.25	13.63
1131	SLU 21	52	373	10355	-2407.79	-67.55	13.41
1131	SLU 22	52	337	10208	-2370.2	-66.35	13.23
1131	SLU 23	50	385	9980	-2319.94	-65.18	12.85
1131	SLU 24	54	343	10459	-2426.98	-68.04	13.72
1131	SLU 25	53	372	10322	-2396.82	-67.34	13.49
1131	SLU 26	52	388	10142	-2356.62	-66.3	13.3
1131	SLU 27	56	345	10621	-2463.65	-69.16	14.16
1131	SLU 28	55	374	10484	-2433.5	-68.45	13.93
1131	SLU 29	56	342	10533	-2443.56	-68.58	14.12
1131	SLU 30	55	371	10395	-2413.4	-67.88	13.89
1131	SLU 31	53	416	11147	-2590.65	-72.43	13.67
1131	SLU 32	57	373	11626	-2697.68	-75.29	14.53
1131	SLU 33	56	403	11489	-2667.53	-74.59	14.31
1131	SLU 34	55	419	11309	-2627.33	-73.55	14.11
1131	SLU 35	59	376	11789	-2734.36	-76.41	14.98
1131	SLU 36	58	405	11652	-2704.21	-75.7	14.75
1131	SLU 37	59	373	11700	-2714.27	-75.83	14.94
1131	SLU 38	58	402	11563	-2684.11	-75.13	14.71
1131	SLU 39	57	381	11876	-2756.93	-76.71	14.4
1131	SLU 40	55	410	11739	-2726.78	-76.01	14.17
1131	SLU 41	59	384	12038	-2793.61	-77.82	14.84
1131	SLU 42	57	413	11901	-2763.45	-77.12	14.61
1131	SLU 43	60	373	10732	-2496.97	-70.54	15.21
1131	SLU 44	58	421	10504	-2446.71	-69.37	14.84
1131	SLU 45	62	378	10983	-2553.74	-72.23	15.7
1131	SLU 46	61	407	10846	-2523.58	-71.52	15.47
1131	SLU 47	60	424	10666	-2483.38	-70.48	15.28
1131	SLU 48	64	381	11145	-2590.42	-73.34	16.14
1131	SLU 49	63	410	11008	-2560.26	-72.64	15.92
1131	SLU 50	64	378	11056	-2570.32	-72.77	16.1
1131	SLU 51	62	407	10919	-2540.17	-72.06	15.88



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1131	SLU 52	61	452	11671	-2717.42	-76.62	15.65
1131	SLU 53	65	409	12150	-2824.45	-79.47	16.51
1131	SLU 54	64	438	12013	-2794.29	-78.77	16.29
1131	SLU 55	63	455	11833	-2754.09	-77.73	16.1
1131	SLU 56	67	412	12312	-2861.13	-80.59	16.96
1131	SLU 57	66	441	12175	-2830.97	-79.89	16.73
1131	SLU 58	67	409	12224	-2841.03	-80.02	16.92
1131	SLU 59	65	438	12087	-2810.88	-79.31	16.69
1131	SLU 60	64	417	12399	-2883.7	-80.89	16.38
1131	SLU 61	63	446	12262	-2853.54	-80.19	16.15
1131	SLU 62	66	419	12562	-2920.37	-82.01	16.82
1131	SLU 63	65	448	12425	-2890.22	-81.31	16.6
1131	SLU 64	65	412	12277	-2852.63	-80.11	16.42
1131	SLU 65	63	461	12049	-2802.37	-78.94	16.04
1131	SLU 66	67	418	12528	-2909.4	-81.8	16.91
1131	SLU 67	66	447	12391	-2879.24	-81.09	16.68
1131	SLU 68	64	463	12211	-2839.04	-80.05	16.49
1131	SLU 69	69	421	12691	-2946.08	-82.91	17.35
1131	SLU 70	67	450	12553	-2915.92	-82.21	17.13
1131	SLU 71	69	418	12602	-2925.98	-82.34	17.31
1131	SLU 72	67	447	12465	-2895.83	-81.63	17.09
1131	SLU 73	66	492	13216	-3073.08	-86.19	16.86
1131	SLU 74	70	449	13696	-3180.11	-89.04	17.72
1131	SLU 75	69	478	13558	-3149.95	-88.34	17.5
1131	SLU 76	67	494	13378	-3109.75	-87.3	17.31
1131	SLU 77	72	452	13858	-3216.79	-90.16	18.17
1131	SLU 78	70	481	13721	-3186.63	-89.46	17.94
1131	SLU 79	72	449	13769	-3196.69	-89.59	18.13
1131	SLU 80	70	478	13632	-3166.54	-88.88	17.9
1131	SLU 81	69	456	13945	-3239.36	-90.46	17.59
1131	SLU 82	68	486	13808	-3209.2	-89.76	17.36
1131	SLU 83	71	459	14107	-3276.03	-91.58	18.03
1131	SLU 84	70	488	13970	-3245.88	-90.88	17.81
1131	SLE RA 1	49	308	9104	-2116.16	-59.52	12.37
1131	SLE RA 2	47	341	8952	-2082.65	-58.74	12.11
1131	SLE RA 3	50	312	9272	-2154.01	-60.64	12.69
1131	SLE RA 4	49	332	9180	-2133.9	-60.18	12.54
1131	SLE RA 5	49	343	9060	-2107.11	-59.48	12.41
1131	SLE RA 6	52	314	9380	-2178.46	-61.39	12.99
1131	SLE RA 7	51	333	9289	-2158.36	-60.92	12.84
1131	SLE RA 8	51	312	9321	-2165.07	-61	12.96
1131	SLE RA 9	50	331	9229	-2144.96	-60.54	12.81
1131	SLE RA 10	49	361	9730	-2263.13	-63.57	12.66
1131	SLE RA 11	52	333	10050	-2334.48	-65.48	13.23
1131	SLE RA 12	51	352	9959	-2314.38	-65.01	13.08
1131	SLE RA 13	51	363	9838	-2287.58	-64.31	12.96
1131	SLE RA 14	54	335	10158	-2358.93	-66.22	13.53
1131	SLE RA 15	53	354	10067	-2338.83	-65.75	13.38
1131	SLE RA 16	53	333	10099	-2345.54	-65.84	13.5
1131	SLE RA 17	52	352	10007	-2325.43	-65.37	13.35
1131	SLE RA 18	52	338	10216	-2373.98	-66.42	13.14
1131	SLE RA 19	51	357	10125	-2353.88	-65.95	12.99
1131	SLE RA 20	53	340	10324	-2398.43	-67.16	13.44
1131	SLE RA 21	52	359	10233	-2378.33	-66.7	13.29
1131	SLE FR 1	49	308	9104	-2116.16	-59.52	12.37
1131	SLE FR 2	49	315	9074	-2109.46	-59.36	12.32
1131	SLE FR 3	49	309	9148	-2125.94	-59.82	12.49
1131	SLE FR 4	49	324	9407	-2186.81	-61.43	12.55
1131	SLE FR 5	50	318	9481	-2203.29	-61.89	12.72
1131	SLE FR 6	50	323	9660	-2245.07	-62.97	12.76
1131	SLE QP 1	49	308	9104	-2116.16	-59.52	12.37
1131	SLE QP 2	50	317	9438	-2193.51	-61.59	12.6
1131	SLD 1	1249	529	7266	-1701.74	-29.14	311.08
1131	SLD 2	1037	585	7234	-1695.18	-28.49	260
1131	SLD 3	1274	-33	10120	-2330.04	-43.71	317.28
1131	SLD 4	1062	23	10088	-2323.47	-43.05	266.2
1131	SLD 5	411	1224	4463	-1094.25	-29.89	101.95
1131	SLD 6	271	1260	4442	-1089.91	-29.46	68.22
1131	SLD 7	492	-651	13977	-3188.56	-78.43	122.61
1131	SLD 8	352	-614	13956	-3184.23	-78	88.88
1131	SLD 9	-253	1249	4920	-1202.79	-45.18	-63.68
1131	SLD 10	-393	1285	4899	-1198.45	-44.75	-97.41
1131	SLD 11	-171	-626	14434	-3297.1	-93.72	-43.02
1131	SLD 12	-311	-589	14413	-3292.77	-93.29	-76.75
1131	SLD 13	-962	612	8788	-2063.54	-80.13	-241
1131	SLD 14	-1174	668	8756	-2056.98	-79.47	-292.08
1131	SLD 15	-938	50	11642	-2691.84	-94.69	-234.8
1131	SLD 16	-1150	106	11610	-2685.27	-94.03	-285.88
1131	SLV 1	1926	663	5970	-1408.67	-10.57	479.65
1131	SLV 2	1594	750	5919	-1398.39	-9.54	399.62
1131	SLV 3	1968	-246	10583	-2424.32	-34.12	489.89
1131	SLV 4	1635	-159	10533	-2414.03	-33.09	409.87
1131	SLV 5	613	1783	1409	-419.58	-10.76	152.11
1131	SLV 6	389	1842	1375	-412.66	-10.07	98.23
1131	SLV 7	749	-1247	16789	-3805.06	-89.26	186.27
1131	SLV 8	526	-1188	16755	-3798.14	-88.57	132.39
1131	SLV 9	-426	1822	2121	-588.88	-34.61	-107.19
1131	SLV 10	-650	1881	2087	-581.95	-33.92	-161.07
1131	SLV 11	-289	-1207	17501	-3974.36	-113.11	-73.03



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1131	SLV 12	-513	-1149	17467	-3967.43	-112.42	-126.91
1131	SLV 13	-1536	793	8343	-1972.98	-90.09	-384.67
1131	SLV 14	-1868	881	8293	-1962.7	-89.06	-464.7
1131	SLV 15	-1495	-116	12957	-2988.63	-113.64	-374.42
1131	SLV 16	-1827	-28	12906	-2978.34	-112.61	-454.45
1131	SLV FO 1	2114	697	5623	-1330.19	-5.47	526.35
1131	SLV FO 2	1749	794	5567	-1318.88	-4.34	438.33
1131	SLV FO 3	2159	-302	10698	-2447.4	-31.37	537.62
1131	SLV FO 4	1794	-206	10642	-2436.09	-30.24	449.6
1131	SLV FO 5	669	1930	606	-242.19	-5.67	166.06
1131	SLV FO 6	423	1995	569	-234.57	-4.91	106.79
1131	SLV FO 7	819	-1403	17524	-3966.22	-92.02	203.63
1131	SLV FO 8	573	-1338	17486	-3958.6	-91.26	144.37
1131	SLV FO 9	-474	1973	1390	-428.41	-31.91	-119.17
1131	SLV FO 10	-720	2038	1352	-420.8	-31.16	-178.43
1131	SLV FO 11	-323	-1360	18307	-4152.44	-118.26	-81.59
1131	SLV FO 12	-569	-1295	18270	-4144.82	-117.5	-140.86
1131	SLV FO 13	-1694	841	8233	-1950.93	-92.94	-424.4
1131	SLV FO 14	-2060	937	8178	-1939.62	-91.81	-512.42
1131	SLV FO 15	-1649	-159	13309	-3068.14	-118.84	-413.13
1131	SLV FO 16	-2015	-63	13253	-3056.82	-117.71	-501.15
1131	CRTFP Ux+	0	0	0	0	0	0
1131	CRTFP Ux-	0	0	0	0	0	0
1131	CRTFP Uy+	0	0	0	-0.01	0	0
1131	CRTFP Uy-	0	0	0	0.01	0	0
1133	SLU 1	19	97	2900	-820.41	-53.07	8.37
1133	SLU 2	18	113	2825	-801.04	-51.72	8.33
1133	SLU 3	20	98	2983	-842.65	-54.6	8.68
1133	SLU 4	20	108	2939	-831.03	-53.79	8.65
1133	SLU 5	19	114	2879	-815.41	-52.71	8.59
1133	SLU 6	21	99	3037	-857.02	-55.59	8.94
1133	SLU 7	20	109	2992	-845.4	-54.78	8.92
1133	SLU 8	21	98	3008	-849.16	-55.05	8.9
1133	SLU 9	20	108	2963	-837.53	-54.24	8.87
1133	SLU 10	20	123	3215	-909.88	-58.8	8.99
1133	SLU 11	22	109	3373	-951.49	-61.68	9.34
1133	SLU 12	21	119	3328	-939.87	-60.87	9.32
1133	SLU 13	20	124	3269	-924.26	-59.79	9.26
1133	SLU 14	22	109	3427	-965.87	-62.67	9.6
1133	SLU 15	22	119	3382	-954.25	-61.86	9.58
1133	SLU 16	22	108	3397	-958	-62.13	9.56
1133	SLU 17	22	118	3352	-946.38	-61.32	9.54
1133	SLU 18	21	111	3456	-975.9	-63.19	9.31
1133	SLU 19	21	121	3411	-964.28	-62.38	9.29
1133	SLU 20	22	112	3510	-990.27	-64.18	9.58
1133	SLU 21	21	122	3465	-978.65	-63.36	9.55
1133	SLU 22	22	110	3414	-962.33	-62.43	9.34
1133	SLU 23	21	126	3340	-942.96	-61.08	9.3
1133	SLU 24	22	111	3498	-984.57	-63.96	9.65
1133	SLU 25	22	121	3453	-972.95	-63.15	9.63
1133	SLU 26	21	127	3394	-957.33	-62.07	9.57
1133	SLU 27	23	112	3552	-998.94	-64.95	9.92
1133	SLU 28	22	122	3507	-987.32	-64.14	9.89
1133	SLU 29	23	111	3522	-991.07	-64.41	9.87
1133	SLU 30	22	121	3477	-979.45	-63.6	9.85
1133	SLU 31	22	136	3729	-1051.8	-68.16	9.96
1133	SLU 32	24	122	3887	-1093.41	-71.04	10.31
1133	SLU 33	23	131	3842	-1081.79	-70.23	10.29
1133	SLU 34	23	137	3783	-1066.18	-69.15	10.23
1133	SLU 35	24	122	3941	-1107.79	-72.03	10.58
1133	SLU 36	24	132	3896	-1096.16	-71.22	10.55
1133	SLU 37	24	121	3911	-1099.92	-71.49	10.53
1133	SLU 38	24	131	3867	-1088.3	-70.68	10.51
1133	SLU 39	24	124	3971	-1117.82	-72.55	10.28
1133	SLU 40	23	134	3926	-1106.2	-71.74	10.26
1133	SLU 41	24	125	4024	-1132.19	-73.54	10.55
1133	SLU 42	24	135	3980	-1120.57	-72.73	10.53
1133	SLU 43	24	121	3594	-1017.87	-65.79	10.54
1133	SLU 44	23	138	3519	-998.51	-64.43	10.5
1133	SLU 45	25	123	3677	-1040.11	-67.31	10.85
1133	SLU 46	25	133	3632	-1028.49	-66.5	10.83
1133	SLU 47	24	139	3573	-1012.88	-65.42	10.77
1133	SLU 48	26	124	3731	-1054.49	-68.3	11.12
1133	SLU 49	25	134	3686	-1042.87	-67.49	11.1
1133	SLU 50	26	123	3701	-1046.62	-67.76	11.07
1133	SLU 51	25	133	3657	-1035	-66.95	11.05
1133	SLU 52	25	148	3908	-1107.35	-71.51	11.17
1133	SLU 53	27	133	4066	-1148.96	-74.39	11.52
1133	SLU 54	26	143	4022	-1137.34	-73.58	11.49
1133	SLU 55	26	149	3962	-1121.72	-72.5	11.43
1133	SLU 56	27	134	4120	-1163.33	-75.38	11.78
1133	SLU 57	27	144	4075	-1151.71	-74.57	11.76
1133	SLU 58	27	133	4091	-1155.46	-74.84	11.73
1133	SLU 59	27	143	4046	-1143.84	-74.03	11.71
1133	SLU 60	26	136	4150	-1173.36	-75.9	11.49
1133	SLU 61	26	146	4105	-1161.74	-75.09	11.46
1133	SLU 62	27	137	4204	-1187.74	-76.89	11.75
1133	SLU 63	27	146	4159	-1176.12	-76.08	11.73
1133	SLU 64	27	134	4108	-1159.79	-75.15	11.51



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1133	SLU 65	26	151	4033	-1140.43	-73.8	11.48
1133	SLU 66	27	136	4191	-1182.03	-76.67	11.83
1133	SLU 67	27	146	4147	-1170.41	-75.86	11.8
1133	SLU 68	26	151	4087	-1154.8	-74.78	11.74
1133	SLU 69	28	137	4245	-1196.41	-77.66	12.09
1133	SLU 70	28	147	4200	-1184.79	-76.85	12.07
1133	SLU 71	28	136	4216	-1188.54	-77.12	12.05
1133	SLU 72	27	146	4171	-1176.92	-76.31	12.02
1133	SLU 73	27	161	4423	-1249.27	-80.88	12.14
1133	SLU 74	29	146	4581	-1290.88	-83.75	12.49
1133	SLU 75	28	156	4536	-1279.26	-82.94	12.47
1133	SLU 76	28	162	4477	-1263.64	-81.86	12.4
1133	SLU 77	30	147	4635	-1305.25	-84.74	12.75
1133	SLU 78	29	157	4590	-1293.63	-83.93	12.73
1133	SLU 79	29	146	4605	-1297.38	-84.2	12.71
1133	SLU 80	29	156	4560	-1285.76	-83.39	12.68
1133	SLU 81	29	149	4664	-1315.28	-85.26	12.46
1133	SLU 82	28	159	4619	-1303.66	-84.45	12.44
1133	SLU 83	29	149	4718	-1329.66	-86.25	12.73
1133	SLU 84	29	159	4673	-1318.04	-85.44	12.7
1133	SLE RA 1	20	100	3047	-860.96	-55.75	8.64
1133	SLE RA 2	19	111	2997	-848.05	-54.85	8.62
1133	SLE RA 3	21	101	3103	-875.78	-56.77	8.85
1133	SLE RA 4	20	108	3073	-868.04	-56.22	8.84
1133	SLE RA 5	20	112	3033	-857.63	-55.51	8.8
1133	SLE RA 6	21	102	3138	-885.37	-57.42	9.03
1133	SLE RA 7	21	109	3109	-877.62	-56.88	9.01
1133	SLE RA 8	21	101	3119	-880.12	-57.06	9
1133	SLE RA 9	21	108	3089	-872.37	-56.52	8.98
1133	SLE RA 10	20	118	3257	-920.61	-59.57	9.06
1133	SLE RA 11	21	108	3362	-948.35	-61.49	9.29
1133	SLE RA 12	21	115	3332	-940.6	-60.94	9.28
1133	SLE RA 13	21	119	3293	-930.19	-60.23	9.24
1133	SLE RA 14	22	109	3398	-957.93	-62.14	9.47
1133	SLE RA 15	22	115	3368	-950.18	-61.6	9.45
1133	SLE RA 16	22	108	3378	-952.68	-61.79	9.44
1133	SLE RA 17	21	115	3349	-944.94	-61.24	9.42
1133	SLE RA 18	21	110	3418	-964.62	-62.49	9.27
1133	SLE RA 19	21	117	3388	-956.87	-61.95	9.26
1133	SLE RA 20	22	111	3454	-974.2	-63.15	9.45
1133	SLE RA 21	21	117	3424	-966.45	-62.61	9.44
1133	SLE FR 1	20	100	3047	-860.96	-55.75	8.64
1133	SLE FR 2	20	102	3037	-858.37	-55.57	8.64
1133	SLE FR 3	20	100	3061	-864.79	-56.01	8.71
1133	SLE FR 4	20	105	3148	-889.47	-57.59	8.83
1133	SLE FR 5	21	103	3173	-895.89	-58.03	8.9
1133	SLE FR 6	21	105	3232	-912.79	-59.12	8.96
1133	SLE QP 1	20	100	3047	-860.96	-55.75	8.64
1133	SLE QP 2	20	103	3158	-892.06	-57.77	8.83
1133	SLD 1	430	169	2413	-693.21	-43.52	151.32
1133	SLD 2	358	193	2402	-691.09	-43.29	126.72
1133	SLD 3	439	-23	3345	-935.39	-60.4	155.13
1133	SLD 4	367	1	3334	-933.27	-60.17	130.54
1133	SLD 5	143	410	1522	-465.48	-27.92	50.22
1133	SLD 6	96	425	1515	-464.07	-27.77	33.98
1133	SLD 7	172	-230	4631	-1272.75	-84.21	62.94
1133	SLD 8	125	-214	4623	-1271.34	-84.06	46.7
1133	SLD 9	-84	420	1693	-512.77	-31.48	-29.03
1133	SLD 10	-131	436	1686	-511.36	-31.33	-45.27
1133	SLD 11	-55	-219	4801	-1320.04	-87.77	-16.32
1133	SLD 12	-102	-203	4794	-1318.63	-87.62	-32.56
1133	SLD 13	-326	205	2982	-850.84	-55.37	-112.87
1133	SLD 14	-398	229	2971	-848.72	-55.14	-137.47
1133	SLD 15	-318	13	3915	-1093.02	-72.25	-109.06
1133	SLD 16	-390	37	3904	-1090.9	-72.02	-133.65
1133	SLV 1	662	211	1969	-575.05	-35.06	231.81
1133	SLV 2	549	249	1951	-571.72	-34.7	193.27
1133	SLV 3	676	-99	3476	-966.53	-62.36	238.01
1133	SLV 4	564	-61	3459	-963.2	-62	199.48
1133	SLV 5	211	599	518	-203.82	-9.62	73.51
1133	SLV 6	136	624	507	-201.58	-9.38	47.56
1133	SLV 7	260	-435	5543	-1508.77	-100.62	94.19
1133	SLV 8	185	-409	5531	-1506.53	-100.38	68.24
1133	SLV 9	-144	616	785	-277.58	-15.16	-50.58
1133	SLV 10	-220	641	773	-275.34	-14.92	-76.52
1133	SLV 11	-95	-418	5810	-1582.53	-106.16	-29.9
1133	SLV 12	-171	-393	5798	-1580.29	-105.92	-55.84
1133	SLV 13	-523	268	2858	-820.91	-53.54	-181.81
1133	SLV 14	-636	305	2840	-817.58	-53.18	-220.35
1133	SLV 15	-508	-42	4365	-1212.39	-80.84	-175.61
1133	SLV 16	-621	-5	4347	-1209.06	-80.48	-214.14
1133	SLV FO 1	726	222	1850	-543.35	-32.79	254.1
1133	SLV FO 2	602	263	1831	-539.69	-32.39	211.72
1133	SLV FO 3	742	-119	3508	-973.98	-62.82	260.93
1133	SLV FO 4	618	-78	3489	-970.32	-62.42	218.54
1133	SLV FO 5	231	648	254	-135	-4.8	79.97
1133	SLV FO 6	147	676	242	-132.54	-4.54	51.44
1133	SLV FO 7	284	-488	5782	-1570.44	-104.9	102.72
1133	SLV FO 8	201	-461	5769	-1567.98	-104.64	74.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1133	SLV FO 9	-160	667	548	-216.13	-10.9	-56.52
1133	SLV FO 10	-244	695	535	-213.67	-10.64	-85.06
1133	SLV FO 11	-107	-470	6075	-1651.58	-111	-33.77
1133	SLV FO 12	-190	-442	6062	-1649.11	-110.74	-62.31
1133	SLV FO 13	-577	284	2827	-813.79	-53.12	-200.88
1133	SLV FO 14	-701	325	2808	-810.13	-52.72	-243.26
1133	SLV FO 15	-561	-57	4486	-1244.42	-83.15	-194.05
1133	SLV FO 16	-685	-16	4466	-1240.76	-82.75	-236.44
1133	CRTFP Ux+	0	0	0	0	0	0
1133	CRTFP Ux-	0	0	0	0	0	0
1133	CRTFP Uy+	0	0	0	0	0	0
1133	CRTFP Uy-	0	0	0	0	0	0
1134	SLU 1	25	97	3147	-827.69	2.15	8.52
1134	SLU 2	24	116	3067	-808.42	2.08	8.08
1134	SLU 3	26	99	3238	-849.85	2.21	8.88
1134	SLU 4	26	110	3189	-838.29	2.17	8.62
1134	SLU 5	25	116	3125	-822.75	2.11	8.4
1134	SLU 6	27	100	3296	-864.18	2.25	9.2
1134	SLU 7	27	111	3248	-852.61	2.2	8.93
1134	SLU 8	27	99	3264	-856.35	2.23	9.15
1134	SLU 9	26	110	3216	-844.78	2.18	8.89
1134	SLU 10	26	126	3487	-916.9	2.45	8.74
1134	SLU 11	28	110	3658	-958.32	2.58	9.54
1134	SLU 12	28	121	3610	-946.76	2.54	9.27
1134	SLU 13	27	127	3546	-931.22	2.49	9.05
1134	SLU 14	29	111	3716	-972.65	2.62	9.85
1134	SLU 15	28	121	3668	-961.09	2.58	9.59
1134	SLU 16	29	110	3685	-964.82	2.6	9.81
1134	SLU 17	28	120	3636	-953.26	2.55	9.55
1134	SLU 18	28	113	3748	-982.66	2.68	9.46
1134	SLU 19	27	123	3699	-971.09	2.64	9.2
1134	SLU 20	29	113	3806	-996.98	2.72	9.78
1134	SLU 21	28	124	3758	-985.42	2.68	9.51
1134	SLU 22	28	111	3703	-969.04	2.62	9.54
1134	SLU 23	27	129	3622	-949.77	2.55	9.1
1134	SLU 24	29	112	3793	-991.2	2.69	9.9
1134	SLU 25	29	123	3745	-979.64	2.64	9.64
1134	SLU 26	28	129	3681	-964.1	2.59	9.42
1134	SLU 27	30	113	3852	-1005.52	2.72	10.22
1134	SLU 28	30	124	3804	-993.96	2.68	9.95
1134	SLU 29	30	112	3820	-997.69	2.7	10.17
1134	SLU 30	29	123	3772	-986.13	2.65	9.91
1134	SLU 31	29	139	4043	-1058.25	2.92	9.76
1134	SLU 32	31	123	4214	-1099.67	3.06	10.56
1134	SLU 33	31	134	4165	-1088.11	3.01	10.3
1134	SLU 34	30	140	4101	-1072.57	2.96	10.08
1134	SLU 35	32	124	4272	-1114	3.1	10.88
1134	SLU 36	32	135	4224	-1102.44	3.05	10.61
1134	SLU 37	32	123	4240	-1106.17	3.07	10.83
1134	SLU 38	31	134	4192	-1094.61	3.03	10.57
1134	SLU 39	31	126	4303	-1124.01	3.16	10.48
1134	SLU 40	30	137	4255	-1112.44	3.11	10.22
1134	SLU 41	32	126	4362	-1138.33	3.19	10.8
1134	SLU 42	31	137	4314	-1126.77	3.15	10.53
1134	SLU 43	32	122	3901	-1027.54	2.63	10.73
1134	SLU 44	31	140	3820	-1008.27	2.56	10.29
1134	SLU 45	33	124	3991	-1049.7	2.7	11.09
1134	SLU 46	32	135	3943	-1038.13	2.65	10.82
1134	SLU 47	32	141	3879	-1022.6	2.6	10.6
1134	SLU 48	34	125	4050	-1064.02	2.73	11.4
1134	SLU 49	33	136	4001	-1052.46	2.69	11.14
1134	SLU 50	34	124	4018	-1056.19	2.71	11.36
1134	SLU 51	33	135	3970	-1044.63	2.66	11.09
1134	SLU 52	33	151	4241	-1116.74	2.93	10.94
1134	SLU 53	35	135	4411	-1158.17	3.07	11.74
1134	SLU 54	34	145	4363	-1146.61	3.02	11.48
1134	SLU 55	34	152	4299	-1131.07	2.97	11.26
1134	SLU 56	36	135	4470	-1172.5	3.11	12.06
1134	SLU 57	35	146	4422	-1160.93	3.06	11.8
1134	SLU 58	36	134	4438	-1164.67	3.08	12.02
1134	SLU 59	35	145	4390	-1153.1	3.04	11.75
1134	SLU 60	35	137	4501	-1182.5	3.17	11.67
1134	SLU 61	34	148	4453	-1170.94	3.12	11.4
1134	SLU 62	36	138	4560	-1196.83	3.2	11.98
1134	SLU 63	35	149	4511	-1185.27	3.16	11.72
1134	SLU 64	35	135	4456	-1168.89	3.11	11.75
1134	SLU 65	34	153	4376	-1149.62	3.03	11.31
1134	SLU 66	36	137	4547	-1191.04	3.17	12.11
1134	SLU 67	35	148	4499	-1179.48	3.12	11.84
1134	SLU 68	35	154	4435	-1163.94	3.07	11.62
1134	SLU 69	37	138	4605	-1205.37	3.21	12.42
1134	SLU 70	36	149	4557	-1193.81	3.16	12.16
1134	SLU 71	37	137	4573	-1197.54	3.18	12.38
1134	SLU 72	36	148	4525	-1185.98	3.14	12.11
1134	SLU 73	36	164	4796	-1258.09	3.4	11.97
1134	SLU 74	38	148	4967	-1299.52	3.54	12.77
1134	SLU 75	37	159	4919	-1287.96	3.5	12.5
1134	SLU 76	37	165	4855	-1272.42	3.44	12.28
1134	SLU 77	39	148	5026	-1313.84	3.58	13.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1134	SLU 78	38	159	4978	-1302.28	3.53	12.82
1134	SLU 79	39	147	4994	-1306.01	3.55	13.04
1134	SLU 80	38	158	4946	-1294.45	3.51	12.77
1134	SLU 81	38	150	5057	-1323.85	3.64	12.69
1134	SLU 82	37	161	5009	-1312.29	3.59	12.42
1134	SLU 83	39	151	5115	-1338.18	3.68	13
1134	SLU 84	38	162	5067	-1326.62	3.63	12.74
1134	SLE RA 1	26	101	3306	-868.08	2.29	8.81
1134	SLE RA 2	25	113	3252	-855.23	2.24	8.52
1134	SLE RA 3	27	102	3366	-882.85	2.33	9.05
1134	SLE RA 4	26	110	3334	-875.14	2.3	8.88
1134	SLE RA 5	26	114	3291	-864.78	2.26	8.73
1134	SLE RA 6	27	103	3405	-892.4	2.35	9.26
1134	SLE RA 7	27	110	3373	-884.69	2.32	9.09
1134	SLE RA 8	27	102	3384	-887.18	2.34	9.23
1134	SLE RA 9	27	109	3352	-879.47	2.31	9.06
1134	SLE RA 10	27	120	3532	-927.55	2.48	8.96
1134	SLE RA 11	28	109	3646	-955.17	2.58	9.49
1134	SLE RA 12	28	117	3614	-947.46	2.55	9.31
1134	SLE RA 13	27	121	3572	-937.1	2.51	9.17
1134	SLE RA 14	29	110	3685	-964.72	2.6	9.7
1134	SLE RA 15	28	117	3653	-957.01	2.57	9.53
1134	SLE RA 16	29	109	3664	-959.5	2.58	9.67
1134	SLE RA 17	28	117	3632	-951.79	2.55	9.5
1134	SLE RA 18	28	111	3706	-971.39	2.64	9.44
1134	SLE RA 19	28	119	3674	-963.68	2.61	9.26
1134	SLE RA 20	29	112	3745	-980.94	2.67	9.65
1134	SLE RA 21	28	119	3713	-973.23	2.64	9.47
1134	SLE FR 1	26	101	3306	-868.08	2.29	8.81
1134	SLE FR 2	26	104	3295	-865.51	2.28	8.75
1134	SLE FR 3	26	101	3321	-871.9	2.3	8.9
1134	SLE FR 4	27	107	3415	-896.5	2.38	8.94
1134	SLE FR 5	27	104	3442	-902.89	2.4	9.08
1134	SLE FR 6	27	106	3506	-919.73	2.46	9.13
1134	SLE QP 1	26	101	3306	-868.08	2.29	8.81
1134	SLE QP 2	27	104	3426	-899.07	2.39	9
1134	SLD 1	478	173	2594	-697.45	2.6	166.98
1134	SLD 2	399	203	2581	-695.33	2.64	139.28
1134	SLD 3	489	-36	3599	-938.53	3.54	170.7
1134	SLD 4	409	-6	3585	-936.4	3.58	143.01
1134	SLD 5	161	436	1655	-473.33	1.02	55.73
1134	SLD 6	108	455	1646	-471.93	1.05	37.45
1134	SLD 7	196	-259	5004	-1276.93	4.16	68.15
1134	SLD 8	143	-240	4995	-1275.52	4.18	49.86
1134	SLD 9	-90	448	1857	-522.62	0.6	-31.86
1134	SLD 10	-142	468	1848	-521.21	0.63	-50.15
1134	SLD 11	-55	-247	5206	-1326.22	3.74	-19.45
1134	SLD 12	-107	-227	5197	-1324.81	3.76	-37.73
1134	SLD 13	-356	215	3266	-861.74	1.2	-125.01
1134	SLD 14	-435	244	3253	-859.61	1.24	-152.7
1134	SLD 15	-345	6	4271	-1102.82	2.14	-121.28
1134	SLD 16	-425	36	4258	-1100.69	2.18	-148.98
1134	SLV 1	733	217	2100	-577.76	2.69	256.14
1134	SLV 2	609	263	2079	-574.43	2.76	212.75
1134	SLV 3	751	-120	3724	-967.47	4.21	262.37
1134	SLV 4	626	-74	3703	-964.13	4.28	218.99
1134	SLV 5	235	641	569	-212.25	0.17	81.78
1134	SLV 6	151	672	555	-210.01	0.21	52.57
1134	SLV 7	294	-483	5983	-1511.26	5.23	102.57
1134	SLV 8	210	-452	5969	-1509.02	5.27	73.36
1134	SLV 9	-157	660	883	-289.13	-0.49	-55.36
1134	SLV 10	-240	692	869	-286.88	-0.44	-84.57
1134	SLV 11	-98	-464	6297	-1588.13	4.57	-34.57
1134	SLV 12	-182	-432	6283	-1585.89	4.62	-63.78
1134	SLV 13	-573	282	3149	-834.01	0.51	-200.99
1134	SLV 14	-697	329	3128	-830.68	0.57	-244.37
1134	SLV 15	-555	-55	4773	-1223.71	2.03	-194.75
1134	SLV 16	-680	-8	4752	-1220.38	2.09	-238.14
1134	SLV FO 1	804	228	1967	-545.63	2.73	280.85
1134	SLV FO 2	667	279	1944	-541.97	2.79	233.13
1134	SLV FO 3	823	-143	3754	-974.31	4.4	287.71
1134	SLV FO 4	686	-92	3731	-970.64	4.47	239.99
1134	SLV FO 5	256	695	283	-143.57	-0.05	89.06
1134	SLV FO 6	164	729	267	-141.1	-0.01	56.93
1134	SLV FO 7	320	-542	6238	-1572.48	5.51	111.92
1134	SLV FO 8	228	-508	6223	-1570.01	5.56	79.79
1134	SLV FO 9	-175	716	629	-228.13	-0.77	-61.79
1134	SLV FO 10	-267	751	614	-225.66	-0.73	-93.92
1134	SLV FO 11	-110	-520	6584	-1657.04	4.79	-38.93
1134	SLV FO 12	-203	-486	6569	-1654.57	4.84	-71.06
1134	SLV FO 13	-633	300	3121	-827.51	0.32	-221.99
1134	SLV FO 14	-770	351	3098	-823.84	0.39	-269.71
1134	SLV FO 15	-613	-71	4908	-1256.18	1.99	-215.13
1134	SLV FO 16	-750	-20	4885	-1252.51	2.06	-262.85
1134	CRTFP Ux+	0	0	0	0	0	0
1134	CRTFP Ux-	0	0	0	0	0	0
1134	CRTFP Uy+	0	0	0	0	0	0
1134	CRTFP Uy-	0	0	0	0	0	0
1135	SLU 1	29	87	3081	-754.64	2.04	9.82



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1135	SLU 2	28	105	3003	-737.45	1.97	9.32
1135	SLU 3	30	88	3170	-774.62	2.09	10.23
1135	SLU 4	29	99	3123	-764.3	2.05	9.93
1135	SLU 5	29	105	3060	-750.39	2	9.68
1135	SLU 6	31	89	3227	-787.55	2.13	10.58
1135	SLU 7	30	100	3180	-777.24	2.08	10.29
1135	SLU 8	31	88	3196	-780.51	2.1	10.53
1135	SLU 9	30	99	3149	-770.19	2.06	10.23
1135	SLU 10	30	114	3412	-834.84	2.33	10.12
1135	SLU 11	33	98	3578	-872	2.45	11.02
1135	SLU 12	32	109	3532	-861.69	2.41	10.73
1135	SLU 13	31	115	3469	-847.77	2.36	10.47
1135	SLU 14	34	99	3636	-884.93	2.49	11.38
1135	SLU 15	33	109	3589	-874.62	2.44	11.08
1135	SLU 16	33	98	3605	-877.89	2.46	11.32
1135	SLU 17	33	108	3558	-867.58	2.42	11.03
1135	SLU 18	32	101	3665	-893.76	2.55	10.95
1135	SLU 19	32	111	3618	-883.45	2.51	10.66
1135	SLU 20	33	101	3723	-906.69	2.59	11.31
1135	SLU 21	33	112	3676	-896.38	2.54	11.01
1135	SLU 22	33	99	3622	-881.53	2.49	11.05
1135	SLU 23	31	116	3544	-864.35	2.42	10.56
1135	SLU 24	34	100	3711	-901.51	2.55	11.47
1135	SLU 25	33	111	3664	-891.2	2.5	11.17
1135	SLU 26	32	117	3601	-877.28	2.45	10.91
1135	SLU 27	35	101	3768	-914.44	2.58	11.82
1135	SLU 28	34	111	3721	-904.13	2.54	11.52
1135	SLU 29	35	100	3737	-907.4	2.56	11.76
1135	SLU 30	34	110	3690	-897.09	2.51	11.47
1135	SLU 31	34	126	3953	-961.73	2.78	11.36
1135	SLU 32	36	110	4120	-998.89	2.91	12.26
1135	SLU 33	35	121	4073	-988.58	2.87	11.97
1135	SLU 34	35	127	4010	-974.66	2.81	11.71
1135	SLU 35	37	110	4177	-1011.83	2.94	12.62
1135	SLU 36	36	121	4130	-1001.51	2.9	12.32
1135	SLU 37	37	110	4146	-1004.78	2.92	12.56
1135	SLU 38	36	120	4099	-994.47	2.87	12.26
1135	SLU 39	36	112	4206	-1020.65	3.01	12.19
1135	SLU 40	35	123	4159	-1010.34	2.97	11.89
1135	SLU 41	37	113	4264	-1033.59	3.04	12.55
1135	SLU 42	36	124	4217	-1023.27	3	12.25
1135	SLU 43	37	109	3820	-937.53	2.5	12.34
1135	SLU 44	35	127	3742	-920.34	2.43	11.84
1135	SLU 45	38	110	3908	-957.5	2.55	12.75
1135	SLU 46	37	121	3861	-947.19	2.51	12.45
1135	SLU 47	36	127	3799	-933.27	2.46	12.2
1135	SLU 48	39	111	3966	-970.43	2.58	13.1
1135	SLU 49	38	122	3919	-960.12	2.54	12.81
1135	SLU 50	39	110	3935	-963.39	2.56	13.05
1135	SLU 51	38	121	3888	-953.08	2.52	12.75
1135	SLU 52	38	136	4150	-1017.72	2.79	12.64
1135	SLU 53	40	120	4317	-1054.89	2.91	13.55
1135	SLU 54	39	131	4270	-1044.57	2.87	13.25
1135	SLU 55	39	137	4208	-1030.66	2.82	12.99
1135	SLU 56	41	121	4375	-1067.82	2.94	13.9
1135	SLU 57	40	131	4328	-1057.51	2.9	13.6
1135	SLU 58	41	120	4343	-1060.78	2.92	13.84
1135	SLU 59	40	130	4297	-1050.46	2.88	13.55
1135	SLU 60	40	123	4404	-1076.65	3.01	13.47
1135	SLU 61	39	133	4357	-1066.33	2.97	13.18
1135	SLU 62	41	123	4461	-1089.58	3.04	13.83
1135	SLU 63	40	134	4414	-1079.27	3	13.53
1135	SLU 64	40	121	4361	-1064.42	2.95	13.57
1135	SLU 65	39	138	4283	-1047.23	2.88	13.08
1135	SLU 66	41	122	4450	-1084.39	3	13.99
1135	SLU 67	41	133	4403	-1074.08	2.96	13.69
1135	SLU 68	40	139	4340	-1060.16	2.91	13.43
1135	SLU 69	42	123	4507	-1097.33	3.04	14.34
1135	SLU 70	42	133	4460	-1087.01	2.99	14.04
1135	SLU 71	42	122	4476	-1090.29	3.01	14.28
1135	SLU 72	41	132	4429	-1079.97	2.97	13.99
1135	SLU 73	41	148	4692	-1144.62	3.24	13.88
1135	SLU 74	44	132	4858	-1181.78	3.36	14.78
1135	SLU 75	43	142	4812	-1171.47	3.32	14.49
1135	SLU 76	42	149	4749	-1157.55	3.27	14.23
1135	SLU 77	45	132	4916	-1194.71	3.4	15.14
1135	SLU 78	44	143	4869	-1184.4	3.35	14.84
1135	SLU 79	45	132	4885	-1187.67	3.37	15.08
1135	SLU 80	44	142	4838	-1177.36	3.33	14.78
1135	SLU 81	44	134	4945	-1203.54	3.46	14.71
1135	SLU 82	43	145	4898	-1193.23	3.42	14.42
1135	SLU 83	45	135	5002	-1216.47	3.5	15.07
1135	SLU 84	44	146	4956	-1206.16	3.45	14.77
1135	SLE RA 1	30	90	3236	-790.9	2.17	10.17
1135	SLE RA 2	29	102	3184	-779.44	2.12	9.84
1135	SLE RA 3	31	91	3295	-804.21	2.21	10.44
1135	SLE RA 4	30	98	3263	-797.34	2.18	10.25
1135	SLE RA 5	30	102	3222	-788.06	2.14	10.08
1135	SLE RA 6	32	92	3333	-812.83	2.23	10.68



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1135	SLE RA 7	31	99	3302	-805.96	2.2	10.48
1135	SLE RA 8	31	91	3312	-808.14	2.21	10.64
1135	SLE RA 9	31	98	3281	-801.26	2.18	10.44
1135	SLE RA 10	31	108	3456	-844.36	2.36	10.37
1135	SLE RA 11	32	98	3567	-869.14	2.45	10.98
1135	SLE RA 12	32	105	3536	-862.26	2.42	10.78
1135	SLE RA 13	31	109	3494	-852.98	2.38	10.61
1135	SLE RA 14	33	98	3606	-877.76	2.47	11.21
1135	SLE RA 15	33	105	3574	-870.88	2.44	11.01
1135	SLE RA 16	33	97	3585	-873.06	2.45	11.17
1135	SLE RA 17	32	105	3554	-866.19	2.42	10.98
1135	SLE RA 18	32	99	3625	-883.64	2.51	10.93
1135	SLE RA 19	32	107	3594	-876.77	2.48	10.73
1135	SLE RA 20	33	100	3663	-892.26	2.53	11.16
1135	SLE RA 21	32	107	3632	-885.39	2.51	10.97
1135	SLE FR 1	30	90	3236	-790.9	2.17	10.17
1135	SLE FR 2	30	92	3225	-788.6	2.16	10.1
1135	SLE FR 3	30	90	3251	-794.35	2.18	10.26
1135	SLE FR 4	31	95	3342	-816.43	2.26	10.33
1135	SLE FR 5	31	93	3368	-822.17	2.28	10.49
1135	SLE FR 6	31	95	3430	-837.27	2.34	10.55
1135	SLE QP 1	30	90	3236	-790.9	2.17	10.17
1135	SLE QP 2	31	93	3352	-818.72	2.27	10.4
1135	SLD 1	481	159	2515	-634.85	2.5	168.14
1135	SLD 2	402	192	2500	-632.6	2.56	140.36
1135	SLD 3	493	-45	3491	-850.15	3.36	172.29
1135	SLD 4	413	-13	3476	-847.9	3.43	144.51
1135	SLD 5	163	417	1623	-437.43	1.01	56.44
1135	SLD 6	110	439	1613	-435.94	1.06	38.09
1135	SLD 7	201	-265	4878	-1155.09	3.9	70.26
1135	SLD 8	149	-243	4868	-1153.61	3.94	51.91
1135	SLD 9	-87	429	1837	-483.83	0.6	-31.12
1135	SLD 10	-140	451	1827	-482.35	0.64	-49.47
1135	SLD 11	-49	-253	5092	-1201.5	3.49	-17.3
1135	SLD 12	-101	-232	5082	-1200.01	3.53	-35.64
1135	SLD 13	-352	199	3229	-789.54	1.12	-123.71
1135	SLD 14	-431	231	3214	-787.29	1.18	-151.5
1135	SLD 15	-340	-6	4205	-1004.84	1.98	-119.57
1135	SLD 16	-420	27	4190	-1002.59	2.05	-147.35
1135	SLV 1	736	202	2018	-525.82	2.6	257.17
1135	SLV 2	611	253	1995	-522.3	2.7	213.64
1135	SLV 3	755	-129	3596	-873.86	4	264.09
1135	SLV 4	630	-78	3573	-870.34	4.1	220.56
1135	SLV 5	236	618	562	-203.65	0.23	82.05
1135	SLV 6	152	652	547	-201.28	0.3	52.75
1135	SLV 7	301	-485	5824	-1363.77	4.89	105.13
1135	SLV 8	217	-451	5808	-1361.4	4.96	75.82
1135	SLV 9	-155	637	897	-276.04	-0.42	-55.03
1135	SLV 10	-239	671	881	-273.67	-0.35	-84.33
1135	SLV 11	-91	-466	6158	-1436.16	4.25	-31.95
1135	SLV 12	-175	-432	6142	-1433.79	4.31	-61.26
1135	SLV 13	-569	264	3132	-767.1	0.45	-199.77
1135	SLV 14	-694	315	3108	-763.58	0.54	-243.3
1135	SLV 15	-549	-67	4710	-1115.14	1.85	-192.85
1135	SLV 16	-674	-16	4687	-1111.62	1.94	-236.38
1135	SLV FO 1	806	213	1884	-496.53	2.63	281.85
1135	SLV FO 2	669	269	1859	-492.66	2.74	233.97
1135	SLV FO 3	828	-151	3621	-879.37	4.17	289.46
1135	SLV FO 4	690	-95	3595	-875.5	4.28	241.58
1135	SLV FO 5	257	670	283	-142.15	0.03	89.22
1135	SLV FO 6	164	708	266	-139.54	0.1	56.98
1135	SLV FO 7	328	-543	6071	-1418.28	5.16	114.6
1135	SLV FO 8	235	-505	6054	-1415.67	5.23	82.36
1135	SLV FO 9	-174	691	651	-221.77	-0.68	-61.57
1135	SLV FO 10	-266	729	634	-219.16	-0.61	-93.81
1135	SLV FO 11	-103	-522	6439	-1497.9	4.45	-36.19
1135	SLV FO 12	-195	-485	6421	-1495.29	4.52	-68.43
1135	SLV FO 13	-629	281	3110	-761.94	0.27	-220.79
1135	SLV FO 14	-766	337	3084	-758.07	0.37	-268.67
1135	SLV FO 15	-607	-83	4846	-1144.78	1.8	-213.17
1135	SLV FO 16	-745	-27	4820	-1140.91	1.91	-261.05
1135	CRTFP Ux+	0	0	0	0	0	0
1135	CRTFP Ux-	0	0	0	0	0	0
1135	CRTFP Uy+	0	0	0	0	0	0
1135	CRTFP Uy-	0	0	0	0	0	0
1136	SLU 1	33	76	3032	-700.67	1.1	11.07
1136	SLU 2	31	93	2955	-685.07	1.06	10.52
1136	SLU 3	34	77	3119	-719.12	1.12	11.53
1136	SLU 4	33	88	3073	-709.76	1.1	11.21
1136	SLU 5	32	94	3012	-697.05	1.07	10.92
1136	SLU 6	35	78	3176	-731.1	1.13	11.93
1136	SLU 7	34	88	3130	-721.74	1.11	11.6
1136	SLU 8	35	77	3145	-724.63	1.12	11.85
1136	SLU 9	34	87	3099	-715.27	1.09	11.53
1136	SLU 10	34	102	3355	-774.13	1.28	11.46
1136	SLU 11	37	86	3519	-808.17	1.34	12.47
1136	SLU 12	36	97	3473	-798.82	1.32	12.14
1136	SLU 13	35	103	3412	-786.11	1.29	11.85
1136	SLU 14	38	87	3576	-820.15	1.35	12.86



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1136	SLU 15	37	97	3530	-810.8	1.33	12.53
1136	SLU 16	38	86	3545	-813.68	1.34	12.79
1136	SLU 17	37	96	3499	-804.33	1.32	12.46
1136	SLU 18	37	89	3603	-827.89	1.42	12.4
1136	SLU 19	36	99	3557	-818.53	1.39	12.07
1136	SLU 20	38	89	3659	-839.87	1.43	12.79
1136	SLU 21	37	100	3614	-830.51	1.4	12.47
1136	SLU 22	37	86	3561	-816.81	1.36	12.52
1136	SLU 23	35	104	3485	-801.22	1.33	11.97
1136	SLU 24	38	88	3649	-835.26	1.39	12.98
1136	SLU 25	37	98	3603	-825.91	1.36	12.65
1136	SLU 26	36	104	3542	-813.2	1.33	12.37
1136	SLU 27	39	88	3706	-847.24	1.4	13.37
1136	SLU 28	38	99	3660	-837.89	1.37	13.05
1136	SLU 29	39	87	3675	-840.77	1.38	13.3
1136	SLU 30	38	98	3629	-831.42	1.36	12.98
1136	SLU 31	38	113	3885	-890.28	1.55	12.91
1136	SLU 32	41	97	4049	-924.32	1.61	13.91
1136	SLU 33	40	107	4003	-914.96	1.58	13.59
1136	SLU 34	39	113	3942	-902.26	1.56	13.3
1136	SLU 35	42	97	4105	-936.3	1.62	14.31
1136	SLU 36	41	108	4060	-926.94	1.59	13.98
1136	SLU 37	42	96	4075	-929.83	1.61	14.24
1136	SLU 38	41	107	4029	-920.47	1.58	13.91
1136	SLU 39	41	99	4133	-944.04	1.68	13.85
1136	SLU 40	40	110	4087	-934.68	1.66	13.52
1136	SLU 41	42	100	4189	-956.02	1.69	14.24
1136	SLU 42	41	110	4143	-946.66	1.67	13.92
1136	SLU 43	41	95	3759	-871.04	1.34	13.89
1136	SLU 44	39	112	3683	-855.45	1.3	13.35
1136	SLU 45	42	96	3847	-889.49	1.36	14.36
1136	SLU 46	41	107	3801	-880.14	1.34	14.03
1136	SLU 47	41	113	3740	-867.43	1.31	13.74
1136	SLU 48	43	97	3904	-901.47	1.37	14.75
1136	SLU 49	43	107	3858	-892.12	1.35	14.42
1136	SLU 50	43	96	3873	-895	1.36	14.68
1136	SLU 51	42	106	3827	-885.65	1.33	14.35
1136	SLU 52	42	121	4083	-944.51	1.52	14.28
1136	SLU 53	45	105	4246	-978.55	1.58	15.29
1136	SLU 54	44	116	4201	-969.19	1.56	14.96
1136	SLU 55	43	122	4139	-956.49	1.53	14.67
1136	SLU 56	46	106	4303	-990.53	1.59	15.68
1136	SLU 57	45	116	4257	-981.17	1.57	15.36
1136	SLU 58	46	105	4273	-984.06	1.58	15.61
1136	SLU 59	45	115	4227	-974.7	1.55	15.28
1136	SLU 60	45	108	4330	-998.27	1.65	15.23
1136	SLU 61	44	118	4285	-988.91	1.63	14.9
1136	SLU 62	46	108	4387	-1010.25	1.66	15.62
1136	SLU 63	45	119	4341	-1000.89	1.64	15.29
1136	SLU 64	45	105	4289	-987.19	1.6	15.34
1136	SLU 65	44	123	4213	-971.6	1.56	14.8
1136	SLU 66	47	107	4377	-1005.64	1.63	15.8
1136	SLU 67	46	117	4331	-996.28	1.6	15.48
1136	SLU 68	45	124	4270	-983.58	1.57	15.19
1136	SLU 69	48	107	4433	-1017.62	1.63	16.2
1136	SLU 70	47	118	4388	-1008.26	1.61	15.87
1136	SLU 71	47	106	4403	-1011.15	1.62	16.13
1136	SLU 72	47	117	4357	-1001.79	1.6	15.8
1136	SLU 73	46	132	4613	-1060.65	1.79	15.73
1136	SLU 74	49	116	4776	-1094.7	1.85	16.74
1136	SLU 75	48	126	4731	-1085.34	1.82	16.41
1136	SLU 76	48	133	4669	-1072.63	1.79	16.12
1136	SLU 77	50	116	4833	-1106.68	1.86	17.13
1136	SLU 78	50	127	4787	-1097.32	1.83	16.8
1136	SLU 79	50	115	4803	-1100.21	1.84	17.06
1136	SLU 80	49	126	4757	-1090.85	1.82	16.73
1136	SLU 81	49	118	4860	-1114.42	1.92	16.67
1136	SLU 82	48	129	4814	-1105.06	1.9	16.35
1136	SLU 83	50	119	4917	-1126.4	1.93	17.07
1136	SLU 84	49	129	4871	-1117.04	1.91	16.74
1136	SLE RA 1	34	79	3183	-733.85	1.18	11.48
1136	SLE RA 2	33	90	3132	-723.45	1.15	11.12
1136	SLE RA 3	35	80	3241	-746.15	1.19	11.79
1136	SLE RA 4	34	87	3211	-739.91	1.17	11.57
1136	SLE RA 5	34	91	3170	-731.44	1.15	11.38
1136	SLE RA 6	36	80	3279	-754.14	1.2	12.05
1136	SLE RA 7	35	87	3249	-747.9	1.18	11.84
1136	SLE RA 8	35	79	3259	-749.82	1.19	12.01
1136	SLE RA 9	35	86	3228	-743.59	1.17	11.79
1136	SLE RA 10	35	96	3399	-782.83	1.3	11.74
1136	SLE RA 11	37	86	3508	-805.52	1.34	12.41
1136	SLE RA 12	36	93	3477	-799.28	1.32	12.2
1136	SLE RA 13	35	97	3436	-790.81	1.3	12
1136	SLE RA 14	37	86	3546	-813.51	1.34	12.68
1136	SLE RA 15	37	93	3515	-807.27	1.33	12.46
1136	SLE RA 16	37	85	3525	-809.2	1.34	12.63
1136	SLE RA 17	37	92	3495	-802.96	1.32	12.41
1136	SLE RA 18	36	87	3564	-818.67	1.39	12.37
1136	SLE RA 19	36	94	3533	-812.43	1.37	12.15



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1136	SLE RA 20	37	88	3602	-826.65	1.39	12.63
1136	SLE RA 21	37	95	3571	-820.42	1.38	12.42
1136	SLE FR 1	34	79	3183	-733.85	1.18	11.48
1136	SLE FR 2	34	81	3173	-731.77	1.17	11.41
1136	SLE FR 3	34	79	3198	-737.05	1.18	11.59
1136	SLE FR 4	34	84	3287	-757.22	1.23	11.68
1136	SLE FR 5	35	81	3312	-762.49	1.24	11.85
1136	SLE FR 6	35	83	3373	-776.26	1.28	11.93
1136	SLE QP 1	34	79	3183	-733.85	1.18	11.48
1136	SLE QP 2	35	81	3297	-759.3	1.24	11.75
1136	SLD 1	484	147	2449	-588.34	1.73	169.15
1136	SLD 2	404	181	2432	-585.52	1.82	141.3
1136	SLD 3	497	-54	3404	-784.08	2.22	173.76
1136	SLD 4	417	-19	3387	-781.25	2.31	145.9
1136	SLD 5	164	399	1597	-411.66	0.63	57
1136	SLD 6	112	422	1586	-409.79	0.69	38.61
1136	SLD 7	207	-270	4781	-1064.1	2.25	72.36
1136	SLD 8	155	-247	4770	-1062.24	2.32	53.96
1136	SLD 9	-85	410	1825	-456.35	0.16	-30.47
1136	SLD 10	-138	433	1813	-454.49	0.22	-48.86
1136	SLD 11	-42	-259	5009	-1108.8	1.79	-15.11
1136	SLD 12	-95	-236	4997	-1106.94	1.85	-33.5
1136	SLD 13	-348	182	3207	-737.34	0.17	-122.4
1136	SLD 14	-428	217	3190	-734.52	0.26	-150.26
1136	SLD 15	-335	-19	4163	-933.07	0.66	-117.8
1136	SLD 16	-415	16	4145	-930.25	0.75	-145.65
1136	SLV 1	738	189	1947	-487.1	1.99	257.97
1136	SLV 2	613	243	1920	-482.67	2.14	214.33
1136	SLV 3	759	-136	3491	-803.52	2.78	265.64
1136	SLV 4	634	-82	3464	-799.09	2.92	222
1136	SLV 5	236	596	555	-198.56	0.24	82.13
1136	SLV 6	152	632	537	-195.58	0.34	52.75
1136	SLV 7	308	-486	5703	-1253.29	2.87	107.69
1136	SLV 8	224	-450	5684	-1250.31	2.97	78.3
1136	SLV 9	-155	612	910	-268.28	-0.49	-54.81
1136	SLV 10	-239	649	892	-265.3	-0.39	-84.19
1136	SLV 11	-83	-469	6058	-1323.01	2.14	-29.26
1136	SLV 12	-167	-433	6039	-1320.03	2.23	-58.64
1136	SLV 13	-565	244	3130	-719.5	-0.45	-198.5
1136	SLV 14	-690	299	3103	-715.07	-0.3	-242.14
1136	SLV 15	-544	-80	4674	-1035.92	0.34	-190.83
1136	SLV 16	-669	-26	4647	-1031.49	0.49	-234.47
1136	SLV FO 1	808	199	1812	-459.88	2.06	282.59
1136	SLV FO 2	671	259	1782	-455.01	2.22	234.59
1136	SLV FO 3	832	-158	3511	-807.94	2.93	291.03
1136	SLV FO 4	694	-98	3481	-803.07	3.09	243.02
1136	SLV FO 5	256	647	281	-142.49	0.14	89.17
1136	SLV FO 6	164	687	261	-139.21	0.25	56.85
1136	SLV FO 7	335	-543	5943	-1302.69	3.03	117.28
1136	SLV FO 8	243	-503	5923	-1299.41	3.14	84.96
1136	SLV FO 9	-173	665	671	-219.18	-0.66	-61.46
1136	SLV FO 10	-266	706	651	-215.9	-0.55	-93.78
1136	SLV FO 11	-95	-524	6334	-1379.38	2.23	-33.36
1136	SLV FO 12	-187	-484	6314	-1376.1	2.33	-65.68
1136	SLV FO 13	-625	261	3113	-715.52	-0.61	-219.52
1136	SLV FO 14	-762	320	3084	-710.65	-0.45	-267.53
1136	SLV FO 15	-601	-96	4812	-1063.58	0.25	-211.09
1136	SLV FO 16	-739	-37	4782	-1058.71	0.41	-259.1
1136	CRTFP Ux+	0	0	0	0	0	0
1136	CRTFP Ux-	0	0	0	0	0	0
1136	CRTFP Uy+	0	0	0	0	0	0
1136	CRTFP Uy-	0	0	0	0	0	0
1137	SLU 1	36	65	3020	-677.58	-0.43	12.3
1137	SLU 2	34	83	2944	-662.72	-0.42	11.71
1137	SLU 3	38	66	3108	-695.54	-0.46	12.81
1137	SLU 4	37	77	3062	-686.62	-0.45	12.46
1137	SLU 5	36	83	3001	-674.44	-0.45	12.14
1137	SLU 6	39	67	3165	-707.25	-0.48	13.24
1137	SLU 7	38	77	3119	-698.34	-0.48	12.89
1137	SLU 8	39	66	3134	-701.01	-0.48	13.16
1137	SLU 9	38	77	3089	-692.1	-0.47	12.8
1137	SLU 10	38	91	3341	-747.99	-0.43	12.77
1137	SLU 11	41	75	3504	-780.81	-0.47	13.88
1137	SLU 12	40	85	3459	-771.9	-0.46	13.52
1137	SLU 13	39	91	3398	-759.71	-0.45	13.2
1137	SLU 14	42	75	3561	-792.53	-0.49	14.31
1137	SLU 15	41	85	3516	-783.62	-0.49	13.95
1137	SLU 16	42	74	3531	-786.29	-0.49	14.22
1137	SLU 17	41	85	3485	-777.38	-0.48	13.87
1137	SLU 18	41	77	3586	-799.4	-0.44	13.82
1137	SLU 19	40	87	3541	-790.49	-0.43	13.47
1137	SLU 20	42	77	3643	-811.12	-0.46	14.25
1137	SLU 21	41	88	3598	-802.2	-0.46	13.9
1137	SLU 22	41	75	3547	-789.03	-0.47	13.96
1137	SLU 23	39	92	3471	-774.17	-0.46	13.36
1137	SLU 24	42	76	3634	-806.99	-0.5	14.47
1137	SLU 25	41	86	3588	-798.07	-0.49	14.11
1137	SLU 26	40	92	3528	-785.89	-0.49	13.79
1137	SLU 27	44	76	3691	-818.7	-0.52	14.9



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1137	SLU 28	43	87	3646	-809.79	-0.52	14.54
1137	SLU 29	43	75	3661	-812.46	-0.52	14.81
1137	SLU 30	42	86	3615	-803.55	-0.51	14.46
1137	SLU 31	42	100	3867	-859.44	-0.47	14.43
1137	SLU 32	46	84	4030	-892.26	-0.5	15.54
1137	SLU 33	45	94	3985	-883.35	-0.5	15.18
1137	SLU 34	44	101	3924	-871.16	-0.49	14.86
1137	SLU 35	47	84	4087	-903.98	-0.53	15.97
1137	SLU 36	46	95	4042	-895.07	-0.53	15.61
1137	SLU 37	47	84	4057	-897.74	-0.53	15.88
1137	SLU 38	46	94	4011	-888.83	-0.52	15.53
1137	SLU 39	45	86	4113	-910.85	-0.48	15.48
1137	SLU 40	44	97	4067	-901.94	-0.47	15.13
1137	SLU 41	47	87	4170	-922.57	-0.5	15.91
1137	SLU 42	46	97	4124	-913.65	-0.5	15.56
1137	SLU 43	45	82	3746	-842.64	-0.54	15.42
1137	SLU 44	44	99	3670	-827.78	-0.53	14.83
1137	SLU 45	47	83	3833	-860.6	-0.57	15.93
1137	SLU 46	46	93	3788	-851.68	-0.57	15.58
1137	SLU 47	45	99	3727	-839.5	-0.56	15.26
1137	SLU 48	48	83	3890	-872.32	-0.6	16.36
1137	SLU 49	47	94	3845	-863.4	-0.59	16.01
1137	SLU 50	48	82	3860	-866.08	-0.59	16.28
1137	SLU 51	47	93	3814	-857.16	-0.59	15.92
1137	SLU 52	47	107	4066	-913.06	-0.54	15.9
1137	SLU 53	50	91	4230	-945.87	-0.58	17
1137	SLU 54	49	101	4184	-936.96	-0.58	16.65
1137	SLU 55	48	108	4123	-924.77	-0.57	16.32
1137	SLU 56	51	91	4287	-957.59	-0.61	17.43
1137	SLU 57	50	102	4241	-948.68	-0.6	17.07
1137	SLU 58	51	91	4256	-951.35	-0.6	17.35
1137	SLU 59	50	101	4211	-942.44	-0.6	16.99
1137	SLU 60	50	93	4312	-964.46	-0.55	16.94
1137	SLU 61	49	104	4267	-955.55	-0.55	16.59
1137	SLU 62	51	94	4369	-976.18	-0.58	17.37
1137	SLU 63	50	104	4324	-967.27	-0.57	17.02
1137	SLU 64	50	91	4272	-954.09	-0.58	17.08
1137	SLU 65	48	108	4196	-939.23	-0.57	16.49
1137	SLU 66	52	92	4360	-972.05	-0.61	17.59
1137	SLU 67	51	102	4314	-963.13	-0.61	17.23
1137	SLU 68	50	109	4253	-950.95	-0.6	16.91
1137	SLU 69	53	92	4417	-983.77	-0.64	18.02
1137	SLU 70	52	103	4371	-974.85	-0.63	17.66
1137	SLU 71	53	92	4386	-977.53	-0.63	17.94
1137	SLU 72	52	102	4341	-968.61	-0.63	17.58
1137	SLU 73	52	117	4593	-1024.51	-0.58	17.55
1137	SLU 74	55	100	4756	-1057.32	-0.62	18.66
1137	SLU 75	54	111	4710	-1048.41	-0.61	18.3
1137	SLU 76	53	117	4650	-1036.22	-0.61	17.98
1137	SLU 77	56	101	4813	-1069.04	-0.65	19.09
1137	SLU 78	55	111	4767	-1060.13	-0.64	18.73
1137	SLU 79	56	100	4783	-1062.8	-0.64	19
1137	SLU 80	55	111	4737	-1053.89	-0.64	18.65
1137	SLU 81	55	103	4838	-1075.91	-0.59	18.6
1137	SLU 82	54	113	4793	-1067	-0.59	18.25
1137	SLU 83	56	103	4895	-1087.63	-0.62	19.03
1137	SLU 84	55	114	4850	-1078.72	-0.61	18.68
1137	SLE RA 1	37	68	3171	-709.42	-0.44	12.77
1137	SLE RA 2	36	79	3120	-699.51	-0.43	12.38
1137	SLE RA 3	38	69	3229	-721.39	-0.46	13.11
1137	SLE RA 4	38	76	3199	-715.45	-0.46	12.88
1137	SLE RA 5	37	80	3158	-707.33	-0.45	12.66
1137	SLE RA 6	39	69	3267	-729.21	-0.48	13.4
1137	SLE RA 7	39	76	3237	-723.26	-0.47	13.16
1137	SLE RA 8	39	68	3247	-725.04	-0.47	13.34
1137	SLE RA 9	38	75	3216	-719.1	-0.47	13.11
1137	SLE RA 10	38	85	3384	-756.36	-0.44	13.09
1137	SLE RA 11	41	74	3493	-778.24	-0.46	13.83
1137	SLE RA 12	40	81	3463	-772.3	-0.46	13.59
1137	SLE RA 13	39	85	3422	-764.18	-0.46	13.38
1137	SLE RA 14	41	74	3531	-786.06	-0.48	14.11
1137	SLE RA 15	41	81	3501	-780.11	-0.48	13.88
1137	SLE RA 16	41	74	3511	-781.9	-0.48	14.06
1137	SLE RA 17	41	81	3481	-775.95	-0.48	13.82
1137	SLE RA 18	40	76	3548	-790.64	-0.45	13.79
1137	SLE RA 19	40	83	3518	-784.69	-0.44	13.55
1137	SLE RA 20	41	76	3586	-798.45	-0.46	14.07
1137	SLE RA 21	41	83	3556	-792.5	-0.46	13.84
1137	SLE FR 1	37	68	3171	-709.42	-0.44	12.77
1137	SLE FR 2	37	70	3161	-707.44	-0.44	12.69
1137	SLE FR 3	38	68	3186	-712.55	-0.45	12.89
1137	SLE FR 4	38	73	3274	-731.8	-0.44	13
1137	SLE FR 5	39	70	3299	-736.91	-0.45	13.19
1137	SLE FR 6	39	72	3359	-750.03	-0.44	13.28
1137	SLE QP 1	37	68	3171	-709.42	-0.44	12.77
1137	SLE QP 2	38	70	3284	-733.78	-0.44	13.08
1137	SLD 1	486	134	2414	-567.32	0.49	170.02
1137	SLD 2	407	171	2394	-563.24	0.63	142.11
1137	SLD 3	501	-63	3363	-754.3	0.37	175.1



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1137	SLD 4	421	-26	3343	-750.22	0.5	147.2
1137	SLD 5	165	382	1587	-400.99	0.01	57.47
1137	SLD 6	113	407	1573	-398.3	0.1	39.05
1137	SLD 7	213	-276	4751	-1024.26	-0.42	74.42
1137	SLD 8	160	-252	4737	-1021.57	-0.33	56
1137	SLD 9	-84	392	1830	-446	-0.55	-29.84
1137	SLD 10	-136	416	1817	-443.31	-0.46	-48.27
1137	SLD 11	-36	-266	4994	-1069.27	-0.98	-12.9
1137	SLD 12	-89	-242	4981	-1066.58	-0.89	-31.32
1137	SLD 13	-344	167	3225	-717.35	-1.38	-121.04
1137	SLD 14	-424	203	3204	-713.27	-1.25	-148.95
1137	SLD 15	-330	-31	4174	-904.32	-1.51	-115.96
1137	SLD 16	-410	6	4153	-900.25	-1.38	-143.86
1137	SLV 1	739	176	1901	-468.83	1.02	258.57
1137	SLV 2	614	233	1868	-462.45	1.23	214.85
1137	SLV 3	763	-143	3435	-771.11	0.81	267.01
1137	SLV 4	638	-86	3403	-764.73	1.02	223.29
1137	SLV 5	236	575	547	-197.03	0.28	82.09
1137	SLV 6	152	614	526	-192.74	0.42	52.66
1137	SLV 7	315	-489	5663	-1204.63	-0.42	110.21
1137	SLV 8	231	-450	5641	-1200.33	-0.28	80.77
1137	SLV 9	-154	591	927	-267.24	-0.6	-54.62
1137	SLV 10	-238	629	905	-262.94	-0.46	-84.06
1137	SLV 11	-75	-474	6042	-1274.83	-1.3	-26.5
1137	SLV 12	-159	-435	6020	-1270.54	-1.16	-55.94
1137	SLV 13	-561	227	3165	-702.84	-1.91	-197.13
1137	SLV 14	-686	284	3133	-696.46	-1.69	-240.85
1137	SLV 15	-537	-93	4700	-1005.12	-2.12	-188.7
1137	SLV 16	-663	-35	4667	-998.74	-1.9	-232.42
1137	SLV FO 1	809	186	1762	-442.34	1.17	283.12
1137	SLV FO 2	672	249	1727	-435.32	1.4	235.03
1137	SLV FO 3	836	-165	3450	-774.84	0.94	292.4
1137	SLV FO 4	698	-102	3415	-767.83	1.17	244.31
1137	SLV FO 5	256	626	274	-143.36	0.35	88.99
1137	SLV FO 6	163	669	250	-138.64	0.51	56.61
1137	SLV FO 7	343	-545	5901	-1251.71	-0.42	119.92
1137	SLV FO 8	250	-502	5877	-1246.99	-0.26	87.54
1137	SLV FO 9	-173	643	691	-220.58	-0.62	-61.39
1137	SLV FO 10	-266	685	667	-215.86	-0.46	-93.77
1137	SLV FO 11	-86	-528	6318	-1328.93	-1.39	-30.46
1137	SLV FO 12	-179	-486	6294	-1324.21	-1.23	-62.84
1137	SLV FO 13	-621	242	3153	-699.74	-2.05	-218.15
1137	SLV FO 14	-759	305	3117	-692.73	-1.82	-266.25
1137	SLV FO 15	-595	-109	4841	-1032.25	-2.28	-208.88
1137	SLV FO 16	-733	-46	4806	-1025.23	-2.05	-256.97
1137	CRTFP Ux+	0	0	0	0	0	0
1137	CRTFP Ux-	0	0	0	0	0	0
1137	CRTFP Uy+	0	0	0	0	0	0
1137	CRTFP Uy-	0	0	0	0	0	0
1138	SLU 1	39	56	3062	-694.46	-2.35	13.51
1138	SLU 2	38	73	2985	-679.18	-2.28	12.87
1138	SLU 3	41	56	3151	-713.25	-2.44	14.07
1138	SLU 4	40	67	3105	-704.09	-2.4	13.69
1138	SLU 5	39	73	3044	-691.53	-2.35	13.34
1138	SLU 6	42	57	3210	-725.6	-2.51	14.54
1138	SLU 7	41	67	3164	-716.44	-2.47	14.15
1138	SLU 8	42	56	3179	-719.16	-2.49	14.44
1138	SLU 9	41	67	3133	-709.99	-2.45	14.06
1138	SLU 10	41	80	3386	-766.59	-2.58	14.08
1138	SLU 11	45	64	3552	-800.66	-2.74	15.28
1138	SLU 12	43	74	3506	-791.49	-2.7	14.89
1138	SLU 13	42	81	3444	-778.94	-2.65	14.54
1138	SLU 14	46	64	3611	-813.01	-2.81	15.74
1138	SLU 15	45	75	3565	-803.84	-2.77	15.36
1138	SLU 16	46	64	3580	-806.56	-2.79	15.64
1138	SLU 17	45	74	3534	-797.39	-2.74	15.26
1138	SLU 18	44	66	3635	-819.32	-2.77	15.23
1138	SLU 19	43	77	3589	-810.15	-2.73	14.85
1138	SLU 20	46	67	3693	-831.67	-2.84	15.69
1138	SLU 21	45	77	3647	-822.5	-2.8	15.31
1138	SLU 22	45	64	3595	-809.06	-2.77	15.38
1138	SLU 23	43	81	3518	-793.78	-2.7	14.74
1138	SLU 24	47	65	3685	-827.85	-2.87	15.94
1138	SLU 25	45	75	3638	-818.69	-2.83	15.56
1138	SLU 26	44	81	3577	-806.13	-2.77	15.2
1138	SLU 27	48	65	3743	-840.2	-2.94	16.4
1138	SLU 28	47	75	3697	-831.04	-2.9	16.02
1138	SLU 29	48	65	3712	-833.76	-2.91	16.3
1138	SLU 30	46	75	3666	-824.59	-2.87	15.92
1138	SLU 31	47	89	3919	-881.18	-3	15.94
1138	SLU 32	50	72	4086	-915.25	-3.17	17.14
1138	SLU 33	49	83	4039	-906.09	-3.13	16.76
1138	SLU 34	48	89	3978	-893.53	-3.07	16.41
1138	SLU 35	51	73	4144	-927.6	-3.24	17.61
1138	SLU 36	50	83	4098	-918.44	-3.2	17.22
1138	SLU 37	51	72	4113	-921.16	-3.21	17.51
1138	SLU 38	50	83	4067	-911.99	-3.17	17.13
1138	SLU 39	50	75	4168	-933.92	-3.2	17.1
1138	SLU 40	49	85	4122	-924.75	-3.16	16.71



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1138	SLU 41	51	75	4226	-946.27	-3.27	17.56
1138	SLU 42	50	85	4180	-937.1	-3.23	17.18
1138	SLU 43	49	69	3798	-863.5	-2.91	16.92
1138	SLU 44	48	87	3721	-848.23	-2.84	16.28
1138	SLU 45	51	70	3887	-882.3	-3	17.48
1138	SLU 46	50	81	3841	-873.13	-2.96	17.1
1138	SLU 47	49	87	3779	-860.58	-2.91	16.75
1138	SLU 48	52	71	3946	-894.65	-3.07	17.95
1138	SLU 49	51	81	3900	-885.48	-3.03	17.57
1138	SLU 50	52	70	3915	-888.2	-3.05	17.85
1138	SLU 51	51	80	3869	-879.04	-3.01	17.47
1138	SLU 52	51	94	4122	-935.63	-3.14	17.49
1138	SLU 53	55	78	4288	-969.7	-3.3	18.69
1138	SLU 54	53	88	4242	-960.54	-3.26	18.31
1138	SLU 55	52	95	4180	-947.98	-3.21	17.95
1138	SLU 56	56	78	4347	-982.05	-3.37	19.15
1138	SLU 57	55	89	4300	-972.89	-3.33	18.77
1138	SLU 58	56	78	4316	-975.6	-3.34	19.05
1138	SLU 59	55	88	4269	-966.44	-3.3	18.67
1138	SLU 60	54	80	4371	-988.36	-3.33	18.64
1138	SLU 61	53	91	4324	-979.2	-3.29	18.26
1138	SLU 62	56	81	4429	-1000.71	-3.4	19.11
1138	SLU 63	55	91	4383	-991.55	-3.36	18.72
1138	SLU 64	55	78	4331	-978.1	-3.33	18.79
1138	SLU 65	53	95	4254	-962.83	-3.26	18.15
1138	SLU 66	56	79	4420	-996.9	-3.43	19.35
1138	SLU 67	55	89	4374	-987.73	-3.39	18.97
1138	SLU 68	54	95	4313	-975.18	-3.33	18.62
1138	SLU 69	58	79	4479	-1009.25	-3.5	19.81
1138	SLU 70	57	89	4433	-1000.08	-3.46	19.43
1138	SLU 71	58	78	4448	-1002.8	-3.47	19.72
1138	SLU 72	56	89	4402	-993.64	-3.43	19.34
1138	SLU 73	57	102	4655	-1050.23	-3.56	19.36
1138	SLU 74	60	86	4821	-1084.3	-3.72	20.55
1138	SLU 75	59	97	4775	-1075.14	-3.68	20.17
1138	SLU 76	58	103	4713	-1062.58	-3.63	19.82
1138	SLU 77	61	87	4880	-1096.65	-3.79	21.02
1138	SLU 78	60	97	4834	-1087.49	-3.75	20.64
1138	SLU 79	61	86	4849	-1090.2	-3.77	20.92
1138	SLU 80	60	96	4803	-1081.04	-3.73	20.54
1138	SLU 81	60	88	4904	-1102.96	-3.76	20.51
1138	SLU 82	59	99	4858	-1093.8	-3.72	20.13
1138	SLU 83	61	89	4962	-1115.31	-3.83	20.97
1138	SLU 84	60	99	4916	-1106.15	-3.79	20.59
1138	SLE RA 1	41	58	3214	-727.2	-2.47	14.04
1138	SLE RA 2	40	69	3163	-717.02	-2.42	13.62
1138	SLE RA 3	42	59	3274	-739.73	-2.53	14.42
1138	SLE RA 4	41	65	3243	-733.62	-2.51	14.16
1138	SLE RA 5	41	70	3202	-725.25	-2.47	13.93
1138	SLE RA 6	43	59	3313	-747.96	-2.58	14.73
1138	SLE RA 7	42	66	3282	-741.85	-2.55	14.47
1138	SLE RA 8	43	58	3292	-743.67	-2.56	14.66
1138	SLE RA 9	42	65	3262	-737.56	-2.54	14.41
1138	SLE RA 10	42	74	3430	-775.29	-2.62	14.42
1138	SLE RA 11	44	64	3541	-798	-2.73	15.22
1138	SLE RA 12	44	70	3510	-791.89	-2.7	14.97
1138	SLE RA 13	43	75	3469	-783.52	-2.67	14.73
1138	SLE RA 14	45	64	3580	-806.23	-2.78	15.53
1138	SLE RA 15	45	71	3549	-800.12	-2.75	15.27
1138	SLE RA 16	45	63	3560	-801.93	-2.76	15.46
1138	SLE RA 17	44	70	3529	-795.82	-2.73	15.21
1138	SLE RA 18	44	65	3596	-810.44	-2.75	15.19
1138	SLE RA 19	44	72	3565	-804.33	-2.73	14.93
1138	SLE RA 20	45	65	3635	-818.67	-2.8	15.5
1138	SLE RA 21	45	72	3604	-812.56	-2.77	15.24
1138	SLE FR 1	41	58	3214	-727.2	-2.47	14.04
1138	SLE FR 2	41	60	3204	-725.16	-2.46	13.96
1138	SLE FR 3	41	58	3230	-730.49	-2.49	14.17
1138	SLE FR 4	42	62	3319	-750.13	-2.55	14.3
1138	SLE FR 5	42	60	3345	-755.46	-2.57	14.51
1138	SLE FR 6	43	61	3405	-768.82	-2.61	14.62
1138	SLE QP 1	41	58	3214	-727.2	-2.47	14.04
1138	SLE QP 2	42	60	3329	-752.17	-2.55	14.39
1138	SLD 1	488	122	2423	-579.3	-1.07	170.76
1138	SLD 2	408	161	2397	-573.06	-0.89	142.82
1138	SLD 3	504	-74	3387	-771.95	-1.95	176.33
1138	SLD 4	424	-35	3361	-765.71	-1.76	148.39
1138	SLD 5	166	368	1600	-409.25	-0.82	57.88
1138	SLD 6	114	394	1583	-405.12	-0.7	39.43
1138	SLD 7	219	-284	4813	-1051.42	-3.73	76.45
1138	SLD 8	166	-258	4796	-1047.3	-3.61	58
1138	SLD 9	-82	378	1862	-457.05	-1.5	-29.23
1138	SLD 10	-135	404	1845	-452.93	-1.38	-47.68
1138	SLD 11	-29	-274	5075	-1099.22	-4.41	-10.66
1138	SLD 12	-82	-248	5058	-1095.1	-4.29	-29.11
1138	SLD 13	-340	155	3297	-738.64	-3.35	-119.62
1138	SLD 14	-420	194	3271	-732.39	-3.16	-147.56
1138	SLD 15	-324	-40	4261	-931.29	-4.22	-114.05
1138	SLD 16	-404	-2	4235	-925.05	-4.03	-141.99



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1138	SLV 1	740	162	1888	-477.07	-0.22	258.98
1138	SLV 2	615	222	1848	-467.29	0.07	215.21
1138	SLV 3	766	-154	3447	-788.53	-1.64	268.2
1138	SLV 4	641	-94	3407	-778.75	-1.34	224.43
1138	SLV 5	235	559	540	-199.08	0.24	81.95
1138	SLV 6	151	600	513	-192.5	0.43	52.48
1138	SLV 7	322	-495	5736	-1237.29	-4.48	112.68
1138	SLV 8	238	-454	5709	-1230.7	-4.28	83.21
1138	SLV 9	-154	574	949	-273.64	-0.83	-54.44
1138	SLV 10	-238	615	922	-267.06	-0.63	-83.91
1138	SLV 11	-67	-479	6145	-1311.84	-5.54	-23.71
1138	SLV 12	-151	-439	6118	-1305.26	-5.35	-53.18
1138	SLV 13	-557	214	3251	-725.59	-3.77	-195.66
1138	SLV 14	-682	274	3211	-715.82	-3.47	-239.43
1138	SLV 15	-531	-102	4810	-1037.05	-5.18	-186.44
1138	SLV 16	-656	-42	4770	-1027.28	-4.89	-230.21
1138	SLV FO 1	810	172	1744	-449.56	0.01	283.44
1138	SLV FO 2	672	239	1700	-438.8	0.34	235.29
1138	SLV FO 3	839	-176	3459	-792.16	-1.54	293.58
1138	SLV FO 4	701	-109	3415	-781.41	-1.22	245.43
1138	SLV FO 5	254	609	261	-143.77	0.52	88.71
1138	SLV FO 6	162	653	232	-136.53	0.73	56.29
1138	SLV FO 7	350	-550	5976	-1285.8	-4.67	122.51
1138	SLV FO 8	258	-506	5947	-1278.56	-4.45	90.1
1138	SLV FO 9	-174	626	711	-225.79	-0.66	-61.32
1138	SLV FO 10	-266	671	682	-218.55	-0.44	-93.74
1138	SLV FO 11	-78	-533	6426	-1367.81	-5.84	-27.52
1138	SLV FO 12	-170	-489	6396	-1360.57	-5.62	-59.94
1138	SLV FO 13	-617	229	3243	-722.94	-3.89	-216.66
1138	SLV FO 14	-755	296	3199	-712.18	-3.57	-264.81
1138	SLV FO 15	-588	-119	4958	-1065.54	-5.45	-206.52
1138	SLV FO 16	-726	-52	4914	-1054.79	-5.12	-254.67
1138	CRTFP Ux+	0	0	0	0	0	0
1138	CRTFP Ux-	0	0	0	0	0	0
1138	CRTFP Uy+	0	0	0	0	0	0
1138	CRTFP Uy-	0	0	0	0	0	0
1139	SLU 1	43	47	3166	-757.56	-4.5	14.7
1139	SLU 2	41	64	3086	-740.52	-4.36	14.02
1139	SLU 3	44	48	3260	-778.74	-4.67	15.31
1139	SLU 4	43	58	3212	-768.51	-4.58	14.9
1139	SLU 5	42	65	3148	-754.54	-4.48	14.52
1139	SLU 6	46	48	3321	-792.76	-4.79	15.81
1139	SLU 7	45	59	3273	-782.53	-4.71	15.4
1139	SLU 8	46	48	3289	-785.6	-4.74	15.7
1139	SLU 9	44	58	3241	-775.38	-4.66	15.29
1139	SLU 10	45	71	3501	-836.89	-4.98	15.36
1139	SLU 11	48	55	3675	-875.11	-5.29	16.65
1139	SLU 12	47	65	3627	-864.88	-5.21	16.24
1139	SLU 13	46	72	3563	-850.91	-5.1	15.86
1139	SLU 14	50	55	3736	-889.13	-5.41	17.15
1139	SLU 15	49	66	3688	-878.9	-5.33	16.74
1139	SLU 16	49	55	3704	-881.97	-5.36	17.04
1139	SLU 17	48	65	3656	-871.75	-5.28	16.63
1139	SLU 18	48	57	3759	-895.23	-5.39	16.62
1139	SLU 19	47	67	3711	-885	-5.31	16.21
1139	SLU 20	50	57	3821	-909.25	-5.51	17.11
1139	SLU 21	49	68	3772	-899.03	-5.43	16.71
1139	SLU 22	49	54	3719	-884.4	-5.36	16.77
1139	SLU 23	47	72	3639	-867.36	-5.22	16.09
1139	SLU 24	50	55	3813	-905.58	-5.53	17.38
1139	SLU 25	49	65	3765	-895.36	-5.44	16.98
1139	SLU 26	48	72	3700	-881.38	-5.34	16.59
1139	SLU 27	52	55	3874	-919.6	-5.65	17.88
1139	SLU 28	51	66	3826	-909.38	-5.56	17.47
1139	SLU 29	52	55	3842	-912.44	-5.6	17.77
1139	SLU 30	50	65	3794	-902.22	-5.51	17.36
1139	SLU 31	51	79	4054	-963.73	-5.84	17.43
1139	SLU 32	54	62	4228	-1001.95	-6.15	18.72
1139	SLU 33	53	72	4179	-991.73	-6.07	18.32
1139	SLU 34	52	79	4115	-977.75	-5.96	17.93
1139	SLU 35	56	62	4289	-1015.97	-6.27	19.22
1139	SLU 36	55	73	4241	-1005.75	-6.19	18.82
1139	SLU 37	55	62	4257	-1008.81	-6.22	19.11
1139	SLU 38	54	72	4209	-998.59	-6.14	18.7
1139	SLU 39	54	64	4312	-1022.07	-6.25	18.69
1139	SLU 40	53	75	4264	-1011.85	-6.17	18.28
1139	SLU 41	56	65	4373	-1036.09	-6.37	19.19
1139	SLU 42	55	75	4325	-1025.87	-6.29	18.78
1139	SLU 43	53	59	3927	-941.33	-5.55	18.4
1139	SLU 44	52	76	3847	-924.29	-5.42	17.72
1139	SLU 45	55	59	4020	-962.51	-5.72	19.01
1139	SLU 46	54	70	3972	-952.29	-5.64	18.6
1139	SLU 47	53	76	3908	-938.32	-5.54	18.22
1139	SLU 48	57	60	4082	-976.54	-5.84	19.51
1139	SLU 49	55	70	4034	-966.31	-5.76	19.1
1139	SLU 50	56	59	4050	-969.38	-5.79	19.4
1139	SLU 51	55	70	4001	-959.15	-5.71	18.99
1139	SLU 52	55	83	4262	-1020.66	-6.04	19.06
1139	SLU 53	59	66	4435	-1058.88	-6.35	20.35



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1139	SLU 54	58	77	4387	-1048.66	-6.26	19.94
1139	SLU 55	57	83	4323	-1034.69	-6.16	19.56
1139	SLU 56	61	67	4497	-1072.91	-6.47	20.85
1139	SLU 57	59	77	4448	-1062.68	-6.38	20.44
1139	SLU 58	60	66	4464	-1065.75	-6.42	20.74
1139	SLU 59	59	77	4416	-1055.52	-6.33	20.33
1139	SLU 60	59	69	4520	-1079.01	-6.44	20.31
1139	SLU 61	58	79	4471	-1068.78	-6.36	19.91
1139	SLU 62	60	69	4581	-1093.03	-6.56	20.81
1139	SLU 63	59	79	4533	-1082.8	-6.48	20.41
1139	SLU 64	59	66	4480	-1068.18	-6.41	20.47
1139	SLU 65	58	83	4399	-1051.14	-6.27	19.79
1139	SLU 66	61	67	4573	-1089.36	-6.58	21.08
1139	SLU 67	60	77	4525	-1079.13	-6.5	20.68
1139	SLU 68	59	84	4461	-1065.16	-6.39	20.29
1139	SLU 69	63	67	4634	-1103.38	-6.7	21.58
1139	SLU 70	62	77	4586	-1093.16	-6.62	21.17
1139	SLU 71	62	67	4602	-1096.22	-6.65	21.47
1139	SLU 72	61	77	4554	-1086	-6.57	21.06
1139	SLU 73	61	90	4814	-1147.51	-6.9	21.13
1139	SLU 74	65	74	4988	-1185.73	-7.2	22.42
1139	SLU 75	64	84	4940	-1175.5	-7.12	22.02
1139	SLU 76	63	91	4876	-1161.53	-7.02	21.63
1139	SLU 77	67	74	5049	-1199.75	-7.32	22.92
1139	SLU 78	65	84	5001	-1189.53	-7.24	22.51
1139	SLU 79	66	74	5017	-1192.59	-7.27	22.81
1139	SLU 80	65	84	4969	-1182.37	-7.19	22.4
1139	SLU 81	65	76	5072	-1205.85	-7.3	22.39
1139	SLU 82	64	86	5024	-1195.63	-7.22	21.98
1139	SLU 83	66	76	5134	-1219.87	-7.42	22.89
1139	SLU 84	65	87	5086	-1209.65	-7.34	22.48
1139	SLE RA 1	44	49	3324	-793.8	-4.74	15.29
1139	SLE RA 2	43	61	3271	-782.44	-4.65	14.84
1139	SLE RA 3	46	50	3387	-807.92	-4.86	15.7
1139	SLE RA 4	45	57	3355	-801.1	-4.8	15.43
1139	SLE RA 5	44	61	3312	-791.79	-4.73	15.17
1139	SLE RA 6	47	50	3428	-817.27	-4.94	16.03
1139	SLE RA 7	46	57	3395	-810.45	-4.88	15.76
1139	SLE RA 8	46	50	3406	-812.49	-4.9	15.96
1139	SLE RA 9	46	56	3374	-805.68	-4.85	15.69
1139	SLE RA 10	46	65	3548	-846.68	-5.07	15.73
1139	SLE RA 11	48	54	3663	-872.16	-5.27	16.59
1139	SLE RA 12	47	61	3631	-865.35	-5.22	16.32
1139	SLE RA 13	47	66	3588	-856.03	-5.15	16.07
1139	SLE RA 14	49	55	3704	-881.51	-5.35	16.93
1139	SLE RA 15	48	61	3672	-874.7	-5.3	16.65
1139	SLE RA 16	49	54	3683	-876.74	-5.32	16.85
1139	SLE RA 17	48	61	3651	-869.92	-5.26	16.58
1139	SLE RA 18	48	56	3719	-885.58	-5.34	16.57
1139	SLE RA 19	47	63	3687	-878.76	-5.28	16.3
1139	SLE RA 20	49	56	3760	-894.93	-5.42	16.9
1139	SLE RA 21	48	63	3728	-888.11	-5.36	16.63
1139	SLE FR 1	44	49	3324	-793.8	-4.74	15.29
1139	SLE FR 2	44	51	3314	-791.53	-4.72	15.2
1139	SLE FR 3	45	49	3341	-797.54	-4.77	15.43
1139	SLE FR 4	45	53	3432	-819.06	-4.9	15.59
1139	SLE FR 5	46	51	3459	-825.07	-4.95	15.81
1139	SLE FR 6	46	52	3522	-839.69	-5.04	15.93
1139	SLE QP 1	44	49	3324	-793.8	-4.74	15.29
1139	SLE QP 2	46	51	3443	-821.33	-4.92	15.68
1139	SLD 1	490	147	2482	-629.69	-2.83	171.37
1139	SLD 2	410	188	2450	-620.1	-2.58	143.42
1139	SLD 3	507	-48	3486	-844.99	-4.56	177.44
1139	SLD 4	427	-7	3454	-835.41	-4.31	149.48
1139	SLD 5	167	368	1638	-439.01	-1.72	58.22
1139	SLD 6	114	395	1617	-432.69	-1.55	39.76
1139	SLD 7	225	-282	4984	-1156.71	-7.48	78.44
1139	SLD 8	172	-255	4963	-1150.38	-7.32	59.98
1139	SLD 9	-81	357	1923	-492.28	-2.53	-28.63
1139	SLD 10	-134	384	1902	-485.96	-2.36	-47.09
1139	SLD 11	-23	-293	5269	-1209.98	-8.29	-8.41
1139	SLD 12	-76	-266	5247	-1203.65	-8.12	-26.87
1139	SLD 13	-336	109	3432	-807.25	-5.53	-118.13
1139	SLD 14	-416	150	3400	-797.67	-5.28	-146.09
1139	SLD 15	-319	-86	4436	-1022.56	-7.26	-112.07
1139	SLD 16	-399	-45	4403	-1012.98	-7.01	-140.02
1139	SLV 1	741	206	1916	-516.3	-1.61	259.21
1139	SLV 2	615	270	1866	-501.29	-1.22	215.41
1139	SLV 3	769	-109	3539	-864.41	-4.41	269.23
1139	SLV 4	644	-45	3488	-849.39	-4.02	225.43
1139	SLV 5	234	564	533	-204.66	0.24	81.72
1139	SLV 6	150	607	499	-194.55	0.5	52.23
1139	SLV 7	330	-487	5942	-1365.02	-9.08	115.11
1139	SLV 8	245	-444	5908	-1354.91	-8.82	85.62
1139	SLV 9	-154	547	978	-287.75	-1.02	-54.26
1139	SLV 10	-238	590	944	-277.64	-0.76	-83.75
1139	SLV 11	-59	-505	6387	-1448.11	-10.35	-20.88
1139	SLV 12	-143	-462	6352	-1438	-10.08	-50.37
1139	SLV 13	-553	148	3397	-793.27	-5.82	-194.08



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1139	SLV 14	-678	211	3347	-778.26	-5.43	-237.87
1139	SLV 15	-524	-168	5020	-1141.38	-8.62	-184.06
1139	SLV 16	-650	-104	4970	-1126.36	-8.23	-227.86
1139	SLV FO 1	810	222	1764	-485.8	-1.28	283.57
1139	SLV FO 2	672	292	1708	-469.28	-0.85	235.39
1139	SLV FO 3	842	-125	3548	-868.72	-4.36	294.58
1139	SLV FO 4	704	-55	3493	-852.2	-3.93	246.4
1139	SLV FO 5	253	615	242	-142.99	0.76	88.33
1139	SLV FO 6	160	663	205	-131.87	1.05	55.89
1139	SLV FO 7	358	-541	6192	-1419.39	-9.5	125.05
1139	SLV FO 8	265	-494	6155	-1408.27	-9.21	92.61
1139	SLV FO 9	-174	596	731	-234.39	-0.63	-61.26
1139	SLV FO 10	-267	643	694	-223.27	-0.34	-93.7
1139	SLV FO 11	-69	-561	6681	-1510.79	-10.89	-24.54
1139	SLV FO 12	-162	-513	6643	-1499.67	-10.6	-56.97
1139	SLV FO 13	-613	157	3393	-790.46	-5.91	-215.05
1139	SLV FO 14	-751	227	3337	-773.95	-5.48	-263.23
1139	SLV FO 15	-581	-190	5178	-1173.38	-8.99	-204.03
1139	SLV FO 16	-719	-120	5122	-1156.87	-8.56	-252.21
1139	CRTFP Ux+	0	0	0	0	0	0
1139	CRTFP Ux-	0	0	0	0	0	0
1139	CRTFP Uy+	0	0	0	0	0	0
1139	CRTFP Uy-	0	0	0	0	0	0
1140	SLU 1	46	40	3338	-869.84	-6.7	15.88
1140	SLU 2	44	58	3252	-849.57	-6.49	15.15
1140	SLU 3	48	41	3437	-895.06	-6.94	16.53
1140	SLU 4	47	51	3386	-882.9	-6.82	16.1
1140	SLU 5	45	58	3318	-866.39	-6.66	15.68
1140	SLU 6	49	41	3503	-911.88	-7.12	17.06
1140	SLU 7	48	52	3452	-899.72	-6.99	16.63
1140	SLU 8	49	41	3469	-903.47	-7.04	16.94
1140	SLU 9	48	51	3418	-891.31	-6.92	16.51
1140	SLU 10	48	64	3691	-962.19	-7.45	16.63
1140	SLU 11	52	47	3877	-1007.68	-7.9	18.01
1140	SLU 12	51	58	3825	-995.52	-7.78	17.57
1140	SLU 13	50	64	3757	-979.01	-7.62	17.16
1140	SLU 14	54	48	3942	-1024.5	-8.08	18.54
1140	SLU 15	52	58	3891	-1012.34	-7.95	18.11
1140	SLU 16	53	47	3908	-1016.09	-8	18.42
1140	SLU 17	52	58	3857	-1003.93	-7.88	17.98
1140	SLU 18	52	49	3965	-1030.73	-8.07	17.98
1140	SLU 19	51	60	3914	-1018.57	-7.94	17.55
1140	SLU 20	54	50	4031	-1047.54	-8.24	18.52
1140	SLU 21	52	60	3980	-1035.38	-8.12	18.08
1140	SLU 22	53	46	3923	-1018.63	-8	18.16
1140	SLU 23	50	64	3838	-998.36	-7.8	17.43
1140	SLU 24	54	47	4023	-1043.85	-8.25	18.81
1140	SLU 25	53	58	3972	-1031.69	-8.13	18.38
1140	SLU 26	52	64	3904	-1015.18	-7.97	17.96
1140	SLU 27	56	47	4089	-1060.67	-8.42	19.34
1140	SLU 28	55	58	4038	-1048.51	-8.3	18.91
1140	SLU 29	56	47	4055	-1052.26	-8.35	19.22
1140	SLU 30	54	58	4004	-1040.1	-8.22	18.79
1140	SLU 31	55	70	4277	-1110.98	-8.76	18.91
1140	SLU 32	59	54	4462	-1156.47	-9.21	20.29
1140	SLU 33	57	64	4411	-1144.31	-9.09	19.85
1140	SLU 34	56	71	4343	-1127.8	-8.93	19.44
1140	SLU 35	60	54	4528	-1173.29	-9.38	20.82
1140	SLU 36	59	64	4477	-1161.13	-9.26	20.39
1140	SLU 37	60	53	4494	-1164.88	-9.31	20.7
1140	SLU 38	59	64	4443	-1152.72	-9.18	20.26
1140	SLU 39	59	56	4551	-1179.52	-9.37	20.26
1140	SLU 40	57	66	4500	-1167.36	-9.25	19.83
1140	SLU 41	60	56	4617	-1196.33	-9.55	20.8
1140	SLU 42	59	66	4565	-1184.17	-9.42	20.36
1140	SLU 43	57	50	4138	-1079.78	-8.26	19.86
1140	SLU 44	55	68	4053	-1059.51	-8.05	19.13
1140	SLU 45	59	51	4238	-1105	-8.5	20.51
1140	SLU 46	58	61	4187	-1092.84	-8.38	20.08
1140	SLU 47	57	68	4118	-1076.33	-8.22	19.67
1140	SLU 48	61	51	4304	-1121.81	-8.68	21.05
1140	SLU 49	60	62	4252	-1109.65	-8.55	20.61
1140	SLU 50	60	51	4270	-1113.41	-8.6	20.92
1140	SLU 51	59	61	4218	-1101.25	-8.48	20.49
1140	SLU 52	60	74	4492	-1172.13	-9.01	20.61
1140	SLU 53	64	57	4677	-1217.62	-9.46	21.99
1140	SLU 54	62	68	4626	-1205.46	-9.34	21.56
1140	SLU 55	61	74	4558	-1188.95	-9.18	21.14
1140	SLU 56	65	57	4743	-1234.43	-9.64	22.52
1140	SLU 57	64	68	4692	-1222.27	-9.51	22.09
1140	SLU 58	65	57	4709	-1226.03	-9.56	22.4
1140	SLU 59	63	68	4658	-1213.87	-9.44	21.96
1140	SLU 60	64	59	4765	-1240.67	-9.63	21.97
1140	SLU 61	62	70	4714	-1228.51	-9.5	21.53
1140	SLU 62	65	59	4831	-1257.48	-9.8	22.5
1140	SLU 63	64	70	4780	-1245.32	-9.68	22.06
1140	SLU 64	64	56	4724	-1228.57	-9.56	22.14
1140	SLU 65	62	74	4639	-1208.3	-9.36	21.41
1140	SLU 66	66	57	4824	-1253.79	-9.81	22.79



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1140	SLU 67	65	68	4772	-1241.63	-9.69	22.36
1140	SLU 68	63	74	4704	-1225.12	-9.53	21.95
1140	SLU 69	67	57	4890	-1270.6	-9.98	23.33
1140	SLU 70	66	68	4838	-1258.44	-9.86	22.89
1140	SLU 71	67	57	4856	-1262.2	-9.91	23.2
1140	SLU 72	66	67	4804	-1250.04	-9.78	22.77
1140	SLU 73	66	80	5078	-1320.92	-10.32	22.89
1140	SLU 74	70	63	5263	-1366.41	-10.77	24.27
1140	SLU 75	69	74	5212	-1354.25	-10.65	23.84
1140	SLU 76	68	81	5143	-1337.74	-10.49	23.42
1140	SLU 77	72	64	5329	-1383.22	-10.94	24.8
1140	SLU 78	70	74	5277	-1371.06	-10.82	24.37
1140	SLU 79	71	63	5295	-1374.82	-10.87	24.68
1140	SLU 80	70	74	5243	-1362.66	-10.74	24.24
1140	SLU 81	70	65	5351	-1389.46	-10.94	24.25
1140	SLU 82	69	76	5300	-1377.3	-10.81	23.81
1140	SLU 83	72	66	5417	-1406.27	-11.11	24.78
1140	SLU 84	70	76	5366	-1394.11	-10.98	24.34
1140	SLE RA 1	48	42	3505	-912.35	-7.07	16.53
1140	SLE RA 2	46	54	3448	-898.84	-6.93	16.05
1140	SLE RA 3	49	42	3572	-929.17	-7.23	16.97
1140	SLE RA 4	48	49	3537	-921.06	-7.15	16.68
1140	SLE RA 5	47	54	3492	-910.05	-7.05	16.4
1140	SLE RA 6	50	43	3615	-940.38	-7.35	17.32
1140	SLE RA 7	49	50	3581	-932.27	-7.27	17.03
1140	SLE RA 8	50	42	3593	-934.77	-7.3	17.24
1140	SLE RA 9	49	49	3559	-926.66	-7.22	16.95
1140	SLE RA 10	49	58	3741	-973.92	-7.57	17.03
1140	SLE RA 11	52	47	3864	-1004.25	-7.87	17.95
1140	SLE RA 12	51	54	3830	-996.14	-7.79	17.66
1140	SLE RA 13	50	58	3785	-985.13	-7.69	17.38
1140	SLE RA 14	53	47	3908	-1015.46	-7.99	18.3
1140	SLE RA 15	52	54	3874	-1007.35	-7.91	18.01
1140	SLE RA 16	53	47	3886	-1009.85	-7.94	18.22
1140	SLE RA 17	52	54	3851	-1001.74	-7.86	17.93
1140	SLE RA 18	52	48	3923	-1019.61	-7.98	17.93
1140	SLE RA 19	51	55	3889	-1011.5	-7.9	17.64
1140	SLE RA 20	53	48	3967	-1030.82	-8.1	18.29
1140	SLE RA 21	52	55	3933	-1022.71	-8.02	18
1140	SLE FR 1	48	42	3505	-912.35	-7.07	16.53
1140	SLE FR 2	48	44	3494	-909.65	-7.04	16.43
1140	SLE FR 3	48	42	3523	-916.84	-7.12	16.67
1140	SLE FR 4	49	46	3619	-941.83	-7.32	16.85
1140	SLE FR 5	49	44	3648	-949.01	-7.39	17.09
1140	SLE FR 6	50	45	3714	-965.98	-7.53	17.23
1140	SLE QP 1	48	42	3505	-912.35	-7.07	16.53
1140	SLE QP 2	49	44	3630	-944.53	-7.34	16.95
1140	SLD 1	491	142	2597	-720.99	-4.65	171.88
1140	SLD 2	411	185	2556	-706.73	-4.33	143.92
1140	SLD 3	510	-54	3667	-977.28	-7.27	178.45
1140	SLD 4	430	-11	3626	-963.02	-6.95	150.49
1140	SLD 5	168	363	1705	-491.33	-2.61	58.5
1140	SLD 6	115	391	1678	-481.92	-2.4	40.04
1140	SLD 7	231	-291	5272	-1345.63	-11.37	80.4
1140	SLD 8	178	-262	5245	-1336.21	-11.15	61.94
1140	SLD 9	-80	350	2016	-552.85	-3.54	-28.04
1140	SLD 10	-132	378	1989	-543.43	-3.32	-46.5
1140	SLD 11	-17	-304	5583	-1407.14	-12.29	-6.14
1140	SLD 12	-69	-275	5556	-1397.73	-12.08	-24.6
1140	SLD 13	-332	98	3635	-926.04	-7.74	-116.59
1140	SLD 14	-412	142	3594	-911.78	-7.41	-144.55
1140	SLD 15	-313	-98	4705	-1182.33	-10.36	-110.02
1140	SLD 16	-393	-54	4664	-1168.07	-10.04	-137.98
1140	SLV 1	741	203	1988	-588.58	-3.06	259.27
1140	SLV 2	615	270	1924	-566.24	-2.56	215.47
1140	SLV 3	772	-115	3718	-1002.96	-7.31	270.1
1140	SLV 4	647	-47	3654	-980.62	-6.81	226.29
1140	SLV 5	233	560	525	-213.44	0.29	81.4
1140	SLV 6	148	605	482	-198.4	0.63	51.91
1140	SLV 7	337	-497	6293	-1594.7	-13.87	117.49
1140	SLV 8	252	-452	6250	-1579.66	-13.53	88
1140	SLV 9	-154	539	1011	-309.4	-1.16	-54.1
1140	SLV 10	-239	585	968	-294.36	-0.82	-83.59
1140	SLV 11	-50	-518	6779	-1690.66	-15.32	-18.01
1140	SLV 12	-135	-472	6735	-1675.62	-14.98	-47.5
1140	SLV 13	-548	134	3607	-908.44	-7.88	-192.39
1140	SLV 14	-674	202	3543	-886.11	-7.38	-236.2
1140	SLV 15	-517	-183	5337	-1322.82	-12.13	-181.57
1140	SLV 16	-643	-115	5273	-1300.49	-11.63	-225.37
1140	SLV FO 1	810	218	1824	-552.98	-2.63	283.51
1140	SLV FO 2	672	293	1753	-528.41	-2.08	235.32
1140	SLV FO 3	844	-130	3727	-1008.8	-7.31	295.42
1140	SLV FO 4	706	-56	3656	-984.23	-6.75	247.23
1140	SLV FO 5	251	611	215	-140.33	1.05	87.85
1140	SLV FO 6	158	662	167	-123.78	1.43	55.4
1140	SLV FO 7	365	-552	6559	-1659.72	-14.52	127.55
1140	SLV FO 8	272	-501	6512	-1643.18	-14.15	95.1
1140	SLV FO 9	-174	589	749	-245.88	-0.54	-61.2
1140	SLV FO 10	-267	639	702	-229.34	-0.16	-93.65



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1140	SLV FO 11	-60	-574	7094	-1765.28	-16.11	-21.5
1140	SLV FO 12	-153	-524	7046	-1748.73	-15.74	-53.95
1140	SLV FO 13	-608	143	3605	-904.83	-7.94	-213.33
1140	SLV FO 14	-746	218	3534	-880.26	-7.38	-261.52
1140	SLV FO 15	-574	-205	5508	-1360.65	-12.61	-201.42
1140	SLV FO 16	-712	-131	5437	-1336.08	-12.05	-249.61
1140	CRTFP Ux+	0	0	0	0	0	0
1140	CRTFP Ux-	0	0	0	0	0	0
1140	CRTFP Uy+	0	0	0	0	0	0
1140	CRTFP Uy-	0	0	0	0	0	0
1141	SLU 1	49	35	3574	-1029.82	-8.72	17.04
1141	SLU 2	47	53	3481	-1004.92	-8.45	16.27
1141	SLU 3	51	36	3682	-1060.7	-9.04	17.74
1141	SLU 4	50	47	3627	-1045.76	-8.88	17.28
1141	SLU 5	48	53	3553	-1025.61	-8.67	16.84
1141	SLU 6	53	36	3754	-1081.39	-9.27	18.3
1141	SLU 7	51	47	3699	-1066.44	-9.1	17.84
1141	SLU 8	52	36	3718	-1071.2	-9.17	18.17
1141	SLU 9	51	47	3662	-1056.26	-9	17.71
1141	SLU 10	51	59	3955	-1140.83	-9.72	17.88
1141	SLU 11	56	42	4156	-1196.61	-10.32	19.35
1141	SLU 12	54	52	4100	-1181.67	-10.15	18.89
1141	SLU 13	53	59	4026	-1161.52	-9.94	18.45
1141	SLU 14	57	42	4228	-1217.3	-10.54	19.92
1141	SLU 15	56	53	4172	-1202.35	-10.37	19.45
1141	SLU 16	57	42	4191	-1207.11	-10.44	19.78
1141	SLU 17	56	52	4135	-1192.17	-10.28	19.32
1141	SLU 18	56	44	4250	-1223.98	-10.54	19.34
1141	SLU 19	54	54	4195	-1209.04	-10.38	18.88
1141	SLU 20	57	44	4322	-1244.67	-10.76	19.9
1141	SLU 21	56	55	4266	-1229.73	-10.6	19.44
1141	SLU 22	56	41	4206	-1209.95	-10.45	19.52
1141	SLU 23	54	59	4114	-1185.05	-10.17	18.76
1141	SLU 24	58	41	4315	-1240.82	-10.77	20.22
1141	SLU 25	57	52	4259	-1225.88	-10.6	19.76
1141	SLU 26	56	59	4185	-1205.74	-10.4	19.32
1141	SLU 27	60	42	4387	-1261.51	-10.99	20.79
1141	SLU 28	58	52	4331	-1246.57	-10.82	20.33
1141	SLU 29	59	41	4350	-1251.33	-10.89	20.65
1141	SLU 30	58	52	4294	-1236.39	-10.73	20.19
1141	SLU 31	59	64	4587	-1320.96	-11.45	20.37
1141	SLU 32	63	47	4788	-1376.73	-12.04	21.84
1141	SLU 33	62	58	4732	-1361.79	-11.88	21.37
1141	SLU 34	60	65	4659	-1341.65	-11.67	20.93
1141	SLU 35	64	48	4860	-1397.42	-12.26	22.4
1141	SLU 36	63	58	4804	-1382.48	-12.1	21.94
1141	SLU 37	64	47	4823	-1387.24	-12.17	22.26
1141	SLU 38	63	58	4768	-1372.3	-12	21.8
1141	SLU 39	63	49	4882	-1404.11	-12.27	21.82
1141	SLU 40	62	60	4827	-1389.17	-12.1	21.36
1141	SLU 41	64	49	4954	-1424.8	-12.49	22.39
1141	SLU 42	63	60	4899	-1409.86	-12.32	21.93
1141	SLU 43	61	44	4429	-1277.01	-10.75	21.3
1141	SLU 44	59	62	4337	-1252.11	-10.47	20.53
1141	SLU 45	63	45	4538	-1307.89	-11.07	22
1141	SLU 46	62	55	4482	-1292.95	-10.9	21.54
1141	SLU 47	61	62	4408	-1272.8	-10.7	21.1
1141	SLU 48	65	45	4610	-1328.57	-11.29	22.56
1141	SLU 49	64	56	4554	-1313.63	-11.13	22.1
1141	SLU 50	65	45	4573	-1318.39	-11.19	22.43
1141	SLU 51	63	55	4517	-1303.45	-11.03	21.97
1141	SLU 52	64	68	4810	-1388.02	-11.75	22.14
1141	SLU 53	68	50	5011	-1443.8	-12.34	23.61
1141	SLU 54	67	61	4956	-1428.86	-12.18	23.15
1141	SLU 55	65	68	4882	-1408.71	-11.97	22.71
1141	SLU 56	70	51	5083	-1464.48	-12.56	24.18
1141	SLU 57	68	61	5027	-1449.54	-12.4	23.72
1141	SLU 58	69	50	5046	-1454.3	-12.47	24.04
1141	SLU 59	68	61	4991	-1439.36	-12.3	23.58
1141	SLU 60	68	52	5106	-1471.17	-12.57	23.6
1141	SLU 61	67	63	5050	-1456.23	-12.4	23.14
1141	SLU 62	70	53	5177	-1491.86	-12.79	24.16
1141	SLU 63	68	63	5122	-1476.92	-12.62	23.7
1141	SLU 64	68	49	5062	-1457.14	-12.47	23.78
1141	SLU 65	66	67	4969	-1432.24	-12.2	23.02
1141	SLU 66	70	50	5170	-1488.01	-12.79	24.48
1141	SLU 67	69	61	5114	-1473.07	-12.63	24.02
1141	SLU 68	68	68	5041	-1452.93	-12.42	23.58
1141	SLU 69	72	50	5242	-1508.7	-13.02	25.05
1141	SLU 70	71	61	5186	-1493.76	-12.85	24.59
1141	SLU 71	72	50	5205	-1498.52	-12.92	24.91
1141	SLU 72	70	61	5150	-1483.58	-12.75	24.45
1141	SLU 73	71	73	5442	-1568.15	-13.47	24.63
1141	SLU 74	75	56	5644	-1623.92	-14.07	26.1
1141	SLU 75	74	67	5588	-1608.98	-13.9	25.64
1141	SLU 76	72	73	5514	-1588.84	-13.69	25.19
1141	SLU 77	77	56	5715	-1644.61	-14.29	26.66
1141	SLU 78	75	67	5660	-1629.67	-14.12	26.2
1141	SLU 79	76	56	5679	-1634.43	-14.19	26.52



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1141	SLU 80	75	67	5623	-1619.49	-14.03	26.06
1141	SLU 81	75	58	5738	-1651.3	-14.29	26.08
1141	SLU 82	74	68	5682	-1636.36	-14.13	25.62
1141	SLU 83	77	58	5810	-1671.99	-14.51	26.65
1141	SLU 84	75	69	5754	-1657.05	-14.35	26.19
1141	SLE RA 1	51	37	3755	-1081.29	-9.22	17.75
1141	SLE RA 2	50	49	3693	-1064.69	-9.03	17.24
1141	SLE RA 3	52	37	3827	-1101.87	-9.43	18.22
1141	SLE RA 4	52	44	3790	-1091.91	-9.32	17.91
1141	SLE RA 5	51	49	3741	-1078.48	-9.18	17.61
1141	SLE RA 6	54	37	3875	-1115.66	-9.58	18.59
1141	SLE RA 7	53	45	3838	-1105.7	-9.47	18.29
1141	SLE RA 8	53	37	3850	-1108.87	-9.51	18.5
1141	SLE RA 9	52	44	3813	-1098.91	-9.4	18.19
1141	SLE RA 10	53	53	4008	-1155.3	-9.88	18.31
1141	SLE RA 11	56	41	4143	-1192.48	-10.28	19.29
1141	SLE RA 12	55	48	4105	-1182.52	-10.17	18.98
1141	SLE RA 13	54	53	4056	-1169.09	-10.03	18.69
1141	SLE RA 14	57	41	4190	-1206.27	-10.43	19.67
1141	SLE RA 15	56	48	4153	-1196.31	-10.32	19.36
1141	SLE RA 16	56	41	4166	-1199.48	-10.36	19.57
1141	SLE RA 17	55	48	4129	-1189.52	-10.25	19.27
1141	SLE RA 18	56	42	4205	-1210.73	-10.43	19.28
1141	SLE RA 19	55	49	4168	-1200.77	-10.32	18.98
1141	SLE RA 20	57	43	4253	-1224.52	-10.58	19.66
1141	SLE RA 21	56	50	4216	-1214.56	-10.47	19.35
1141	SLE FR 1	51	37	3755	-1081.29	-9.22	17.75
1141	SLE FR 2	51	39	3742	-1077.97	-9.18	17.65
1141	SLE FR 3	52	37	3774	-1086.81	-9.28	17.9
1141	SLE FR 4	52	41	3878	-1116.8	-9.54	18.11
1141	SLE FR 5	53	39	3909	-1125.64	-9.64	18.36
1141	SLE FR 6	53	40	3980	-1146.01	-9.82	18.52
1141	SLE QP 1	51	37	3755	-1081.29	-9.22	17.75
1141	SLE QP 2	52	38	3890	-1120.12	-9.58	18.21
1141	SLD 1	493	139	2766	-851.06	-6.34	172.28
1141	SLD 2	412	185	2714	-830.94	-5.95	144.32
1141	SLD 3	513	-60	3929	-1166	-9.84	179.37
1141	SLD 4	433	-13	3877	-1145.88	-9.44	151.42
1141	SLD 5	168	361	1797	-565.37	-3.39	58.71
1141	SLD 6	115	392	1762	-552.08	-3.12	40.25
1141	SLD 7	236	-300	5676	-1615.17	-15.02	82.35
1141	SLD 8	183	-270	5642	-1601.88	-14.76	63.89
1141	SLD 9	-78	347	2138	-638.36	-4.4	-27.47
1141	SLD 10	-131	377	2104	-625.07	-4.14	-45.93
1141	SLD 11	-10	-315	6017	-1688.16	-16.04	-3.83
1141	SLD 12	-63	-284	5983	-1674.87	-15.77	-22.29
1141	SLD 13	-328	90	3902	-1094.37	-9.72	-115
1141	SLD 14	-408	137	3850	-1074.24	-9.33	-142.96
1141	SLD 15	-308	-108	5066	-1409.31	-13.21	-107.91
1141	SLD 16	-388	-62	5014	-1389.18	-12.82	-135.86
1141	SLV 1	741	201	2103	-691.48	-4.43	259.19
1141	SLV 2	615	273	2022	-659.94	-3.81	215.38
1141	SLV 3	775	-120	3985	-1200.7	-10.08	270.85
1141	SLV 4	649	-48	3903	-1169.17	-9.45	227.05
1141	SLV 5	231	560	515	-225.09	0.41	80.98
1141	SLV 6	147	609	460	-203.86	0.83	51.49
1141	SLV 7	344	-509	6788	-1922.5	-18.41	119.87
1141	SLV 8	259	-461	6733	-1901.27	-17.99	90.38
1141	SLV 9	-154	538	1047	-338.97	-1.17	-53.96
1141	SLV 10	-239	586	992	-317.74	-0.75	-83.45
1141	SLV 11	-42	-532	7319	-2036.38	-19.99	-15.07
1141	SLV 12	-126	-483	7265	-2015.15	-19.57	-44.57
1141	SLV 13	-544	125	3876	-1071.08	-9.71	-190.63
1141	SLV 14	-670	197	3795	-1039.54	-9.08	-234.44
1141	SLV 15	-510	-196	5758	-1580.3	-15.35	-178.97
1141	SLV 16	-636	-124	5677	-1548.77	-14.73	-222.77
1141	SLV FO 1	810	217	1925	-648.61	-3.92	283.28
1141	SLV FO 2	671	297	1835	-613.92	-3.23	235.1
1141	SLV FO 3	847	-136	3994	-1208.76	-10.13	296.12
1141	SLV FO 4	709	-56	3905	-1174.07	-9.44	247.93
1141	SLV FO 5	249	612	178	-135.59	1.41	87.26
1141	SLV FO 6	156	666	117	-112.23	1.87	54.82
1141	SLV FO 7	373	-564	7077	-2002.74	-19.29	130.04
1141	SLV FO 8	280	-510	7017	-1979.39	-18.83	97.6
1141	SLV FO 9	-175	587	763	-260.85	-0.33	-61.18
1141	SLV FO 10	-268	641	702	-237.5	0.13	-93.62
1141	SLV FO 11	-51	-589	7662	-2128.01	-21.03	-18.4
1141	SLV FO 12	-144	-536	7602	-2104.66	-20.57	-50.84
1141	SLV FO 13	-604	133	3875	-1066.17	-9.72	-211.52
1141	SLV FO 14	-742	213	3785	-1031.48	-9.03	-259.7
1141	SLV FO 15	-567	-220	5945	-1626.32	-15.93	-198.68
1141	SLV FO 16	-705	-140	5855	-1591.63	-15.24	-246.87
1141	CRTFP Ux+	0	0	0	0	0	0
1141	CRTFP Ux-	0	0	0	0	0	0
1141	CRTFP Uy+	0	0	0	0	0	0
1141	CRTFP Uy-	0	0	0	0	0	0
1142	SLU 1	41	26	2997	-946.36	125.29	13.04
1142	SLU 2	39	40	2918	-922.88	122.02	11.79
1142	SLU 3	42	26	3089	-975.4	129.12	13.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1142	SLU 4	41	35	3042	-961.31	127.15	12.85
1142	SLU 5	40	40	2979	-942.4	124.56	12.24
1142	SLU 6	43	26	3151	-994.91	131.66	14.05
1142	SLU 7	42	35	3103	-980.83	129.69	13.3
1142	SLU 8	43	26	3120	-985.38	130.37	13.94
1142	SLU 9	42	35	3072	-971.3	128.41	13.19
1142	SLU 10	43	44	3318	-1049.66	138.66	12.96
1142	SLU 11	46	30	3489	-1102.17	145.76	14.77
1142	SLU 12	45	39	3442	-1088.09	143.8	14.02
1142	SLU 13	44	44	3379	-1069.17	141.2	13.41
1142	SLU 14	47	31	3550	-1121.69	148.3	15.22
1142	SLU 15	46	39	3503	-1107.6	146.34	14.47
1142	SLU 16	47	30	3520	-1112.16	147.02	15.12
1142	SLU 17	46	39	3472	-1098.07	145.05	14.37
1142	SLU 18	46	32	3568	-1127.47	149.07	14.72
1142	SLU 19	45	40	3521	-1113.38	147.1	13.97
1142	SLU 20	47	32	3630	-1146.98	151.61	15.17
1142	SLU 21	46	40	3582	-1132.89	149.65	14.42
1142	SLU 22	46	29	3532	-1114.73	147.54	14.96
1142	SLU 23	45	44	3453	-1091.25	144.26	13.71
1142	SLU 24	48	30	3624	-1143.77	151.36	15.52
1142	SLU 25	47	38	3576	-1129.68	149.4	14.77
1142	SLU 26	46	44	3514	-1110.76	146.8	14.16
1142	SLU 27	49	30	3685	-1163.28	153.9	15.97
1142	SLU 28	48	39	3638	-1149.19	151.94	15.22
1142	SLU 29	49	30	3654	-1153.75	152.62	15.86
1142	SLU 30	48	38	3607	-1139.67	150.65	15.11
1142	SLU 31	49	48	3852	-1218.02	160.91	14.88
1142	SLU 32	52	34	4024	-1270.54	168.01	16.69
1142	SLU 33	51	43	3976	-1256.46	166.04	15.94
1142	SLU 34	50	48	3914	-1237.54	163.45	15.34
1142	SLU 35	53	34	4085	-1290.05	170.55	17.15
1142	SLU 36	52	43	4038	-1275.97	168.58	16.4
1142	SLU 37	53	34	4054	-1280.53	169.26	17.04
1142	SLU 38	52	43	4007	-1266.44	167.3	16.29
1142	SLU 39	52	36	4103	-1295.83	171.32	16.64
1142	SLU 40	51	44	4055	-1281.75	169.35	15.89
1142	SLU 41	53	36	4164	-1315.35	173.86	17.09
1142	SLU 42	52	44	4117	-1301.26	171.89	16.34
1142	SLU 43	51	32	3713	-1172.54	155.25	16.29
1142	SLU 44	49	46	3634	-1149.06	151.98	15.04
1142	SLU 45	52	32	3805	-1201.58	159.08	16.85
1142	SLU 46	51	41	3758	-1187.5	157.11	16.1
1142	SLU 47	50	46	3695	-1168.58	154.52	15.49
1142	SLU 48	54	33	3866	-1221.09	161.62	17.3
1142	SLU 49	52	41	3819	-1207.01	159.65	16.55
1142	SLU 50	53	32	3836	-1211.57	160.33	17.2
1142	SLU 51	52	41	3788	-1197.48	158.37	16.45
1142	SLU 52	53	50	4034	-1275.84	168.62	16.22
1142	SLU 53	56	37	4205	-1328.36	175.72	18.03
1142	SLU 54	55	45	4157	-1314.27	173.76	17.28
1142	SLU 55	54	51	4095	-1295.35	171.16	16.67
1142	SLU 56	57	37	4266	-1347.87	178.26	18.48
1142	SLU 57	56	45	4219	-1333.78	176.3	17.73
1142	SLU 58	57	37	4235	-1338.34	176.98	18.37
1142	SLU 59	56	45	4188	-1324.25	175.01	17.62
1142	SLU 60	56	38	4284	-1353.65	179.03	17.97
1142	SLU 61	55	47	4237	-1339.56	177.06	17.22
1142	SLU 62	57	38	4345	-1373.16	181.57	18.42
1142	SLU 63	56	47	4298	-1359.07	179.61	17.67
1142	SLU 64	57	36	4247	-1340.91	177.5	18.21
1142	SLU 65	55	50	4168	-1317.43	174.22	16.96
1142	SLU 66	58	36	4340	-1369.95	181.32	18.77
1142	SLU 67	57	45	4292	-1355.86	179.36	18.02
1142	SLU 68	56	50	4230	-1336.94	176.76	17.42
1142	SLU 69	60	37	4401	-1389.46	183.86	19.23
1142	SLU 70	58	45	4354	-1375.38	181.9	18.48
1142	SLU 71	59	36	4370	-1379.93	182.58	19.12
1142	SLU 72	58	45	4323	-1365.85	180.61	18.37
1142	SLU 73	59	54	4568	-1444.21	190.87	18.14
1142	SLU 74	62	41	4740	-1496.72	197.97	19.95
1142	SLU 75	61	49	4692	-1482.64	196	19.2
1142	SLU 76	60	54	4630	-1463.72	193.41	18.59
1142	SLU 77	63	41	4801	-1516.24	200.51	20.4
1142	SLU 78	62	49	4753	-1502.15	198.54	19.65
1142	SLU 79	63	41	4770	-1506.71	199.22	20.29
1142	SLU 80	62	49	4723	-1492.62	197.26	19.54
1142	SLU 81	62	42	4819	-1522.02	201.28	19.89
1142	SLU 82	61	50	4771	-1507.93	199.31	19.14
1142	SLU 83	63	42	4880	-1541.53	203.82	20.34
1142	SLU 84	62	51	4833	-1527.44	201.85	19.59
1142	SLE RA 1	42	27	3150	-994.46	131.65	13.59
1142	SLE RA 2	41	36	3097	-978.81	129.46	12.75
1142	SLE RA 3	43	27	3211	-1013.82	134.2	13.96
1142	SLE RA 4	43	33	3180	-1004.43	132.89	13.46
1142	SLE RA 5	42	36	3138	-991.82	131.16	13.06
1142	SLE RA 6	44	27	3252	-1026.83	135.89	14.26
1142	SLE RA 7	43	33	3221	-1017.44	134.58	13.76
1142	SLE RA 8	44	27	3232	-1020.48	135.03	14.19



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1142	SLE RA 9	43	33	3200	-1011.09	133.72	13.69
1142	SLE RA 10	44	39	3364	-1063.33	140.56	13.54
1142	SLE RA 11	46	30	3478	-1098.34	145.29	14.74
1142	SLE RA 12	45	36	3446	-1088.95	143.98	14.24
1142	SLE RA 13	44	39	3405	-1076.34	142.25	13.84
1142	SLE RA 14	47	30	3519	-1111.35	146.99	15.05
1142	SLE RA 15	46	36	3487	-1101.96	145.68	14.54
1142	SLE RA 16	47	30	3498	-1105	146.13	14.97
1142	SLE RA 17	46	36	3467	-1095.61	144.82	14.47
1142	SLE RA 18	46	31	3531	-1115.2	147.5	14.71
1142	SLE RA 19	45	36	3499	-1105.81	146.19	14.21
1142	SLE RA 20	47	31	3571	-1128.21	149.19	15.01
1142	SLE RA 21	46	37	3540	-1118.82	147.88	14.51
1142	SLE FR 1	42	27	3150	-994.46	131.65	13.59
1142	SLE FR 2	42	29	3139	-991.33	131.21	13.42
1142	SLE FR 3	43	27	3166	-999.67	132.32	13.71
1142	SLE FR 4	43	30	3253	-1027.56	135.97	13.76
1142	SLE FR 5	44	28	3280	-1035.89	137.08	14.04
1142	SLE FR 6	44	29	3340	-1054.83	139.57	14.15
1142	SLE QP 1	42	27	3150	-994.46	131.65	13.59
1142	SLE QP 2	43	28	3264	-1030.69	136.4	13.92
1142	SLD 1	386	107	2312	-778.39	96.77	131.02
1142	SLD 2	323	146	2262	-758.23	94.83	107.43
1142	SLD 3	403	-50	3304	-1075.22	137.85	143.45
1142	SLD 4	340	-12	3254	-1055.07	135.91	119.86
1142	SLD 5	131	283	1483	-508.43	62.55	34.44
1142	SLD 6	90	309	1450	-495.13	61.27	18.86
1142	SLD 7	189	-241	4789	-1497.87	199.5	75.89
1142	SLD 8	147	-216	4756	-1484.56	198.21	60.32
1142	SLD 9	-60	271	1772	-576.81	74.59	-32.47
1142	SLD 10	-102	297	1739	-563.5	73.31	-48.05
1142	SLD 11	-3	-253	5078	-1566.25	211.53	8.98
1142	SLD 12	-45	-227	5045	-1552.94	210.25	-6.59
1142	SLD 13	-254	68	3274	-1006.31	136.9	-92.02
1142	SLD 14	-317	106	3224	-986.16	134.95	-115.61
1142	SLD 15	-237	-90	4266	-1303.14	177.98	-79.58
1142	SLD 16	-299	-51	4216	-1282.99	176.04	-103.17
1142	SLV 1	579	156	1751	-628.68	73.42	196.9
1142	SLV 2	481	216	1673	-597.11	70.37	159.94
1142	SLV 3	607	-99	3354	-1108.63	139.84	217.14
1142	SLV 4	509	-38	3276	-1077.06	136.8	180.18
1142	SLV 5	180	441	393	-188.05	17.33	45.02
1142	SLV 6	114	482	340	-166.79	15.28	20.14
1142	SLV 7	274	-407	5738	-1787.89	238.75	112.48
1142	SLV 8	207	-367	5685	-1766.63	236.7	87.6
1142	SLV 9	-121	422	843	-294.74	36.11	-59.75
1142	SLV 10	-187	463	790	-273.48	34.06	-84.63
1142	SLV 11	-27	-426	6188	-1894.58	257.52	7.71
1142	SLV 12	-93	-385	6136	-1873.32	255.47	-17.17
1142	SLV 13	-422	94	3252	-984.31	136.01	-152.33
1142	SLV 14	-521	155	3174	-952.74	132.96	-189.29
1142	SLV 15	-394	-161	4856	-1464.26	202.43	-132.09
1142	SLV 16	-493	-100	4777	-1432.69	199.39	-169.05
1142	SLV FO 1	633	168	1599	-588.48	67.12	215.2
1142	SLV FO 2	525	235	1513	-553.75	63.77	174.54
1142	SLV FO 3	664	-112	3363	-1116.43	140.18	237.46
1142	SLV FO 4	556	-45	3277	-1081.7	136.84	196.8
1142	SLV FO 5	193	482	105	-103.78	5.42	48.13
1142	SLV FO 6	121	527	48	-80.4	3.17	20.76
1142	SLV FO 7	297	-451	5985	-1863.61	248.98	122.34
1142	SLV FO 8	224	-406	5927	-1840.23	246.73	94.96
1142	SLV FO 9	-137	462	601	-221.14	26.08	-67.12
1142	SLV FO 10	-210	507	543	-197.76	23.82	-94.49
1142	SLV FO 11	-34	-471	6480	-1980.97	269.64	7.09
1142	SLV FO 12	-107	-426	6423	-1957.59	267.38	-20.28
1142	SLV FO 13	-469	101	3251	-979.67	135.97	-168.96
1142	SLV FO 14	-577	167	3165	-944.95	132.62	-209.61
1142	SLV FO 15	-438	-179	5015	-1507.62	209.03	-146.7
1142	SLV FO 16	-546	-113	4929	-1472.89	205.69	-187.35
1142	CRTFP Ux+	0	0	0	0	0	0
1142	CRTFP Ux-	0	0	0	0	0	0
1142	CRTFP Uy+	0	0	0	0	0	0
1142	CRTFP Uy-	0	0	0	0	0	0
1144	SLU 1	36	22	2744	-684.6	432.42	5.74
1144	SLU 2	35	34	2670	-667.62	420.92	3.27
1144	SLU 3	38	22	2830	-705.7	445.74	6.05
1144	SLU 4	37	30	2785	-695.51	438.84	4.57
1144	SLU 5	36	34	2727	-681.75	429.78	3.54
1144	SLU 6	39	22	2887	-719.82	454.6	6.32
1144	SLU 7	38	30	2842	-709.64	447.7	4.84
1144	SLU 8	39	22	2858	-712.85	450.14	6.27
1144	SLU 9	38	30	2814	-702.67	443.24	4.79
1144	SLU 10	38	38	3038	-759.71	478.56	3.6
1144	SLU 11	41	26	3198	-797.79	503.39	6.38
1144	SLU 12	40	33	3153	-787.6	496.49	4.9
1144	SLU 13	39	38	3095	-773.84	487.42	3.86
1144	SLU 14	42	26	3255	-811.92	512.25	6.64
1144	SLU 15	41	33	3210	-801.73	505.35	5.16
1144	SLU 16	42	26	3226	-804.95	507.79	6.6



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1144	SLU 17	41	33	3182	-794.76	500.89	5.12
1144	SLU 18	41	27	3270	-816.16	514.77	6.2
1144	SLU 19	40	34	3225	-805.97	507.87	4.73
1144	SLU 20	42	27	3327	-830.29	523.63	6.47
1144	SLU 21	41	34	3282	-820.1	516.73	4.99
1144	SLU 22	42	25	3237	-807.03	509.57	6.61
1144	SLU 23	40	37	3163	-790.05	498.07	4.14
1144	SLU 24	43	25	3323	-828.13	522.9	6.92
1144	SLU 25	42	33	3278	-817.94	515.99	5.44
1144	SLU 26	41	37	3220	-804.18	506.93	4.41
1144	SLU 27	44	25	3380	-842.26	531.76	7.19
1144	SLU 28	43	33	3335	-832.07	524.85	5.71
1144	SLU 29	44	25	3352	-835.29	527.3	7.14
1144	SLU 30	43	33	3307	-825.1	520.39	5.66
1144	SLU 31	44	41	3531	-882.14	555.71	4.47
1144	SLU 32	47	29	3691	-920.22	580.54	7.25
1144	SLU 33	46	36	3646	-910.03	573.64	5.77
1144	SLU 34	45	41	3588	-896.27	564.57	4.74
1144	SLU 35	48	29	3748	-934.35	589.4	7.51
1144	SLU 36	47	36	3703	-924.16	582.5	6.03
1144	SLU 37	48	29	3720	-927.38	584.94	7.47
1144	SLU 38	47	36	3675	-917.19	578.04	5.99
1144	SLU 39	47	30	3763	-938.59	591.93	7.08
1144	SLU 40	46	37	3718	-928.41	585.02	5.6
1144	SLU 41	48	30	3820	-952.72	600.79	7.34
1144	SLU 42	47	37	3776	-942.53	593.88	5.86
1144	SLU 43	45	27	3398	-848	535.7	7.16
1144	SLU 44	43	40	3324	-831.02	524.19	4.69
1144	SLU 45	47	28	3484	-869.1	549.02	7.47
1144	SLU 46	46	35	3439	-858.91	542.11	5.99
1144	SLU 47	45	40	3381	-845.15	533.05	4.96
1144	SLU 48	48	28	3541	-883.23	557.88	7.74
1144	SLU 49	47	35	3496	-873.04	550.97	6.26
1144	SLU 50	48	28	3512	-876.26	553.42	7.69
1144	SLU 51	47	35	3468	-866.07	546.51	6.21
1144	SLU 52	47	43	3692	-923.12	581.84	5.02
1144	SLU 53	50	31	3852	-961.19	606.66	7.8
1144	SLU 54	49	38	3807	-951.01	599.76	6.32
1144	SLU 55	48	43	3749	-937.24	590.7	5.29
1144	SLU 56	51	31	3909	-975.32	615.53	8.07
1144	SLU 57	50	39	3864	-965.13	608.62	6.59
1144	SLU 58	51	31	3880	-968.35	611.06	8.02
1144	SLU 59	50	39	3836	-958.16	604.16	6.54
1144	SLU 60	50	32	3924	-979.56	618.05	7.63
1144	SLU 61	49	40	3879	-969.38	611.14	6.15
1144	SLU 62	51	32	3981	-993.69	626.91	7.89
1144	SLU 63	50	40	3936	-983.5	620.01	6.41
1144	SLU 64	51	30	3892	-970.43	612.85	8.03
1144	SLU 65	49	43	3817	-953.45	601.34	5.56
1144	SLU 66	52	31	3977	-991.53	626.17	8.34
1144	SLU 67	51	38	3932	-981.34	619.27	6.86
1144	SLU 68	50	43	3874	-967.58	610.2	5.83
1144	SLU 69	53	31	4034	-1005.66	635.03	8.61
1144	SLU 70	52	38	3989	-995.47	628.13	7.13
1144	SLU 71	53	31	4006	-998.69	630.57	8.56
1144	SLU 72	52	38	3961	-988.5	623.67	7.08
1144	SLU 73	52	46	4185	-1045.55	658.99	5.89
1144	SLU 74	56	34	4345	-1083.62	683.82	8.67
1144	SLU 75	55	42	4300	-1073.44	676.91	7.19
1144	SLU 76	54	46	4242	-1059.68	667.85	6.16
1144	SLU 77	57	34	4402	-1097.75	692.68	8.94
1144	SLU 78	56	42	4357	-1087.57	685.77	7.46
1144	SLU 79	57	34	4374	-1090.78	688.22	8.89
1144	SLU 80	56	42	4329	-1080.59	681.31	7.41
1144	SLU 81	56	35	4417	-1102	695.2	8.5
1144	SLU 82	55	43	4373	-1091.81	688.3	7.02
1144	SLU 83	57	35	4474	-1116.12	704.06	8.76
1144	SLU 84	56	43	4430	-1105.94	697.16	7.28
1144	SLE RA 1	38	23	2885	-719.58	454.47	5.99
1144	SLE RA 2	37	31	2835	-708.26	446.79	4.34
1144	SLE RA 3	39	23	2942	-733.64	463.35	6.19
1144	SLE RA 4	38	28	2912	-726.85	458.74	5.21
1144	SLE RA 5	37	31	2873	-717.68	452.7	4.52
1144	SLE RA 6	40	23	2980	-743.06	469.25	6.37
1144	SLE RA 7	39	28	2950	-736.27	464.65	5.38
1144	SLE RA 8	39	23	2961	-738.42	466.28	6.34
1144	SLE RA 9	39	28	2931	-731.62	461.68	5.35
1144	SLE RA 10	39	33	3081	-769.65	485.23	4.56
1144	SLE RA 11	41	25	3188	-795.04	501.78	6.41
1144	SLE RA 12	40	30	3158	-788.25	497.17	5.43
1144	SLE RA 13	40	33	3119	-779.07	491.13	4.74
1144	SLE RA 14	42	25	3226	-804.46	507.68	6.59
1144	SLE RA 15	41	30	3196	-797.67	503.08	5.6
1144	SLE RA 16	42	25	3207	-799.81	504.71	6.56
1144	SLE RA 17	41	30	3177	-793.02	500.11	5.57
1144	SLE RA 18	41	26	3236	-807.29	509.37	6.3
1144	SLE RA 19	40	31	3206	-800.5	504.76	5.31
1144	SLE RA 20	42	26	3274	-816.71	515.27	6.48
1144	SLE RA 21	41	31	3244	-809.91	510.67	5.49



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
1144	SLE FR 1	38	23	2885	-719.58	454.47	5.99
1144	SLE FR 2	38	24	2875	-717.31	452.93	5.66
1144	SLE FR 3	38	23	2900	-723.35	456.83	6.06
1144	SLE FR 4	39	25	2980	-743.63	469.4	5.75
1144	SLE FR 5	39	24	3005	-749.66	473.3	6.15
1144	SLE FR 6	39	24	3060	-763.43	481.92	6.14
1144	SLE QP 1	38	23	2885	-719.58	454.47	5.99
1144	SLE QP 2	39	24	2990	-745.89	470.94	6.08
1144	SLD 1	334	91	2094	-548.73	330.96	72.85
1144	SLD 2	279	127	2044	-535.79	323.76	53.02
1144	SLD 3	350	-46	3030	-762.88	475.3	99.16
1144	SLD 4	295	-10	2980	-749.94	468.1	79.33
1144	SLD 5	113	246	1310	-364.28	211.33	-10.22
1144	SLD 6	77	269	1277	-355.74	206.58	-23.31
1144	SLD 7	166	-212	4432	-1078.11	692.45	77.48
1144	SLD 8	130	-188	4399	-1069.56	687.7	64.38
1144	SLD 9	-52	235	1582	-422.22	254.17	-52.23
1144	SLD 10	-89	259	1549	-413.67	249.42	-65.32
1144	SLD 11	1	-222	4704	-1136.04	735.3	35.47
1144	SLD 12	-36	-198	4671	-1127.5	730.54	22.38
1144	SLD 13	-218	58	3000	-741.85	473.77	-67.17
1144	SLD 14	-272	93	2950	-728.9	466.57	-87
1144	SLD 15	-202	-80	3937	-955.99	618.11	-40.86
1144	SLD 16	-257	-44	3887	-943.05	610.91	-60.69
1144	SLV 1	501	133	1565	-432.27	248.51	109.92
1144	SLV 2	415	189	1487	-411.99	237.23	78.85
1144	SLV 3	527	-89	3080	-778.53	481.88	152.54
1144	SLV 4	441	-33	3001	-758.25	470.61	121.47
1144	SLV 5	154	383	281	-130.43	52.36	-21.62
1144	SLV 6	96	420	228	-116.77	44.77	-42.53
1144	SLV 7	241	-357	5328	-1284.63	830.27	120.46
1144	SLV 8	183	-319	5276	-1270.97	822.68	99.54
1144	SLV 9	-105	367	705	-220.81	119.19	-87.39
1144	SLV 10	-163	404	652	-207.15	111.6	-108.3
1144	SLV 11	-18	-373	5752	-1375.01	897.1	54.69
1144	SLV 12	-76	-335	5700	-1361.35	889.51	33.77
1144	SLV 13	-363	80	2979	-733.53	471.27	-109.32
1144	SLV 14	-449	136	2901	-713.25	459.99	-140.38
1144	SLV 15	-337	-142	4493	-1079.8	704.64	-66.69
1144	SLV 16	-423	-86	4415	-1059.51	693.36	-97.76
1144	SLV FO 1	547	144	1423	-400.91	226.27	120.3
1144	SLV FO 2	452	205	1337	-378.6	213.86	86.13
1144	SLV FO 3	575	-100	3088	-781.79	482.98	167.19
1144	SLV FO 4	481	-39	3002	-759.48	470.57	133.01
1144	SLV FO 5	165	418	10	-68.88	10.51	-24.38
1144	SLV FO 6	102	460	-48	-53.86	2.16	-47.39
1144	SLV FO 7	261	-395	5562	-1338.5	866.21	131.9
1144	SLV FO 8	197	-354	5504	-1323.48	857.86	108.89
1144	SLV FO 9	-120	401	476	-168.3	84.02	-96.73
1144	SLV FO 10	-183	442	418	-153.28	75.66	-119.74
1144	SLV FO 11	-24	-412	6029	-1437.92	939.72	59.55
1144	SLV FO 12	-88	-371	5971	-1422.9	931.37	36.54
1144	SLV FO 13	-403	86	2978	-732.3	471.3	-120.85
1144	SLV FO 14	-498	147	2892	-709.99	458.89	-155.03
1144	SLV FO 15	-375	-158	4644	-1113.19	728.01	-73.97
1144	SLV FO 16	-469	-97	4558	-1090.88	715.6	-108.14
1144	CRTFP Ux+	0	0	0	0	0	0
1144	CRTFP Ux-	0	0	0	0	0	0
1144	CRTFP Uy+	0	0	0	0	0	0
1144	CRTFP Uy-	0	0	0	0	0	0

1.3 Pressioni massime sul terreno

Nodo: Nodo che interagisce col terreno.

Ind.: indice del nodo.

Pressione minima: situazione in cui si verifica la pressione minima nel nodo.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce la pressione minima.

uz: spostamento massimo verticale del nodo. [m]

Valore: pressione minima sul terreno del nodo. [daN/m²]

Pressione massima: situazione in cui si verifica la pressione massima nel nodo.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce la pressione massima.

uz: spostamento minimo verticale del nodo. [m]

Valore: pressione massima sul terreno del nodo. [daN/m²]

Compressione estrema massima -21325.4 al nodo di indice 170, di coordinate x = -17.05, y = -4.78, z = -1.3, nel contesto SLV fondazioni 5.

Spostamento estremo minimo -0.0071085 al nodo di indice 170, di coordinate x = -17.05, y = -4.78, z = -1.3, nel contesto SLV fondazioni 5.

Spostamento estremo massimo 0.0002404 al nodo di indice 196, di coordinate x = -7.72, y = -4.78, z = -1.3, nel contesto SLV fondazioni 7.

Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
10	SLU 84	-0.0041386	-12415.9	SLV FO 11	-0.0020456	-6136.7
11	SLU 84	-0.0041532	-12459.7	SLV FO 11	-0.002074	-6222
12	SLU 84	-0.0041636	-12490.8	SLV FO 7	-0.0020793	-6238
13	SLU 84	-0.0041725	-12517.4	SLV FO 7	-0.0020611	-6183.2



Pressione minima				Pressione massima		
Nodo	Cont.	uz	Valore	Cont.	uz	Valore
Ind.						
14	SLU 84	-0.004177	-12531	SLV FO 7	-0.0020401	-6120.3
15	SLU 84	-0.00417	-12510.1	SLV FO 8	-0.0020092	-6027.7
16	SLU 84	-0.0041416	-12424.7	SLV FO 8	-0.001955	-5865
17	SLU 84	-0.0041498	-12449.5	SLV FO 11	-0.0022325	-6697.6
18	SLU 84	-0.0041593	-12477.9	SLV FO 11	-0.0022554	-6766.3
19	SLU 84	-0.0041607	-12482.2	SLV FO 7	-0.0022629	-6788.7
20	SLU 84	-0.0041608	-12482.5	SLV FO 7	-0.0022373	-6711.8
21	SLU 84	-0.0041603	-12480.8	SLV FO 8	-0.00221	-6630
22	SLU 84	-0.0041521	-12456.4	SLV FO 8	-0.0021756	-6526.8
23	SLU 84	-0.0041181	-12354.2	SLV FO 8	-0.0021158	-6347.5
24	SLU 84	-0.004116	-12348	SLV FO 8	-0.0022531	-6759.3
25	SLU 84	-0.0041597	-12479.2	SLV FO 11	-0.002386	-7157.9
26	SLU 84	-0.0041514	-12454.1	SLV FO 7	-0.0023912	-7173.7
27	SLU 84	-0.0041434	-12430.3	SLV FO 7	-0.0023605	-7081.4
28	SLU 84	-0.0041383	-12414.8	SLV FO 8	-0.002328	-6984.1
29	SLU 84	-0.0041272	-12381.7	SLV FO 8	-0.0022994	-6898.3
30	SLU 84	-0.0041613	-12483.9	SLV FO 11	-0.0024029	-7208.7
31	SLU 84	-0.0041616	-12484.7	SLV FO 11	-0.0024161	-7248.3
32	SLU 84	-0.0040866	-12259.8	SLV FO 8	-0.00226	-6779.9
33	SLU 84	-0.004161	-12483.1	SLV FO 11	-0.0024356	-7306.8
34	SLU 84	-0.0040918	-12275.5	SLV FO 8	-0.0023479	-7043.6
35	SLU 84	-0.0041621	-12486.4	SLV FO 11	-0.0025104	-7531.3
36	SLU 84	-0.0041588	-12476.5	SLV FO 11	-0.002517	-7551.1
37	SLU 84	-0.0041401	-12420.3	SLV FO 11	-0.0025161	-7548.3
38	SLU 84	-0.0041235	-12370.6	SLV FO 7	-0.0024823	-7447
39	SLU 84	-0.0041131	-12339.4	SLV FO 8	-0.002444	-7332.1
40	SLU 84	-0.0040971	-12291.3	SLV FO 8	-0.0024196	-7258.7
41	SLU 84	-0.0041666	-12499.8	SLV FO 11	-0.0025791	-7737.4
42	SLU 84	-0.0041731	-12519.2	SLV FO 15	-0.0025598	-7679.4
43	SLU 84	-0.0040458	-12137.5	SLV FO 4	-0.0023599	-7079.8
44	SLU 84	-0.0040573	-12171.9	SLV FO 4	-0.002436	-7308
45	SLU 84	-0.0041594	-12478.2	SLU 1	-0.0025802	-7740.5
46	SLU 84	-0.0041315	-12394.5	SLU 1	-0.0025668	-7700.5
47	SLU 84	-0.0041066	-12319.8	SLU 1	-0.0025554	-7666.1
48	SLU 84	-0.0040897	-12269	SLU 1	-0.0025488	-7646.4
49	SLU 84	-0.0040726	-12217.7	SLV FO 4	-0.0024982	-7494.6
51	SLU 83	-0.0041852	-12555.7	SLU 2	-0.0025895	-7768.6
52	SLU 84	-0.004175	-12525	SLU 1	-0.0025855	-7756.4
53	SLU 84	-0.004002	-12006	SLV FO 4	-0.0023992	-7197.5
54	SLU 83	-0.0041621	-12486.2	SLU 2	-0.0025785	-7735.6
55	SLU 84	-0.0041273	-12381.8	SLU 1	-0.0025612	-7683.6
56	SLU 84	-0.0040949	-12284.6	SLU 1	-0.0025447	-7634.2
57	SLU 84	-0.0040701	-12210.3	SLU 1	-0.0025329	-7598.8
58	SLU 84	-0.0040453	-12135.9	SLU 1	-0.0025211	-7563.2
59	SLU 84	-0.0040198	-12059.3	SLV FO 4	-0.0024863	-7458.9
61	SLU 83	-0.0041854	-12556.3	SLU 2	-0.002583	-7749.1
62	SLU 83	-0.0041993	-12597.8	SLV FO 13	-0.0025419	-7625.7
63	SLU 83	-0.0040133	-12040	SLU 2	-0.002497	-7491
64	SLU 83	-0.0040901	-12270.4	SLU 2	-0.0025347	-7604
65	SLU 83	-0.0041293	-12388	SLU 2	-0.0025547	-7664
66	SLU 83	-0.0041685	-12505.6	SLU 2	-0.0025746	-7723.9
67	SLU 83	-0.0040563	-12169	SLU 2	-0.0025177	-7553.2
68	SLU 83	-0.0040215	-12064.6	SLU 2	-0.0024998	-7499.3
69	SLU 83	-0.003961	-11883.1	SLV FO 2	-0.002395	-7185.1
70	SLU 83	-0.0039917	-11975.1	SLV FO 2	-0.002459	-7377
72	SLU 83	-0.0040012	-12003.5	SLV FO 2	-0.0024791	-7437.3
73	SLU 83	-0.0040891	-12267.3	SLV FO 6	-0.002502	-7505.9
74	SLU 83	-0.0040469	-12140.7	SLV FO 6	-0.0024818	-7445.4
75	SLU 83	-0.0041338	-12401.5	SLV FO 10	-0.0024836	-7450.8
76	SLU 83	-0.004194	-12582	SLV FO 10	-0.0024425	-7327.6
77	SLU 83	-0.0041756	-12526.8	SLV FO 10	-0.0024568	-7370.5
78	SLU 83	-0.0040013	-12003.8	SLV FO 6	-0.0024338	-7301.3
79	SLU 83	-0.0042103	-12631	SLV FO 10	-0.0023958	-7187.5
83	SLU 83	-0.0040406	-12121.7	SLV FO 6	-0.0023986	-7195.9
85	SLU 83	-0.0039931	-11979.2	SLV FO 6	-0.0023739	-7121.8
86	SLU 83	-0.0039265	-11779.6	SLV FO 6	-0.0023353	-7005.8
87	SLU 83	-0.004087	-12261	SLV FO 10	-0.0023837	-7151.1
88	SLU 83	-0.004199	-12596.9	SLV FO 10	-0.002328	-6984
89	SLU 83	-0.0041365	-12409.6	SLV FO 10	-0.0023525	-7057.4
90	SLU 83	-0.0041804	-12541.3	SLV FO 10	-0.0023168	-6950.5
92	SLU 83	-0.0042177	-12653.1	SLV FO 10	-0.0022226	-6667.7
93	SLU 83	-0.0041815	-12544.4	SLV FO 10	-0.0022567	-6770.2
94	SLU 83	-0.0041361	-12408.3	SLV FO 10	-0.0022756	-6826.8
95	SLU 83	-0.0040831	-12249.3	SLV FO 10	-0.0022904	-6871.3
96	SLU 83	-0.0040295	-12088.6	SLV FO 6	-0.0022773	-6832
97	SLU 83	-0.003976	-11927.9	SLV FO 6	-0.0022505	-6751.6
98	SLU 83	-0.0039057	-11717.1	SLV FO 6	-0.002211	-6633
170	SLV FO 5	-0.0071085	-21325.4	SLV FO 12	0.0001704	511.2
171	SLV FO 5	-0.0070033	-21009.9	SLV FO 12	0.000146	437.9
172	SLV FO 5	-0.0069157	-20747	SLV FO 12	0.0001212	363.5
173	SLV FO 5	-0.0068496	-20548.9	SLV FO 12	0.0000971	291.2
174	SLV FO 5	-0.0068063	-20418.9	SLV FO 12	0.0000738	221.3
175	SLV FO 5	-0.0067859	-20357.7	SLV FO 12	0.0000509	152.8
176	SLV FO 5	-0.0067869	-20360.8	SLV FO 12	0.0000284	85.1
177	SLV FO 5	-0.0068055	-20416.5	SLV FO 12	0.0000065	19.5
178	SLV FO 5	-0.0068357	-20507.2	SLV FO 12	-0.0000138	-41.3
179	SLV FO 5	-0.006849	-20547	SLV FO 12	-0.0000275	-82.6
186	SLV FO 10	-0.006555	-19665	SLV FO 7	0.0000552	165.6
187	SLV FO 10	-0.0065684	-19705.1	SLV FO 7	0.0000718	215.3



Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
188	SLV FO 10	-0.0065844	-19753.2	SLV FO 7	0.0000867	260.2
189	SLV FO 10	-0.006597	-19791.1	SLV FO 7	0.0001005	301.4
190	SLV FO 10	-0.0066102	-19830.7	SLV FO 7	0.0001152	345.6
191	SLV FO 10	-0.0066307	-19892.2	SLV FO 7	0.0001314	394.1
192	SLV FO 10	-0.0066638	-19991.4	SLV FO 7	0.0001492	447.6
193	SLV FO 10	-0.006713	-20139	SLV FO 7	0.000169	507
194	SLV FO 10	-0.0067797	-20339.2	SLV FO 7	0.0001912	573.6
195	SLV FO 10	-0.006863	-20589.1	SLV FO 7	0.0002155	646.5
196	SLV FO 10	-0.0069598	-20879.3	SLV FO 7	0.0002404	721.2
197	SLV FO 10	-0.006358	-19074	SLV FO 7	0.0000052	15.7
198	SLV FO 10	-0.0063199	-18959.6	SLV FO 7	-0.0000125	-37.4
199	SLV FO 10	-0.0064026	-19207.7	SLV FO 7	0.0000177	53.1
200	SLV FO 10	-0.0062828	-18848.5	SLV FO 7	-0.0000372	-111.6
201	SLV FO 10	-0.0062461	-18738.4	SLV FO 7	-0.0000675	-202.5
210	SLV FO 5	-0.0067245	-20173.4	SLV FO 12	-0.0000223	-67
211	SLV FO 5	-0.0066052	-19815.7	SLV FO 12	-0.0000411	-123.2
212	SLV FO 5	-0.0064971	-19491.2	SLV FO 12	-0.0000595	-178.6
213	SLV FO 5	-0.0064103	-19230.9	SLV FO 12	-0.0000779	-233.8
214	SLV FO 5	-0.0063523	-19056.8	SLV FO 12	-0.0000971	-291.4
215	SLV FO 5	-0.0063276	-18982.8	SLV FO 12	-0.0001182	-354.5
216	SLV FO 5	-0.0063368	-19010.5	SLV FO 12	-0.0001417	-425
217	SLV FO 5	-0.0063756	-19126.7	SLV FO 12	-0.0001672	-501.5
218	SLV FO 5	-0.0064315	-19294.6	SLV FO 12	-0.0001928	-578.3
219	SLV FO 5	-0.0064833	-19449.8	SLV FO 12	-0.0002156	-646.8
220	SLV FO 10	-0.0061989	-18596.7	SLV FO 7	-0.0001314	-394.3
221	SLV FO 10	-0.0062077	-18623	SLV FO 7	-0.0001169	-350.7
222	SLV FO 10	-0.0063708	-19112.3	SLV FO 7	-0.0000166	-49.7
223	SLV FO 10	-0.006154	-18461.9	SLV FO 7	-0.0001293	-388
224	SLV FO 5	-0.006374	-19122.1	SLV FO 12	-0.0002448	-734.4
225	SLV FO 5	-0.0063123	-18936.8	SLV FO 12	-0.0002439	-731.7
226	SLV FO 5	-0.0062457	-18737	SLV FO 12	-0.0002378	-713.4
227	SLV FO 5	-0.0061887	-18566.1	SLV FO 12	-0.0002273	-681.9
228	SLV FO 10	-0.0061533	-18459.9	SLV FO 7	-0.0002083	-624.8
229	SLV FO 10	-0.0061375	-18412.4	SLV FO 7	-0.0001863	-559
230	SLV FO 10	-0.0061382	-18414.6	SLV FO 7	-0.0001651	-495.4
231	SLV FO 10	-0.0061506	-18451.8	SLV FO 7	-0.0001459	-437.8
232	SLV FO 10	-0.0064051	-19215.2	SLV FO 7	-0.0000352	-105.7
233	SLV FO 10	-0.0065227	-19568.2	SLV FO 7	-0.0000185	-55.4
234	SLV FO 10	-0.0061199	-18359.6	SLV FO 7	-0.0001175	-352.6
235	SLV FO 10	-0.0060476	-18142.8	SLV FO 7	-0.0001412	-423.6
236	SLV FO 10	-0.0059946	-17983.7	SLV FO 7	-0.0001631	-489.3
237	SLV FO 10	-0.0059621	-17886.4	SLV FO 7	-0.0001863	-559
238	SLV FO 10	-0.0059529	-17858.7	SLV FO 7	-0.0002061	-618.4
239	SLV FO 10	-0.0059343	-17802.9	SLV FO 7	-0.0002292	-687.6
240	SLV FO 5	-0.0063468	-19040.5	SLV FO 12	-0.0002137	-641
241	SLV FO 5	-0.0062111	-18633.4	SLV FO 12	-0.0002263	-678.9
242	SLV FO 5	-0.0060833	-18249.8	SLV FO 12	-0.0002386	-715.9
243	SLV FO 5	-0.0059754	-17926.1	SLV FO 12	-0.0002512	-753.6
244	SLV FO 5	-0.0059009	-17702.8	SLV FO 12	-0.0002658	-797.3
245	SLV FO 5	-0.0058698	-17609.3	SLV FO 12	-0.0002843	-852.8
246	SLV FO 5	-0.0058853	-17656	SLV FO 12	-0.000308	-924
247	SLV FO 5	-0.0059442	-17832.6	SLV FO 12	-0.000337	-1010.9
248	SLV FO 5	-0.0060344	-18103.3	SLV FO 12	-0.0003691	-1107.3
249	SLV FO 5	-0.0061406	-18421.8	SLV FO 12	-0.0004017	-1205.2
250	SLV FO 10	-0.0058535	-17560.4	SLV FO 7	-0.0003168	-950.5
251	SLV FO 10	-0.0058542	-17562.6	SLV FO 7	-0.0003039	-911.6
252	SLV FO 10	-0.0059087	-17726	SLV FO 7	-0.0002368	-710.4
253	SLV FO 10	-0.0057901	-17370.3	SLV FO 7	-0.0003213	-964
254	SLV FO 10	-0.0057377	-17213	SLV FO 7	-0.0002896	-868.8
255	SLV FO 10	-0.0056909	-17072.6	SLV FO 7	-0.0003534	-1060.2
256	SLV FO 10	-0.0056551	-16965.4	SLV FO 7	-0.0003202	-960.5
257	SLV FO 10	-0.0056458	-16937.4	SLV FO 7	-0.0003529	-1058.8
258	SLV FO 10	-0.0056296	-16888.9	SLV FO 7	-0.000341	-1022.9
259	SLV FO 10	-0.0060923	-18276.9	SLV FO 7	-0.0002732	-819.6
261	SLV FO 10	-0.0058805	-17641.4	SLV FO 7	-0.0003143	-942.8
262	SLV FO 5	-0.0059691	-17907.3	SLV FO 12	-0.0003996	-1198.9
263	SLV FO 5	-0.0058197	-17459.2	SLV FO 12	-0.0004069	-1220.8
264	SLV FO 5	-0.0056744	-17023.1	SLV FO 12	-0.0004137	-1241.1
265	SLV FO 5	-0.0055449	-16634.6	SLV FO 12	-0.0004205	-1261.6
266	SLV FO 5	-0.0054523	-16357	SLV FO 12	-0.00043	-1290
267	SLV FO 5	-0.0054122	-16236.6	SLV FO 12	-0.000445	-1335
268	SLV FO 5	-0.0054311	-16293.4	SLV FO 12	-0.0004678	-1403.5
269	SLV FO 5	-0.0055083	-16524.8	SLV FO 12	-0.0004995	-1498.5
270	SLV FO 5	-0.0056349	-16904.8	SLV FO 12	-0.0005385	-1615.4
271	SLV FO 5	-0.0057944	-17383.1	SLV FO 12	-0.0005808	-1742.3
272	SLV FO 10	-0.0055175	-16552.5	SLV FO 7	-0.0004982	-1494.6
273	SLV FO 10	-0.0055091	-16527.2	SLV FO 7	-0.0004871	-1461.2
274	SLV FO 10	-0.0054554	-16366.3	SLV FO 7	-0.0004972	-1491.6
275	SLV FO 10	-0.0054876	-16462.7	SLV FO 7	-0.0004404	-1321.2
276	SLV FO 10	-0.0053844	-16153.1	SLV FO 7	-0.0005082	-1524.7
277	SLV FO 10	-0.0053813	-16144	SLV FO 7	-0.0004575	-1372.4
278	SLV FO 10	-0.0053147	-15944.2	SLV FO 7	-0.0004768	-1430.4
279	SLV FO 10	-0.0055441	-16632.2	SLV FO 7	-0.0004541	-1362.3
280	SLV FO 10	-0.0053259	-15977.6	SLV FO 7	-0.0005073	-1521.8
281	SLV FO 10	-0.005296	-15888	SLV FO 7	-0.0004957	-1487
282	SLV FO 10	-0.0056535	-16960.5	SLV FO 7	-0.0005154	-1546.3
283	SLV FO 10	-0.0054687	-16406	SLV FO 7	-0.0005517	-1655.1
284	SLV FO 5	-0.005576	-16728	SLV FO 12	-0.0005744	-1723.1
285	SLV FO 5	-0.0054235	-16270.4	SLV FO 12	-0.0005793	-1737.8



Nodo		Pressione minima		Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
286	SLV FO 5	-0.0052689	-15806.7	SLV FO 12	-0.0005824	-1747.2
287	SLV FO 5	-0.0051162	-15348.6	SLV FO 12	-0.0005841	-1752.2
288	SLV FO 5	-0.0050043	-15012.8	SLV FO 12	-0.0005885	-1765.5
289	SLV FO 5	-0.0049532	-14859.6	SLV FO 12	-0.0005993	-1797.8
290	SLV FO 5	-0.0049712	-14913.5	SLV FO 12	-0.0006192	-1857.6
291	SLV FO 5	-0.0050594	-15178.2	SLV FO 12	-0.0006509	-1952.6
292	SLV FO 5	-0.0052139	-15641.7	SLV FO 12	-0.0006948	-2084.5
293	SLV FO 5	-0.0054266	-16279.9	SLV FO 12	-0.0007462	-2238.6
294	SLV FO 10	-0.0051846	-15553.7	SLV FO 7	-0.0006728	-2018.3
295	SLV FO 10	-0.005168	-15504	SLV FO 7	-0.0006645	-1993.4
296	SLV FO 10	-0.0051274	-15382.2	SLV FO 7	-0.000667	-2001
297	SLV FO 10	-0.0052704	-15811.2	SLV FO 7	-0.0005997	-1799
298	SLV FO 10	-0.0051383	-15414.9	SLV FO 7	-0.0006084	-1825.2
299	SLV FO 10	-0.0050694	-15208.3	SLV FO 7	-0.000668	-2004.1
300	SLV FO 10	-0.0050246	-15073.8	SLV FO 7	-0.0006225	-1867.4
301	SLV FO 10	-0.0049722	-14916.6	SLV FO 7	-0.0006445	-1933.4
302	SLV FO 10	-0.0049723	-14916.8	SLV FO 7	-0.0006324	-1897.3
303	SLV FO 10	-0.0050018	-15005.3	SLV FO 7	-0.000663	-1989
305	SLV FO 5	-0.0063205	-18961.4	SLV FO 12	-0.0000563	-168.9
320	SLV FO 5	-0.0053263	-15978.9	SLV FO 12	-0.0005297	-1589
322	SLV FO 5	-0.0053596	-16078.9	SLV FO 12	-0.0006035	-1810.5
326	SLV FO 5	-0.0051443	-15432.8	SLV FO 12	-0.00073	-2190.1
327	SLV FO 5	-0.0050072	-15021.5	SLV FO 12	-0.000738	-2214.1
328	SLV FO 5	-0.0048689	-14606.8	SLV FO 12	-0.0007415	-2224.4
329	SLV FO 5	-0.0046866	-14059.9	SLV FO 12	-0.0007409	-2222.8
330	SLV FO 5	-0.0045553	-13666	SLV FO 12	-0.0007416	-2224.8
331	SLV FO 5	-0.0044919	-13475.8	SLV FO 12	-0.0007477	-2243.2
332	SLV FO 5	-0.0045043	-13512.8	SLV FO 12	-0.0007627	-2288.2
333	SLV FO 5	-0.0045918	-13775.3	SLV FO 12	-0.0007892	-2367.7
334	SLV FO 5	-0.0047472	-14241.7	SLV FO 12	-0.0008301	-2490.4
335	SLV FO 5	-0.0047988	-14396.5	SLV FO 12	-0.0008415	-2524.6
336	SLV FO 9	-0.0050053	-15015.9	SLV FO 8	-0.000886	-2658.1
337	SLV FO 10	-0.0048064	-14419.2	SLV FO 7	-0.0008284	-2485.1
338	SLV FO 10	-0.0047734	-14320.2	SLV FO 7	-0.0008193	-2458
339	SLV FO 10	-0.0049518	-14855.5	SLV FO 7	-0.000758	-2274
341	SLV FO 10	-0.0051756	-15526.9	SLV FO 7	-0.0007348	-2204.4
346	SLV FO 10	-0.0053596	-16078.9	SLV FO 7	-0.0005954	-1786.2
348	SLV FO 10	-0.0053213	-15963.9	SLV FO 7	-0.0005039	-1511.6
363	SLV FO 10	-0.0061195	-18358.4	SLV FO 7	0.000202	60.6
365	SLV FO 6	-0.0048465	-14539.5	SLV FO 11	-0.0008384	-2515.1
366	SLV FO 10	-0.0048212	-14463.5	SLV FO 7	-0.0008349	-2504.7
367	SLV FO 10	-0.0047061	-14118.2	SLV FO 7	-0.0008024	-2407.1
368	SLV FO 10	-0.0046573	-13971.8	SLV FO 7	-0.0007873	-2362
369	SLV FO 10	-0.0046509	-13952.8	SLV FO 7	-0.0007761	-2328.3
370	SLV FO 10	-0.0046993	-14097.8	SLV FO 7	-0.0007687	-2306
371	SLV FO 10	-0.0048028	-14408.5	SLV FO 7	-0.0007636	-2290.7
372	SLV FO 10	-0.0050649	-15194.8	SLV FO 7	-0.0007497	-2249.1
374	SLV FO 5	-0.0060805	-18241.6	SLV FO 12	-0.0002351	-705.3
375	SLV FO 5	-0.0055159	-16547.7	SLV FO 12	-0.0002416	-724.7
376	SLV FO 5	-0.005014	-15041.9	SLV FO 12	-0.0002514	-754.1
377	SLV FO 5	-0.0045931	-13779.3	SLV FO 12	-0.0002644	-793.3
378	SLV FO 5	-0.0042617	-12785.1	SLV FO 12	-0.0002806	-841.9
379	SLV FO 5	-0.0040214	-12064.3	SLV FO 12	-0.0002999	-899.8
380	SLV FO 5	-0.0038697	-11609.1	SLV FO 12	-0.0003223	-966.9
381	SLV FO 5	-0.003802	-11406.1	SLV FO 12	-0.000348	-1043.9
382	SLV FO 5	-0.0038131	-11439.2	SLV FO 12	-0.0003775	-1132.4
383	SLV FO 5	-0.0038965	-11689.4	SLV FO 12	-0.0004115	-1234.6
384	SLV FO 5	-0.0040435	-12130.6	SLV FO 12	-0.000451	-1352.9
385	SLV FO 5	-0.0042414	-12724.2	SLV FO 12	-0.0004966	-1489.8
386	SLV FO 5	-0.0044703	-13410.9	SLV FO 12	-0.0005487	-1646
387	SLV FO 5	-0.0046995	-14098.4	SLV FO 12	-0.0006067	-1820
388	SLV FO 5	-0.0048833	-14649.8	SLV FO 12	-0.0006685	-2005.5
389	SLV FO 5	-0.0049612	-14883.5	SLV FO 12	-0.0007302	-2190.7
390	SLV FO 5	-0.0049574	-14872.3	SLV FO 12	-0.0007818	-2345.3
391	SLV FO 5	-0.0048844	-14653.3	SLV FO 12	-0.0008312	-2493.7
392	SLV FO 5	-0.0047629	-14288.6	SLV FO 12	-0.0008727	-2618
393	SLV FO 5	-0.0046055	-13816.6	SLV FO 12	-0.0008992	-2697.5
394	SLV FO 5	-0.0044766	-13429.9	SLV FO 12	-0.0009139	-2741.8
395	SLV FO 5	-0.0043409	-13022.6	SLV FO 12	-0.0009201	-2760.3
396	SLV FO 5	-0.0041569	-12470.8	SLV FO 12	-0.0009201	-2760.4
397	SLV FO 5	-0.0040186	-12055.9	SLV FO 12	-0.0009176	-2752.8
398	SLV FO 5	-0.0039499	-11849.7	SLV FO 12	-0.0009189	-2756.7
399	SLV FO 5	-0.0039607	-11882.2	SLV FO 12	-0.0009281	-2784.3
400	SLV FO 5	-0.0040493	-12148	SLV FO 12	-0.0009475	-2842.6
401	SLV FO 5	-0.004203	-12609	SLV FO 12	-0.0009788	-2936.4
402	SLV FO 9	-0.0044624	-13387.1	SLV FO 8	-0.0010263	-3078.9
403	SLV FO 10	-0.0044228	-13268.5	SLV FO 7	-0.0010274	-3082.1
404	SLV FO 10	-0.0044016	-13204.8	SLV FO 7	-0.0010234	-3070.3
405	SLV FO 10	-0.0043625	-13087.6	SLV FO 7	-0.001016	-3048.1
406	SLV FO 10	-0.0042795	-12838.5	SLV FO 7	-0.0010014	-3004.2
407	SLV FO 10	-0.0042141	-12642.3	SLV FO 7	-0.0009879	-2963.6
408	SLV FO 10	-0.004196	-12588	SLV FO 7	-0.0009779	-2933.7
409	SLV FO 10	-0.0042384	-12715.2	SLV FO 7	-0.0009715	-2914.5
410	SLV FO 10	-0.0043399	-13019.6	SLV FO 7	-0.0009665	-2899.5
411	SLV FO 10	-0.0044844	-13453.1	SLV FO 7	-0.0009582	-2874.5
412	SLV FO 10	-0.0046422	-13926.7	SLV FO 7	-0.000941	-2822.9
413	SLV FO 10	-0.0047879	-14363.7	SLV FO 7	-0.0009095	-2728.6
414	SLV FO 10	-0.0048932	-14679.6	SLV FO 7	-0.0008771	-2631.4
415	SLV FO 10	-0.0049573	-14872	SLV FO 7	-0.0008323	-2496.9



Nodo	Pressione minima			Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
416	SLV FO 10	-0.0049601	-14880.3	SLV FO 7	-0.0007682	-2304.6
417	SLV FO 10	-0.0049217	-14765.2	SLV FO 7	-0.0006767	-2030
418	SLV FO 10	-0.0048976	-14692.7	SLV FO 7	-0.0006479	-1943.6
419	SLV FO 10	-0.00475	-14249.9	SLV FO 7	-0.0005781	-1734.4
420	SLV FO 10	-0.0045362	-13608.5	SLV FO 7	-0.0005159	-1547.8
421	SLV FO 10	-0.0043092	-12927.5	SLV FO 7	-0.0004619	-1385.8
422	SLV FO 10	-0.0041041	-12312.2	SLV FO 7	-0.0004155	-1246.4
423	SLV FO 10	-0.0039441	-11832.4	SLV FO 7	-0.0003754	-1126.2
424	SLV FO 10	-0.0038443	-11533	SLV FO 7	-0.0003404	-1021.3
425	SLV FO 10	-0.0038141	-11442.4	SLV FO 7	-0.0003094	-928.1
426	SLV FO 10	-0.003861	-11583.1	SLV FO 7	-0.0002813	-843.9
427	SLV FO 10	-0.003992	-11975.9	SLV FO 7	-0.0002558	-767.3
428	SLV FO 10	-0.0042143	-12642.9	SLV FO 7	-0.0002328	-698.4
429	SLV FO 10	-0.0045347	-13604.2	SLV FO 7	-0.0002128	-638.5
430	SLV FO 10	-0.0049566	-14869.8	SLV FO 7	-0.0001964	-589.2
431	SLV FO 10	-0.0054766	-16429.9	SLV FO 7	-0.000184	-552
432	SLV FO 10	-0.006081	-18243.1	SLV FO 7	-0.0001761	-528.2
433	SLV FO 5	-0.0049522	-14856.5	SLV FO 12	-0.0006997	-2099.1
435	SLV FO 5	-0.0049836	-14950.9	SLV FO 12	-0.0007732	-2319.5
437	SLV FO 6	-0.0044382	-13314.7	SLV FO 11	-0.0010368	-3110.4
440	SLV FO 5	-0.0056809	-17042.6	SLV FO 12	-0.0002629	-788.6
441	SLV FO 10	-0.0049319	-14795.8	SLV FO 7	-0.0007905	-2371.6
443	SLV FO 10	-0.0048961	-14688.3	SLV FO 7	-0.0006986	-2095.8
444	SLV FO 10	-0.005496	-16488	SLV FO 7	-0.0002081	-624.2
447	SLV FO 5	-0.0046418	-13925.3	SLV FO 12	-0.0008749	-2624.7
449	SLV FO 5	-0.0046675	-14002.5	SLV FO 12	-0.0009472	-2841.6
451	SLV FO 6	-0.0040862	-12258.5	SLV FO 11	-0.0012282	-3684.6
454	SLV FO 5	-0.0051445	-15433.4	SLV FO 12	-0.0004767	-1430.2
455	SLV FO 10	-0.0045745	-13723.5	SLV FO 7	-0.0009886	-2965.8
457	SLV FO 10	-0.0045455	-13636.5	SLV FO 7	-0.0008956	-2686.7
458	SLV FO 10	-0.0049579	-14873.6	SLV FO 7	-0.0004418	-1325.3
460	SLV FO 5	-0.004376	-13128.1	SLV FO 12	-0.0010553	-3165.9
462	SLV FO 5	-0.0043961	-13188.2	SLV FO 12	-0.0011266	-3379.7
465	SLU 84	-0.0038859	-11657.7	SLV FO 11	-0.0014204	-4261.2
468	SLV FO 5	-0.0047162	-14148.5	SLV FO 12	-0.0007007	-2102.2
469	SLV FO 10	-0.0042697	-12809.1	SLV FO 7	-0.00119	-3569.9
471	SLV FO 10	-0.0042475	-12742.5	SLV FO 7	-0.0010956	-3286.9
472	SLV FO 10	-0.0045184	-13555.1	SLV FO 7	-0.0006839	-2051.8
474	SLV FO 5	-0.0041393	-12418	SLV FO 12	-0.001241	-3723
476	SLV FO 5	-0.0041536	-12460.9	SLV FO 12	-0.0013112	-3933.7
477	SLU 84	-0.0030438	-9131.4	SLV FO 8	-0.0013126	-3937.8
480	SLU 84	-0.0038594	-11578.1	SLV FO 11	-0.0016175	-4852.4
483	SLV FO 5	-0.0043905	-13171.6	SLV FO 12	-0.0009374	-2812.3
484	SLU 84	-0.0040072	-12021.7	SLV FO 7	-0.0013947	-4184.2
486	SLV FO 10	-0.0039838	-11951.3	SLV FO 7	-0.0012299	-3897.1
487	SLV FO 10	-0.0041792	-12537.5	SLV FO 7	-0.0009372	-2811.6
489	SLU 84	-0.0039778	-11933.5	SLV FO 12	-0.0014317	-4295.2
491	SLU 84	-0.0040375	-12112.4	SLV FO 12	-0.001501	-4503.1
494	SLU 84	-0.0038714	-11614.3	SLV FO 11	-0.0018194	-5458.3
497	SLV FO 1	-0.0042639	-12791.7	SLV FO 16	-0.0010827	-3248.2
498	SLU 84	-0.003978	-11933.9	SLV FO 7	-0.0016031	-4809.4
500	SLU 84	-0.0038984	-11695.1	SLV FO 7	-0.0015059	-4517.8
501	SLV FO 14	-0.0040621	-12186.2	SLV FO 3	-0.0010761	-3228.3
503	SLU 84	-0.0039707	-11912.1	SLV FO 12	-0.0016269	-4880.6
505	SLU 84	-0.0040255	-12076.4	SLV FO 12	-0.0016953	-5085.9
506	SLU 84	-0.0046624	-13987.1	SLV FO 8	-0.0023272	-6981.7
507	SLU 84	-0.0043072	-12921.5	SLV FO 8	-0.0022253	-6675.9
508	SLU 84	-0.0040565	-12169.6	SLV FO 8	-0.0021359	-6407.8
509	SLU 84	-0.0039046	-11713.9	SLV FO 11	-0.0020222	-6066.5
510	SLU 84	-0.0040097	-12029.1	SLV FO 11	-0.002047	-6140.9
512	SLV FO 1	-0.0042785	-12835.4	SLV FO 16	-0.0011819	-3545.8
513	SLU 84	-0.0039618	-11885.3	SLV FO 7	-0.0018156	-5446.8
515	SLU 84	-0.003886	-11657.9	SLV FO 7	-0.0017167	-5150.2
516	SLV FO 14	-0.0040722	-12216.7	SLV FO 3	-0.0011843	-3553
518	SLU 84	-0.0039223	-11766.9	SLV FO 11	-0.0021259	-6377.6
525	SLU 84	-0.0039729	-11918.8	SLV FO 12	-0.0018248	-5474.5
527	SLU 84	-0.0040229	-12068.8	SLV FO 12	-0.0018924	-5677.2
530	SLU 84	-0.0039448	-11834.5	SLV FO 11	-0.0022679	-6803.8
534	SLV FO 1	-0.0043579	-13073.6	SLV FO 16	-0.0012929	-3878.8
535	SLU 84	-0.0039559	-11867.7	SLV FO 7	-0.0020328	-6098.3
537	SLU 84	-0.0038838	-11651.3	SLV FO 7	-0.0019322	-5796.6
538	SLV FO 14	-0.0041486	-12445.7	SLV FO 3	-0.0013035	-3910.6
541	SLU 84	-0.0039825	-11947.4	SLV FO 12	-0.0020223	-6066.8
543	SLU 84	-0.0040277	-12083.2	SLV FO 12	-0.0020891	-6267.2
544	SLU 84	-0.003019	-9057	SLU 1	-0.0018733	-5619.9
546	SLU 84	-0.0039645	-11893.6	SLV FO 11	-0.0024088	-7226.4
551	SLV FO 1	-0.0044798	-13439.5	SLV FO 16	-0.0014095	-4228.6
552	SLU 84	-0.0039599	-11879.7	SLV FO 3	-0.0021781	-6534.4
554	SLU 84	-0.0038913	-11674	SLV FO 3	-0.002102	-6305.9
555	SLV FO 14	-0.0042676	-12802.9	SLV FO 3	-0.0014266	-4279.9
558	SLU 84	-0.0039971	-11991.4	SLV FO 16	-0.0021113	-6334
560	SLU 84	-0.0040377	-12113.1	SLV FO 16	-0.0021892	-6567.7
561	SLU 84	-0.0039837	-11951	SLU 1	-0.0024687	-7406.1
566	SLU 83	-0.0040053	-12015.9	SLU 2	-0.0024781	-7434.3
570	SLV FO 1	-0.0046112	-13833.5	SLV FO 16	-0.0015213	-4563.8
571	SLU 84	-0.0039753	-11926	SLV FO 3	-0.0022493	-6748
573	SLU 84	-0.0039102	-11730.7	SLV FO 3	-0.0021767	-6530.1
574	SLU 84	-0.0043976	-13192.9	SLV FO 3	-0.0015422	-4626.7
577	SLU 84	-0.0040136	-12040.9	SLV FO 16	-0.002167	-6501



Pressione minima				Pressione massima		
Nodo						
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
579	SLU 84	-0.0040495	-12148.6	SLV FO 16	-0.0022429	-6728.7
581	SLU 83	-0.0040314	-12094.2	SLV FO 9	-0.0024536	-7360.8
586	SLV FO 1	-0.0047019	-14105.6	SLV FO 16	-0.0016111	-4833.4
587	SLU 83	-0.0040008	-12024.1	SLV FO 2	-0.0022279	-6683.7
589	SLU 83	-0.0039454	-11836.1	SLV FO 2	-0.0021979	-6593.7
590	SLU 84	-0.0045531	-13593.1	SLV FO 3	-0.0016327	-4898
593	SLU 84	-0.0040262	-12078.6	SLV FO 16	-0.0022097	-6629
595	SLU 84	-0.0040575	-12172.5	SLV FO 14	-0.0022765	-6829.4
597	SLU 83	-0.0040611	-12183.3	SLV FO 10	-0.0023261	-6978.3
600	SLV FO 1	-0.0048408	-14522.3	SLV FO 16	-0.0016115	-4834.5
601	SLU 84	-0.0046833	-14049.8	SLV FO 16	-0.0016569	-4970.6
602	SLU 84	-0.0046364	-13909.3	SLV FO 16	-0.0017157	-5147.1
603	SLU 84	-0.0046084	-13825.1	SLV FO 16	-0.0017794	-5338.2
604	SLU 84	-0.0045855	-13756.5	SLV FO 16	-0.001843	-5528.9
605	SLU 84	-0.0045604	-13681.3	SLV FO 16	-0.0019037	-5711.2
606	SLU 84	-0.0045293	-13587.8	SLV FO 16	-0.0019601	-5880.2
607	SLU 84	-0.00449	-13470.1	SLV FO 16	-0.0020111	-6033.3
608	SLU 84	-0.0044415	-13324.4	SLV FO 16	-0.0020559	-6167.7
609	SLU 84	-0.0043831	-13149.2	SLV FO 16	-0.0020934	-6280.3
610	SLU 84	-0.0043152	-12945.7	SLV FO 16	-0.0021226	-6367.9
611	SLU 84	-0.0042412	-12723.7	SLV FO 16	-0.002143	-6429
612	SLU 84	-0.0041697	-12509.2	SLV FO 16	-0.0021565	-6469.5
613	SLU 84	-0.0041096	-12328.7	SLV FO 16	-0.0021673	-6501.9
614	SLU 83	-0.0040446	-12133.7	SLV FO 14	-0.0022388	-6716.4
615	SLU 83	-0.0040654	-12196.3	SLV FO 14	-0.0022782	-6834.6
616	SLU 83	-0.004087	-12261.1	SLV FO 14	-0.0023336	-7000.7
617	SLU 83	-0.0040982	-12294.5	SLV FO 14	-0.0023911	-7173.2
618	SLU 83	-0.0040947	-12284.1	SLV FO 14	-0.0024448	-7334.4
619	SLU 83	-0.0040741	-12222.4	SLV FO 14	-0.0024903	-7470.9
620	SLU 83	-0.0040352	-12105.7	SLU 2	-0.0024865	-7459.6
621	SLU 83	-0.0039791	-11937.4	SLU 2	-0.0024516	-7354.8
622	SLU 83	-0.0039116	-11734.7	SLU 2	-0.0024096	-7228.8
623	SLU 83	-0.0038442	-11532.5	SLU 2	-0.0023672	-7101.5
624	SLU 83	-0.0037915	-11374.6	SLU 2	-0.0023335	-7000.4
625	SLU 83	-0.0036512	-10953.7	SLV FO 6	-0.002222	-6666
626	SLU 83	-0.003661	-10982.9	SLV FO 6	-0.0021693	-6507.8
627	SLU 83	-0.0041785	-12535.4	SLV FO 6	-0.0024375	-7312.5
628	SLU 83	-0.0042245	-12673.5	SLV FO 6	-0.0024346	-7303.7
629	SLU 83	-0.0042404	-12721.2	SLV FO 6	-0.0024182	-7254.5
630	SLU 83	-0.004229	-12686.9	SLV FO 2	-0.0023902	-7170.5
631	SLU 83	-0.0041952	-12585.5	SLV FO 2	-0.0023302	-6990.5
632	SLU 83	-0.0041479	-12443.7	SLV FO 2	-0.0022789	-6836.8
633	SLU 83	-0.0040235	-12070.4	SLV FO 2	-0.0022058	-6617.5
634	SLU 83	-0.003962	-11885.9	SLV FO 2	-0.0021781	-6534.4
635	SLU 83	-0.0039699	-11909.8	SLV FO 1	-0.002197	-6591
636	SLU 83	-0.004058	-12174.1	SLV FO 1	-0.0022268	-6680.4
637	SLU 84	-0.0041475	-12442.4	SLV FO 3	-0.0022341	-6702.3
638	SLU 84	-0.0042276	-12682.8	SLV FO 3	-0.0022159	-6647.8
639	SLU 84	-0.0042937	-12881.2	SLV FO 3	-0.0021798	-6539.4
640	SLU 84	-0.0043459	-13037.7	SLV FO 3	-0.0021314	-6394.3
641	SLU 84	-0.0043859	-13157.6	SLV FO 3	-0.0020743	-6223
642	SLU 84	-0.0044156	-13246.7	SLV FO 3	-0.0020108	-6032.4
643	SLU 84	-0.0044373	-13312	SLV FO 3	-0.0019423	-5827
644	SLU 84	-0.0044545	-13363.6	SLV FO 3	-0.0018704	-5611.2
645	SLU 84	-0.0044735	-13420.4	SLV FO 3	-0.0017974	-5392.2
646	SLU 84	-0.0045065	-13519.5	SLV FO 3	-0.0017278	-5183.3
647	SLU 84	-0.0045765	-13729.4	SLV FO 3	-0.0016699	-5009.8
648	SLV FO 14	-0.0047322	-14196.7	SLV FO 3	-0.0016375	-4912.6
655	SLU 84	-0.0046923	-14077	SLV FO 16	-0.0016562	-4968.7
668	SLU 84	-0.0041186	-12355.7	SLV FO 16	-0.0021637	-6491.1
671	SLU 83	-0.0040262	-12078.5	SLV FO 14	-0.0021845	-6553.5
674	SLU 83	-0.0040565	-12169.4	SLV FO 13	-0.0022387	-6716.1
684	SLU 83	-0.0038232	-11469.7	SLU 2	-0.0023526	-7057.9
686	SLU 83	-0.0037611	-11283.3	SLU 2	-0.0023132	-6939.5
688	SLU 83	-0.0037155	-11146.6	SLV FO 6	-0.0022366	-6709.7
694	SLU 83	-0.0040935	-12280.6	SLV FO 10	-0.0021989	-6596.6
701	SLU 83	-0.0037391	-11217.3	SLV FO 6	-0.0022409	-6722.7
704	SLU 83	-0.0039145	-11743.6	SLV FO 6	-0.002326	-6978.1
712	SLU 83	-0.0040617	-12185.2	SLV FO 2	-0.0021733	-6519.8
714	SLU 83	-0.0040002	-12000.7	SLV FO 2	-0.0021456	-6436.8
716	SLU 83	-0.0039896	-11968.8	SLV FO 1	-0.0021793	-6537.8
729	SLU 84	-0.0045553	-13666	SLV FO 2	-0.00166	-4979.9
731	SLV FO 3	-0.0047864	-14359.3	SLV FO 14	-0.0016367	-4910.1
732	SLU 84	-0.0046601	-13980.3	SLV FO 14	-0.0016806	-5041.9
733	SLU 84	-0.0046111	-13833.4	SLV FO 14	-0.0017369	-5210.7
734	SLU 84	-0.0045809	-13742.6	SLV FO 14	-0.0017983	-5394.8
735	SLU 84	-0.0045558	-13667.3	SLV FO 14	-0.0018596	-5578.9
736	SLU 84	-0.0045284	-13585.2	SLV FO 14	-0.0019183	-5754.9
737	SLU 84	-0.0044949	-13484.8	SLV FO 14	-0.0019727	-5918.1
738	SLU 84	-0.0044533	-13360	SLV FO 14	-0.0020219	-6065.7
739	SLU 84	-0.0044024	-13207.2	SLV FO 14	-0.0020648	-6194.5
740	SLU 84	-0.0043415	-13024.6	SLV FO 14	-0.0021001	-6300.3
741	SLU 84	-0.0042712	-12813.6	SLV FO 14	-0.0021258	-6377.4
742	SLU 84	-0.0041946	-12583.9	SLV FO 14	-0.0021399	-6419.7
743	SLU 83	-0.0041206	-12361.9	SLV FO 14	-0.0021413	-6424
744	SLU 83	-0.0040972	-12291.6	SLV FO 14	-0.0021389	-6416.7
745	SLU 83	-0.0040313	-12093.9	SLV FO 14	-0.0021282	-6384.6
746	SLU 83	-0.0040229	-12068.7	SLV FO 14	-0.0021568	-6470.3
747	SLU 83	-0.0040356	-12106.8	SLV FO 13	-0.0021803	-6540.8



Nodo		Pressione minima		Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
748	SLU 83	-0.0040573	-12171.9	SLV FO 13	-0.0022267	-6680
749	SLU 83	-0.0040751	-12225.2	SLV FO 13	-0.0022804	-6841.3
750	SLU 83	-0.0040824	-12247.3	SLV FO 13	-0.0023369	-7010.6
751	SLU 83	-0.0040751	-12225.4	SLV FO 14	-0.0023889	-7166.7
752	SLU 83	-0.0040507	-12152.1	SLV FO 14	-0.0024326	-7297.8
753	SLU 83	-0.004008	-12024	SLV FO 14	-0.0024644	-7393.3
754	SLU 83	-0.003948	-11844	SLU 2	-0.0024285	-7285.6
755	SLU 83	-0.0038765	-11629.5	SLU 2	-0.0023845	-7153.6
756	SLU 83	-0.0038121	-11436.2	SLU 2	-0.0023445	-7033.6
757	SLU 83	-0.00375	-11249.9	SLU 2	-0.0023051	-6915.2
758	SLU 83	-0.0037786	-11335.8	SLV FO 6	-0.0022663	-6798.9
759	SLU 83	-0.0037849	-11354.8	SLV FO 6	-0.0022117	-6635.2
760	SLU 83	-0.0037838	-11351.3	SLV FO 6	-0.0021878	-6563.3
761	SLU 83	-0.0035885	-10765.4	SLV FO 6	-0.0020355	-6106.6
762	SLU 83	-0.0034722	-10416.5	SLV FO 6	-0.0019818	-5945.3
763	SLU 83	-0.0032515	-9754.5	SLV FO 5	-0.0019353	-5806
764	SLU 83	-0.0034712	-10413.6	SLV FO 5	-0.0021167	-6350
765	SLU 83	-0.0036749	-11024.8	SLV FO 5	-0.0021875	-6562.4
766	SLU 83	-0.0037239	-11171.8	SLV FO 1	-0.0021786	-6535.8
767	SLU 83	-0.0037423	-11226.9	SLV FO 1	-0.002135	-6405.1
768	SLU 83	-0.0037328	-11198.3	SLV FO 2	-0.0020788	-6236.5
769	SLU 83	-0.0037003	-11100.9	SLV FO 2	-0.0020197	-6059
770	SLU 83	-0.0036538	-10961.4	SLV FO 2	-0.0019689	-5906.7
771	SLU 83	-0.0036287	-10886.1	SLV FO 2	-0.001954	-5862
772	SLU 83	-0.003864	-11592	SLV FO 1	-0.0020959	-6287.8
773	SLU 83	-0.0039708	-11912.4	SLV FO 1	-0.002144	-6432
774	SLU 83	-0.0040171	-12051.3	SLV FO 1	-0.0021599	-6479.6
775	SLU 83	-0.0041086	-12325.8	SLV FO 1	-0.00217	-6509.9
776	SLU 83	-0.0041908	-12572.4	SLV FO 2	-0.0021563	-6469
777	SLU 83	-0.0042591	-12777.2	SLV FO 2	-0.0021239	-6371.6
778	SLU 83	-0.0043134	-12940.2	SLV FO 2	-0.0020785	-6235.4
779	SLU 83	-0.0043554	-13066.2	SLV FO 2	-0.0020242	-6072.5
780	SLU 83	-0.0043872	-13161.6	SLV FO 2	-0.0019636	-5890.8
781	SLU 83	-0.004411	-13232.9	SLV FO 2	-0.0018984	-5695.3
782	SLU 83	-0.0044301	-13290.4	SLV FO 2	-0.0018301	-5490.2
783	SLU 83	-0.004451	-13353	SLV FO 2	-0.0017608	-5282.5
784	SLU 83	-0.0044859	-13457.8	SLV FO 2	-0.0016951	-5085.3
785	SLU 83	-0.0045578	-13673.3	SLV FO 2	-0.0016412	-4923.6
786	SLV FO 15	-0.0047333	-14200	SLV FO 2	-0.0016113	-4833.9
788	SLV FO 4	-0.0046362	-13908.7	SLV FO 13	-0.0016322	-4896.5
789	SLU 83	-0.0044966	-13489.8	SLV FO 2	-0.0015939	-4781.6
792	SLV FO 4	-0.0045258	-13577.5	SLV FO 13	-0.0015262	-4578.5
793	SLV FO 15	-0.0043495	-13048.4	SLV FO 2	-0.0014845	-4453.5
795	SLU 83	-0.0039884	-11965.2	SLV FO 14	-0.002005	-6015.1
797	SLU 83	-0.0039809	-11942.7	SLV FO 13	-0.0020163	-6049
798	SLU 83	-0.0036122	-10836.5	SLU 2	-0.0022218	-6665.5
800	SLU 83	-0.0035668	-10700.5	SLV FO 10	-0.0021812	-6543.6
801	SLU 83	-0.0028213	-8463.9	SLV FO 1	-0.0016986	-5095.9
803	SLU 83	-0.0029068	-8720.5	SLV FO 1	-0.0016986	-5095.9
804	SLU 83	-0.0038722	-11616.6	SLV FO 2	-0.0020043	-6013
806	SLU 83	-0.0038769	-11630.8	SLV FO 2	-0.0020145	-6043.6
808	SLV FO 4	-0.0043761	-13128.2	SLV FO 13	-0.001403	-4209.1
809	SLV FO 15	-0.004181	-12543.1	SLV FO 2	-0.0013562	-4068.6
811	SLU 83	-0.0035315	-10594.5	SLV FO 10	-0.0021421	-6426.3
813	SLU 83	-0.0039016	-11704.7	SLV FO 6	-0.0019245	-5773.5
815	SLU 83	-0.0038946	-11683.7	SLV FO 2	-0.0019665	-5899.5
816	SLU 83	-0.0039615	-11884.6	SLV FO 13	-0.0019389	-5816.7
818	SLU 83	-0.0039596	-11878.9	SLV FO 13	-0.001952	-5855.9
819	SLU 83	-0.0026005	-7801.5	SLV FO 1	-0.0015161	-4548.2
821	SLU 83	-0.0026779	-8033.7	SLV FO 1	-0.0015102	-4530.5
823	SLV FO 4	-0.0042343	-12702.9	SLV FO 13	-0.0012782	-3834.7
824	SLU 83	-0.0034716	-10414.7	SLV FO 10	-0.0020229	-6068.8
826	SLV FO 15	-0.0040245	-12073.6	SLV FO 2	-0.0012261	-3678.3
828	SLU 83	-0.0039452	-11835.6	SLV FO 6	-0.0017643	-5292.9
830	SLU 83	-0.0039264	-11779.2	SLV FO 6	-0.0018154	-5446.2
831	SLU 83	-0.0039388	-11816.5	SLV FO 9	-0.0018507	-5552.2
833	SLU 83	-0.0039425	-11827.6	SLV FO 9	-0.0018045	-5413.4
834	SLU 83	-0.0024865	-7459.5	SLV FO 1	-0.0013923	-4177
836	SLU 83	-0.0025559	-7667.7	SLV FO 1	-0.0013804	-4141.2
837	SLU 83	-0.0034425	-10327.6	SLV FO 10	-0.0018935	-5680.6
840	SLV FO 4	-0.0041312	-12393.7	SLV FO 13	-0.0011605	-3481.5
841	SLU 83	-0.0033138	-9941.4	SLV FO 10	-0.0018115	-5434.6
842	SLU 83	-0.0027699	-8309.8	SLV FO 10	-0.0015401	-4620.4
843	SLU 83	-0.0025978	-7793.3	SLV FO 14	-0.0014459	-4337.7
844	SLU 83	-0.0024809	-7442.6	SLV FO 14	-0.0014063	-4218.9
845	SLU 83	-0.0024088	-7226.4	SLV FO 10	-0.0013992	-4197.7
846	SLU 83	-0.0023691	-7107.2	SLV FO 10	-0.0013984	-4195.1
847	SLU 83	-0.0023525	-7057.4	SLV FO 9	-0.0014087	-4226
848	SLU 83	-0.0023535	-7060.5	SLV FO 5	-0.0014079	-4223.6
849	SLU 83	-0.0023693	-7108	SLV FO 5	-0.0013957	-4187
850	SLU 83	-0.0023987	-7196.1	SLV FO 5	-0.0013916	-4174.8
851	SLU 83	-0.0024406	-7321.7	SLV FO 1	-0.0013637	-4091.2
852	SLU 83	-0.0024931	-7479.3	SLV FO 1	-0.001346	-4037.9
853	SLV FO 15	-0.0039191	-11757.3	SLV FO 2	-0.001105	-3314.9
855	SLU 83	-0.0039943	-11983	SLV FO 6	-0.0015825	-4747.4
857	SLU 83	-0.0039638	-11891.3	SLV FO 6	-0.0016294	-4888.3
858	SLU 83	-0.0039153	-11745.9	SLV FO 9	-0.0016269	-4880.8
860	SLU 83	-0.0039246	-11773.8	SLV FO 9	-0.0015828	-4748.4
861	SLU 83	-0.0034497	-10349.1	SLV FO 10	-0.0017609	-5282.8



Pressione minima				Pressione massima		
Nodo						
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
863	SLU 83	-0.0033127	-9938.1	SLV FO 10	-0.0017912	-5373.5
864	SLU 83	-0.0032078	-9623.5	SLV FO 10	-0.0016484	-4945.1
875	SLU 83	-0.0024567	-7370.2	SLV FO 5	-0.0012972	-3891.5
877	SLU 83	-0.0025218	-7565.4	SLV FO 1	-0.0013002	-3900.7
879	SLV FO 4	-0.0040868	-12260.5	SLV FO 13	-0.0010545	-3163.5
880	SLU 83	-0.0033438	-10031.3	SLV FO 10	-0.0015976	-4792.9
881	SLU 83	-0.0027788	-8336.5	SLV FO 10	-0.0013435	-4030.6
882	SLU 83	-0.0026049	-7814.8	SLV FO 10	-0.0012673	-3802
883	SLU 83	-0.0024863	-7458.8	SLV FO 10	-0.0012231	-3669.3
884	SLU 83	-0.0024125	-7237.4	SLV FO 10	-0.0012043	-3613
885	SLU 83	-0.002371	-7113.1	SLV FO 10	-0.0012033	-3609.9
886	SLU 83	-0.0023527	-7058.1	SLV FO 9	-0.0012136	-3640.9
887	SLU 83	-0.002352	-7056	SLV FO 5	-0.0012074	-3622.2
888	SLU 83	-0.0023661	-7098.4	SLV FO 5	-0.0011935	-3580.5
889	SLU 83	-0.0023937	-7181.2	SLV FO 5	-0.0011874	-3562.1
890	SLU 83	-0.0024339	-7301.6	SLV FO 5	-0.00119	-3569.9
891	SLU 83	-0.0024854	-7456.3	SLV FO 5	-0.0012025	-3607.4
892	SLV FO 15	-0.0038915	-11674.6	SLV FO 2	-0.000999	-2997
894	SLU 83	-0.0040442	-12132.7	SLV FO 6	-0.001386	-4157.9
896	SLU 83	-0.0040018	-12005.5	SLV FO 6	-0.0014289	-4286.6
897	SLU 83	-0.0038897	-11669.2	SLV FO 9	-0.0013919	-4175.7
899	SLU 83	-0.0039046	-11713.9	SLV FO 9	-0.0013499	-4049.6
900	SLU 83	-0.0034772	-10431.7	SLV FO 10	-0.0015945	-4783.4
902	SLU 83	-0.0032434	-9730.2	SLV FO 10	-0.0014864	-4459.2
903	SLU 83	-0.0024666	-7399.9	SLV FO 5	-0.0011388	-3416.4
905	SLU 83	-0.0025293	-7588	SLV FO 5	-0.0011571	-3471.2
907	SLV FO 4	-0.0041148	-12344.3	SLV FO 13	-0.0009625	-2887.6
908	SLV FO 11	-0.004291	-12873.1	SLV FO 6	-0.0011813	-3544
910	SLV FO 11	-0.0041835	-12550.6	SLV FO 6	-0.0012202	-3660.5
911	SLV FO 11	-0.0040562	-12168.7	SLV FO 6	-0.0008151	-2445.2
913	SLV FO 8	-0.0040246	-12073.8	SLV FO 9	-0.0011574	-3472.3
915	SLV FO 8	-0.0040887	-12266.2	SLV FO 9	-0.0011174	-3352.3
916	SLU 83	-0.0035166	-10549.9	SLV FO 9	-0.0014169	-4250.6
918	SLU 83	-0.0032981	-9894.3	SLV FO 9	-0.0013185	-3955.5
919	SLU 83	-0.0025144	-7543.3	SLV FO 5	-0.0009814	-2944.2
921	SLU 83	-0.0025726	-7717.9	SLV FO 5	-0.0009977	-2993
923	SLV FO 8	-0.0043604	-13081.3	SLV FO 9	-0.0007508	-2252.4
924	SLV FO 11	-0.0045569	-13670.7	SLV FO 6	-0.0009738	-2921.4
926	SLV FO 11	-0.0044376	-13312.9	SLV FO 6	-0.0010086	-3025.9
927	SLV FO 11	-0.0044108	-13232.4	SLV FO 6	-0.0005686	-1705.8
929	SLU 83	-0.0035602	-10680.5	SLV FO 9	-0.0012309	-3692.8
931	SLU 83	-0.0033567	-10070	SLV FO 9	-0.0011411	-3423.3
932	SLV FO 12	-0.0026488	-7946.4	SLV FO 5	-0.0008266	-2479.8
934	SLV FO 12	-0.0027072	-8121.5	SLV FO 5	-0.0008408	-2522.5
935	SLV FO 8	-0.0042285	-12685.6	SLV FO 9	-0.0009354	-2806.1
937	SLV FO 8	-0.0042982	-12894.6	SLV FO 9	-0.0008974	-2692.1
939	SLV FO 8	-0.0047277	-14183.1	SLV FO 9	-0.000525	-1574.9
940	SLV FO 11	-0.0048188	-14456.3	SLV FO 6	-0.0007673	-2301.9
942	SLV FO 11	-0.0046876	-14062.8	SLV FO 6	-0.0007982	-2394.6
943	SLV FO 8	-0.0037826	-11347.8	SLV FO 9	-0.0010385	-3115.4
945	SLV FO 8	-0.0036121	-10836.3	SLV FO 9	-0.000957	-2871.1
946	SLV FO 11	-0.0029319	-8795.7	SLV FO 6	-0.0006749	-2024.6
948	SLV FO 11	-0.0029866	-8959.8	SLV FO 6	-0.000687	-2061
949	SLV FO 11	-0.0048892	-14667.6	SLV FO 6	-0.0003317	-995.1
951	SLV FO 8	-0.0044491	-13347.2	SLV FO 9	-0.0007354	-2206.1
953	SLV FO 8	-0.0045243	-13573	SLV FO 9	-0.0006993	-2097.9
955	SLV FO 8	-0.005201	-15603.1	SLV FO 9	-0.0003082	-924.7
956	SLV FO 11	-0.0050758	-15227.4	SLV FO 6	-0.000565	-1695
958	SLV FO 11	-0.0049325	-14797.6	SLV FO 6	-0.000592	-1775.9
959	SLV FO 8	-0.0040406	-12121.7	SLV FO 9	-0.0008419	-2525.8
961	SLV FO 8	-0.0038811	-11643.3	SLV FO 9	-0.0007688	-2306.3
962	SLV FO 11	-0.0032436	-9730.7	SLV FO 6	-0.000527	-1581.1
964	SLV FO 11	-0.0032947	-9884.1	SLV FO 6	-0.000537	-1611.1
965	SLV FO 11	-0.0054945	-16483.4	SLV FO 6	-0.0000996	-298.7
968	SLV FO 8	-0.0057878	-17363.3	SLV FO 9	-0.0000975	-292.4
969	SLV FO 8	-0.0061909	-18572.7	SLV FO 9	-0.0000496	-148.7
970	SLV FO 8	-0.0057199	-17159.7	SLV FO 9	-0.0000789	-236.7
971	SLV FO 8	-0.0052971	-15891.2	SLV FO 9	-0.00011	-330
972	SLV FO 8	-0.0049385	-14815.4	SLV FO 9	-0.0001426	-427.8
973	SLV FO 8	-0.0046518	-13955.4	SLV FO 9	-0.0001764	-529.1
974	SLV FO 8	-0.0044397	-13319	SLV FO 9	-0.000211	-633
975	SLV FO 8	-0.0043012	-12903.5	SLV FO 9	-0.0002461	-738.2
976	SLV FO 8	-0.0042331	-12699.3	SLV FO 9	-0.0002812	-843.5
977	SLV FO 8	-0.0042305	-12691.4	SLV FO 9	-0.0003157	-947.1
978	SLV FO 8	-0.0042866	-12859.7	SLV FO 9	-0.0003487	-1046.2
979	SLV FO 8	-0.0043921	-13176.3	SLV FO 9	-0.000379	-1137.1
980	SLV FO 8	-0.0045344	-13603.2	SLV FO 9	-0.0004047	-1214.2
981	SLV FO 8	-0.0046957	-14087.2	SLV FO 9	-0.0004234	-1270.2
982	SLV FO 8	-0.0048515	-14554.4	SLV FO 9	-0.0004317	-1295.2
983	SLV FO 8	-0.004972	-14916.1	SLV FO 9	-0.0004268	-1280.4
984	SLV FO 11	-0.0053281	-15984.3	SLV FO 6	-0.0003674	-1102.3
986	SLV FO 11	-0.0051805	-15541.5	SLV FO 6	-0.000393	-1179.1
987	SLV FO 11	-0.0050877	-15263	SLV FO 6	-0.0004036	-1210.9
988	SLV FO 11	-0.004913	-14739	SLV FO 6	-0.0003994	-1198.2
989	SLV FO 11	-0.0047236	-14170.8	SLV FO 6	-0.0003783	-1134.9
990	SLV FO 11	-0.0045567	-13670	SLV FO 6	-0.0003456	-1036.9
991	SLV FO 11	-0.0044383	-13314.8	SLV FO 6	-0.0003054	-916.2
992	SLV FO 11	-0.0043865	-13159.5	SLV FO 6	-0.0002603	-780.8
993	SLV FO 11	-0.0044138	-13241.4	SLV FO 6	-0.0002121	-636.3



Nodo		Pressione minima		Pressione massima		
Ind.	Cont.	uz	Valore	Cont.	uz	Valore
994	SLV FO 11	-0.0045287	-13586.1	SLV FO 6	-0.0001621	-486.2
995	SLV FO 11	-0.0047365	-14209.5	SLV FO 6	-0.0001109	-332.8
996	SLV FO 11	-0.0050392	-15117.7	SLV FO 6	-0.0000592	-177.6
997	SLV FO 11	-0.0054344	-16303.2	SLV FO 6	-0.0000075	-22.4
998	SLV FO 11	-0.0059129	-17738.6	SLV FO 6	0.0000435	130.4
999	SLV FO 11	-0.0059372	-17811.7	SLV FO 6	0.0000476	142.7
1000	SLV FO 11	-0.0064553	-19366	SLV FO 6	0.0000924	277.2
1001	SLV FO 8	-0.0043159	-12947.8	SLV FO 9	-0.0006443	-1932.9
1003	SLV FO 8	-0.0041673	-12501.9	SLV FO 9	-0.0005794	-1738.1
1004	SLV FO 11	-0.0035894	-10768.2	SLV FO 6	-0.0003856	-1156.9
1006	SLV FO 11	-0.003637	-10911.1	SLV FO 6	-0.0003935	-1180.6
1009	SLV FO 11	-0.0055105	-16531.4	SLV FO 6	-0.0002187	-656.2
1012	SLV FO 8	-0.0064848	-19454.4	SLV FO 9	0.0001099	329.8
1026	SLV FO 8	-0.0052553	-15765.9	SLV FO 9	-0.0002882	-864.7
1028	SLV FO 8	-0.0054006	-16201.7	SLV FO 9	-0.0002747	-824.2
1043	SLV FO 8	-0.0046266	-13879.9	SLV FO 9	-0.0004492	-1347.5
1045	SLV FO 8	-0.0044886	-13465.9	SLV FO 9	-0.0003923	-1177
1046	SLV FO 11	-0.003983	-11949.1	SLV FO 6	-0.0002522	-756.6
1048	SLV FO 11	-0.0040272	-12081.6	SLV FO 6	-0.000258	-774.1
1050	SLV FO 11	-0.0056769	-17030.8	SLV FO 6	-0.0000644	-193.2
1054	SLV FO 8	-0.0056352	-16905.5	SLV FO 9	-0.0001721	-516.2
1055	SLV FO 8	-0.0059671	-17901.3	SLV FO 9	-0.0000956	-286.7
1056	SLV FO 8	-0.0055866	-16759.9	SLV FO 9	-0.0001279	-383.8
1057	SLV FO 8	-0.0052288	-15686.5	SLV FO 9	-0.0001554	-466.1
1058	SLV FO 8	-0.0049255	-14776.6	SLV FO 9	-0.0001803	-540.8
1059	SLV FO 8	-0.0046954	-14086.2	SLV FO 9	-0.0002041	-612.2
1060	SLV FO 8	-0.0045466	-13639.8	SLV FO 9	-0.0002275	-682.5
1061	SLV FO 8	-0.0044791	-13437.3	SLV FO 9	-0.0002508	-752.4
1062	SLV FO 8	-0.0044858	-13457.4	SLV FO 9	-0.0002735	-820.4
1063	SLV FO 8	-0.0045522	-13656.6	SLV FO 9	-0.0002943	-882.8
1064	SLV FO 8	-0.0046554	-13966.3	SLV FO 9	-0.0003109	-932.8
1065	SLV FO 8	-0.0047619	-14285.6	SLV FO 9	-0.00032	-960.1
1066	SLV FO 8	-0.0048242	-14472.7	SLV FO 9	-0.0003166	-949.7
1067	SLV FO 8	-0.0047834	-14350.3	SLV FO 9	-0.0002942	-882.7
1068	SLV FO 8	-0.0046749	-14024.6	SLV FO 9	-0.0002704	-811.3
1069	SLV FO 8	-0.0045059	-13517.6	SLV FO 9	-0.0002579	-773.8
1070	SLV FO 8	-0.0043118	-12935.5	SLV FO 9	-0.0002539	-761.7
1071	SLV FO 8	-0.0041209	-12362.7	SLV FO 9	-0.0002557	-767
1072	SLV FO 8	-0.0039525	-11857.4	SLV FO 9	-0.000261	-782.9
1073	SLV FO 8	-0.0038192	-11457.7	SLV FO 9	-0.0002679	-803.8
1074	SLV FO 12	-0.0037315	-11194.5	SLV FO 5	-0.0002723	-816.8
1075	SLV FO 12	-0.0037038	-11111.4	SLV FO 5	-0.0002618	-785.3
1076	SLV FO 12	-0.003725	-11174.9	SLV FO 5	-0.0002469	-740.7
1077	SLV FO 11	-0.0037896	-11368.7	SLV FO 6	-0.0002295	-688.4
1078	SLV FO 11	-0.0038886	-11665.7	SLV FO 6	-0.0002116	-634.7
1079	SLV FO 11	-0.0040095	-12028.4	SLV FO 6	-0.0001946	-583.9
1080	SLV FO 11	-0.0041342	-12402.7	SLV FO 6	-0.0001803	-541
1081	SLV FO 11	-0.0042373	-12711.8	SLV FO 6	-0.0001708	-512.5
1082	SLV FO 11	-0.004287	-12860.9	SLV FO 6	-0.0001688	-506.5
1083	SLV FO 11	-0.0042803	-12841	SLV FO 6	-0.00017	-509.9
1084	SLV FO 11	-0.0042024	-12607.1	SLV FO 6	-0.0001707	-512.2
1085	SLV FO 11	-0.0041076	-12322.8	SLV FO 6	-0.0001699	-509.8
1086	SLV FO 11	-0.0040392	-12117.7	SLV FO 6	-0.0001665	-499.6
1087	SLV FO 11	-0.0040284	-12085.1	SLV FO 6	-0.0001596	-478.8
1088	SLV FO 11	-0.0040969	-12290.6	SLV FO 6	-0.0001481	-444.4
1089	SLV FO 11	-0.0042591	-12777.3	SLV FO 6	-0.000131	-393.1
1090	SLV FO 11	-0.0045225	-13567.4	SLV FO 6	-0.0001071	-321.4
1091	SLV FO 11	-0.004886	-14657.9	SLV FO 6	-0.0000753	-225.8
1092	SLV FO 11	-0.0053372	-16011.7	SLV FO 6	-0.0000341	-102.4
1093	SLV FO 11	-0.0057166	-17149.9	SLV FO 6	0.000003	9
1095	SLV FO 8	-0.0058773	-17631.8	SLV FO 9	-0.0000609	-182.7
1098	SLV FO 11	-0.005851	-17553	SLV FO 6	0.0000891	267.2
1101	SLV FO 8	-0.0061444	-18433.1	SLV FO 9	0.0000537	161.2
1113	SLV FO 8	-0.005258	-15774	SLV FO 9	-0.0001483	-444.9
1115	SLV FO 8	-0.0051428	-15428.3	SLV FO 9	-0.0001089	-326.8
1130	SLV FO 11	-0.0047559	-14267.6	SLV FO 6	-0.000056	-167.9
1132	SLV FO 11	-0.0047927	-14378.1	SLV FO 6	-0.0000573	-171.8
1143	SLV FO 11	-0.0059932	-17979.5	SLV FO 6	0.0001969	590.6

1.4 Cedimenti fondazioni superficiali

Nodo: nodo che interagisce col terreno.

Ind.: indice del nodo.

spostamento nodale massimo: situazione in cui si verifica lo spostamento massimo verticale nel nodo calcolato dal solutore ad elementi finiti. Lo spostamento massimo con segno è quello con valore massimo lungo l'asse Z, dove valori positivi rappresentano spostamenti verso l'alto.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.

uz: spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]

Press.: pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]

spostamento nodale minimo: situazione in cui si verifica lo spostamento minimo verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento minimo con segno è quello con valore minimo lungo l'asse Z, dove valori negativi rappresentano spostamenti verso il basso.

Cont.: nome breve della condizione o combinazione di carico a cui si riferisce lo spostamento.

uz: spostamento verticale del nodo calcolato dal solutore ad elementi finiti. Lo spostamento è dotato di segno. [m]

Press.: pressione sul terreno corrispondente allo spostamento. Valori positivi indicano trazione, valori negativi indicano compressione. [daN/m²]



Cedimento elastico: cedimento teorico elastico massimo.

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico elastico massimo.

v.: valore del cedimento teorico elastico massimo. [m]

Cedimento edometrico: cedimento teorico edometrico massimo.

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico edometrico massimo.

v.: valore del cedimento teorico edometrico massimo. [m]

Cedimento di consolidazione: cedimento teorico di consolidazione massimo.

Cont.: nome breve della combinazione di carico in cui è stato calcolato il cedimento teorico di consolidazione massimo.

v.: valore del cedimento teorico di consolidazione massimo. [m]

Spostamento estremo minimo -0.0055194 al nodo di indice 170, di coordinate x = -17.05, y = -4.78, z = -1.3, nel contesto SLD 5.

Spostamento estremo massimo -0.0010035 al nodo di indice 1087, di coordinate x = -7.72, y = 6.23, z = -1.3, nel contesto SLD 6.

Cedimento elastico estremo massimo 0.0026136 al nodo di indice 566, di coordinate x = -11.36, y = 0.24, z = -1.3, nel contesto SLE rara 21.

Nodo Ind.	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
10	SLD 11	-2.4E-03	-7100.8	SLD 6	-3.2E-03	-9588.6	SLE RA 21	1.90E-03				
11	SLD 11	-2.4E-03	-7168.6	SLD 6	-3.2E-03	-9603.3	SLE RA 21	1.92E-03				
12	SLD 7	-2.4E-03	-7191.2	SLD 10	-3.2E-03	-9642.2	SLE RA 21	1.92E-03				
13	SLD 7	-2.4E-03	-7171.4	SLD 10	-3.2E-03	-9718.8	SLE RA 21	1.89E-03				
14	SLD 7	-2.4E-03	-7143.3	SLD 10	-3.3E-03	-9786.5	SLE RA 21	1.85E-03				
15	SLD 8	-2.4E-03	-7088.2	SLD 9	-3.3E-03	-9834.1	SLE RA 21	1.77E-03				
16	SLD 8	-2.3E-03	-6975.3	SLD 9	-3.3E-03	-9857.4	SLE RA 21	1.65E-03				
17	SLD 11	-2.5E-03	-7423.7	SLD 6	-3.1E-03	-9301	SLE RA 21	2.01E-03				
18	SLD 11	-2.5E-03	-7477.4	SLD 6	-3.1E-03	-9308.2	SLE RA 21	2.01E-03				
19	SLD 7	-2.5E-03	-7496.3	SLD 10	-3.1E-03	-9314.2	SLE RA 21	2.00E-03				
20	SLD 7	-2.5E-03	-7456.1	SLD 10	-3.1E-03	-9375	SLE RA 21	1.98E-03				
21	SLD 8	-2.5E-03	-7412.6	SLD 9	-3.1E-03	-9436.3	SLE RA 21	1.96E-03				
22	SLD 8	-2.5E-03	-7350.3	SLD 9	-3.2E-03	-9485.6	SLE RA 21	1.89E-03				
23	SLD 8	-2.4E-03	-7222.9	SLD 9	-3.2E-03	-9499.9	SLE RA 21	1.78E-03				
24	SLD 8	-2.5E-03	-7448.9	SLD 9	-3.1E-03	-9243	SLE RA 21	1.91E-03				
25	SLD 11	-2.6E-03	-7696.3	SLE RA 21	-3.1E-03	-9177.7	SLE RA 21	2.07E-03				
26	SLD 7	-2.6E-03	-7703.1	SLE RA 21	-3.1E-03	-9161.9	SLE RA 21	0.002063				
27	SLD 7	-2.5E-03	-7646.9	SLE RA 21	-3.0E-03	-9147.3	SLE RA 21	0.002041				
28	SLD 8	-2.5E-03	-7590.4	SLD 9	-3.1E-03	-9159.9	SLE RA 21	2.00E-03				
29	SLD 8	-2.5E-03	-7535	SLD 9	-3.1E-03	-9188.8	SLE RA 21	1.97E-03				
30	SLD 11	-2.6E-03	-7719.4	SLE RA 21	-3.1E-03	-9177.1	SLE RA 21	0.002075				
31	SLD 11	-2.6E-03	-7745.6	SLE RA 21	-3.1E-03	-9179.5	SLE RA 21	2.07E-03				
32	SLD 8	-2.5E-03	-7435.3	SLD 9	-3.0E-03	-9145.3	SLE RA 21	1.87E-03				
33	SLD 11	-2.6E-03	-7779.1	SLE RA 21	-3.1E-03	-9178.7	SLE RA 21	2.08E-03				
34	SLD 8	-2.5E-03	-7585.4	SLE RA 21	-3.0E-03	-9037.6	SLE RA 21	1.95E-03				
35	SLD 11	-2.6E-03	-7905.5	SLE RA 21	-3.1E-03	-9179.3	SLE RA 21	2.10E-03				
36	SLD 11	-2.6E-03	-7915.1	SLE RA 21	-3.1E-03	-9172.5	SLE RA 21	2.11E-03				
37	SLD 11	-2.6E-03	-7902.1	SLE RA 21	-3.0E-03	-9133.8	SLE RA 21	2.11E-03				
38	SLD 7	-2.6E-03	-7833.3	SLE RA 21	-3.0E-03	-9099.9	SLE RA 21	2.09E-03				
39	SLD 8	-2.6E-03	-7762	SLE RA 21	-3.0E-03	-9079.5	SLE RA 21	2.05E-03				
40	SLD 8	-2.6E-03	-7708.7	SLE RA 21	-3.0E-03	-9046.1	SLE RA 21	1.99E-03				
41	SLD 11	-2.7E-03	-8023.3	SLE RA 21	-3.1E-03	-9186.9	SLE RA 21	2.11E-03				
42	SLD 15	-2.7E-03	-7984.6	SLE RA 21	-3.1E-03	-9199.4	SLE RA 21	2.10E-03				
43	SLD 4	-2.5E-03	-7552.1	SLE RA 21	-3.0E-03	-8934.6	SLE RA 21	1.93E-03				
44	SLD 4	-2.6E-03	-7690.4	SLE RA 21	-3.0E-03	-8956.8	SLE RA 21	0.001971				
45	SLE RA 1	-2.7E-03	-8078.5	SLE RA 21	-3.1E-03	-9170.6	SLE RA 21	2.13E-03				
46	SLE RA 1	-2.7E-03	-8034.7	SLE RA 21	-3.0E-03	-9111.5	SLE RA 21	2.13E-03				
47	SLE RA 1	-2.7E-03	-7996.8	SLE RA 21	-3.0E-03	-9059	SLE RA 21	2.11E-03				
48	SLD 8	-2.6E-03	-7935.6	SLE RA 21	-3.0E-03	-9024.1	SLE RA 21	2.07E-03				
49	SLD 4	-2.6E-03	-7809.2	SLE RA 21	-3.0E-03	-8988.6	SLE RA 21	2.02E-03				
51	SLD 15	-2.7E-03	-8053.9	SLE RA 20	-3.1E-03	-9222.5	SLE RA 21	2.12E-03				
52	SLE RA 1	-2.7E-03	-8099.6	SLE RA 21	-3.1E-03	-9201.2	SLE RA 21	2.13E-03				
53	SLD 4	-2.5E-03	-7577.2	SLE RA 21	-2.9E-03	-8832.6	SLE RA 21	1.95E-03				
54	SLE RA 2	-2.7E-03	-8078.1	SLE RA 20	-3.1E-03	-9173.2	SLE RA 21	2.14E-03				
55	SLE RA 1	-2.7E-03	-8021.4	SLE RA 21	-3.0E-03	-9098.8	SLE RA 21	2.14E-03				
56	SLE RA 1	-2.7E-03	-7968.1	SLE RA 21	-3.0E-03	-9029.6	SLE RA 21	2.12E-03				
57	SLE RA 1	-2.6E-03	-7929.3	SLE RA 21	-3.0E-03	-8977.1	SLE RA 21	2.08E-03				
58	SLD 4	-2.6E-03	-7842.3	SLE RA 21	-3.0E-03	-8924.4	SLE RA 21	2.03E-03				
59	SLD 4	-0.00258	-7739.9	SLE RA 21	-3.0E-03	-8868.5	SLE RA 21	1.99E-03				
61	SLD 13	-2.7E-03	-8038.4	SLE RA 20	-3.1E-03	-9220	SLE RA 21	2.13E-03				
62	SLD 13	-2.7E-03	-7970.4	SLE RA 20	-3.1E-03	-9249.1	SLE RA 21	0.00213				
63	SLD 2	-2.6E-03	-7756	SLE RA 20	-3.0E-03	-8850.9	SLE RA 21	2.01E-03				
64	SLE RA 2	-2.6E-03	-7944.2	SLE RA 20	-3.0E-03	-9015.2	SLE RA 21	0.002116				
65	SLE RA 2	-2.7E-03	-8009.4	SLE RA 20	-3.0E-03	-9099.6	SLE RA 21	2.13E-03				
66	SLD 9	-2.7E-03	-8048.2	SLE RA 20	-3.1E-03	-9183.8	SLE RA 21	2.13E-03				
67	SLE RA 2	-2.6E-03	-7888.9	SLE RA 20	-3.0E-03	-8942.7	SLE RA 21	2.08E-03				
68	SLD 2	-2.6E-03	-7796.1	SLE RA 20	-3.0E-03	-8867.7	SLE RA 21	2.02E-03				
69	SLD 2	-2.5E-03	-7530.9	SLE RA 20	-2.9E-03	-8736.7	SLE RA 21	0.001931				
70	SLD 2	-2.6E-03	-7665.7	SLE RA 20	-2.9E-03	-8801.7	SLE RA 21	0.001983				
72	SLD 2	-2.6E-03	-7707.8	SLE RA 20	-2.9E-03	-8821.6	SLE RA 21	2.00E-03				
73	SLD 6	-2.6E-03	-7825.4	SLE RA 20	-3.0E-03	-9009.1	SLE RA 21	2.09E-03				
74	SLD 6	-2.6E-03	-7755.8	SLE RA 20	-3.0E-03	-8918	SLE RA 21	2.06E-03				
75	SLD 10	-2.6E-03	-7829.6	SLE RA 20	-3.0E-03	-9105.7	SLE RA 21	2.11E-03				
76	SLD 10	-2.6E-03	-7806	SLE RA 20	-3.1E-03	-9235.1	SLE RA 21	2.12E-03				
77	SLD 10	-2.6E-03	-7816.6	SLE RA 20	-3.1E-03	-9195.7	SLE RA 21	2.11E-03				
78	SLD 6	-2.5E-03	-7635.7	SLE RA 20	-2.9E-03	-8818.6	SLE RA 21	2.00E-03				
79	SLD 10	-2.6E-03	-7738	SLE RA 20	-3.1E-03	-9269.1	SLE RA 21	2.10E-03				
83	SLD 6	-2.5E-03	-7607.5	SLE RA 20	-3.0E-03	-8901.4	SLE RA 21	2.04E-03				
85	SLD 6	-2.5E-03	-7525.8	SLE RA 20	-2.9E-03	-8798.6	SLE RA 21	1.98E-03				
86	SLD 6	-2.5E-03	-7404.7	SLE RA 20	-2.9E-03	-8654.8	SLE RA 21	0.001918				
87	SLD 10	-2.5E-03	-7620.6	SLE RA 20	-3.0E-03	-9001	SLE RA 21	2.06E-03				
88	SLD 10	-2.5E-03	-7614	SLD 7	-3.1E-03	-9250.3	SLE RA 21	2.09E-03				
89	SLD 10	-2.5E-03	-7606.9	SLE RA 20	-3.0E-03	-9108	SLE RA 21	2.07E-03				



Nodo	spostamento nodale massimo				spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.	
90	SLD 10	-2.5E-03	-7580.9	SLD 7	-3.1E-03	-9214.3	SLE RA 21	2.09E-03					
92	SLD 10	-2.5E-03	-7447.6	SLD 7	-3.2E-03	-9473.5	SLE RA 21	2.04E-03					
93	SLD 10	-2.5E-03	-7478.8	SLD 7	-3.1E-03	-9313.7	SLE RA 21	2.07E-03					
94	SLD 10	-2.5E-03	-7474.7	SLD 7	-3.0E-03	-9147.6	SLE RA 21	2.05E-03					
95	SLD 10	-2.5E-03	-7457	SLE RA 20	-3.0E-03	-8989.7	SLE RA 21	0.002029					
96	SLD 6	-2.5E-03	-7389.6	SLE RA 20	-3.0E-03	-8873.3	SLE RA 21	1.99E-03					
97	SLD 6	-2.4E-03	-7298.9	SLE RA 20	-2.9E-03	-8757.1	SLE RA 21	1.95E-03					
98	SLD 6	-2.4E-03	-7173	SLE RA 20	-2.9E-03	-8604.9	SLE RA 21	1.88E-03					
170	SLD 12	-1.4E-03	-4255.9	SLD 5	-5.5E-03	-16558.3	SLE RA 21	1.31E-06					
171	SLD 12	-1.4E-03	-4245.3	SLD 5	-5.4E-03	-16326.7	SLE RA 21	0.000047					
172	SLD 12	-1.4E-03	-4247.1	SLD 5	-5.4E-03	-16136.5	SLE RA 21	0.000101					
173	SLD 12	-1.4E-03	-4261.3	SLD 5	-5.3E-03	-15996.4	SLE RA 21	1.46E-04					
174	SLD 12	-1.4E-03	-4288.5	SLD 5	-5.3E-03	-15909	SLE RA 21	1.92E-04					
175	SLD 12	-1.4E-03	-4329.7	SLD 5	-5.3E-03	-15875.1	SLE RA 21	2.34E-04					
176	SLD 12	-1.5E-03	-4384.3	SLD 5	-5.3E-03	-15891.4	SLE RA 21	2.71E-04					
177	SLD 12	-1.5E-03	-4448.7	SLD 5	-5.3E-03	-15948.3	SLE RA 21	3.05E-04					
178	SLD 12	-1.5E-03	-4516.9	SLD 5	-5.3E-03	-16031.6	SLE RA 21	3.40E-04					
179	SLD 12	-1.5E-03	-4558.6	SLD 5	-5.4E-03	-16071	SLE RA 21	3.79E-04					
186	SLD 7	-1.4E-03	-4172.3	SLD 10	-5.1E-03	-15327.1	SLE RA 21	5.69E-04					
187	SLD 7	-1.4E-03	-4141.8	SLD 10	-5.1E-03	-15348	SLE RA 21	5.72E-04					
188	SLD 7	-1.4E-03	-4116.7	SLD 10	-5.1E-03	-15376.3	SLE RA 21	4.82E-04					
189	SLD 7	-1.4E-03	-4092.1	SLD 10	-5.1E-03	-15397.6	SLE RA 21	4.13E-04					
190	SLD 7	-1.4E-03	-4065.5	SLD 10	-5.1E-03	-15419.7	SLE RA 21	3.56E-04					
191	SLD 7	-1.3E-03	-4040.1	SLD 10	-5.2E-03	-15457.9	SLE RA 21	2.98E-04					
192	SLD 7	-1.3E-03	-4019.1	SLD 10	-5.2E-03	-15524.7	SLE RA 21	2.37E-04					
193	SLD 7	-1.3E-03	-4004	SLD 10	-5.2E-03	-15628	SLE RA 21	1.74E-04					
194	SLD 7	-1.3E-03	-3994.8	SLD 10	-5.3E-03	-15770.8	SLE RA 21	1.05E-04					
195	SLD 7	-1.3E-03	-3991.5	SLD 10	-5.3E-03	-15951.1	SLE RA 21	4.01E-05					
196	SLD 7	-1.3E-03	-3995.7	SLD 10	-5.4E-03	-16162.5							
197	SLD 7	-1.4E-03	-4156.2	SLD 10	-5.0E-03	-14902.1	SLE RA 21	3.96E-04					
198	SLD 7	-1.4E-03	-4173.5	SLD 10	-4.9E-03	-14823.5	SLE RA 21	4.70E-04					
199	SLD 7	-1.4E-03	-4155.4	SLD 10	-5.0E-03	-14999.2	SLE RA 21	3.38E-04					
200	SLD 7	-1.4E-03	-4208	SLD 10	-4.9E-03	-14752.1	SLE RA 21	5.53E-04					
201	SLD 7	-1.4E-03	-4255.7	SLD 10	-4.9E-03	-14685.2	SLE RA 21	6.41E-04					
210	SLD 12	-1.5E-03	-4456.3	SLD 5	-5.3E-03	-15784.1	SLE RA 21	1.31E-04					
211	SLD 12	-1.5E-03	-4423	SLD 5	-5.2E-03	-15515.9	SLE RA 21	2.21E-04					
212	SLD 12	-1.5E-03	-4396.4	SLD 5	-5.1E-03	-15273.4	SLE RA 21	2.89E-04					
213	SLD 12	-1.5E-03	-4383.6	SLD 5	-5.0E-03	-15081	SLE RA 21	3.43E-04					
214	SLD 12	-1.5E-03	-4391.6	SLD 5	-5.0E-03	-14956.6	SLE RA 21	3.91E-04					
215	SLD 12	-1.5E-03	-4425.7	SLD 5	-5.0E-03	-14911.6	SLE RA 21	4.37E-04					
216	SLD 12	-1.5E-03	-4487.7	SLD 5	-5.0E-03	-14947.7	SLE RA 21	4.86E-04					
217	SLD 12	-1.5E-03	-4573.8	SLD 5	-5.0E-03	-15054.3	SLE RA 21	5.32E-04					
218	SLD 12	-1.6E-03	-4671.4	SLD 5	-5.1E-03	-15201.5	SLE RA 21	5.81E-04					
219	SLD 12	-1.6E-03	-4759.6	SLD 5	-5.1E-03	-15337	SLE RA 21	6.05E-04					
220	SLD 7	-1.5E-03	-4376.2	SLD 10	-4.9E-03	-14614.8	SLE RA 21	7.94E-04					
221	SLD 7	-1.4E-03	-4347.5	SLD 10	-4.9E-03	-14626.3	SLE RA 21	0.000777					
222	SLD 7	-1.4E-03	-4214.1	SLD 10	-5.0E-03	-14947.8	SLE RA 21	3.22E-04					
223	SLD 7	-1.4E-03	-4340.8	SLD 10	-4.8E-03	-14509	SLE RA 21	0.000779					
224	SLD 12	-1.6E-03	-4756.2	SLD 5	-5.0E-03	-15100.2	SLE RA 21	6.37E-04					
225	SLD 12	-1.6E-03	-4714.1	SLD 5	-5.0E-03	-14954.4	SLE RA 21	6.67E-04					
226	SLD 12	-1.6E-03	-4656.5	SLD 5	-4.9E-03	-14793.9	SLE RA 21	0.000699					
227	SLD 12	-1.5E-03	-4594.8	SLD 5	-4.9E-03	-14653.2	SLE RA 21	0.000737					
228	SLD 7	-1.5E-03	-4527	SLD 10	-4.9E-03	-14557.8	SLE RA 21	7.79E-04					
229	SLD 7	-1.5E-03	-4464.9	SLD 10	-4.8E-03	-14506.5	SLE RA 21	8.15E-04					
230	SLD 7	-1.5E-03	-4415.4	SLD 10	-4.8E-03	-14494.6	SLE RA 21	8.30E-04					
231	SLD 7	-1.5E-03	-4378.1	SLD 10	-4.8E-03	-14511.5	SLE RA 21	8.13E-04					
232	SLD 7	-1.4E-03	-4279.5	SLD 10	-5.0E-03	-15041.4	SLE RA 21	2.68E-04					
233	SLD 7	-1.4E-03	-4316.4	SLD 10	-5.1E-03	-15307.2	SLE RA 21	1.56E-04					
234	SLD 7	-1.4E-03	-4287.3	SLD 10	-4.8E-03	-14424.9	SLE RA 21	4.96E-04					
235	SLD 7	-1.4E-03	-4296	SLD 10	-4.8E-03	-14270.3	SLE RA 21	5.71E-04					
236	SLD 7	-1.4E-03	-4313.4	SLD 10	-4.7E-03	-14159.6	SLE RA 21	6.51E-04					
237	SLD 7	-1.4E-03	-4347.3	SLD 10	-4.7E-03	-14098.1	SLE RA 21	7.31E-04					
238	SLD 7	-1.5E-03	-4388.3	SLD 10	-4.7E-03	-14088.8	SLE RA 21	8.03E-04					
239	SLD 7	-1.5E-03	-4430.6	SLD 10	-4.7E-03	-14059.9	SLE RA 21	8.65E-04					
240	SLD 12	-1.6E-03	-4657.5	SLD 5	-5.0E-03	-15023.9	SLE RA 21	3.04E-04					
241	SLD 12	-1.5E-03	-4599.1	SLD 5	-4.9E-03	-14713.2	SLE RA 21	3.92E-04					
242	SLD 12	-1.5E-03	-4545.1	SLD 5	-4.8E-03	-14420.5	SLE RA 21	4.64E-04					
243	SLD 12	-1.5E-03	-4504.8	SLD 5	-4.7E-03	-14174.9	SLE RA 21	5.29E-04					
244	SLD 12	-1.5E-03	-4491.1	SLD 5	-4.7E-03	-14009.1	SLE RA 21	5.88E-04					
245	SLD 12	-1.5E-03	-4514.9	SLD 5	-4.6E-03	-13947.2	SLE RA 21	0.000643					
246	SLD 12	-1.5E-03	-4581.7	SLD 5	-4.7E-03	-13998.4	SLE RA 21	6.93E-04					
247	SLD 12	-1.6E-03	-4689	SLD 5	-4.7E-03	-14154.5	SLE RA 21	7.39E-04					
248	SLD 12	-1.6E-03	-4824.4	SLD 5	-4.8E-03	-14386.2	SLE RA 21	7.80E-04					
249	SLD 12	-1.7E-03	-4971.3	SLD 5	-4.9E-03	-14655.7	SLE RA 21	8.15E-04					
250	SLD 7	-1.5E-03	-4584.3	SLD 10	-4.6E-03	-13926.6	SLE RA 21	9.94E-04					
251	SLD 7	-1.5E-03	-4553.9	SLD 10	-4.6E-03	-13920.2	SLE RA 21	9.81E-04					
252	SLD 7	-1.5E-03	-4428.1	SLD 10	-4.7E-03	-14008.3	SLE RA 21	5.82E-04					
253	SLD 7	-1.5E-03	-4552.5	SLD 10	-4.6E-03	-13781.8	SLE RA 21	9.81E-04					
254	SLD 7	-1.5E-03	-4440.7	SLD 10	-4.5E-03	-13641.1	SLE RA 21	7.18E-04					
255	SLD 7	-1.5E-03	-4562.2	SLD 10	-4.5E-03	-13570.6	SLE RA 21	9.90E-04					
256	SLD 7	-1.5E-03	-4459	SLD 10	-4.5E-03	-13466.9	SLE RA 21	8.14E-04					
257	SLD 7	-1.5E-03	-4531	SLD 10	-4.5E-03	-13465.2	SLE RA 21	9.60E-04					
258	SLD 7	-1.5E-03	-4491.8	SLD 10	-4.5E-03	-13420.1	SLE RA 21	8.95E-04					
259	SLD 7	-1.5E-03	-4631.8	SLD 10	-4.8E-03	-14464.8	SLE RA 21	3.71E-04					
261	SLD 7	-1.5E-03	-4590.2	SLD 10	-4.7E-03	-13994	SLE RA 21	5.46E-04					
262	SLD 12	-1.6E-03	-4846.2	SLD 5	-4.8E-03	-14260	SLE RA 21	4.83E-04					
263	SLD 12	-1.6E-03	-4766.3	SLD 5	-4.6E-03	-13913.8	SLE RA 21	5.73E-04					
264	SLD 12	-1.6E-03	-4687.6	SLD 5	-4.5E-03	-13576.5	SLE RA 21	6.44E-04					
265	SLD 12	-1.5E-03	-4619.6	SLD 5	-4.4E-03	-13276.6	SLE RA 21	7.05E-04					



Nodo	spostamento nodale massimo				spostamento nodale minimo				Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione			
Ind.	Cont.	uz	Press.		Cont.	uz	Press.		Cont.	v.		Cont.	v.		Cont.	v.
266	SLD 12	-1.5E-03	-4582		SLD 5	-4.4E-03	-13065		SLE RA 21	7.62E-04						
267	SLD 12	-1.5E-03	-4591.7		SLD 5	-4.3E-03	-12979.9		SLE RA 21	8.15E-04						
268	SLD 12	-1.6E-03	-4658.5		SLD 5	-4.3E-03	-13038.4		SLE RA 21	8.54E-04						
269	SLD 12	-1.6E-03	-4784.2		SLD 5	-4.4E-03	-13239.1		SLE RA 21	9.01E-04						
270	SLD 12	-1.7E-03	-4959.4		SLD 5	-4.5E-03	-13560.8		SLE RA 21	9.37E-04						
271	SLD 12	-1.7E-03	-5164		SLD 5	-4.7E-03	-13961.4		SLE RA 21	9.55E-04						
272	SLD 7	-1.6E-03	-4789.1		SLD 10	-4.4E-03	-13257.9		SLE RA 21	1.18E-03						
273	SLD 7	-1.6E-03	-4757.1		SLD 10	-4.4E-03	-13231.3		SLE RA 21	1.17E-03						
274	SLD 7	-1.6E-03	-4745.3		SLD 10	-4.4E-03	-13112.6		SLE RA 21	1.17E-03						
275	SLD 7	-1.5E-03	-4629.6		SLD 10	-4.4E-03	-13154.3		SLE RA 21	7.85E-04						
276	SLD 7	-1.6E-03	-4724.1		SLD 10	-4.3E-03	-12953.6		SLE RA 21	1.15E-03						
277	SLD 7	-1.5E-03	-4600.7		SLD 10	-4.3E-03	-12915.7		SLE RA 21	8.76E-04						
278	SLD 7	-1.5E-03	-4603.1		SLD 10	-4.3E-03	-12771.5		SLE RA 21	0.000969						
279	SLD 7	-1.6E-03	-4698.1		SLD 10	-4.4E-03	-13296.3		SLE RA 21	7.33E-04						
280	SLD 7	-1.6E-03	-4683		SLD 10	-4.3E-03	-12816.4		SLE RA 21	1.11E-03						
281	SLD 7	-1.5E-03	-4635.7		SLD 10	-4.2E-03	-12739.3		SLE RA 21	1.05E-03						
282	SLD 7	-1.6E-03	-4912.4		SLD 10	-4.5E-03	-13594.5		SLE RA 21	6.15E-04						
283	SLD 7	-1.6E-03	-4876.9		SLD 10	-4.4E-03	-13184.1		SLE RA 21	7.41E-04						
284	SLD 12	-1.7E-03	-4998.4		SLD 5	-4.5E-03	-13452.7		SLE RA 21	6.76E-04						
285	SLD 12	-1.6E-03	-4910.7		SLD 5	-4.4E-03	-13097.6		SLE RA 21	7.45E-04						
286	SLD 12	-1.6E-03	-4817.5		SLD 5	-4.2E-03	-12736.5		SLE RA 21	8.02E-04						
287	SLD 12	-1.6E-03	-4722.1		SLD 5	-4.1E-03	-12378.8		SLE RA 21	8.42E-04						
288	SLD 12	-1.6E-03	-4659.9		SLD 5	-4.0E-03	-12118.4		SLE RA 21	8.99E-04						
289	SLD 12	-1.6E-03	-4652.5		SLD 5	-4.0E-03	-12004.9		SLE RA 21	9.57E-04						
290	SLD 12	-1.6E-03	-4711.8		SLD 5	-4.0E-03	-12059.3		SLE RA 21	1.01E-03						
291	SLD 12	-1.6E-03	-4844.7		SLD 5	-4.1E-03	-12286.1		SLE RA 21	1.06E-03						
292	SLD 12	-1.7E-03	-5049.8		SLD 5	-4.2E-03	-12676.3		SLE RA 21	1.09E-03						
293	SLD 12	-1.8E-03	-5310.7		SLD 5	-4.4E-03	-13207.8		SLE RA 21	1.12E-03						
294	SLD 7	-0.00166	-4980		SLD 10	-4.2E-03	-12592		SLE RA 21	0.001329						
295	SLD 7	-1.6E-03	-4949.3		SLD 10	-4.2E-03	-12548.2		SLE RA 21	1.33E-03						
296	SLD 7	-1.6E-03	-4928.2		SLD 10	-4.2E-03	-12454.9		SLE RA 21	1.32E-03						
297	SLD 7	-0.00162	-4860		SLD 10	-0.00425	-12750.1		SLE RA 21	0.000854						
298	SLD 7	-1.6E-03	-4794.6		SLD 10	-4.1E-03	-12445.5		SLE RA 21	9.22E-04						
299	SLD 7	-1.6E-03	-4892.3		SLD 10	-4.1E-03	-12320.1		SLE RA 21	1.30E-03						
300	SLD 7	-1.6E-03	-4753.7		SLD 10	-4.1E-03	-12187.5		SLE RA 21	1.01E-03						
301	SLD 7	-1.6E-03	-4772.2		SLD 10	-4.0E-03	-12077.8		SLE RA 21	1.18E-03						
302	SLD 7	-1.6E-03	-4743.4		SLD 10	-4.0E-03	-12070.7		SLE RA 21	1.10E-03						
303	SLD 7	-1.6E-03	-4835.6		SLD 10	-4.1E-03	-12158.7		SLE RA 21	1.26E-03						
305	SLD 12	-1.4E-03	-4249.8		SLD 5	-5.0E-03	-14880.5		SLE RA 21	5.98E-05						
320	SLD 12	-1.6E-03	-4726.3		SLD 5	-4.3E-03	-12841.6		SLE RA 21	5.94E-04						
322	SLD 12	-1.6E-03	-4922.1		SLD 5	-4.3E-03	-12967.3		SLE RA 21	7.15E-04						
326	SLD 12	-1.7E-03	-5080.5		SLD 5	-4.2E-03	-12542.4		SLE RA 21	8.60E-04						
327	SLD 12	-0.00167	-5010.1		SLD 5	-4.1E-03	-12225.6		SLE RA 21	8.90E-04						
328	SLD 12	-1.6E-03	-4928.1		SLD 5	-4.0E-03	-11903.1		SLE RA 21	9.24E-04						
329	SLD 12	-1.6E-03	-4808.3		SLD 5	-3.8E-03	-11474.5		SLE RA 21	9.74E-04						
330	SLD 12	-1.6E-03	-4724.5		SLD 5	-3.7E-03	-11166.2		SLE RA 21	1.03E-03						
331	SLD 12	-1.6E-03	-4698.1		SLD 5	-3.7E-03	-11020.9		SLE RA 21	1.08E-03						
332	SLD 12	-1.6E-03	-4742.1		SLD 5	-3.7E-03	-11058.9		SLE RA 21	1.14E-03						
333	SLD 12	-1.6E-03	-4862.4		SLD 5	-3.8E-03	-11280.6		SLE RA 21	1.19E-03						
334	SLD 12	-1.7E-03	-5060.9		SLD 5	-3.9E-03	-11671.2		SLE RA 21	1.22E-03						
335	SLD 12	-1.7E-03	-5121.7		SLD 5	-3.9E-03	-11799.4		SLE RA 21	1.23E-03						
336	SLD 8	-1.8E-03	-5362		SLD 9	-4.1E-03	-12312		SLE RA 21	1.24E-03						
337	SLD 7	-1.7E-03	-5096		SLD 10	-3.9E-03	-11808.2		SLE RA 21	1.46E-03						
338	SLD 7	-1.7E-03	-5052.9		SLD 10	-3.9E-03	-11725.3		SLE RA 21	1.44E-03						
339	SLD 7	-1.7E-03	-5022.4		SLD 10	-4.0E-03	-12107.1		SLE RA 21	9.62E-04						
341	SLD 7	-1.7E-03	-5113.6		SLD 10	-4.2E-03	-12617.7		SLE RA 21	0.000868						
346	SLD 7	-1.6E-03	-4905.2		SLD 10	-0.00432	-12959.9		SLE RA 21	6.20E-04						
348	SLD 7	-1.6E-03	-4664.8		SLD 10	-4.3E-03	-12810.6		SLE RA 21	4.90E-04						
363	SLD 7	-1.3E-03	-3943.3		SLD 10	-4.8E-03	-14354.5		SLE RA 21	6.38E-05						
365	SLD 11	-1.7E-03	-5146.4		SLD 6	-4.0E-03	-11908.2		SLE RA 21	1.47E-03						
366	SLD 7	-1.7E-03	-5121.4		SLD 10	-3.9E-03	-11846.9		SLE RA 21	1.48E-03						
367	SLD 7	-1.7E-03	-4968.5		SLD 10	-3.9E-03	-11556.9		SLE RA 21	1.38E-03						
368	SLD 7	-1.6E-03	-4900.7		SLD 10	-3.8E-03	-11433.1		SLE RA 21	1.30E-03						
369	SLD 7	-1.6E-03	-4869.5		SLD 10	-3.8E-03	-11411.5		SLE RA 21	1.22E-03						
370	SLD 7	-1.6E-03	-4883.2		SLD 10	-3.8E-03	-11520.6		SLE RA 21	1.13E-03						
371	SLD 7	-1.6E-03	-4938.5		SLD 10	-3.9E-03	-11760.7		SLE RA 21	0.001046						
372	SLD 7	-1.7E-03	-5076.5		SLD 10	-4.1E-03	-12367.3		SLE RA 21	9.06E-04						
374	SLD 12	-1.5E-03	-4511.4		SLD 5	-4.8E-03	-14435.5		SLE RA 21	6.39E-05						
375	SLD 12	-1.4E-03	-4159.7		SLD 5	-4.4E-03	-13112.8		SLE RA 21	7.17E-05						
376	SLD 12	-1.3E-03	-3856.5		SLD 5	-4.0E-03	-11939.5		SLE RA 21	6.68E-05						
377	SLD 12	-1.2E-03	-3613.8		SLD 5	-3.7E-03	-10958.8		SLE RA 21	5.51E-05						
378	SLD 12	-1.1E-03	-3436.7		SLD 5	-3.4E-03	-10190.3		SLE RA 21	4.35E-05						
379	SLD 12	-1.1E-03	-3326.2		SLD 5	-3.2E-03	-9637.9		SLE RA 21	0.000035						
380	SLD 12	-1.1E-03	-3280.6		SLD 5	-3.1E-03	-9295.3		SLE RA 21	3.03E-05						
381	SLD 12	-1.1E-03	-3297.6		SLD 5	-3.1E-03	-9152.3		SLE RA 21	2.91E-05						
382	SLD 12	-1.1E-03	-3374.9		SLD 5	-3.1E-03	-9196.7		SLE RA 21	3.14E-05						
383	SLD 12	-0.00117	-3510.1		SLD 5	-3.1E-03	-9413.9		SLE RA 21	7.94E-05						
384	SLD 12	-1.2E-03	-3699.5		SLD 5	-3.3E-03	-9784		SLE RA 21	1.70E-04						
385	SLD 12	-1.3E-03	-3936.6		SLD 5	-3.4E-03	-10277.4		SLE RA 21	0.000295						
386	SLD 12	-1.4E-03	-4209.1		SLD 5	-3.6E-03	-10847.8		SLE RA 21	4.35E-04						
387	SLD 12	-1.5E-03	-44													



Nodo	spostamento nodale massimo				spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.	
396	SLD 12	-1.6E-03	-4881.3	SLD 5	-0.00345	-10349.9	SLE RA 21	1.10E-03					
397	SLD 12	-1.6E-03	-4785.4	SLD 5	-3.3E-03	-10023.2	SLE RA 21	1.14E-03					
398	SLD 12	-1.6E-03	-4744.1	SLD 5	-3.3E-03	-9862.3	SLE RA 21	1.20E-03					
399	SLD 12	-1.6E-03	-4773.5	SLD 5	-3.3E-03	-9893	SLE RA 21	1.24E-03					
400	SLD 12	-1.6E-03	-4877.9	SLD 5	-3.4E-03	-10112.8	SLE RA 21	1.29E-03					
401	SLD 12	-1.7E-03	-5052.6	SLD 5	-3.5E-03	-10492.8	SLE RA 21	1.35E-03					
402	SLD 8	-1.8E-03	-5334.2	SLD 9	-3.7E-03	-11131.8	SLE RA 21	1.37E-03					
403	SLD 7	-1.8E-03	-5311.3	SLD 10	-3.7E-03	-11039.4	SLE RA 21	1.63E-03					
404	SLD 7	-1.8E-03	-5287.8	SLD 10	-3.7E-03	-10987.2	SLE RA 21	1.62E-03					
405	SLD 7	-1.7E-03	-5244.6	SLD 10	-3.6E-03	-10891.1	SLE RA 21	1.59E-03					
406	SLD 7	-1.7E-03	-5155.3	SLD 10	-3.6E-03	-10687.4	SLE RA 21	0.001531					
407	SLD 7	-1.7E-03	-5080.3	SLD 10	-3.5E-03	-10525.6	SLE RA 21	1.45E-03					
408	SLD 7	-1.7E-03	-5044.5	SLD 10	-3.5E-03	-10477.2	SLE RA 21	0.001365					
409	SLD 7	-1.7E-03	-5056.8	SLD 10	-3.5E-03	-10572.9	SLE RA 21	1.28E-03					
410	SLD 7	-1.7E-03	-5110.9	SLD 10	-3.6E-03	-10808.2	SLE RA 21	1.19E-03					
411	SLD 7	-1.7E-03	-5185.4	SLD 10	-3.7E-03	-11142.2	SLE RA 21	1.11E-03					
412	SLD 7	-1.7E-03	-5247.8	SLD 10	-3.8E-03	-11501.8	SLE RA 21	1.04E-03					
413	SLD 7	-1.8E-03	-5268.8	SLD 10	-3.9E-03	-11823.5	SLE RA 21	9.82E-04					
414	SLD 7	-1.8E-03	-5261.2	SLD 10	-4.0E-03	-12049.8	SLE RA 21	9.35E-04					
415	SLD 7	-1.7E-03	-5197.5	SLD 10	-4.1E-03	-12171.4	SLE RA 21	8.85E-04					
416	SLD 7	-1.7E-03	-5048.6	SLD 10	-4.0E-03	-12136.4	SLE RA 21	8.21E-04					
417	SLD 7	-1.6E-03	-4808.2	SLD 10	-4.0E-03	-11987	SLE RA 21	6.94E-04					
418	SLD 7	-1.6E-03	-4724.7	SLD 10	-4.0E-03	-11911.7	SLE RA 21	0.000643					
419	SLD 7	-1.5E-03	-4464	SLD 10	-3.8E-03	-11520.3	SLE RA 21	4.96E-04					
420	SLD 7	-1.4E-03	-4177.6	SLD 10	-3.7E-03	-10978.7	SLE RA 21	3.58E-04					
421	SLD 7	-1.3E-03	-3901.8	SLD 10	-3.5E-03	-10411.5	SLE RA 21	0.000234					
422	SLD 7	-1.2E-03	-3658	SLD 10	-3.3E-03	-9900.6	SLE RA 21	1.26E-04					
423	SLD 7	-1.2E-03	-3458.7	SLD 10	-3.2E-03	-9500	SLE RA 21	5.53E-05					
424	SLD 7	-1.1E-03	-3310.6	SLD 10	-3.1E-03	-9243.8	SLE RA 21	3.08E-05					
425	SLD 7	-1.1E-03	-3217.1	SLD 10	-3.1E-03	-9153.5	SLE RA 21	2.89E-05					
426	SLD 7	-1.1E-03	-3181	SLD 10	-3.1E-03	-9246	SLE RA 21	3.05E-05					
427	SLD 7	-1.1E-03	-3205.6	SLD 10	-3.2E-03	-9537.6	SLE RA 21	3.61E-05					
428	SLD 7	-1.1E-03	-3295.9	SLD 10	-3.3E-03	-10045.3	SLE RA 21	0.000046					
429	SLD 7	-1.2E-03	-3457.3	SLD 10	-3.6E-03	-10785.5	SLE RA 21	5.96E-05					
430	SLD 7	-1.2E-03	-3692.9	SLD 10	-3.9E-03	-11766	SLE RA 21	7.27E-05					
431	SLD 7	-1.3E-03	-4002.1	SLD 10	-4.3E-03	-12979.8	SLE RA 21	7.69E-05					
432	SLD 7	-1.5E-03	-4376.7	SLD 10	-4.8E-03	-14394.6	SLE RA 21	6.69E-05					
433	SLD 12	-1.6E-03	-4880	SLD 5	-4.0E-03	-12075.7	SLE RA 21	8.10E-04					
435	SLD 12	-1.7E-03	-5073.6	SLD 5	-4.1E-03	-12196.7	SLE RA 21	9.26E-04					
437	SLD 11	-1.8E-03	-5343.4	SLD 6	-3.7E-03	-11081.7	SLE RA 21	1.63E-03					
440	SLD 12	-1.4E-03	-4316.6	SLD 5	-4.5E-03	-13514.6	SLE RA 21	7.11E-05					
441	SLD 7	-1.7E-03	-5082.4	SLD 10	-4.0E-03	-12085	SLE RA 21	8.43E-04					
443	SLD 7	-1.6E-03	-4842.8	SLD 10	-4.0E-03	-11941.3	SLE RA 21	7.17E-04					
444	SLD 7	-1.4E-03	-4070.9	SLD 10	-4.3E-03	-13041.3	SLE RA 21	7.73E-05					
447	SLD 12	-1.7E-03	-5087.3	SLD 5	-3.8E-03	-11462.7	SLE RA 21	9.35E-04					
449	SLD 12	-1.8E-03	-5274.6	SLD 5	-3.9E-03	-11569.6	SLE RA 21	1.05E-03					
451	SLD 11	-1.9E-03	-5560.6	SLD 6	-3.5E-03	-10382.4	SLE RA 21	1.78E-03					
454	SLD 12	-1.5E-03	-4467.8	SLD 5	-4.1E-03	-12395.9	SLE RA 21	7.16E-05					
455	SLD 7	-1.8E-03	-5312.4	SLD 10	-3.8E-03	-11376.9	SLE RA 21	1.03E-03					
457	SLD 7	-1.7E-03	-5074.8	SLD 10	-3.7E-03	-11248.4	SLE RA 21	8.96E-04					
458	SLD 7	-1.4E-03	-4266.9	SLD 10	-4.0E-03	-11932	SLE RA 21	0.000079					
460	SLD 12	-1.8E-03	-5336.2	SLD 5	-3.7E-03	-10957.9	SLE RA 21	1.08E-03					
462	SLD 12	-1.8E-03	-5517.1	SLD 5	-3.7E-03	-11050.7	SLE RA 21	0.00119					
465	SLD 11	-1.9E-03	-5820.7	SLD 6	-3.3E-03	-9829.5	SLE RA 21	1.95E-03					
468	SLD 12	-1.6E-03	-4713	SLD 5	-3.8E-03	-11537.6	SLE RA 21	6.55E-05					
469	SLD 7	-1.9E-03	-5584.5	SLD 10	-3.6E-03	-10794.5	SLE RA 21	1.17E-03					
471	SLD 7	-1.8E-03	-5348.4	SLD 10	-3.6E-03	-10681.1	SLE RA 21	1.04E-03					
472	SLD 7	-1.5E-03	-4546.9	SLD 10	-3.7E-03	-11060	SLE RA 21	9.35E-05					
474	SLD 12	-1.9E-03	-5616.2	SLD 5	-3.5E-03	-10524.7	SLE RA 21	1.20E-03					
476	SLD 12	-1.9E-03	-5791.1	SLD 5	-3.5E-03	-10603.5	SLE RA 21	1.31E-03					
477	SLD 8	-1.6E-03	-4903	SLD 9	-2.5E-03	-7386	SLE RA 21	1.65E-03					
480	SLD 11	-2.0E-03	-6130.6	SLD 6	-3.1E-03	-9417.2	SLE RA 21	2.13E-03					
483	SLD 12	-1.7E-03	-5054.9	SLD 5	-3.6E-03	-10929	SLE RA 21	6.66E-05					
484	SLD 7	-2.0E-03	-5887.1	SLD 10	-3.4E-03	-10294.8	SLE RA 21	1.29E-03					
486	SLD 7	-1.9E-03	-5652.2	SLD 10	-3.4E-03	-10196.3	SLE RA 21	1.17E-03					
487	SLD 7	-1.6E-03	-4918.3	SLD 10	-3.5E-03	-10430.8	SLE RA 21	1.11E-04					
489	SLD 12	-2.0E-03	-5920.2	SLD 5	-3.4E-03	-10138.1	SLE RA 21	1.34E-03					
491	SLD 12	-2.0E-03	-6089.2	SLD 5	-3.4E-03	-10203	SLE RA 21	1.44E-03					
494	SLD 11	-2.2E-03	-6482.4	SLD 6	-3.0E-03	-9116.9	SLE RA 21	2.34E-03					
497	SLD 16	-1.8E-03	-5259	SLD 1	-3.6E-03	-10780.9	SLE RA 21	8.94E-05					
498	SLD 7	-2.1E-03	-6212.1	SLD 10	-3.3E-03	-9847.9	SLE RA 21	1.41E-03					
500	SLD 7	-2.0E-03	-5978.2	SLD 10	-3.3E-03	-9764.2	SLE RA 21	0.00129					
501	SLD 3	-1.7E-03	-5115.5	SLD 14	-3.4E-03	-10299	SLE RA 21	1.36E-04					
503	SLD 12	-2.1E-03	-6242.5	SLD 5	-3.3E-03	-9783.1	SLE RA 21	1.45E-03					
505	SLD 12	-2.1E-03	-6405.7	SLD 5	-3.3E-03	-9834.2	SLE RA 21	1.55E-03					
506	SLD 8	-2.7E-03	-8014.8	SLD 9	-3.6E-03	-10671.1	SLE RA 21	1.94E-03					
507	SLD 8	-2.5E-03	-7533.9	SLD 9	-3.2E-03	-9740	SLE RA 21	2.04E-03					
508	SLD 8	-2.4E-03	-7168.9	SLD 9	-3.0E-03	-9124.1	SLE RA 21	2.16E-03					
509	SLD 11	-2.3E-03	-6853.7	SLD 6	-3.0E-03	-8880.4	SLE RA 21	2.40E-03					
510	SLD 11	-0.00233	-6990	SLD 6	-3.1E-03	-9177.6	SLE RA 21	2.45E-03					
512	SLD 16	-1.8E-03	-5499.8	SLD 1	-3.6E-03	-10881.5	SLE RA 21	1.26E-04					
513	SLD 7	-2.2E-03	-6555.4	SLD 10	-3.1E-03	-9435.2	SLE RA 21	1.53E-03					
515	SLD 7	-2.1E-03	-6322	SLD 10	-3.1E-03	-9366	SLE RA 21	1.41E-03					
516	SLD 3	-1.8E-03	-5374.6	SLD 14	-3.5E-03	-10395	SLE RA 21	1.77E-04					
518	SLD 11	-2.3E-03	-7043.9	SLD 6	-2.9E-03	-8761.1	SLE RA 21	2.46E-03					
525	SLD 12	-2.2E-03	-6577.7	SLD 5	-3.2E-03	-9452.7	SLE RA 21	1.56E-03					
527	SLD 12	-2.2E-03	-6735.3	SLD 5	-3.2E-03	-9490	SLE RA 21	1.67E-03					
530	SLD 11	-2.4E-03	-7303	SLE RA 21	-2.9E-03	-8702.3	SLE RA 21	2.53E-03					
534	SLD 16	-1.9E-03	-5809.5	SLD 1	-3.7E-03	-11142.9	SLE RA 21	1.79E-04					



Nodo	spostamento nodale massimo				spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
	Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
535	SLD 7		-2.3E-03	-6915.6	SLD 10		-3.0E-03	-9046.5	SLE RA 21		1.65E-03		
537	SLD 7		-2.2E-03	-6682.5	SLD 10		-3.0E-03	-8991.7	SLE RA 21		1.52E-03		
538	SLD 3		-1.9E-03	-5701.7	SLD 14		-3.6E-03	-10654.6	SLE RA 21		2.56E-04		
541	SLD 12		-2.3E-03	-6918.3	SLD 5		-3.0E-03	-9145.7	SLE RA 21		1.67E-03		
543	SLD 12		-2.4E-03	-7070.3	SLD 5		-3.1E-03	-9169.3	SLE RA 21		0.001759		
544	SLE RA 1		-2.0E-03	-5866.8	SLE RA 21		-2.2E-03	-6655.7	SLE RA 21		1.87E-03		
546	SLD 11		-2.5E-03	-7557.4	SLE RA 21		-2.9E-03	-8743	SLE RA 21		2.58E-03		
551	SLD 16		-2.1E-03	-6159.4	SLD 1		-3.8E-03	-11508.7	SLE RA 21		2.65E-04		
552	SLD 3		-2.4E-03	-7145.6	SLD 14		-2.9E-03	-8827.1	SLE RA 21		1.73E-03		
554	SLD 3		-2.3E-03	-6956.4	SLD 14		-2.9E-03	-8742.9	SLE RA 21		1.63E-03		
555	SLD 3		-2.0E-03	-6065.2	SLD 14		-3.7E-03	-11017.6	SLE RA 21		3.45E-04		
558	SLD 16		-2.4E-03	-7059.8	SLD 1		-3.0E-03	-9058	SLE RA 21		1.78E-03		
560	SLD 16		-2.4E-03	-7228.2	SLD 1		-3.0E-03	-9046.1	SLE RA 21		1.86E-03		
561	SLE RA 1		-2.6E-03	-7729.4	SLE RA 21		-2.9E-03	-8782.4	SLE RA 21		2.60E-03		
566	SLD 13		-2.6E-03	-7759.3	SLE RA 20		-2.9E-03	-8826.9	SLE RA 21		2.61E-03		
570	SLD 16		-2.2E-03	-6503.9	SLD 1		-4.0E-03	-11893.4	SLE RA 21		3.50E-04		
571	SLD 3		-2.4E-03	-7277.9	SLE RA 21		-2.9E-03	-8756.5	SLE RA 21		1.80E-03		
573	SLD 3		-2.4E-03	-7097.8	SLD 14		-2.9E-03	-8671.8	SLE RA 21		1.71E-03		
574	SLD 3		-2.1E-03	-6416.6	SLD 14		-3.8E-03	-11396.3	SLE RA 21		4.33E-04		
577	SLD 16		-2.4E-03	-7166.8	SLD 1		-3.0E-03	-9011.8	SLE RA 21		1.87E-03		
579	SLD 16		-2.4E-03	-7327.8	SLD 1		-3.0E-03	-8988.5	SLE RA 21		1.94E-03		
581	SLD 9		-2.6E-03	-7685.2	SLE RA 20		-3.0E-03	-8881.1	SLE RA 21		2.60E-03		
586	SLD 16		-2.3E-03	-6771.3	SLD 1		-4.1E-03	-12167.7	SLE RA 21		4.15E-04		
587	SLD 2		-2.4E-03	-7266	SLD 15		-3.0E-03	-8878.5	SLE RA 21		1.84E-03		
589	SLD 2		-2.4E-03	-7161.3	SLD 15		-2.9E-03	-8737.4	SLE RA 21		1.76E-03		
590	SLD 3		-2.2E-03	-6683.7	SLD 14		-3.9E-03	-11664.5	SLE RA 21		5.01E-04		
593	SLD 16		-2.4E-03	-7248.5	SLD 1		-3.0E-03	-8975.4	SLE RA 21		1.92E-03		
595	SLD 14		-2.5E-03	-7390	SLD 3		-3.0E-03	-8952.8	SLE RA 21		1.98E-03		
597	SLD 10		-2.5E-03	-7492.8	SLE RA 20		-3.0E-03	-8942.9	SLE RA 21		2.57E-03		
600	SLD 16		-2.3E-03	-6858.1	SLD 1		-4.2E-03	-12498.7	SLE RA 21		3.32E-04		
601	SLD 16		-2.3E-03	-6861	SLD 1		-4.0E-03	-12129.5	SLE RA 21		4.73E-04		
602	SLD 16		-2.3E-03	-6921.1	SLD 1		-4.0E-03	-11864.7	SLE RA 21		5.78E-04		
603	SLD 16		-2.3E-03	-7005.6	SLD 1		-3.9E-03	-11651.4	SLE RA 21		0.000663		
604	SLD 16		-2.4E-03	-7094.5	SLD 1		-3.8E-03	-11455.6	SLE RA 21		7.23E-04		
605	SLD 16		-2.4E-03	-7176.8	SLD 1		-3.8E-03	-11258.6	SLE RA 21		7.74E-04		
606	SLD 16		-2.4E-03	-7246.6	SLD 1		-3.7E-03	-11050.9	SLE RA 21		8.55E-04		
607	SLD 16		-2.4E-03	-7300.5	SLD 1		-3.6E-03	-10827.8	SLE RA 21		9.48E-04		
608	SLD 16		-2.4E-03	-7336.1	SLD 1		-3.5E-03	-10587.2	SLE RA 21		1.05E-03		
609	SLD 16		-2.5E-03	-7351	SLD 1		-3.4E-03	-10329	SLE RA 21		1.17E-03		
610	SLD 16		-2.4E-03	-7343.7	SLD 1		-3.4E-03	-10056.8	SLE RA 21		1.31E-03		
611	SLD 16		-2.4E-03	-7316	SLD 1		-3.3E-03	-9781.6	SLE RA 21		1.43E-03		
612	SLD 16		-2.4E-03	-7278.4	SLD 1		-3.2E-03	-9527.8	SLE RA 21		1.57E-03		
613	SLD 16		-2.4E-03	-7245.6	SLD 1		-3.1E-03	-9315.6	SLE RA 21		1.70E-03		
614	SLD 14		-2.4E-03	-7313.4	SLD 3		-3.0E-03	-8978	SLE RA 21		1.96E-03		
615	SLD 14		-2.5E-03	-7398.8	SLD 3		-3.0E-03	-8970.5	SLE RA 21		1.99E-03		
616	SLD 14		-2.5E-03	-7512.3	SLE RA 20		-3.0E-03	-8994.6	SLE RA 21		2.00E-03		
617	SLD 14		-2.5E-03	-7620.6	SLE RA 20		-3.0E-03	-9018.2	SLE RA 21		2.00E-03		
618	SLD 14		-2.6E-03	-7710.3	SLE RA 20		-3.0E-03	-9009.8	SLE RA 21		2.01E-03		
619	SLD 14		-2.6E-03	-7771.4	SLE RA 20		-3.0E-03	-8964	SLE RA 21		2.03E-03		
620	SLD 14		-2.6E-03	-7796.9	SLE RA 20		-3.0E-03	-8878.3	SLE RA 21		2.05E-03		
621	SLE RA 2		-2.6E-03	-7700.7	SLE RA 20		-2.9E-03	-8754.9	SLE RA 21		2.06E-03		
622	SLE RA 2		-2.5E-03	-7568.4	SLE RA 20		-2.9E-03	-8606.5	SLE RA 21		2.10E-03		
623	SLE RA 2		-2.5E-03	-7435.2	SLE RA 20		-2.8E-03	-8458.5	SLE RA 21		2.14E-03		
624	SLE RA 2		-2.4E-03	-7329.7	SLE RA 20		-2.8E-03	-8343	SLE RA 21		2.17E-03		
625	SLD 6		-2.3E-03	-6956.2	SLE RA 20		-2.7E-03	-8035.9	SLE RA 21		2.21E-03		
626	SLD 6		-2.3E-03	-6874.5	SLE RA 20		-2.7E-03	-8057.5	SLE RA 21		2.21E-03		
627	SLD 6		-2.6E-03	-7787.9	SLE RA 20		-3.1E-03	-9200.1	SLE RA 21		2.46E-03		
628	SLD 6		-2.6E-03	-7821.3	SLE RA 20		-3.1E-03	-9300.2	SLE RA 21		2.42E-03		
629	SLD 6		-2.6E-03	-7806	SLE RA 20		-3.1E-03	-9334.3	SLE RA 21		2.24E-03		
630	SLD 2		-2.6E-03	-7732.9	SLE RA 20		-3.1E-03	-9308.5	SLE RA 21		2.11E-03		
631	SLD 2		-2.5E-03	-7599.9	SLD 15		-3.1E-03	-9273.2	SLE RA 21		2.02E-03		
632	SLD 2		-2.5E-03	-7471.2	SLD 15		-3.1E-03	-9215.2	SLE RA 21		1.96E-03		
633	SLD 2		-2.4E-03	-7240.3	SLD 15		-3.0E-03	-8958.7	SLE RA 21		1.84E-03		
634	SLD 2		-2.4E-03	-7140.5	SLD 15		-2.9E-03	-8817.6	SLE RA 21		1.77E-03		
635	SLD 1		-2.4E-03	-7180	SLD 16		-2.9E-03	-8818.8	SLE RA 21		1.55E-03		
636	SLD 1		-2.4E-03	-7305.9	SLD 16		-3.0E-03	-9048.7	SLE RA 20		1.44E-03		
637	SLD 3		-2.5E-03	-7393.7	SLD 14		-3.1E-03	-9321.3	SLE RA 20		1.35E-03		
638	SLD 3		-2.5E-03	-7429.5	SLD 14		-3.2E-03	-9610.1	SLE RA 20		1.22E-03		
639	SLD 3		-2.5E-03	-7422.7	SLD 14		-3.3E-03	-9887.1	SLE RA 20		1.10E-03		
640	SLD 3		-2.5E-03	-7383.1	SLD 14		-3.4E-03	-10142.6	SLE RA 20		1.00E-03		
641	SLD 3		-2.4E-03	-7318.3	SLD 14		-3.5E-03	-10375.6	SLE RA 21		9.20E-04		
642	SLD 3		-2.4E-03	-7234	SLD 14		-3.5E-03	-10588.4	SLE RA 21		8.48E-04		
643	SLD 3		-2.4E-03	-7134.7	SLD 14		-3.6E-03	-10785.6	SLE RA 21		7.93E-04		
644	SLD 3		-2.3E-03	-7025.8	SLD 14		-3.7E-03	-10975	SLE RA 21		7.60E-04		
645	SLD 3		-2.3E-03	-6916.7	SLD 14		-3.7E-03	-11172.7	SLE RA 21		7.15E-04		
646	SLD 3		-2.3E-03	-6825.4	SLD 14		-3.8E-03	-11409.8	SLE RA 21		6.38E-04		
647	SLD 3		-2.3E-03	-6785.7	SLD 14		-3.9E-03	-11743.8	SLE RA 21		5.26E-04		
648	SLD 3		-2.3E-03	-6850.1	SLD 14		-4.1E-03	-12259.3	SLE RA 21		3.77E-04		
655	SLD 16		-2.3E-03	-6867.4	SLD 1		-4.1E-03	-12166.7	SLE RA 21		4.39E-04		
668	SLD 16		-2.4E-03	-7246.4	SLD 1		-3.1E-03	-9353.6	SLE RA 20		1.64E-03		
671	SLD 14		-2.4E-03	-7203.4	SLD 3		-3.0E-03	-9011.9	SLE RA 21		1.93E-03		
674	SLD 13		-2.4E-03	-7322.3	SLD 4		-3.0E-03	-9005.9	SLE RA 21		1.97E-03		
684	SLE RA 2		-2.5E-03	-7391.7	SLE RA 20		-2.8E-03	-8411.3	SLE RA 21		2.16E-03		
686	SLE RA 2		-2.4E-03	-7267.6	SLE RA 20		-2.8E-03	-8275.4	SLE RA 21		2.21E-03		
688	SLD 6		-2.3E-03	-7036	SLE RA 20		-2.7E-03	-8175.9	SLE RA 21		2.22E-03		
694	SLD 10		-2.4E-03	-7303.3	SLD 7		-3.0E-03	-9138.2	SLE RA 21		2.61E-03		
701	SLD 6		-2.4E-03	-7076.3	SLE RA 20		-2.7E-03	-8237.9	SLE RA 21		2.47E-03		
704	SLD 6		-2.5E-03	-7372.8	SLE RA 20		-2.9E-03	-8623.2	SLE RA 20		2.42E-03		
712	SLD 2		-2.4E-03	-7215.4	SLD 15		-3.0E-03	-9124.4	SLE RA 20		1.82E-03		



Nodo		spostamento nodale massimo				spostamento nodale minimo				Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.			
714	SLD 2	-2.4E-03	-7115.6	SLD 15	-3.0E-03	-8983.1	SLE RA 20	1.76E-03							
716	SLD 1	-2.4E-03	-7165.6	SLD 16	-3.0E-03	-8909.1	SLE RA 20	1.52E-03							
729	SLD 2	-2.3E-03	-6750.6	SLD 15	-3.9E-03	-11696	SLE RA 20	5.25E-04							
731	SLD 14	-2.3E-03	-6881.1	SLD 3	-4.1E-03	-12388.2	SLE RA 20	3.31E-04							
732	SLD 14	-2.3E-03	-6881	SLD 3	-4.0E-03	-12019.1	SLE RA 20	4.72E-04							
733	SLD 14	-2.3E-03	-6934.9	SLD 3	-3.9E-03	-11751.6	SLE RA 20	5.80E-04							
734	SLD 14	-2.3E-03	-7013.5	SLD 3	-3.8E-03	-11535.3	SLE RA 20	6.66E-04							
735	SLD 14	-2.4E-03	-7096.6	SLD 3	-3.8E-03	-11336.2	SLE RA 20	7.29E-04							
736	SLD 14	-2.4E-03	-7173.4	SLD 3	-3.7E-03	-11135.5	SLE RA 20	7.83E-04							
737	SLD 14	-2.4E-03	-7237.9	SLD 3	-3.6E-03	-10923.7	SLE RA 20	8.71E-04							
738	SLD 14	-2.4E-03	-7286.7	SLD 3	-3.6E-03	-10696.2	SLE RA 20	9.70E-04							
739	SLD 14	-2.4E-03	-7317	SLD 3	-3.5E-03	-10451	SLE RA 20	0.001081							
740	SLD 14	-2.4E-03	-7325.9	SLD 3	-3.4E-03	-10188.9	SLE RA 20	1.21E-03							
741	SLD 14	-2.4E-03	-7310.5	SLD 3	-3.3E-03	-9914.6	SLE RA 20	1.35E-03							
742	SLD 14	-2.4E-03	-7269.9	SLD 3	-3.2E-03	-9641.9	SLE RA 20	1.46E-03							
743	SLD 14	-2.4E-03	-7209.7	SLD 3	-3.1E-03	-9400.2	SLE RA 20	1.60E-03							
744	SLD 14	-2.4E-03	-7185.5	SLD 3	-3.1E-03	-9328.1	SLE RA 20	1.64E-03							
745	SLD 14	-2.4E-03	-7110.7	SLD 3	-3.0E-03	-9130.8	SLE RA 20	1.78E-03							
746	SLD 14	-2.4E-03	-7152	SLD 3	-3.0E-03	-9043.6	SLE RA 20	1.90E-03							
747	SLD 13	-2.4E-03	-7203.1	SLD 4	-3.0E-03	-9039.7	SLE RA 20	1.92E-03							
748	SLD 13	-2.4E-03	-7301.2	SLD 4	-3.0E-03	-9022.6	SLE RA 20	0.001943							
749	SLD 13	-2.5E-03	-7408.7	SLD 4	-3.0E-03	-8979.8	SLE RA 20	1.95E-03							
750	SLD 13	-2.5E-03	-7512.1	SLE RA 20	-3.0E-03	-8980.6	SLE RA 20	1.96E-03							
751	SLD 14	-2.5E-03	-7595.6	SLE RA 20	-3.0E-03	-8964	SLE RA 20	1.98E-03							
752	SLD 14	-2.6E-03	-7650.5	SLE RA 20	-0.00297	-8909.9	SLE RA 20	2.02E-03							
753	SLD 14	-2.6E-03	-7669.5	SLE RA 20	-2.9E-03	-8815.8	SLE RA 20	2.03E-03							
754	SLE RA 2	-2.5E-03	-7633.1	SLE RA 20	-2.9E-03	-8684	SLE RA 20	2.08E-03							
755	SLE RA 2	-2.5E-03	-7494.1	SLE RA 20	-2.8E-03	-8527.1	SLE RA 20	2.12E-03							
756	SLE RA 2	-2.5E-03	-7368	SLE RA 20	-2.8E-03	-8385.9	SLE RA 20	2.17E-03							
757	SLE RA 2	-2.4E-03	-7243.9	SLE RA 20	-0.00275	-8250	SLE RA 20	0.002209							
758	SLD 6	-2.4E-03	-7140.7	SLE RA 20	-2.8E-03	-8313.2	SLE RA 20	2.22E-03							
759	SLD 6	-2.4E-03	-7053	SLE RA 20	-2.8E-03	-8327.4	SLE RA 20	2.20E-03							
760	SLD 6	-2.3E-03	-7011.1	SLE RA 20	-2.8E-03	-8324.9	SLE RA 20	2.19E-03							
761	SLD 6	-2.2E-03	-6584.6	SLE RA 20	-2.6E-03	-7897.6	SLE RA 20	2.19E-03							
762	SLD 6	-2.1E-03	-6394	SLE RA 20	-2.5E-03	-7643.4	SLE RA 20	2.24E-03							
763	SLD 5	-2.0E-03	-6128.9	SLE RA 20	-2.4E-03	-7162.5	SLE RA 20	2.15E-03							
764	SLD 5	-2.2E-03	-6630.4	SLE RA 20	-2.5E-03	-7647.7	SLE RA 20	2.19E-03							
765	SLD 5	-2.3E-03	-6925.8	SLE RA 20	-2.7E-03	-8094	SLE RA 20	2.27E-03							
766	SLD 1	-2.3E-03	-6941.2	SLE RA 20	-2.7E-03	-8200.7	SLE RA 20	2.27E-03							
767	SLD 1	-2.3E-03	-6879.9	SLE RA 20	-2.7E-03	-8240.1	SLE RA 20	2.12E-03							
768	SLD 2	-2.3E-03	-6773.5	SLD 15	-2.8E-03	-8251.1	SLE RA 20	0.002015							
769	SLD 2	-2.2E-03	-6642.9	SLD 15	-2.8E-03	-8252.3	SLE RA 20	1.91E-03							
770	SLD 2	-2.2E-03	-6515.6	SLD 15	-2.7E-03	-8195.8	SLE RA 20	0.00185							
771	SLD 2	-2.2E-03	-6469.5	SLD 15	-2.7E-03	-8146.6	SLE RA 20	1.77E-03							
772	SLD 1	-2.3E-03	-6914.8	SLD 16	-2.9E-03	-8648.7	SLE RA 20	1.64E-03							
773	SLD 1	-2.4E-03	-7088.3	SLD 16	-3.0E-03	-8906.9	SLE RA 20	1.52E-03							
774	SLD 1	-2.4E-03	-7154.9	SLD 16	-3.0E-03	-9027.5	SLE RA 20	1.47E-03							
775	SLD 1	-2.4E-03	-7249.4	SLD 16	-3.1E-03	-9302.8	SLE RA 20	1.35E-03							
776	SLD 2	-2.4E-03	-7295.1	SLD 15	-3.2E-03	-9590.9	SLE RA 20	1.25E-03							
777	SLD 2	-2.4E-03	-7296.4	SLD 15	-3.3E-03	-9868.8	SLE RA 20	1.13E-03							
778	SLD 2	-2.4E-03	-7263.8	SLD 15	-3.4E-03	-10126.1	SLE RA 20	1.03E-03							
779	SLD 2	-2.4E-03	-7205.7	SLD 15	-3.5E-03	-10361.1	SLE RA 20	9.39E-04							
780	SLD 2	-2.4E-03	-7128.4	SLD 15	-3.5E-03	-10575.5	SLE RA 20	0.000861							
781	SLD 2	-2.3E-03	-7036.5	SLD 15	-3.6E-03	-10773.6	SLE RA 20	8.00E-04							
782	SLD 2	-2.3E-03	-6935.4	SLD 15	-3.7E-03	-10963.4	SLE RA 20	7.64E-04							
783	SLD 2	-2.3E-03	-6834.4	SLD 15	-3.7E-03	-11161	SLE RA 20	7.16E-04							
784	SLD 2	-2.3E-03	-6751.5	SLD 15	-3.8E-03	-11397.7	SLE RA 20	6.38E-04							
785	SLD 2	-2.2E-03	-6720.2	SLD 15	-3.9E-03	-11731.2	SLE RA 20	5.24E-04							
786	SLD 2	-2.3E-03	-6789.4	SLD 15	-4.1E-03	-12244.5	SLE RA 20	3.75E-04							
788	SLD 13	-2.3E-03	-6777.4	SLD 4	-4.0E-03	-12027.8	SLE RA 20	4.12E-04							
789	SLD 2	-2.2E-03	-6587.1	SLD 15	-3.9E-03	-11617.7	SLE RA 20	4.93E-04							
792	SLD 13	-2.2E-03	-6459.5	SLD 4	-3.9E-03	-11696.5	SLE RA 20	3.43E-04							
793	SLD 2	-2.1E-03	-6251.9	SLD 15	-0.00375	-11250	SLE RA 20	4.14E-04							
795	SLD 14	-2.3E-03	-6862.5	SLD 3	-3.1E-03	-9205.2	SLE RA 20	1.52E-03							
797	SLD 13	-2.3E-03	-6875	SLD 4	-3.1E-03	-9153.3	SLE RA 20	1.63E-03							
798	SLD 10	-2.3E-03	-6959.6	SLE RA 20	-2.6E-03	-7945.3	SLE RA 20	2.06E-03							
800	SLD 10	-2.3E-03	-6814.4	SLE RA 20	-2.6E-03	-7846.1	SLE RA 20	2.01E-03							
801	SLD 1	-1.8E-03	-5344.3	SLE RA 20	-2.1E-03	-6215.6	SLE RA 20	1.59E-03							
803	SLD 1	-1.8E-03	-5416.3	SLE RA 20	-2.1E-03	-6403.8	SLE RA 20	1.77E-03							
804	SLD 2	-2.3E-03	-6762.1	SLD 15	-2.9E-03	-8818.6	SLE RA 20	0.001477							
806	SLD 2	-2.3E-03	-6784.8	SLD 15	-2.9E-03	-8823.5	SLE RA 20	1.39E-03							
808	SLD 13	-2.0E-03	-6076.5	SLD 4	-3.8E-03	-11260.9	SLE RA 20	2.54E-04							
809	SLD 2	-1.9E-03	-5844.8	SLD 15	-3.6E-03	-10766.8	SLE RA 20	3.14E-04							
811	SLD 10	-2.2E-03	-6717.1	SLE RA 20	-2.6E-03	-7767.4	SLE RA 20	1.98E-03							
813	SLD 6	-2.2E-03	-6671.8	SLD 11	-3.0E-03	-9018	SLE RA 20	1.36E-03							
815	SLD 2	-2.2E-03	-6716.5	SLD 15	-3.0E-03	-8954.3	SLE RA 20	1.28E-03							
816	SLD 13	-2.2E-03	-6726	SLD 4	-3.1E-03	-9228	SLE RA 20	1.40E-03							
818	SLD 13	-2.2E-03	-6746.2	SLD 4	-3.1E-03	-9190.7	SLE RA 20	1.50E-03							
819	SLD 1	-1.6E-03	-4839.9	SLE RA 20	-1.9E-03	-5728.6	SLE RA 20	1.40E-03							
821	SLD 1	-1.6E-03	-4894.8	SLD 16	-2.0E-03	-5904	SLE RA 20	1.40E-03							
823	SLD 13	-1.9E-03	-5694.6	SLD 4	-3.6E-03	-10842.9	SLE RA 20	1.65E-04							
824	SLD 10	-2.2E-03	-6463.1	SLE RA 20	-2.5E-03	-7634.8	SLE RA 20	1.88E-03							
826	SLD 2	-1.8E-03	-5441.1	SLD 15	-3.4E-03	-10310.8	SLE RA 20	0.000216							
828	SLD 6	-2.1E-03	-6437.5	SLD 11	-3.1E-03	-9417.6	SLE RA 20	1.25E-03							
830	SLD 6	-2.2E-03	-6509.3	SLD 11	-3.1E-03	-9280.2	SLE RA 20	1.18E-03							
831	SLD 13	-2.2E-03	-6580	SLD 4	-3.1E-03	-9276.5	SLE RA 20	1.29E-03							
833	SLD 9	-2.2E-03	-6504.6	SLD 8	-3.1E-03	-9357.2	SLE RA 20	1.38E-03							
834	SLD 1	-1.5E-03	-4528.5	SLD 16	-1.8E-03	-5497.3	SLE RA 20	0.00125							
836	SLD 1	-1.5E-03	-4566.2	SLD 16	-1.9E-03	-5739.4	SLE RA 20	0.001248							



Nodo	spostamento nodale massimo			spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.
837	SLD 10	-2.1E-03	-6218.7	SLD 7	-2.5E-03	-7614.6	SLE RA 20	1.77E-03				
840	SLD 13	-1.8E-03	-5354	SLD 4	-3.5E-03	-10521.2	SLE RA 20	1.06E-04				
841	SLD 10	-2.0E-03	-5967.3	SLD 7	-2.5E-03	-7350.6	SLE RA 20	1.71E-03				
842	SLD 14	-1.7E-03	-5024.4	SLD 3	-2.0E-03	-6117.8	SLE RA 20	1.53E-03				
843	SLD 14	-1.6E-03	-4712.8	SLD 3	-1.9E-03	-5740.8	SLE RA 20	1.32E-03				
844	SLD 14	-1.5E-03	-4545.7	SLE RA 20	-1.8E-03	-5459.4	SLE RA 20	0.001268				
845	SLD 10	-1.5E-03	-4480.8	SLE RA 20	-1.8E-03	-5301.5	SLE RA 20	1.24E-03				
846	SLD 10	-1.5E-03	-4446.1	SLE RA 20	-1.7E-03	-5214.7	SLE RA 20	1.22E-03				
847	SLD 9	-1.5E-03	-4450.6	SLE RA 20	-1.7E-03	-5178.8	SLE RA 20	1.21E-03				
848	SLD 5	-1.5E-03	-4450.5	SLE RA 20	-1.7E-03	-5181.5	SLE RA 20	1.20E-03				
849	SLD 5	-1.5E-03	-4443.1	SLE RA 20	-1.7E-03	-5216.8	SLE RA 20	1.20E-03				
850	SLD 1	-1.5E-03	-4461	SLE RA 20	-1.8E-03	-5281.8	SLE RA 20	1.20E-03				
851	SLD 1	-1.5E-03	-4440.4	SLD 16	-1.8E-03	-5398.7	SLE RA 20	1.20E-03				
852	SLD 1	-1.5E-03	-4453.7	SLD 16	-1.9E-03	-5597.8	SLE RA 20	1.19E-03				
853	SLD 2	-1.7E-03	-5091.1	SLD 15	-3.3E-03	-9981.1	SLE RA 20	1.36E-04				
855	SLD 6	-2.1E-03	-6171.4	SLD 11	-3.3E-03	-9870.8	SLE RA 20	0.001113				
857	SLD 6	-2.1E-03	-6226.1	SLD 11	-3.2E-03	-9703.9	SLE RA 20	0.00105				
858	SLD 9	-2.1E-03	-6181.1	SLD 8	-3.2E-03	-9574.4	SLE RA 20	1.16E-03				
860	SLD 9	-2.0E-03	-6113.2	SLD 8	-3.2E-03	-9670	SLE RA 20	0.00124				
861	SLD 10	-2.0E-03	-6000.4	SLD 7	-2.6E-03	-7859.2	SLE RA 20	1.66E-03				
863	SLD 10	-2.0E-03	-5934	SLD 7	-2.5E-03	-7383	SLE RA 20	1.72E-03				
864	SLD 10	-1.9E-03	-5598.5	SLD 7	-2.4E-03	-7293.4	SLE RA 20	1.62E-03				
875	SLD 5	-1.5E-03	-4351.4	SLD 12	-1.9E-03	-5551	SLE RA 20	1.13E-03				
877	SLD 1	-1.5E-03	-4399.3	SLD 16	-1.9E-03	-5765.6	SLE RA 20	1.25E-03				
879	SLD 13	-1.7E-03	-5078.3	SLD 4	-3.4E-03	-10345.7	SLE RA 20	6.72E-05				
880	SLD 10	-1.9E-03	-5631.4	SLD 7	-2.6E-03	-7802.2	SLE RA 20	1.60E-03				
881	SLD 10	-1.6E-03	-4707.6	SLD 7	-2.2E-03	-6465.9	SLE RA 20	1.38E-03				
882	SLD 10	-1.5E-03	-4427	SLD 7	-2.0E-03	-6050.8	SLE RA 20	0.001327				
883	SLD 10	-1.4E-03	-4249.2	SLD 7	-1.9E-03	-5754.4	SLE RA 20	1.14E-03				
884	SLD 10	-1.4E-03	-4154.1	SLD 7	-1.9E-03	-5555.3	SLE RA 20	0.00111				
885	SLD 10	-1.4E-03	-4117.5	SLD 7	-1.8E-03	-5427.6	SLE RA 20	1.09E-03				
886	SLD 9	-1.4E-03	-4120.5	SLD 8	-1.8E-03	-5353.2	SLE RA 20	1.07E-03				
887	SLD 5	-1.4E-03	-4109.5	SLD 12	-1.8E-03	-5363.5	SLE RA 20	1.07E-03				
888	SLD 5	-1.4E-03	-4097.7	SLD 12	-1.8E-03	-5434.1	SLE RA 20	1.06E-03				
889	SLD 5	-1.4E-03	-4110.9	SLD 12	-1.8E-03	-5533.7	SLE RA 20	1.06E-03				
890	SLD 5	-1.4E-03	-4149.9	SLD 12	-1.9E-03	-5657.6	SLE RA 20	1.06E-03				
891	SLD 5	-1.4E-03	-4215.6	SLD 12	-1.9E-03	-5800.1	SLE RA 20	1.18E-03				
892	SLD 2	-1.6E-03	-4826.3	SLD 15	-3.3E-03	-9845.3	SLE RA 20	9.51E-05				
894	SLD 6	-2.0E-03	-5881.3	SLD 11	-3.5E-03	-10351.4	SLE RA 20	9.85E-04				
896	SLD 6	-2.0E-03	-5918.9	SLD 11	-3.4E-03	-10154.8	SLE RA 20	9.33E-04				
897	SLD 9	-1.9E-03	-5760.6	SLD 8	-3.3E-03	-9886.5	SLE RA 20	1.04E-03				
899	SLD 9	-1.9E-03	-5701.1	SLD 8	-3.3E-03	-9996	SLE RA 20	0.001111				
900	SLD 10	-1.9E-03	-5742.7	SLD 7	-2.7E-03	-8223.6	SLE RA 20	1.52E-03				
902	SLD 10	-1.8E-03	-5355.4	SLD 7	-2.6E-03	-7675.3	SLE RA 20	1.57E-03				
903	SLD 5	-1.4E-03	-4091.7	SLD 12	-1.9E-03	-5846.6	SLE RA 20	1.14E-03				
905	SLD 5	-1.4E-03	-4176.9	SLD 12	-2.0E-03	-6014.5	SLE RA 20	1.12E-03				
907	SLD 13	-1.6E-03	-4881.5	SLD 4	-3.5E-03	-10350.5	SLE RA 20	4.81E-05				
908	SLD 6	-1.9E-03	-5576.1	SLD 11	-3.6E-03	-10841	SLE RA 20	8.68E-04				
910	SLD 6	-1.9E-03	-5596.7	SLD 11	-3.5E-03	-10614.4	SLE RA 20	8.27E-04				
911	SLD 6	-1.5E-03	-4553.1	SLD 11	-3.4E-03	-10060.8	SLE RA 20	7.03E-05				
913	SLD 9	-1.8E-03	-5342.7	SLD 8	-3.4E-03	-10203.4	SLE RA 20	9.32E-04				
915	SLD 9	-1.8E-03	-5291.5	SLD 8	-3.4E-03	-10327	SLE RA 20	9.91E-04				
916	SLD 9	-1.8E-03	-5476.6	SLD 8	-2.9E-03	-8643.9	SLE RA 20	1.36E-03				
918	SLD 9	-1.7E-03	-5119.1	SLD 8	-2.7E-03	-8126.8	SLE RA 20	1.41E-03				
919	SLD 5	-1.3E-03	-3867	SLD 12	-2.1E-03	-6259.1	SLE RA 20	1.07E-03				
921	SLD 5	-1.3E-03	-3945	SLD 12	-2.1E-03	-6416.5	SLE RA 20	0.00103				
923	SLD 9	-1.5E-03	-4597.5	SLD 8	-3.6E-03	-10736.1	SLE RA 20	5.19E-05				
924	SLD 6	-1.8E-03	-5263.9	SLD 11	-3.8E-03	-11328.1	SLE RA 20	7.60E-04				
926	SLD 6	-1.8E-03	-5267.4	SLD 11	-3.7E-03	-11071.4	SLE RA 20	7.23E-04				
927	SLD 6	-1.4E-03	-4207.7	SLD 11	-3.6E-03	-10730.5	SLE RA 20	5.89E-05				
929	SLD 9	-1.7E-03	-5200.1	SLD 8	-3.0E-03	-9091.1	SLE RA 20	0.001214				
931	SLD 9	-1.6E-03	-4870.2	SLD 8	-2.9E-03	-8606.4	SLE RA 20	1.25E-03				
932	SLD 5	-1.2E-03	-3671.4	SLD 12	-2.3E-03	-6754.8	SLE RA 20	9.59E-04				
934	SLD 5	-1.2E-03	-3742.1	SLD 12	-2.3E-03	-6901.8	SLE RA 20	9.00E-04				
935	SLD 9	-1.7E-03	-4955.9	SLD 8	-3.5E-03	-10535.8	SLE RA 20	8.33E-04				
937	SLD 9	-1.6E-03	-4913	SLD 8	-3.6E-03	-10673.7	SLE RA 20	0.000886				
939	SLD 9	-1.4E-03	-4308.2	SLD 8	-3.8E-03	-11449.8	SLE RA 20	0.00006				
940	SLD 6	-1.7E-03	-4951.5	SLD 11	-3.9E-03	-11806.7	SLE RA 20	6.47E-04				
942	SLD 6	-1.6E-03	-4938	SLD 11	-3.8E-03	-11519.3	SLE RA 20	6.12E-04				
943	SLD 9	-1.6E-03	-4912.9	SLD 8	-3.2E-03	-9550.3	SLE RA 20	1.08E-03				
945	SLD 9	-1.5E-03	-4610	SLD 8	-3.0E-03	-9097.3	SLE RA 20	1.08E-03				
946	SLD 6	-1.2E-03	-3501.5	SLD 11	-2.4E-03	-7318.8	SLE RA 20	7.98E-04				
948	SLD 6	-1.2E-03	-3564.9	SLD 11	-2.5E-03	-7455.8	SLE RA 20	7.52E-04				
949	SLD 6	-1.3E-03	-3965.5	SLD 11	-3.9E-03	-11697.2	SLE RA 20	6.63E-05				
951	SLD 9	-1.5E-03	-4631.5	SLD 8	-3.6E-03	-10921.7	SLE RA 20	0.000728				
953	SLD 9	-1.5E-03	-4596.9	SLD 8	-3.7E-03	-11074	SLE RA 20	7.78E-04				
955	SLD 9	-1.4E-03	-4109.2	SLD 8	-4.1E-03	-12418.5	SLE RA 20	6.84E-05				
956	SLD 6	-1.5E-03	-4645.6	SLD 11	-4.1E-03	-12276.8	SLE RA 20	5.38E-04				
958	SLD 6	-1.5E-03	-4615.1	SLD 11	-4.0E-03	-11958.5	SLE RA 20	5.22E-04				
959	SLD 9	-1.5E-03	-4621.5	SLD 8	-3.3E-03	-10026	SLE RA 20	9.09E-04				
961	SLD 9	-1.4E-03	-4345.3	SLD 8	-3.2E-03	-9604.2	SLE RA 20	9.24E-04				
962	SLD 6	-1.1E-03	-3359.5	SLD 11	-2.7E-03	-7952.3	SLE RA 20	6.46E-04				
964	SLD 6	-1.1E-03	-3415.6	SLD 11	-2.7E-03	-8079.6	SLE RA 20	6.08E-04				
965	SLD 6	-1.3E-03	-3817.1	SLD 11	-4.3E-03	-12965	SLE RA 20	6.99E-05				
968	SLD 9	-1.3E-03	-3998.1	SLD 8	-4.6E-03	-13657.6	SLE RA 20	6.98E-05				
969	SLD 9	-1.4E-03	-4147.8	SLD 8	-4.9E-03	-14573.6	SLE RA 20	0.000062				
970	SLD 9	-1.3E-03	-3910.7	SLD 8	-4.5E-03	-13485.6	SLE RA 20	7.04E-05				
971	SLD 9	-1.2E-03	-3709.2	SLD 8	-4.2E-03	-12512	SLE RA 20	6.94E-05				
972	SLD 9	-1.2E-03	-3552.9	SLD 8	-3.9E-03	-11690.2	SLE RA 20	0.000062				



Nodo	spostamento nodale massimo				spostamento nodale minimo			Cedimento elastico		Cedimento edometrico		Cedimento di consolidazione	
Ind.	Cont.	uz	Press.	Cont.	uz	Press.	Cont.	v.	Cont.	v.	Cont.	v.	
973	SLD 9	-1.1E-03	-3446.3	SLD 8	-3.7E-03	-11038.2	SLE RA 20	5.34E-05					
974	SLD 9	-1.1E-03	-3390.2	SLD 8	-3.5E-03	-10561.8	SLE RA 20	4.68E-05					
975	SLD 9	-1.1E-03	-3383.1	SLD 8	-3.4E-03	-10258.6	SLE RA 20	4.99E-05					
976	SLD 9	-1.1E-03	-3421.9	SLD 8	-3.4E-03	-10120.9	SLE RA 20	6.91E-05					
977	SLD 9	-1.2E-03	-3502.1	SLD 8	-3.4E-03	-10136.4	SLE RA 20	1.02E-04					
978	SLD 9	-1.2E-03	-3617	SLD 8	-3.4E-03	-10288.8	SLE RA 20	1.69E-04					
979	SLD 9	-1.3E-03	-3757.7	SLD 8	-3.5E-03	-10555.6	SLE RA 20	2.49E-04					
980	SLD 9	-1.3E-03	-3911.7	SLD 8	-3.6E-03	-10905.7	SLE RA 20	3.45E-04					
981	SLD 9	-1.4E-03	-4061.5	SLD 8	-3.8E-03	-11295.9	SLE RA 20	4.44E-04					
982	SLD 9	-1.4E-03	-4183.3	SLD 8	-3.9E-03	-11666.3	SLE RA 20	5.24E-04					
983	SLD 9	-1.4E-03	-4251.1	SLD 8	-4.0E-03	-11945.5	SLE RA 20	5.70E-04					
984	SLD 6	-1.4E-03	-4347.6	SLD 11	-4.2E-03	-12739	SLE RA 20	4.29E-04					
986	SLD 6	-1.4E-03	-4311	SLD 11	-4.1E-03	-12409.6	SLE RA 20	4.05E-04					
987	SLD 6	-1.4E-03	-4275	SLD 11	-4.1E-03	-12198.9	SLE RA 20	3.64E-04					
988	SLD 6	-1.4E-03	-4150.6	SLD 11	-3.9E-03	-11786.6	SLE RA 20	2.97E-04					
989	SLD 6	-1.3E-03	-3976.8	SLD 11	-3.8E-03	-11328.9	SLE RA 20	2.22E-04					
990	SLD 6	-1.3E-03	-3790.5	SLD 11	-3.6E-03	-10916.5	SLE RA 20	1.50E-04					
991	SLD 6	-1.2E-03	-3617.9	SLD 11	-3.5E-03	-10613.1	SLE RA 20	0.000097					
992	SLD 6	-1.2E-03	-3477.4	SLD 11	-3.5E-03	-10462.9	SLE RA 20	6.67E-05					
993	SLD 6	-1.1E-03	-3381.3	SLD 11	-3.5E-03	-10496.4	SLE RA 20	0.000048					
994	SLD 6	-1.1E-03	-3338.1	SLD 11	-3.6E-03	-10734.2	SLE RA 20	4.75E-05					
995	SLD 6	-1.1E-03	-3352.8	SLD 11	-3.7E-03	-11189.5	SLE RA 20	5.35E-05					
996	SLD 6	-1.1E-03	-3428.1	SLD 11	-4.0E-03	-11867.2	SLE RA 20	6.16E-05					
997	SLD 6	-1.2E-03	-3563.7	SLD 11	-4.3E-03	-12761.9	SLE RA 20	6.79E-05					
998	SLD 6	-1.3E-03	-3755.4	SLD 11	-4.6E-03	-13852.7	SLE RA 20	6.72E-05					
999	SLD 6	-1.3E-03	-3761.7	SLD 11	-4.6E-03	-13907.4	SLE RA 20	6.67E-05					
1000	SLD 6	-1.3E-03	-3993.6	SLD 11	-5.0E-03	-15095.1	SLE RA 20	5.72E-05					
1001	SLD 9	-1.4E-03	-4339	SLD 8	-3.5E-03	-10541.8	SLE RA 20	7.48E-04					
1003	SLD 9	-1.4E-03	-4089.2	SLD 8	-3.4E-03	-10150.7	SLE RA 20	7.53E-04					
1004	SLD 6	-1.1E-03	-3255	SLD 11	-2.9E-03	-8670.2	SLE RA 20	4.98E-04					
1006	SLD 6	-1.1E-03	-3303.9	SLD 11	-2.9E-03	-8787.9	SLE RA 20	4.71E-04					
1009	SLD 6	-1.4E-03	-4118.2	SLD 11	-4.4E-03	-13069.3	SLE RA 20	3.32E-04					
1012	SLD 9	-1.3E-03	-3966.7	SLD 8	-5.1E-03	-15158	SLE RA 20	5.95E-05					
1026	SLD 9	-1.4E-03	-4111.3	SLD 8	-4.2E-03	-12519.2	SLE RA 20	4.18E-04					
1028	SLD 9	-1.4E-03	-4175.3	SLD 8	-4.3E-03	-12850.6	SLE RA 20	0.000466					
1043	SLD 9	-1.4E-03	-4085.4	SLD 8	-3.7E-03	-11142	SLE RA 20	6.12E-04					
1045	SLD 9	-1.3E-03	-3861.7	SLD 8	-3.6E-03	-10781.2	SLE RA 20	5.74E-04					
1046	SLD 6	-1.1E-03	-3200.4	SLD 11	-3.2E-03	-9505.3	SLE RA 20	3.42E-04					
1048	SLD 6	-1.1E-03	-3242.2	SLD 11	-3.2E-03	-9613.5	SLE RA 20	3.28E-04					
1050	SLD 6	-1.3E-03	-3865	SLD 11	-4.5E-03	-13359.1	SLE RA 20	2.40E-04					
1054	SLD 9	-1.4E-03	-4088.2	SLD 8	-4.4E-03	-13333.6	SLE RA 20	3.72E-04					
1055	SLD 9	-1.4E-03	-4125.4	SLD 8	-4.7E-03	-14062.6	SLE RA 20	3.18E-04					
1056	SLD 9	-1.3E-03	-3953.2	SLD 8	-4.4E-03	-13190.4	SLE RA 20	3.29E-04					
1057	SLD 9	-1.3E-03	-3784.4	SLD 8	-4.1E-03	-12368.2	SLE RA 20	3.11E-04					
1058	SLD 9	-1.2E-03	-3645.3	SLD 8	-3.9E-03	-11672.2	SLE RA 20	2.84E-04					
1059	SLD 9	-1.2E-03	-3551.3	SLD 8	-3.7E-03	-11147.1	SLE RA 20	2.57E-04					
1060	SLD 9	-1.2E-03	-3509.8	SLD 8	-3.6E-03	-10812.5	SLE RA 20	0.000241					
1061	SLD 9	-1.2E-03	-3521.1	SLD 8	-3.6E-03	-10668.7	SLE RA 20	2.44E-04					
1062	SLD 9	-1.2E-03	-3579.3	SLD 8	-3.6E-03	-10698.5	SLE RA 20	2.67E-04					
1063	SLD 9	-1.2E-03	-3672.2	SLD 8	-3.6E-03	-10867.2	SLE RA 20	3.11E-04					
1064	SLD 9	-1.3E-03	-3779.5	SLD 8	-3.7E-03	-11119.6	SLE RA 20	3.67E-04					
1065	SLD 9	-1.3E-03	-3871	SLD 8	-3.8E-03	-11374.7	SLE RA 20	4.27E-04					
1066	SLD 9	-1.3E-03	-3904.1	SLD 8	-3.8E-03	-11518.3	SLE RA 20	4.74E-04					
1067	SLD 9	-1.3E-03	-3825.1	SLD 8	-3.8E-03	-11407.8	SLE RA 20	4.90E-04					
1068	SLD 9	-1.2E-03	-3698.3	SLD 8	-3.7E-03	-11137.5	SLE RA 20	4.70E-04					
1069	SLD 9	-1.2E-03	-3558.6	SLD 8	-3.6E-03	-10732.8	SLE RA 20	4.23E-04					
1070	SLD 9	-1.1E-03	-3422.4	SLD 8	-3.4E-03	-10274.8	SLE RA 20	0.00036					
1071	SLD 9	-1.1E-03	-3301.9	SLD 8	-3.3E-03	-9827.8	SLE RA 20	2.95E-04					
1072	SLD 9	-1.1E-03	-3204.5	SLD 8	-3.1E-03	-9435.8	SLE RA 20	2.36E-04					
1073	SLD 9	-1.0E-03	-3134	SLD 8	-3.0E-03	-9127.5	SLE RA 20	1.89E-04					
1074	SLD 5	-1.0E-03	-3087.1	SLD 12	-3.0E-03	-8924.1	SLE RA 20	1.56E-04					
1075	SLD 5	-1.0E-03	-3044	SLD 12	-3.0E-03	-8852.7	SLE RA 20	0.00014					
1076	SLD 5	-1.0E-03	-3022.3	SLD 12	-3.0E-03	-8893.2	SLE RA 20	1.40E-04					
1077	SLD 6	-1.0E-03	-3023.2	SLD 11	-3.0E-03	-9033.9	SLE RA 20	1.54E-04					
1078	SLD 6	-1.0E-03	-3045.4	SLD 11	-3.1E-03	-9255	SLE RA 20	1.82E-04					
1079	SLD 6	-1.0E-03	-3084.4	SLD 11	-3.2E-03	-9528	SLE RA 20	2.17E-04					
1080	SLD 6	-1.0E-03	-3132	SLD 11	-3.3E-03	-9811.8	SLE RA 20	2.52E-04					
1081	SLD 6	-1.1E-03	-3176.7	SLD 11	-3.3E-03	-10047.7	SLE RA 20	2.77E-04					
1082	SLD 6	-1.1E-03	-3203.9	SLD 11	-3.4E-03	-10163.5	SLE RA 20	2.82E-04					
1083	SLD 6	-1.1E-03	-3201.7	SLD 11	-3.4E-03	-10149.2	SLE RA 20	2.57E-04					
1084	SLD 6	-1.1E-03	-3151.9	SLD 11	-3.3E-03	-9967.4	SLE RA 20	2.08E-04					
1085	SLD 6	-1.0E-03	-3087.4	SLD 11	-3.2E-03	-9745.1	SLE RA 20	1.57E-04					
1086	SLD 6	-1.0E-03	-3034.3	SLD 11	-3.2E-03	-9583.1	SLE RA 20	1.14E-04					
1087	SLD 6	-1.0E-03	-3010.4	SLD 11	-3.2E-03	-9553.5	SLE RA 20	8.86E-05					
1088	SLD 6	-1.0E-03	-3027.9	SLD 11	-3.2E-03	-9707	SLE RA 20	8.33E-05					
1089	SLD 6	-1.0E-03	-3093.6	SLD 11	-3.4E-03	-10076.8	SLE RA 20	9.74E-05					
1090	SLD 6	-1.1E-03	-3209.7	SLD 11	-3.6E-03	-10679.1	SLE RA 20	1.27E-04					
1091	SLD 6	-1.1E-03	-3372.6	SLD 11	-3.8E-03	-11511.1	SLE RA 20	1.62E-04					
1092	SLD 6	-1.2E-03	-3571.4	SLD 11	-4.2E-03	-12542.7	SLE RA 20	1.89E-04					
1093	SLD 6	-1.2E-03	-3732.7	SLD 11	-4.5E-03	-13408.3	SLE RA 20	1.94E-04					
1095	SLD 9	-1.3E-03	-3986	SLD 8	-4.6E-03	-13828.6	SLE RA 20	2.84E-04					
1098	SLD 6	-1.2E-03	-3618.4	SLD 11	-4.6E-03	-13667.3	SLE RA 20	1.50E-04					
1101	SLD 9	-1.3E-03	-3892	SLD 8	-4.8E-03	-14379.9	SLE RA 20	1.86E-04					
1113	SLD 9	-1.3E-03	-3794.2	SLD 8	-4.1E-03	-12424.6	SLE RA 20	3.10E-04					
1115	SLD 9	-1.2E-03	-3626.6	SLD 8	-4.0E-03	-12128.5	SLE RA 20	3.04E-04					
1130	SLD 6	-1.1E-03	-3247.3	SLD 11	-3.7E-03	-11188.2	SLE RA 20	1.53E-04					
1132	SLD 6	-1.1E-03	-3273.7	SLD 11	-3.8E-03	-11276.2	SLE RA 20	1.48E-04					
1143	SLD 6	-1.2E-03	-3458.3	SLD 11	-4.6E-03	-13930.6	SLE RA 20	1.26E-04					



1.5 Baricentri delle rigidzze

Quota: quota alla quale è stato valutato il baricentro delle rigidzze. esprimibile come livello, falda, piano orizzontale alla Z specificata. [m]

Posizione: posizione in pianta del baricentro delle rigidzze.

X: coordinata X. [m]

Y: coordinata Y. [m]

Baricentro masse: posizione in pianta del baricentro delle masse.

X: coordinata X. [m]

Y: coordinata Y. [m]

Distanza: distanza in pianta tra il baricentro delle rigidzze e il baricentro delle masse.

X: coordinata X. [m]

Y: coordinata Y. [m]

Quota	Posizione		Baricentro masse		Distanza	
	X	Y	X	Y	X	Y
Rialzato	-12.281	1.119	-12.394	1.272	0.113	-0.153
Primo	-12.432	1.311	-12.424	1.296	-0.009	0.016
Secondo	-12.601	1.331	-12.601	0.646	0.001	0.684
Terzo	-12.642	1.251	-12.342	1.314	-0.301	-0.063
Sottotetto	-12.701	1.134	-12.222	0.64	-0.479	0.494

1.6 Risposta modale

Modo: identificativo del modo di vibrare.

Periodo: periodo. [s]

Massa X: massa partecipante in direzione globale X. Il valore è adimensionale.

Massa Y: massa partecipante in direzione globale Y. Il valore è adimensionale.

Massa Z: massa partecipante in direzione globale Z. Il valore è adimensionale.

Massa rot. X: massa rotazionale partecipante attorno la direzione globale X. Il valore è adimensionale.

Massa rot. Y: massa rotazionale partecipante attorno la direzione globale Y. Il valore è adimensionale.

Massa rot. Z: massa rotazionale partecipante attorno la direzione globale Z. Il valore è adimensionale.

Massa sX: massa partecipante in direzione Sisma X. Il valore è adimensionale.

Massa sY: massa partecipante in direzione Sisma Y. Il valore è adimensionale.

Totale masse partecipanti:

Traslazione X: 0.996996

Traslazione Y: 0.997079

Traslazione Z: 0

Rotazione X: 0.972527

Rotazione Y: 0.967253

Rotazione Z: 0.711805

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	2.092477883	0.000000011	0.015634817	0	0.013797656	0.000000002	0.006914886	0.000000011	0.015634817
2	1.245019506	0.000000039	0.000021094	0	0.000021545	0.000000023	0.000584353	0.000000039	0.000021094
3	1.233326822	0.000012116	0.000000056	0	0.000000098	0.000000446	0.000002747	0.000012116	0.000000056
4	0.94076804	0.000225911	0.000000564	0	0.000000789	0.000058769	0.000025701	0.000225911	0.000000564
5	0.92272345	0.000000902	0.000000009	0	0.000000006	0.000046481	0.000000003	0.000000902	0.000000009
6	0.902986394	0.000000518	0.000000037	0	0.000000005	0.000014319	0.000001164	0.000000518	0.000000037
7	0.85132081	0.000169075	0.000000002	0	0	0.000666788	0.000011568	0.000169075	0.000000002
8	0.784484997	0.000002555	0.000000237	0	0.000000292	0.000068436	0.000000595	0.000002555	0.000000237
9	0.782504167	0.000038695	0.000001466	0	0.000000285	0.000142497	0.000000088	0.000038695	0.000001466
10	0.781637925	0.000019215	0.000000081	0	0.000000185	0.000032838	0.000000007	0.000019215	0.000000081
11	0.776253985	0.00000065	0.000000194	0	0.000000164	0.000107338	0.000001069	0.00000065	0.000000194
12	0.759719736	0.003602162	0.000385658	0	0.000340163	0.005655309	0.000013256	0.003602162	0.000385658
13	0.759349378	0.00037168	0.004491475	0	0.004305153	0.000593111	0.002962992	0.00037168	0.004491475
14	0.71660286	0.000234053	0.010170207	0	0.018034471	0.000018299	0.004542725	0.000234053	0.010170207
15	0.714356332	0.000710004	0.002841571	0	0.005006544	0.000023673	0.002304959	0.000710004	0.002841571
16	0.697629594	0.000008545	0.000002509	0	0.00001108	0.000060746	0.000004198	0.000008545	0.000002509
17	0.673842924	0.00425389	0.000002774	0	0.000003274	0.010552932	0.000224642	0.00425389	0.000002774
18	0.666939079	0.000656567	0.000003866	0	0.000002389	0.001615682	0.000046822	0.000656567	0.000003866
19	0.649073813	0.004344645	0.000003216	0	0.000004489	0.003311086	0.000202291	0.004344645	0.000003216
20	0.624982754	0.001818919	0.000000019	0	0	0.002687426	0.0000906	0.001818919	0.000000019
21	0.61111299	0.000560896	0.034963975	0	0.062412124	0.000494806	0.021546654	0.000560896	0.034963975
22	0.610773213	0.014649547	0.001339759	0	0.0024157	0.013009392	0.000058706	0.014649547	0.001339759
23	0.57606562	0.014158868	0.000120667	0	0.000139612	0.011767385	0	0.014158868	0.000120667
24	0.574840215	0.001152213	0.001970113	0	0.002388021	0.000603616	0.001059163	0.001152213	0.001970113
25	0.561951856	0.000001452	0.005064735	0	0.008293155	0.000007245	0.003293575	0.000001452	0.005064735
26	0.522336949	0.000195141	0.000473278	0	0.000815088	0.00014034	0.000122099	0.000195141	0.000473278
27	0.518870091	0.000011916	0.094764575	0	0.145687811	0.000019791	0.05418731	0.000011916	0.094764575
28	0.47193268	0.00021568	0.00011733	0	0.00011538	0.000391374	0.000004978	0.00021568	0.00011733
29	0.454631597	0.000002538	0.382413328	0	0.468312702	0.000005232	0.286412968	0.000002538	0.382413328
30	0.436606827	0.000021747	0.124771596	0	0.143450867	0.000017978	0.084695417	0.000021747	0.124771596
31	0.426041591	0.001038659	0.003844796	0	0.004122171	0.001443129	0.005294934	0.001038659	0.003844796
32	0.395548933	0.000188794	0.016415158	0	0.0145943	0.000329463	0.019623843	0.000188794	0.016415158
33	0.367539183	0.007473013	0.000006072	0	0.000030978	0.012476128	0.00001952	0.007473013	0.000006072
34	0.347432024	0.000069689	0.0384159	0	0.017963061	0.000120926	0.025193824	0.000069689	0.0384159
35	0.327144596	0.271001435	0.000119218	0	0.000006725	0.311596565	0.000415867	0.271001435	0.000119218



Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
36	0.302248245	0.087187902	0.016140475	0	0.009617525	0.084961372	0.005928531	0.087187902	0.016140475
37	0.30021351	0.047878615	0.01846745	0	0.014588848	0.045208328	0.01651197	0.047878615	0.01846745
38	0.255456262	0.000156392	0.026589763	0	0.022989585	0.00026233	0.021427295	0.000156392	0.026589763
39	0.245479409	0.274219442	0.000085364	0	0.000023173	0.306298221	0.000284847	0.274219442	0.000085364
40	0.227178162	0.118307871	0.000372647	0	0.000124953	0.128982623	0.005032005	0.118307871	0.000372647
41	0.211370374	0.000372973	0.0145021	0	0.004568902	0.000360699	0.010077312	0.000372973	0.0145021
42	0.15048691	0.011598721	0.000079238	0	0.000001511	0.000000199	0.000855624	0.011598721	0.000079238
43	0.144408053	0.000000101	0.044445979	0	0.00036378	0.000012873	0.033953507	0.000000101	0.044445979
44	0.095486004	0.001039634	0.084482294	0	0.004349576	0.000120171	0.053064352	0.001039634	0.084482294
45	0.091534586	0.050598997	0.001949707	0	0.000054863	0.010044485	0.00198042	0.050598997	0.001949707
46	0.067147134	0.070693523	0.005193176	0	0.000261448	0.011582848	0.001371833	0.070693523	0.005193176
47	0.066211114	0.007514709	0.046041019	0	0.002194984	0.001045026	0.035917435	0.007514709	0.046041019
48	0.01210488	0.000164133	0.000199024	0	0.000073471	0.0002778	0.001359232	0.000164133	0.000199024
49	0.006864604	0.000032479	0.000113931	0	0.000003802	0.000001994	0.000732153	0.000032479	0.000113931
50	0.005875186	0.000013022	0.000056135	0	0.001031239	0.000014406	0.003444936	0.000013022	0.000056135

1.7 Equilibrio globale forze

Contributo: Nome attribuito al sistema risultante.

Fx: Componente X di forza del sistema risultante. [daN]

Fy: Componente Y di forza del sistema risultante. [daN]

Fz: Componente Z di forza del sistema risultante. [daN]

Mx: Componente di momento attorno l'asse X del sistema risultante. [daN*m]

My: Componente di momento attorno l'asse Y del sistema risultante. [daN*m]

Mz: Componente di momento attorno l'asse Z del sistema risultante. [daN*m]

Bilancio in condizione di carico: Pesi strutturali

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	-15.358	-3.576	-1399759.247	-1330817.67	-17355865.28	19.5
Reazioni	15.358	3.576	1399759.247	1330929.29	17355845.09	-19.5
P-Delta	0	0	0	0	0	0
Totale	0	0	0	111.62	-20.19	0

Bilancio in condizione di carico: Permanenti portati

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-384144.455	-497491.9	-4769965.93	0
Reazioni	0	0	384144.455	497503.53	4769957.35	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	11.63	-8.59	0

Bilancio in condizione di carico: Variabile A

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-216079.973	-223561.34	-2680263.67	0
Reazioni	0	0	216079.973	223548.88	2680261.49	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-12.47	-2.18	0

Bilancio in condizione di carico: Neve

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-33634.016	-55831.89	-411140.17	0
Reazioni	0	0	33634.016	55928.01	411117.4	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	96.12	-22.77	0

Bilancio in condizione di carico: Variabile H

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-26192.763	-41924.53	-322219.54	0
Reazioni	0	0	26192.763	41962.89	322210.07	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	38.36	-9.47	0

Bilancio in condizione di carico: Vento

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-5757.789	0	48510.86	0	71361.08
Reazioni	0	5757.789	0	-48511.6	-0.87	-71361.08
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-0.74	-0.87	0

Bilancio in condizione di carico: Sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	394458.855	0	0	0	4202780.65	-428775.89
Reazioni	-394458.855	0	0	-201.83	-4202859.67	428775.89
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-201.83	-79.03	0

Bilancio in condizione di carico: Sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	394458.855	0	-4202780.65	0	-4906874.28
Reazioni	0	-394458.855	0	4202792.83	132.21	4906874.28
P-Delta	0	0	0	0	0	0
Totale	0	0	0	12.18	132.21	0



Bilancio in condizione di carico: Eccentricità Y per sisma X SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-180157.58
Reazioni	0	0	0	-13.31	-10.95	180157.58
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-13.31	-10.95	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLV

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	84267.26
Reazioni	0	0	0	6.22	5.12	-84267.26
P-Delta	0	0	0	0	0	0
Totale	0	0	0	6.22	5.12	0

Bilancio in condizione di carico: Sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	253001.366	0	0	0	2695615.1	-275011.92
Reazioni	-253001.366	0	0	-129.45	-2695665.79	275011.92
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-129.45	-50.69	0

Bilancio in condizione di carico: Sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	243033.573	0	-2589412.77	0	-3023218.2
Reazioni	0	-243033.573	0	2589420.28	81.46	3023218.2
P-Delta	0	0	0	0	0	0
Totale	0	0	0	7.51	81.46	0

Bilancio in condizione di carico: Eccentricità Y per sisma X SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	-115551
Reazioni	0	0	0	-8.54	-7.02	115551
P-Delta	0	0	0	0	0	0
Totale	0	0	0	-8.54	-7.02	0

Bilancio in condizione di carico: Eccentricità X per sisma Y SLD

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	51918.65
Reazioni	0	0	0	3.84	3.15	-51918.65
P-Delta	0	0	0	0	0	0
Totale	0	0	0	3.84	3.15	0

Bilancio in condizione di carico: Rig Ux

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	1	0	0	0	15.15	-0.64
Reazioni	-1	0	0	0	-15.15	0.64
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Uy

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1	0	-15.15	0	-12.22
Reazioni	0	-1	0	15.15	0	12.22
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

Bilancio in condizione di carico: Rig Rz

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	0	0	0	0.01
Reazioni	0	0	0	0	0	-0.01
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

1.8 Risposta di spettro

Spettro: condizione elementare corrispondente allo spettro.

N.b.: nome breve della condizione elementare.

Fx: componente della forza lungo l'asse X. [daN]

Fy: componente della forza lungo l'asse Y. [daN]

Fz: componente della forza lungo l'asse Z. [daN]

Mx: componente della coppia attorno all'asse X. [daN*m]

My: componente della coppia attorno all'asse Y. [daN*m]

Mz: componente della coppia attorno all'asse Z. [daN*m]

Max X: massima reazione lungo l'asse X.

Valore: valore massimo della reazione. [daN]

Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Max Y: massima reazione lungo l'asse Y.

Valore: valore massimo della reazione. [daN]

Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Max Z: massima reazione lungo l'asse Z.

Valore: valore massimo della reazione. [daN]



Angolo: angolo d'ingresso del sisma che provoca il valore massimo della reazione. [deg]

Spettro	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
N.b.							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	261350.09	4596.06	0	2.252E04	2.426E06	2.677E05	261350.09	0	265395.65	90	0	0
SLV Y	4596.06	265395.65	0	2.570E06	3.755E04	3.367E06	261350.09	0	265395.65	90	0	0
X SLD	166974.47	2823.7	0	14317.857	1.555E06	1.704E05	166974.47	179	164124.16	90	0	0
Y SLD	2823.7	164124.16	0	1.589E06	2.381E04	2.084E06	166974.47	179	164124.16	90	0	0

1.9 Annotazioni solutore

Informazioni: informazioni fornite dal solutore al termine del calcolo del modello.

Informazioni

1.10 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	103914
Elemento min. diagonale	647.8229229
Elemento max diagonale	166278337346654
Rapporto max/min	256672512609.843
Elementi non nulli	4492061

TABULATI DI CALCOLO – VERIFICHE
CIVICO 37
STATO DI PROGETTO



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1 Verifiche

1.1 Verifica regolarità strutturale

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

Livello:

Descr: descrizione livello.

Quota: quota livello. [m]

Q: quota livello. [m]

Qinf: quota livello precedente. [m]

Comb: combinazione.

A1: a1 (Distribuzione masse).

A1n: a1 numeratore (distanza tra centro massa vs. centro rigidezza [se presente] o centro dell'ingombro del piano). [m]

A1d: a1 denominatore (ingombro del piano nella medesima direzione [x o y globale]). [m]

A1r: a1 rapporto (distanza centro massa/rigidezza su ingombro del piano).

A2: a2 (Distribuzione rigidezze).

A2n: a2 numeratore (rigidezza max [x o y globale]).

A2d: a2 denominatore (rigidezza min [x o y globale]).

A2r: a2 rapporto (rigidezza max/min).

A3: a3 (Forma compatta).

A3n: a3 numeratore (area convessa). [m²]

A3d: a3 denominatore (area piano). [m²]

A3r: a3 rapporto (area convessa/area piano).

B: b (Rapporto lati).

Bn: b numeratore (lato max [x o y globale]). [m]

Bd: b denominatore (lato min [x o y globale]). [m]

Br: b rapporto (lato max/min).

C: c (Rapporto rigidezze piano).

Cn: c numeratore (rigidezza elementi verticali).

Cd: c denominatore (rigidezza piano).

Cr: c rapporto (rigidezza elementi verticali/rigidezza piano).

E1: e1 (Variazione masse).

E1n: e1 numeratore (massa max). [daN]

E1d: e1 denominatore (massa min). [daN]

E1r: e1 rapporto (massa max/min).

E2: e2 (Riduzione rigidezze).

E2n: e2 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]

E2d: e2 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]

E2r: e2 rapporto (variazione massima in decremento Kmax/Kmin).

E3: e3 (Incremento rigidezze).

E3n: e3 numeratore (rigidezza relativa alla traslazione KUmax). [daN/m]

E3d: e3 denominatore (rigidezza relativa alla traslazione KUmin). [daN/m]

E3r: e3 rapporto (variazione massima in incremento Kmax/Kmin).

F: f (Rapporto Capacità/Domanda).

Fn: f numeratore (rapporto capacità/domanda massimo [c/d max]). [daN]

Fd: f denominatore (rapporto capacità/domanda minimo [c/d min]). [daN]

Fr: f rapporto (variazione massima [rapporto (c/d max)/(c/d min)]).

G1: g1 (Rastremazione di piano).

G1n: g1 numeratore (L1). [m]

G1d: g1 denominatore (L2). [m]

G1r: g1 rapporto (L1/L2).

G2: g2 (Rastremazione totale).

G2n: g2 numeratore (L0). [m]

G2d: g2 denominatore (Li). [m]

G2r: g2 rapporto (L0/Li).

Capacità/Domanda in X:

VrdX: taglio resistente complessivo in direzione X. [daN]

VedX: taglio agente complessivo in direzione X. [daN]

|Rd/Ed|: |Rd/Ed| (rapporto capacità/domanda in termini di resistenza a taglio).

Capacità/Domanda in Y:

VrdY: taglio resistente complessivo in direzione Y. [daN]

VedY: taglio agente complessivo in direzione Y. [daN]

Verifica regolarità strutturale

Controllo regolarità edificio secondo D.M. 17-01-18 (N.T.C.) §7.2.1 - §C7.2.1

Avvertenze



La seguente procedura valuta la regolarità della costruzione secondo quanto indicato nelle NTC 2018 §7.2.1.

Tali valutazioni sono a carattere puramente informativo e vengono condotte sulla base del modello e delle verifiche presenti alla sua generazione, con le limitazioni indicate nella manualistica.

In ogni caso l'impostazione di regolarità della costruzione, in pianta ed elevazione, va indicata nelle preferenze di analisi dall'utente utilizzatore del software.

Sintesi dei risultati

Orizzontamenti considerati nella valutazione

Livelli di fondazione o di struttura scatolare non dissipativa: Fondazione ascensore(L1), Fondazione(L2),

Livelli di elevazione considerati: Rialzato(L4), Primo(L5), Secondo(L6), Terzo(L7), Sottotetto(L8), Colmo maggiore(L10),

Regolarità in pianta - NO

L'edificio risulta NON regolare in pianta, in base alle condizioni indicate in NTC 2018 §7.2.1

N.V. - Criterio A1 (Distribuzione masse) non valutabile al livello Colmo maggiore

N.V. - Criterio A2 (Distribuzione rigidezze) non valutabile al livello Rialzato

No - Criterio A3 (Forma compatta) NON rispettato, con rapporto massimo 2795071.1/2561383.1=1.1 (limite=1,05) al livello Rialzato

Ok - Criterio B (Rapporto lati) rispettato, con rapporto massimo 2,12 (limite=4) al livello Primo

No - Criterio C (Rapporto rigidezze piano) NON rispettato, con rapporto massimo > 999 (limite=0) al livello Colmo maggiore

Regolarità in altezza - NO

L'edificio risulta NON regolare in altezza, in base alle condizioni indicate in NTC 2018 §7.2.1

Ok - Criterio D (Altezza elementi sismoresistenti) rispettato, con rapporto massimo 1 (limite=1,01)

No - Criterio E1 (Variazione masse) NON rispettato, con rapporto massimo 157101.9/68217.3=2.3 (limite=1,25) tra il livello Colmo maggiore ed il precedente

N.V. - Criterio E2 (Riduzione rigidezze) non valutabile tra il livello Primo ed il precedente

N.V. - Criterio E3 (Incremento rigidezze) non valutabile tra il livello Primo ed il precedente

N.V. - Criterio F (Rapporto Capacità/Domanda) non valutabile tra il livello Colmo maggiore ed il precedente

Ok - Criterio G1 (Rastremazione di piano) rispettato, con rapporto massimo 0,01 (limite=0,1) tra il livello Sottotetto ed il precedente

Ok - Criterio G2 (Rastremazione totale) rispettato, con rapporto massimo 0 (limite=0,3) tra il livello Primo ed il precedente

Valori per piano

Verifiche di regolarità in pianta

Livello		A1			A2			A3			B			C		
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	1.59	0.15	11.81	0.01				279.5071	256.1383	1.09	24.93	11.81	2.11	0	+∞	0
Primo	5	0.02	11.74	0				277.0023	258.0993	1.07	24.84	11.74	2.12	0	+∞	0
Secondo	8.55	0.68	11.74	0.06				277.0023	262.5648	1.05	24.84	11.74	2.12	0	+∞	0
Terzo	12.05	0.3	24.84	0.01				277.0023	255.0928	1.09	24.84	11.74	2.12	0	+∞	0
Sottotetto	15.15	0.49	11.84	0.04				274.4083	255.7792	1.07	24.92	11.83	2.11	0	+∞	0
Colmo maggiore	17.73							274.4074	253.9621	1.08	24.92	11.83	2.11	9999	1	9999

Verifiche di regolarità in elevazione

Rapporto di regolarità per la condizione D (Altezza elementi sismoresistenti): 19.03/19.03=0.01.

Livello		E1			E2			E3			F			G1			G2			
Descr	Q	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	5	1.59	183354	145000	1.26							11.5	8.4	1.36	0.09	24.93	0	0.09	24.93	0
Secondo	8.55	5	145044	145000	1							21.1	14.9	1.42	0	11.74	0	0.09	24.93	0
Terzo	12.05	8.55	145044	142595	1.02							27.5	19	1.45	0	11.74	0	0.09	24.93	0
Sottotetto	15.15	12.05	157102	142595	1.1							90.9	27.5	3.31	0.08	11.74	0.01	0.01	24.93	0
Colmo maggiore	17.73	15.15	157102	68217	2.3										0	11.84	0	0	0.01	0

Dettaglio delle resistenze di piano a taglio (per valutazione punto F)

Livello			Capacità/Domanda in X				Capacità/Domanda in Y			
Descr	Q	Comb	VrdX	VedX	Rd/Ed	VrdY	VedY	Rd/Ed		
Rialzato	1.59	SLD 1	1309744	-155597	8.4	887474	-47287		18.8	
Rialzato	1.59	SLD 2	1309795	-155597	8.4	887482	-47287		18.8	
Rialzato	1.59	SLD 3	1311900	-155645	8.4	881556	48026		18.4	
Rialzato	1.59	SLD 4	1311855	-155645	8.4	881564	48026		18.4	
Rialzato	1.59	SLD 5	1308175	-46615	28.1	892542	-158746		5.6	
Rialzato	1.59	SLD 6	1308346	-46615	28.1	892528	-158746		5.6	
Rialzato	1.59	SLD 7	1315669	-46776	28.1	872621	158963		5.5	
Rialzato	1.59	SLD 8	1315714	-46776	28.1	872607	158963		5.5	
Rialzato	1.59	SLD 9	1307115	46749	28	892580	-158970		5.6	
Rialzato	1.59	SLD 10	1307093	46749	28	892565	-158970		5.6	
Rialzato	1.59	SLD 11	1314877	46588	28.2	872659	158739		5.5	
Rialzato	1.59	SLD 12	1314922	46588	28.2	872645	158739		5.5	
Rialzato	1.59	SLD 13	1307214	155617	8.4	887348	-48033		18.5	
Rialzato	1.59	SLD 14	1307230	155617	8.4	887292	-48033		18.5	
Rialzato	1.59	SLD 15	1310422	155569	8.4	881683	47279		18.6	
Rialzato	1.59	SLD 16	1310585	155569	8.4	881626	47279		18.6	
Rialzato	1.59	SLV 1	1305875	-242875	5.4	891843	-76497		11.7	
Rialzato	1.59	SLV 2	1306199	-242875	5.4	891856	-76497		11.7	
Rialzato	1.59	SLV 3	1309537	-242960	5.4	882253	77612		11.4	
Rialzato	1.59	SLV 4	1309466	-242960	5.4	882266	77612		11.4	
Rialzato	1.59	SLV 5	1300970	-72742	17.9	893921	-256684		3.5	
Rialzato	1.59	SLV 6	1301277	-72742	17.9	893861	-256684		3.5	
Rialzato	1.59	SLV 7	1287662	-73028	17.6	864869	257014		3.4	
Rialzato	1.59	SLV 8	1290121	-73028	17.7	864846	257014		3.4	
Rialzato	1.59	SLV 9	1296091	73000	17.8	892890	-257021		3.5	
Rialzato	1.59	SLV 10	1295656	73000	17.7	892861	-257021		3.5	
Rialzato	1.59	SLV 11	1299544	72715	17.9	862641	256677		3.4	
Rialzato	1.59	SLV 12	1290253	72715	17.7	862585	256677		3.4	



Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	Rd/Ed	VrdY	VedY	Rd/Ed
Rialzato	1.59	SLV 13	1304376	242933	5.4	891363	-77619	11.5
Rialzato	1.59	SLV 14	1304421	242933	5.4	891275	-77619	11.5
Rialzato	1.59	SLV 15	1308629	242847	5.4	882189	76490	11.5
Rialzato	1.59	SLV 16	1309592	242847	5.4	882100	76490	11.5
Primo	5	SLD 1	924181	-131843	7	574629	-40001	14.4
Primo	5	SLD 2	924289	-131843	7	574690	-40001	14.4
Primo	5	SLD 3	924908	-131805	7	573835	42193	13.6
Primo	5	SLD 4	924908	-131805	7	573895	42193	13.6
Primo	5	SLD 5	920367	-39607	23.2	574224	-136663	4.2
Primo	5	SLD 6	920376	-39607	23.2	574264	-136663	4.2
Primo	5	SLD 7	924908	-39481	23.4	571393	137316	4.2
Primo	5	SLD 8	924908	-39481	23.4	571438	137316	4.2
Primo	5	SLD 9	920517	39490	23.3	573109	-137323	4.2
Primo	5	SLD 10	920526	39490	23.3	573171	-137323	4.2
Primo	5	SLD 11	924908	39616	23.3	570614	136656	4.2
Primo	5	SLD 12	924908	39616	23.3	570680	136656	4.2
Primo	5	SLD 13	924874	131814	7	573104	-42200	13.6
Primo	5	SLD 14	924779	131814	7	573204	-42200	13.6
Primo	5	SLD 15	924908	131852	7	572393	39994	14.3
Primo	5	SLD 16	924908	131852	7	572492	39994	14.3
Primo	5	SLV 1	922894	-205990	4.5	575969	-64822	8.9
Primo	5	SLV 2	923064	-205990	4.5	576064	-64822	8.9
Primo	5	SLV 3	919674	-205905	4.5	574682	68247	8.4
Primo	5	SLV 4	913291	-205905	4.4	574776	68247	8.4
Primo	5	SLV 5	915596	-61921	14.8	575367	-221270	2.6
Primo	5	SLV 6	915610	-61921	14.8	575431	-221270	2.6
Primo	5	SLV 7	922095	-61641	15	570414	222292	2.6
Primo	5	SLV 8	916861	-61641	14.9	570486	222292	2.6
Primo	5	SLV 9	915834	61650	14.9	573830	-222299	2.6
Primo	5	SLV 10	915848	61650	14.9	573929	-222299	2.6
Primo	5	SLV 11	921626	61931	14.9	569421	221263	2.6
Primo	5	SLV 12	918812	61931	14.8	569527	221263	2.6
Primo	5	SLV 13	923830	205915	4.5	574657	-68254	8.4
Primo	5	SLV 14	918084	205915	4.5	574813	-68254	8.4
Primo	5	SLV 15	924908	205999	4.5	573506	64815	8.8
Primo	5	SLV 16	924908	205999	4.5	573661	64815	8.9
Secondo	8.55	SLD 1	1021264	-104043	9.8	633353	-32956	19.2
Secondo	8.55	SLD 2	1021264	-104043	9.8	633356	-32956	19.2
Secondo	8.55	SLD 3	1021264	-103941	9.8	633769	33415	19
Secondo	8.55	SLD 4	1021264	-103941	9.8	633695	33415	19
Secondo	8.55	SLD 5	1023050	-31363	32.6	634520	-110551	5.7
Secondo	8.55	SLD 6	1023050	-31363	32.6	634521	-110551	5.7
Secondo	8.55	SLD 7	1023050	-31025	33	635962	110684	5.7
Secondo	8.55	SLD 8	1023050	-31025	33	635913	110684	5.7
Secondo	8.55	SLD 9	1023050	31035	33	635402	-110691	5.7
Secondo	8.55	SLD 10	1023050	31035	33	635404	-110691	5.7
Secondo	8.55	SLD 11	1023050	31373	32.6	636445	110544	5.8
Secondo	8.55	SLD 12	1023050	31373	32.6	636475	110544	5.8
Secondo	8.55	SLD 13	1023050	103951	9.8	637259	-33422	19.1
Secondo	8.55	SLD 14	1023050	103951	9.8	637218	-33422	19.1
Secondo	8.55	SLD 15	1023050	104053	9.8	637896	32948	19.4
Secondo	8.55	SLD 16	1023050	104053	9.8	637856	32948	19.4
Secondo	8.55	SLV 1	1018452	-162590	6.3	633125	-53417	11.9
Secondo	8.55	SLV 2	1010815	-162590	6.2	633045	-53417	11.9
Secondo	8.55	SLV 3	1011240	-162402	6.2	633840	54123	11.7
Secondo	8.55	SLV 4	1008871	-162402	6.2	633692	54123	11.7
Secondo	8.55	SLV 5	1021264	-49059	20.8	633070	-179130	3.5
Secondo	8.55	SLV 6	1021264	-49059	20.8	632473	-179130	3.5
Secondo	8.55	SLV 7	1019408	-48431	21	635750	179337	3.5
Secondo	8.55	SLV 8	1019408	-48431	21	635763	179337	3.5
Secondo	8.55	SLV 9	1023050	48441	21.1	634460	-179344	3.5
Secondo	8.55	SLV 10	1023050	48441	21.1	634463	-179344	3.5
Secondo	8.55	SLV 11	1019037	49069	20.8	635658	179123	3.5
Secondo	8.55	SLV 12	1015396	49069	20.7	635707	179123	3.5
Secondo	8.55	SLV 13	1023050	162411	6.3	638333	-54131	11.8
Secondo	8.55	SLV 14	1023050	162411	6.3	638270	-54131	11.8
Secondo	8.55	SLV 15	1023050	162600	6.3	638127	53410	11.9
Secondo	8.55	SLV 16	1015837	162600	6.2	638199	53410	11.9
Terzo	12.05	SLD 1	898646	-67711	13.3	551834	-20008	27.6
Terzo	12.05	SLD 2	898902	-67711	13.3	551794	-20008	27.6
Terzo	12.05	SLD 3	897581	-67648	13.3	551631	20082	27.5
Terzo	12.05	SLD 4	897603	-67648	13.3	551591	20082	27.5
Terzo	12.05	SLD 5	900366	-20406	44.1	552124	-66808	8.3
Terzo	12.05	SLD 6	900380	-20406	44.1	552097	-66808	8.3
Terzo	12.05	SLD 7	906174	-20196	44.9	551448	66825	8.3
Terzo	12.05	SLD 8	903062	-20196	44.7	551421	66825	8.3
Terzo	12.05	SLD 9	901376	20204	44.6	552175	-66833	8.3
Terzo	12.05	SLD 10	901391	20204	44.6	552149	-66833	8.3
Terzo	12.05	SLD 11	905727	20414	44.4	551499	66801	8.3
Terzo	12.05	SLD 12	905756	20414	44.4	551473	66801	8.3
Terzo	12.05	SLD 13	902183	67656	13.3	552006	-20089	27.5
Terzo	12.05	SLD 14	902206	67656	13.3	551965	-20089	27.5
Terzo	12.05	SLD 15	903396	67719	13.3	551803	20001	27.6
Terzo	12.05	SLD 16	903418	67719	13.3	551763	20001	27.6
Terzo	12.05	SLV 1	888263	-106286	8.4	551860	-32551	17
Terzo	12.05	SLV 2	881798	-106286	8.3	551797	-32551	17
Terzo	12.05	SLV 3	895278	-106145	8.4	551531	32626	16.9
Terzo	12.05	SLV 4	890489	-106145	8.4	551467	32626	16.9



Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	Rd/Ed	VrdY	VedY	Rd/Ed
Terzo	12.05	SLV 5	893826	-32095	27.8	552328	-108619	5.1
Terzo	12.05	SLV 6	894299	-32095	27.9	552285	-108619	5.1
Terzo	12.05	SLV 7	902867	-31628	28.5	550098	108636	5.1
Terzo	12.05	SLV 8	902914	-31628	28.5	550056	108636	5.1
Terzo	12.05	SLV 9	899970	31636	28.4	552409	-108643	5.1
Terzo	12.05	SLV 10	899993	31636	28.4	552366	-108643	5.1
Terzo	12.05	SLV 11	898446	32104	28	550179	108612	5.1
Terzo	12.05	SLV 12	898493	32104	28	550136	108612	5.1
Terzo	12.05	SLV 13	899491	106154	8.5	552129	-32633	16.9
Terzo	12.05	SLV 14	899526	106154	8.5	552066	-32633	16.9
Terzo	12.05	SLV 15	897043	106294	8.4	551800	32544	17
Terzo	12.05	SLV 16	900557	106294	8.5	551737	32544	17
Sottotetto	15.15	SLD 1	769221	-21717	35.4	466389	-7604	61.3
Sottotetto	15.15	SLD 2	764505	-21706	35.2	466402	-7602	61.3
Sottotetto	15.15	SLD 3	766296	-21732	35.3	466131	5128	90.9
Sottotetto	15.15	SLD 4	761580	-21721	35.1	466144	5130	90.9
Sottotetto	15.15	SLD 5	783175	-5827	134.4	463860	-22168	20.9
Sottotetto	15.15	SLD 6	783187	-5820	134.6	463878	-22167	20.9
Sottotetto	15.15	SLD 7	782225	-5878	133.1	445377	20272	22
Sottotetto	15.15	SLD 8	782237	-5871	133.2	445377	20273	22
Sottotetto	15.15	SLD 9	777750	7776	100	463819	-21921	21.2
Sottotetto	15.15	SLD 10	780878	7783	100.3	463837	-21920	21.2
Sottotetto	15.15	SLD 11	784862	7724	101.6	456554	20519	22.2
Sottotetto	15.15	SLD 12	784874	7732	101.5	456553	20521	22.2
Sottotetto	15.15	SLD 13	778939	23626	33	463141	-6778	68.3
Sottotetto	15.15	SLD 14	780788	23637	33	463168	-6776	68.4
Sottotetto	15.15	SLD 15	784077	23611	33.2	466121	5954	78.3
Sottotetto	15.15	SLD 16	784095	23621	33.2	466134	5956	78.3
Sottotetto	15.15	SLV 1	754715	-34757	21.7	466468	-11974	39
Sottotetto	15.15	SLV 2	744368	-34741	21.4	466489	-11972	39
Sottotetto	15.15	SLV 3	753772	-34719	21.7	452609	9013	50.2
Sottotetto	15.15	SLV 4	752366	-34702	21.7	452635	9015	50.2
Sottotetto	15.15	SLV 5	747964	-9822	76.2	453156	-36000	12.6
Sottotetto	15.15	SLV 6	761976	-9810	77.7	453185	-35999	12.6
Sottotetto	15.15	SLV 7	766219	-9694	79	421842	33957	12.4
Sottotetto	15.15	SLV 8	766238	-9683	79.1	421842	33959	12.4
Sottotetto	15.15	SLV 9	777413	11588	67.1	453093	-35607	12.7
Sottotetto	15.15	SLV 10	777432	11599	67	453122	-35605	12.7
Sottotetto	15.15	SLV 11	778995	11715	66.5	421897	34351	12.3
Sottotetto	15.15	SLV 12	779015	11727	66.4	421896	34352	12.3
Sottotetto	15.15	SLV 13	769886	36607	21	463263	-10663	43.4
Sottotetto	15.15	SLV 14	774790	36624	21.2	463306	-10661	43.5
Sottotetto	15.15	SLV 15	772134	36645	21.1	466034	10324	45.1
Sottotetto	15.15	SLV 16	777231	36662	21.2	466055	10326	45.1

1.2 Verifiche travate C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

N*: indice progressivo della sezione.

Descrizione: descrizione della sezione.

Tipo: tipo di sezione.

Base: base della sezione. [m]

Altezza: altezza della sezione. [m]

Copriferro sup.: distanza del bordo della staffa dalla superficie superiore del getto. [m]

Copriferro inf.: distanza del bordo della staffa dalla superficie inferiore del getto. [m]

Copriferro lat.: distanza del bordo della staffa dalle superfici laterali del getto. [m]

x: distanza da asse appoggio sinistro. [m]

A sup.: area efficace di armatura longitudinale superiore. [m²]

C.b. sup.: distanza dal bordo del baricentro dell'armatura longitudinale superiore. [m]

A inf.: area efficace di armatura longitudinale inferiore. [m²]

C.b. inf.: distanza dal bordo del baricentro dell'armatura longitudinale inferiore. [m]

M+ela: momento flettente desunto dal solutore che tende le fibre inferiori. [daN*m]

Comb.: combinazione.

M+des: momento flettente di progetto che tende le fibre inferiori. [daN*m]

M+ult: momento ultimo per trazione delle fibre inferiori. [daN*m]

x/d: rapporto tra posizione asse neutro e altezza utile.

coeff: coefficiente di sicurezza.

M-ela: momento flettente desunto dal solutore che tende le fibre superiori. [daN*m]

M-des: momento flettente di progetto che tende le fibre superiori. [daN*m]

M-ult: momento ultimo per trazione delle fibre superiori. [daN*m]

Verifica: stato di verifica.

A st: area di staffe per unità di lunghezza. [m²]

A sl: area di armatura longitudinale tesa per valutazione resistenza taglio in assenza di armature a taglio. [m²]

A sag: area equivalente di barre piegate per unità di lunghezza. [m²]

Vela: taglio elastico. [daN]

Vdes: taglio di progetto. [daN]



Vrd: resistenza a taglio della sezione senza armature. [daN]
Vrcd: sforzo di taglio che produce il cedimento delle bielle. [daN]
Vrsd: resistenza a taglio per la presenza delle armature. [daN]
Vult: taglio ultimo. [daN]
cotgθ: cotg dell'angolo di inclinazione dei puntoni in calcestruzzo.
Rara: famiglia di combinazione di verifica.
Mela: momento elastico. [daN*m]
Mdes: momento di progetto. [daN*m]
σ c: tensione di compressione nel calcestruzzo. [daN/m²]
σ c lim.: tensione limite di compressione nel calcestruzzo. [daN/m²]
σ f.: tensione di trazione nell'acciaio. [daN/m²]
σ f lim.: tensione limite di trazione nell'acciaio. [daN/m²]
σ c limite: tensione di compressione limite nel calcestruzzo. [daN/m²]
σ f: tensione di trazione nell'acciaio. [daN/m²]
σ f limite: tensione di trazione limite nell'acciaio. [daN/m²]
Quasi permanente: famiglia di combinazione di verifica.
σ FRP: tensione di trazione nell'FRP. [daN/m²]
σ FRP lim.: tensione limite di trazione nell'FRP. [daN/m²]
Bordo: bordo interessato dalla fessura.
Rara: famiglia di combinazione per verifica inferiore.
Dmax: distanza massima tra le fessure. [m]
Esm: dilatazione media delle barre di armatura.
Wd: valore di calcolo di apertura delle fessure. [m]
Comb: combinazione.
Frequente: famiglia di combinazione per verifica inferiore.
Quasi permanente: famiglia di combinazione per verifica inferiore.
d: altezza utile. [m]
Af: area di armatura inferiore per unità di lunghezza. [m]
M: momento flettente. [daN*m/m]
Mult: momento ultimo. [daN*m/m]
V: sforzo di taglio. [daN/m]
Vult: sforzo di taglio ultimo. [daN/m]
Af: area di armatura. [m²]
Size X: misura dell'impronta al suolo lungo X. [m]
Size Y: misura dell'impronta al suolo lungo Y. [m]
Sis.: indicazione combinazione sismica.
Cnd: indicazione condizione di carico (BT breve termine o LT lungo termine).
Fx: componente orizzontale del carico lungo x. [daN]
Fy: componente orizzontale del carico lungo y. [daN]
Fz: componente verticale del carico. [daN]
IncX: inclinazione del carico lungo x. [deg]
IncY: inclinazione del carico lungo y. [deg]
Phi: angolo di attrito di progetto. [deg]
Ad: adesione di progetto. [daN/m²]
RP: resistenza passiva laterale unitaria di progetto. [daN/m]
γR: coefficiente parziale sulla resistenza di progetto.
Rd: resistenza di progetto. [daN]
Ed: azione di progetto. [daN]
Rd/Ed: coefficiente di sicurezza allo scorrimento.
Aste: numero delle aste del tratto in verifica.
Size X: misura dell'impronta al suolo lungo la direzione X locale. [m]
Size Y: misura dell'impronta al suolo lungo la direzione Y locale. [m]
Type: indicazione del tipo di combinazione statica o sismica.
Cond: indicazione della condizione di carico (BT breve termine o LT lungo termine).
Rd/Ed: coefficiente di sicurezza alla capacità portante.
Mx: momento risultante agente attorno x. [daN*m]
My: momento risultante agente attorno y. [daN*m]
Inc.x: inclinazione del carico lungo x. [deg]
Inc.y: inclinazione del carico lungo y. [deg]
Ecc.x: eccentricità del carico lungo x. [m]
Ecc.y: eccentricità del carico lungo y. [m]
B': larghezza efficace. [m]
L': lunghezza efficace. [m]
qd: sovraccarico di progetto. [daN/m²]
γs: peso specifico di progetto del suolo. [daN/m³]
Fi: angolo di attrito di progetto. [deg]
Coes: coesione di progetto. [daN/m²]
Amax: accelerazione normalizzata max al suolo.
N:
Nq: fattore di capacità portante per il termine di sovraccarico.
Nc: fattore di capacità portante per il termine coesivo.
Ng: fattore di capacità portante per il termine attritivo.



S:

Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.

Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.

Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.

D:

Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.

Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.

Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.

I:

Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.

Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.

Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.

B:

Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.

Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.

Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.

G:

Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.

Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.

Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.

P:

Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.

Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.

Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.

E:

Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.

Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.

Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.

Tipo: tipologia di cedimento considerato (E = elastico, D = edometrico, Z = consolidazione primaria).

Assoluto: cedimento assoluto massimo.

Sa adm: cedimento assoluto ammissibile. [m]

Sa: cedimento assoluto massimo. [m]

Nodo: nodo dove avviene il cedimento assoluto massimo.

Differenziale: cedimento differenziale massimo.

Sd adm: cedimento differenziale ammissibile. [m]

Sd: cedimento differenziale massimo. [m]

Nodo I: nodo dove avviene il cedimento differenziale massimo.

Nodo j: nodo dove avviene il cedimento differenziale massimo.

Relativo: cedimento relativo massimo.

Sr adm: cedimento relativo ammissibile. [m]

Sr: cedimento relativo massimo. [m]

Nodo: nodo dove avviene il cedimento relativo massimo.

Rapp. inflessione: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).

RI adm: rapporto di inflessione ammissibile.

RI: rapporto di inflessione (cedimento relativo max su lunghezza complessiva tratta).

Rotazione rigida: rotazione rigida valutata tra primo ed ultimo punto.

RR adm: rotazione rigida ammissibile. [deg]

RR: rotazione rigida massima (tra primo ed ultimo punto). [deg]

Rotazione assoluta: rotazione assoluta dei singoli tratti.

R Adm: rotazione assoluta ammissibile. [deg]

R Max: rotazione assoluta massima. [deg]

Nodo I: dal nodo.

Nodo J: al nodo.

Distorsione angolare positiva: distorsione angolare positiva (concavità verso l'alto).

D+ adm: distorsione angolare ammissibile. [deg]

D+: distorsione angolare massima positiva (concavità verso l'alto). [deg]

Nodo: nodo dove avviene la distorsione angolare massima positiva (concavità verso l'alto).

Distorsione angolare negativa: distorsione angolare negativa (concavità verso il basso).

D- adm: distorsione angolare ammissibile. [deg]

D-: distorsione angolare massima negativa (concavità verso il basso). [deg]

Nodo: nodo dove avviene la distorsione angolare massima negativa (concavità verso il basso).

Frequente: famiglia di combinazione di verifica.

Ascissa: ascissa sezione di verifica. [m]

Lv: luce di taglio considerata. [m]

x: altezza della zona compressa della sezione. [m]

h: altezza totale della sezione. [m]

p,tot: percentuale geometrica totale di armatura longitudinale.

θ,m: rotazione massima per la combinazione considerata.

θ,y: rotazione di prima plasticizzazione.

μΔ,pI: parte plastica della domanda di duttilità.

Vrd: resistenza a taglio del calcestruzzo non staffato per la verifica nella direzione considerata. [daN]

VRcd(cotθ=1): resistenza a taglio delle bielle compresse per la verifica nella direzione considerata considerando il valore di cotθ unitario. [daN]



VRsd: resistenza a taglio delle staffe per la verifica nella direzione considerata. [daN]

Vw: contributo dell'armatura trasversale per la resistenza a taglio. [daN]

Vr: resistenza a taglio in condizioni cicliche (formula [C8.7.2.8]). [daN]

Vu: resistenza a taglio in condizioni sismiche. [daN]

Ved: sollecitazione tagliente. [daN]

Ned: sollecitazione di sforzo normale. [daN]

Comb.: combinazione di verifica.

x: ascissa relativa. [m]

taglio negativo: valori per taglio negativo.

contr. grav.: contributo azioni gravitazionali. [daN]

contr. mom. res.: contributo dei momenti resistenti. [daN]

taglio positivo: valori per taglio positivo.

campata: campata.

appoggio: appoggio.

momento positivo: momento resistente positivo. [daN*m]

momento negativo: momento resistente negativo. [daN*m]

CORDOLO 1

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

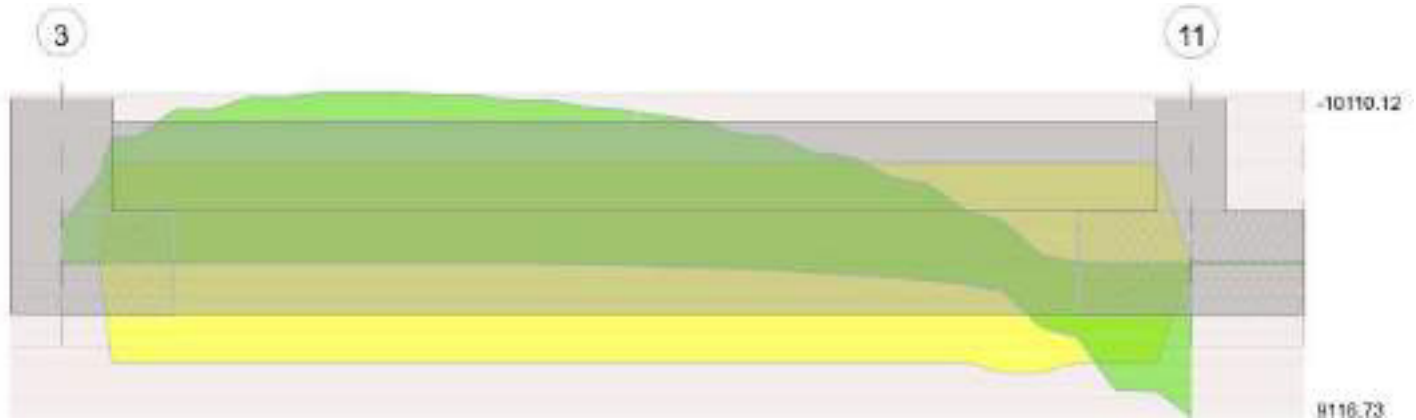


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 3 - 11, sezione R 70x45, aste 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.23	0.41	0.0003	4968	SLV FO 8	0.119	5173	12820	SLV FO 8	15877	Si
2.49	0.41	0.0003	3476	SLV FO 8	0.119	5173	8970	SLV FO 8	15877	Si
4.83	0.41	0.0003	4101	SLV FO 8	0.119	5173	10583	SLV FO 8	15877	Si
4.98	0.41	0.0003	4142	SLV FO 8	0.119	5173	10688	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4039	SLD 8	0.098	6001	10423	SLD 8	15877	Si
0.23	0.41	0.0003	3829	SLD 8	0.098	6001	9882	SLD 8	15877	Si
2.49	0.41	0.0003	2702	SLD 8	0.098	6001	6972	SLD 8	15877	Si
4.83	0.41	0.0003	3219	SLD 8	0.098	6001	8306	SLD 8	15877	Si
4.98	0.41	0.0003	3250	SLD 8	0.098	6001	8386	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica	
x	d	Af		M	Comb	σ_c	σ_c limite	σ_f	σ_f limite	M	Comb	σ_c	σ_c limite	
0	0.41	0.00000338		2724	SLE RA 20	77150	1494000	956663	36000000	2473	SLE QP 2	70050	1120500	Si
0.23	0.41	0.00000338		2584	SLE RA 20	73197	1494000	907648	36000000	2346	SLE QP 2	66431	1120500	Si
2.49	0.41	0.00000338		1877	SLE RA 20	53160	1494000	659189	36000000	1696	SLE QP 2	48026	1120500	Si
4.83	0.41	0.00000338		2300	SLE RA 20	65131	1494000	807627	36000000	2076	SLE QP 2	58784	1120500	Si
4.98	0.41	0.00000338		2320	SLE RA 20	65721	1494000	814939	36000000	2094	SLE QP 2	59312	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.21	1.3	SLU 2	ST	LT	479	-479	-48810	1	-1	19	0	0	1.1	14847	677	21.92	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
253,254,255,256,257,258,259,260,261,262,263,264,265,266					5.21	1.3	SLU 83	ST	BT	2.3	230057	78752	2.92	Si
253,254,255,256,257,258,259,260,261,262,263,264,265,266					5.21	1.3	SLD 8	SIS	BT	2.3	206245	78061	2.64	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd



Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-336	-78752	-8943.19	-2418.71	0	0	-0.03	-0.11	1.07	5.15	1496	2060	0	14430	
0	-9264	-10344	4732.99	3854.08	0	-42	0.37	0.46	0.38	4.46	1496	2060	37	0	0.07
0	4844	-78061	-11972.16	-4938.07	0	4	-0.06	-0.15	0.99	5.08	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.06	1.07	0.97	1.14	1.23	1	0.01	0	0	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

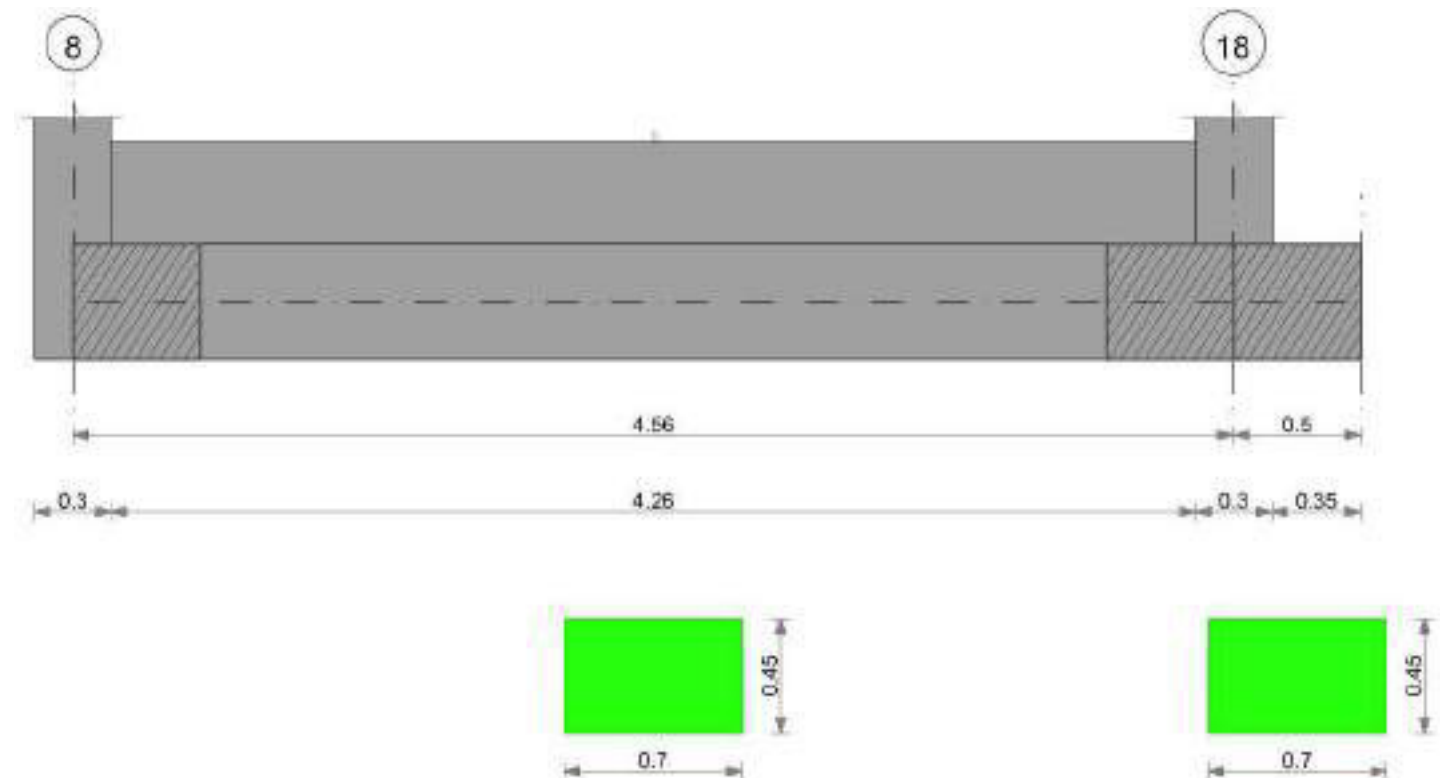
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.001	983	SLE RA 20	0.05	0.001	983	969	SLE RA 20	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	983	SLE RA 1	0.05	0	983	983	SLE RA 1	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	983	SLE RA 1	0.05	0	983	983	SLE RA 1	0.05	0	983	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	983	969	SLE RA 20	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	983	969	SLE RA 1	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	983	969	SLE RA 1	0.19	0	983	SLE RA 1	0.1	0	983	SLE RA 1	Si

CORDOLO 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

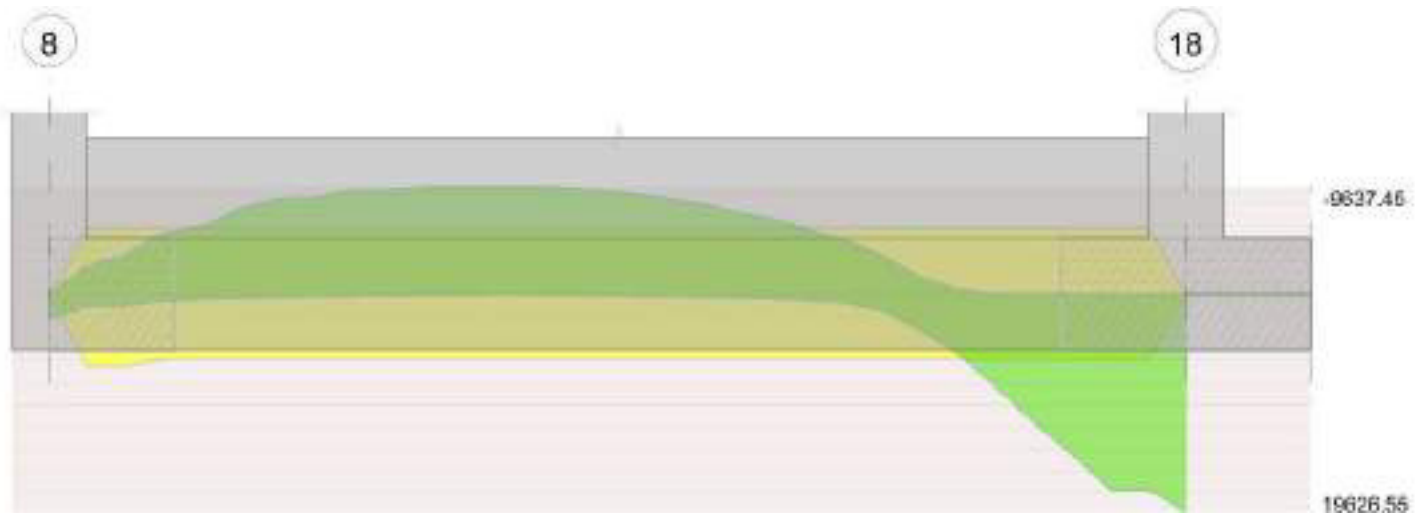
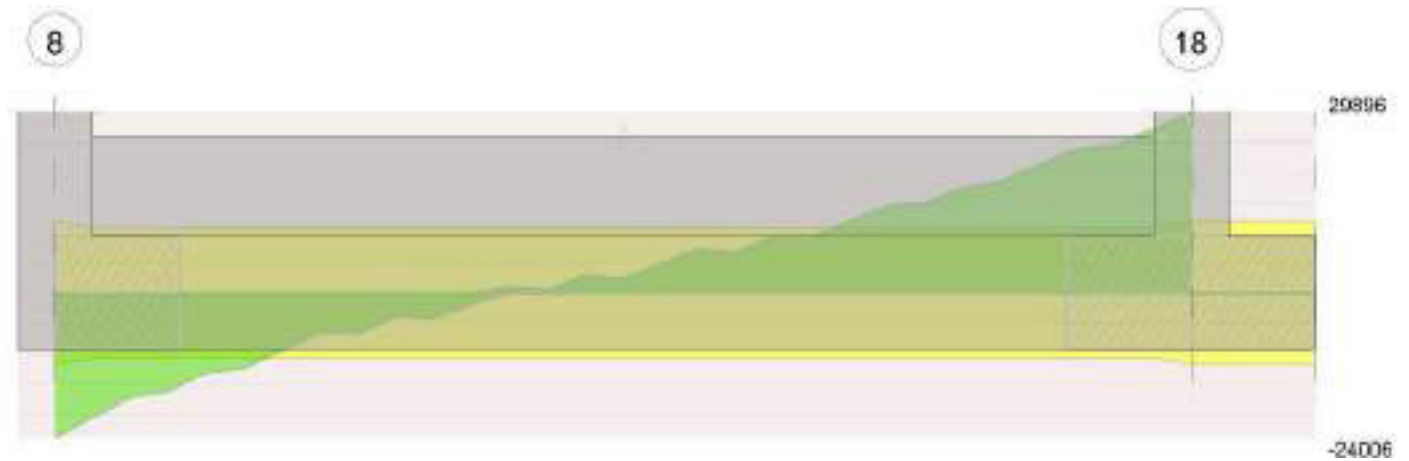


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 8 - 18, sezione R 70x45, aste 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	5038	SLV FO 8	0.145	7759	13002	SLV FO 8	15877	Si
0.15	0.41	0.0005	4903	SLV FO 8	0.145	7759	12652	SLV FO 8	15877	Si
2.28	0.41	0.0005	3698	SLV FO 8	0.145	7759	9542	SLV FO 8	15877	Si
4.41	0.41	0.0005	4000	SLV FO 8	0.145	7759	10323	SLV FO 8	15877	Si
4.56	0.41	0.0005	3972	SLV FO 8	0.145	7759	10250	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	3885	SLD 8	0.12	9019	10027	SLD 8	15877	Si
0.15	0.41	0.0005	3782	SLD 8	0.12	9019	9760	SLD 8	15877	Si
2.28	0.41	0.0005	2866	SLD 8	0.12	9019	7396	SLD 8	15877	Si
4.41	0.41	0.0005	3112	SLD 8	0.12	9019	8032	SLD 8	15877	Si
4.56	0.41	0.0005	3088	SLD 8	0.12	9019	7969	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	$\sigma_{climite}$	σ_f	$\sigma_{flimite}$	M	Comb	σ_c	$\sigma_{climite}$	
0	0.41	0.00000512	2649	SLE RA 20	73349	1494000	909524	36000000	2393	SLE QP 2	66269	1120500	Si
0.15	0.41	0.00000512	2581	SLE RA 20	71472	1494000	886258	36000000	2332	SLE QP 2	64563	1120500	Si
2.28	0.41	0.00000512	1990	SLE RA 20	55111	1494000	683371	36000000	1793	SLE QP 2	49645	1120500	Si
4.41	0.41	0.00000512	2187	SLE RA 20	60559	1494000	750933	36000000	1969	SLE QP 2	54515	1120500	Si
4.56	0.41	0.00000512	2166	SLE RA 20	59976	1494000	743708	36000000	1949	SLE QP 2	53983	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.71	1.3	SLU 2	ST	LT	312	-166	-45057	0	0	19	0	0	1.1	13705	353	38.8	Si



Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	γ_R	Rd	Ed	Rd/Ed	Verifica
527,528,529,530,531,532,533,534,535,536,537,538	4.71	1.3	SLU 83	ST	BT	2.3	224321	73432	3.05	SI
527,528,529,530,531,532,533,534,535,536,537,538	4.71	1.3	SLD 8	SIS	BT	2.3	204355	72825	2.81	SI

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	γ_s	Fi	Coes	Amax
0	64	-73432	-5367.55	-2767.66	0	0	-0.04	-0.07	1.15	4.63	1496	2060	0	14430	
0	-7215	-8833	4399.17	2126.38	0	-39	0.24	0.5	0.3	4.23	1496	2060	37	0	0.07
0	4124	-72825	-8044.28	-4181.57	0	3	-0.06	-0.11	1.08	4.6	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.05	1.06	0.97	1.14	1.23	1	0.04	0.01	0.01	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.05	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

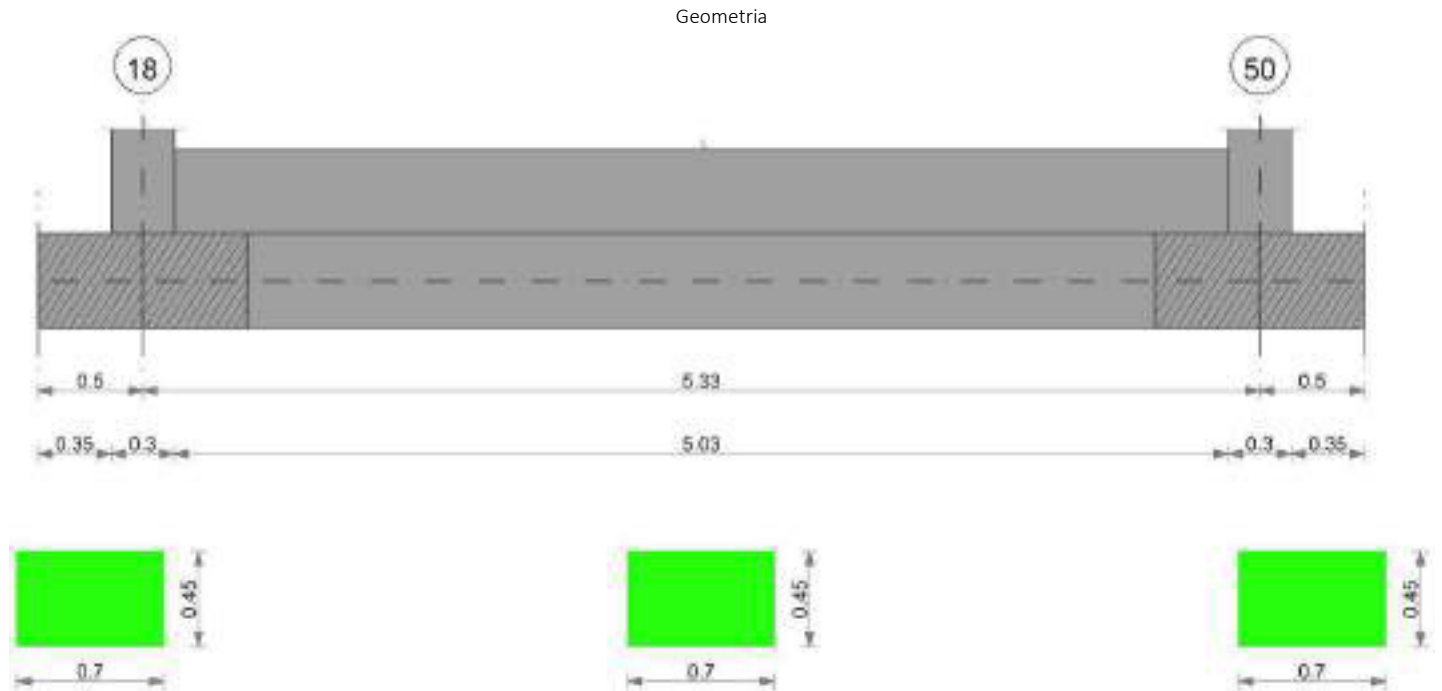
Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0	1067	SLE RA 20	0.05	0	1067	1055	SLE RA 20	0.05	0	1067	SLE RA 1	0.0033	0	SLE RA 1	SI
D	0.05	0	1067	SLE RA 1	0.05	0	1067	1067	SLE RA 1	0.05	0	1067	SLE RA 1	0.0033	0	SLE RA 1	SI
Z	0.05	0	1067	SLE RA 1	0.05	0	1067	1067	SLE RA 1	0.05	0	1067	SLE RA 1	0.0033	0	SLE RA 1	SI

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.
E	0.19	0	SLE RA 20	0.19	0	1067	1055	SLE RA 20	0.19	0	1067	SLE RA 1	0.1	0	1067	SLE RA 1
D	0.19	0	SLE RA 1	0.19	0	1067	1055	SLE RA 1	0.19	0	1067	SLE RA 1	0.1	0	1067	SLE RA 1
Z	0.19	0	SLE RA 1	0.19	0	1067	1055	SLE RA 1	0.19	0	1067	SLE RA 1	0.1	0	1067	SLE RA 1

CORDOLO 3



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

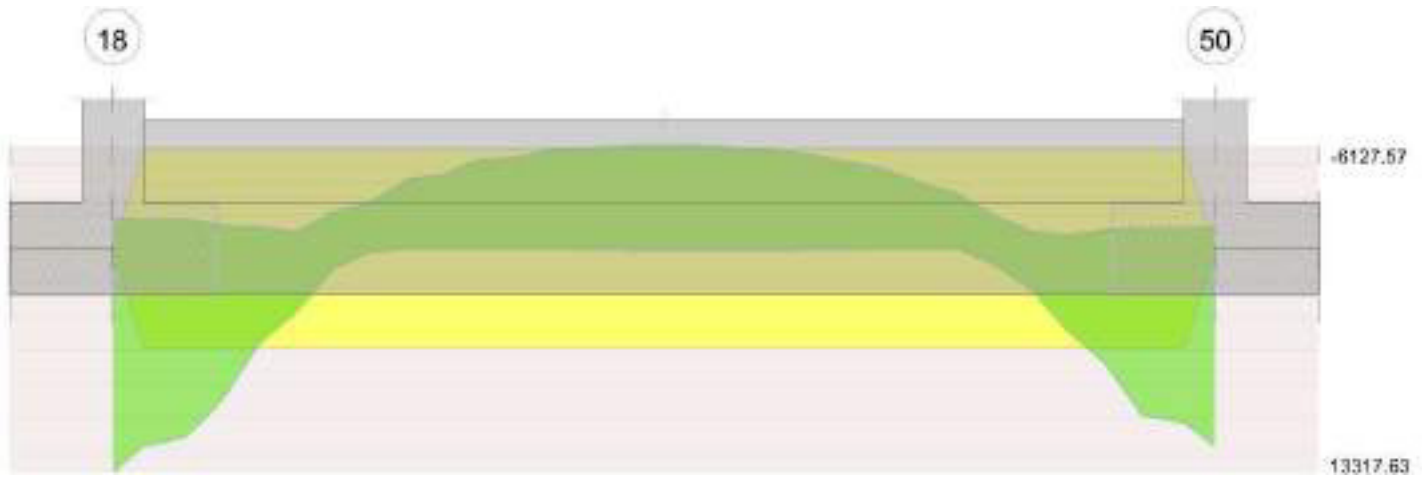
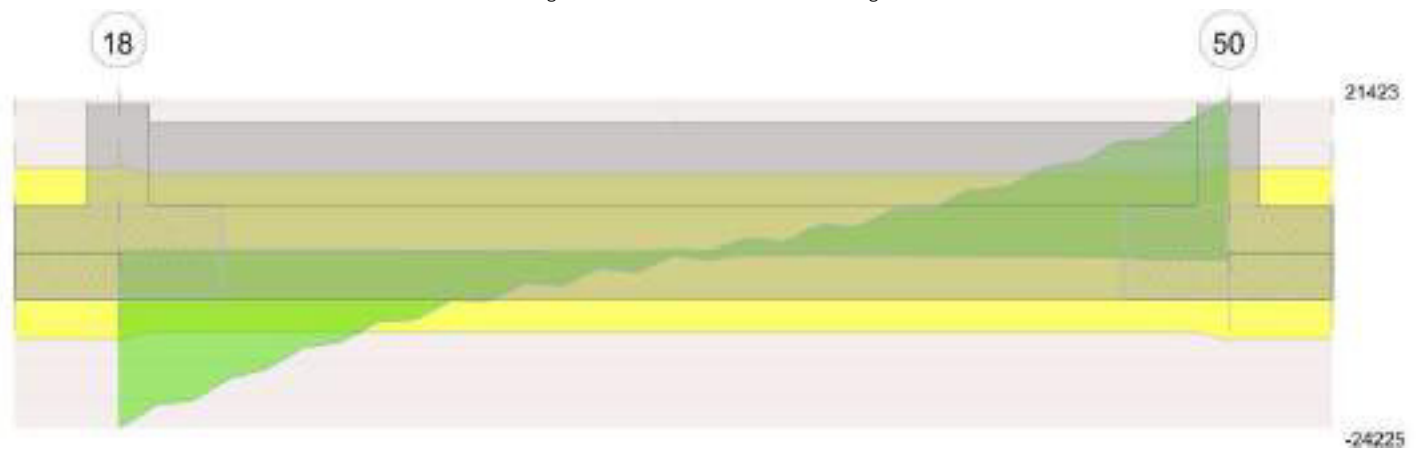


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 18 - 50, sezione R 70x45, aste 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.66	0.41	0.0003	3005	SLV FO 12	0.104	3925	7755	SLV FO 12	15877	Si
5.18	0.41	0.0003	3513	SLV FO 11	0.104	3925	9065	SLV FO 11	15877	Si
5.33	0.41	0.0003	3524	SLV FO 11	0.104	3925	9095	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3088	SLD 8	0.085	4549	7969	SLD 8	15877	Si
0.15	0.41	0.0003	3060	SLD 8	0.085	4549	7897	SLD 8	15877	Si
2.66	0.41	0.0003	2327	SLD 12	0.085	4549	6005	SLD 12	15877	Si
5.18	0.41	0.0003	2705	SLD 11	0.085	4549	6981	SLD 11	15877	Si
5.33	0.41	0.0003	2714	SLD 11	0.085	4549	7005	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	$\sigma_{climite}$	σ_f	$\sigma_{flimite}$	M	Comb	σ_c	$\sigma_{climite}$	
0	0.41	0.00000255	2166	SLE RA 20	62017	1494000	769014	36000000	1949	SLE QP 2	55819	1120500	Si
0.15	0.41	0.00000255	2142	SLE RA 20	61336	1494000	760565	36000000	1928	SLE QP 2	55197	1120500	Si
2.66	0.41	0.00000255	1621	SLE RA 20	46414	1494000	575532	36000000	1455	SLE QP 2	41648	1120500	Si
5.18	0.41	0.00000255	1851	SLE RA 20	53004	1494000	657254	36000000	1663	SLE QP 2	47629	1120500	Si
5.33	0.41	0.00000255	1858	SLE RA 20	53188	1494000	659530	36000000	1669	SLE QP 2	47799	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.33	1.3	SLU 2	ST	LT	37	-1090	-45312	0	-1	19	0	0	1.1	13783	1091	12.63	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
579,580,581,582,583,584,585,586,587,588,589,590,591,592,593					5.33	1.3	SLU 83	ST	BT	2.3	240373	73730	3.26	Si
579,580,581,582,583,584,585,586,587,588,589,590,591,592,593					5.33	1.3	SLD 7	SIS	BT	2.3	220581	71792	3.07	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd



Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-1290	-73730	-7028.42	-4232.24	0	-1	-0.06	-0.1	1.11	5.22	1496	2060	0	14430	
0	-8841	-10899	3982.24	-3917.99	0	-39	-0.36	0.37	0.57	4.61	1496	2060	37	0	0.07
0	3649	-71792	-9434.08	-5597.43	0	3	-0.08	-0.13	1.04	5.17	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.09	1.1	0.95	1.14	1.23	1	0.04	0.02	0.01	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

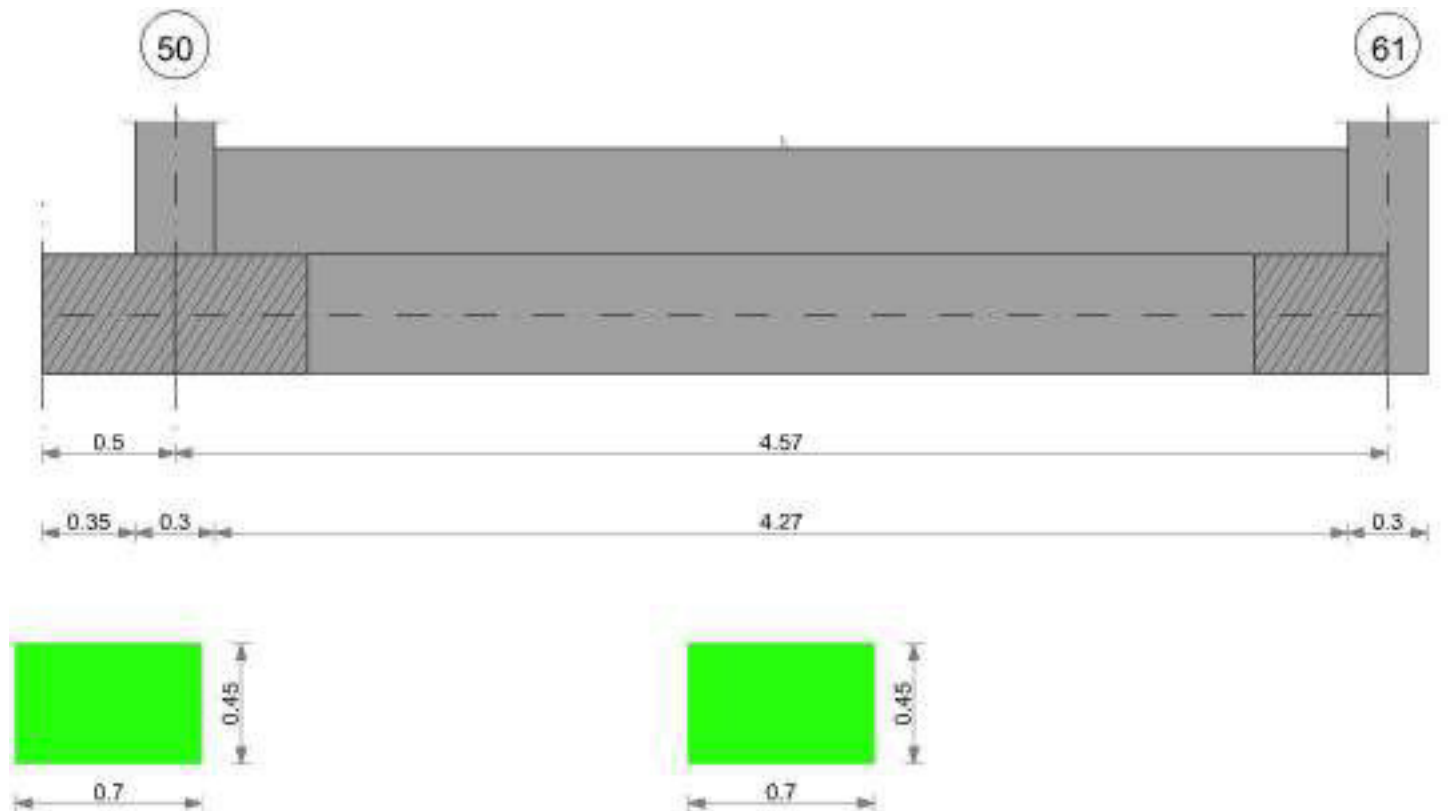
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	1067	SLE RA 20	0.05	0	1067	1082	SLE RA 20	0.05	0	1082	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1082	SLE RA 1	0.05	0	1082	1082	SLE RA 1	0.05	0	1082	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1082	SLE RA 1	0.05	0	1082	1082	SLE RA 1	0.05	0	1082	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	1082	1067	SLE RA 20	0.19	0	1082	SLE RA 1	0.1	0	1082	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1082	1067	SLE RA 1	0.19	0	1082	SLE RA 1	0.1	0	1082	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1082	1067	SLE RA 1	0.19	0	1082	SLE RA 1	0.1	0	1082	SLE RA 1	Si

CORDOLO 4

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 50 - 61, sezione R 70x45, aste 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3524	SLV FO 11	0.119	5219	9095	SLV FO 11	15877	Si
0.15	0.41	0.0003	3532	SLV FO 11	0.119	5219	9116	SLV FO 11	15877	Si
2.29	0.41	0.0003	3305	SLV FO 11	0.119	5219	8530	SLV FO 11	15877	Si
4.42	0.41	0.0003	4649	SLV FO 11	0.119	5219	11998	SLV FO 11	15877	Si
4.57	0.41	0.0003	4812	SLV FO 11	0.119	5219	12419	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	2714	SLD 11	0.098	6055	7005	SLD 11	15877	Si
0.15	0.41	0.0003	2721	SLD 11	0.098	6055	7021	SLD 11	15877	Si
2.29	0.41	0.0003	2541	SLD 11	0.098	6055	6558	SLD 11	15877	Si
4.42	0.41	0.0003	3565	SLD 11	0.098	6055	9199	SLD 11	15877	Si
4.57	0.41	0.0003	3689	SLD 11	0.098	6055	9520	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	M	Comb	σc	$\sigma c \text{ limite}$	
0	0.41	0.00000341	1858	SLE RA 20	52589	1494000	652109	36000000	1669	SLE QP 2	47261	1120500	Si
0.15	0.41	0.00000341	1862	SLE RA 20	52713	1494000	653647	36000000	1673	SLE QP 2	47376	1120500	Si
2.29	0.41	0.00000341	1728	SLE RA 20	48922	1494000	606628	36000000	1554	SLE QP 2	43995	1120500	Si
4.42	0.41	0.00000341	2399	SLE RA 20	67921	1494000	842215	36000000	2162	SLE QP 2	61222	1120500	Si
4.57	0.41	0.00000341	2480	SLE RA 20	70221	1494000	870738	36000000	2236	SLE QP 2	63303	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.72	1.3	SLU 2	ST	LT	-377	-897	-38814	-1	-1	19	0	0	1.1	11806	974	12.13	Si

Verifiche geotecniche di capacità portante sul piano di posa



Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
594,595,596,597,598,599,600,601,602,603,604	4.72	1.3	SLU 83	ST	BT	2.3	222831	63015	3.54	Si
594,595,596,597,598,599,600,601,602,603,604	4.72	1.3	SLD 11	SIS	BT	2.3	204576	63098	3.24	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-1116	-63015	-4395.56	4047.33	0	-1	0.06	-0.07	1.16	4.59	1496	2060	0	14430	
0	-7405	-6820	3990.41	-1684.25	0	-47	-0.25	0.59	0.13	4.23	1496	2060	37	0	0.07
0	2977	-63098	-6802.92	5193.11	0	3	0.08	-0.11	1.08	4.56	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.02	0.99	1.14	1.23	1	0	0	0	0	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.05	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

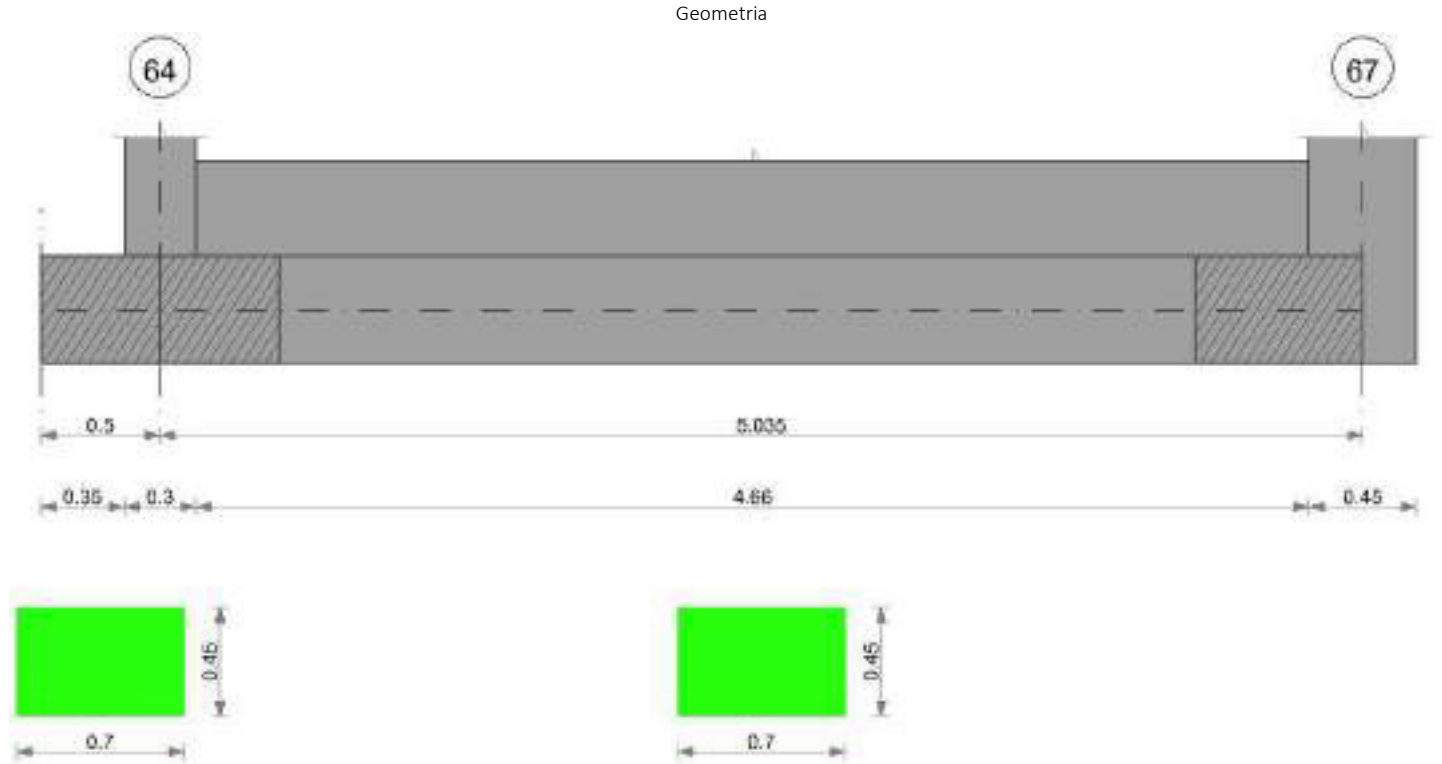
Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0	1082	SLE RA 20	0.05	0	1082	1093	SLE RA 20	0.05	0	1093	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1093	SLE RA 1	0.05	0	1093	1093	SLE RA 1	0.05	0	1093	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1093	SLE RA 1	0.05	0	1093	1093	SLE RA 1	0.05	0	1093	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica	
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	1093	1082	SLE RA 20	0.19	0	1093	SLE RA 1	0.1	0	1093	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1093	1082	SLE RA 1	0.19	0	1093	SLE RA 1	0.1	0	1093	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1093	1082	SLE RA 1	0.19	0	1093	SLE RA 1	0.1	0	1093	SLE RA 1	Si

CORDOLO 5



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 64 - 67, sezione R 70x45, aste 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4329	SLV FO 11	0.12	5267	11173	SLV FO 11	15877	Si
0.15	0.41	0.0003	4290	SLV FO 11	0.12	5267	11072	SLV FO 11	15877	Si
2.52	0.41	0.0003	3621	SLV FO 11	0.12	5267	9344	SLV FO 11	15877	Si
4.81	0.41	0.0003	5194	SLV FO 11	0.12	5267	13405	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3389	SLD 11	0.099	6111	8746	SLD 11	15877	Si
0.15	0.41	0.0003	3360	SLD 11	0.099	6111	8670	SLD 11	15877	Si
2.52	0.41	0.0003	2804	SLD 11	0.099	6111	7236	SLD 11	15877	Si
4.81	0.41	0.0003	3979	SLD 11	0.099	6111	10268	SLD 11	15877	Si
5.04	0.41	0.0003	4195	SLD 11	0.099	6111	10827	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

Rara				Quasi permanente				Verifica					
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000344	2411	SLE RA 20	68221	1494000	845944	36000000	2173	SLE QP 2	61490	1120500	Si
0.15	0.41	0.00000344	2392	SLE RA 20	67698	1494000	839454	36000000	2156	SLE QP 2	61023	1120500	Si
2.52	0.41	0.00000344	1935	SLE RA 20	54754	1494000	678951	36000000	1745	SLE QP 2	49385	1120500	Si
4.81	0.41	0.00000344	2650	SLE RA 20	74983	1494000	929790	36000000	2399	SLE QP 2	67891	1120500	Si
5.04	0.41	0.00000344	2791	SLE RA 20	78996	1494000	979546	36000000	2528	SLE QP 2	71553	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.26	1.3	SLU 5	ST	LT	-1139	-576	-48994	-1	-1	19	0	0	1.1	14903	1276	11.68	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
400,401,402,403,404,405,406,407,408,409,410,411,412				5.26	1.3	SLU 83	ST	BT	2.3	240584	77875	3.09	Si
400,401,402,403,404,405,406,407,408,409,410,411,412				5.26	1.3	SLD 11	SIS	BT	2.3	218109	77698	2.81	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd



Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-518	-77875	-7589.48	1258.54	0	0	0.02	-0.1	1.11	5.23	1496	2060	0	14430	
0	-8235	-9013	4534.46	-4635.51	0	-42	-0.51	0.5	0.29	4.23	1496	2060	37	0	0.07
0	4073	-77698	-10437.09	4118.55	0	3	0.05	-0.13	1.03	5.15	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.05	1.05	0.97	1.14	1.23	1	0.01	0	0	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

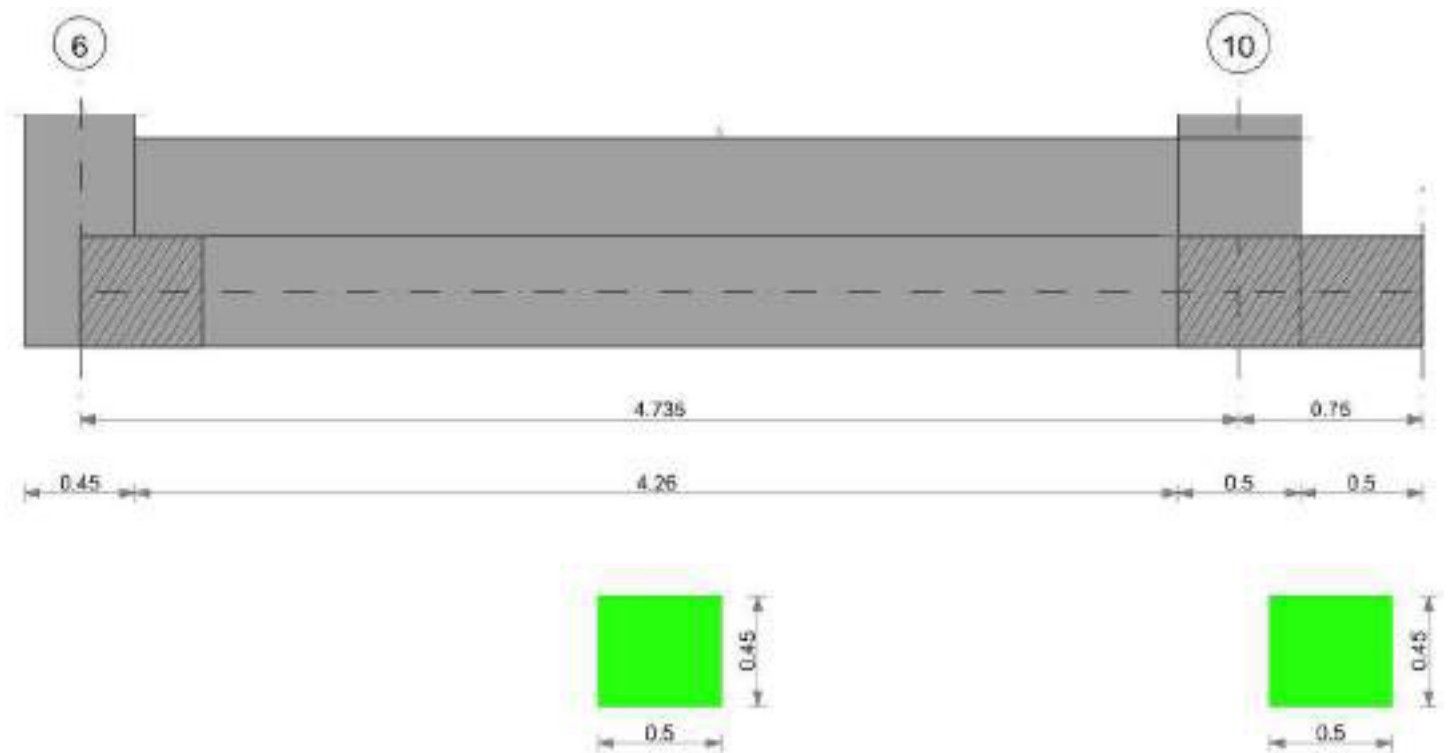
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	986	SLE RA 20	0.05	0	986	1000	SLE RA 20	0.05	0	1000	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	1000	SLE RA 1	0.05	0	1000	1000	SLE RA 1	0.05	0	1000	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	1000	SLE RA 1	0.05	0	1000	1000	SLE RA 1	0.05	0	1000	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0	1000	986	SLE RA 20	0.19	0	1000	SLE RA 1	0.1	0	1000	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	1000	986	SLE RA 1	0.19	0	1000	SLE RA 1	0.1	0	1000	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	1000	986	SLE RA 1	0.19	0	1000	SLE RA 1	0.1	0	1000	SLE RA 1	Si

CORDOLO 6

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

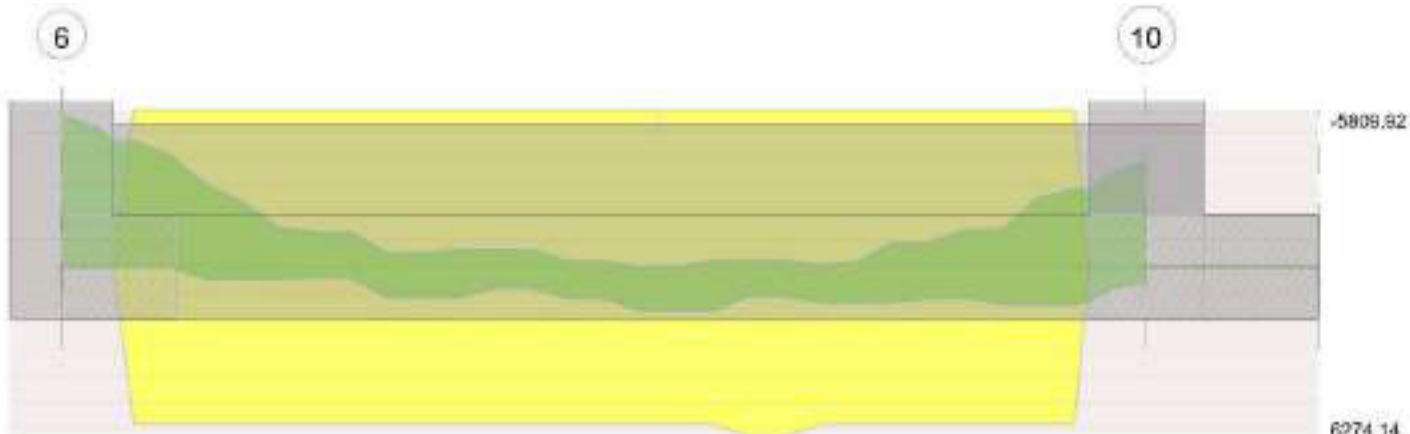
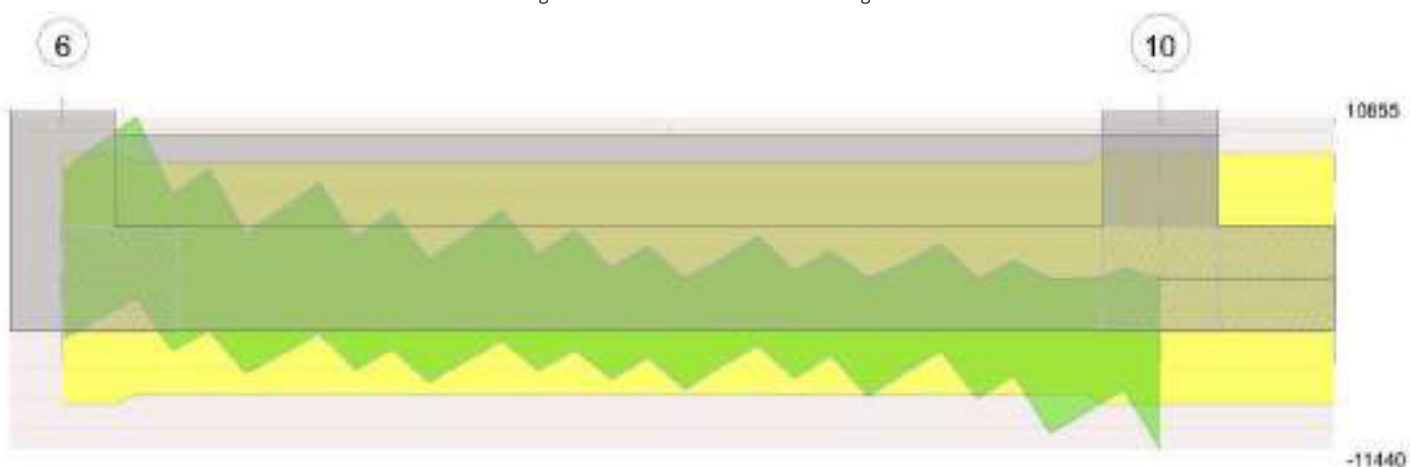


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 10, sezione R 50x45, aste 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2188	SLV FO 3	0.086	2676	7610	SLV FO 3	15877	Si
0.23	0.41	0.0002	2136	SLV FO 3	0.086	2676	7430	SLV FO 3	15877	Si
2.37	0.41	0.0002	1984	SLU 84	0.017	2751	6900	SLU 84	15877	Si
4.49	0.41	0.0002	1811	SLU 83	0.017	2751	6298	SLU 83	15877	Si
4.74	0.41	0.0002	1790	SLU 83	0.017	2751	6227	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1862	SLD 3	0.07	3097	6476	SLD 3	15877	Si
0.23	0.41	0.0002	1824	SLD 3	0.07	3097	6343	SLD 3	15877	Si
2.37	0.41	0.0002	1613	SLD 3	0.07	3097	5609	SLD 3	15877	Si
4.49	0.41	0.0002	1377	SLD 3	0.07	3097	4791	SLD 3	15877	Si
4.74	0.41	0.0002	1356	SLD 3	0.07	3097	4717	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb	Rara				Quasi permanente				Verifica
					σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	M	Comb	σc	$\sigma c \text{ limite}$	
0	0.41	0.00000172	1545	SLE RA 21	44727	1494000	554611	36000000	1407	SLE QP 2	40723	1120500	Si
0.23	0.41	0.00000172	1524	SLE RA 21	44115	1494000	547032	36000000	1387	SLE QP 2	40147	1120500	Si
2.37	0.41	0.00000172	1448	SLE RA 21	41914	1494000	519734	36000000	1313	SLE QP 2	37994	1120500	Si
4.49	0.41	0.00000172	1320	SLE RA 20	38208	1494000	473781	36000000	1193	SLE QP 2	34533	1120500	Si
4.74	0.41	0.00000172	1305	SLE RA 20	37773	1494000	468387	36000000	1179	SLE QP 2	34129	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.96	1.1	SLU 2	ST	LT	500	-443	-47316	1	-1	19	0	0	1.1	14393	668	21.55	Si
4.96	1.1	SLV FO 13	SIS	LT	6334	-3812	-34619	10	-6	19	0	0	1.1	10530	7393	1.42	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
306,307,308,309,310,311,312,313,314,315,316,317,318					4.96	1.1	SLU 84	ST	BT	2.3	229105	74839	3.06	Si

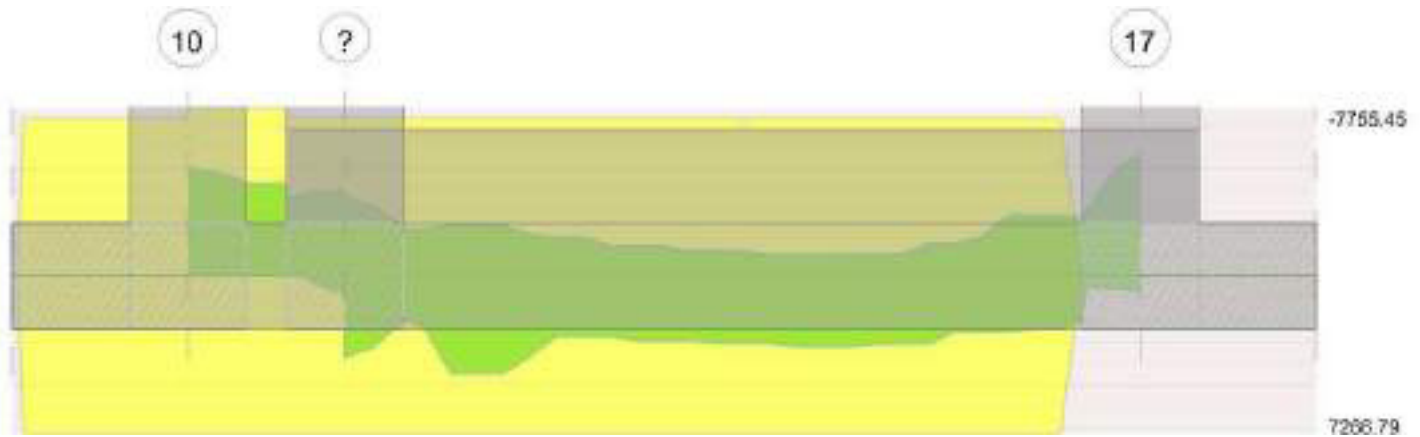


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 10 - ?, sezione R 50x45, asta 637

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052							-5159.29	SLU 83	-4923.83	-7755.45	0.113	1.58	Si
0.25	0.000509	0.052	0.000509	0.052							-4303.62	SLU 84	-4303.62	-7755.45	0.113	1.8	Si
0.34	0.000509	0.052	0.000509	0.052							-3841.31	SLU 84	-4303.62	-7755.45	0.113	1.8	Si
0.42	0.000509	0.052	0.000509	0.052							-3287.74	SLU 84	-4303.62	-7755.45	0.113	1.8	Si
0.67	0.000509	0.052	0.000509	0.052							-1140.27	SLU 73	-1140.27	-7755.45	0.113	6.8	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000509	0.052	0.000509	0.052							-5636.66	SLV FO 4	-4592.14	-7266.79	0.197	1.58	Si
0.25	0.000509	0.052	0.000509	0.052							-3347.63	SLV FO 2	-3569.7	-7266.79	0.197	2.04	Si
0.34	0.000509	0.052	0.000509	0.052							-3302.6	SLV FO 9	-3569.7	-7266.79	0.197	2.04	Si
0.42	0.000509	0.052	0.000509	0.052							-3569.7	SLV FO 9	-3569.7	-7266.79	0.197	2.04	Si
0.67	0.000509	0.052	0.000509	0.052	2547.88	SLV FO 8	725.35	7266.79	0.197	10.02	-4085.89	SLV FO 9	-3944.85	-7266.79	0.197	1.84	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.0000107	0.000509	0.000509	0.052							-4699.61	SLD 4	-4033.28	-7266.79	0.197	1.8	Si
0.25	0.0000105	0.000509	0.000509	0.052							-3141.38	SLD 2	-3141.38	-7266.79	0.197	2.31	Si
0.34	0.0000105	0.000509	0.000509	0.052							-2974.05	SLD 9	-3141.38	-7266.79	0.197	2.31	Si
0.42	0.0000105	0.000509	0.000509	0.052							-2968.92	SLD 9	-3141.38	-7266.79	0.197	2.31	Si
0.67	0.0000105	0.000509	0.000509	0.052	1109.58	SLD 8	487.3	7266.79	0.197	14.91	-2647.59	SLD 9	-2647.59	-7266.79	0.197	2.74	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000107	0.000509	0	1877	SLU 83	1877	7764	63178	15030	15030	1	8.01	Si
0.25	0.0000105	0.000509	0	5010	SLU 83	5010	7764	63178	14722	14722	1	2.94	Si
0.34	0.0000105	0.000509	0	6073	SLU 83	6073	7764	63178	14722	14722	1	2.42	Si
0.42	0.0000105	0.000509	0	7135	SLU 83	7135	7764	63178	14722	14722	1	2.06	Si
0.67	0.0000105	0.000509	0	10266	SLU 83	10266	7764	63178	14722	14722	1	1.43	Si



Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000107	0.000509	0	8470	SLV FO 4	8470	7764	63178	15030	15030	1	1.77	Si
0	0.0000107	0.000509	0	-6177	SLV FO 13	-6177	-7764	-63178	-15030	-15030	1	2.43	Si
0.25	0.0000105	0.000509	0	11018	SLV FO 4	11018	7764	63178	14722	14722	1	1.34	Si
0.25	0.0000105	0.000509	0	-4553	SLV FO 13	-4553	-7764	-63178	-14722	-14722	1	3.23	Si
0.34	0.0000105	0.000509	0	11880	SLV FO 4	11880	7764	63178	14722	14722	1	1.24	Si
0.34	0.0000105	0.000509	0	-4001	SLV FO 13	-4001	-7764	-63178	-14722	-14722	1	3.68	Si
0.42	0.0000105	0.000509	0	12742	SLV FO 4	12742	7764	63178	14722	14722	1	1.16	Si
0.42	0.0000105	0.000509	0	-3449	SLV FO 13	-3449	-7764	-63178	-14722	-14722	1	4.27	Si
0.67	0.0000105	0.000509	0	15274	SLV FO 4	15274	7764	63178	14722	14722	1	0.96	Si
0.67	0.0000105	0.000509	0	-1815	SLV FO 13	-1815	-7764	-63178	-14722	-14722	1	8.11	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000107	0.000509	0	5375	SLD 4	5375	7764	63178	15030	15030	1	2.8	Si
0	0.0000107	0.000509	0	-3081	SLD 13	-3081	-7764	-63178	-15030	-15030	1	4.88	Si
0.25	0.0000105	0.000509	0	7730	SLD 4	7730	7764	63178	14722	14722	1	1.9	Si
0.25	0.0000105	0.000509	0	-1265	SLD 13	-1265	-7764	-63178	-14722	-14722	1	11.64	Si
0.34	0.0000105	0.000509	0	8528	SLD 4	8528	7764	63178	14722	14722	1	1.73	Si
0.34	0.0000105	0.000509	0	-648	SLD 13	-648	-7764	-63178	-14722	-14722	1	22.7	Si
0.42	0.0000105	0.000509	0	9325	SLD 4	9325	7764	63178	14722	14722	1	1.58	Si
0.42	0.0000105	0.000509	0	-31	SLD 13	-31	-7764	-63178	-14722	-14722	1	467.82	Si
0.67	0.0000105	0.000509	0	11669	SLD 4	11669	7764	63178	14722	14722	1	1.26	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_f	$\sigma_{f\ lim.}$	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_{FRP}	$\sigma_{FRP\ lim.}$	
0	-3767.72	20	-3600.04	190418	1494000	2856275	36000000	-3408.29	2	-3264.38	172664	1120500			Si
0.25	-3150.52	21	-3150.52	166642	1494000	2499627	36000000	-2860.34	2	-2860.34	151293	1120500			Si
0.34	-2814.9	21	-3150.52	166642	1494000	2499627	36000000	-2555.85	2	-2860.34	151293	1120500			Si
0.42	-2412.53	21	-3150.52	166642	1494000	2499627	36000000	-2190.6	2	-2860.34	151293	1120500			Si
0.67	-849.03	10	-849.03	44908	1494000	673625	36000000	-769.01	2	-769.01	40675	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 10 - ?, sezione R 50x45, asta 637

Campata 3 tra i fili ? - 17, sezione R 50x45, aste 638, 639, 640, 641, 642, 643, 644, 645, 646, 647

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1753	SLU 83	0.044	8296	6099	SLU 83	20561	Si
0.25	0.41	0.0005	1761	SLU 83	0.044	8200	6124	SLU 83	20318	Si
1.69	0.41	0.0005	1778	SLU 83	0.044	8200	6183	SLU 83	20318	Si
3.14	0.41	0.0005	1670	SLU 83	0.044	8200	5808	SLU 83	20318	Si
3.39	0.41	0.0005	1649	SLU 83	0.044	8200	5735	SLU 83	20318	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1309	SLD 3	0.122	9241	4553	SLD 3	23645	Si
0.25	0.41	0.0005	1308	SLD 4	0.121	9134	4550	SLD 4	23366	Si
1.69	0.41	0.0005	1261	SLD 3	0.121	9134	4385	SLD 3	23366	Si
3.14	0.41	0.0005	1128	SLD 7	0.121	9134	3925	SLD 7	23366	Si
3.39	0.41	0.0005	1115	SLD 7	0.121	9134	3879	SLD 7	23366	Si

Verifiche delle tensioni di esercizio

x	d	Af	Rara						Quasi permanente				Verifica
			M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000525	1277	SLE RA 20	35315	1494000	437910	36000000	1153	SLE QP 2	31867	1120500	Si
0.25	0.41	0.00000519	1283	SLE RA 20	35491	1494000	440085	36000000	1157	SLE QP 2	32019	1120500	Si
1.69	0.41	0.00000519	1295	SLE RA 20	35818	1494000	444143	36000000	1166	SLE QP 2	32272	1120500	Si
3.14	0.41	0.00000519	1216	SLE RA 20	33633	1494000	417043	36000000	1094	SLE QP 2	30254	1120500	Si
3.39	0.41	0.00000519	1200	SLE RA 20	33209	1494000	411796	36000000	1079	SLE QP 2	29866	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.06	1.1	SLU 43	ST	LT	431	173	-45569	1	0	19	0	0	1.1	13861	465	29.83	Si
4.06	1.1	SLV FO 13	SIS	LT	5417	-1984	-34582	9	-3	19	0	0	1.1	10519	5769	1.82	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste							Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
637,638,639,640,641,642,643,644,645,646,647							4.06	1.1	SLU 83	ST	BT	2.3	192997	58116	3.32	Si
637,638,639,640,641,642,643,644,645,646,647							4.06	1.1	SLV FO 8	SIS	BT	2.3	161608	42452	3.81	Si
637,638,639,640,641,642,643,644,645,646,647							4.06	1.1	SLD 8	SIS	BT	2.3	174673	41133	4.25	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	230	-58116	-26.63	-456.65	0	0	-0.01	0	1.1	4.04	1496	2060	0	14430	
0	5763	-42452	-2798.75	-2024.81	0	8	-0.05	-0.07	0.97	3.96	1496	2060	0	14430	0.07
0	3313	-41133	-1582	-1313.81	0	5	-0.03	-0.04	1.02	4	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0



N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Scheda gestione Elementi assoluti e differenziali																	
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	756	SLE RA 20	0.05	0	756	745	SLE RA 21	0.05	0	746	SLE RA 17	0.0033	0	SLE RA 1	Si
D	0.05	0	756	SLE RA 1	0.05	0	756	756	SLE RA 1	0.05	0	746	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	756	SLE RA 1	0.05	0	756	756	SLE RA 1	0.05	0	746	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	746	745	SLE RA 21	0.19	0.01	746	SLE RA 17	0.1	0	756	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	756	746	SLE RA 1	0.19	0	756	SLE RA 1	0.1	0	746	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	756	746	SLE RA 1	0.19	0	756	SLE RA 1	0.1	0	746	SLE RA 1	Si

CORDOLO 8

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

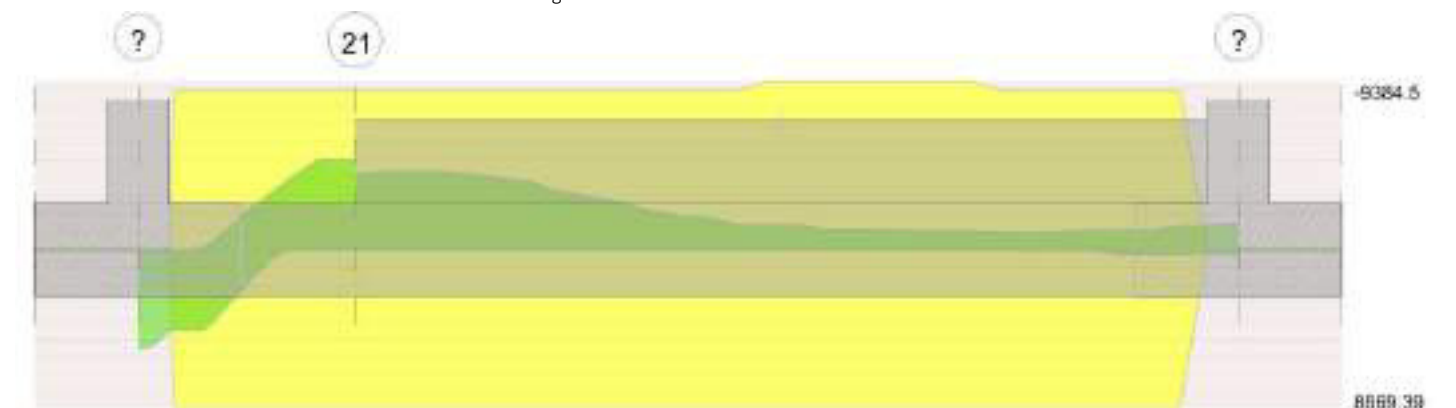
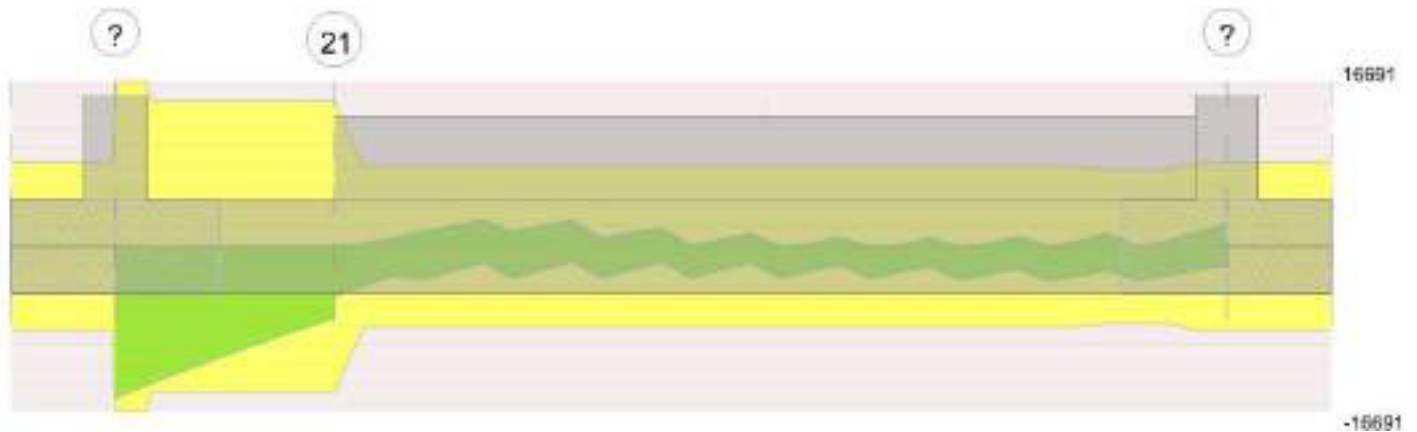


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili ? - 21, sezione R 50x45, asta 726

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.52	0.000628	0.053	0.000628	0.053	-95.41	SLU 7	1816.1	9384.5	0.124	5.17	-168.2	SLU 81	-1845.83	-9384.5	0.124	5.08	Si
1.05	0.000628	0.053	0.000628	0.053							-4268.22	SLU 83	-4268.22	-9384.5	0.124	2.2	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.52	0.000628	0.053	0.000628	0.053	119.35	SLV FO 1	1887.83	8869.39	0.216	4.7	-340.15	SLV FO 16	-2076.36	-8869.39	0.216	4.27	Si
1.05	0.000628	0.053	0.000628	0.053							-4992.73	SLV FO 12	-4992.73	-8869.39	0.216	1.78	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.52	0.000628	0.053	0.000628	0.053	22.78	SLD 1	1591.18	8869.39	0.216	5.57	-243.59	SLD 16	-1708.44	-8869.39	0.216	5.19	Si
1.05	0.000628	0.053	0.000628	0.053							-4060.01	SLD 12	-4060.01	-8869.39	0.216	2.18	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0	0	-15360	SLU 83	-15360	-8455	-71432	-16691	-16691	1	1.09	Si
0.15	0.0000105	0	0	-13833	SLU 83	-13833	-8455	-71432	-16691	-16691	1	1.21	Si
0.17	0.0000105	0	0	-13582	SLU 83	-13582	-7751	-63019	-14725	-14725	1	1.08	Si
0.52	0.0000105	0	0	-10187	SLU 83	-10187	-7751	-63019	-14725	-14725	1	1.45	Si
1.05	0.0000105	0.000628	0	-5521	SLU 83	-5521	-8105	-63019	-14725	-14725	1	2.67	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0	0	-15284	SLV FO 12	-15284	-8455	-71432	-16691	-16691	1	1.09	Si
0.15	0.0000105	0	0	-14022	SLV FO 12	-14022	-8455	-71432	-16691	-16691	1	1.19	Si
0.17	0.0000105	0	0	-13815	SLV FO 12	-13815	-7751	-63019	-14725	-14725	1	1.07	Si
0.52	0.0000105	0	0	-11026	SLV FO 12	-11026	-7751	-63019	-14725	-14725	1	1.34	Si
1.05	0.0000105	0.000628	0	-7236	SLV FO 12	-7236	-8105	-63019	-14725	-14725	1	2.03	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0	0	-13069	SLD 12	-13069	-8455	-71432	-16691	-16691	1	1.28	Si
0.15	0.0000105	0	0	-11917	SLD 12	-11917	-8455	-71432	-16691	-16691	1	1.4	Si
0.17	0.0000105	0	0	-11728	SLD 12	-11728	-7751	-63019	-14725	-14725	1	1.26	Si
0.52	0.0000105	0	0	-9178	SLD 12	-9178	-7751	-63019	-14725	-14725	1	1.6	Si
1.05	0.0000105	0.000628	0	-5698	SLD 12	-5698	-8105	-63019	-14725	-14725	1	2.58	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4764.03	20	3923.33	232494	1494000	0	36000000	4338.13	2	3573.18	211744	1120500			Si
0.15	3165.09	20	3165.09	187561	1494000	0	36000000	2883.03	2	2883.03	170846	1120500			Si
0.52	-123.09	18	-1349.94	69752	1494000	1046276	36000000	-110.4	2	-1229.92	63551	1120500			Si
1.05	-3122.27	20	-3122.27	161329	1494000	2419935	36000000	-2848.74	2	-2848.74	147196	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili ? - 21, sezione R 50x45, asta 726

Campata 3 tra i fili 21 - ?, sezione R 50x45, aste 727, 728, 729, 730, 731, 732, 733, 734, 735, 736

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0005	1452	SLU 83	0.044	8318	4468	SLU 83	18718	Si
2.14	0.41	0.0002	1182	SLU 83	0.018	2813	3637	SLU 83	15877	Si



x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
4.13	0.41	0.0002	1254	SLU 83	0.018	2813	3858	SLU 83	15877	Si
4.28	0.41	0.0002	1266	SLU 83	0.018	2813	3896	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0005	1128	SLD 7	0.122	9265	3472	SLD 7	21526	
2.14	0.41	0.0002	893	SLD 8	0.071	3165	2748	SLD 8	15877	Si
4.13	0.41	0.0002	977	SLD 12	0.071	3165	3005	SLD 12	15877	Si
4.28	0.41	0.0002	988	SLD 12	0.071	3165	3039	SLD 12	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000527	1053	SLE RA 20	29113	1494000	361000	36000000	943	SLE QP 2	26052	1120500	Si
2.14	0.41	0.00000176	856	SLE RA 20	24766	1494000	307103	36000000	763	SLE QP 2	22076	1120500	Si
4.13	0.41	0.00000176	909	SLE RA 20	26302	1494000	326144	36000000	812	SLE QP 2	23494	1120500	Si
4.28	0.41	0.00000176	918	SLE RA 20	26562	1494000	329367	36000000	820	SLE QP 2	23733	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.33	1.1	SLU 2	ST	LT	144	-804	-32017	0	-1	19	0	0	1.1	9739	817	11.92	Si
5.33	1.1	SLV FO 10	SIS	LT	2531	-7402	-27264	5	-15	19	0	0	1.1	8293	7822	1.06	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
726,727,728,729,730,731,732,733,734,735,736				5.33	1.1	SLU 84	ST	BT	2.3	237005	50655	4.68	Si
726,727,728,729,730,731,732,733,734,735,736				5.33	1.1	SLV FO 5	SIS	LT	2.3	118807	27836	4.27	Si
726,727,728,729,730,731,732,733,734,735,736				5.33	1.1	SLD 7	SIS	BT	2.3	215081	38748	5.55	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-1036	-50655	464.89	-5705.12	0	-1	-0.11	0.01	1.08	5.1	1496	2060	0	14430	
0	-7283	-27836	3939.88	-4836.78	0	-15	-0.17	0.14	0.82	4.98	1496	2060	37	0	0.07
0	3154	-38748	-1795.43	-5936.56	0	5	-0.15	-0.05	1.01	5.02	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.12	1.13	0.93	1.16	1.27	1	0.57	0.56	0.42	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

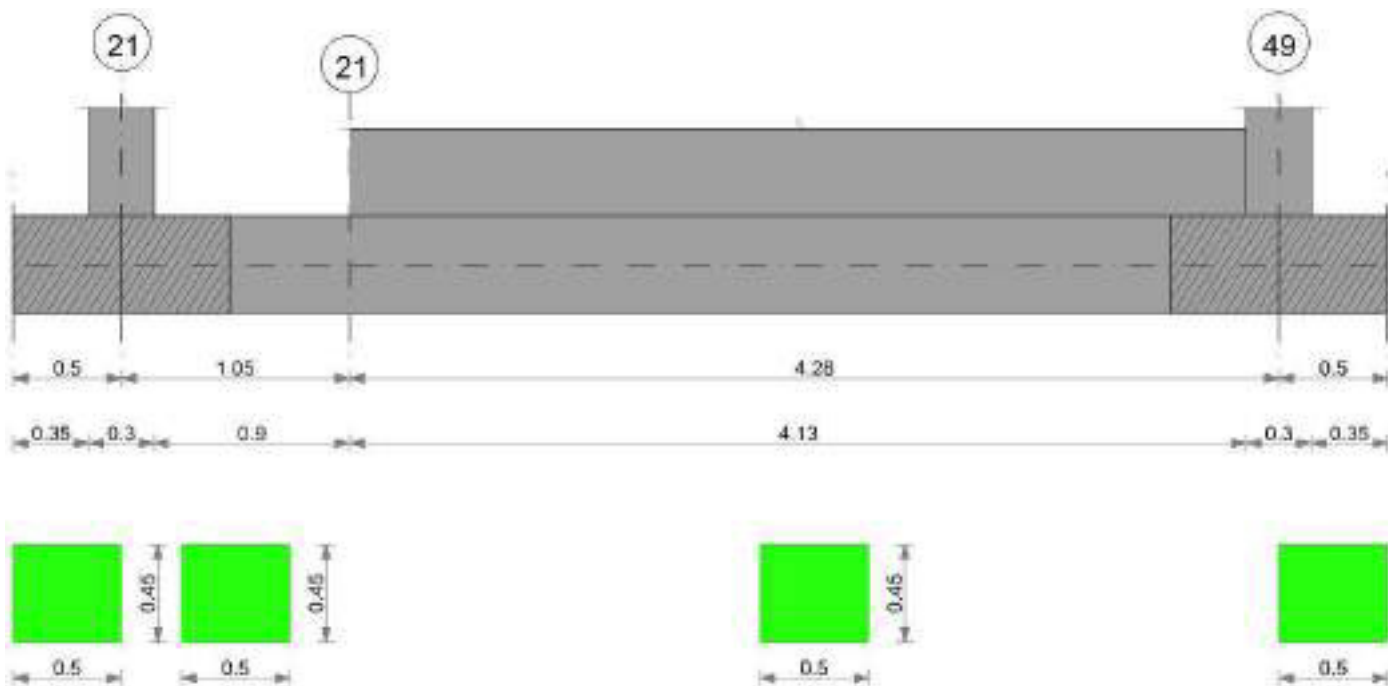
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	RI	Comb.	
E	0.05	0.002	880	SLE RA 20	0.05	0	880	891	SLE RA 20	0.05	0	881	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	891	SLE RA 1	0.05	0	891	891	SLE RA 1	0.05	0	881	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	891	SLE RA 1	0.05	0	891	891	SLE RA 1	0.05	0	881	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.01	881	880	SLE RA 20	0.19	0	891	SLE RA 1	0.1	0.01	881	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	891	881	SLE RA 1	0.19	0	891	SLE RA 1	0.1	0	881	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	891	881	SLE RA 1	0.19	0	891	SLE RA 1	0.1	0	881	SLE RA 1	Si

CORDOLO 9

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

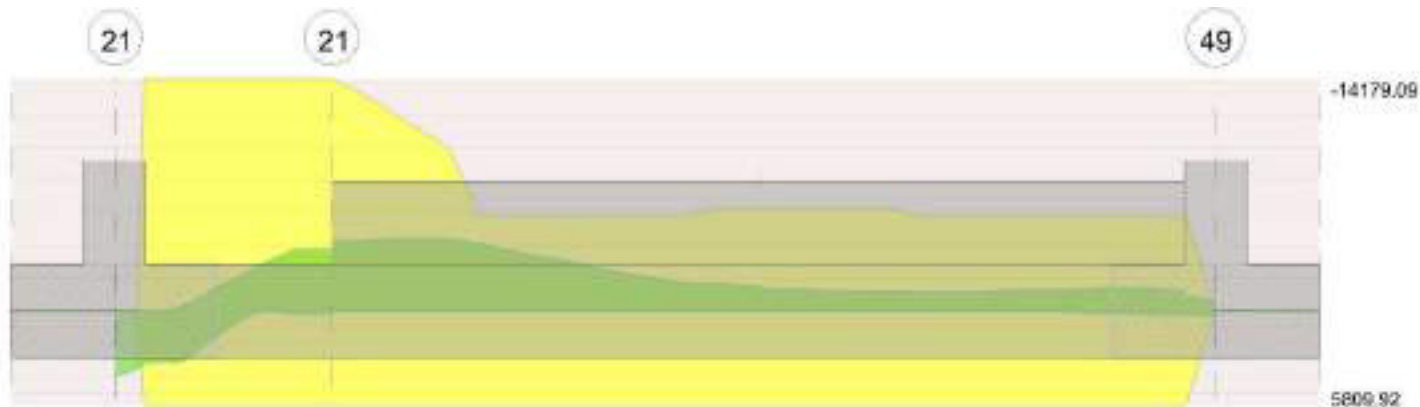
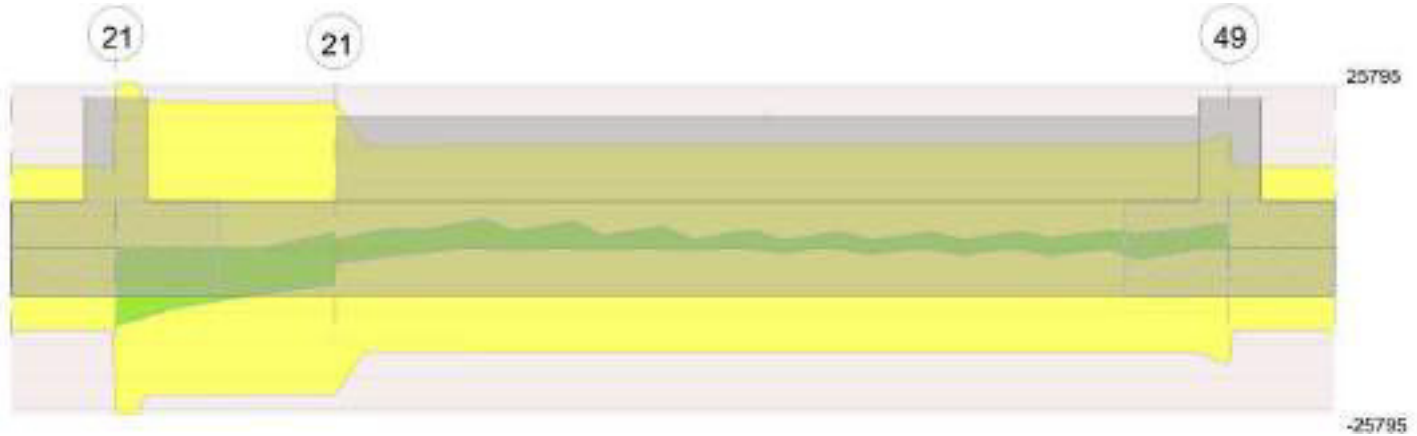


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 21 - 21, sezione R 50x45, asta 737

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.15	0.00103	0.052	0.000402	0.051	2990.83	SLU 84	2990.83	6335.52	0.115	2.12							Si
0.52	0.00103	0.052	0.000402	0.051	-169.44	SLU 2	1107.71	6335.52	0.115	5.72	-286.03	SLU 83	-1377.22	-14899.44	0.156	10.82	Si
1.05	0.00103	0.052	0.000402	0.051							-2691.6	SLU 84	-2691.6	-14899.44	0.156	5.54	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.15	0.00103	0.052	0.000402	0.051	3129.36	SLV FO 13	3129.36	5797.65	0.172	1.85							Si
0.52	0.00103	0.052	0.000402	0.051	43.69	SLV FO 5	1266.62	5797.65	0.172	4.58	-424.25	SLV FO 12	-1633.75	-14179.09	0.277	8.68	Si
1.05	0.00103	0.052	0.000402	0.051	191.38	SLV FO 4	191.38	5797.65	0.172	30.29	-3775.13	SLV FO 13	-3775.13	-14179.09	0.277	3.76	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.15	0.00103	0.052	0.000402	0.051	2649.19	SLD 13	2649.19	5797.65	0.172	2.19							Si
0.52	0.00103	0.052	0.000402	0.051	-57.99	SLD 5	1042.51	5797.65	0.172	5.56	-322.57	SLD 12	-1333.94	-14179.09	0.277	10.63	Si
1.05	0.00103	0.052	0.000402	0.051							-2944.85	SLD 13	-2944.85	-14179.09	0.277	4.81	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000163	0.000402	0	-12063	SLU 84	-12063	-8455	-71432	-25795	-25795	1	2.14	Si
0.15	0.0000163	0.000402	0	-10553	SLU 84	-10553	-7777	-63336	-22871	-22871	1	2.17	Si
0.52	0.0000163	0.00103	0	-6945	SLU 84	-6945	-9567	-63143	-22801	-22801	1	3.28	Si
1.05	0.0000163	0.00103	0	-2308	SLU 84	-2308	-9567	-63143	-22801	-22801	1	9.88	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000163	0.000402	0	-10901	SLV FO 13	-10901	-8455	-71432	-25795	-25795	1	2.37	Si
0.14	0.0000163	0.000402	0	-10094	SLV FO 13	-10094	-7777	-63336	-22871	-22871	1	2.27	Si
0.15	0.0000163	0.000402	0	-10037	SLV FO 13	-10037	-7777	-63336	-22871	-22871	1	2.28	Si
0.52	0.0000163	0.00103	0	-8012	SLV FO 13	-8012	-9567	-63143	-22801	-22801	1	2.85	Si
1.05	0.0000163	0.000402	0	2392	SLV FO 4	2392	7777	63336	22871	22871	1	9.56	Si
1.05	0.0000163	0.00103	0	-5472	SLV FO 13	-5472	-9567	-63143	-22801	-22801	1	4.17	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000163	0.000402	0	-9693	SLD 13	-9693	-8455	-71432	-25795	-25795	1	2.66	Si
0.14	0.0000163	0.000402	0	-8831	SLD 13	-8831	-7777	-63336	-22871	-22871	1	2.59	Si
0.15	0.0000163	0.000402	0	-8770	SLD 13	-8770	-7777	-63336	-22871	-22871	1	2.61	Si
0.52	0.0000163	0.00103	0	-6589	SLD 13	-6589	-9567	-63143	-22801	-22801	1	3.46	Si
1.05	0.0000163	0.00103	0	743	SLD 4	743	9567	63143	22801	22801	1	30.67	Si
1.05	0.0000163	0.00103	0	-3823	SLD 13	-3823	-9567	-63143	-22801	-22801	1	5.96	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_f	$\sigma_f\ lim.$	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_{FRP}	$\sigma_{FRP\ lim.}$	
0	3425.91	21	2765.65	163890	1494000	0	36000000	3109.78	2	2510.08	148746	1120500			Si
0.15	2186.95	21	2186.95	107822	1494000	1714726	36000000	1984.48	2	1984.48	97840	1120500			Si
0.52	-209.31	20	-1007.9	52684	1494000	745376	36000000	-190.28	2	-917.07	47936	1120500			Si
1.05	-1970.75	21	-1970.75	103014	1494000	1457444	36000000	-1791.87	2	-1791.87	93664	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure



Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 21 - 21, sezione R 50x45, asta 737

Campata 3 tra i fili 21 - 49, sezione R 50x45, aste 738, 739, 740, 741, 742, 743, 744, 745, 746, 747

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0008	1446	SLU 83	0.069	12729	4451	SLU 83	28928	Si
2.14	0.41	0.0006	1182	SLU 83	0.049	9075	3637	SLU 83	20456	Si
4.13	0.41	0.0006	1259	SLU 83	0.049	9075	3873	SLU 83	20456	Si
4.28	0.41	0.0006	1271	SLU 83	0.049	9075	3911	SLU 83	20456	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0008	1055	SLD 3	0.151	14145	3245	SLD 3	33267	Si
2.14	0.41	0.0006	824	SLD 8	0.127	10102	2536	SLD 8	23524	Si
4.13	0.41	0.0006	930	SLD 16	0.127	10102	2862	SLD 16	23524	Si
4.28	0.41	0.0006	945	SLD 16	0.127	10102	2907	SLD 16	23524	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000814	1050	SLE RA 20	27987	1494000	347034	36000000	939	SLE QP 2	25044	1120500	Si
2.14	0.41	0.00000575	856	SLE RA 20	23523	1494000	291689	36000000	763	SLE QP 2	20970	1120500	Si
4.13	0.41	0.00000575	913	SLE RA 20	25081	1494000	311007	36000000	816	SLE QP 2	22408	1120500	Si
4.28	0.41	0.00000575	922	SLE RA 20	25329	1494000	314085	36000000	824	SLE QP 2	22635	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.33	1.1	SLU 2	ST	LT	52	-804	-32097	0	-1	19	0	0	1.1	9763	806	12.11	Si
5.33	1.1	SLV FO 10	SIS	LT	2396	-7402	-30761	4	-14	19	0	0	1.1	9357	7780	1.2	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
737,738,739,740,741,742,743,744,745,746,747				5.33	1.1	SLU 84	ST	BT	2.3	237313	50640	4.69	Si
737,738,739,740,741,742,743,744,745,746,747				5.33	1.1	SLV FO 5	SIS	LT	2.3	137567	31377	4.38	Si
737,738,739,740,741,742,743,744,745,746,747				5.33	1.1	SLD 7	SIS	BT	2.3	213785	36725	5.82	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-1036	-50640	464.89	-5529.88	0	-1	-0.11	0.01	1.08	5.11	1496	2060	0	14430	
0	-7283	-31377	3939.88	-4843.99	0	-13	-0.15	0.13	0.85	5.02	1496	2060	37	0	0.07
0	3154	-36725	-1795.43	-5696.53	0	5	-0.16	-0.05	1	5.02	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	lc	lg	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.13	1.13	0.93	1.16	1.27	1	0.61	0.6	0.47	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0	0.02	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

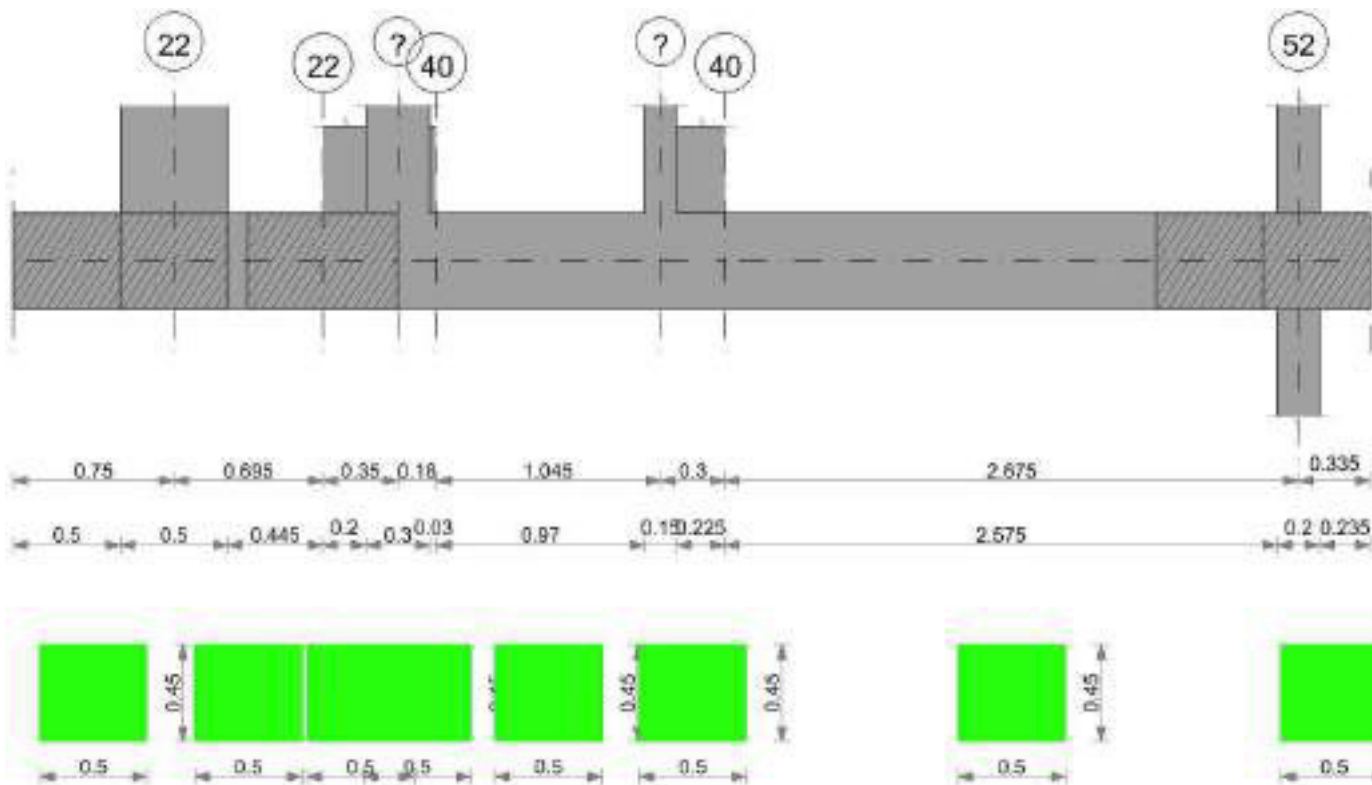
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	841	SLE RA 20	0.05	0.001	841	852	SLE RA 20	0.05	0	842	SLE RA 14	0.0033	0	SLE RA 14	Si
D	0.05	0	852	SLE RA 1	0.05	0	852	852	SLE RA 1	0.05	0	842	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	852	SLE RA 1	0.05	0	852	852	SLE RA 1	0.05	0	842	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.
E	0.19	0.01	SLE RA 20	0.19	0.01	842	841	SLE RA 20	0.19	0	852	SLE RA 1	0.1	0.01	842	SLE RA 14
D	0.19	0	SLE RA 1	0.19	0	852	842	SLE RA 1	0.19	0	852	SLE RA 1	0.1	0	842	SLE RA 1
Z	0.19	0	SLE RA 1	0.19	0	852	842	SLE RA 1	0.19	0	852	SLE RA 1	0.1	0	842	SLE RA 1

CORDOLO 10

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

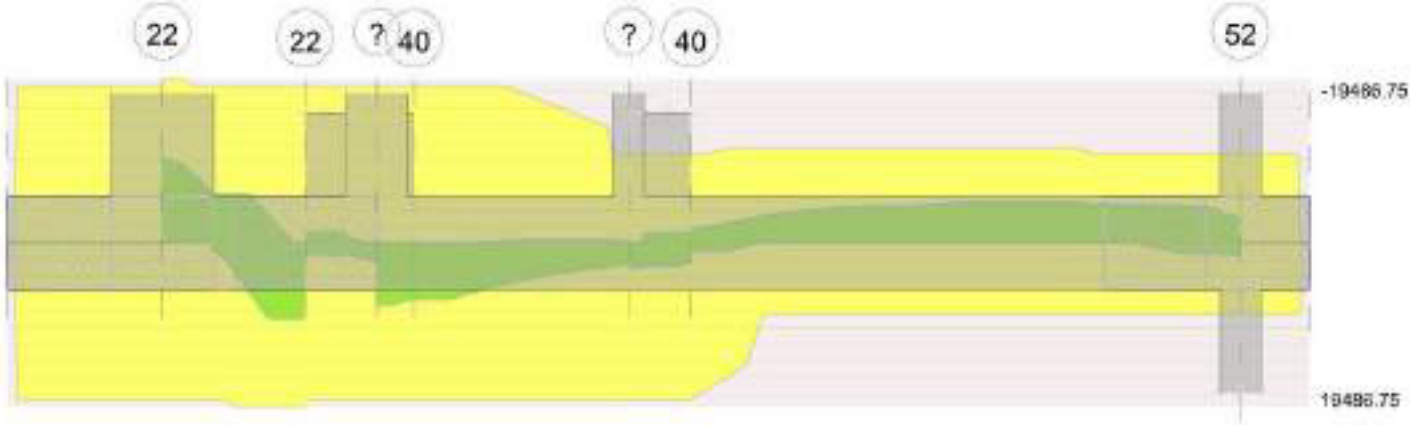
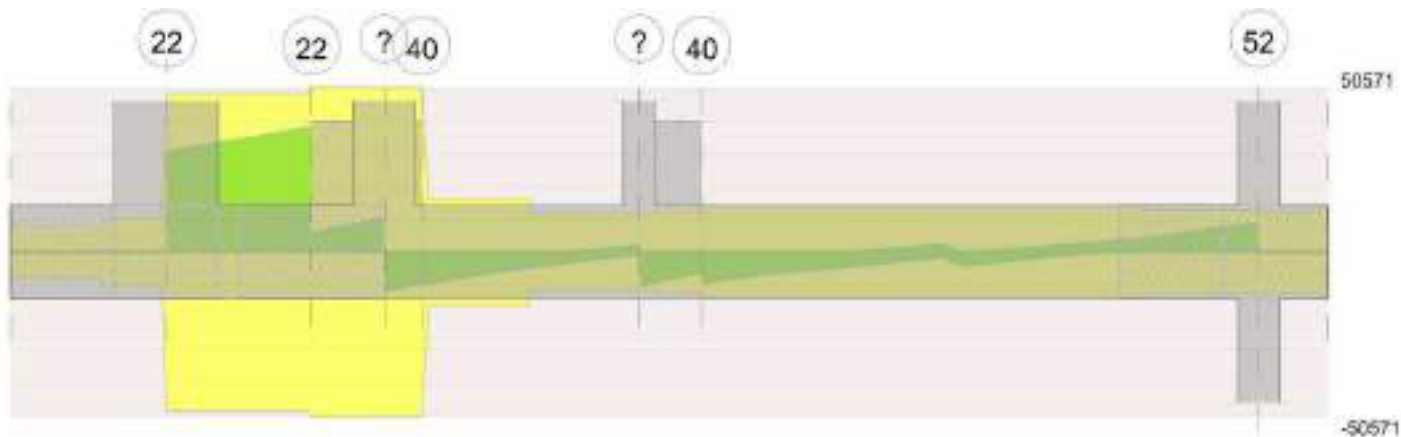


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 22 - 22, sezione R 50x45, asta 648

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001367	0.052	0.001367	0.052							-13277.03	SLU 83	-10000.56	-19486.75	0.158	1.95	Si
0.25	0.001367	0.052	0.001367	0.052							-5808.55	SLU 83	-5808.55	-19486.75	0.158	3.35	Si
0.35	0.001367	0.052	0.001367	0.052	-1621.37	SLU 2	3199.44	19486.75	0.158	6.09	-2726.83	SLU 83	-5808.55	-19486.75	0.158	3.35	Si
0.7	0.001367	0.052	0.001367	0.052	9036.04	SLU 83	9036.04	19486.75	0.158	2.16							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001367	0.052	0.001367	0.052							-12439.68	SLV FO 8	-9504.89	-18723.01	0.291	1.97	Si
0.25	0.001367	0.052	0.001367	0.052	-1854.09	SLV FO 9	798.64	18723.01	0.291	23.44	-5833.46	SLV FO 8	-5833.46	-18723.01	0.291	3.21	Si
0.35	0.001367	0.052	0.001367	0.052	-475.22	SLV FO 9	2863.8	18723.01	0.291	6.54	-3139.05	SLV FO 8	-5833.46	-18723.01	0.291	3.21	Si
0.7	0.001367	0.052	0.001367	0.052	7516.33	SLV FO 11	7516.33	18723.01	0.291	2.49							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001367	0.052	0.001367	0.052							-10840.96	SLD 8	-8243.85	-18723.01	0.291	2.27	Si
0.25	0.001367	0.052	0.001367	0.052	-2720.64	SLD 9	443.87	18723.01	0.291	42.18	-4966.91	SLD 8	-4966.91	-18723.01	0.291	3.77	Si
0.35	0.001367	0.052	0.001367	0.052	-1053.7	SLD 9	2548.46	18723.01	0.291	7.35	-2560.57	SLD 8	-4966.91	-18723.01	0.291	3.77	Si
0.7	0.001367	0.052	0.001367	0.052	6843.38	SLD 11	6843.38	18723.01	0.291	2.74							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000347	0.001367	0	30839	SLU 83	30839	10519	63248	48713	48713	1	1.58	Si
0.25	0.0000347	0.001367	0	33536	SLU 83	33536	10519	63248	48713	48713	1	1.45	Si
0.35	0.0000347	0.001367	0	34589	SLU 83	34589	10519	63248	48713	48713	1	1.41	Si
0.67	0.0000347	0.001367	0	38111	SLU 83	38111	10519	63248	48713	48713	1	1.28	Si
0.7	0.000036	0.001367	0	38364	SLU 83	38364	10519	63248	50571	50571	1	1.32	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000347	0.001367	0	27839	SLV FO 12	27839	10519	63248	48713	48713	1	1.75	Si
0.25	0.0000347	0.001367	0	29757	SLV FO 12	29757	10519	63248	48713	48713	1	1.64	Si
0.35	0.0000347	0.001367	0	30513	SLV FO 12	30513	10519	63248	48713	48713	1	1.6	Si
0.67	0.0000347	0.001367	0	33072	SLV FO 12	33072	10519	63248	48713	48713	1	1.47	Si
0.7	0.000036	0.001367	0	33257	SLV FO 12	33257	10519	63248	50571	50571	1	1.52	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000347	0.001367	0	24575	SLD 12	24575	10519	63248	48713	48713	1	1.98	Si
0.25	0.0000347	0.001367	0	26437	SLD 12	26437	10519	63248	48713	48713	1	1.84	Si
0.35	0.0000347	0.001367	0	27167	SLD 12	27167	10519	63248	48713	48713	1	1.79	Si
0.67	0.0000347	0.001367	0	29628	SLD 12	29628	10519	63248	48713	48713	1	1.64	Si
0.7	0.000036	0.001367	0	29806	SLD 12	29806	10519	63248	50571	50571	1	1.7	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-9705.55	20	-7310.56	471149	1494000	15160375	36000000	-8778.63	2	-6614.04	426260	1120500			Si
0.25	-4246.3	20	-4246.3	189937	1494000	2849057	36000000	-3843.77	2	-3843.77	171932	1120500			Si
0.35	-1993.62	20	-4246.3	189937	1494000	2849057	36000000	-1807.14	2	-3843.77	171932	1120500			Si
0.7	6604.88	20	6604.88	425670	1494000	13696957	36000000	5968.15	2	5968.15	384634	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0	superiore	0.26	0.00044	0.000115	20	0.26	0.00041	0.000108	6	0.26	0.0004	0.000104	2	Si
0.7	inferiore	0.26	0.0004	0.000104	20	0.26	0.00037	0.000096	6	0.26	0.00036	0.000094	2	Si



Campata 5 tra i fili 40 - 7, sezione R 50x45, asta 651

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001367	0.052	0.001367	0.052	6156.08	SLU 83	6156.08	19486.75	0.158	3.17							Si
0.52	0.001305	0.052	0.001367	0.052	2650.56	SLU 83	3546.78	19487.56	0.159	5.49							Si
0.97	0.000763	0.052	0.001367	0.052	1804.92	SLU 83	1909.78	19474.17	0.175	10.2							Si
1.05	0.000763	0.052	0.001367	0.052	1852.75	SLU 83	1816.53	19474.17	0.175	10.72							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001367	0.052	0.001367	0.052	6701.17	SLV FO 12	6701.17	18723.01	0.291	2.79							Si
0.52	0.001305	0.052	0.001367	0.052	3626.88	SLV FO 12	4447.19	18715.16	0.293	4.21	-176.04	SLV FO 5	-368.31	-17915.3	0.285	48.64	Si
0.97	0.000763	0.052	0.001367	0.052	2663.49	SLV FO 11	2865.09	18630.01	0.307	6.5	-338.74	SLV FO 6	-400.77	-10727.85	0.222	26.77	Si
1.05	0.000763	0.052	0.001367	0.052	2658.93	SLV FO 11	2643	18630.01	0.307	7.05	-271.73	SLV FO 6	-271.73	-10727.85	0.222	39.48	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001367	0.052	0.001367	0.052	5550.85	SLD 12	5550.85	18723.01	0.291	3.37							Si
0.52	0.001305	0.052	0.001367	0.052	2799.44	SLD 12	3522.7	18715.16	0.293	5.31							Si
0.97	0.000763	0.052	0.001367	0.052	2006.39	SLD 11	2152.99	18630.01	0.307	8.65							Si
1.05	0.000763	0.052	0.001367	0.052	2016.12	SLD 11	1997.83	18630.01	0.307	9.33							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000036	0.001367	0	-10066	SLU 83	-10066	-10519	-63248	-50571	-50571	1	5.02	Si
0.03	0.0000116	0.001367	0	-9686	SLU 83	-9686	-10519	-63248	-16282	-16282	1	1.68	Si
0.52	0.0000084	0.001367	0	-4409	SLU 83	-4409	-10519	-63248	-11755	-11755	1	2.67	Si
0.97	0.0000084	0.001367	0	316	SLU 84	316	10519	63248	11755	11755	1	37.23	Si
1.05	0.0000084	0.001367	0	1090	SLU 84	1090	10519	63248	11755	11755	1	10.78	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000036	0.001367	0	-8776	SLV FO 16	-8776	-10519	-63248	-50571	-50571	1	5.76	Si
0.03	0.0000116	0.001367	0	-8503	SLV FO 16	-8503	-10519	-63248	-16282	-16282	1	1.91	Si
0.52	0.0000084	0.001367	0	-4699	SLV FO 16	-4699	-10519	-63248	-11755	-11755	1	2.5	Si
0.97	0.0000084	0.001367	0	1683	SLV FO 1	1683	10519	63248	11755	11755	1	6.98	Si
0.97	0.0000084	0.001367	0	-1287	SLV FO 16	-1287	-10519	-63248	-11755	-11755	1	9.14	Si
1.05	0.0000084	0.001367	0	2151	SLV FO 1	2151	10519	63248	11755	11755	1	5.47	Si
1.05	0.0000084	0.001367	0	-726	SLV FO 16	-726	-10519	-63248	-11755	-11755	1	16.19	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.000036	0.001367	0	-7891	SLD 16	-7891	-10519	-63248	-50571	-50571	1	6.41	Si
0.03	0.0000116	0.001367	0	-7627	SLD 16	-7627	-10519	-63248	-16282	-16282	1	2.13	Si
0.52	0.0000084	0.001367	0	-3955	SLD 16	-3955	-10519	-63248	-11755	-11755	1	2.97	Si
0.97	0.0000084	0.001367	0	1061	SLD 1	1061	10519	63248	11755	11755	1	11.08	Si
0.97	0.0000084	0.001367	0	-664	SLD 16	-664	-10519	-63248	-11755	-11755	1	17.7	Si
1.05	0.0000084	0.001367	0	1548	SLD 1	1548	10519	63248	11755	11755	1	7.59	Si
1.05	0.0000084	0.001367	0	-123	SLD 16	-123	-10519	-63248	-11755	-11755	1	95.29	Si

Verifiche delle tensioni in esercizio

x	Rara								Quasi permanente								Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.			
0	4499.54	20	4499.54	201265	1494000	3018971	36000000	4050.98	2	4050.98	181201	1120500					Si
0.52	1933.26	20	2589.63	116800	1494000	1742561	36000000	1725.42	2	2320.27	104651	1120500					Si
0.97	1312.3	20	1390.02	67684	1494000	961439	36000000	1162.38	2	1232.98	60037	1120500					Si
1.05	1346.84	20	1320.56	64302	1494000	913395	36000000	1193.6	2	1169.81	56962	1120500					Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 7 tra i fili 40 - 52, sezione R 50x45, aste 653, 654

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.001367	0.052							-115.28	SLU 44	-1366.09	-11251.54	0.13	8.24	Si
1.34	0.000763	0.052	0.000603	0.051							-4608.17	SLU 83	-4879.22	-11250.95	0.13	2.31	Si
1.69	0.000763	0.052	0.000603	0.051							-4923.39	SLU 83	-4928.97	-11250.95	0.13	2.28	Si
2.57	0.000763	0.052	0.000603	0.051							-1766.9	SLU 83	-2869.39	-11250.95	0.13	3.92	Si
2.67	0.000763	0.052	0.000603	0.051							-1044.19	SLU 83	-1044.19	-11250.95	0.13	10.77	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.001367	0.052	1019.65	SLV FO 11	1019.65	18630.01	0.307	18.27	-1129.09	SLV FO 6	-1684.52	-10727.85	0.222	6.37	Si
1.34	0.000763	0.052	0.000603	0.051							-4254.17	SLV FO 15	-4536.01	-10722.22	0.236	2.36	Si
1.69	0.000763	0.052	0.000603	0.051							-4657.22	SLV FO 15	-4661.36	-10722.22	0.236	2.3	Si
2.57	0.000763	0.052	0.000603	0.051	1251.36	SLV FO 6	1251.36	8575.35	0.209	6.85	-3497.63	SLV FO 11	-4044.41	-10722.22	0.236	2.65	Si
2.67	0.000763	0.052	0.000603	0.051	1834.77	SLV FO 6	1582.76	8575.35	0.209	5.42	-3113.9	SLV FO 11	-3113.9	-10722.22	0.236	3.44	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando



i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_c = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.001367	0.052	554.34	SLD 11	554.34	18630.01	0.307	33.61	-663.77	SLD 6	-1356.15	-10727.85	0.222	7.91	Si
1.34	0.000763	0.052	0.000603	0.051							-3749.02	SLD 15	-3984.52	-10722.22	0.236	2.69	Si
1.69	0.000763	0.052	0.000603	0.051							-4063.63	SLD 15	-4063.63	-10722.22	0.236	2.64	Si
2.57	0.000763	0.052	0.000603	0.051	219.52	SLD 6	219.52	8575.35	0.209	39.06	-2465.79	SLD 11	-3096.47	-10722.22	0.236	3.46	Si
2.67	0.000763	0.052	0.000603	0.051	759.2	SLD 6	524.63	8575.35	0.209	16.35	-2038.33	SLD 11	-2038.33	-10722.22	0.236	5.26	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000763	0	-9556	SLU 83	-9556	-8659	-63178	-13925	-13925	1	1.46	Si
1.34	0.0000099	0.000763	0	-2554	SLU 83	-2554	-8659	-63178	-13925	-13925	1	5.45	Si
2.57	0.0000091	0.000763	0	8127	SLU 84	8127	8659	63178	12810	12810	1	1.58	Si
2.67	0.0000091	0.000763	0	9028	SLU 84	9028	8659	63178	12810	12810	1	1.42	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000603	0	-8892	SLV FO 15	-8892	-8009	-63248	-13941	-13941	1	1.57	Si
1.34	0.0000099	0.000763	0	274	SLV FO 6	274	8659	63178	13925	13925	1	50.76	Si
1.34	0.0000099	0.000763	0	-3595	SLV FO 11	-3595	-8659	-63178	-13925	-13925	1	3.87	Si
2.57	0.0000091	0.000603	0	6700	SLV FO 10	6700	8014	63336	12842	12842	1	1.92	Si
2.67	0.0000091	0.000603	0	7258	SLV FO 10	7258	8014	63336	12842	12842	1	1.77	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000603	0	-7801	SLD 15	-7801	-8009	-63248	-13941	-13941	1	1.79	Si
1.34	0.0000099	0.000763	0	-2749	SLD 11	-2749	-8659	-63178	-13925	-13925	1	5.07	Si
2.57	0.0000091	0.000763	0	6142	SLD 10	6142	8659	63178	12810	12810	1	2.09	Si
2.67	0.0000091	0.000603	0	6719	SLD 10	6719	8014	63336	12842	12842	1	1.91	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-78.53	2	-1005.8	46379	1494000	734634	36000000	-62.68	1	-927.75	42780	1120500			Si
1.34	-3366.55	20	-3563.21	183017	1494000	2705117	36000000	-3050.07	2	-3224.6	165625	1120500			Si
2.57	-1275.14	20	-2083.82	107031	1494000	1581996	36000000	-1123.14	2	-1861.62	95618	1120500			Si
2.67	-745.2	20	-745.2	38276	1494000	565740	36000000	-639.56	2	-639.56	32850	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 22 - 22, sezione R 50x45, asta 648

Campata 3 tra i fili 22 - ?, sezione R 50x45, asta 649

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0018	1632	SLU 83	0.152	27218	5677	SLU 83	70550	Si
0.18	0.41	0.0018	1634	SLU 83	0.152	27218	5683	SLU 83	70550	Si
0.2	0.41	0.0018	1634	SLU 83	0.152	27218	5684	SLU 83	70550	Si
0.35	0.41	0.0018	1635	SLU 83	0.152	27218	5688	SLU 83	70550	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0018	1141	SLD 11	0.222	30372	3968	SLD 11	81133	Si
0.18	0.41	0.0018	1150	SLD 11	0.222	30372	4001	SLD 11	81133	Si
0.2	0.41	0.0018	1152	SLD 11	0.222	30372	4006	SLD 11	81133	Si
0.35	0.41	0.0018	1159	SLD 11	0.222	30372	4031	SLD 11	81133	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00001802	1188	SLE RA 20	28251	1494000	350313	36000000	1068	SLE QP 2	25381	1120500	Si
0.18	0.41	0.00001802	1190	SLE RA 20	28282	1494000	350700	36000000	1069	SLE QP 2	25406	1120500	Si
0.2	0.41	0.00001802	1190	SLE RA 20	28287	1494000	350759	36000000	1069	SLE QP 2	25409	1120500	Si
0.35	0.41	0.00001802	1191	SLE RA 20	28307	1494000	351005	36000000	1069	SLE QP 2	25425	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 40, sezione R 50x45, asta 650

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0018	1635	SLU 83	0.152	27218	5688	SLU 83	70550	Si
0.09	0.41	0.0018	1636	SLU 83	0.152	27218	5690	SLU 83	70550	Si
0.15	0.41	0.0018	1635	SLU 83	0.152	27218	5688	SLU 83	70550	Si
0.18	0.41	0.0018	1635	SLU 83	0.152	27218	5686	SLU 83	70550	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0018	1159	SLD 11	0.222	30372	4031	SLD 11	81133	Si
0.09	0.41	0.0018	1162	SLD 11	0.222	30372	4043	SLD 11	81133	Si
0.15	0.41	0.0018	1164	SLD 11	0.222	30372	4050	SLD 11	81133	Si
0.18	0.41	0.0018	1165	SLD 11	0.222	30372	4052	SLD 11	81133	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00001802	1191	SLE RA 20	28307	1494000	351005	36000000	1069	SLE QP 2	25425	1120500	Si
0.09	0.41	0.00001802	1191	SLE RA 20	28315	1494000	351103	36000000	1070	SLE QP 2	25430	1120500	Si
0.15	0.41	0.00001802	1191	SLE RA 20	28307	1494000	351009	36000000	1069	SLE QP 2	25423	1120500	Si



			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0.18	0.41	0.00001802	1190	SLE RA 20	28297	1494000	350886	36000000	1069	SLE QP 2	25413	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili 40 - ?, sezione R 50x45, asta 651

Campata 6 tra i fili ? - 40, sezione R 50x45, asta 652

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1538	SLU 83	0.035	6641	5349	SLU 83	16400	Si
0.08	0.41	0.0004	1524	SLU 83	0.038	7073	5301	SLU 83	17481	Si
0.15	0.41	0.0004	1510	SLU 83	0.038	7073	5251	SLU 83	17481	Si
0.3	0.41	0.0005	1480	SLU 83	0.042	7855	5149	SLU 83	19448	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1107	SLD 11	0.109	7410	3851	SLD 11	18860	Si
0.08	0.41	0.0004	1097	SLD 11	0.112	7887	3816	SLD 11	20103	Si
0.15	0.41	0.0004	1086	SLD 11	0.112	7887	3778	SLD 11	20103	Si
0.3	0.41	0.0005	1063	SLD 11	0.118	8753	3698	SLD 11	22365	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000419	1120	SLE RA 20	31377	1494000	389075	36000000	1005	SLE QP 2	28162	1120500	Si
0.08	0.41	0.00000446	1110	SLE RA 20	30985	1494000	384218	36000000	996	SLE QP 2	27810	1120500	Si
0.15	0.41	0.00000446	1099	SLE RA 20	30693	1494000	380595	36000000	986	SLE QP 2	27546	1120500	Si
0.3	0.41	0.00000497	1078	SLE RA 20	29898	1494000	370735	36000000	967	SLE QP 2	26832	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 7 tra i fili 40 - 52, sezione R 50x45, aste 653, 654

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.24	1.1	SLU 20	ST	LT	24	544	-46513	0	1	19	0	0	1.1	14148	545	25.96	Si
5.24	1.1	SLV FO 5	SIS	LT	-1742	-6297	-37540	-3	-10	19	0	0	1.1	11419	6533	1.75	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
648,649,650,651,652,653,654				5.24	1.1	SLU 84	ST	BT	2.3	226054	61830	3.66	Si
648,649,650,651,652,653,654				5.24	1.1	SLV FO 5	SIS	LT	2.3	173257	37540	4.62	Si
648,649,650,651,652,653,654				5.24	1.1	SLD 5	SIS	BT	2.3	204787	39493	5.19	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	595	-61830	2148.97	-4127.61	0	1	-0.07	0.03	1.03	5.11	1496	2060	0	14430	0
0	-6297	-37540	4223.6	-3084.83	0	-10	-0.08	0.11	0.87	5.08	1496	2060	37	0	0.07
0	-3339	-39493	2988.32	-2925.14	0	-5	-0.07	0.08	0.95	5.1	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.13	1.13	0.93	1.16	1.27	1	0.71	0.7	0.59	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

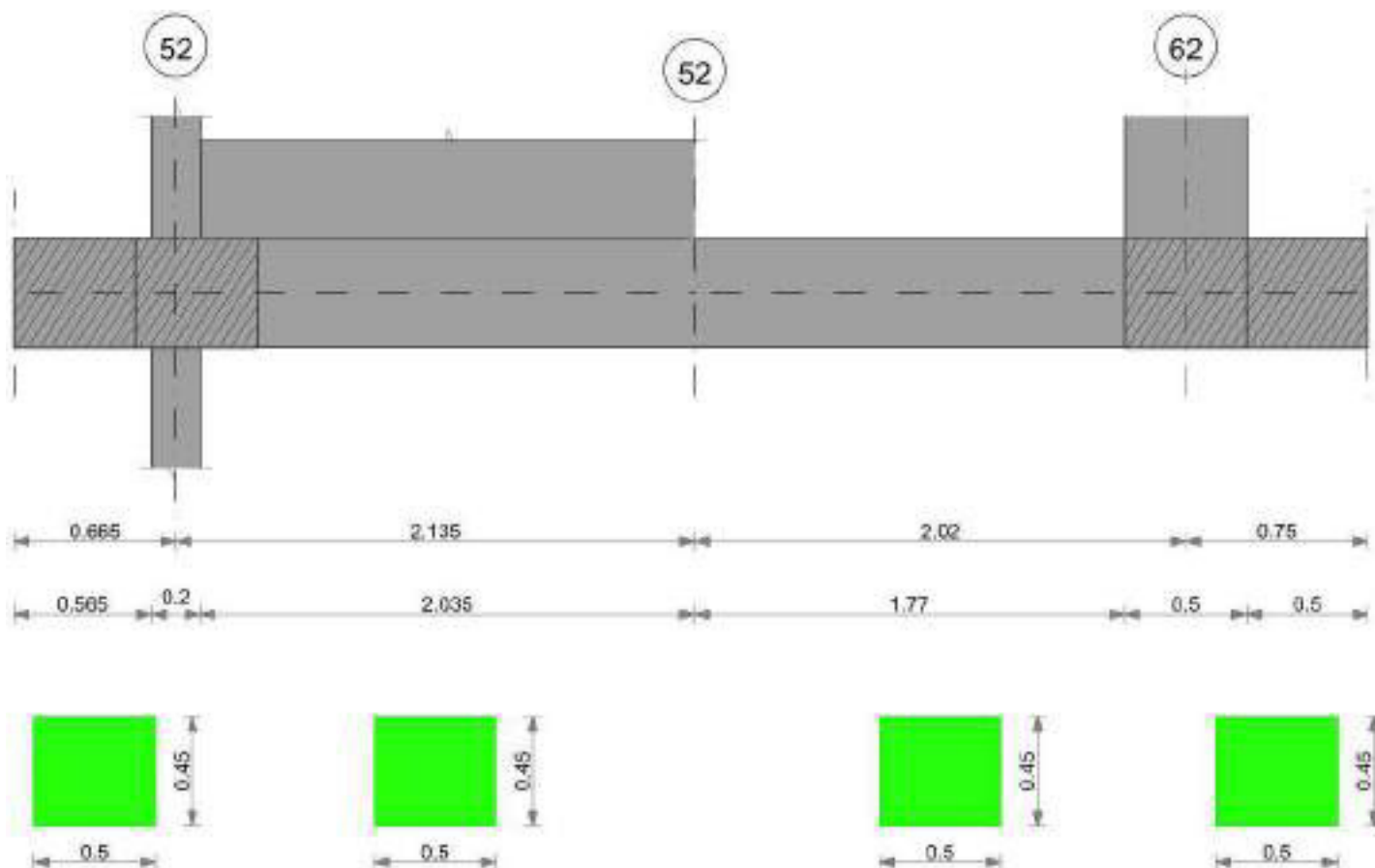
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	762	SLE RA 20	0.05	0	762	764	SLE RA 21	0.05	0	762	SLE RA 19	0.0033	0	SLE RA 20	Si
D	0.05	0	764	SLE RA 1	0.05	0	764	764	SLE RA 1	0.05	0	762	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	764	SLE RA 1	0.05	0	764	764	SLE RA 1	0.05	0	762	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 20	0.19	0.01	762	761	SLE RA 21	0.19	0.01	762	SLE RA 21	0.1	0.01	761	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	764	762	SLE RA 1	0.19	0	764	SLE RA 1	0.1	0	762	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	764	762	SLE RA 1	0.19	0	764	SLE RA 1	0.1	0	762	SLE RA 1	Si

CORDOLO 11

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

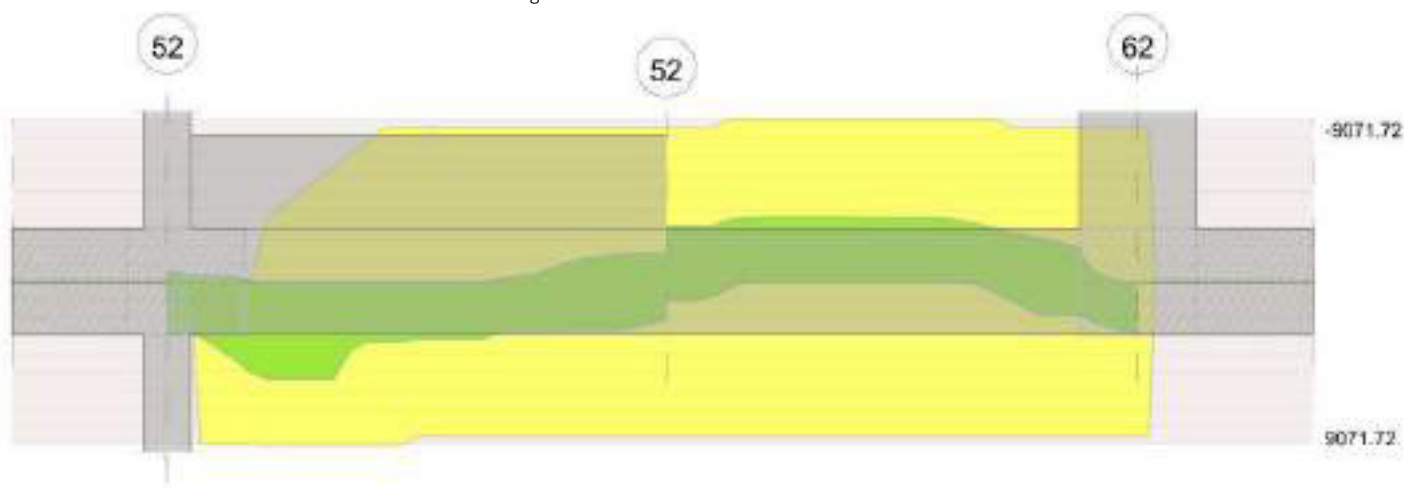
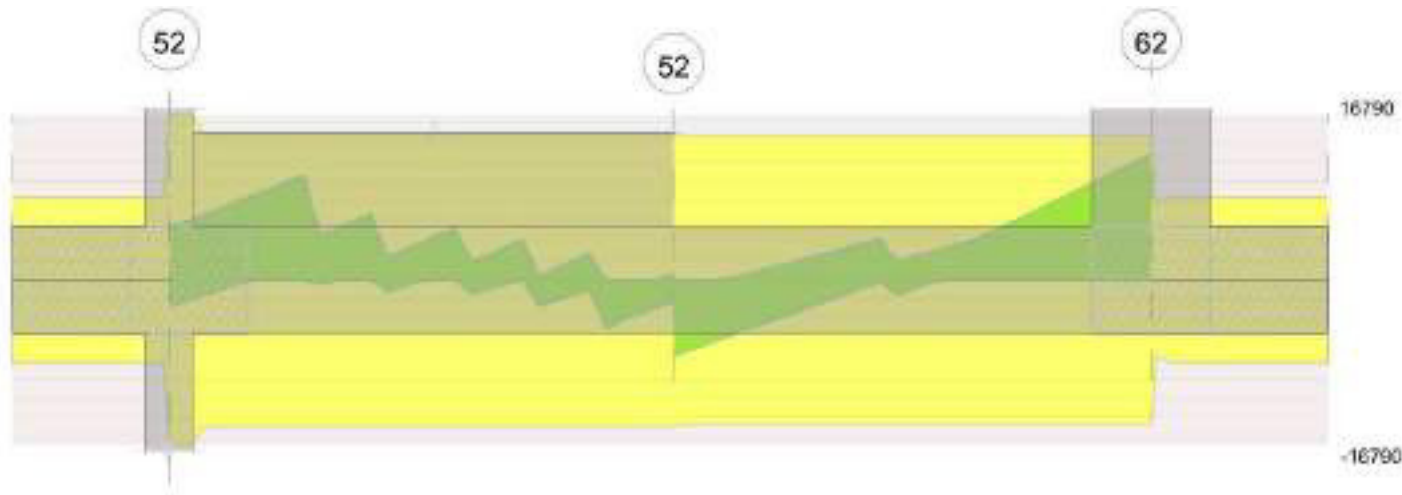


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 52 - 62, sezione R 50x45, aste 515, 516

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000603	0.051	0.000603	0.051							-1502.34	SLU 83	-2536.66	-9071.72	0.119	3.58	Si
0.54	0.000603	0.051	0.000603	0.051							-3538.13	SLU 83	-3563.3	-9071.72	0.119	2.55	Si
1.01	0.000603	0.051	0.000603	0.051							-3501.13	SLU 84	-3548.6	-9071.72	0.119	2.56	Si
1.77	0.000603	0.051	0.000603	0.051	657.7	SLU 77	657.7	9071.72	0.119	13.79	337.91	SLU 2	-945.23	-9071.72	0.119	9.6	Si
2.02	0.000603	0.051	0.000603	0.051	3481.92	SLU 83	1879.39	9071.72	0.119	4.83							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000603	0.051	0.000603	0.051	995.9	SLV FO 13	995.9	8578.86	0.211	8.61	-2974.96	SLV FO 4	-3111.66	-8578.86	0.211	2.76	Si
0.2	0.000603	0.051	0.000603	0.051	-389.22	SLV FO 13	829.05	8578.86	0.211	10.35	-3118.07	SLV FO 4	-3118.07	-8578.86	0.211	2.75	Si
1.01	0.000603	0.051	0.000603	0.051							-2817.47	SLV FO 14	-2855.46	-8578.86	0.211	3	Si
1.77	0.000603	0.051	0.000603	0.051	1814.94	SLV FO 4	1814.94	8578.86	0.211	4.73	-984.22	SLV FO 13	-1867	-8578.86	0.211	4.59	Si
2.02	0.000603	0.051	0.000603	0.051	4017.16	SLV FO 8	2777.93	8578.86	0.211	3.09							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000603	0.051	0.000603	0.051	161.17	SLD 13	161.17	8578.86	0.211	53.23	-2140.23	SLD 4	-2508.9	-8578.86	0.211	3.42	Si
0.54	0.000603	0.051	0.000603	0.051							-2602.72	SLD 4	-2669.9	-8578.86	0.211	3.21	Si
1.01	0.000603	0.051	0.000603	0.051							-2611.58	SLD 14	-2611.58	-8578.86	0.211	3.28	Si
1.77	0.000603	0.051	0.000603	0.051	1223.92	SLD 4	1223.92	8578.86	0.211	7.01	-393.2	SLD 13	-1345.41	-8578.86	0.211	6.38	Si
2.02	0.000603	0.051	0.000603	0.051	3271.01	SLD 8	2108.33	8578.86	0.211	4.07							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000106	0.000603	0	-6826	SLU 84	-6826	-8014	-63336	-14887	-14887	1	2.18	Si
1.01	0.0000105	0.000603	0	1103	SLU 83	1103	8014	63336	14686	14686	1	13.32	Si
1.77	0.0000105	0.000603	0	9862	SLU 83	9862	8014	63336	14686	14686	1	1.49	Si
2.02	0.0000105	0.000603	0	12843	SLU 83	12843	8014	63336	14686	14686	1	1.14	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000106	0.000603	0	-7741	SLV FO 14	-7741	-8014	-63336	-14887	-14887	1	1.92	Si
1.01	0.0000105	0.000603	0	2393	SLV FO 4	2393	8014	63336	14686	14686	1	6.14	Si
1.01	0.0000105	0.000603	0	-952	SLV FO 13	-952	-8014	-63336	-14686	-14686	1	15.43	Si
1.77	0.0000105	0.000603	0	7910	SLV FO 8	7910	8014	63336	14686	14686	1	1.86	Si
2.02	0.0000105	0.000603	0	9987	SLV FO 12	9987	8014	63336	14686	14686	1	1.47	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000106	0.000603	0	-6402	SLD 14	-6402	-8014	-63336	-14887	-14887	1	2.33	Si
1.01	0.0000105	0.000603	0	1690	SLD 4	1690	8014	63336	14686	14686	1	8.69	Si
1.01	0.0000105	0.000603	0	-248	SLD 13	-248	-8014	-63336	-14686	-14686	1	59.12	Si
1.77	0.0000105	0.000603	0	7314	SLD 8	7314	8014	63336	14686	14686	1	2.01	Si
2.02	0.0000105	0.000603	0	9345	SLD 12	9345	8014	63336	14686	14686	1	1.57	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1092.99	20	-1851.7	95893	1494000	1438401	36000000	-989.53	2	-1679.92	86998	1120500			Si
1.01	-2565.46	21	-2599.61	134625	1494000	2019379	36000000	-2329.43	2	-2360.6	122248	1120500			Si
1.77	468.5	14	468.5	24262	1494000	363932	36000000	415.36	2	415.36	21510	1120500			Si
2.02	2532.74	20	1361.69	70518	1494000	1057765	36000000	2298.02	2	1233.68	63888	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure



Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 52 - 52, sezione R 50x45, aste 509, 510, 511, 512, 513, 514

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1480	SLU 83	0.03	5612	5147	SLU 83	15877	Si
0.1	0.41	0.0004	1500	SLU 83	0.03	5612	5219	SLU 83	15877	Si
1.07	0.41	0.0004	1612	SLU 83	0.03	5612	5606	SLU 83	15877	Si
2.14	0.41	0.0004	1570	SLU 83	0.03	5612	5462	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1031	SLD 12	0.1	6270	3586	SLD 12	15900	Si
0.1	0.41	0.0004	1047	SLD 12	0.1	6270	3641	SLD 12	15900	Si
1.07	0.41	0.0004	1158	SLD 16	0.1	6270	4028	SLD 16	15900	Si
2.14	0.41	0.0004	1169	SLD 15	0.1	6270	4066	SLD 15	15900	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000353	1078	SLE RA 20	30478	1494000	377926	36000000	970	SLE QP 2	27431	1120500	Si
0.1	0.41	0.00000353	1093	SLE RA 20	30904	1494000	383214	36000000	984	SLE QP 2	27820	1120500	Si
1.07	0.41	0.00000353	1174	SLE RA 20	33196	1494000	411631	36000000	1058	SLE QP 2	29893	1120500	Si
2.14	0.41	0.00000353	1144	SLE RA 20	32331	1494000	400905	36000000	1030	SLE QP 2	29114	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 52 - 62, sezione R 50x45, aste 515, 516

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.16	1.1	SLU 2	ST	LT	-377	-519	-37677	-1	-1	19	0	0	1.1	11461	641	17.87	Si
4.16	1.1	SLV FO 2	SIS	LT	-6007	-2557	-34576	-10	-4	19	0	0	1.1	10517	6528	1.61	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
509,510,511,512,513,514,515,516				4.16	1.1	SLU 84	ST	BT	2.3	185899	59913	3.1	Si
509,510,511,512,513,514,515,516				4.16	1.1	SLV FO 14	SIS	BT	2.3	172531	44721	3.86	Si
509,510,511,512,513,514,515,516				4.16	1.1	SLD 14	SIS	BT	2.3	178218	43058	4.14	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-652	-59913	1843.37	347.07	0	-1	0.01	0.03	1.04	4.14	1496	2060	0	14430	
0	-2186	-44721	1864.2	4535.06	0	-3	0.1	0.04	1.02	3.95	1496	2060	0	14430	0.07
0	-1394	-43058	1575.27	2730.54	0	-2	0.06	0.04	1.03	4.03	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

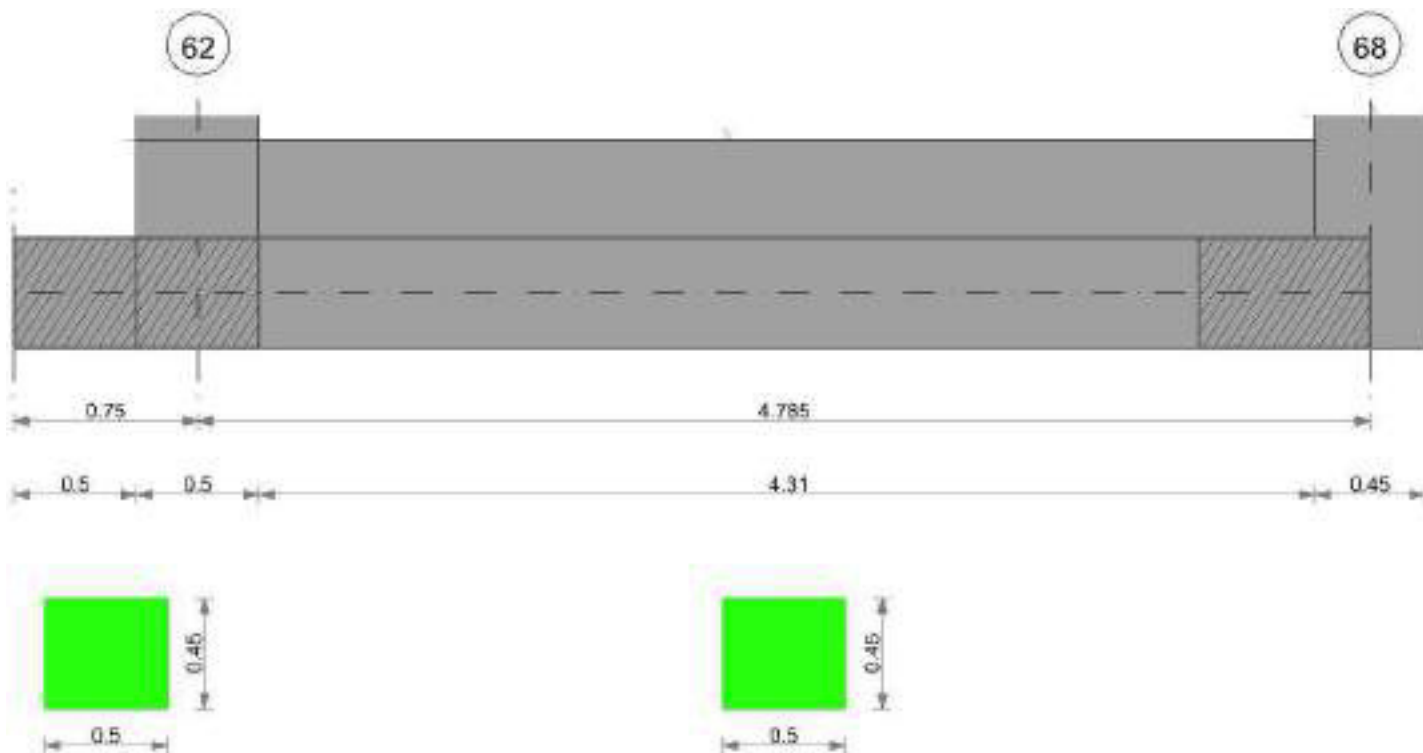
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	764	SLE RA 20	0.05	0.001	764	772	SLE RA 21	0.05	0	770	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	772	SLE RA 1	0.05	0	772	772	SLE RA 1	0.05	0	770	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	772	SLE RA 1	0.05	0	772	772	SLE RA 1	0.05	0	770	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.
E	0.19	0.01	SLE RA 21	0.19	0.01	770	764	SLE RA 21	0.19	0	772	SLE RA 1	0.1	0	770	SLE RA 1
D	0.19	0	SLE RA 1	0.19	0	772	770	SLE RA 1	0.19	0	772	SLE RA 1	0.1	0	770	SLE RA 1
Z	0.19	0	SLE RA 1	0.19	0	772	770	SLE RA 1	0.19	0	772	SLE RA 1	0.1	0	770	SLE RA 1

CORDOLO 12

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

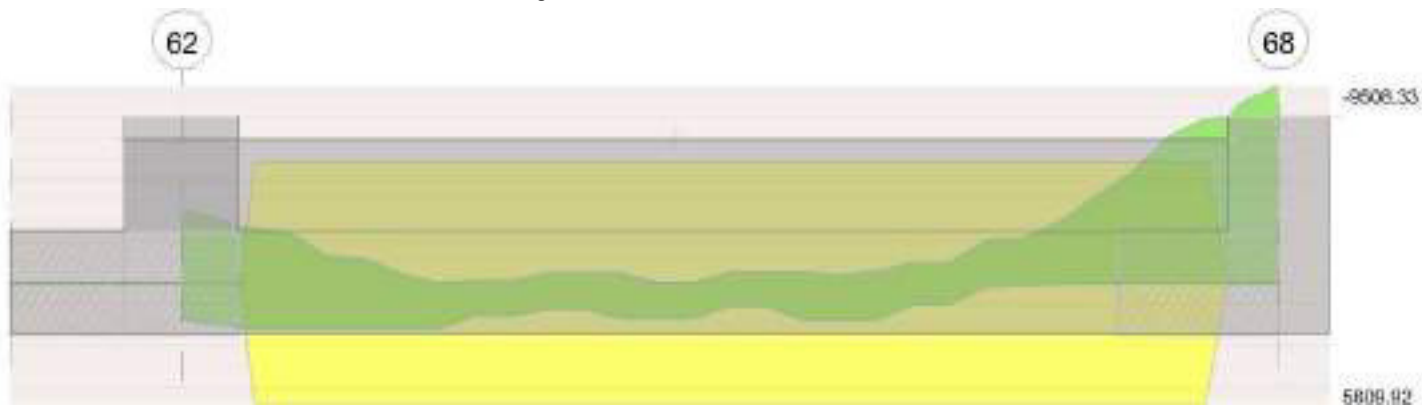


Diagramma verifica stato limite ultimo taglio



62

68

13879

-15820

Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 62 - 68, sezione R 50x45, aste 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1727	SLU 83	0.029	5423	6009	SLU 83	15877	Si
0.25	0.41	0.0003	1756	SLU 83	0.029	5423	6108	SLU 83	15877	Si
2.39	0.41	0.0003	1930	SLU 83	0.029	5423	6714	SLU 83	15877	Si
4.56	0.41	0.0003	2091	SLV FO 15	0.119	5224	7273	SLV FO 15	15877	Si
4.79	0.41	0.0003	2161	SLV FO 15	0.119	5224	7518	SLV FO 15	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	1286	SLD 16	0.098	6061	4475	SLD 16	15877	Si
0.25	0.41	0.0003	1312	SLD 16	0.098	6061	4563	SLD 16	15877	Si
2.39	0.41	0.0003	1553	SLD 15	0.098	6061	5403	SLD 15	15877	Si
4.56	0.41	0.0003	1784	SLD 15	0.098	6061	6205	SLD 15	15877	Si
4.79	0.41	0.0003	1838	SLD 15	0.098	6061	6394	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	$\sigma_{climite}$	σ_f	$\sigma_{flimite}$	M	Comb	σ_c	$\sigma_{climite}$	
0	0.41	0.00000341	1259	SLE RA 20	35636	1494000	441889	36000000	1136	SLE QP 2	32164	1120500	Si
0.25	0.41	0.00000341	1280	SLE RA 20	36232	1494000	449280	36000000	1155	SLE QP 2	32710	1120500	Si
2.39	0.41	0.00000341	1408	SLE RA 20	39869	1494000	494378	36000000	1275	SLE QP 2	36085	1120500	Si
4.56	0.41	0.00000341	1493	SLE RA 20	42254	1494000	523947	36000000	1356	SLE QP 2	38377	1120500	Si
4.79	0.41	0.00000341	1527	SLE RA 20	43222	1494000	535950	36000000	1387	SLE QP 2	39274	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.01	1.1	SLU 2	ST	LT	-603	-343	-46668	-1	0	19	0	0	1.1	14195	694	20.46	Si
5.01	1.1	SLV FO 2	SIS	LT	-6336	-3553	-34848	-10	-6	19	0	0	1.1	10600	7265	1.46	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
655,656,657,658,659,660,661,662,663,664,665,666,667	5.01	1.1	SLU 84	ST	BT	2.3	232081	73933	3.14	Si
655,656,657,658,659,660,661,662,663,664,665,666,667	5.01	1.1	SLV FO 15	SIS	BT	2.3	209424	65698	3.19	Si
655,656,657,658,659,660,661,662,663,664,665,666,667	5.01	1.1	SLD 15	SIS	BT	2.3	218664	59251	3.69	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-331	-73933	241.84	3116.06	0	0	0.04	0	1.09	4.93	1496	2060	0	14430	
0	3269	-65698	-1549.72	11318.65	0	3	0.17	-0.02	1.05	4.67	1496	2060	0	14430	0.07
0	1801	-59251	-828.01	7506.17	0	2	0.13	-0.01	1.07	4.76	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

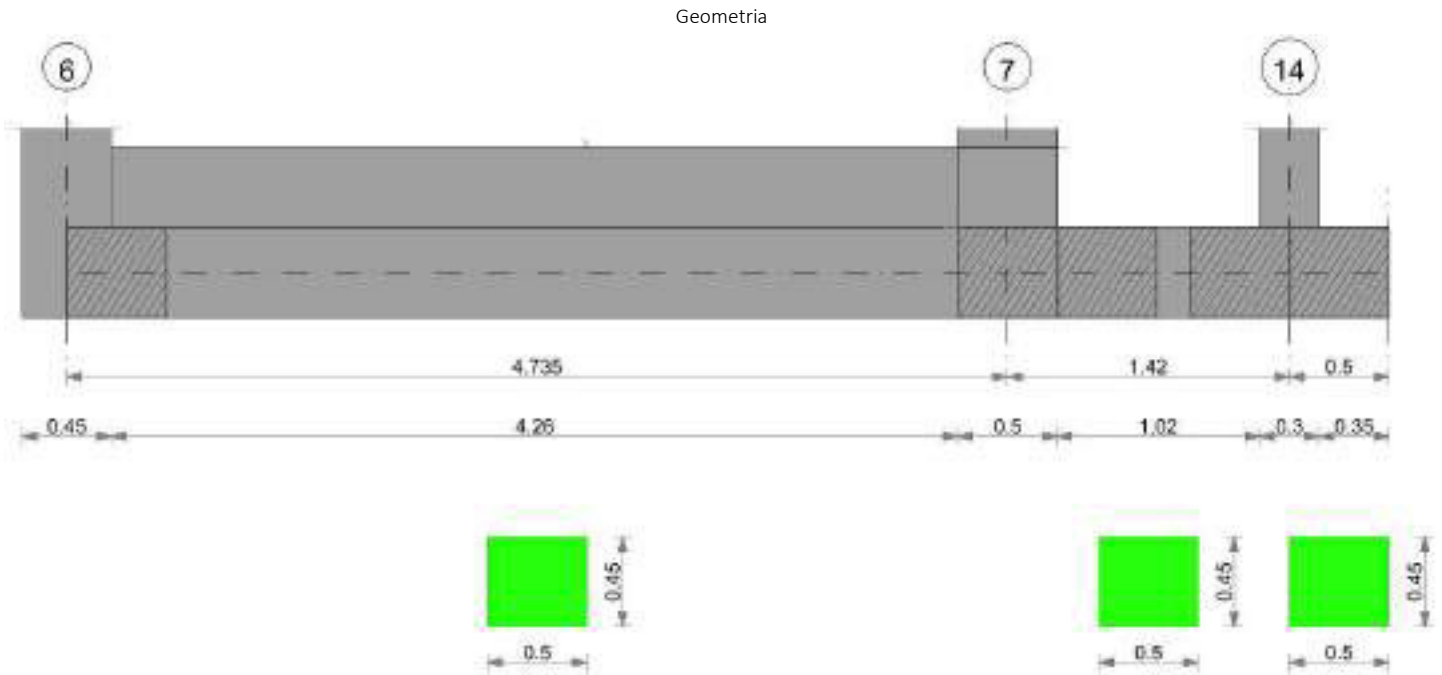
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	773	SLE RA 20	0.05	0.001	773	786	SLE RA 20	0.05	0	786	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	786	SLE RA 1	0.05	0	786	786	SLE RA 1	0.05	0	786	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	786	SLE RA 1	0.05	0	786	786	SLE RA 1	0.05	0	786	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 20	0.19	0.01	786	773	SLE RA 20	0.19	0	786	SLE RA 1	0.1	0	786	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	786	773	SLE RA 1	0.19	0	786	SLE RA 1	0.1	0	786	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	786	773	SLE RA 1	0.19	0	786	SLE RA 1	0.1	0	786	SLE RA 1	Si

CORDOLO 13



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

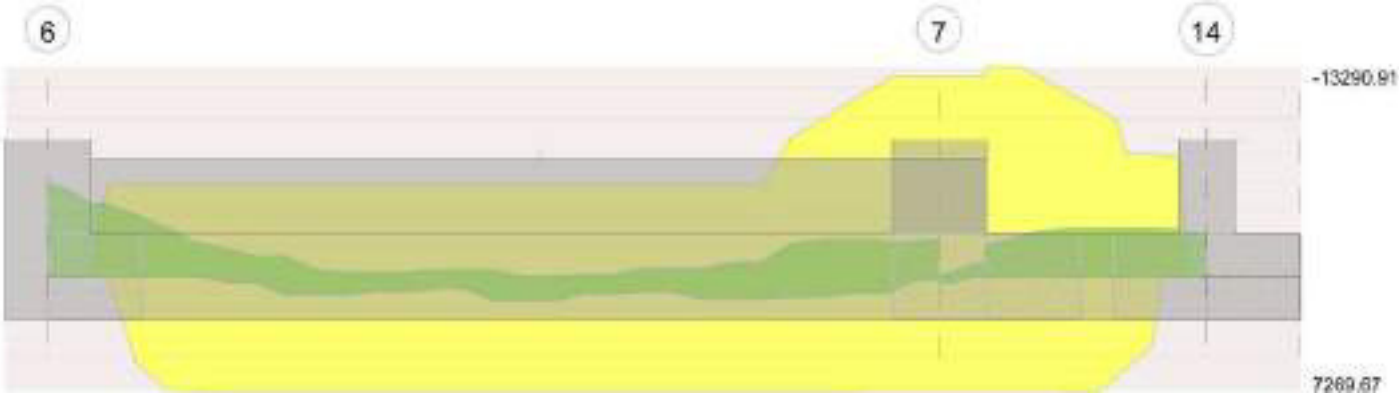
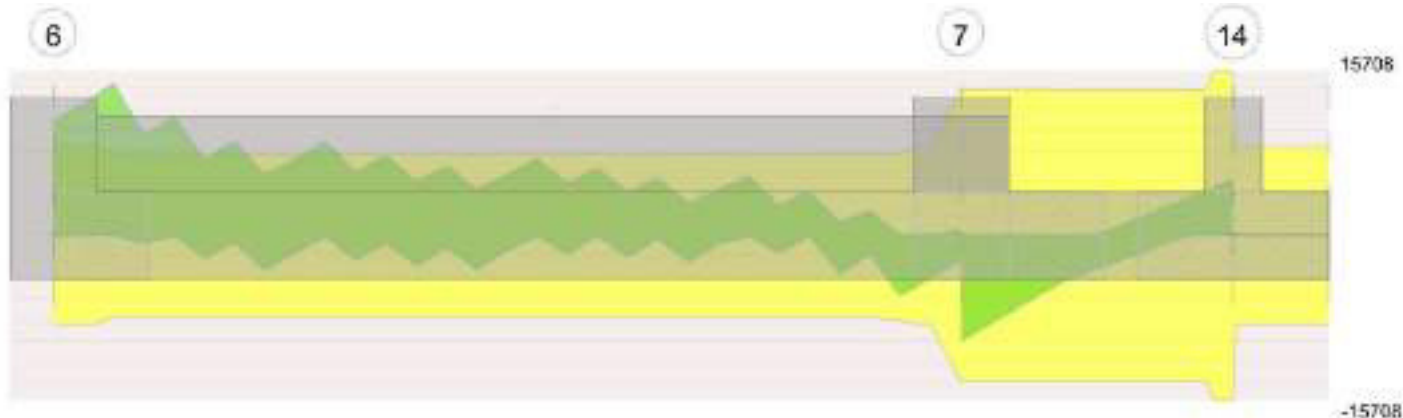


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 7 - 14, sezione R 50x45, asta 332

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	897.33	SLU 84	111.22	7767.77	0.118	69.84							Si
0.25	0.000911	0.052	0.000509	0.052							-927.03	SLU 83	-1889.26	-13290.91	0.144	7.03	Si
0.71	0.000779	0.052	0.000509	0.052							-2822.2	SLU 84	-3051.65	-11484.44	0.133	3.76	Si
1.27	0.000509	0.052	0	0							-2600.46	SLU 84	-2973.83	-7645.09	0.089	2.57	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	1138.67	SLV FO 9	421.53	7261.38	0.192	17.23	-44.52	SLV FO 8	-44.52	-12673.21	0.259	284.64	Si
0.25	0.000911	0.052	0.000509	0.052							-944.24	SLV FO 8	-1495.07	-12673.21	0.259	8.48	Si
0.71	0.000779	0.052	0.000509	0.052							-2230.57	SLV FO 6	-2570.26	-10918.39	0.24	4.25	Si
1.27	0.000509	0.052	0	0							-2763.39	SLV FO 9	-2786.83	-7274.26	0.206	2.61	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000911	0.052	0.000509	0.052	879.88	SLD 9	249.4	7261.38	0.192	29.12							Si
0.25	0.000911	0.052	0.000509	0.052							-815.18	SLD 8	-1403.01	-12673.21	0.259	9.03	Si
0.71	0.000779	0.052	0.000509	0.052							-2074.23	SLD 6	-2324	-10918.39	0.24	4.7	Si
1.27	0.000509	0.052	0	0							-2290.26	SLD 9	-2405.23	-7274.26	0.206	3.02	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000509	0	-10043	SLU 84	-10043	-7764	-63178	-13892	-13892	1	1.38	Si
0.25	0.0000099	0.000802	0	-7365	SLU 84	-7365	-8808	-63248	-13908	-13908	1	1.89	Si
0.71	0.0000099	0.000509	0	-2483	SLU 84	-2483	-7769	-63233	-13905	-13905	1	5.6	Si
1.27	0.0000099	0.000509	0	3447	SLU 83	3447	7764	63178	13892	13892	1	4.03	Si
1.42	0.0000099	0.000509	0	5031	SLU 83	5031	8455	71432	15708	15708	1	3.12	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000509	0	-8255	SLV FO 5	-8255	-7764	-63178	-13892	-13892	1	1.68	Si
0.25	0.0000099	0.000802	0	-6346	SLV FO 5	-6346	-8808	-63248	-13908	-13908	1	2.19	Si
0.71	0.0000099	0.000509	0	22	SLV FO 8	22	7769	63233	13905	13905	1	619.82	Si
0.71	0.0000099	0.000509	0	-3141	SLV FO 9	-3141	-7769	-63233	-13905	-13905	1	4.43	Si
1.27	0.0000099	0.000509	0	4180	SLV FO 8	4180	7764	63178	13892	13892	1	3.32	Si
1.42	0.0000099	0.000509	0	5414	SLV FO 4	5414	8455	71432	15708	15708	1	2.9	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000099	0.000509	0	-7528	SLD 5	-7528	-7764	-63178	-13892	-13892	1	1.85	Si
0.25	0.0000099	0.000802	0	-5669	SLD 5	-5669	-8808	-63248	-13908	-13908	1	2.45	Si
0.71	0.0000099	0.000509	0	-2451	SLD 9	-2451	-7769	-63233	-13905	-13905	1	5.67	Si
1.27	0.0000099	0.000509	0	3406	SLD 4	3406	7764	63178	13892	13892	1	4.08	Si
1.42	0.0000099	0.000509	0	4574	SLD 4	4574	8455	71432	15708	15708	1	3.43	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	σf	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma \text{ FRP}$	$\sigma \text{ FRP lim.}$	
0	637.52	21	58	2889	1494000	45006	36000000	547.07	2	54.63	2721	1120500			Si
0.25	-690.65	20	-1390.23	71915	1494000	1038621	36000000	-645.96	2	-1274.76	65942	1120500			Si
0.71	-2065.49	21	-2228.65	116098	1494000	1697304	36000000	-1873.89	2	-2012.52	104839	1120500			Si
1.27	-1888.46	21	-2166.41	124380	1494000	1773868	36000000	-1682.09	2	-1944.86	111660	1120500			Si
1.42	-1498	21	-1498	-88770	1494000	0	36000000	-1318.56	2	-1318.56	-78137	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure



Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 6 - 7, sezione R 50x45, aste 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2215	SLV FO 1	0.086	2676	7703	SLV FO 1	15877	Si
0.23	0.41	0.0002	2161	SLV FO 1	0.086	2676	7515	SLV FO 1	15877	Si
2.37	0.41	0.0002	1995	SLU 84	0.017	2751	6940	SLU 84	15877	Si
4.49	0.41	0.0002	1816	SLU 84	0.017	2751	6317	SLU 84	15877	Si
4.74	0.41	0.0005	1796	SLU 84	0.042	7837	6248	SLU 84	19403	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1880	SLD 1	0.07	3097	6540	SLD 1	15877	Si
0.23	0.41	0.0002	1840	SLD 1	0.07	3097	6400	SLD 1	15877	Si
2.37	0.41	0.0002	1623	SLD 1	0.07	3097	5644	SLD 1	15877	Si
4.49	0.41	0.0002	1377	SLD 1	0.07	3097	4791	SLD 1	15877	Si
4.74	0.41	0.0005	1354	SLD 1	0.118	8733	4710	SLD 1	22313	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000172	1554	SLE RA 21	44971	1494000	557637	36000000	1414	SLE QP 2	40932	1120500	Si
0.23	0.41	0.00000172	1532	SLE RA 21	44337	1494000	549785	36000000	1393	SLE QP 2	40336	1120500	Si
2.37	0.41	0.00000172	1457	SLE RA 21	42164	1494000	522834	36000000	1320	SLE QP 2	38205	1120500	Si
4.49	0.41	0.00000172	1324	SLE RA 21	38330	1494000	475294	36000000	1196	SLE QP 2	34630	1120500	Si
4.74	0.41	0.00000496	1310	SLE RA 21	36342	1494000	450635	36000000	1183	SLE QP 2	32826	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 7 - 14, sezione R 50x45, asta 332

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
6.38	1.1	SLU 2	ST	LT	729	-423	-60688	1	0	19	0	0	1.1	18460	843	21.9	Si
6.38	1.1	SLV FO 13	SIS	LT	8506	-4573	-47350	10	-6	19	0	0	1.1	14403	9657	1.49	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
319,320,321,322,323,324,325,326,327,328,329,330,331,332					6.38	1.1	SLU 84	ST	BT	2.3	291121	95960	3.03	Si
319,320,321,322,323,324,325,326,327,328,329,330,331,332					6.38	1.1	SLV FO 1	SIS	BT	2.3	265692	84675	3.14	Si
319,320,321,322,323,324,325,326,327,328,329,330,331,332					6.38	1.1	SLD 1	SIS	BT	2.3	275162	76557	3.59	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-406	-95960	310.12	-7615.72	0	0	-0.08	0	1.09	6.22	1496	2060	0	14430	
0	-2980	-84675	1591.46	-20911.63	0	-2	-0.25	0.02	1.06	5.89	1496	2060	0	14430	0.07
0	-1752	-76557	966.38	-14394.45	0	-1	-0.19	0.01	1.07	6	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

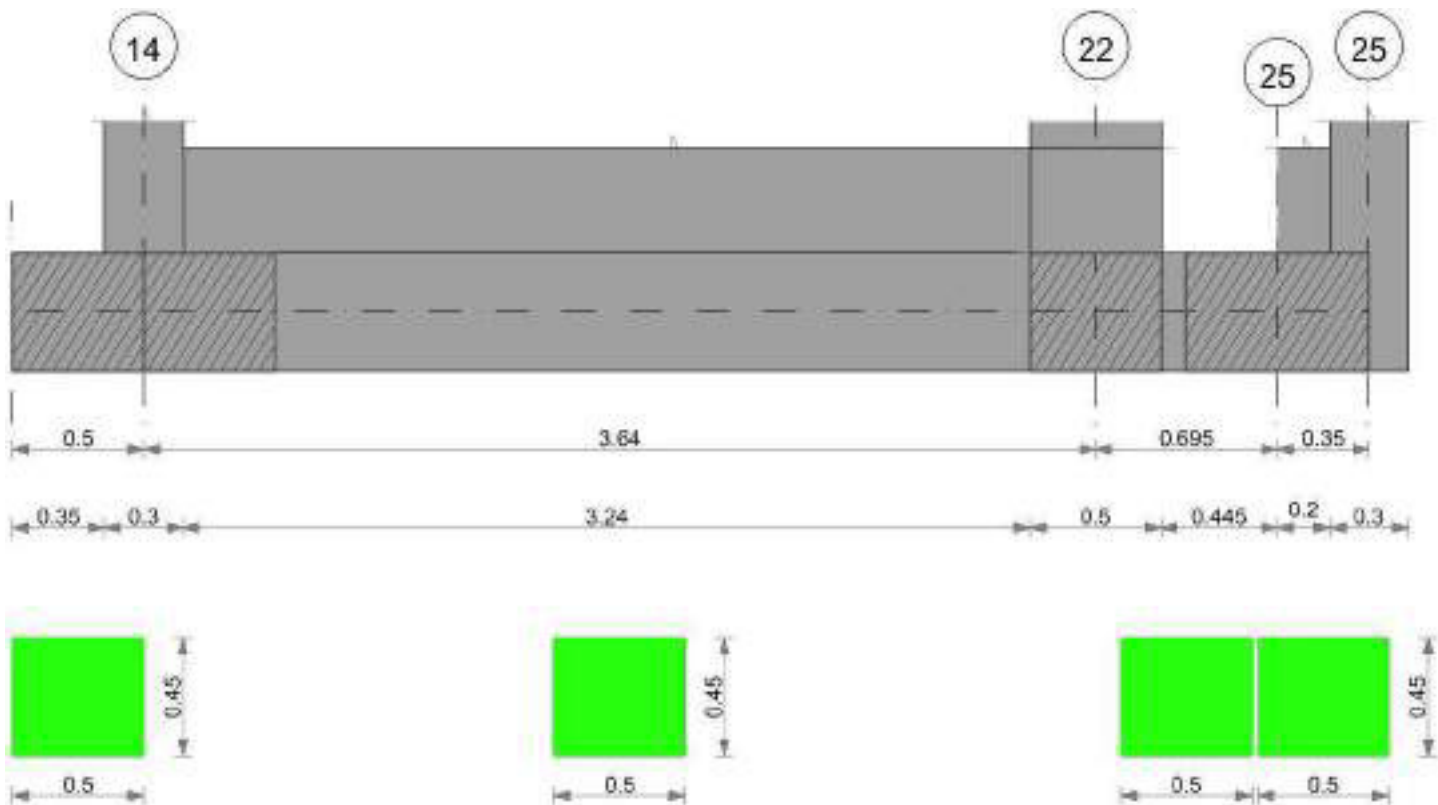
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.002	614	SLE RA 21	0.05	0.002	614	600	SLE RA 21	0.05	0	613	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	614	SLE RA 1	0.05	0	614	614	SLE RA 1	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	614	SLE RA 1	0.05	0	614	614	SLE RA 1	0.05	0	613	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva					Distorsione angolare negativa					Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.		D- adm	D-	Nodo	Comb.		
E	0.19	0.02	SLE RA 21	0.19	0.02	613	600	SLE RA 21	0.19	0	613	SLE RA 20		0.1	0	614	SLE RA 1		Si
D	0.19	0	SLE RA 1	0.19	0	614	613	SLE RA 1	0.19	0	614	SLE RA 1		0.1	0	613	SLE RA 1		Si
Z	0.19	0	SLE RA 1	0.19	0	614	613	SLE RA 1	0.19	0	614	SLE RA 1		0.1	0	613	SLE RA 1		Si

CORDOLO 14

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copri ferro sup.	Copri ferro inf.	Copri ferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

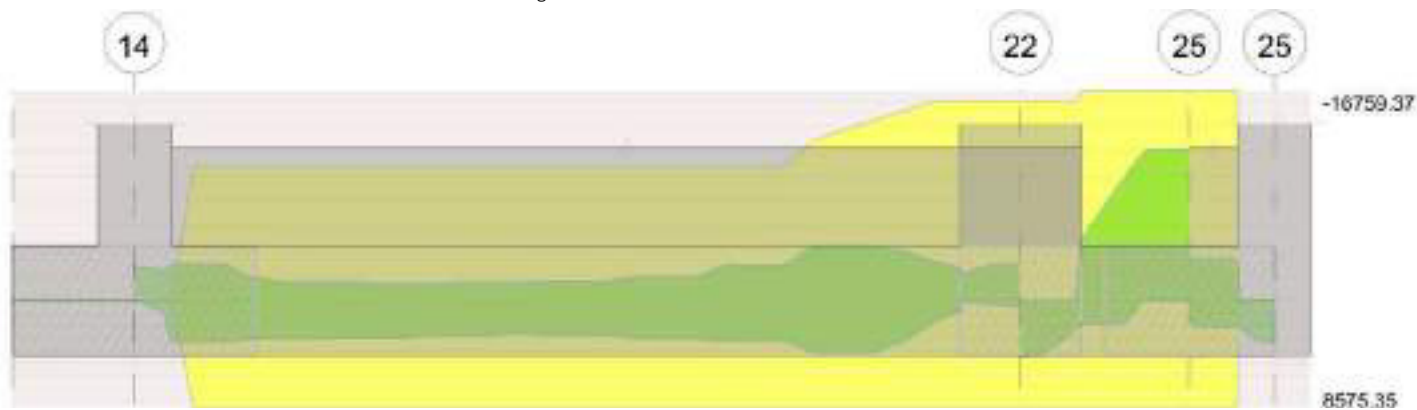


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 22 - 25, sezione R 50x45, asta 718

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	9290.57	SLU 84	4247.76	9086.71	0.123	2.14							Si
0.25	0.001166	0.052	0.000603	0.051	745.24	SLU 84	745.24	9086.71	0.123	12.19	437.8	SLU 1	-4811.82	-16759.37	0.162	3.48	Si
0.35	0.001166	0.052	0.000603	0.051	-1394.5	SLU 2	745.24	9086.71	0.123	12.19	-2342.41	SLU 83	-7615.13	-16759.37	0.162	2.2	Si
0.56	0.001166	0.052	0.000603	0.051							-8420.58	SLU 83	-12108.89	-16759.37	0.162	1.38	Si
0.7	0.001166	0.052	0.000603	0.051							-12108.89	SLU 83	-12108.89	-16759.37	0.162	1.38	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	8475.5	SLV FO 13	4519.18	8572.71	0.203	1.9							Si
0.25	0.001166	0.052	0.000603	0.051	1860.58	SLV FO 9	1860.58	8572.71	0.203	4.61	-898.95	SLV FO 8	-4007.51	-16008.95	0.288	3.99	Si
0.35	0.001166	0.052	0.000603	0.051	-476.21	SLV FO 9	1860.58	8572.71	0.203	4.61	-2628.76	SLV FO 8	-5672.72	-16008.95	0.288	2.82	Si
0.56	0.001166	0.052	0.000603	0.051							-6180.39	SLV FO 12	-8920.37	-16008.95	0.288	1.79	Si
0.7	0.001166	0.052	0.000603	0.051							-8920.37	SLV FO 16	-8920.37	-16008.95	0.288	1.79	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001166	0.052	0.000603	0.051	7488.72	SLD 13	3782.8	8572.71	0.203	2.27							Si
0.25	0.001166	0.052	0.000603	0.051	1262.53	SLD 9	1262.53	8572.71	0.203	6.79	-300.9	SLD 8	-3650.36	-16008.95	0.288	4.39	Si
0.35	0.001166	0.052	0.000603	0.051	-943.7	SLD 9	1262.53	8572.71	0.203	6.79	-2161.28	SLD 8	-5398.58	-16008.95	0.288	2.97	Si
0.56	0.001166	0.052	0.000603	0.051							-5917.95	SLD 12	-8540.73	-16008.95	0.288	1.87	Si
0.7	0.001166	0.052	0.000603	0.051							-8540.73	SLD 16	-8540.73	-16008.95	0.288	1.87	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000252	0.000603	0	-31384	SLU 84	-31384	-8014	-63336	-35464	-35464	1	1.13	Si
0.25	0.0000252	0.000603	0	-28020	SLU 84	-28020	-8014	-63336	-35464	-35464	1	1.27	Si
0.35	0.0000252	0.001166	0	-26725	SLU 84	-26725	-9974	-63232	-35405	-35405	1	1.32	Si
0.7	0.0000252	0.001166	0	-22176	SLU 84	-22176	-9974	-63232	-35405	-35405	1	1.6	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000252	0.000603	0	-24691	SLV FO 13	-24691	-8014	-63336	-35464	-35464	1	1.44	Si
0.25	0.0000252	0.000603	0	-22441	SLV FO 13	-22441	-8014	-63336	-35464	-35464	1	1.58	Si
0.35	0.0000252	0.001166	0	-21572	SLV FO 13	-21572	-9974	-63232	-35405	-35405	1	1.64	Si
0.7	0.0000252	0.001166	0	-18513	SLV FO 13	-18513	-9974	-63232	-35405	-35405	1	1.91	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000252	0.000603	0	-23043	SLD 13	-23043	-8014	-63336	-35464	-35464	1	1.54	Si
0.25	0.0000252	0.000603	0	-20800	SLD 13	-20800	-8014	-63336	-35464	-35464	1	1.7	Si
0.35	0.0000252	0.001166	0	-19935	SLD 13	-19935	-9974	-63232	-35405	-35405	1	1.78	Si
0.7	0.0000252	0.001166	0	-16891	SLD 13	-16891	-9974	-63232	-35405	-35405	1	2.1	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	6788.05	21	3102.5	148244	1494000	2341119	36000000	6136.88	2	2798.75	133730	1120500			Si
0.25	542.84	21	542.84	25938	1494000	409623	36000000	480.82	2	480.82	22974	1120500			Si
0.35	-1712.63	20	-5566.05	421426	1494000	13497113	36000000	-1552.49	2	-5044.71	381954	1120500			Si
0.7	-8849.97	20	-8849.97	670065	1494000	21460310	36000000	-8020.67	2	-8020.67	607276	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.35	superiore	0.282	0.00039	0.000111	20	0.282	0.00037	0.000103	6	0.282	0.00036	0.0001	2	Si
0.56	superiore	0.282	0.00063	0.000176	20	0.282	0.00067	0.000187	6	0.282	0.00064	0.00018	2	Si
0.7	superiore	0.282	0.00063	0.000176	20	0.282	0.00067	0.000187	6	0.282	0.00064	0.00018	2	Si



Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 14 - 22, sezione R 50x45, aste 708, 709, 710, 711, 712, 713, 714, 715, 716, 717

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1764	SLU 83	0.02	3305	6136	SLU 83	15877	Si
0.15	0.41	0.0002	1769	SLU 83	0.02	3305	6151	SLU 83	15877	Si
1.82	0.41	0.0002	1778	SLU 83	0.02	3305	6184	SLU 83	15877	Si
3.39	0.41	0.0002	1655	SLU 83	0.02	3305	5758	SLU 83	15877	Si
3.64	0.41	0.0013	1639	SLU 83	0.106	19431	5699	SLU 83	49405	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1298	SLD 3	0.077	3713	4515	SLD 3	15877	Si
0.15	0.41	0.0002	1298	SLD 3	0.077	3713	4514	SLD 3	15877	Si
1.82	0.41	0.0002	1235	SLD 3	0.077	3713	4296	SLD 3	15877	Si
3.39	0.41	0.0002	1108	SLD 11	0.077	3713	3853	SLD 11	15877	Si
3.64	0.41	0.0013	1105	SLD 11	0.186	21599	3842	SLD 11	56816	Si

Verifiche delle tensioni di esercizio

x		d	Af	Rara					Quasi permanente				Verifica
				M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite
0	0.41	0.00000207	1286	SLE RA 20	37049	1494000	459402	36000000	1161	SLE QP 2	33442	1120500	Si
0.15	0.41	0.00000207	1289	SLE RA 20	37141	1494000	460553	36000000	1163	SLE QP 2	33522	1120500	Si
1.82	0.41	0.00000207	1295	SLE RA 20	37322	1494000	462789	36000000	1167	SLE QP 2	33630	1120500	Si
3.39	0.41	0.00000207	1206	SLE RA 20	34735	1494000	430718	36000000	1084	SLE QP 2	31242	1120500	Si
3.64	0.41	0.00001262	1193	SLE RA 20	30154	1494000	373910	36000000	1073	SLE QP 2	27114	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 22 - 25, sezione R 50x45, asta 718

Campata 4 tra i fili 25 - 25, sezione R 50x45, asta 719

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1569	SLU 83	0.106	19431	5457	SLU 83	49405	Si
0.18	0.41	0.0013	1572	SLU 83	0.106	19431	5467	SLU 83	49405	Si
0.2	0.41	0.0013	1572	SLU 83	0.106	19431	5469	SLU 83	49405	Si
0.35	0.41	0.0013	1574	SLU 83	0.106	19431	5474	SLU 83	49405	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0013	1089	SLD 11	0.186	21599	3786	SLD 11	56816	Si
0.18	0.41	0.0013	1099	SLD 11	0.186	21599	3822	SLD 11	56816	Si
0.2	0.41	0.0013	1100	SLD 11	0.186	21599	3828	SLD 11	56816	Si
0.35	0.41	0.0013	1108	SLD 11	0.186	21599	3854	SLD 11	56816	Si

Verifiche delle tensioni di esercizio

x		d	Af	Rara					Quasi permanente				Verifica
				M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite
0	0.41	0.00001262	1142	SLE RA 20	28871	1494000	358003	36000000	1026	SLE QP 2	25935	1120500	Si
0.18	0.41	0.00001262	1145	SLE RA 20	28925	1494000	358671	36000000	1028	SLE QP 2	25979	1120500	Si
0.2	0.41	0.00001262	1145	SLE RA 20	28934	1494000	358779	36000000	1028	SLE QP 2	25987	1120500	Si
0.35	0.41	0.00001262	1146	SLE RA 20	28961	1494000	359122	36000000	1029	SLE QP 2	26009	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.84	1.1	SLU 50	ST	LT	478	258	-52941	1	0	19	0	0	1.1	16103	543	29.64	Si
4.84	1.1	SLV FO 13	SIS	LT	6284	-2099	-42122	8	-3	19	0	0	1.1	12813	6626	1.93	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste		Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
708,709,710,711,712,713,714,715,716,717,718,719		4.84	1.1	SLU 83	ST	BT	2.3	223895	65937	3.4	Si
708,709,710,711,712,713,714,715,716,717,718,719		4.84	1.1	SLV FO 8	SIS	BT	2.3	188389	46608	4.04	Si
708,709,710,711,712,713,714,715,716,717,718,719		4.84	1.1	SLD 8	SIS	BT	2.3	203516	45783	4.45	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	332	-65937	-212.72	-2941.41	0	0	-0.04	0	1.09	4.75	1496	2060	0	14430	
0	6733	-46608	-3307.48	-3129.64	0	8	-0.07	-0.07	0.96	4.7	1496	2060	0	14430	0.07
0	3886	-45783	-1921.53	-2673.99	0	5	-0.06	-0.04	1.02	4.72	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.04	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

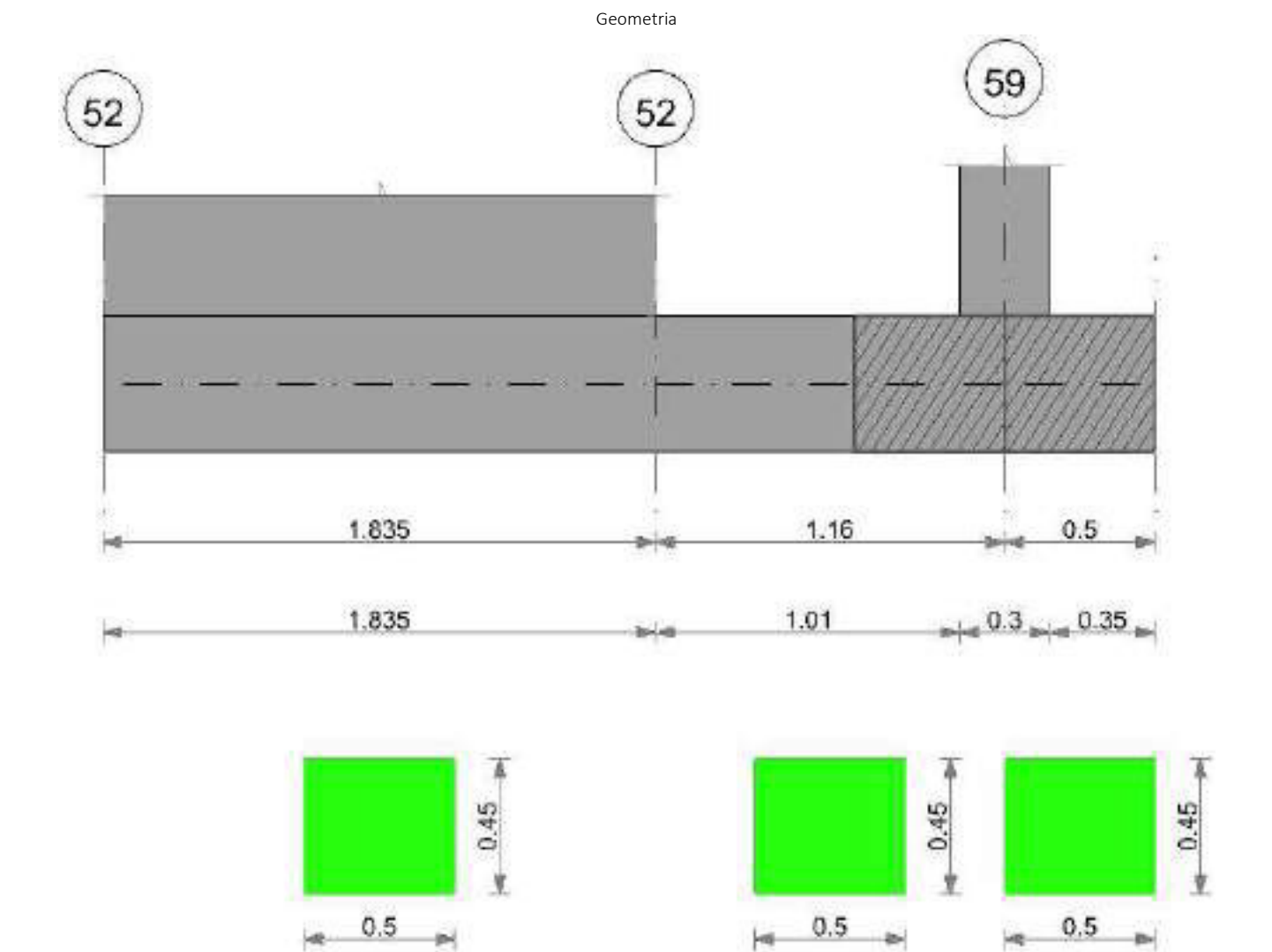
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	626	SLE RA 21	0.05	0	626	614	SLE RA 21	0.05	0	624	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	626	SLE RA 1	0.05	0	626	626	SLE RA 1	0.05	0	625	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	626	SLE RA 1	0.05	0	626	626	SLE RA 1	0.05	0	625	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	624	614	SLE RA 20	0.19	0	625	SLE RA 20	0.1	0	626	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	626	625	SLE RA 1	0.19	0	626	SLE RA 1	0.1	0	625	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	626	625	SLE RA 1	0.19	0	626	SLE RA 1	0.1	0	625	SLE RA 1	Si

CORDOLO 15



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

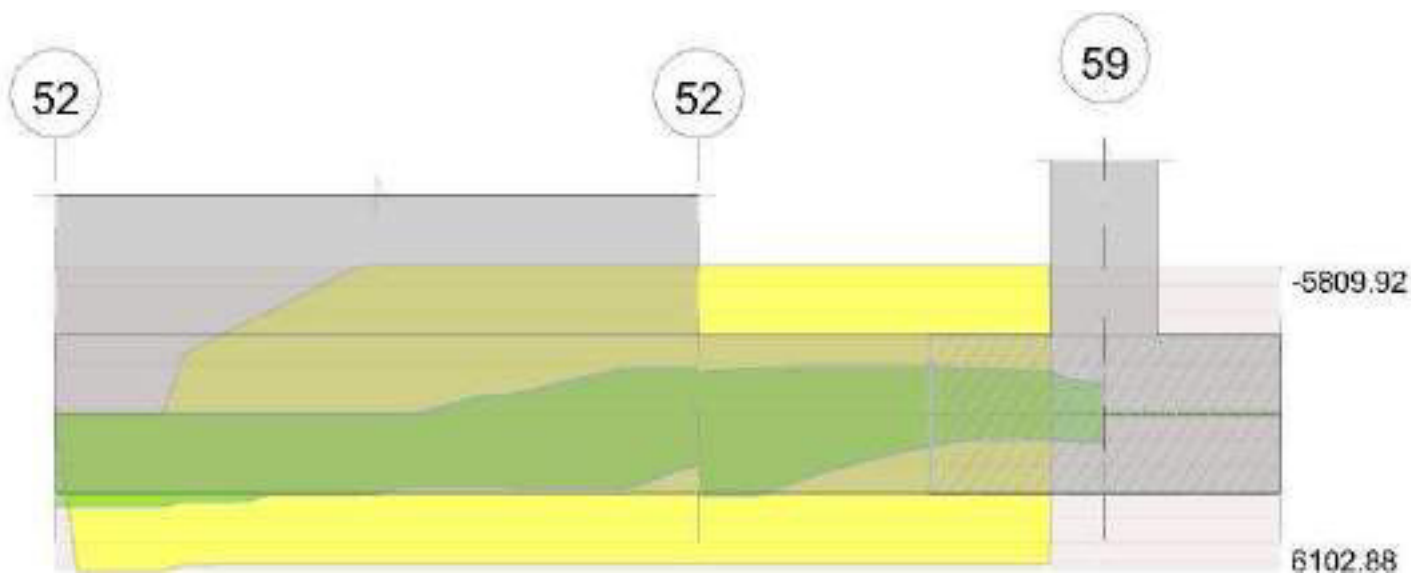
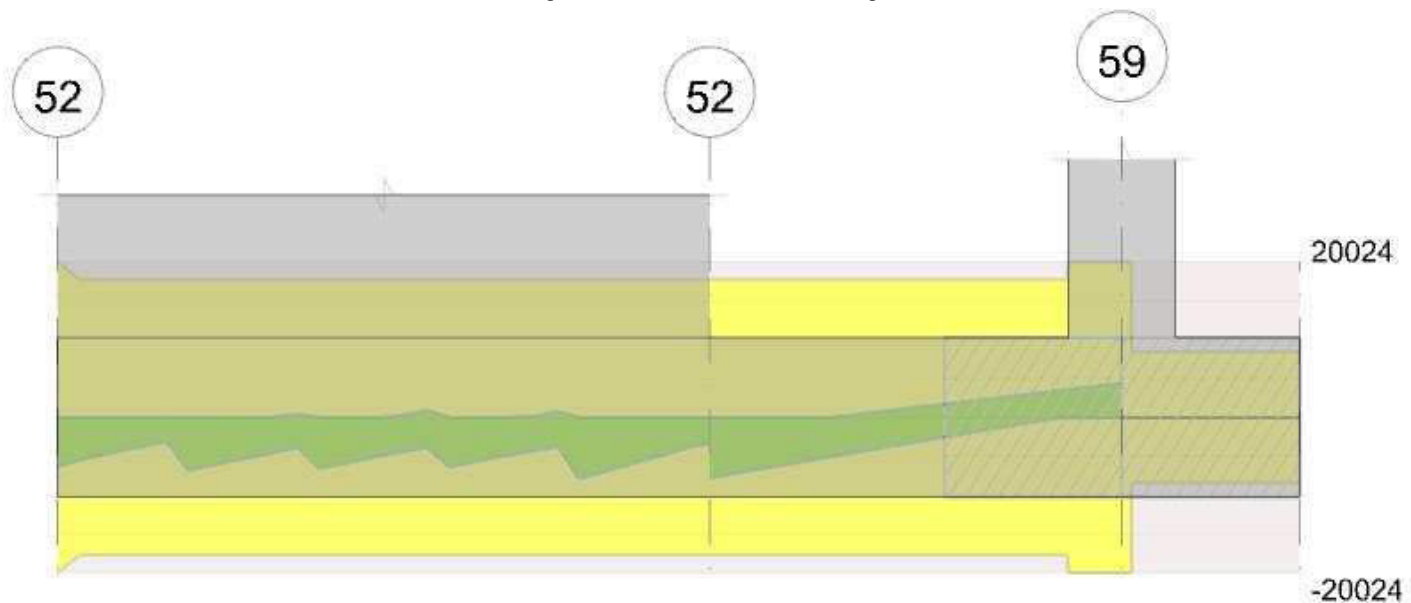


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 52 - 59, sezione R 50x45, asta 498

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	1460.32	SLU 83	1460.32	6274.14	0.102	4.3							Si
0.58	0.000402	0.051	0.000402	0.051							-604.42	SLU 82	-696.42	-6274.14	0.102	9.01	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	3139.56	SLV FO 11	3139.56	5809.92	0.178	1.85	-1276.42	SLV FO 6	-1589.97	-5809.92	0.178	3.65	Si
0.58	0.000402	0.051	0.000402	0.051	1018.08	SLV FO 11	1451.37	5809.92	0.178	4	-1794.26	SLV FO 6	-1807.76	-5809.92	0.178	3.21	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000402	0.051	0.000402	0.051	2179.26	SLD 11	2179.26	5809.92	0.178	2.67	-316.12	SLD 6	-752.18	-5809.92	0.178	7.72	Si
0.58	0.000402	0.051	0.000402	0.051	404.02	SLD 11	745.65	5809.92	0.178	7.79	-1180.21	SLD 6	-1181.98	-5809.92	0.178	4.92	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000126	0.000402	0	-7415	SLU 83	-7415	-7777	-63336	-17755	-17755	1	2.39	Si
0.58	0.0000126	0.000402	0	-1568	SLU 83	-1568	-7777	-63336	-17755	-17755	1	11.32	Si
1.01	0.0000126	0	0	2713	SLU 84	2713	8455	71432	20024	20024	1	7.38	Si
1.16	0.0000126	0	0	4191	SLU 84	4191	8455	71432	20024	20024	1	4.78	Si



Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000126	0.000402	0	-7787	SLV FO 16	-7787	-7777	-63336	-17755	-17755	1	2.28	Si
0.58	0.0000126	0.000402	0	1249	SLV FO 1	1249	7777	63336	17755	17755	1	14.22	Si
0.58	0.0000126	0.000402	0	-3172	SLV FO 16	-3172	-7777	-63336	-17755	-17755	1	5.6	Si
1.01	0.0000126	0	0	3568	SLV FO 1	3568	8455	71432	20024	20024	1	5.61	Si
1.16	0.0000126	0	0	4376	SLV FO 1	4376	8455	71432	20024	20024	1	4.58	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000126	0.000402	0	-6548	SLD 16	-6548	-7777	-63336	-17755	-17755	1	2.71	Si
0.58	0.0000126	0.000402	0	314	SLD 1	314	7777	63336	17755	17755	1	56.62	Si
0.58	0.0000126	0.000402	0	-2237	SLD 16	-2237	-7777	-63336	-17755	-17755	1	7.94	Si
1.01	0.0000126	0	0	2850	SLD 1	2850	8455	71432	20024	20024	1	7.03	Si
1.16	0.0000126	0	0	3731	SLD 1	3731	8455	71432	20024	20024	1	5.37	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	1056.91	20	1056.91	57135	1494000	857032	36000000	931.57	2	931.57	50360	1120500			Si
0.58	-444.37	19	-509.9	27565	1494000	413473	36000000	-388.09	2	-442.5	23921	1120500			Si
1.01	-291.93	19	-481.76	-28548	1494000	0	36000000	-231.88	2	-412.92	-24469	1120500			Si
1.16	63.89	6	63.89	3786	1494000	0	36000000	60.01	1	60.01	3556	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 52 - 52, sezione R 50x45, aste 493, 494, 495, 496, 497

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1830	SLU 83	0.053	9944	6367	SLU 83	24735	Si
0.92	0.41	0.0006	1860	SLU 83	0.053	9944	6469	SLU 83	24735	Si
1.83	0.41	0.0006	1815	SLU 83	0.053	9944	6314	SLU 83	24735	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1306	SLD 11	0.133	11063	4543	SLD 11	28445	Si
0.92	0.41	0.0006	1345	SLD 11	0.133	11063	4678	SLD 11	28445	Si
1.83	0.41	0.0006	1337	SLD 15	0.133	11063	4652	SLD 15	28445	Si

Verifiche delle tensioni di esercizio

x	d	Af	Rara					Quasi permanente					Verifica
			M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000632	1335	SLE RA 20	36409	1494000	451476	36000000	1204	SLE QP 2	32832	1120500	Si
0.92	0.41	0.00000632	1356	SLE RA 20	36987	1494000	458639	36000000	1223	SLE QP 2	33350	1120500	Si
1.83	0.41	0.00000632	1323	SLE RA 20	36092	1494000	447539	36000000	1193	SLE QP 2	32545	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 52 - 59, sezione R 50x45, asta 498

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
2.99	1.1	SLU 2	ST	LT	-139	-275	-25723	0	-1	19	0	0	1.1	7824	308	25.43	Si
2.99	1.1	SLV FO 6	SIS	LT	-1188	-3740	-23964	-3	-9	19	0	0	1.1	7289	3924	1.86	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
493,494,495,496,497,498					2.99	1.1	SLU 84	ST	BT	2.3	138214	40939	3.38	Si
493,494,495,496,497,498					2.99	1.1	SLV FO 11	SIS	BT	2.3	133118	31629	4.21	Si
493,494,495,496,497,498					2.99	1.1	SLD 14	SIS	BT	2.3	134071	29100	4.61	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
-203	-334	-40939	827.63	-511.48	0	0	-0.01	0.02	1.06	2.97	1496	2060	0	14430	
898	3368	-31629	-1029.98	170.08	2	6	0.01	-0.03	1.03	2.98	1496	2060	0	14430	0.07
1824	-778	-29100	781.53	843.8	4	-2	0.03	0.03	1.05	2.94	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	627	SLE RA 21	0.05	0.001	627	633	SLE RA 21	0.05	0	632	SLE RA 10	0.0033	0	SLE RA 10	Si
D	0.05	0	633	SLE RA 1	0.05	0	633	633	SLE RA 1	0.05	0	632	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	633	SLE RA 1	0.05	0	633	633	SLE RA 1	0.05	0	632	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	632	627	SLE RA 21	0.19	0	633	SLE RA 1	0.1	0.01	632	SLE RA 10	Si
D	0.19	0	SLE RA 1	0.19	0	633	632	SLE RA 1	0.19	0	633	SLE RA 1	0.1	0	632	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	633	632	SLE RA 1	0.19	0	633	SLE RA 1	0.1	0	632	SLE RA 1	Si



Geometria



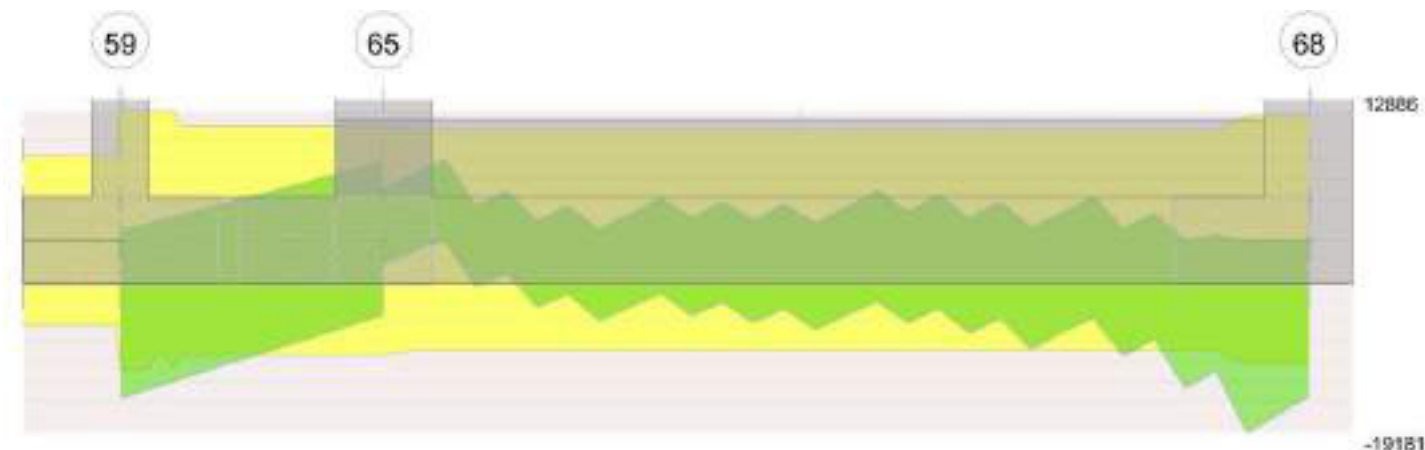
Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

Diagramma verifica stato limite ultimo flessione





Output campate

Campata 2 tra i fili 59 - 65, sezione R 50x45, asta 668

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000875	0.052	0.000603	0.051							-4879.41	SLU 83	-5449.46	-12775.02	0.138	2.34	Si
1.11	0.001272	0.052	0.000603	0.051							-5935.72	SLU 83	-5935.72	-18188.89	0.172	3.06	Si
1.36	0.001272	0.052	0.000603	0.051							-6064.66	SLU 83	-6064.66	-18188.89	0.172	3	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000875	0.052	0.000603	0.051							-4111.71	SLV FO 15	-5227.85	-12206.74	0.252	2.33	Si
1.11	0.001272	0.052	0.000603	0.051							-6883.96	SLV FO 11	-6883.96	-17412.63	0.301	2.53	Si
1.36	0.001272	0.052	0.000603	0.051	194.5	SLV FO 6	194.5	8570.09	0.202	44.06	-8281.71	SLV FO 11	-8000.26	-17412.63	0.301	2.18	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.68	0.000875	0.052	0.000603	0.051							-3749.73	SLD 15	-4535.47	-12206.74	0.252	2.69	Si
1.11	0.001272	0.052	0.000603	0.051							-5611.87	SLD 11	-5611.87	-17412.63	0.301	3.1	Si
1.36	0.001272	0.052	0.000603	0.051							-6438.51	SLD 11	-6307.36	-17412.63	0.301	2.76	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000081	0	0	-11098	SLU 83	-11098	-8455	-71432	-12886	-12886	1	1.16	Si
0.15	0.0000081	0	0	-9834	SLU 83	-9834	-8455	-71432	-12886	-12886	1	1.31	Si
0.68	0.0000081	0	0	-5395	SLU 83	-5395	-7764	-63178	-11397	-11397	1	2.11	Si
1.11	0.0000081	0.000936	0	-1825	SLU 77	-1825	-9268	-63178	-11397	-11397	1	6.25	Si
1.36	0.0000081	0.001163	0	513	SLU 52	513	9962	63178	11397	11397	1	22.21	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000081	0	0	960	SLV FO 6	960	8455	71432	12886	12886	1	13.42	Si
0	0.0000081	0	0	-15754	SLV FO 11	-15754	-8455	-71432	-12886	-12886	1	0.82	Si
0.15	0.0000081	0	0	1700	SLV FO 6	1700	8455	71432	12886	12886	1	7.58	Si
0.18	0.0000081	0	0	1854	SLV FO 6	1854	8455	71432	12886	12886	1	6.95	Si
0.68	0.0000081	0	0	4334	SLV FO 6	4334	7764	63178	11397	11397	1	2.63	Si
1.11	0.0000081	0.000936	0	6519	SLV FO 6	6519	9268	63178	11397	11397	1	1.75	Si
1.11	0.0000081	0.000936	0	-8930	SLV FO 11	-8930	-9268	-63178	-11397	-11397	1	1.28	Si
1.36	0.0000081	0.000603	0	7815	SLV FO 6	7815	8014	63336	11426	11426	1	1.46	Si
1.36	0.0000081	0.001163	0	-7423	SLV FO 11	-7423	-9962	-63178	-11397	-11397	1	1.54	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000081	0	0	-12118	SLD 11	-12118	-8455	-71432	-12886	-12886	1	1.06	Si
0.15	0.0000081	0	0	-11218	SLD 11	-11218	-8455	-71432	-12886	-12886	1	1.15	Si
0.68	0.0000081	0	0	879	SLD 6	879	7764	63178	11397	11397	1	12.97	Si
0.68	0.0000081	0	0	-8080	SLD 11	-8080	-7764	-63178	-11397	-11397	1	1.41	Si
1.11	0.0000081	0.000936	0	3153	SLD 6	3153	9268	63178	11397	11397	1	3.62	Si
1.11	0.0000081	0.000936	0	-5564	SLD 11	-5564	-9268	-63178	-11397	-11397	1	2.05	Si
1.36	0.0000081	0.001163	0	4493	SLD 6	4493	9962	63178	11397	11397	1	2.54	Si
1.36	0.0000081	0.001163	0	-4100	SLD 11	-4100	-9962	-63178	-11397	-11397	1	2.78	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_f	$\sigma_{f\ lim.}$	Mela	Comb.	Mdes	σ_c	$\sigma_{c\ lim.}$	σ_{FRP}	$\sigma_{FRP\ lim.}$	
0	-813.51	19	-813.51	-48208	1494000	0	36000000	-694.89	2	-694.89	-41179	1120500			Si
0.15	-1585.62	21	-2390.58	-141664	1494000	0	36000000	-1409.61	2	-2152.93	-127581	1120500			Si
0.68	-3576.11	20	-3992.73	203878	1494000	2982662	36000000	-3250.28	2	-3630.92	185403	1120500			Si
1.11	-4347.85	20	-4347.85	217686	1494000	3073057	36000000	-3956.22	2	-3956.22	198079	1120500			Si
1.36	-4441.5	20	-4441.5	222376	1494000	3139253	36000000	-4043.6	2	-4043.6	202454	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure



Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 59 - 65, sezione R 50x45, asta 668

Campata 3 tra i fili 65 - 68, sezione R 50x45, aste 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1727	SLU 83	0.034	6449	6007	SLU 83	15917	Si
0.25	0.41	0.0004	1756	SLU 83	0.033	6210	6109	SLU 83	15877	Si
2.39	0.41	0.0004	1941	SLU 84	0.033	6210	6752	SLU 84	15877	Si
4.56	0.41	0.0004	2088	SLV FO 14	0.128	5972	7261	SLV FO 14	15877	Si
4.79	0.41	0.0004	2161	SLV FO 14	0.128	5972	7516	SLV FO 14	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1272	SLD 16	0.107	7197	4424	SLD 16	18305	Si
0.25	0.41	0.0004	1297	SLD 16	0.105	6932	4510	SLD 16	17617	Si
2.39	0.41	0.0004	1547	SLD 14	0.105	6932	5382	SLD 14	17617	Si
4.56	0.41	0.0004	1784	SLD 14	0.105	6932	6206	SLD 14	17617	Si
4.79	0.41	0.0004	1841	SLD 14	0.105	6932	6402	SLD 14	17617	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000407	1259	SLE RA 20	35335	1494000	438158	36000000	1136	SLE QP 2	31899	1120500	Si
0.25	0.41	0.00000391	1280	SLE RA 20	36008	1494000	446500	36000000	1156	SLE QP 2	32516	1120500	Si
2.39	0.41	0.00000391	1417	SLE RA 21	39843	1494000	494051	36000000	1282	SLE QP 2	36062	1120500	Si
4.56	0.41	0.00000391	1498	SLE RA 21	42144	1494000	522589	36000000	1361	SLE QP 2	38277	1120500	Si
4.79	0.41	0.00000391	1534	SLE RA 21	43134	1494000	534862	36000000	1394	SLE QP 2	39194	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
6.37	1.1	SLU 5	ST	LT	-709	-409	-57910	-1	0	19	0	0	1.1	17615	818	21.53	Si
6.37	1.1	SLV FO 2	SIS	LT	-7927	-4224	-45006	-10	-5	19	0	0	1.1	13690	8982	1.52	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
668,669,670,671,672,673,674,675,676,677,678,679,680,681					6.37	1.1	SLU 84	ST	BT	2.3	291355	90321	3.23	Si
668,669,670,671,672,673,674,675,676,677,678,679,680,681					6.37	1.1	SLV FO 15	SIS	BT	2.3	262677	77841	3.37	Si
668,669,670,671,672,673,674,675,676,677,678,679,680,681					6.37	1.1	SLD 15	SIS	BT	2.3	274412	70990	3.87	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-396	-90321	264.19	6658.05	0	0	0.07	0	1.09	6.22	1496	2060	0	14430	
0	3892	-77841	-1882.35	18380.47	0	3	0.24	-0.02	1.05	5.9	1496	2060	0	14430	0.07
0	2146	-70990	-1014.25	12637.78	0	2	0.18	-0.01	1.07	6.01	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

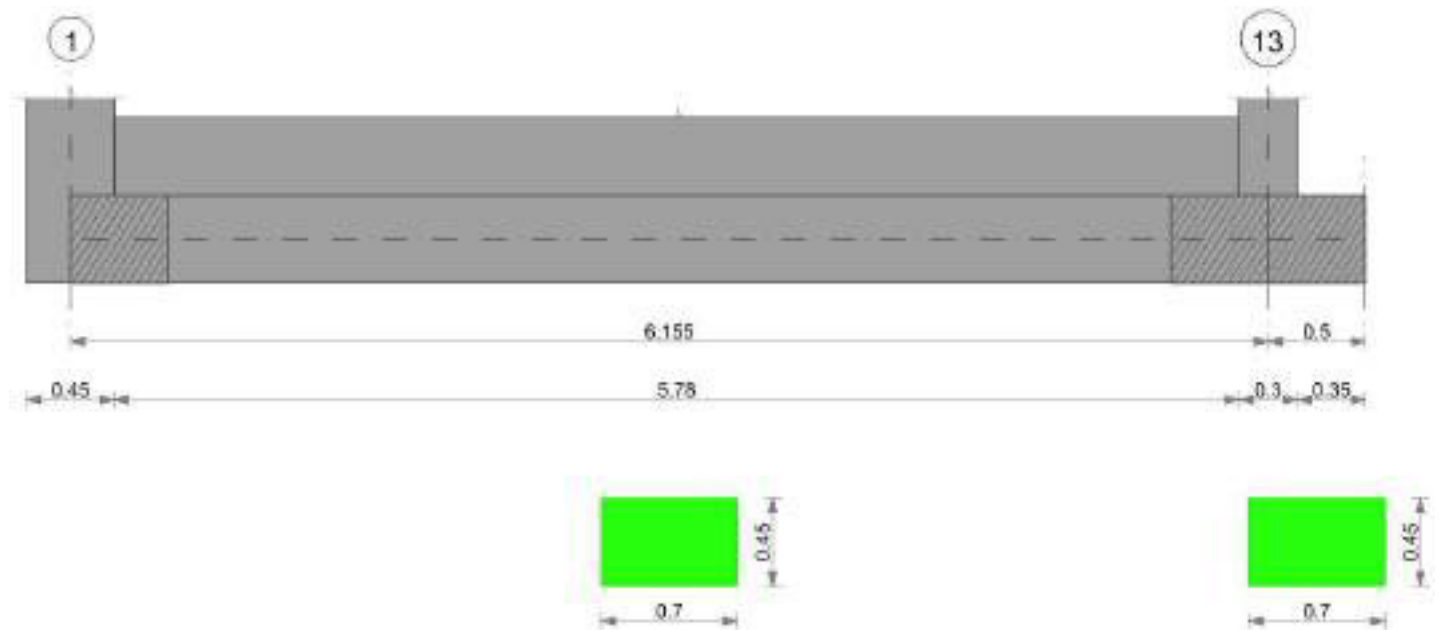
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	634	SLE RA 21	0.05	0.001	634	648	SLE RA 21	0.05	0	635	SLE RA 7	0.0033	0	SLE RA 7	Si
D	0.05	0	648	SLE RA 1	0.05	0	648	648	SLE RA 1	0.05	0	635	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	648	SLE RA 1	0.05	0	648	648	SLE RA 1	0.05	0	635	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	648	635	SLE RA 20	0.19	0	635	SLE RA 16	0.1	0	635	SLE RA 7	Si
D	0.19	0	SLE RA 1	0.19	0	648	635	SLE RA 1	0.19	0	648	SLE RA 1	0.1	0	635	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	648	635	SLE RA 1	0.19	0	648	SLE RA 1	0.1	0	635	SLE RA 1	Si

CORDOLO 17

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

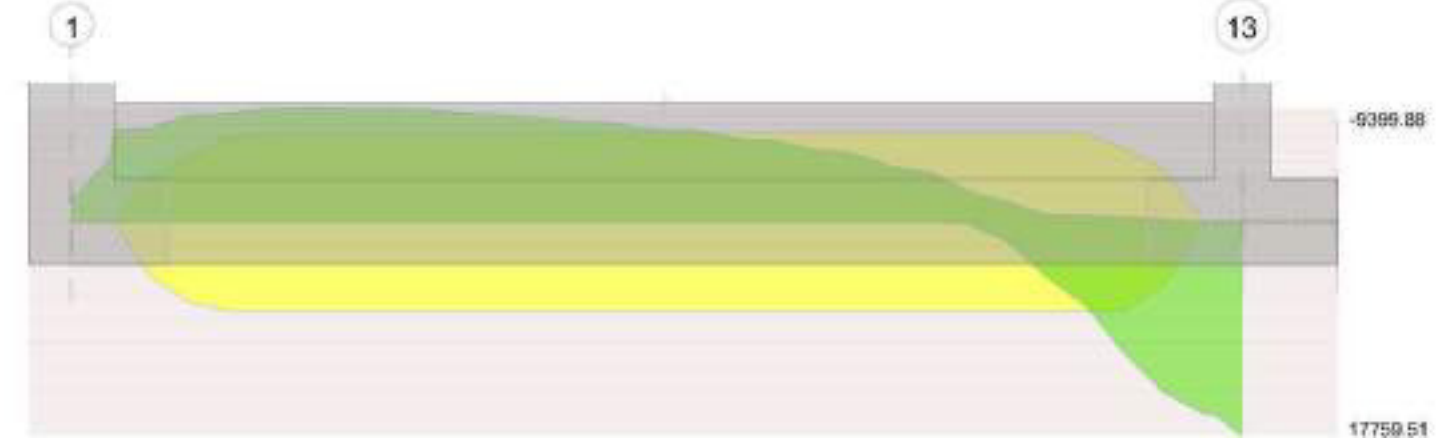
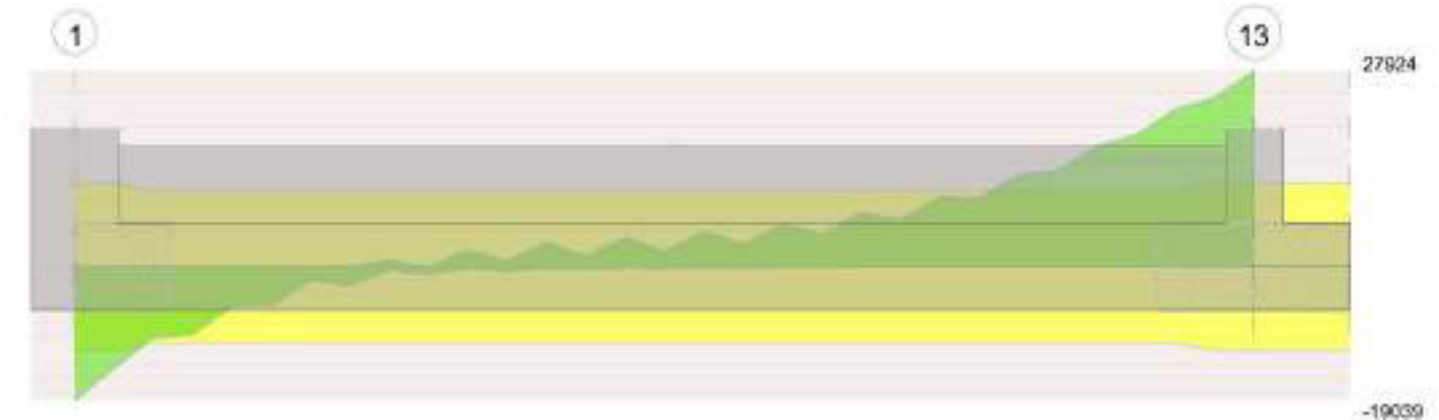


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 1 - 13, sezione R 70x45, aste 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	5140	SLV FO 5	0.119	5189	13265	SLV FO 5	15877	Si
0.23	0.41	0.0003	4856	SLV FO 5	0.119	5189	12532	SLV FO 5	15877	Si
3.08	0.41	0.0003	3084	SLV FO 5	0.119	5189	7959	SLV FO 5	15877	Si
6.01	0.41	0.0003	4120	SLV FO 5	0.119	5189	10633	SLV FO 5	15877	Si
6.16	0.41	0.0003	4132	SLV FO 5	0.119	5189	10663	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3997	SLD 5	0.098	6020	10316	SLD 5	15877	Si
0.23	0.41	0.0003	3775	SLD 5	0.098	6020	9742	SLD 5	15877	Si
3.08	0.41	0.0003	2411	SLD 5	0.098	6020	6221	SLD 5	15877	Si
6.01	0.41	0.0003	3287	SLD 5	0.098	6020	8484	SLD 5	15877	Si
6.16	0.41	0.0003	3301	SLD 5	0.098	6020	8518	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000339	2765	SLE RA 21	78288	1494000	970776	36000000	2507	SLE QP 2	70998	1120500	Si
0.23	0.41	0.00000339	2610	SLE RA 21	73924	1494000	916663	36000000	2366	SLE QP 2	67013	1120500	Si
3.08	0.41	0.00000339	1704	SLE RA 21	48244	1494000	598226	36000000	1536	SLE QP 2	43503	1120500	Si
6.01	0.41	0.00000339	2450	SLE RA 21	69381	1494000	860325	36000000	2210	SLE QP 2	62587	1120500	Si
6.16	0.41	0.00000339	2468	SLE RA 21	69879	1494000	866495	36000000	2226	SLE QP 2	63035	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
6.38	1.3	SLU 5	ST	LT	784	-424	-61896	1	0	19	0	0	1.1	18827	891	21.13	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste										Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
267,268,269,270,271,272,273,274,275,276,277,278,279,280,281										6.38	1.3	SLU 84	ST	BT	2.3	273700	94080	2.91	Si
267,268,269,270,271,272,273,274,275,276,277,278,279,280,281										6.38	1.3	SLV FO 12	SIS	LT	2.3	25004	15897	1.57	Si
267,268,269,270,271,272,273,274,275,276,277,278,279,280,281										6.38	1.3	SLD 5	SIS	BT	2.3	246277	91719	2.69	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-415	-94080	12310.1	256.59	0	0	0	0.13	1.04	6.37	1496	2060	0	14430	
0	10075	-15897	-4529.09	6579.82	0	32	0.41	-0.28	0.73	5.55	1496	2060	37	0	0.07
0	-5938	-91719	15384.15	-3796.69	0	-4	-0.04	0.17	0.96	6.3	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.1	1.1	0.95	1.14	1.23	1	0.15	0.13	0.06	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.03	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

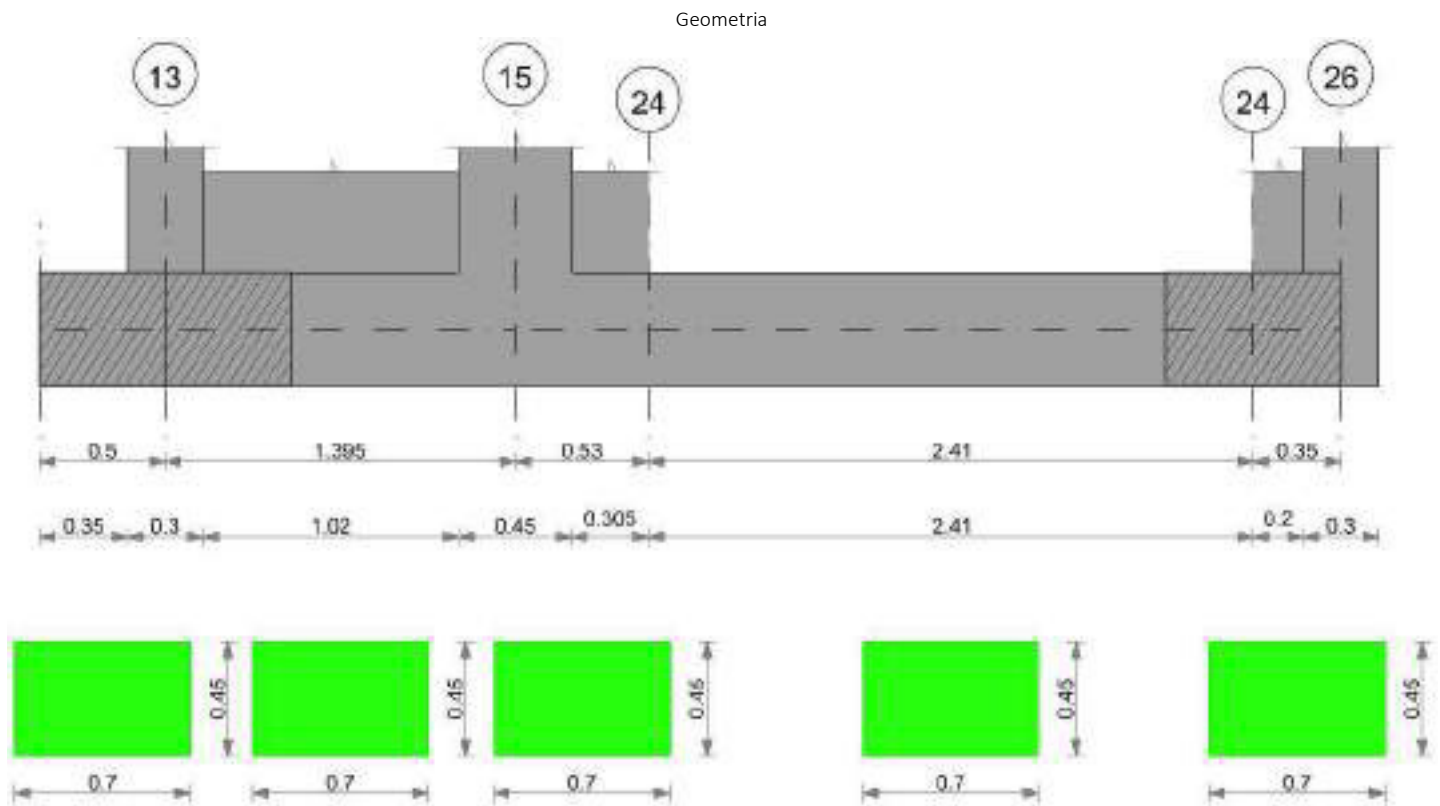
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.001	389	SLE RA 21	0.05	0.001	389	374	SLE RA 21	0.05	0	389	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	389	SLE RA 1	0.05	0	389	389	SLE RA 1	0.05	0	389	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	389	SLE RA 1	0.05	0	389	389	SLE RA 1	0.05	0	389	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	389	374	SLE RA 21	0.19	0	389	SLE RA 1	0.1	0	389	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	389	374	SLE RA 1	0.19	0	389	SLE RA 1	0.1	0	389	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	389	374	SLE RA 1	0.19	0	389	SLE RA 1	0.1	0	389	SLE RA 1	Si



CORDOLO 18



Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

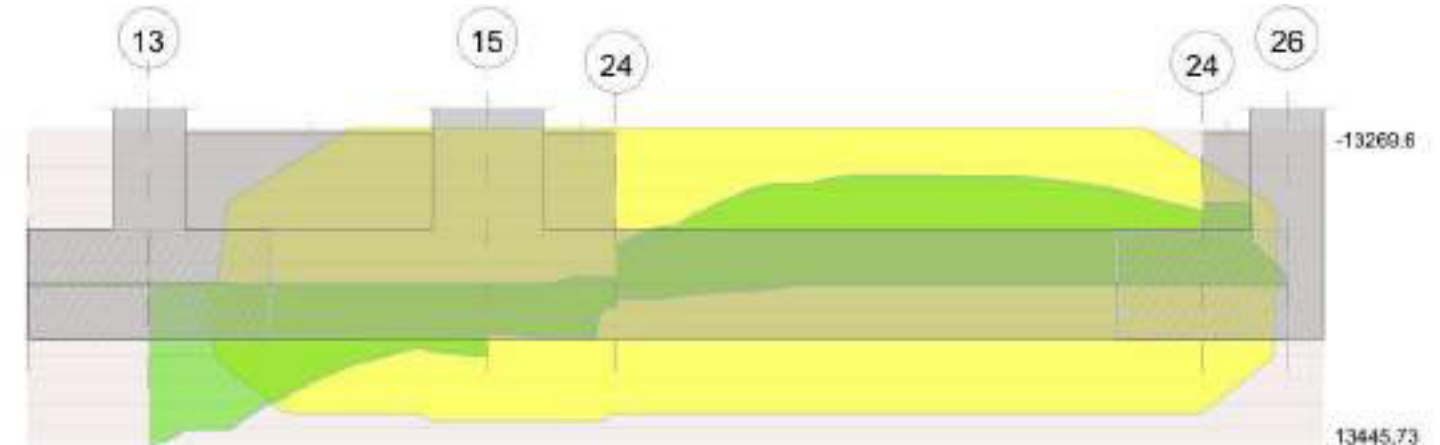


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 4 tra i fili 24 - 24, sezione R 70x45, aste 419, 420, 421, 422, 423, 424

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	225.4	SLU 69	225.4	11583.13	0.12	51.39	128.92	SLU 10	-1913.4	-13985.55	0.125	7.31	Si
1.21	0.000942	0.053	0.000763	0.052							-7059.9	SLU 84	-7818.73	-13985.55	0.125	1.79	Si
1.37	0.000942	0.053	0.000763	0.052							-7666.31	SLU 84	-7965.3	-13985.55	0.125	1.76	Si
2.41	0.000734	0.053	0.000763	0.052							-5716.12	SLU 84	-6035.59	-11131.59	0.115	1.84	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	1198.21	SLV FO 12	1198.21	10865.3	0.201	9.07	-873.59	SLV FO 5	-3224.14	-13269.6	0.224	4.12	Si
1.04	0.000942	0.053	0.000763	0.052							-8950.2	SLV FO 5	-9256.59	-13269.6	0.224	1.43	Si
1.21	0.000942	0.053	0.000763	0.052							-8908.42	SLV FO 5	-9256.59	-13269.6	0.224	1.43	Si
2.41	0.000734	0.053	0.000763	0.052							-5192.99	SLV FO 9	-6285.15	-10443.74	0.2	1.66	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000763	0.052	749.2	SLD 12	749.2	10865.3	0.201	14.5	-424.58	SLD 5	-2362.92	-13269.6	0.224	5.62	Si
1.04	0.000942	0.053	0.000763	0.052							-7183.12	SLD 5	-7472.16	-13269.6	0.224	1.78	Si
1.21	0.000942	0.053	0.000763	0.052							-7058.08	SLD 5	-7472.16	-13269.6	0.224	1.78	Si
2.41	0.000734	0.053	0.000763	0.052							-4580.5	SLD 9	-5285.84	-10443.74	0.2	1.98	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000763	0	-13633	SLU 84	-13633	-10870	-88449	-30506	-30506	1	2.24	Si
1.21	0.0000218	0.000942	0	-4959	SLU 83	-4959	-11611	-88226	-30430	-30430	1	6.14	Si
2.41	0.0000218	0.000734	0	3100	SLU 84	3100	10851	88226	30430	30430	1	9.82	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-15616	SLV FO 9	-15616	-11611	-88226	-30430	-30430	1	1.95	Si
1.21	0.0000218	0.000942	0	-5052	SLV FO 13	-5052	-11611	-88226	-30430	-30430	1	6.02	Si
2.41	0.0000218	0.000734	0	8813	SLV FO 5	8813	10851	88226	30430	30430	1	3.45	Si
2.41	0.0000218	0.000734	0	-4705	SLV FO 12	-4705	-10851	-88226	-30430	-30430	1	6.47	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000218	0.000942	0	-12751	SLD 9	-12751	-11611	-88226	-30430	-30430	1	2.39	Si
1.21	0.0000218	0.000942	0	-4319	SLD 13	-4319	-11611	-88226	-30430	-30430	1	7.05	Si
2.41	0.0000218	0.000734	0	5867	SLD 5	5867	10851	88226	30430	30430	1	5.19	Si
2.41	0.0000218	0.000734	0	-1759	SLD 12	-1759	-10851	-88226	-30430	-30430	1	17.3	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ_c	$\sigma_{c\text{ lim.}}$	σ_f	$\sigma_{f\text{ lim.}}$	Mela	Comb.	Mdes	σ_c	$\sigma_{c\text{ lim.}}$	σ_{FRP}	$\sigma_{FRP\text{ lim.}}$	
0	165.27	6	165.27	6084	1494000	92341	36000000	162.67	1	162.67	5989	1120500			Si
1.21	-5179.07	21	-5733.27	213557	1494000	3165910	36000000	-4669.47	2	-5173.65	192712	1120500			Si
2.41	-4186.91	21	-4424.25	166170	1494000	2498135	36000000	-3788.74	2	-4000.04	150238	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 13 - 15, sezione R 70x45, aste 413, 414, 415, 416

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0004	4132	SLV FO 5	0.123	5511	10663	SLV FO 5	15877	Si



x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.15	0.41	0.0004	4139	SLV FO 5	0.123	5511	10681	SLV FO 5	15877	Si
0.7	0.41	0.0004	4063	SLV FO 5	0.123	5511	10484	SLV FO 5	15877	Si
1.17	0.41	0.0004	3906	SLV FO 5	0.123	5511	10080	SLV FO 5	15877	Si
1.4	0.41	0.0004	3811	SLV FO 5	0.126	5794	9836	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3301	SLD 5	0.101	6395	8518	SLD 5	15877	Si
0.15	0.41	0.0004	3311	SLD 5	0.101	6395	8543	SLD 5	15877	Si
0.7	0.41	0.0004	3266	SLD 5	0.101	6395	8429	SLD 5	15877	Si
1.17	0.41	0.0004	3154	SLD 5	0.101	6395	8139	SLD 5	15877	Si
1.4	0.41	0.0004	3083	SLD 5	0.104	6725	7955	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.0000036	2468	SLE RA 21	69682	1494000	864063	36000000	2226	SLE QP 2	62858	1120500	Si
0.15	0.41	0.0000036	2483	SLE RA 21	70106	1494000	869309	36000000	2239	SLE QP 2	63239	1120500	Si
0.7	0.41	0.0000036	2480	SLE RA 21	70034	1494000	868419	36000000	2237	SLE QP 2	63167	1120500	Si
1.17	0.41	0.0000036	2420	SLE RA 21	68339	1494000	847401	36000000	2182	SLE QP 2	61624	1120500	Si
1.4	0.41	0.00000379	2376	SLE RA 21	66919	1494000	829794	36000000	2142	SLE QP 2	60334	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 15 - 24, sezione R 70x45, aste 417, 418

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3811	SLV FO 5	0.126	5794	9836	SLV FO 5	15877	Si
0.23	0.41	0.0004	3713	SLV FO 5	0.126	5794	9583	SLV FO 5	15877	Si
0.27	0.41	0.0004	3695	SLV FO 5	0.126	5794	9536	SLV FO 5	15877	Si
0.53	0.41	0.0007	3573	SLV FO 5	0.172	10865	9221	SLV FO 5	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3083	SLD 5	0.104	6725	7955	SLD 5	15877	Si
0.23	0.41	0.0004	3009	SLD 5	0.104	6725	7764	SLD 5	15877	Si
0.27	0.41	0.0004	2995	SLD 5	0.104	6725	7728	SLD 5	15877	Si
0.53	0.41	0.0007	2900	SLD 5	0.142	12654	7484	SLD 5	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000379	2376	SLE RA 21	66919	1494000	829794	36000000	2142	SLE QP 2	60334	1120500	Si
0.23	0.41	0.00000379	2328	SLE RA 21	65586	1494000	813263	36000000	2099	SLE QP 2	59120	1120500	Si
0.27	0.41	0.00000379	2319	SLE RA 21	65328	1494000	810068	36000000	2090	SLE QP 2	58886	1120500	Si
0.53	0.41	0.00000725	2255	SLE RA 21	60789	1494000	753782	36000000	2032	SLE QP 2	54777	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 24 - 24, sezione R 70x45, aste 419, 420, 421, 422, 423, 424

Campata 5 tra i fili 24 - 26, sezione R 70x45, asta 425

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3449	SLV FO 5	0.172	10865	8900	SLV FO 5	15877	Si
0.18	0.41	0.0007	3557	SLV FO 9	0.172	10865	9180	SLV FO 9	15877	Si
0.2	0.41	0.0007	3574	SLV FO 9	0.172	10865	9224	SLV FO 9	15877	Si
0.35	0.41	0.0007	3682	SLV FO 9	0.172	10865	9503	SLV FO 9	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2813	SLD 5	0.142	12654	7260	SLD 5	15877	Si
0.18	0.41	0.0007	2903	SLD 9	0.142	12654	7491	SLD 9	15877	Si
0.2	0.41	0.0007	2917	SLD 9	0.142	12654	7527	SLD 9	15877	Si
0.35	0.41	0.0007	3005	SLD 9	0.142	12654	7755	SLD 9	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000725	2223	SLE RA 21	59915	1494000	742951	36000000	1996	SLE QP 2	53816	1120500	Si
0.18	0.41	0.00000725	2296	SLE RA 21	61882	1494000	767340	36000000	2062	SLE QP 2	55575	1120500	Si
0.2	0.41	0.00000725	2307	SLE RA 21	62187	1494000	771118	36000000	2072	SLE QP 2	55847	1120500	Si
0.35	0.41	0.00000725	2377	SLE RA 21	64080	1494000	794597	36000000	2135	SLE QP 2	57542	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.001	402	SLE RA 21	0.05	0.001	402	389	SLE RA 21	0.05	0	395	SLE RA 1	0.0033	0	SLE FR 6	Si
D	0.05	0	402	SLE RA 1	0.05	0	402	402	SLE RA 1	0.05	0	401	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	402	SLE RA 1	0.05	0	402	402	SLE RA 1	0.05	0	401	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

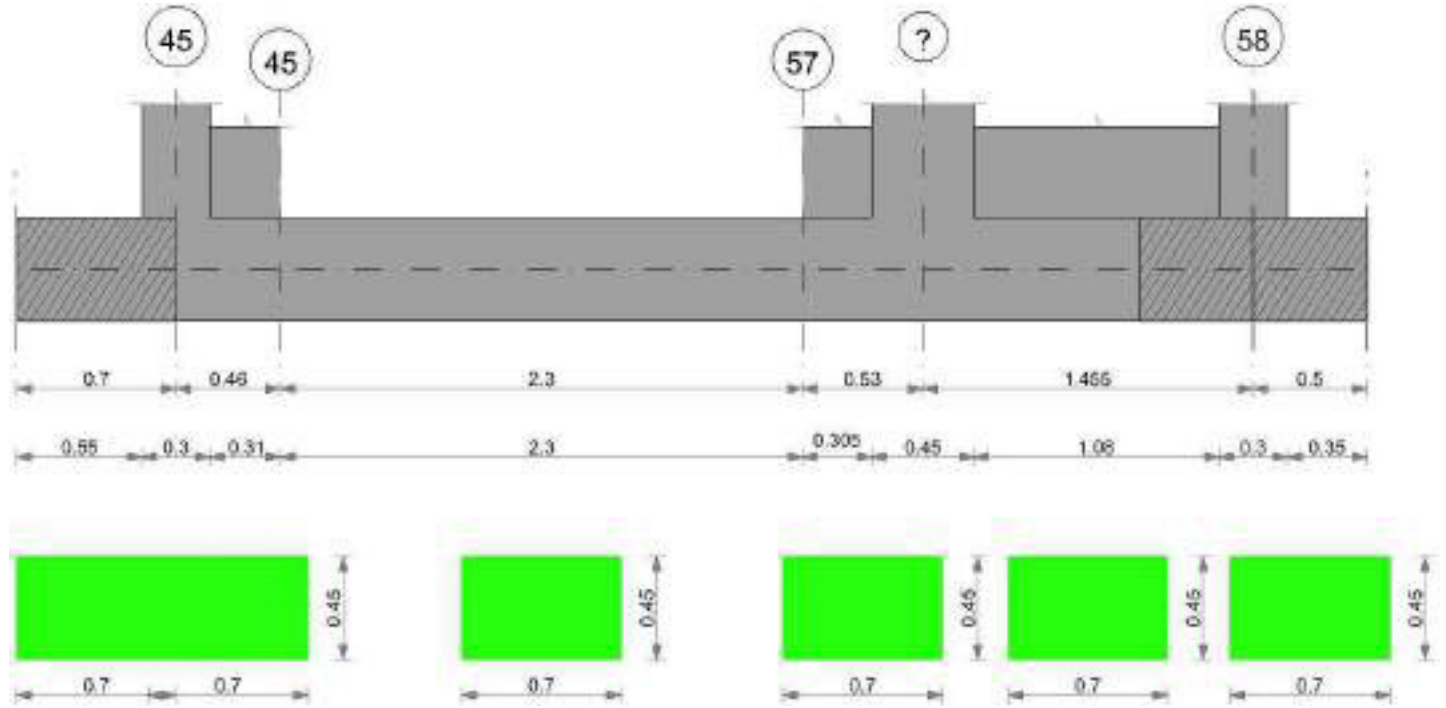
Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica	
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	401	395	SLE RA 21	0.19	0	401	SLE RA 21	0.1	0	395	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	402	401	SLE RA 1	0.19	0	402	SLE RA 1	0.1	0	401	SLE RA 1	Si



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	402	401	SLE RA 1	0.19	0	402	SLE RA 1	0.1	0	401	SLE RA 1	Si

CORDOLO 19

Geometria



Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

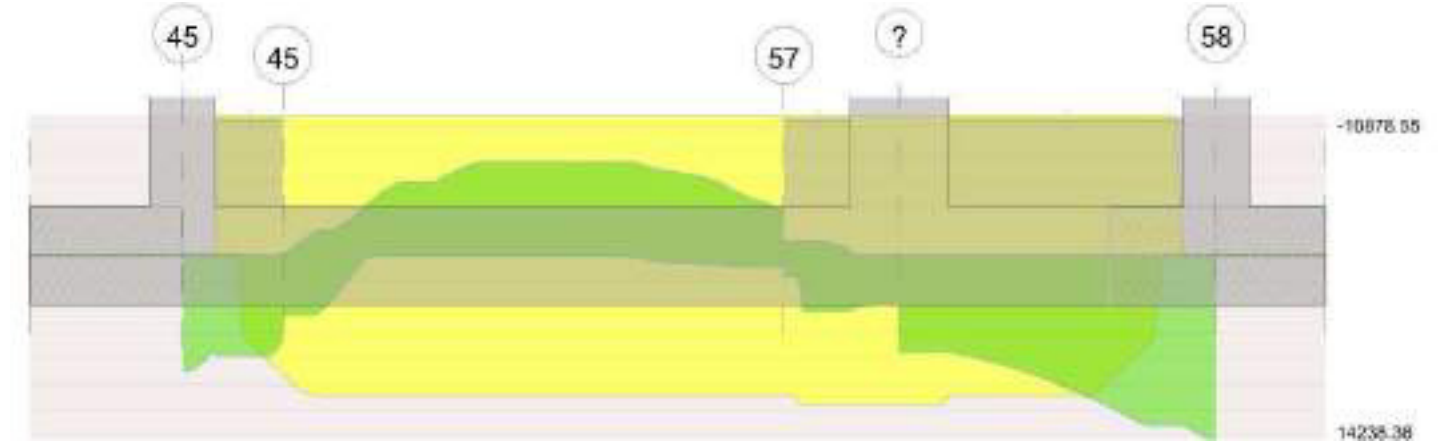
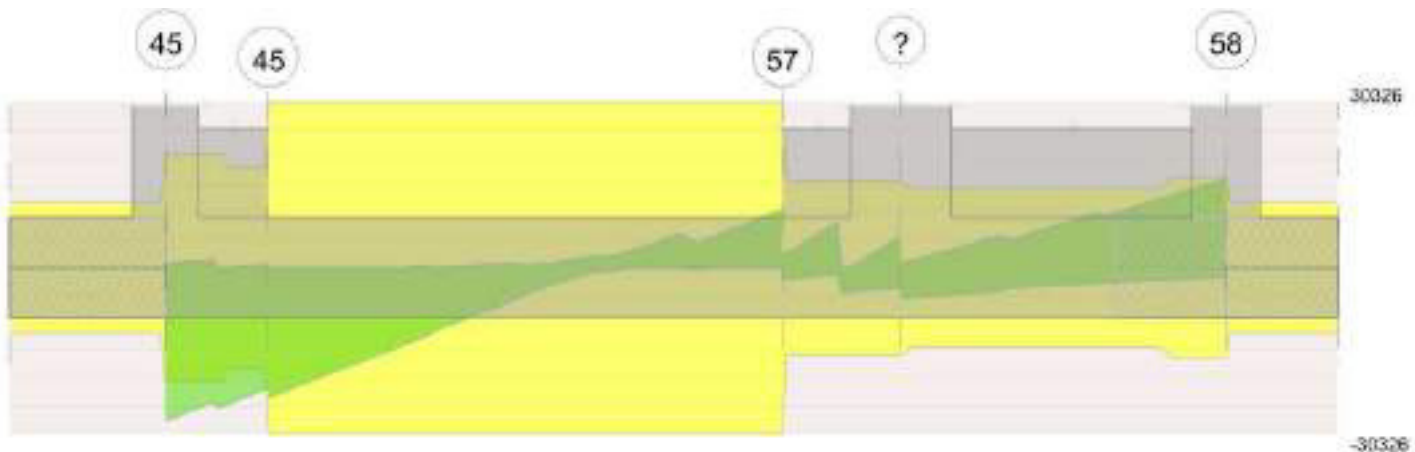


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 3 tra i fili 45 - 57, sezione R 70x45, aste 758, 757, 756, 755, 754, 753

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000644	0.052	3573.11	SLU 84	3573.11	9917.32	0.111	2.78							Si
1.15	0.000763	0.052	0.000763	0.052							-5256.35	SLU 84	-5784.67	-11561.07	0.116	2	Si
1.23	0.000763	0.052	0.000763	0.052							-5468.39	SLU 84	-5784.67	-11561.07	0.116	2	Si
2.3	0.000763	0.052	0.000763	0.052							-836.87	SLU 84	-2173.5	-11561.07	0.116	5.32	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000644	0.052	4579.32	SLV FO 10	4579.32	9229.16	0.188	2.02							Si
1.15	0.000763	0.052	0.000763	0.052							-6472.32	SLV FO 10	-7267.8	-10870.29	0.203	1.5	Si
1.23	0.000763	0.052	0.000763	0.052							-6793.77	SLV FO 10	-7267.8	-10870.29	0.203	1.5	Si
2.3	0.000763	0.052	0.000763	0.052	861.62	SLV FO 7	861.62	10870.29	0.203	12.62	-1910.2	SLV FO 10	-3495.68	-10870.29	0.203	3.11	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000763	0.052	0.000644	0.052	3611.84	SLD 10	3611.84	9229.16	0.188	2.56							Si
1.15	0.000763	0.052	0.000763	0.052							-5166.13	SLD 10	-5768.96	-10870.29	0.203	1.88	Si
1.23	0.000763	0.052	0.000763	0.052							-5408.38	SLD 10	-5768.96	-10870.29	0.203	1.88	Si
2.3	0.000763	0.052	0.000763	0.052	259.66	SLD 7	259.66	10870.29	0.203	41.86	-1308.25	SLD 10	-2589.54	-10870.29	0.203	4.2	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000644	0	-18568	SLU 84	-18568	-10870	-88449	-30326	-30326	1	1.63	Si
1.15	0.0000216	0.000763	0	-3301	SLU 84	-3301	-10870	-88449	-30326	-30326	1	9.19	Si
2.3	0.0000216	0.000763	0	8815	SLU 84	8815	10870	88449	30326	30326	1	3.44	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000644	0	-23713	SLV FO 10	-23713	-10870	-88449	-30326	-30326	1	1.28	Si
1.15	0.0000216	0.000763	0	467	SLV FO 7	467	10870	88449	30326	30326	1	64.93	Si
1.15	0.0000216	0.000763	0	-4799	SLV FO 10	-4799	-10870	-88449	-30326	-30326	1	6.32	Si
2.3	0.0000216	0.000763	0	10641	SLV FO 6	10641	10870	88449	30326	30326	1	2.85	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000216	0.000644	0	-18753	SLD 10	-18753	-10870	-88449	-30326	-30326	1	1.62	Si
1.15	0.0000216	0.000763	0	-3656	SLD 10	-3656	-10870	-88449	-30326	-30326	1	8.29	Si
2.3	0.0000216	0.000763	0	8558	SLD 6	8558	10870	88449	30326	30326	1	3.54	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ_c	$\sigma_{clim.}$	σ_f	$\sigma_{flim.}$	Mela	Comb.	Mdes	σ_c	$\sigma_{clim.}$	σ_{FRP}	$\sigma_{FRP lim.}$	
0	2630.56	21	2630.56	99115	1494000	1498954	36000000	2363.3	2	2363.3	89045	1120500			Si
1.15	-3853.34	21	-4244.44	159138	1494000	2387072	36000000	-3483.48	2	-3833.02	143713	1120500			Si
2.3	-612.72	21	-1592.5	59708	1494000	895624	36000000	-524.29	2	-1415.58	53075	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 45 - 45, sezione R 70x45, aste 760, 759

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0004	3647	SLV FO 10	0.135	6651	9411	SLV FO 10	15877	Si
0.15	0.41	0.0004	3636	SLV FO 10	0.135	6651	9384	SLV FO 10	15877	Si
0.23	0.41	0.0004	3628	SLV FO 10	0.135	6651	9362	SLV FO 10	15877	Si



x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.46	0.41	0.0007	3593	SLV FO 10	0.172	10803	9271	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2977	SLD 10	0.111	7725	7684	SLD 10	15877	Si
0.15	0.41	0.0004	2969	SLD 10	0.111	7725	7661	SLD 10	15877	Si
0.23	0.41	0.0004	2962	SLD 10	0.111	7725	7643	SLD 10	15877	Si
0.46	0.41	0.0007	2933	SLD 10	0.142	12581	7569	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000437	2357	SLE RA 21	65906	1494000	817239	36000000	2117	SLE QP 2	59198	1120500	Si
0.15	0.41	0.00000437	2350	SLE RA 21	65702	1494000	814701	36000000	2111	SLE QP 2	59023	1120500	Si
0.23	0.41	0.00000437	2344	SLE RA 21	65539	1494000	812679	36000000	2106	SLE QP 2	58881	1120500	Si
0.46	0.41	0.00000721	2320	SLE RA 21	62580	1494000	775992	36000000	2085	SLE QP 2	56235	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 45 - 57, sezione R 70x45, aste 758, 757, 756, 755, 754, 753

Campata 4 tra i fili 57 - ?, sezione R 70x45, aste 752, 751

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3702	SLV FO 10	0.172	10803	9554	SLV FO 10	15877	Si
0.26	0.41	0.0004	3845	SLV FO 10	0.126	5794	9921	SLV FO 10	15877	Si
0.3	0.41	0.0004	3866	SLV FO 10	0.126	5794	9976	SLV FO 10	15877	Si
0.53	0.41	0.0004	3976	SLV FO 10	0.126	5794	10260	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3008	SLD 10	0.142	12581	7763	SLD 10	15877	Si
0.26	0.41	0.0004	3116	SLD 10	0.104	6725	8042	SLD 10	15877	Si
0.3	0.41	0.0004	3132	SLD 10	0.104	6725	8083	SLD 10	15877	Si
0.53	0.41	0.0004	3213	SLD 10	0.104	6725	8291	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000721	2345	SLE RA 21	63236	1494000	784132	36000000	2114	SLE QP 2	57012	1120500	Si
0.26	0.41	0.00000379	2414	SLE RA 21	67997	1494000	843163	36000000	2177	SLE QP 2	61330	1120500	Si
0.3	0.41	0.00000379	2424	SLE RA 21	68273	1494000	846583	36000000	2186	SLE QP 2	61581	1120500	Si
0.53	0.41	0.00000379	2470	SLE RA 21	69586	1494000	862870	36000000	2229	SLE QP 2	62779	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 5 tra i fili ? - 58, sezione R 70x45, aste 750, 749, 748

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3976	SLV FO 10	0.126	5794	10260	SLV FO 10	15877	Si
0.23	0.41	0.0003	4026	SLV FO 10	0.12	5289	10389	SLV FO 10	15877	Si
0.73	0.41	0.0003	4110	SLV FO 10	0.12	5289	10607	SLV FO 10	15877	Si
1.3	0.41	0.0003	4138	SLV FO 10	0.12	5289	10678	SLV FO 10	15877	Si
1.45	0.41	0.0003	4131	SLV FO 10	0.12	5289	10660	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3213	SLD 10	0.104	6725	8291	SLD 10	15877	Si
0.23	0.41	0.0003	3249	SLD 10	0.099	6136	8385	SLD 10	15877	Si
0.73	0.41	0.0003	3307	SLD 10	0.099	6136	8534	SLD 10	15877	Si
1.3	0.41	0.0003	3316	SLD 10	0.099	6136	8557	SLD 10	15877	Si
1.45	0.41	0.0003	3307	SLD 10	0.099	6136	8534	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000379	2470	SLE RA 21	69586	1494000	862870	36000000	2229	SLE QP 2	62779	1120500	Si
0.23	0.41	0.00000345	2491	SLE RA 21	70468	1494000	873798	36000000	2247	SLE QP 2	63580	1120500	Si
0.73	0.41	0.00000345	2516	SLE RA 21	71174	1494000	882562	36000000	2270	SLE QP 2	64225	1120500	Si
1.3	0.41	0.00000345	2498	SLE RA 21	70685	1494000	876490	36000000	2254	SLE QP 2	63781	1120500	Si
1.45	0.41	0.00000345	2485	SLE RA 21	70320	1494000	871970	36000000	2243	SLE QP 2	63451	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

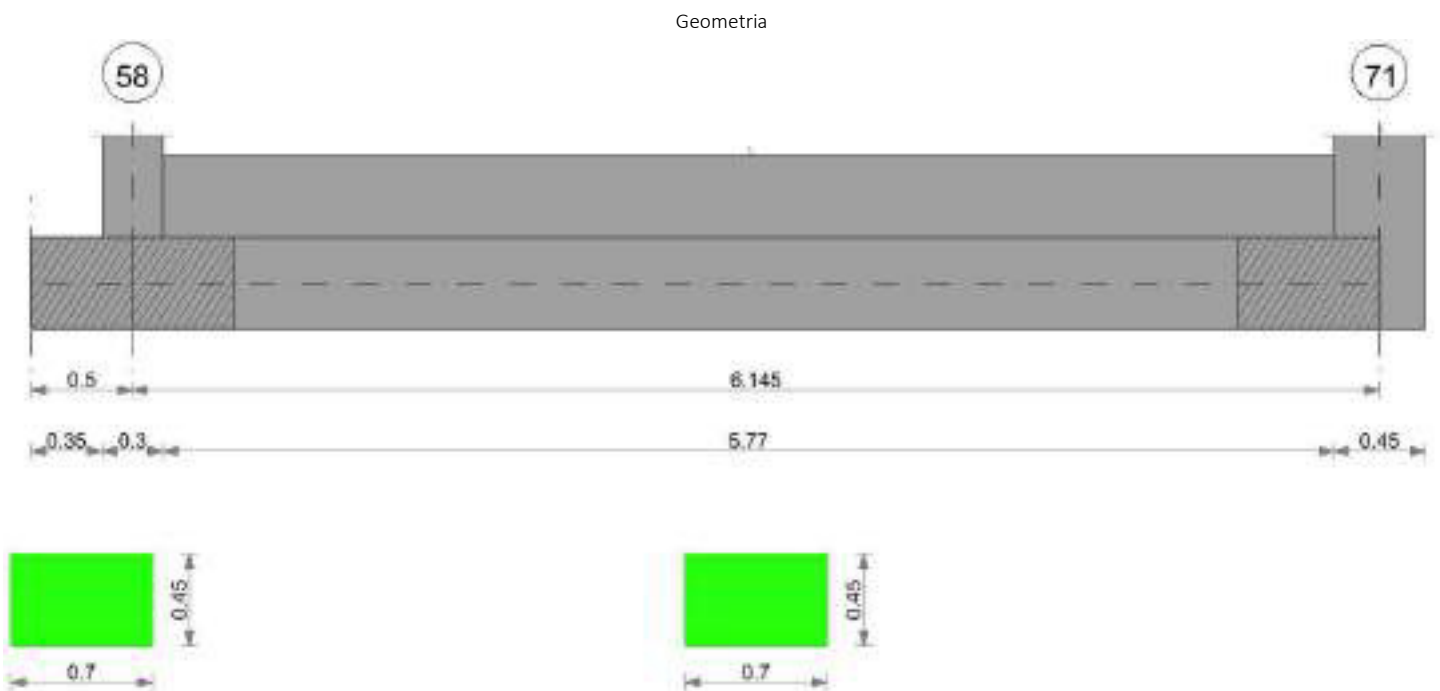
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	403	SLE RA 21	0.05	0.001	403	416	SLE RA 21	0.05	0	405	SLE RA 21	0.0033	0	SLE FR 6	Si
D	0.05	0	416	SLE RA 1	0.05	0	416	416	SLE RA 1	0.05	0	413	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	416	SLE RA 1	0.05	0	416	416	SLE RA 1	0.05	0	413	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	411	405	SLE RA 21	0.19	0.01	405	SLE RA 21	0.1	0	411	SLE FR 6	Si
D	0.19	0	SLE RA 1	0.19	0	416	413	SLE RA 1	0.19	0	416	SLE RA 1	0.1	0	413	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	416	413	SLE RA 1	0.19	0	416	SLE RA 1	0.1	0	413	SLE RA 1	Si



CORDOLO 20



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035



Diagramma verifica stato limite ultimo taglio



58

71

17999

-25865

Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 58 - 71, sezione R 70x45, aste 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4096	SLV FO 10	0.119	5197	10571	SLV FO 10	15877	Si
0.15	0.41	0.0003	4078	SLV FO 10	0.119	5197	10523	SLV FO 10	15877	Si
3.07	0.41	0.0003	3098	SLV FO 10	0.119	5197	7996	SLV FO 10	15877	Si
5.92	0.41	0.0003	4846	SLV FO 10	0.119	5197	12506	SLV FO 10	15877	Si
6.15	0.41	0.0003	5141	SLV FO 10	0.119	5197	13267	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3262	SLD 10	0.098	6029	8418	SLD 10	15877	Si
0.15	0.41	0.0003	3242	SLD 10	0.098	6029	8367	SLD 10	15877	Si
3.07	0.41	0.0003	2412	SLD 10	0.098	6029	6225	SLD 10	15877	Si
5.92	0.41	0.0003	3755	SLD 10	0.098	6029	9690	SLD 10	15877	Si
6.15	0.41	0.0003	3985	SLD 10	0.098	6029	10284	SLD 10	15877	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente					Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite		
0	0.41	0.00000339	2421	SLE RA 21	68550	1494000	850020	36000000	2184	SLE QP 2	61845	1120500	Si	
0.15	0.41	0.00000339	2398	SLE RA 21	67892	1494000	841856	36000000	2163	SLE QP 2	61248	1120500	Si	
3.07	0.41	0.00000339	1689	SLE RA 21	47840	1494000	593219	36000000	1522	SLE QP 2	43106	1120500	Si	
5.92	0.41	0.00000339	2580	SLE RA 21	73069	1494000	906050	36000000	2335	SLE QP 2	66120	1120500	Si	
6.15	0.41	0.00000339	2740	SLE RA 21	77599	1494000	962223	36000000	2481	SLE QP 2	70247	1120500	Si	

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
6.37	1.3	SLU 2	ST	LT	-592	-226	-58307	-1	0	19	0	0	1.1	17736	633	28.01	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
451,452,453,454,455,456,457,458,459,460,461,462,463,464,465					6.37	1.3	SLU 84	ST	BT	2.3	274653	89311	3.08	Si
451,452,453,454,455,456,457,458,459,460,461,462,463,464,465					6.37	1.3	SLV FO 7	SIS	LT	2.3	24349	14238	1.71	Si
451,452,453,454,455,456,457,458,459,460,461,462,463,464,465					6.37	1.3	SLD 10	SIS	BT	2.3	248566	87552	2.84	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-101	-89311	11473.61	422.07	0	0	0	0.13	1.04	6.36	1496	2060	0	14430	
0	8996	-14238	-4169.69	-6191.97	0	32	-0.43	-0.29	0.71	5.5	1496	2060	37	0	0.07
0	-4998	-87552	14292.47	4155.53	0	-3	0.05	0.16	0.97	6.28	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.03	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.1	1.1	0.95	1.14	1.23	1	0.15	0.13	0.06	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.03	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.001	417	SLE RA 21	0.05	0.001	417	432	SLE RA 21	0.05	0	432	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	432	SLE RA 1	0.05	0	432	432	SLE RA 1	0.05	0	432	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	432	SLE RA 1	0.05	0	432	432	SLE RA 1	0.05	0	432	SLE RA 1	0.0033	0	SLE RA 1	Si

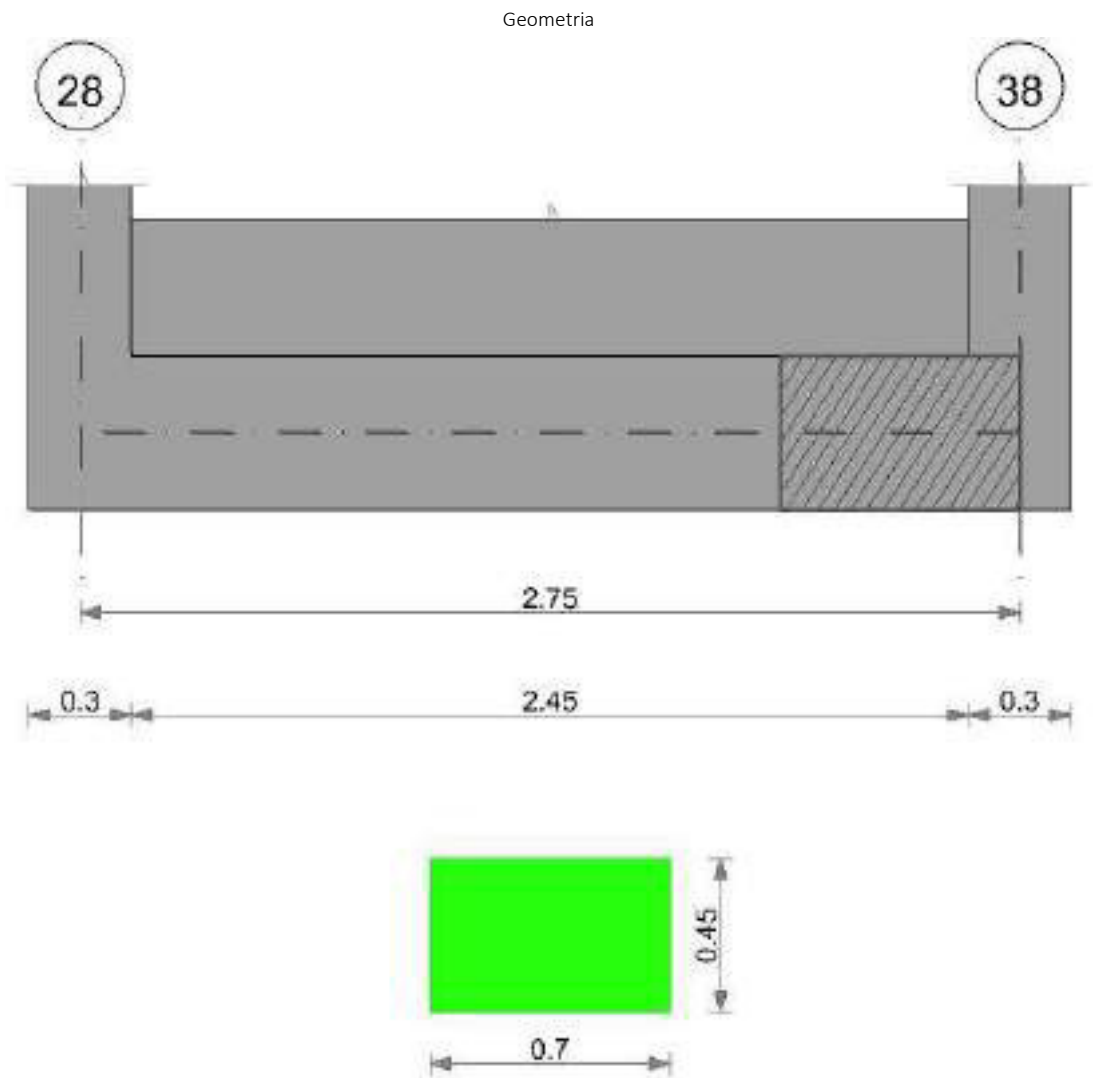
Verifiche geotecniche - Rotazioni assolute e differenziali

Formazione geometrica - Rotazioni assolute e distorsioni angolari																	
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	432	417	SLE RA 21	0.19	0	432	SLE RA 1	0.1	0	432	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	432	417	SLE RA 1	0.19	0	432	SLE RA 1	0.1	0	432	SLE RA 1	Si



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
Z	0.19	0	SLE RA 1	0.19	0	432	417	SLE RA 1	0.19	0	432	SLE RA 1	0.1	0	432	SLE RA 1	Si

CORDOLO 21



Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

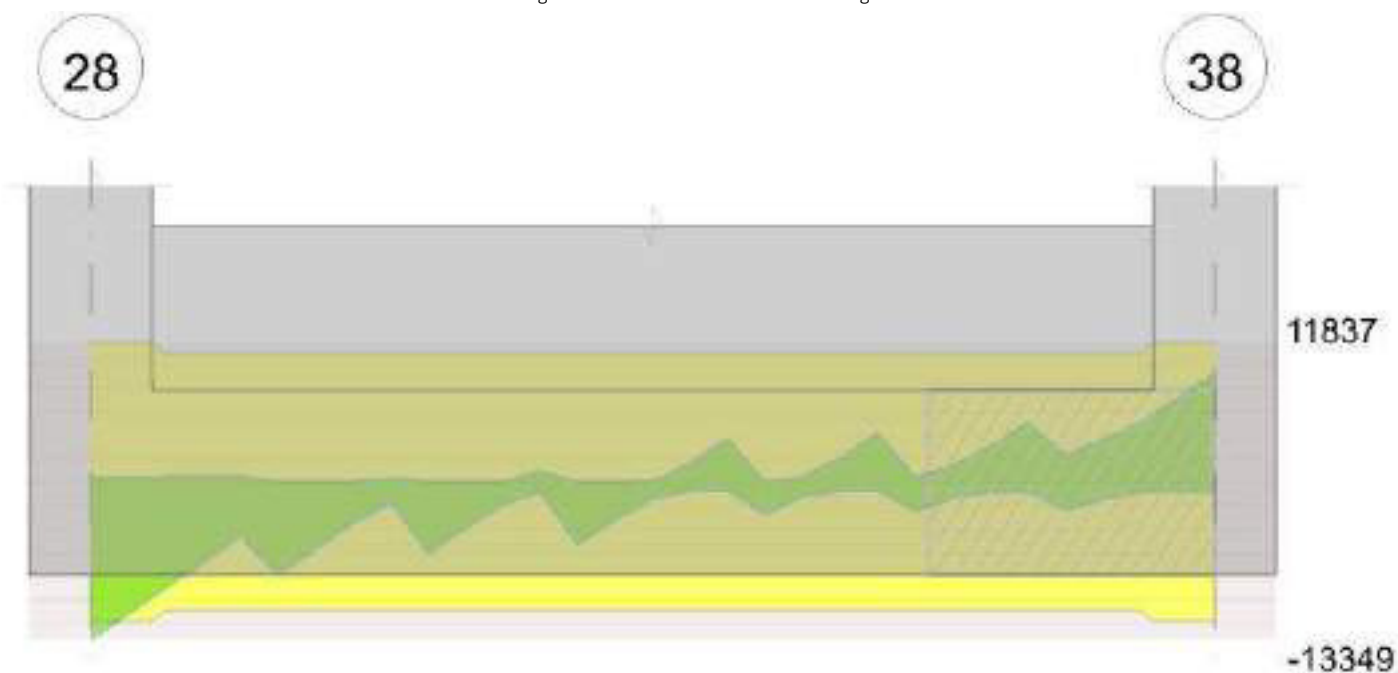
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 28 - 38, sezione R 70x45, aste 707, 706, 705, 704, 703, 702, 701

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	4100	SLV FO 5	0.12	5298	12148	SLV FO 5	15877	Si
0.15	0.41	0.0003	4085	SLV FO 5	0.12	5298	12104	SLV FO 5	15877	Si
1.38	0.41	0.0003	3959	SLV FO 10	0.12	5298	11731	SLV FO 10	15877	Si
2.6	0.41	0.0003	3943	SLV FO 10	0.12	5298	11684	SLV FO 10	15877	Si
2.75	0.41	0.0003	3947	SLV FO 10	0.12	5298	11696	SLV FO 10	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3184	SLD 5	0.099	6147	9433	SLD 5	15877	Si
0.15	0.41	0.0003	3172	SLD 5	0.099	6147	9399	SLD 5	15877	Si
1.38	0.41	0.0003	3070	SLD 10	0.099	6147	9095	SLD 10	15877	Si
2.6	0.41	0.0003	3048	SLD 10	0.099	6147	9030	SLD 10	15877	Si
2.75	0.41	0.0003	3050	SLD 10	0.099	6147	9036	SLD 10	15877	Si

Verifiche delle tensioni di esercizio



				Rara					Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000346	2232	SLE RA 21	63138	1494000	782909	36000000	2005	SLE QP 2	56738	1120500	Si
0.15	0.41	0.00000346	2224	SLE RA 21	62910	1494000	780078	36000000	1998	SLE QP 2	56529	1120500	Si
1.38	0.41	0.00000346	2144	SLE RA 21	60646	1494000	752004	36000000	1926	SLE QP 2	54495	1120500	Si
2.6	0.41	0.00000346	2108	SLE RA 21	59645	1494000	739596	36000000	1896	SLE QP 2	53636	1120500	Si
2.75	0.41	0.00000346	2107	SLE RA 21	59621	1494000	739298	36000000	1895	SLE QP 2	53622	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
3.05	1.3	SLU 6	ST	LT	-72	486	-35735	0	1	19	0	0	1.1	10870	491	22.14	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
707,706,705,704,703,702,701				3.05	1.3	SLU 84	ST	BT	2.3	166562	55164	3.02	Si
707,706,705,704,703,702,701				3.05	1.3	SLD 6	SIS	BT	2.3	155289	55337	2.81	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
-105	643	-55164	499.7	-707.53	0	1	-0.01	0.01	1.28	3.02	1496	2060	0	14430	
-1783	5209	-5410	-3303.6	-1135.71	-18	44	-0.21	-0.61	0.08	2.63	1496	2060	37	0	0.07
-1324	-2151	-55337	2341.04	-1169.15	-1	-2	-0.02	0.04	1.22	3.01	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	lc	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.08	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.02	1.02	0.99	1.14	1.23	1	0	0	0	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.08	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

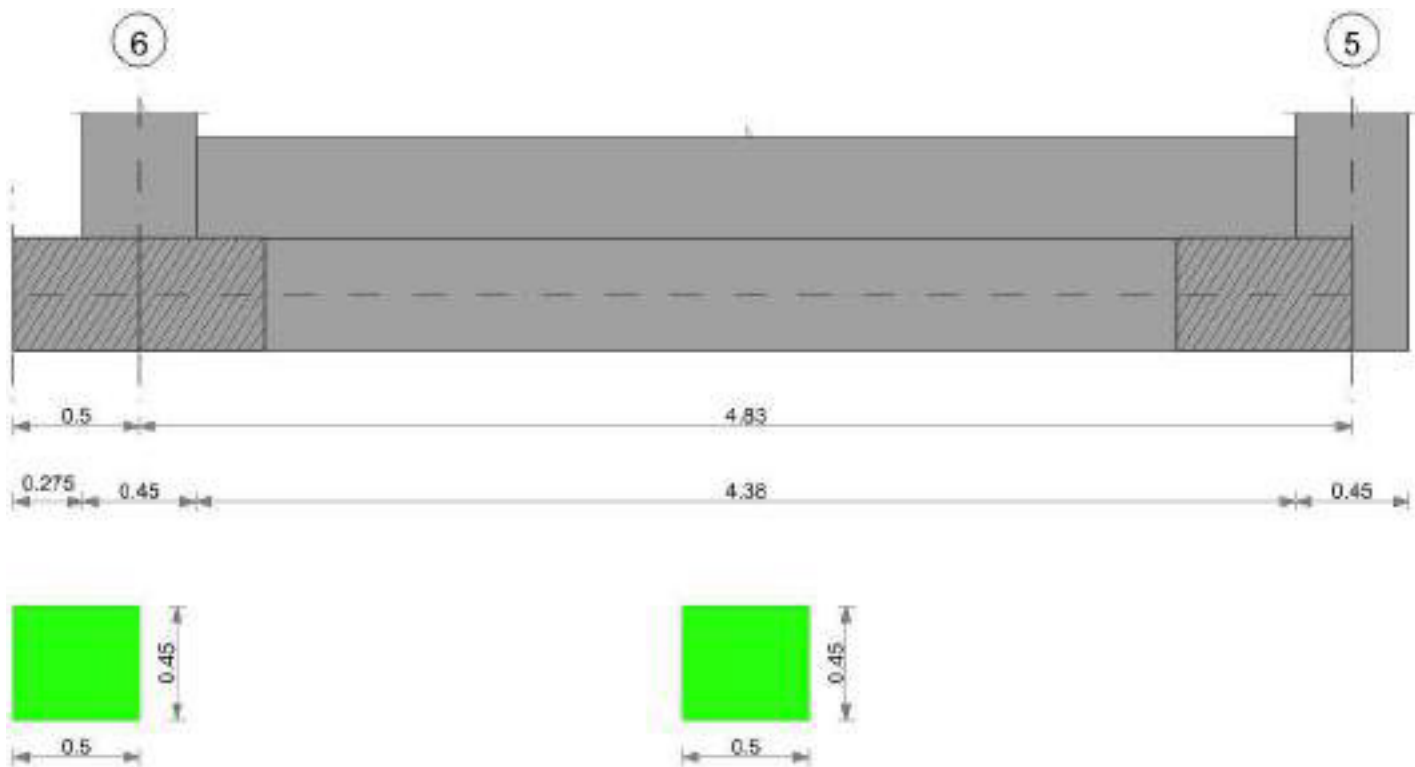
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.001	231	SLE RA 21	0.05	0	231	224	SLE RA 21	0.05	0	231	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	231	SLE RA 1	0.05	0	231	231	SLE RA 1	0.05	0	231	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	231	SLE RA 1	0.05	0	231	231	SLE RA 1	0.05	0	231	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0	SLE RA 21	0.19	0	231	224	SLE RA 21	0.19	0	231	SLE RA 1	0.1	0	231	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	231	224	SLE RA 1	0.19	0	231	SLE RA 1	0.1	0	231	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	231	224	SLE RA 1	0.19	0	231	SLE RA 1	0.1	0	231	SLE RA 1	Si

CORDOLO 22

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copri ferro sup.	Copri ferro inf.	Copri ferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

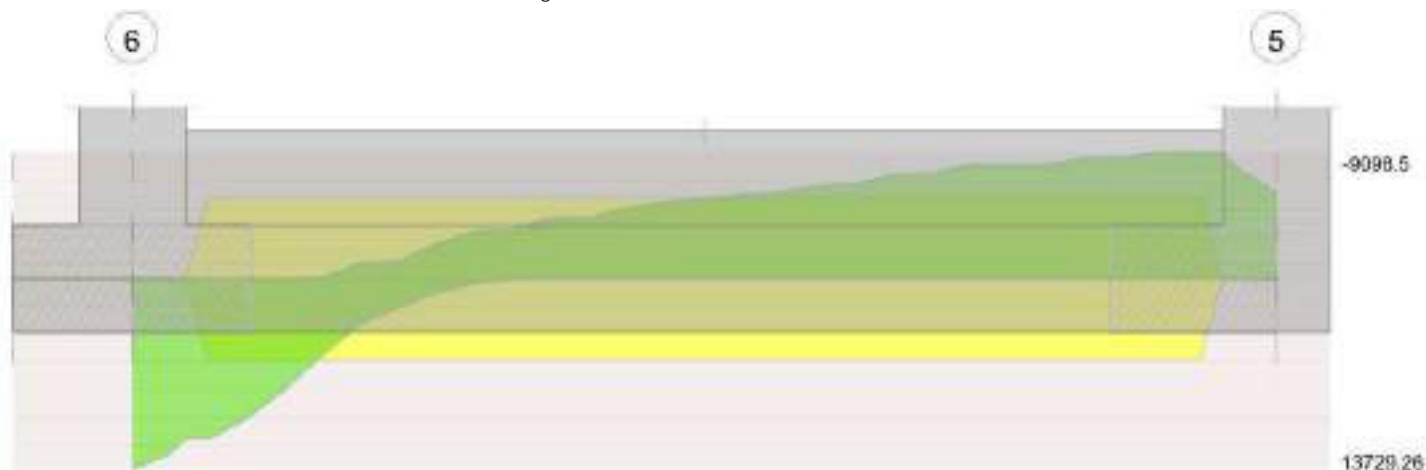


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 6 - 5, sezione R 50x45, aste 567, 566, 565, 564, 563, 562, 561, 560, 559, 558, 557, 556

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2139	SLV FO 1	0.085	2626	7441	SLV FO 1	15877	Si
0.23	0.41	0.0002	2125	SLV FO 3	0.085	2626	7393	SLV FO 3	15877	Si
2.41	0.41	0.0002	1841	SLV FO 4	0.085	2626	6403	SLV FO 4	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1825	SLD 1	0.07	3039	6349	SLD 1	15877	Si
0.23	0.41	0.0002	1815	SLD 3	0.07	3039	6314	SLD 3	15877	Si
2.41	0.41	0.0002	1524	SLD 4	0.07	3039	5302	SLD 4	15877	Si
4.6	0.41	0.0002	2176	SLD 8	0.07	3039	7570	SLD 8	15877	Si
4.83	0.41	0.0002	2320	SLD 8	0.07	3039	8069	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	σ_c limite	σ_f	σ_f limite	M	Comb	σ_c	σ_c limite	
0	0.41	0.00000169	1525	SLE RA 21	44158	1494000	547559	36000000	1387	SLE QP 2	40177	1120500	Si
0.23	0.41	0.00000169	1519	SLE RA 21	43979	1494000	545337	36000000	1382	SLE QP 2	40020	1120500	Si
2.41	0.41	0.00000169	1199	SLE RA 20	34733	1494000	430692	36000000	1089	SLE QP 2	31536	1120500	Si
4.6	0.41	0.00000169	1459	SLE RA 20	42242	1494000	523804	36000000	1324	SLE QP 2	38339	1120500	Si
4.83	0.41	0.00000169	1537	SLE RA 20	44500	1494000	551799	36000000	1395	SLE QP 2	40394	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.05	1.1	SLU 2	ST	LT	-844	-440	-44965	-1	-1	19	0	0	1.1	13677	951	14.37	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste		Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
567,566,565,564,563,562,561,560,559,558,557,556		5.05	1.1	SLU 83	ST	BT	2.3	202778	71488	2.84	Si
567,566,565,564,563,562,561,560,559,558,557,556		5.05	1.1	SLV FO 4	SIS	BT	2.3	179337	75531	2.37	Si
567,566,565,564,563,562,561,560,559,558,557,556		5.05	1.1	SLD 4	SIS	BT	2.3	189862	64274	2.95	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-647	-71488	-5276.89	-3002.72	0	-1	-0.04	-0.07	0.95	4.97	1496	2060	0	14430	
0	4925	-75531	-8713.09	5043.7	0	4	0.07	-0.12	0.87	4.92	1496	2060	0	14430	0.07
0	2664	-64274	-6531.89	1925.21	0	2	0.03	-0.1	0.9	5	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	655	SLE RA 21	0.05	0	655	1012	SLE RA 21	0.05	0	655	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	655	SLE RA 1	0.05	0	655	655	SLE RA 1	0.05	0	655	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	655	SLE RA 1	0.05	0	655	655	SLE RA 1	0.05	0	655	SLE RA 1	0.0033	0	SLE RA 1	Si

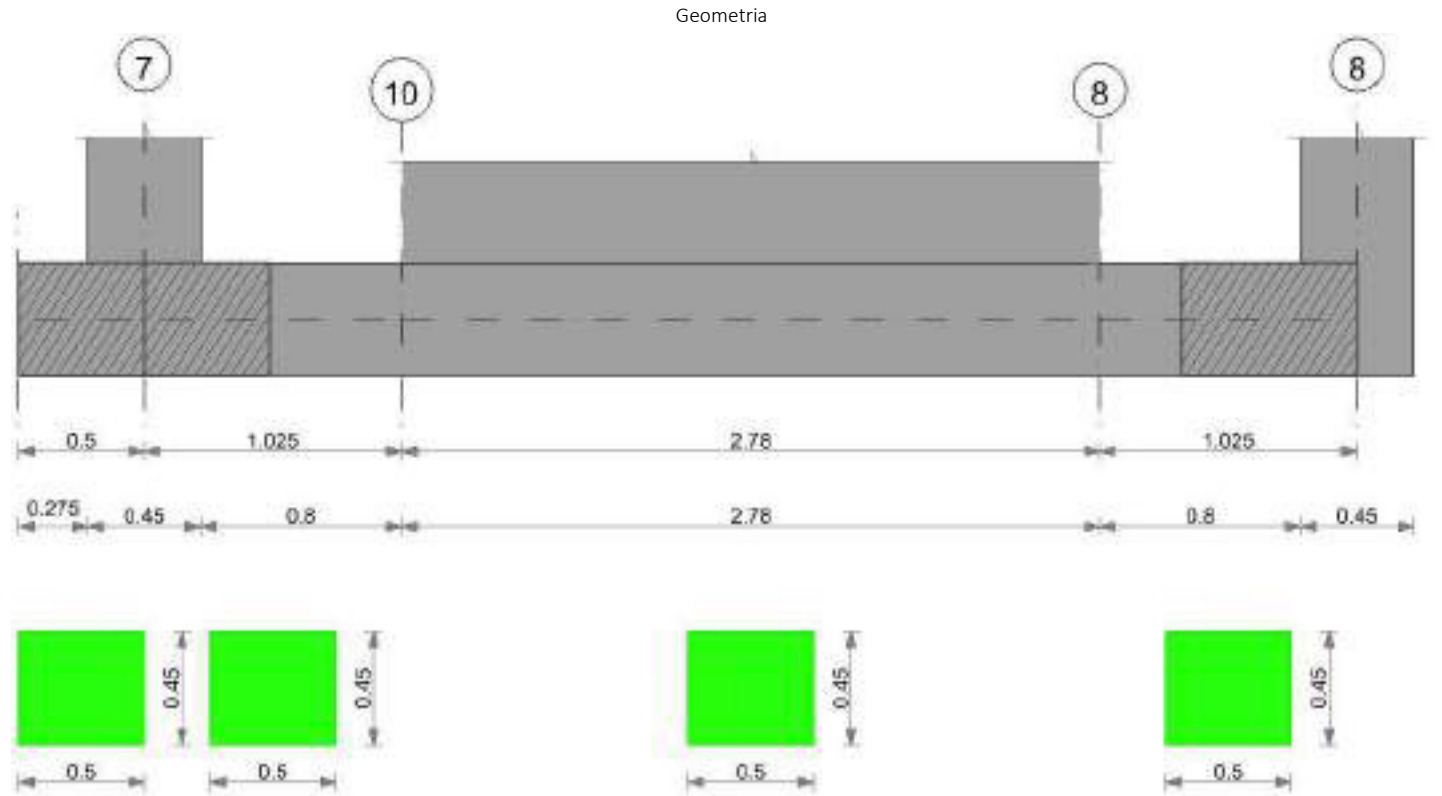
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo		
E	0.19	0	SLE RA 21	0.19	0	655	1012	SLE RA 21	0.19	0	655	SLE RA 1	0.1	0	655	SLE RA 1	Si



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
D	0.19	0	SLE RA 1	0.19	0	655	1012	SLE RA 1	0.19	0	655	SLE RA 1	0.1	0	655	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	655	1012	SLE RA 1	0.19	0	655	SLE RA 1	0.1	0	655	SLE RA 1	Si

CORDOLO 23



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 555

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.51	0.000763	0.052	0.000804	0.051	5.57	SLU 10	1979.81	11843.28	0.134	5.98	-36.61	SLU 69	-1616.39	-11250.14	0.13	6.96	Si
1.03	0.000763	0.052	0.000804	0.051	768.1	SLV FO 9	768.1	11299.2	0.239	14.71	-3504.58	SLU 83	-3504.58	-11250.14	0.13	3.21	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.51	0.000763	0.052	0.000804	0.051	740.65	SLV FO 5	1928.05	11299.2	0.239	5.86	-779.24	SLV FO 12	-2609.42	-10726.1	0.232	4.11	Si
1.03	0.000763	0.052	0.000804	0.051	768.1	SLV FO 9	768.1	11299.2	0.239	14.71	-5416.54	SLV FO 8	-5416.54	-10726.1	0.232	1.98	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.51	0.000763	0.052	0.000804	0.051	409.68	SLD 5	1669.29	11299.2	0.239	6.77	-448.28	SLD 12	-1938.88	-10726.1	0.232	5.53	Si
1.03	0.000763	0.052	0.000804	0.051							-4066.97	SLD 8	-4066.97	-10726.1	0.232	2.64	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000177	0	0	-16555	SLU 83	-16555	-8455	-71432	-27978	-27978	1	1.69	Si
0.23	0.0000177	0	0	-13669	SLU 83	-13669	-8455	-71432	-27978	-27978	1	2.05	Si
0.51	0.0000177	0	0	-10012	SLU 83	-10012	-7764	-63178	-24745	-24745	1	2.47	Si
1.03	0.0000177	0.000763	0	-3592	SLU 83	-3592	-8659	-63178	-24745	-24745	1	6.89	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000177	0	0	-16462	SLV FO 8	-16462	-8455	-71432	-27978	-27978	1	1.7	Si
0.23	0.0000177	0	0	-14402	SLV FO 8	-14402	-8455	-71432	-27978	-27978	1	1.94	Si
0.51	0.0000177	0	0	-11725	SLV FO 8	-11725	-7764	-63178	-24745	-24745	1	2.11	Si
1.03	0.0000177	0.000804	0	2104	SLV FO 9	2104	8820	63336	24807	24807	1	11.79	Si
1.03	0.0000177	0.000763	0	-6837	SLV FO 8	-6837	-8659	-63178	-24745	-24745	1	3.62	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000177	0	0	-14091	SLD 8	-14091	-8455	-71432	-27978	-27978	1	1.99	Si
0.23	0.0000177	0	0	-12088	SLD 8	-12088	-8455	-71432	-27978	-27978	1	2.31	Si
0.51	0.0000177	0	0	-9513	SLD 8	-9513	-7764	-63178	-24745	-24745	1	2.6	Si
1.03	0.0000177	0.000763	0	153	SLD 9	153	8659	63178	24745	24745	1	161.21	Si
1.03	0.0000177	0.000763	0	-4887	SLD 8	-4887	-8659	-63178	-24745	-24745	1	5.06	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4949.74	20	3590.82	212789	1494000	0	36000000	4498.08	2	3261.99	193303	1120500			Si
0.23	2467.9	20	2467.9	146246	1494000	0	36000000	2240.78	2	2240.78	132787	1120500			Si
0.51	-26.41	6	-1179.66	58796	1494000	885669	36000000	-21	1	-1075.36	53598	1120500			Si
1.03	-2554.93	20	-2554.93	127342	1494000	1918209	36000000	-2324.22	2	-2324.22	115843	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 547

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001018	0.052	0.000804	0.051							-788.35	SLU 84	-2742.89	-14731.26	0.146	5.37	Si
0.51	0.001018	0.052	0.000804	0.051							-5351.2	SLU 83	-6191.29	-14731.26	0.146	2.38	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$



x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001018	0.052	0.000804	0.051	119.88	SLV FO 12	119.88	11303.51	0.234	94.29	-1233.95	SLV FO 5	-2841.06	-14116.94	0.266	4.97	Si
0.51	0.001018	0.052	0.000804	0.051							-6397.41	SLV FO 8	-7642.02	-14116.94	0.266	1.85	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001018	0.052	0.000804	0.051							-938.74	SLD 5	-2415.01	-14116.94	0.266	5.85	Si
0.51	0.001018	0.052	0.000804	0.051							-5161.64	SLD 8	-6101.64	-14116.94	0.266	2.31	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001018	0	-12020	SLU 83	-12020	-9530	-63178	-14655	-14655	1	1.22	Si
0.51	0.0000105	0	0	-5795	SLU 83	-5795	-7764	-63178	-14655	-14655	1	2.53	Si
0.8	0.0000105	0	0	-2220	SLU 83	-2220	-8455	-71432	-16569	-16569	1	7.46	Si
1.02	0.0000105	0	0	695	SLU 55	695	8455	71432	16569	16569	1	23.84	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001018	0	13	SLV FO 9	13	9530	63178	14655	14655	1	1153.7	Si
0.51	0.0000105	0	0	782	SLV FO 9	782	7764	63178	14655	14655	1	18.74	Si
0.51	0.0000105	0	0	-8345	SLV FO 8	-8345	-7764	-63178	-14655	-14655	1	1.76	Si
0.8	0.0000105	0	0	1074	SLV FO 9	1074	8455	71432	16569	16569	1	15.43	Si
0.8	0.0000105	0	0	-3887	SLV FO 8	-3887	-8455	-71432	-16569	-16569	1	4.26	Si
1.02	0.0000105	0	0	1441	SLV FO 5	1441	8455	71432	16569	16569	1	11.5	Si
1.02	0.0000105	0	0	-441	SLV FO 12	-441	-8455	-71432	-16569	-16569	1	37.59	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000105	0.001018	0	-12389	SLD 8	-12389	-9530	-63178	-14655	-14655	1	1.18	Si
0.51	0.0000105	0	0	-6354	SLD 8	-6354	-7764	-63178	-14655	-14655	1	2.31	Si
0.8	0.0000105	0	0	-2802	SLD 8	-2802	-8455	-71432	-16569	-16569	1	5.91	Si
1.02	0.0000105	0	0	1026	SLD 5	1026	8455	71432	16569	16569	1	16.15	Si
1.02	0.0000105	0	0	-26	SLD 12	-26	-8455	-71432	-16569	-16569	1	639.93	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-591.93	21	-2014.04	99068	1494000	1457903	36000000	-557.04	2	-1848.36	90918	1120500			Si
0.51	-3908.29	20	-4516.19	222146	1494000	3269131	36000000	-3558.24	2	-4104.06	201873	1120500			Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 7 - 10, sezione R 50x45, asta 555

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 554, 553, 552, 551, 550, 549, 548

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	2219	SLU 83	0.074	13774	6827	SLU 83	31377	Si
1.39	0.41	0.0005	2122	SLV FO 8	0.145	7671	6659	SLU 83	17996	Si
2.78	0.41	0.0005	2582	SLV FO 8	0.147	7913	7944	SLV FO 8	18582	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1707	SLD 3	0.157	15303	5252	SLD 3	36083	Si
1.39	0.41	0.0005	1818	SLD 8	0.119	8916	5593	SLD 8	20695	Si
2.78	0.41	0.0005	2070	SLD 8	0.121	9199	6368	SLD 8	21369	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000883	1616	SLE RA 20	42734	1494000	529905	36000000	1459	SLE QP 2	38589	1120500	Si
1.39	0.41	0.00000506	1575	SLE RA 20	43644	1494000	541184	36000000	1421	SLE QP 2	39374	1120500	Si
2.78	0.41	0.00000523	1558	SLE RA 20	43081	1494000	534200	36000000	1405	SLE QP 2	38858	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 8, sezione R 50x45, asta 547

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.05	1.1	SLU 43	ST	LT	178	-501	-53666	0	-1	19	0	0	1.1	16324	532	30.7	Si
5.05	1.1	SLV FO 9	SIS	LT	-6752	-1507	-27845	-14	-3	19	0	0	1.1	8470	6918	1.22	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
555,554,553,552,551,550,549,548,547				5.05	1.1	SLU 83	ST	BT	2.3	236404	68392	3.46	Si
555,554,553,552,551,550,549,548,547				5.05	1.1	SLV FO 8	SIS	BT	2.3	213099	64971	3.28	Si
555,554,553,552,551,550,549,548,547				5.05	1.1	SLD 8	SIS	BT	2.3	223683	56909	3.93	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-556	-68392	289.01	-725.36	0	0	-0.01	0	1.09	5.03	1496	2060	0	14430	
0	691	-64971	-141.06	17839.27	0	1	0.27	0	1.1	4.51	1496	2060	0	14430	0.07
0	241	-56909	-3.88	9805.92	0	0	0.17	0	1.1	4.71	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd



N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

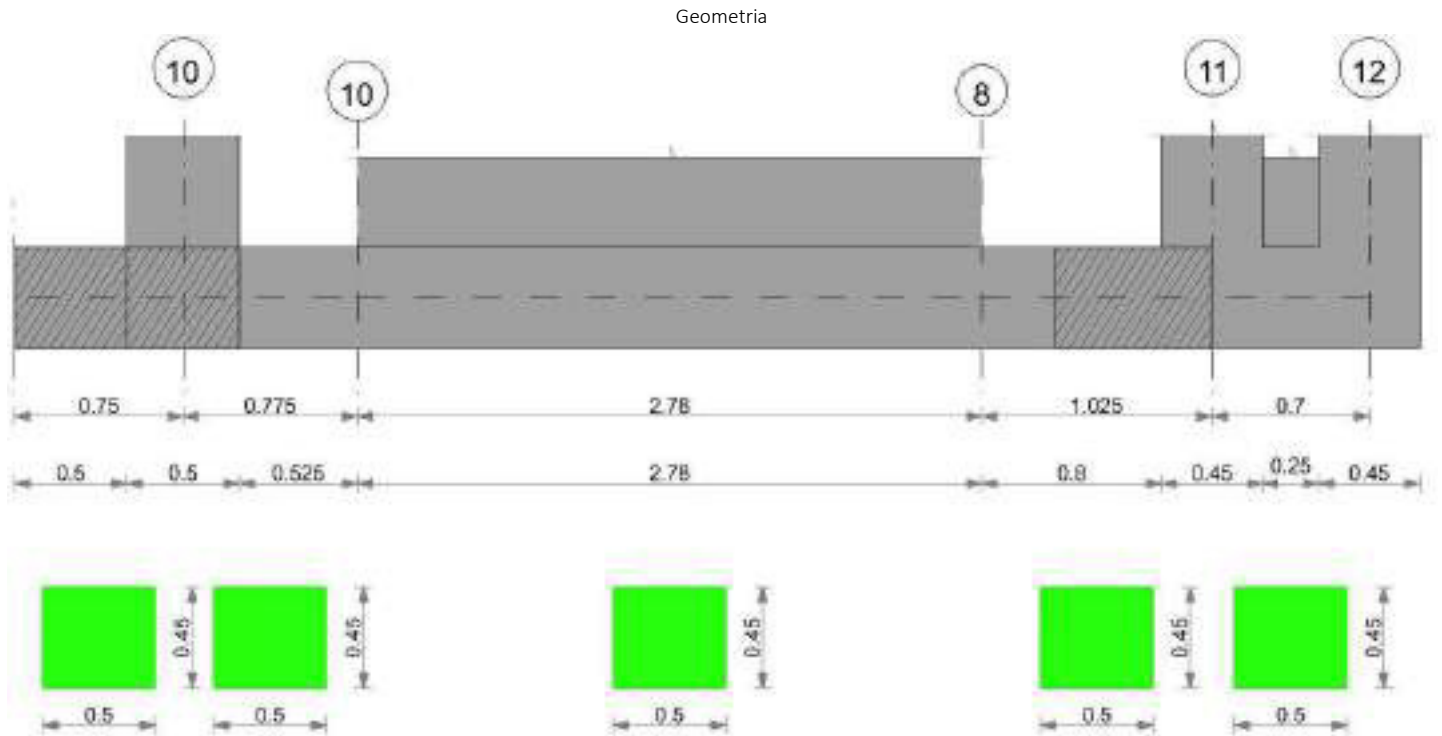
Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione			Verifica	
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.002	668	SLE RA 20	0.05	0.001	668	1026	SLE RA 21	0.05	0	795	SLE RA 20	0.0033	0	SLE RA 2	Si
D	0.05	0	668	SLE RA 1	0.05	0	668	668	SLE RA 1	0.05	0	795	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	668	SLE RA 1	0.05	0	668	668	SLE RA 1	0.05	0	795	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica	
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	951	1026	SLE RA 20	0.19	0.01	795	SLE RA 20	0.1	0	951	SLE RA 2	Si
D	0.19	0	SLE RA 1	0.19	0	668	795	SLE RA 1	0.19	0	668	SLE RA 1	0.1	0	795	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	668	795	SLE RA 1	0.19	0	668	SLE RA 1	0.1	0	795	SLE RA 1	Si

CORDOLO 24



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 344

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.39	0.000509	0.052	0.000402	0.051	-381.86	SLU 2	343.95	6299.4	0.106	18.31	-670.11	SLU 83	-1149.56	-7737.88	0.11	6.73	Si
0.78	0.000509	0.052	0.000402	0.051	1985.59	SLU 84	1985.59	6299.4	0.106	3.17							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.39	0.000509	0.052	0.000402	0.051	774.89	SLV FO 5	1882.84	5807.24	0.177	3.08	-1676.08	SLV FO 12	-1688.91	-7269.67	0.199	4.3	Si
0.78	0.000509	0.052	0.000402	0.051	3495.94	SLV FO 5	3495.94	5807.24	0.177	1.66	-885.47	SLV FO 12	-1408.22	-7269.67	0.199	5.16	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.39	0.000509	0.052	0.000402	0.051	239.94	SLD 5	1152.87	5807.24	0.177	5.04	-1141.13	SLD 12	-1276.53	-7269.67	0.199	5.69	Si
0.78	0.000509	0.052	0.000402	0.051	2541.59	SLD 5	2541.59	5807.24	0.177	2.28	68.88	SLD 12	-647.34	-7269.67	0.199	11.23	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000039	0	0	-500	SLU 83	-500	-8455	-71432	-6167	-8455	1	16.9	Si
0.25	0.0000039	0	0	2676	SLU 84	2676	8455	71432	6167	8455	1	3.16	Si
0.39	0.0000039	0	0	4392	SLU 84	4392	7764	63178	5455	7764	1	1.77	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000039	0	0	2367	SLV FO 5	2367	8455	71432	6167	8455	1	3.57	Si
0	0.0000039	0	0	-2977	SLV FO 12	-2977	-8455	-71432	-6167	-8455	1	2.84	Si
0.25	0.0000039	0	0	4402	SLV FO 5	4402	8455	71432	6167	8455	1	1.92	Si
0.25	0.0000039	0	0	-838	SLV FO 12	-838	-8455	-71432	-6167	-8455	1	10.08	Si
0.39	0.0000039	0	0	5531	SLV FO 5	5531	7777	63336	5468	7777	1	1.41	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000039	0	0	1198	SLD 5	1198	8455	71432	6167	8455	1	7.06	Si
0	0.0000039	0	0	-1807	SLD 12	-1807	-8455	-71432	-6167	-8455	1	4.68	Si
0.25	0.0000039	0	0	3257	SLD 5	3257	8455	71432	6167	8455	1	2.6	Si
0.39	0.0000039	0	0	4394	SLD 5	4394	7777	63336	5468	7777	1	1.77	Si
0.78	0.0000039	0.000402	0	7542	SLD 5	7542	7777	63336	5468	7777	1	1.03	Si



Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma f.$	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	σFRP	$\sigma FRP \text{ lim.}$	
0	-1037.19	20	-1037.19	-61463	1494000	0	36000000	-959.13	2	-959.13	-56837	1120500			Si
0.25	-840.56	20	-840.56	-49811	1494000	0	36000000	-773.64	2	-773.64	-45845	1120500			Si
0.39	-489.53	20	-840.56	45175	1494000	670815	36000000	-450.6	2	-773.64	41578	1120500			Si
0.78	1451.61	21	1451.61	77231	1494000	1170227	36000000	1305.24	2	1305.24	69444	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 336

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001272	0.052	0.000402	0.051							-6779.02	SLU 83	-6779.02	-18175.43	0.183	2.68	Si
0.51	0.001272	0.052	0.000402	0.051							-4617.66	SLU 83	-5741.73	-18175.43	0.183	3.17	Si
0.8	0.001272	0.052	0.000402	0.051							-1968.57	SLU 83	-3745.83	-18175.43	0.183	4.85	Si
1.02	0.001272	0.052	0.000402	0.051	870.34	SLU 84	725.85	6337.65	0.117	8.73							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001272	0.052	0.000402	0.051							-6269.32	SLV FO 3	-6485.45	-17375.45	0.307	2.68	Si
0.51	0.001272	0.052	0.000402	0.051	-476.81	SLV FO 9	438.89	5793.71	0.17	13.2	-5667.55	SLV FO 8	-6301.81	-17375.45	0.307	2.76	Si
0.8	0.001272	0.052	0.000402	0.051	1003.49	SLV FO 9	1003.49	5793.71	0.17	5.77	-3604	SLV FO 8	-5046.82	-17375.45	0.307	3.44	Si
1.02	0.001272	0.052	0.000402	0.051	2213.53	SLV FO 9	1590.37	5793.71	0.17	3.64	-1057.17	SLV FO 8	-1057.17	-17375.45	0.307	16.44	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001272	0.052	0.000402	0.051							-5534.78	SLD 3	-5561.99	-17375.45	0.307	3.12	Si
0.51	0.001272	0.052	0.000402	0.051							-4537.83	SLD 8	-5224.98	-17375.45	0.307	3.33	Si
0.8	0.001272	0.052	0.000402	0.051							-2600.18	SLD 8	-3932.84	-17375.45	0.307	4.42	Si
1.02	0.001272	0.052	0.000402	0.051	1498.72	SLD 9	692.56	5793.71	0.17	8.37	-342.36	SLD 8	-342.36	-17375.45	0.307	50.75	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotg θ	coeff	Verifica
0	0.0000145	0.001272	0	1151	SLU 73	1151	10266	63178	20375	20375	1	17.7	Si
0.51	0.0000145	0.001272	0	7395	SLU 84	7395	10266	63178	20375	20375	1	2.76	Si
0.8	0.0000145	0.001272	0	11046	SLU 83	11046	10266	63178	20375	20375	1	1.84	Si
1.02	0.0000145	0.000402	0	13991	SLU 83	13991	7777	63336	20426	20426	1	1.46	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotg θ	coeff	Verifica
0	0.0000145	0.001272	0	4402	SLV FO 5	4402	10266	63178	20375	20375	1	4.63	Si
0	0.0000145	0.001272	0	-2870	SLV FO 12	-2870	-10266	-63178	-20375	-20375	1	7.1	Si
0.51	0.0000145	0.001272	0	6273	SLV FO 1	6273	10266	63178	20375	20375	1	3.25	Si
0.8	0.0000145	0.001272	0	9649	SLV FO 7	9649	10266	63178	20375	20375	1	2.11	Si
1.02	0.0000145	0.001272	0	13396	SLV FO 7	13396	10266	63178	20375	20375	1	1.52	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotg θ	coeff	Verifica
0	0.0000145	0.001272	0	2812	SLD 5	2812	10266	63178	20375	20375	1	7.25	Si
0	0.0000145	0.001272	0	-1280	SLD 12	-1280	-10266	-63178	-20375	-20375	1	15.92	Si
0.51	0.0000145	0.001272	0	5713	SLD 1	5713	10266	63178	20375	20375	1	3.57	Si
0.8	0.0000145	0.001272	0	8681	SLD 3	8681	10266	63178	20375	20375	1	2.35	Si
1.02	0.0000145	0.001272	0	11628	SLD 7	11628	10266	63178	20375	20375	1	1.75	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma f.$	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	σFRP	$\sigma FRP \text{ lim.}$	
0	-4960.3	20	-4960.3	256209	1494000	3547361	36000000	-4530.92	2	-4530.92	234031	1120500			Si
0.51	-3373.42	20	-4197.17	216792	1494000	3001613	36000000	-3072.18	2	-3826.73	197658	1120500			Si
0.8	-1434.51	20	-2735.08	141272	1494000	1955993	36000000	-1300.25	2	-2488.41	128531	1120500			Si
1.02	640.25	21	525.35	25047	1494000	407026	36000000	578.18	2	470.05	22410	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 10 - 10, sezione R 50x45, asta 344

Campata 3 tra i fili 10 - 8, sezione R 50x45, aste 343, 342, 341, 340, 339, 338, 337

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	2214	SLU 83	0.019	3106	6812	SLU 83	15877	Si
1.39	0.41	0.0002	2158	SLV FO 8	0.088	2806	6683	SLU 83	15877	Si
2.78	0.41	0.0007	2630	SLV FO 8	0.172	10884	8091	SLV FO 8	25835	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0002	1696	SLD 4	0.075	3491	5218	SLD 4	15877	Si
1.39	0.41	0.0002	1839	SLD 8	0.072	3248	5660	SLD 8	15877	Si
2.78	0.41	0.0007	2102	SLD 8	0.142	12676	6467	SLD 8	29710	Si

Verifiche delle tensioni di esercizio



				Rara					Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000195	1612	SLE RA 20	46540	1494000	577093	36000000	1455	SLE QP 2	42004	1120500	Si
1.39	0.41	0.00000181	1580	SLE RA 20	45691	1494000	566565	36000000	1425	SLE QP 2	41202	1120500	Si
2.78	0.41	0.00000727	1572	SLE RA 20	42377	1494000	525470	36000000	1418	SLE QP 2	38207	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 8 - 11, sezione R 50x45, asta 336

Campata 5 tra i fili 11 - 12, sezione R 50x45, aste 335, 334, 333

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	3185	SLV FO 8	0.172	10884	9800	SLV FO 8	25835	Si
0.23	0.41	0.0007	3328	SLV FO 8	0.172	10884	10241	SLV FO 8	25835	Si
0.35	0.41	0.0007	3409	SLV FO 8	0.172	10884	10489	SLV FO 8	25835	Si
0.48	0.41	0.0007	3493	SLV FO 8	0.172	10884	10747	SLV FO 8	25835	Si
0.7	0.41	0.0007	3656	SLV FO 8	0.172	10884	11250	SLV FO 8	25835	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0007	2477	SLD 8	0.142	12676	7622	SLD 8	29710	Si
0.23	0.41	0.0007	2575	SLD 8	0.142	12676	7924	SLD 8	29710	Si
0.35	0.41	0.0007	2630	SLD 8	0.142	12676	8094	SLD 8	29710	Si
0.48	0.41	0.0007	2688	SLD 8	0.142	12676	8269	SLD 8	29710	Si
0.7	0.41	0.0007	2800	SLD 8	0.142	12676	8616	SLD 8	29710	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000727	1729	SLE RA 20	46591	1494000	577728	36000000	1561	SLE QP 2	42065	1120500	Si
0.23	0.41	0.00000727	1773	SLE RA 20	47782	1494000	592497	36000000	1601	SLE QP 2	43153	1120500	Si
0.35	0.41	0.00000727	1797	SLE RA 20	48425	1494000	600474	36000000	1623	SLE QP 2	43740	1120500	Si
0.48	0.41	0.00000727	1822	SLE RA 20	49097	1494000	608797	36000000	1646	SLE QP 2	44352	1120500	Si
0.7	0.41	0.00000727	1873	SLE RA 20	50479	1494000	625937	36000000	1692	SLE QP 2	45612	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.51	1.1	SLU 43	ST	LT	196	-539	-59406	0	-1	19	0	0	1.1	18070	573	31.52	Si
5.51	1.1	SLV FO 9	SIS	LT	-7256	-1513	-25729	-16	-3	19	0	0	1.1	7826	7412	1.06	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
344,343,342,341,340,339,338,337,336,335,334,333					5.51	1.1	SLU 83	ST	BT	2.3	255631	75893	3.37	Si
344,343,342,341,340,339,338,337,336,335,334,333					5.51	1.1	SLV FO 8	SIS	BT	2.3	226301	77156	2.93	Si
344,343,342,341,340,339,338,337,336,335,334,333					5.51	1.1	SLD 8	SIS	BT	2.3	237321	65971	3.6	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-603	-75893	174.55	2593.49	0	0	0.03	0	1.1	5.44	1496	2060	0	14430	
0	631	-77156	-297.03	26827.91	0	0	0.35	0	1.09	4.81	1496	2060	0	14430	0.07
0	196	-65971	-126.45	15833.56	0	0	0.24	0	1.1	5.02	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

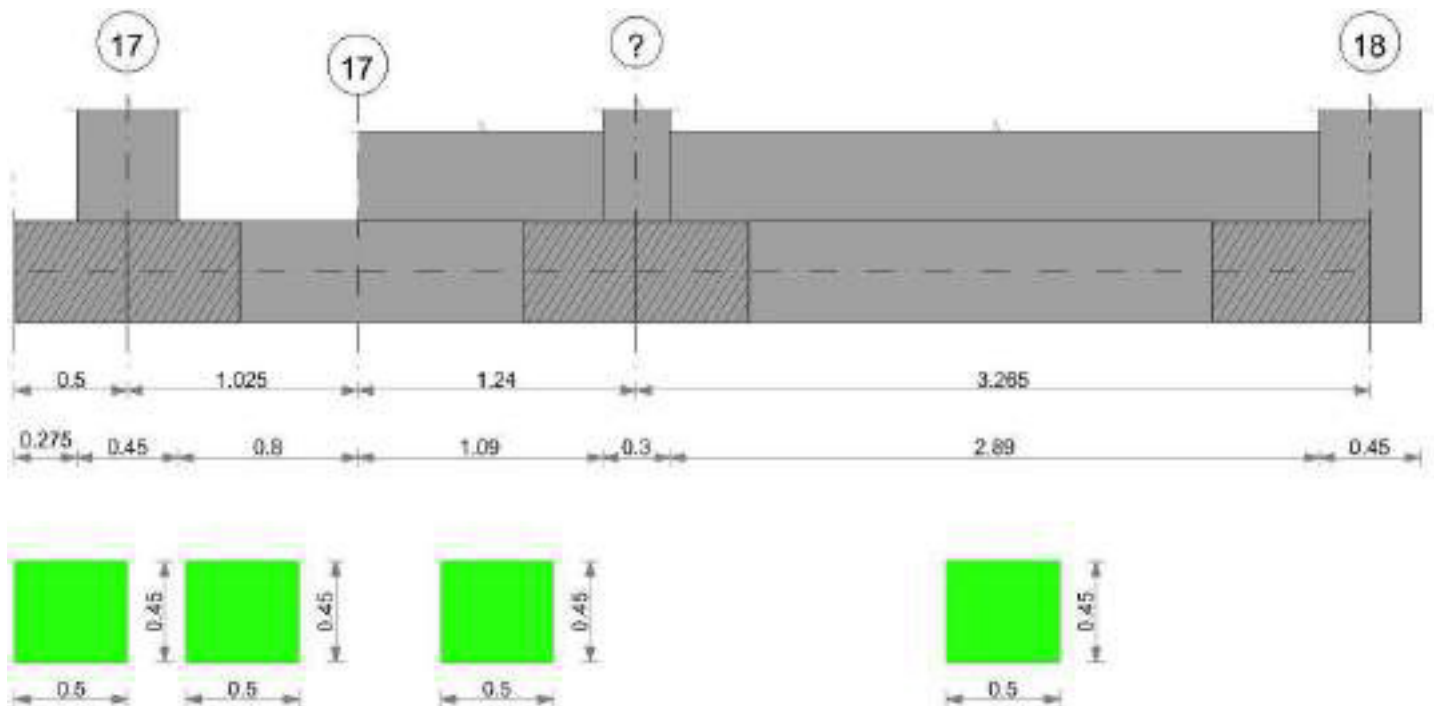
N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	745	SLE RA 20	0.05	0.002	745	1101	SLE RA 21	0.05	0	797	SLE RA 20	0.0033	0	SLE RA 2	Si
D	0.05	0	745	SLE RA 1	0.05	0	745	745	SLE RA 1	0.05	0	797	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	745	SLE RA 1	0.05	0	745	745	SLE RA 1	0.05	0	797	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.02	1028	1101	SLE RA 20	0.19	0.01	797	SLE RA 20	0.1	0	953	SLE RA 2	Si
D	0.19	0	SLE RA 1	0.19	0	745	797	SLE RA 1	0.19	0	745	SLE RA 1	0.1	0	797	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	745	797	SLE RA 1	0.19	0	745	SLE RA 1	0.1	0	797	SLE RA 1	Si



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

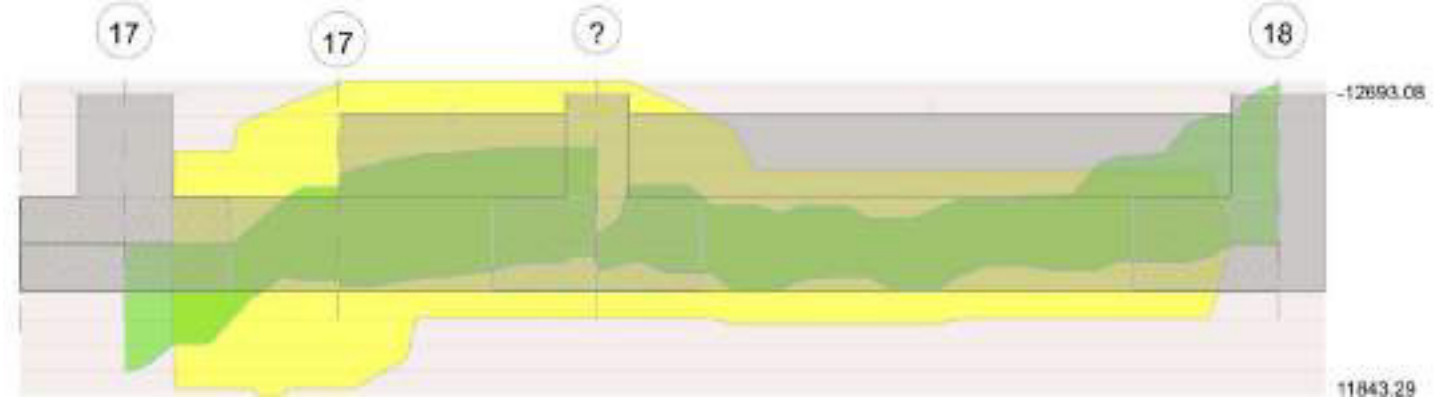


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 17 - 17, sezione R 50x45, asta 365

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.51	0.000509	0.052	0.000804	0.051	3296.88	SLU 83	5584.91	11845.27	0.135	2.12							Si
1.03	0.000895	0.052	0.000804	0.051	-618.47	SLU 2	112.85	11841.92	0.133	104.94	-1183.24	SLU 77	-1183.24	-13072.53	0.138	11.05	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.51	0.000509	0.052	0.000804	0.051	2828.3	SLV FO 12	5851.06	11292.9	0.244	1.93							Si
1.03	0.000895	0.052	0.000804	0.051	2821.51	SLV FO 5	2821.51	11304.02	0.236	4.01	-4384.08	SLV FO 12	-4384.08	-12483.77	0.25	2.85	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.51	0.000509	0.052	0.000804	0.051	2539.62	SLD 12	4902.66	11292.9	0.244	2.3							Si
1.03	0.000895	0.052	0.000804	0.051	1250.88	SLD 5	1250.88	11304.02	0.236	9.04	-2813.45	SLD 12	-2813.45	-12483.77	0.25	4.44	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000177	0	0	-17735	SLU 83	-17735	-8455	-71432	-27978	-27978	1	1.58	Si
0.23	0.0000177	0	0	-15066	SLU 83	-15066	-8455	-71432	-27978	-27978	1	1.86	Si
0.51	0.0000177	0	0	-11685	SLU 83	-11685	-7777	-63336	-24807	-24807	1	2.12	Si
1.03	0.0000177	0.000697	0	-5829	SLU 83	-5829	-8405	-63246	-24772	-24772	1	4.25	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000177	0	0	-20284	SLV FO 12	-20284	-8455	-71432	-27978	-27978	1	1.38	Si
0.23	0.0000177	0	0	-18444	SLV FO 12	-18444	-8455	-71432	-27978	-27978	1	1.52	Si
0.24	0.0000177	0	0	-18328	SLV FO 12	-18328	-7777	-63336	-24807	-24807	1	1.35	Si
0.51	0.0000177	0	0	714	SLV FO 5	714	7777	63336	24807	24807	1	34.77	Si
0.51	0.0000177	0	0	-16107	SLV FO 12	-16107	-7777	-63336	-24807	-24807	1	1.54	Si
1.03	0.0000177	0.000804	0	4435	SLV FO 5	4435	8820	63336	24807	24807	1	5.59	Si
1.03	0.0000177	0.000697	0	-12062	SLV FO 12	-12062	-8405	-63246	-24772	-24772	1	2.05	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000177	0	0	-16549	SLD 12	-16549	-8455	-71432	-27978	-27978	1	1.69	Si
0.23	0.0000177	0	0	-14739	SLD 12	-14739	-8455	-71432	-27978	-27978	1	1.9	Si
0.51	0.0000177	0	0	-12444	SLD 12	-12444	-7777	-63336	-24807	-24807	1	1.99	Si
1.03	0.0000177	0.000804	0	844	SLD 5	844	8820	63336	24807	24807	1	29.38	Si
1.03	0.0000177	0.000697	0	-8471	SLD 12	-8471	-8405	-63246	-24772	-24772	1	2.92	Si

Verifiche delle tensioni in esercizio

x	Rara								Quasi permanente								Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.		Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.		
0.51	2404.86	20	4073.85	211839	1494000	3088990	36000000		2161.33	2	3669.26	190801	1120500				Si
1.03	-859.85	14	-859.85	42545	1494000	632988	36000000		-781.29	2	-781.29	38658	1120500				Si

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 17 - 17, sezione R 50x45, asta 365

Campata 3 tra i fili 17 - ?, sezione R 50x45, aste 364, 363, 362, 361

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb.	x/d	Mult	V	Comb.	Vult	Verifica
0	0.41	0.0009	1980	SLU 83	0.074	13774	6093	SLU 83	31377	Si
0.62	0.41	0.0004	1891	SLU 83	0.031	5795	5819	SLU 83	15877	Si
1.09	0.41	0.0004	1872	SLU 83	0.031	5795	5761	SLU 83	15877	Si
1.24	0.41	0.0004	1877	SLU 83	0.031	5795	5776	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD



x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1358	SLD 7	0.157	15303	4178	SLD 7	36083	Si
0.62	0.41	0.0004	1344	SLD 7	0.102	6473	4136	SLD 7	15877	Si
1.09	0.41	0.0004	1395	SLD 7	0.102	6473	4292	SLD 7	15877	Si
1.24	0.41	0.0004	1423	SLD 7	0.102	6473	4377	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000883	1441	SLE RA 20	38094	1494000	472366	36000000	1295	SLE QP 2	34244	1120500	Si
0.62	0.41	0.00000365	1375	SLE RA 20	38811	1494000	481261	36000000	1236	SLE QP 2	34880	1120500	Si
1.09	0.41	0.00000365	1361	SLE RA 20	38411	1494000	476300	36000000	1223	SLE QP 2	34519	1120500	Si
1.24	0.41	0.00000365	1365	SLE RA 20	38510	1494000	477518	36000000	1226	SLE QP 2	34608	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 18, sezione R 50x45, aste 360, 359, 358, 357, 356, 355, 354, 353

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1877	SLU 83	0.031	5795	5776	SLU 83	15877	Si
0.15	0.41	0.0002	1883	SLU 83	0.019	3218	5794	SLU 83	15877	Si
1.63	0.41	0.0002	2208	SLV FO 8	0.092	3123	6792	SLV FO 8	15877	Si
3.04	0.41	0.0002	2929	SLV FO 8	0.092	3123	9011	SLV FO 8	15877	Si
3.27	0.41	0.0002	3095	SLV FO 8	0.092	3123	9522	SLV FO 8	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1423	SLD 7	0.102	6473	4377	SLD 7	15877	Si
0.15	0.41	0.0002	1451	SLD 7	0.076	3616	4466	SLD 7	15877	Si
1.63	0.41	0.0002	1809	SLD 8	0.076	3616	5567	SLD 8	15877	Si
3.04	0.41	0.0002	2272	SLD 8	0.076	3616	6992	SLD 8	15877	Si
3.27	0.41	0.0002	2387	SLD 8	0.076	3616	7345	SLD 8	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000365	1365	SLE RA 20	38510	1494000	477518	36000000	1226	SLE QP 2	34608	1120500	Si
0.15	0.41	0.00000202	1369	SLE RA 20	39462	1494000	489323	36000000	1230	SLE QP 2	35465	1120500	Si
1.63	0.41	0.00000202	1441	SLE RA 20	41546	1494000	515171	36000000	1296	SLE QP 2	37363	1120500	Si
3.04	0.41	0.00000202	1584	SLE RA 20	45682	1494000	566457	36000000	1427	SLE QP 2	41137	1120500	Si
3.27	0.41	0.00000202	1638	SLE RA 20	47229	1494000	585636	36000000	1475	SLE QP 2	42545	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.76	1.1	SLU 2	ST	LT	-301	-183	-45052	0	0	19	0	0	1.1	13704	353	38.87	Si
5.76	1.1	SLV FO 9	SIS	LT	-7743	-1928	-31495	-14	-4	19	0	0	1.1	9580	7980	1.2	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
365,364,363,362,361,360,359,358,357,356,355,354,353				5.76	1.1	SLU 83	ST	BT	2.3	268852	72433	3.71	Si
365,364,363,362,361,360,359,358,357,356,355,354,353				5.76	1.1	SLV FO 7	SIS	BT	2.3	226804	66609	3.4	Si
365,364,363,362,361,360,359,358,357,356,355,354,353				5.76	1.1	SLD 7	SIS	BT	2.3	242023	58958	4.1	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-294	-72433	-149.2	1339.63	0	0	0.02	0	1.1	5.72	1496	2060	0	14430	
0	2032	-66609	-1276.64	25328.8	0	2	0.38	-0.02	1.06	4.99	1496	2060	0	14430	0.07
0	1096	-58958	-779.63	14623.66	0	1	0.25	-0.01	1.07	5.26	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

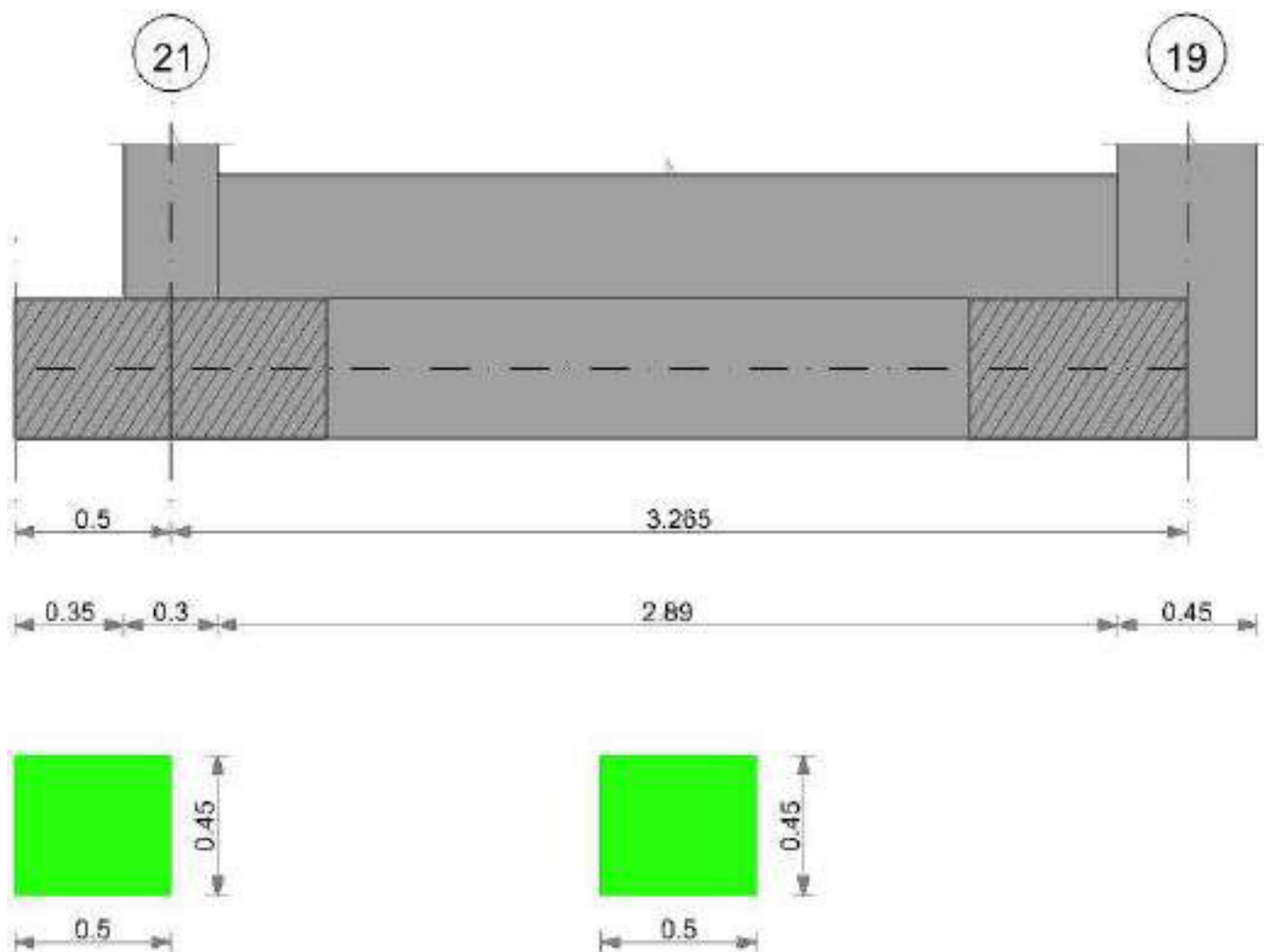
N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	ic	ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	684	SLE RA 21	0.05	0.002	684	1113	SLE RA 21	0.05	0	861	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	684	SLE RA 1	0.05	0	684	684	SLE RA 1	0.05	0	798	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	684	SLE RA 1	0.05	0	684	684	SLE RA 1	0.05	0	798	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.02	861	1113	SLE RA 21	0.19	0.01	798	SLE RA 20	0.1	0	684	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	684	798	SLE RA 1	0.19	0	684	SLE RA 1	0.1	0	798	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	684	798	SLE RA 1	0.19	0	684	SLE RA 1	0.1	0	798	SLE RA 1	Si



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

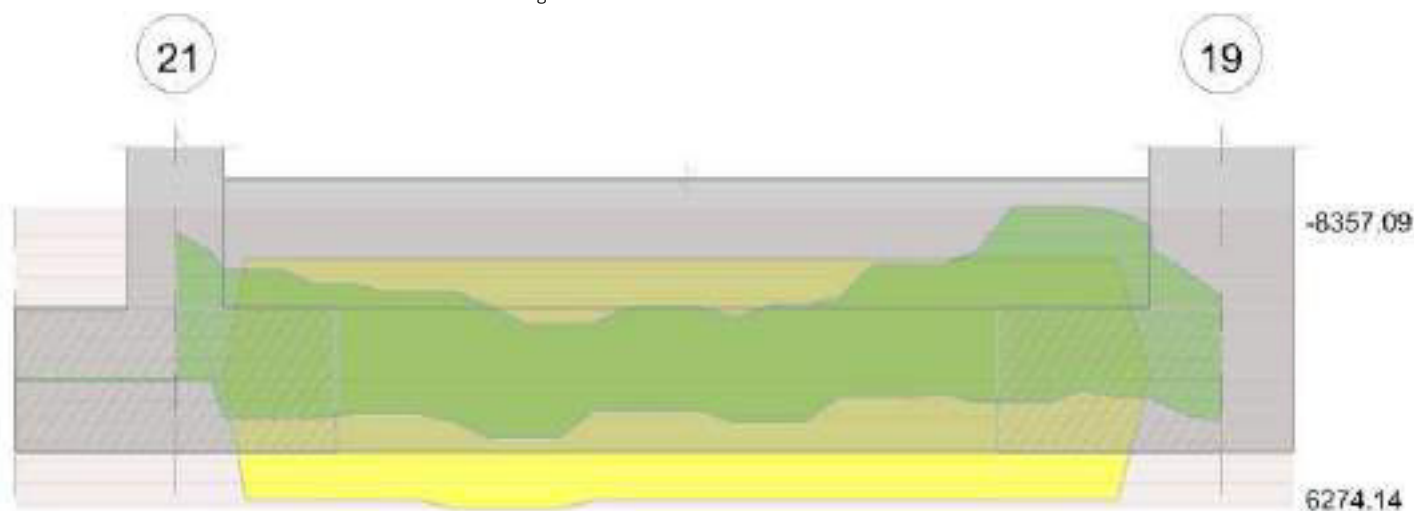


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 21 - 19, sezione R 50x45, aste 352, 351, 350, 349, 348, 347, 346, 345

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb	Rara				Quasi permanente				Verifica
					σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	
0	0.42	0	1252	SLE RA 20	37108	1494000	0	36000000	1124	SLE QP 2	33305	1120500	Si
0.15	0.42	0	1257	SLE RA 20	37244	1494000	0	36000000	1128	SLE QP 2	33429	1120500	Si
1.63	0.42	0	1355	SLE RA 20	40140	1494000	0	36000000	1217	SLE QP 2	36066	1120500	Si
3.04	0.42	0	1529	SLE RA 20	45297	1494000	0	36000000	1376	SLE QP 2	40769	1120500	Si
3.27	0.42	0	1584	SLE RA 20	46941	1494000	0	36000000	1426	SLE QP 2	42266	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
3.49	1.1	SLU 2	ST	LT	-237	-117	-25424	-1	0	19	0	0	1.1	7733	264	29.25	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
352,351,350,349,348,347,346,345	3.49	1.1	SLU 83	ST	BT	2.3	161462	41081	3.93	Si
352,351,350,349,348,347,346,345	3.49	1.1	SLV FO 7	SIS	BT	2.3	142409	43126	3.3	Si
352,351,350,349,348,347,346,345	3.49	1.1	SLD 7	SIS	BT	2.3	148833	36457	4.08	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-197	-41081	-294.59	1820.58	0	0	0.04	-0.01	1.09	3.4	1496	2060	0	14430	
0	1142	-43126	-859.13	8917.56	0	2	0.21	-0.02	1.06	3.08	1496	2060	0	14430	0.07
0	610	-36457	-580.68	5538.65	0	1	0.15	-0.02	1.07	3.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.06	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

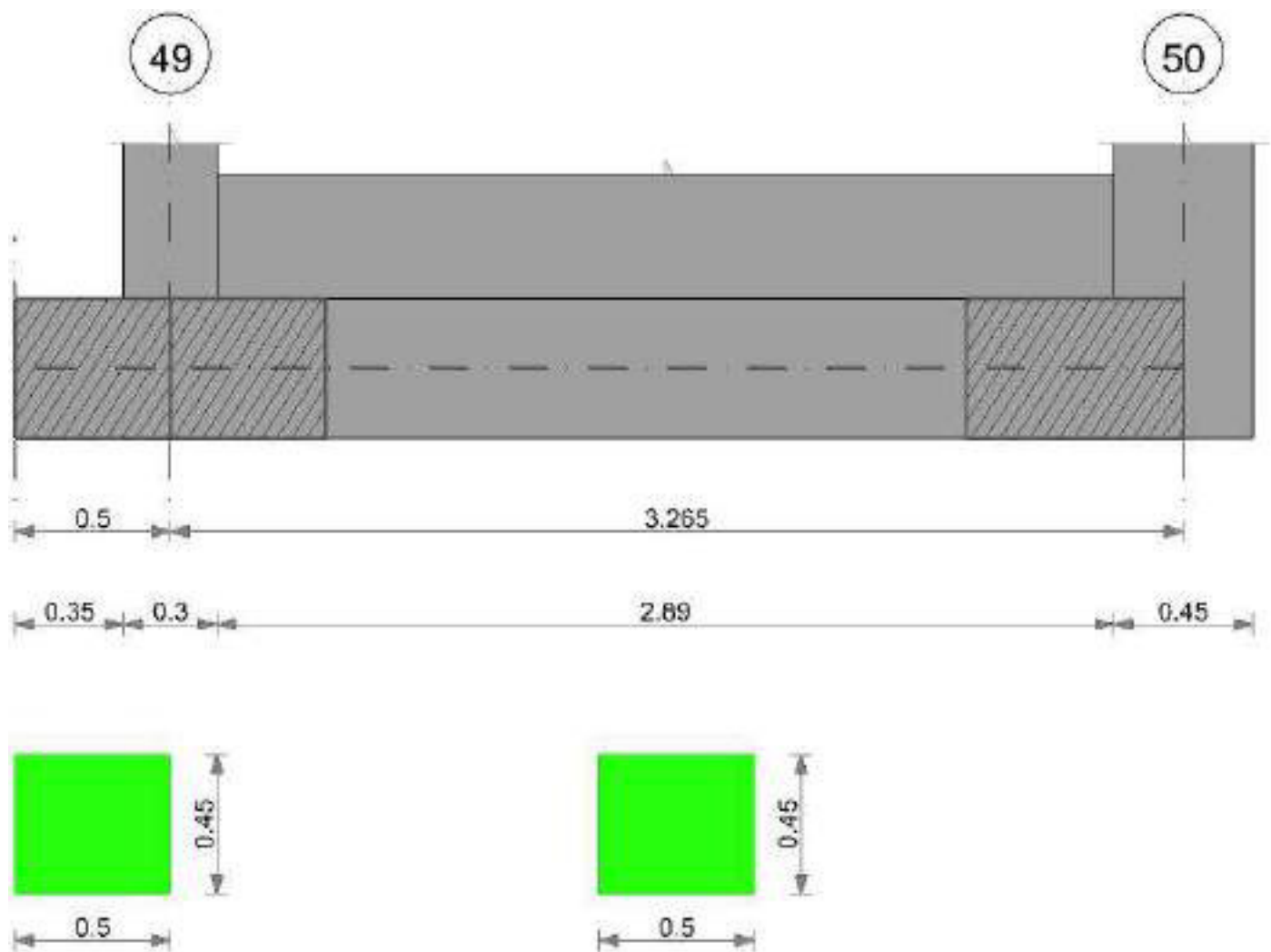
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	864	SLE RA 20	0.05	0.001	864	1115	SLE RA 21	0.05	0	864	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	864	SLE RA 1	0.05	0	864	864	SLE RA 1	0.05	0	864	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	864	SLE RA 1	0.05	0	864	864	SLE RA 1	0.05	0	864	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta			Distorsione angolare positiva			Distorsione angolare negativa			Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.02	864	1115	SLE RA 21	0.19	0	864	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	864	1115	SLE RA 1	0.19	0	864	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	864	1115	SLE RA 1	0.19	0	864	SLE RA 1	Si

CORDOLO 27

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copri ferro sup.	Copri ferro inf.	Copri ferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

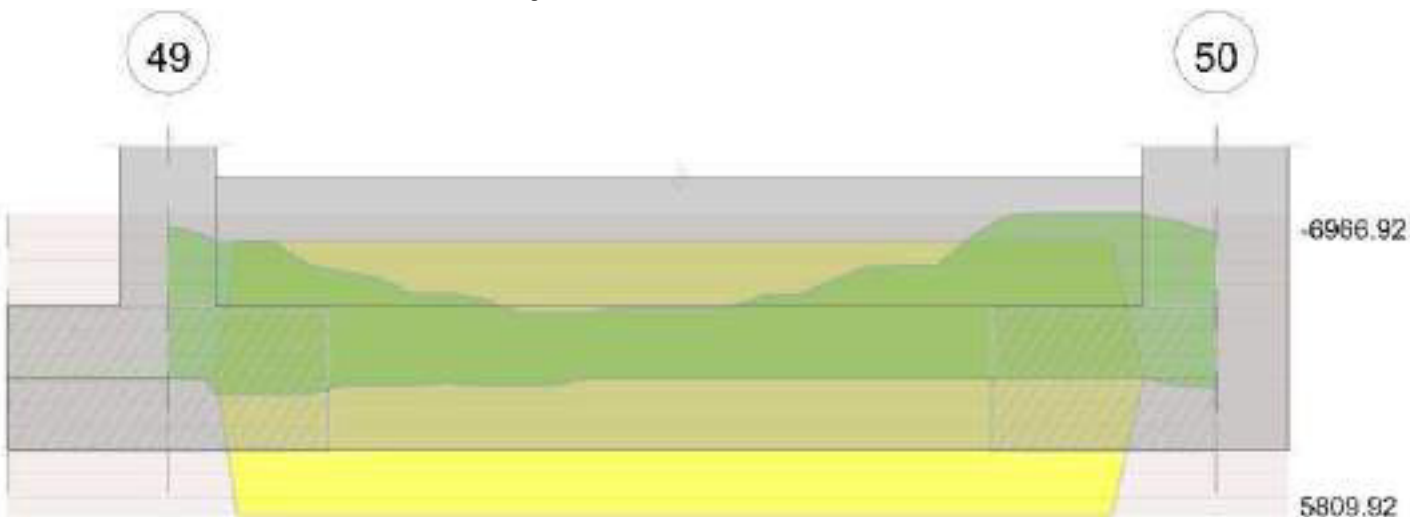
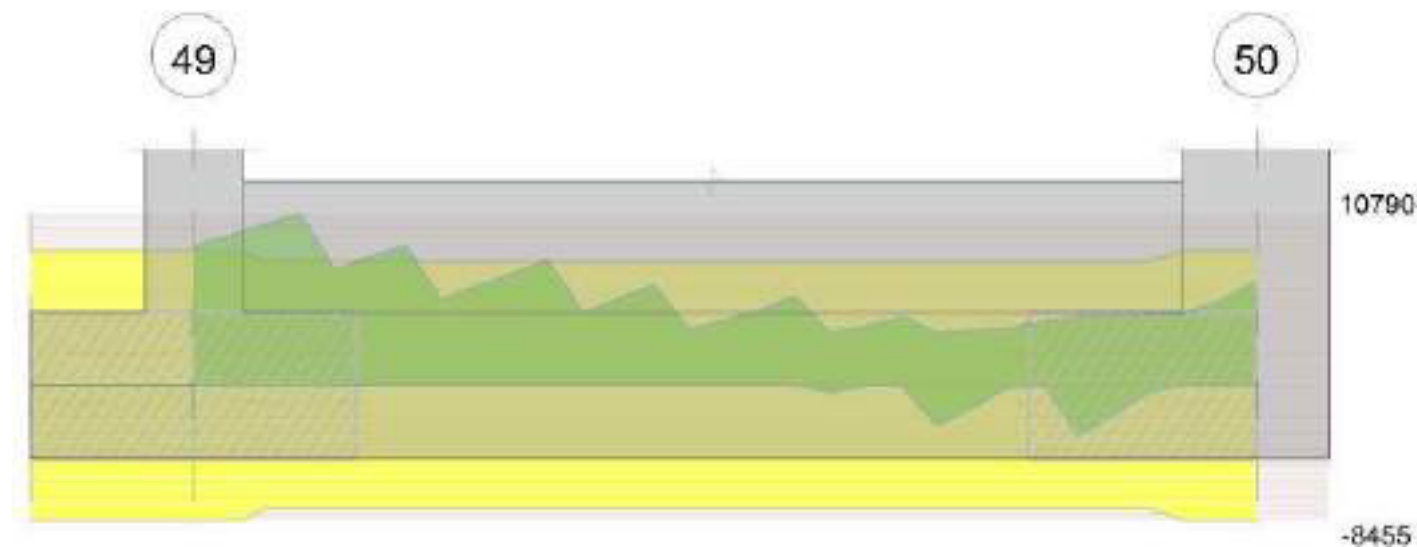


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 49 - 50, sezione R 50x45, aste 385, 384, 383, 382, 381, 380, 379, 378

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1248	SLU 83	0.019	3218	3840	SLU 83	15877	Si
0.15	0.41	0.0002	1247	SLU 83	0.019	3218	3838	SLU 83	15877	Si
1.63	0.41	0.0002	1677	SLV FO 11	0.092	3123	5160	SLV FO 11	15877	Si
3.04	0.41	0.0002	2580	SLV FO 11	0.092	3123	7939	SLV FO 11	15877	Si
3.27	0.41	0.0002	2776	SLV FO 11	0.092	3123	8543	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	935	SLD 12	0.076	3616	2877	SLD 12	15877	Si
0.15	0.41	0.0002	956	SLD 12	0.076	3616	2942	SLD 12	15877	Si
1.63	0.41	0.0002	1346	SLD 11	0.076	3616	4143	SLD 11	15877	Si
3.04	0.41	0.0002	1982	SLD 11	0.076	3616	6100	SLD 11	15877	Si
3.27	0.41	0.0002	2126	SLD 11	0.076	3616	6541	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

Rara				Quasi permanente				Verifica					
x	d	Af	M	Comb	σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	M	Comb	σc	$\sigma c \text{ limite}$	
0	0.41	0.00000202	905	SLE RA 20	26094	1494000	323566	36000000	808	SLE QP 2	23307	1120500	Si
0.15	0.41	0.00000202	904	SLE RA 20	26074	1494000	323316	36000000	808	SLE QP 2	23288	1120500	Si
1.63	0.41	0.00000202	1027	SLE RA 20	29611	1494000	367176	36000000	919	SLE QP 2	26510	1120500	Si
3.04	0.41	0.00000202	1348	SLE RA 20	38870	1494000	481987	36000000	1212	SLE QP 2	34941	1120500	Si
3.27	0.41	0.00000202	1431	SLE RA 20	41258	1494000	511595	36000000	1287	SLE QP 2	37113	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
3.49	1.1	SLU 2	ST	LT	-874	13	-21239	-2	0	19	0	0	1.1	6460	874	7.39	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste										Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
385,384,383,382,381,380,379,378										3.49	1.1	SLU 83	ST	BT	2.3	159826	34083	4.69	Si
385,384,383,382,381,380,379,378										3.49	1.1	SLV FO 12	SIS	BT	2.3	137491	36559	3.76	Si
385,384,383,382,381,380,379,378										3.49	1.1	SLD 12	SIS	BT	2.3	144834	30736	4.71	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	17	-34083	92.33	2691.53	0	0	0.08	0	1.09	3.33	1496	2060	0	14430	
0	-1409	-36559	745.7	9456.76	0	-2	0.26	0.02	1.06	2.97	1496	2060	0	14430	0.07
0	-815	-30736	459.53	6092.27	0	-2	0.2	0.01	1.07	3.09	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.07	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.07	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Verifica di compatibilità tra i componenti assicurati e differenziali																	
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.001	875	SLE RA 20	0.05	0.001	875	1130	SLE RA 21	0.05	0	875	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	875	SLE RA 1	0.05	0	875	875	SLE RA 1	0.05	0	875	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	875	SIF RA 1	0.05	0	875	875	SIF RA 1	0.05	0	875	SIF RA 1	0.0033	0	SIF RA 1	Si

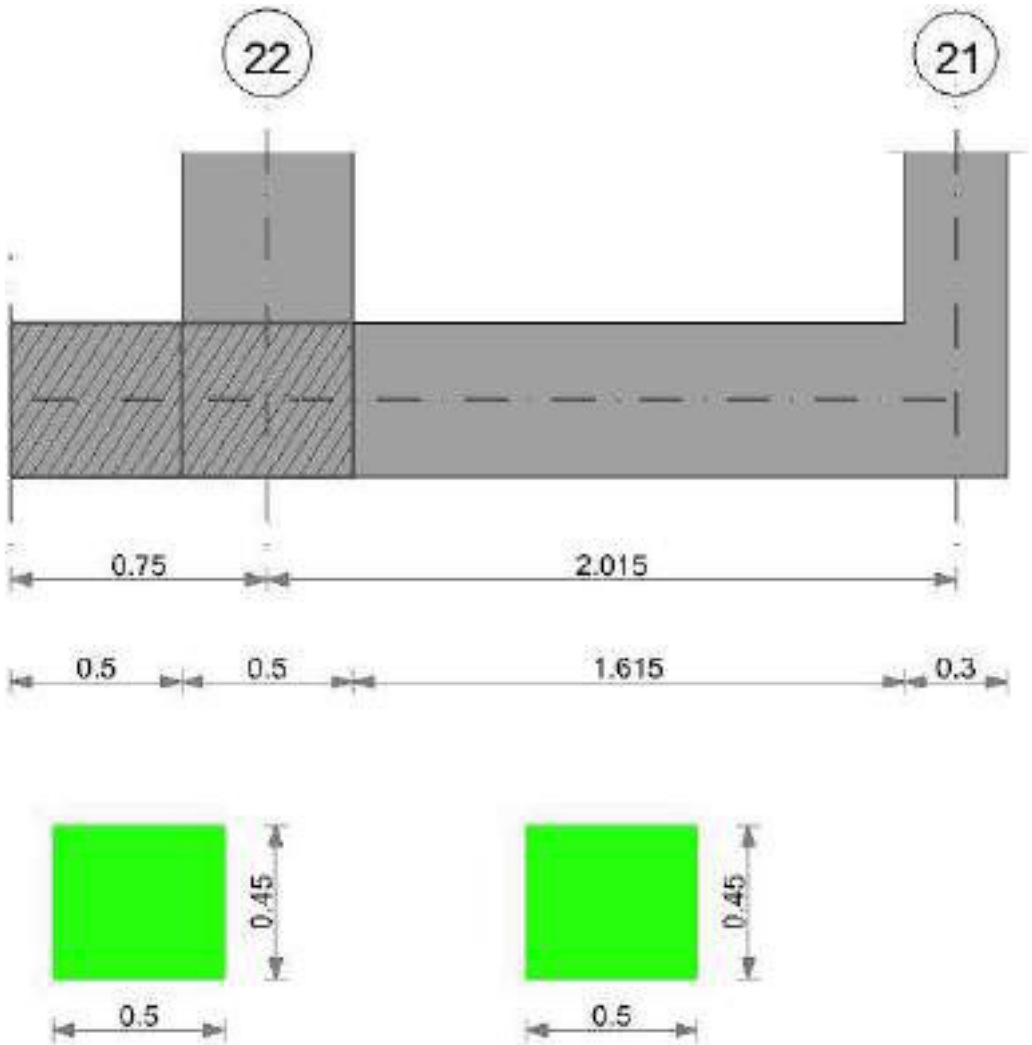


Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.02	875	1130	SLE RA 21	0.19	0	875	SLE RA 1	0.1	0	875	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	875	1130	SLE RA 1	0.19	0	875	SLE RA 1	0.1	0	875	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	875	1130	SLE RA 1	0.19	0	875	SLE RA 1	0.1	0	875	SLE RA 1	Si

CORDOLO 28

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

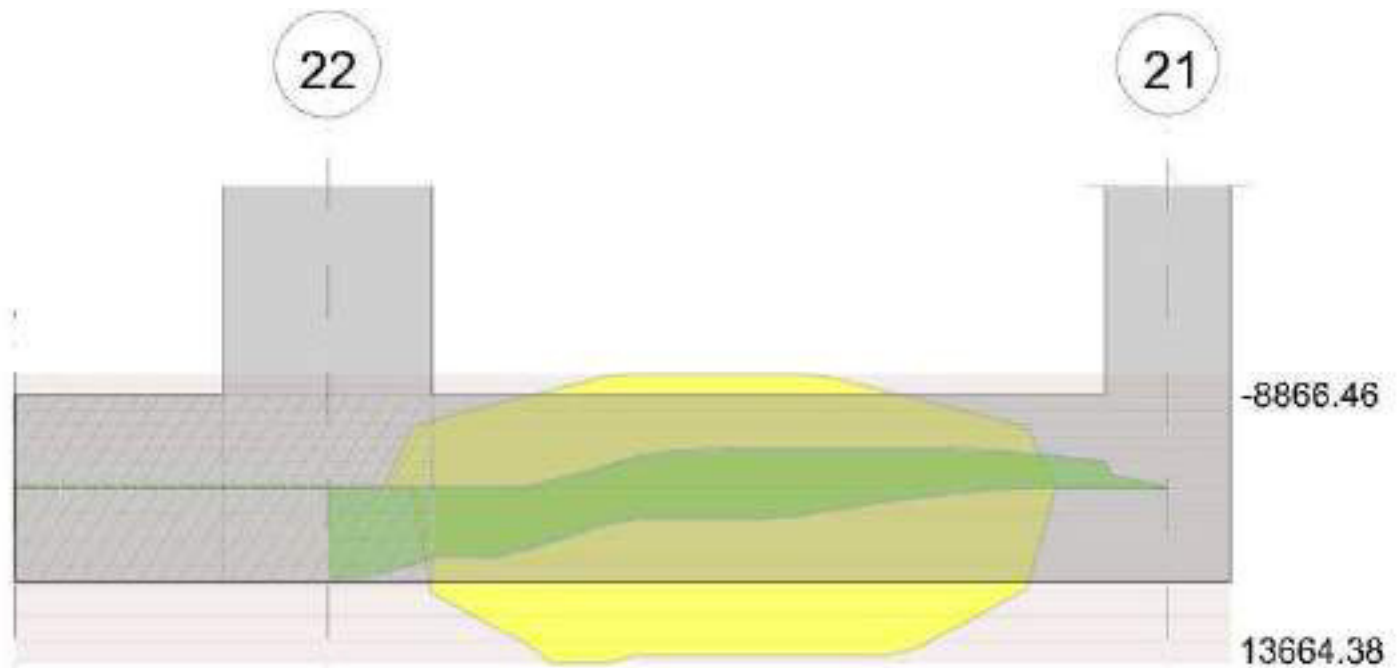
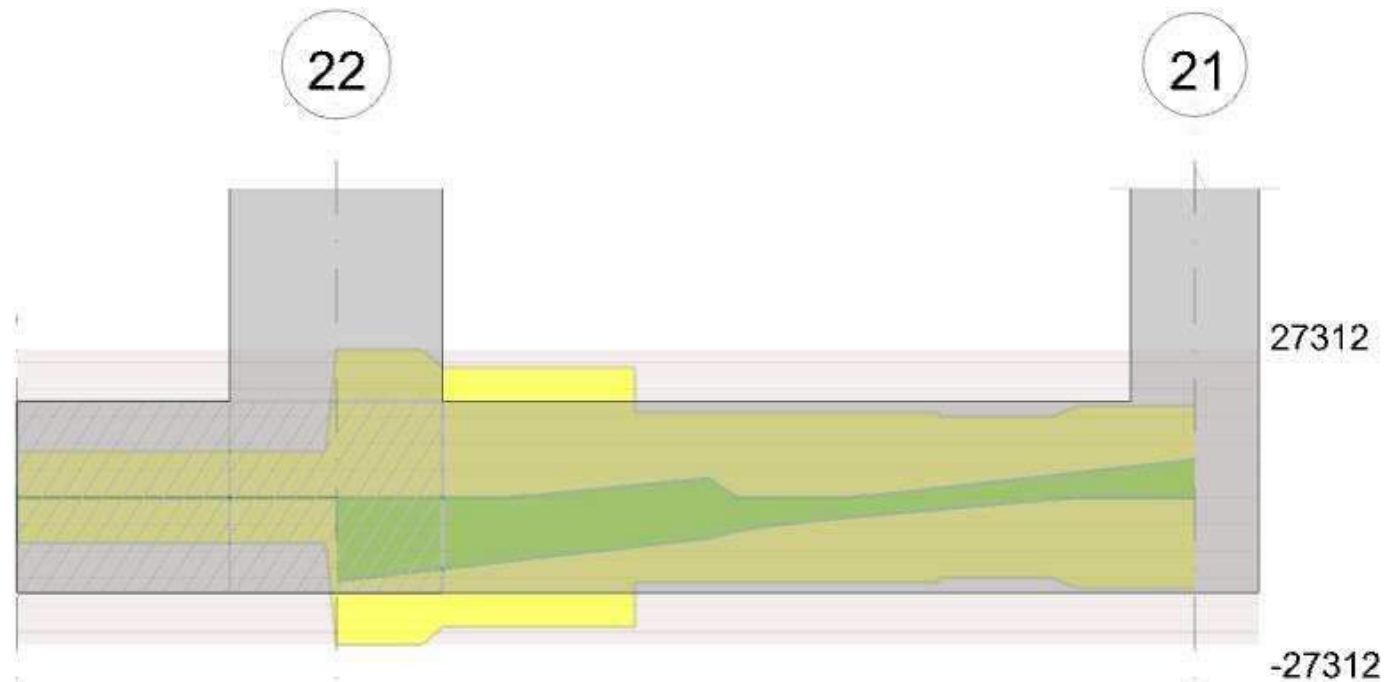


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 22 - 21, sezione R 50x45, aste 725, 724

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.25	0.000366	0.053	0.00058	0.053	5406.08	SLU 83	5406.08	8706.48	0.117	1.61							Si
1.01	0.000628	0.053	0.000942	0.053	-392.6	SLU 2	598.41	13662.92	0.147	22.83	-741.45	SLU 77	-1592.4	-9390.61	0.127	5.9	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica	
0.25	0.000366	0.053	0.00058	0.053	5409.06	SLV FO 12	5409.06	8212.34	0.212	1.52						Si	
1.01	0.000628	0.053	0.000942	0.053	1830.92	SLV FO 5	2445.67	13063.86	0.261	5.34	-2814.71	SLV FO 12	-3037.66	-8866.46	0.211	2.92	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$



x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.25	0.000366	0.053	0.00058	0.053	4596.92	SLD 12	4596.92	8212.34	0.212	1.79							Si
1.01	0.000628	0.053	0.000942	0.053	819.85	SLD 5	1488.71	13063.86	0.261	8.78	-1803.64	SLD 12	-2176.28	-8866.46	0.211	4.07	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000172	0.00058	0	-14464	SLU 83	-14464	-8455	-71432	-27312	-27312	1	1.89	Si
0.25	0.0000172	0.00058	0	-11189	SLU 83	-11189	-7890	-63019	-24095	-24095	1	2.15	Si
1.01	0.0000112	0.000489	0	-5399	SLU 84	-5399	-7751	-63019	-15726	-15726	1	2.91	Si
1.86	0.0000107	0	0	4812	SLU 83	4812	8455	71432	16994	16994	1	3.53	Si
2.01	0.0000107	0	0	6538	SLU 83	6538	8455	71432	16994	16994	1	2.6	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000172	0.00058	0	-15571	SLV FO 12	-15571	-8455	-71432	-27312	-27312	1	1.75	Si
0.25	0.0000172	0.00058	0	-13262	SLV FO 12	-13262	-7890	-63019	-24095	-24095	1	1.82	Si
1.01	0.0000112	0.000902	0	-5210	SLV FO 5	-5210	-9145	-63019	-15726	-15726	1	3.02	Si
1.86	0.0000107	0	0	5573	SLV FO 12	5573	8455	71432	16994	16994	1	3.05	Si
2.01	0.0000107	0	0	6897	SLV FO 12	6897	8455	71432	16994	16994	1	2.46	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000172	0.00058	0	-12932	SLD 12	-12932	-8455	-71432	-27312	-27312	1	2.11	Si
0.25	0.0000172	0.00058	0	-10682	SLD 12	-10682	-7890	-63019	-24095	-24095	1	2.26	Si
1.01	0.0000112	0.000902	0	-4493	SLD 5	-4493	-9145	-63019	-15726	-15726	1	3.5	Si
1.86	0.0000107	0	0	4536	SLD 12	4536	8455	71432	16994	16994	1	3.75	Si
2.01	0.0000107	0	0	5781	SLD 12	5781	8455	71432	16994	16994	1	2.94	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica	
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.		
0.25	3942.7	20	3942.7	212616	1494000	3124490	36000000	3544.48	2	3544.48	191142	1120500			Si	
1.01	-539.02	14	-1161.64	57351	1494000	885568	36000000	-491.9	2	-1059.56	52312	1120500			Si	
1.86	-698.19	20	-1251.83	-74183	1494000	0	36000000	-634.48	2	-1138.01	-67438	1120500			Si	
2.01	0.27	2	0.27	16	1494000	0	36000000	0.23	1	0.23	14	1120500			Si	

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
2.16	1.1	SLU 35	ST	LT	111	-91	-23719	0	0	19	0	0	1.1	7215	144	50.26	Si
2.16	1.1	SLV FO 9	SIS	LT	-3079	-966	-17724	-10	-3	19	0	0	1.1	5391	3227	1.67	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb.	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
725,724	2.16	1.1	SLU 83	ST	BT	2.3	104616	28795	3.63	Si
725,724	2.16	1.1	SLV FO 3	SIS	BT	2.3	90122	20487	4.4	Si
725,724	2.16	1.1	SLD 3	SIS	BT	2.3	97764	20069	4.87	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
135	-107	-28795	41.47	-661.41	0	0	-0.02	0	1.1	2.12	1496	2060	0	14430	
922	2787	-20487	-1360.2	289.08	3	8	0.01	-0.07	0.97	2.14	1496	2060	0	14430	0.07
556	1587	-20069	-777.51	-25.64	2	5	0	-0.04	1.02	2.16	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

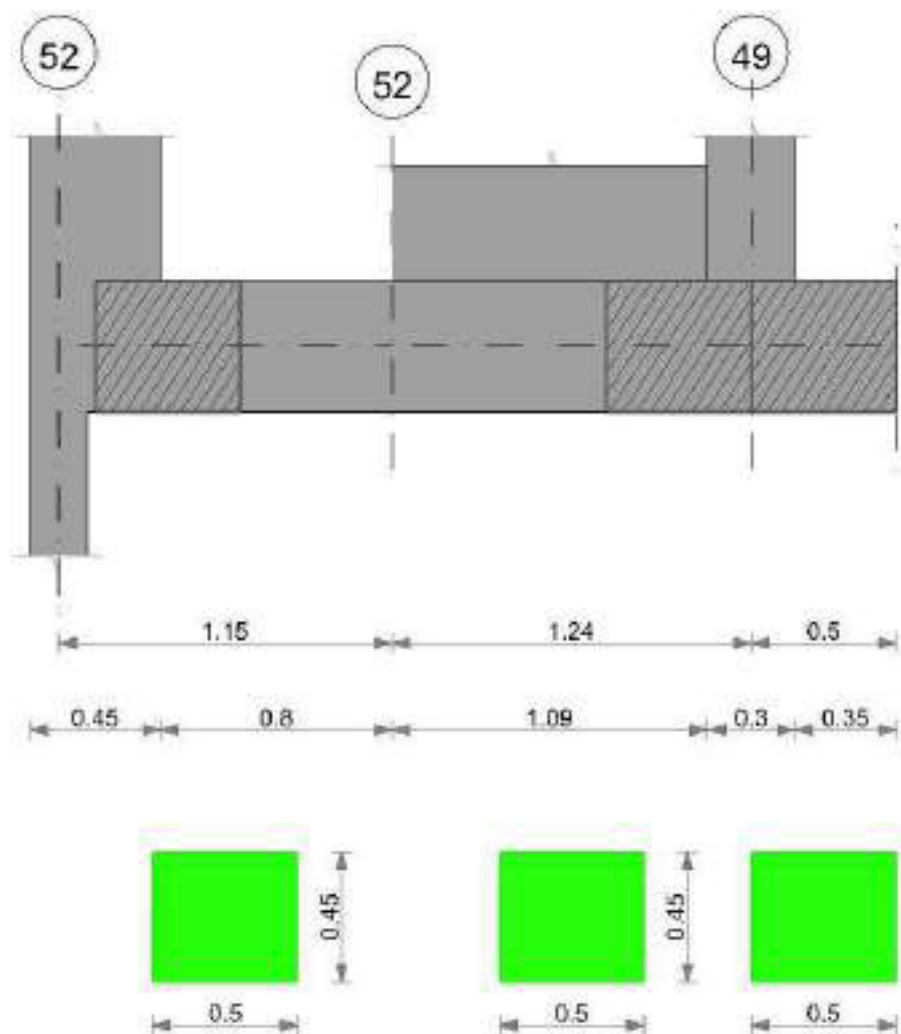
N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.1	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.09	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.09	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	686	SLE RA 21	0.05	0	686	863	SLE RA 21	0.05	0	686	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	686	SLE RA 1	0.05	0	686	686	SLE RA 1	0.05	0	686	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	686	SLE RA 1	0.05	0	686	686	SLE RA 1	0.05	0	686	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.
E	0.19	0.01	SLE RA 21	0.19	0.01	686	863	SLE RA 21	0.19	0	686	SLE RA 1	0.1	0	686	SLE RA 1
D	0.19	0	SLE RA 1	0.19	0	686	863	SLE RA 1	0.19	0	686	SLE RA 1	0.1	0	686	SLE RA 1
Z	0.19	0	SLE RA 1	0.19	0	686	863	SLE RA 1	0.19	0	686	SLE RA 1	0.1	0	686	SLE RA 1



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

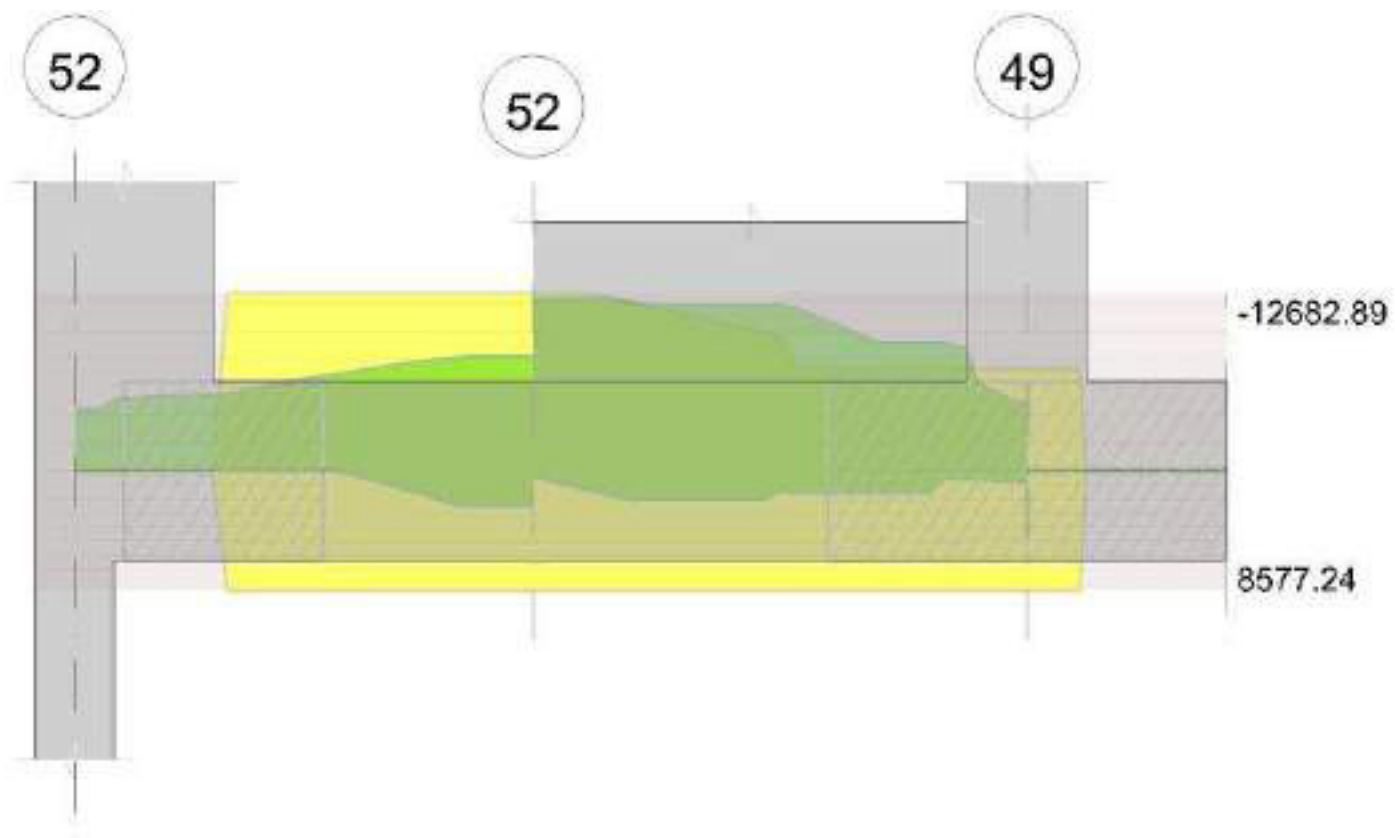
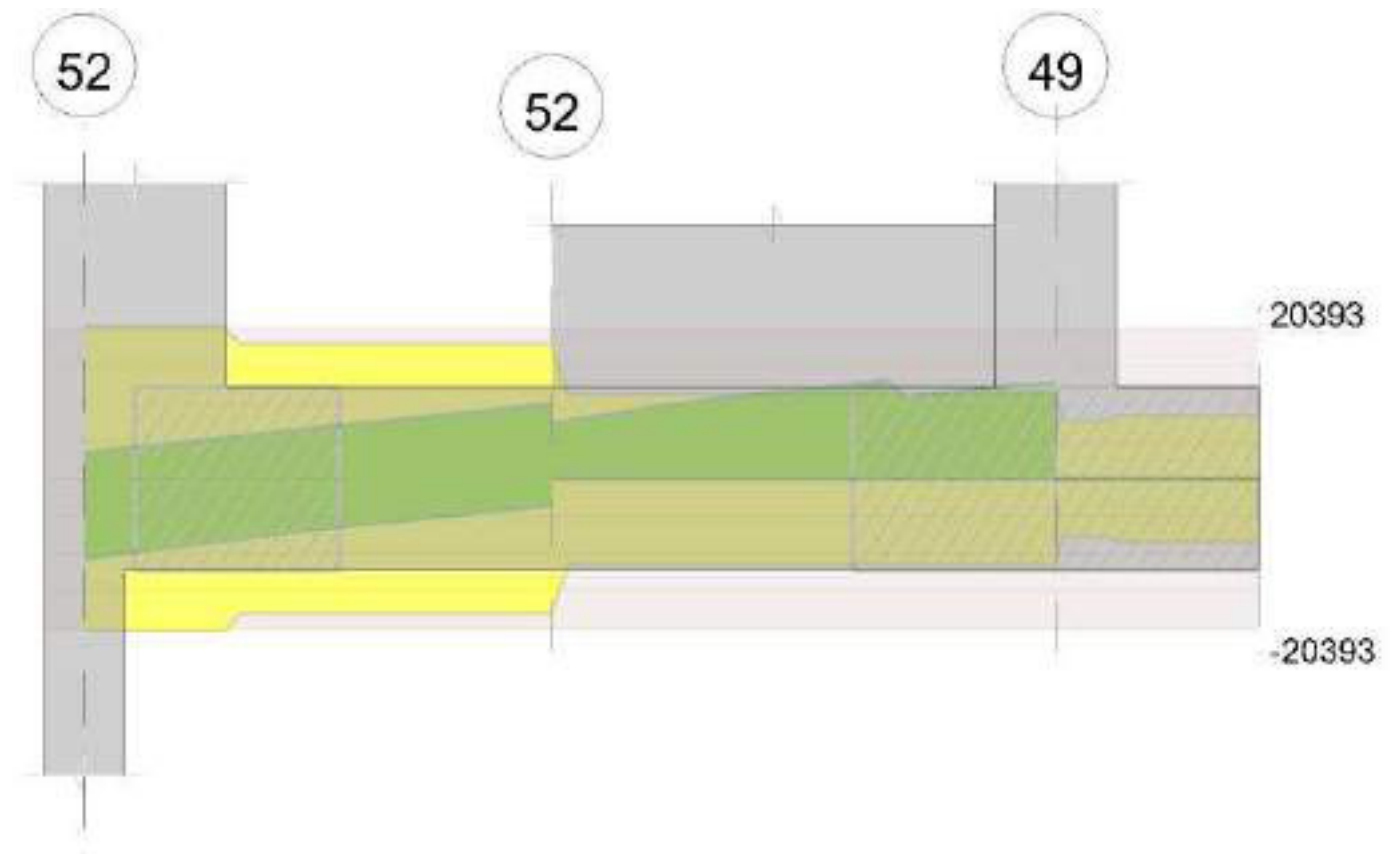


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 52 - 52, sezione R 50x45, asta 723

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000911	0.052	0.000603	0.051							-5457.65	SLU 83	-5457.65	-13290.66	0.141	2.44	Si
1.15	0.000911	0.052	0.000603	0.051							-4197.61	SLU 83	-4847.23	-13290.66	0.141	2.74	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000911	0.052	0.000603	0.051							-5566.12	SLV FO 11	-6536.17	-12682.89	0.256	1.94	Si
1.15	0.000911	0.052	0.000603	0.051	2525.8	SLV FO 10	2525.8	8575.42	0.206	3.4	-8163.35	SLV FO 7	-8163.35	-12682.89	0.256	1.55	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.000911	0.052	0.000603	0.051							-4735.24	SLD 11	-5241.03	-12682.89	0.256	2.42	Si
1.15	0.000911	0.052	0.000603	0.051	189.23	SLD 10	189.23	8575.42	0.206	45.32	-5826.77	SLD 7	-5826.77	-12682.89	0.256	2.18	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000129	0	0	-5458	SLU 83	-5458	-8455	-71432	-20393	-20393	1	3.74	Si
0.1	0.0000129	0	0	-4438	SLU 83	-4438	-8455	-71432	-20393	-20393	1	4.6	Si
0.58	0.0000129	0	0	269	SLU 52	269	7770	63248	18056	18056	1	67.17	Si
0.58	0.0000129	0	0	-85	SLU 27	-85	-7770	-63248	-18056	-18056	1	211.33	Si
1.15	0.0000129	0.000911	0	4878	SLU 82	4878	9189	63248	18056	18056	1	3.7	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000129	0	0	3493	SLV FO 10	3493	8455	71432	20393	20393	1	5.84	Si
0	0.0000129	0	0	-10718	SLV FO 7	-10718	-8455	-71432	-20393	-20393	1	1.9	Si
0.1	0.0000129	0	0	4111	SLV FO 10	4111	8455	71432	20393	20393	1	4.96	Si
0.1	0.0000129	0	0	-9978	SLV FO 7	-9978	-8455	-71432	-20393	-20393	1	2.04	Si
0.58	0.0000129	0	0	6904	SLV FO 10	6904	7770	63248	18056	18056	1	2.62	Si
0.58	0.0000129	0	0	-6814	SLV FO 7	-6814	-7770	-63248	-18056	-18056	1	2.65	Si
1.15	0.0000129	0.000603	0	10014	SLV FO 10	10014	8014	63336	18082	18082	1	1.81	Si
1.15	0.0000129	0.000911	0	-3651	SLV FO 7	-3651	-9189	-63248	-18056	-18056	1	4.95	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000129	0	0	385	SLD 10	385	8455	71432	20393	20393	1	52.94	Si
0	0.0000129	0	0	-7610	SLD 7	-7610	-8455	-71432	-20393	-20393	1	2.68	Si
0.1	0.0000129	0	0	1030	SLD 10	1030	8455	71432	20393	20393	1	19.79	Si



x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.1	0.0000129	0	0	-6898	SLD 7	-6898	-8455	-71432	-20393	-20393	1	2.96	Si
0.58	0.0000129	0	0	3906	SLD 10	3906	7770	63248	18056	18056	1	4.62	Si
0.58	0.0000129	0	0	-3816	SLD 7	-3816	-7770	-63248	-18056	-18056	1	4.73	Si
1.15	0.0000129	0.000603	0	7029	SLD 10	7029	8014	63336	18082	18082	1	2.57	Si
1.15	0.0000129	0.000911	0	-667	SLD 7	-667	-9189	-63248	-18056	-18056	1	27.09	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-3036.34	21	-3036.34	-179932	1494000	0	36000000	-2775.96	2	-2775.96	-164501	1120500			Si
0.1	-3350.65	21	-3754.08	-222464	1494000	0	36000000	-3066.49	2	-3441.48	-203940	1120500			Si
0.58	-4004.49	20	-4004.49	204020	1494000	2974125	36000000	-3665	2	-3665	186724	1120500			Si
1.15	-3080.98	20	-3556.76	181209	1494000	2641598	36000000	-2818.77	2	-3253.15	165741	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 52 - 52, sezione R 50x45, asta 723

Campata 2 tra i fili 52 - 49, sezione R 50x45, aste 722, 721, 720

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1479	SLU 83	0.054	10123	4551	SLU 83	22870	Si
0.62	0.41	0.0004	1295	SLU 83	0.034	6430	3985	SLU 83	15877	Si
1.09	0.41	0.0004	1250	SLU 83	0.034	6430	3846	SLU 83	15877	Si
1.24	0.41	0.0004	1248	SLU 83	0.034	6430	3840	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0006	1037	SLD 16	0.134	11261	3189	SLD 16	26301	Si
0.62	0.41	0.0004	934	SLD 16	0.107	7176	2873	SLD 16	16571	Si
1.09	0.41	0.0004	925	SLD 16	0.107	7176	2846	SLD 16	16571	Si
1.24	0.41	0.0004	935	SLD 12	0.107	7176	2877	SLD 12	16571	Si

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	Verifica
0	0.41	0.00000643	1075	SLE RA 20	29288	1494000	363173	36000000	964	SLE QP 2	26253	1120500	Si
0.62	0.41	0.00000405	940	SLE RA 20	26393	1494000	327277	36000000	840	SLE QP 2	23596	1120500	Si
1.09	0.41	0.00000405	907	SLE RA 20	25452	1494000	315602	36000000	810	SLE QP 2	22734	1120500	Si
1.24	0.41	0.00000405	905	SLE RA 20	25406	1494000	315030	36000000	808	SLE QP 2	22692	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
2.49	1.1	SLU 2	ST	LT	-504	36	-15343	-2	0	19	0	0	1.1	4667	505	9.23	Si
2.49	1.1	SLV FO 6	SIS	LT	-3500	886	-15243	-13	3	19	0	0	1.1	4637	3610	1.28	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
723,722,721,720	2.49	1.1	SLU 84	ST	BT	2.3	112446	24136	4.66	Si
723,722,721,720	2.49	1.1	SLV FO 14	SIS	LT	2.3	92638	17634	5.25	Si
723,722,721,720	2.49	1.1	SLD 14	SIS	BT	2.3	101320	17161	5.9	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
-687	44	-24136	115.57	-2140.85	-2	0	-0.09	0	1.09	2.31	1496	2060	0	14430	
-1545	-2805	-17634	1422.83	-1692.61	-5	-9	-0.1	0.08	0.94	2.3	1496	2060	37	0	0.07
-1066	-1615	-17161	858.22	-1573.75	-4	-5	-0.09	0.05	1	2.31	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

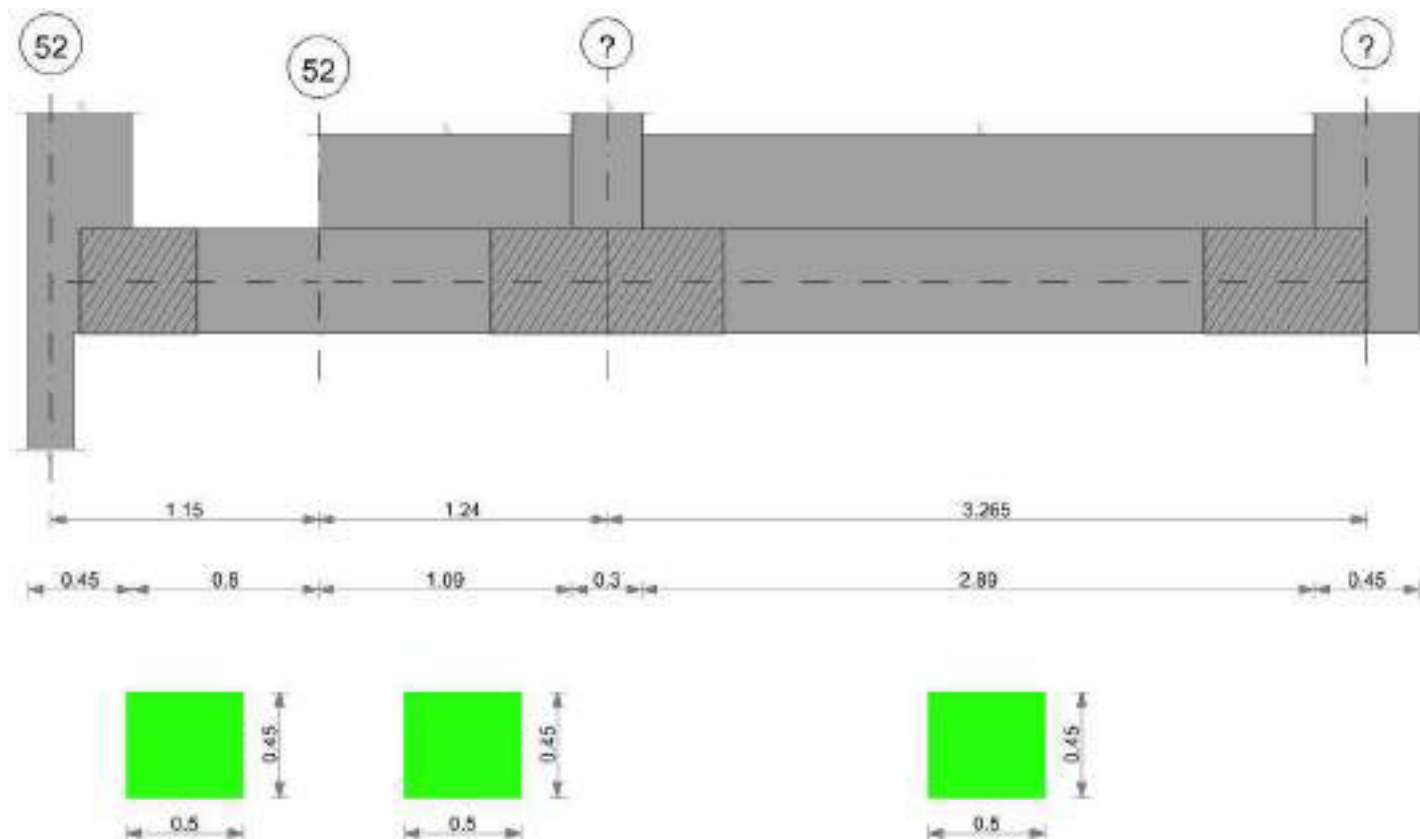
N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	lc	lg	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
43	56	66	1.31	1.32	0.84	1.16	1.27	1	0.72	0.72	0.59	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
1	5	0	0	0.09	0	0	0.27	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	Rl	Comb.	
E	0.05	0.002	701	SLE RA 21	0.05	0.001	701	875	SLE RA 21	0.05	0	801	SLE RA 20	0.0033	0	SLE RA 20	Si
D	0.05	0	701	SLE RA 1	0.05	0	701	701	SLE RA 1	0.05	0	801	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	701	SLE RA 1	0.05	0	701	701	SLE RA 1	0.05	0	801	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.03	SLE RA 21	0.19	0.05	701	801	SLE RA 21	0.19	0	701	SLE RA 1	0.1	0.03	801	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	701	801	SLE RA 1	0.19	0	701	SLE RA 1	0.1	0	801	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	701	801	SLE RA 1	0.19	0	701	SLE RA 1	0.1	0	801	SLE RA 1	Si



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

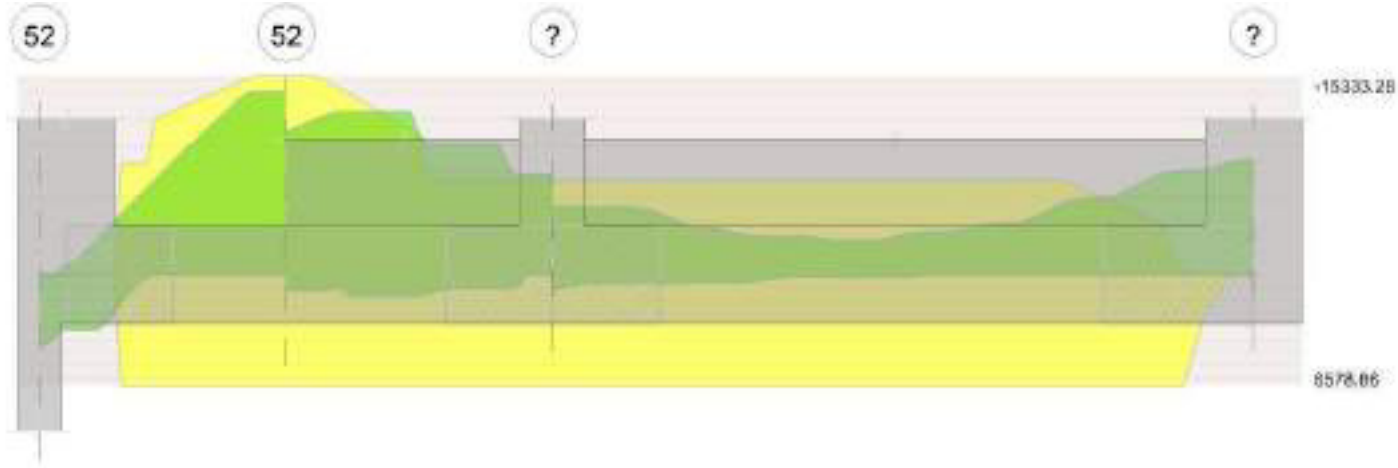
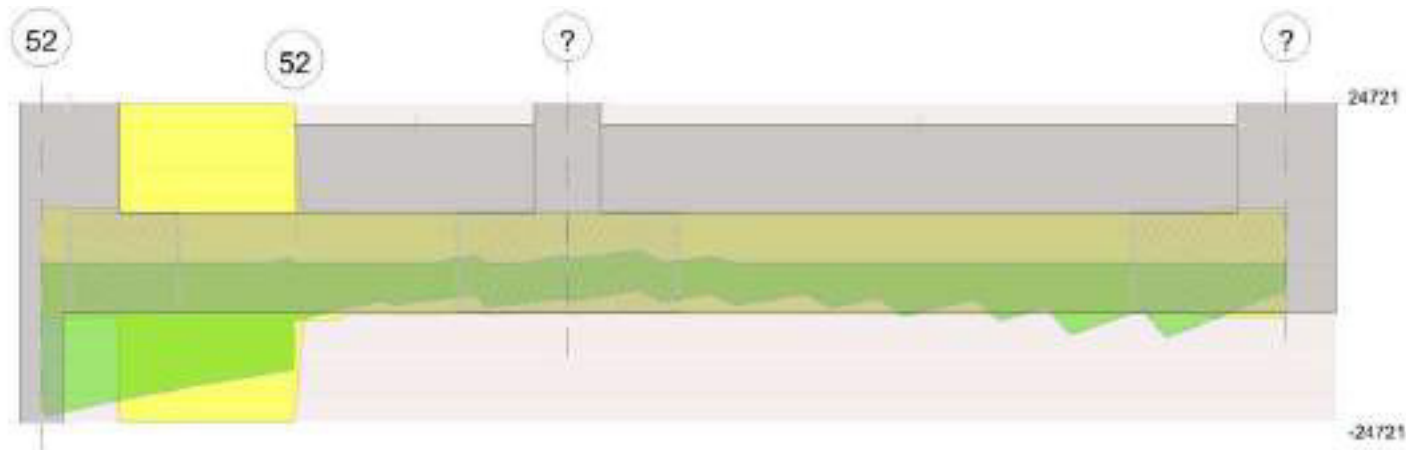


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 52 - 52, sezione R 50x45, asta 377

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.00088	0.051	0.000603	0.051							-4519.08	SLU 83	-7095.59	-12872.75	0.138	1.81	Si
1.15	0.001112	0.051	0.000603	0.051							-11903.03	SLU 83	-11903.03	-16041.33	0.157	1.35	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.00088	0.051	0.000603	0.051							-4871.61	SLV FO 11	-7882.19	-12288.19	0.252	1.56	Si
1.15	0.001112	0.051	0.000603	0.051							-14103.42	SLV FO 7	-14103.42	-15333.28	0.282	1.09	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.58	0.00088	0.051	0.000603	0.051							-4071.96	SLD 11	-6513.33	-12288.19	0.252	1.89	Si
1.15	0.001112	0.051	0.000603	0.051							-11411.89	SLD 7	-11411.89	-15333.28	0.282	1.34	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica	
0	0	0	0	0	-22700	SLU 83	-22700	-8455	-71432	0	-8455	1	0.37	Si
0.58	0.0000176	0	0	0	-16922	SLU 83	-16922	-7773	-63286	-24702	-24702	1	1.46	Si
1.15	0.0000176	0.000984	0	0	-12022	SLU 83	-12022	-9429	-63264	-24693	-24693	1	2.05	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-23972	SLV FO 7	-23972	-8455	-71432	0	-8455	1	0.35	Si
0.58	0.0000176	0	0	-19886	SLV FO 7	-19886	-7773	-63286	-24702	-24702	1	1.24	Si
1.15	0.0000176	0.000984	0	662	SLV FO 10	662	9429	63264	24693	24693	1	37.27	Si
1.15	0.0000176	0.000984	0	-16614	SLV FO 7	-16614	-9429	-63264	-24693	-24693	1	1.49	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-20087	SLD 7	-20087	-8455	-71432	0	-8455	1	0.42	Si
0.58	0.0000176	0	0	-16109	SLD 7	-16109	-7773	-63286	-24702	-24702	1	1.53	Si
1.15	0.0000176	0.000984	0	-12846	SLD 7	-12846	-9429	-63264	-24693	-24693	1	1.92	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	4072.49	20	3420.28	202683	1494000	0	36000000	3673.12	2	3080.59	182553	1120500			Si
0.1	2629.82	20	2629.82	155841	1494000	0	36000000	2362.49	2	2362.49	139999	1120500			Si
0.58	-3318.59	20	-5200.93	435382	1494000	16483571	36000000	-3041.15	2	-4751.04	397721	1120500			Si
1.15	-8712.17	20	-8712.17	670105	1494000	22069725	36000000	-7940.78	2	-7940.78	610772	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
0.58	superiore	0.329	0.00048	0.000158	20	0.329	0.00045	0.000148	6	0.329	0.00044	0.000144	2	Si
0.96	superiore	0.289	0.00065	0.000188	20	0.289	0.00069	0.000199	6	0.289	0.00066	0.000192	2	Si
1.15	superiore	0.286	0.00064	0.000184	20	0.286	0.00068	0.000195	6	0.286	0.00066	0.000189	2	Si

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 52 - 52, sezione R 50x45, asta 377

Campata 2 tra i fili 52 - ?, sezione R 50x45, aste 376, 375, 374

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1533	SLU 83	0.074	13727	4718	SLU 83	31268	Si



x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0.62	0.41	0.0002	1342	SLU 83	0.019	3235	4128	SLU 83	15877	Si
1.09	0.41	0.0002	1292	SLU 83	0.019	3235	3974	SLU 83	15877	Si
1.24	0.41	0.0002	1289	SLU 83	0.019	3235	3967	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0009	1094	SLD 16	0.156	15252	3366	SLD 16	35958	Si
0.62	0.41	0.0002	986	SLD 16	0.076	3634	3035	SLD 16	15877	Si
1.09	0.41	0.0002	975	SLD 16	0.076	3634	2998	SLD 16	15877	Si
1.24	0.41	0.0002	980	SLD 16	0.076	3634	3016	SLD 16	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000088	1115	SLE RA 20	29496	1494000	365744	36000000	1000	SLE QP 2	26458	1120500	Si
0.62	0.41	0.00000203	974	SLE RA 20	28089	1494000	348299	36000000	872	SLE QP 2	25132	1120500	Si
1.09	0.41	0.00000203	937	SLE RA 20	27018	1494000	335019	36000000	838	SLE QP 2	24153	1120500	Si
1.24	0.41	0.00000203	935	SLE RA 20	26963	1494000	334341	36000000	836	SLE QP 2	24103	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili ? - ?, sezione R 50x45, aste 373, 372, 371, 370, 369, 368, 367, 366

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	1289	SLU 83	0.019	3235	3967	SLU 83	15877	Si
0.15	0.41	0.0002	1288	SLU 83	0.019	3218	3964	SLU 83	15877	Si
1.63	0.41	0.0002	1711	SLV FO 11	0.092	3123	5265	SLV FO 11	15877	Si
3.04	0.41	0.0002	2604	SLV FO 11	0.092	3123	8013	SLV FO 11	15877	Si
3.27	0.41	0.0002	2800	SLV FO 11	0.092	3123	8615	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	980	SLD 16	0.076	3634	3016	SLD 16	15877	Si
0.15	0.41	0.0002	993	SLD 12	0.076	3616	3055	SLD 12	15877	Si
1.63	0.41	0.0002	1375	SLD 11	0.076	3616	4230	SLD 11	15877	Si
3.04	0.41	0.0002	2002	SLD 11	0.076	3616	6159	SLD 11	15877	Si
3.27	0.41	0.0002	2144	SLD 11	0.076	3616	6598	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.00000203	935	SLE RA 20	26963	1494000	334341	36000000	836	SLE QP 2	24103	1120500	Si
0.15	0.41	0.00000202	934	SLE RA 20	26942	1494000	334078	36000000	835	SLE QP 2	24083	1120500	Si
1.63	0.41	0.00000202	1050	SLE RA 20	30264	1494000	375270	36000000	940	SLE QP 2	27109	1120500	Si
3.04	0.41	0.00000202	1362	SLE RA 20	39262	1494000	486851	36000000	1224	SLE QP 2	35304	1120500	Si
3.27	0.41	0.00000202	1444	SLE RA 20	41634	1494000	516263	36000000	1299	SLE QP 2	37462	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.98	1.1	SLU 2	ST	LT	-1389	49	-37370	-2	0	19	0	0	1.1	11367	1390	8.18	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
377,376,375,374,373,372,371,370,369,368,367,366	5.98	1.1	SLU 83	ST	BT	2.3	278610	59506	4.68	Si
377,376,375,374,373,372,371,370,369,368,367,366	5.98	1.1	SLV FO 12	SIS	BT	2.3	234833	55606	4.22	Si
377,376,375,374,373,372,371,370,369,368,367,366	5.98	1.1	SLD 12	SIS	BT	2.3	251594	49049	5.13	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	61	-59506	208.26	-1072.52	0	0	-0.02	0	1.09	5.94	1496	2060	0	14430	
0	-2289	-55606	1269.39	21161.95	0	-2	0.38	0.02	1.05	5.22	1496	2060	0	14430	0.07
0	-1310	-49049	794.42	11552.31	0	-2	0.24	0.02	1.07	5.51	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

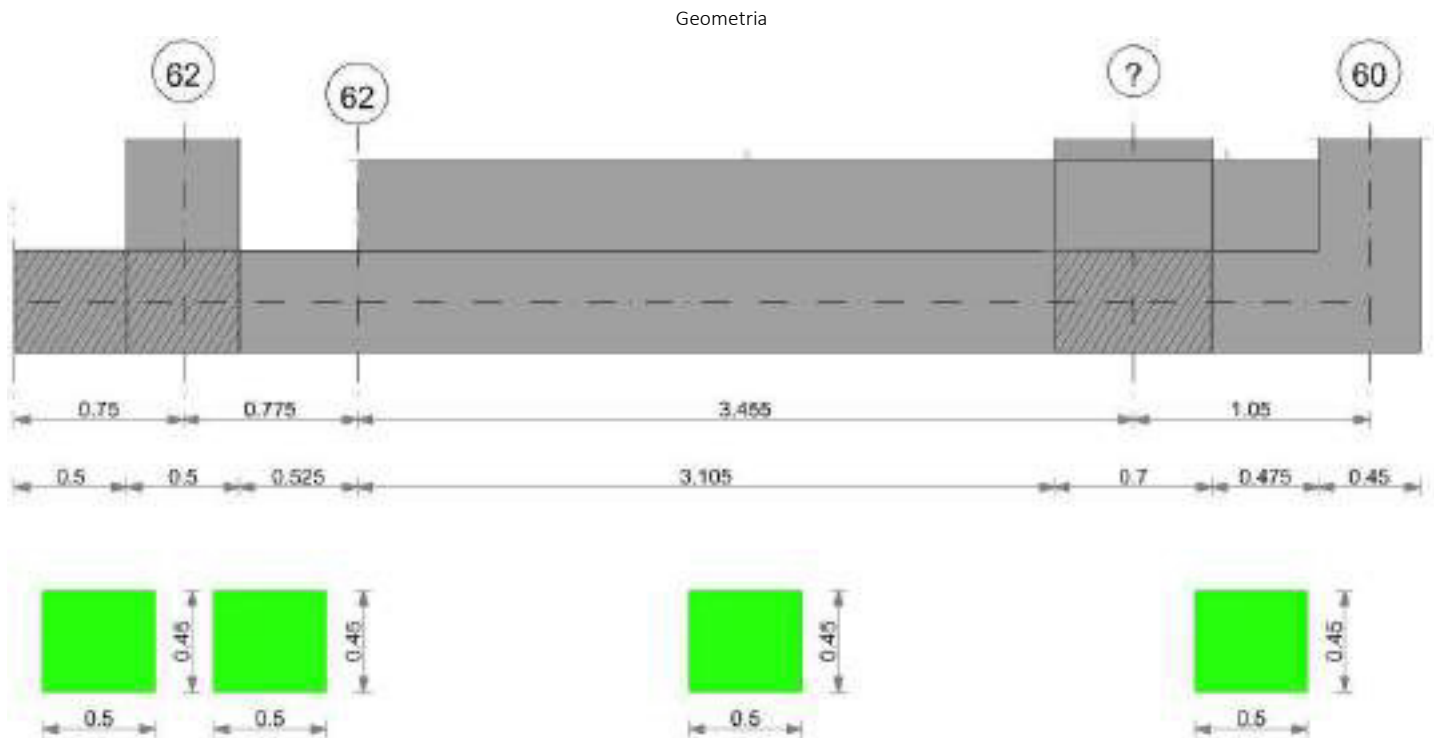
Tipo	Assoluto				Differenziale				Relativo				Rapp. Inflexione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	704	SLE RA 20	0.05	0.002	704	1132	SLE RA 21	0.05	0	877	SLE RA 2	0.0033	0	SLE RA 20	Si
D	0.05	0	704	SLE RA 1	0.05	0	704	704	SLE RA 1	0.05	0	803	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	704	SLE RA 1	0.05	0	704	704	SLE RA 1	0.05	0	803	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.04	704	803	SLE RA 21	0.19	0	704	SLE RA 1	0.1	0.01	803	SLE RA 20	Si
D	0.19	0	SLE RA 1	0.19	0	704	803	SLE RA 1	0.19	0	704	SLE RA 1	0.1	0	803	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	704	803	SLE RA 1	0.19	0	704	SLE RA 1	0.1	0	803	SLE RA 1	Si



CORDOLO 31



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

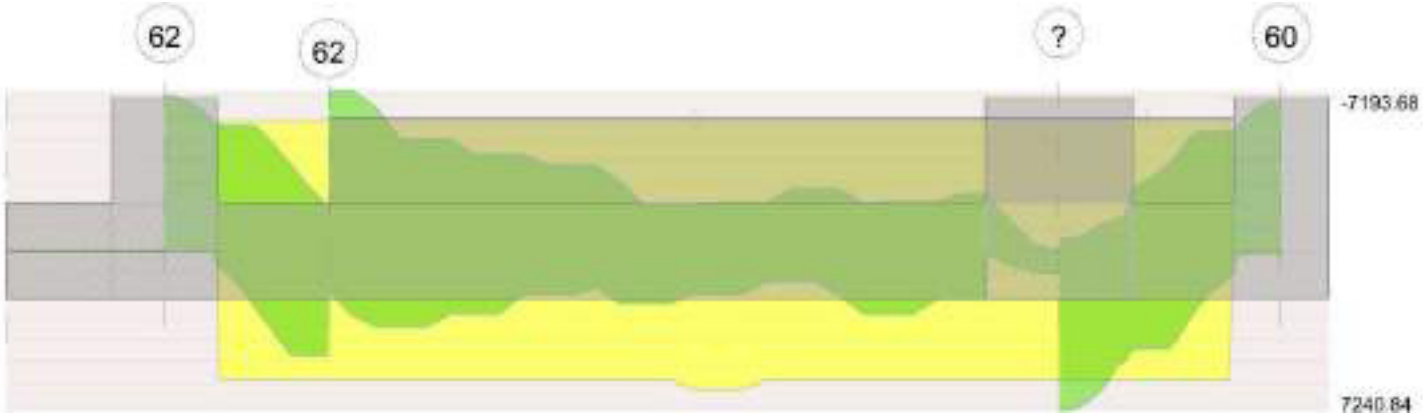
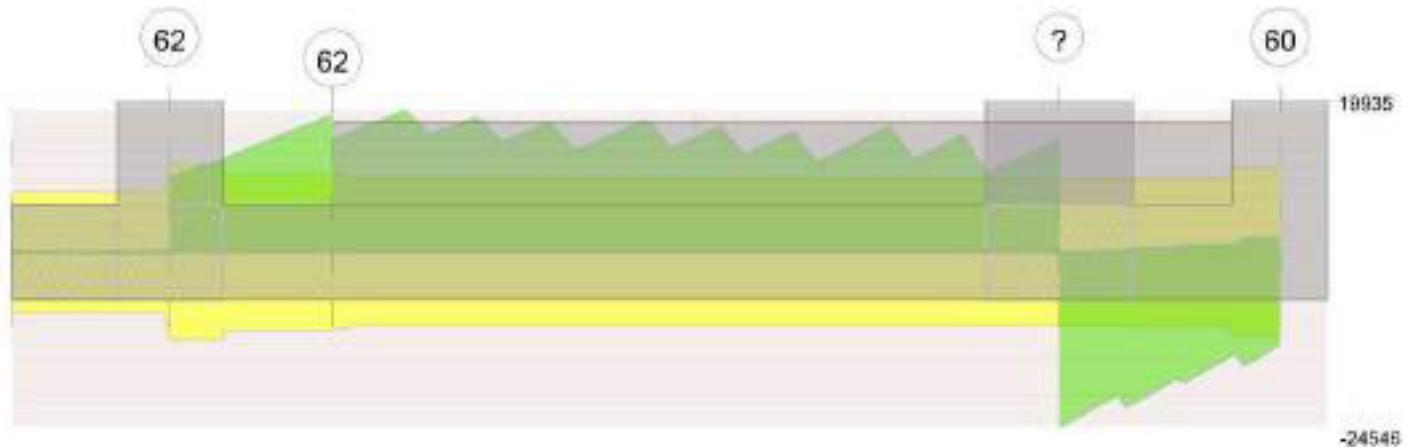


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 2 tra i fili 62 - 62, sezione R 50x45, asta 399

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.39	0.000402	0.051	0.000402	0.051							-2984.35	SLU 83	-4889.47	-6274.14	0.102	1.28	Si
0.78	0.000402	0.051	0.000402	0.051	3642.27	SLU 84	3642.27	6274.14	0.102	1.72							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.39	0.000402	0.051	0.000402	0.051	274.35	SLV FO 6	2050.79	5809.92	0.178	2.83	-4225	SLV FO 11	-5663.64	-5809.92	0.178	1.03	Si
0.78	0.000402	0.051	0.000402	0.051	4730.58	SLV FO 10	4730.58	5809.92	0.178	1.23	34.83	SLV FO 7	-1968.15	-5809.92	0.178	2.95	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.39	0.000402	0.051	0.000402	0.051	-707.1	SLD 6	1109.94	5809.92	0.178	5.23	-3243.56	SLD 11	-4605.99	-5809.92	0.178	1.26	Si
0.78	0.000402	0.051	0.000402	0.051	3712	SLD 10	3712	5809.92	0.178	1.57	1053.41	SLD 7	-1016.42	-5809.92	0.178	5.72	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000078	0	0	10048	SLU 84	10048	8455	71432	12334	12334	1	1.23	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000078	0	0	10559	SLV FO 16	10559	8455	71432	12334	12334	1	1.17	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcl	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000078	0	0	8907	SLD 16	8907	8455	71432	12334	12334	1	1.38	Si
0.25	0.0000078	0	0	11122	SLD 16	11122	8455	71432	12334	12334	1	1.11	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica	
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.		
0.25	-3563.99	20	-3563.99	-211199	1494000	0	36000000	-3233.25	2	-3233.25	-191600	1120500			Si	
0.39	-2175.96	20	-3563.99	192666	1494000	2889985	36000000	-1975.33	2	-3233.25	174787	1120500			Si	
0.78	2653.19	21	2653.19	143429	1494000	2151437	36000000	2382.71	2	2382.71	128807	1120500			Si	

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 62 - 62, sezione R 50x45, asta 399

Campata 3 tra i fili 62 - 7, sezione R 50x45, aste 398, 397, 396, 395, 394, 393, 392, 391, 390

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2145	SLU 83	0.033	6176	6600	SLU 83	15877	Si
1.73	0.41	0.0004	2397	SLV FO 11	0.124	5653	7376	SLV FO 11	15877	Si
3.1	0.41	0.0004	2993	SLV FO 11	0.124	5653	9210	SLV FO 11	15877	Si
3.45	0.41	0.0004	3139	SLV FO 11	0.124	5653	9659	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	1625	SLD 15	0.105	6895	5001	SLD 15	15908	Si
1.73	0.41	0.0004	2001	SLD 11	0.102	6561	6156	SLD 11	15877	Si
3.1	0.41	0.0004	2364	SLD 11	0.102	6561	7275	SLD 11	15877	Si
3.45	0.41	0.0004	2453	SLD 11	0.102	6561	7549	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	Verifica
0	0.41	0.00000389	1562	SLE RA 20	43940	1494000	544852	36000000	1408	SLE QP 2	39613	1120500	Si
1.73	0.41	0.0000037	1650	SLE RA 20	46550	1494000	577222	36000000	1487	SLE QP 2	41932	1120500	Si
3.1	0.41	0.0000037	1722	SLE RA 20	48563	1494000	602181	36000000	1551	SLE QP 2	43749	1120500	Si



			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
3.45	0.41	0.0000037	1739	SLE RA 20	49051	1494000	608230	36000000	1567	SLE QP 2	44199	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili ? - 60, sezione R 50x45, aste 389, 388, 387, 386

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3139	SLV FO 11	0.124	5653	9659	SLV FO 11	15877	Si
0.35	0.41	0.0004	3278	SLV FO 11	0.125	5692	10086	SLV FO 11	15877	Si
0.53	0.41	0.0004	3342	SLV FO 11	0.125	5692	10282	SLV FO 11	15877	Si
0.83	0.41	0.0004	3458	SLV FO 11	0.125	5692	10639	SLV FO 11	15877	Si
1.05	0.41	0.0004	3561	SLV FO 11	0.125	5692	10955	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2453	SLD 11	0.102	6561	7549	SLD 11	15877	Si
0.35	0.41	0.0004	2537	SLD 11	0.103	6606	7806	SLD 11	15877	Si
0.53	0.41	0.0004	2574	SLD 11	0.103	6606	7919	SLD 11	15877	Si
0.83	0.41	0.0004	2642	SLD 11	0.103	6606	8129	SLD 11	15877	Si
1.05	0.41	0.0004	2705	SLD 11	0.103	6606	8324	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.0000037	1739	SLE RA 20	49051	1494000	608230	36000000	1567	SLE QP 2	44199	1120500	Si
0.35	0.41	0.00000372	1752	SLE RA 20	49391	1494000	612451	36000000	1579	SLE QP 2	44516	1120500	Si
0.53	0.41	0.00000372	1754	SLE RA 20	49452	1494000	613205	36000000	1581	SLE QP 2	44576	1120500	Si
0.83	0.41	0.00000372	1760	SLE RA 20	49629	1494000	615397	36000000	1587	SLE QP 2	44746	1120500	Si
1.05	0.41	0.00000372	1773	SLE RA 20	49994	1494000	619927	36000000	1599	SLE QP 2	45084	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.51	1.1	SLU 5	ST	LT	-553	807	-48450	-1	1	19	0	0	1.1	14737	978	15.07	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
399,398,397,396,395,394,393,392,391,390,389,388,387,386					5.51	1.1	SLU 83	ST	BT	2.3	252251	77005	3.28	Si
399,398,397,396,395,394,393,392,391,390,389,388,387,386					5.51	1.1	SLV FO 11	SIS	BT	2.3	226707	79426	2.85	Si
399,398,397,396,395,394,393,392,391,390,389,388,387,386					5.51	1.1	SLD 11	SIS	BT	2.3	236903	67529	3.51	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	1260	-77005	-374.91	4003.76	0	1	0.05	0	1.09	5.4	1496	2060	0	14430	
0	52	-79426	174.61	28277.79	0	0	0.36	0	1.1	4.79	1496	2060	0	14430	0.07
0	372	-67529	0.33	17042.36	0	0	0.25	0	1.1	5	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

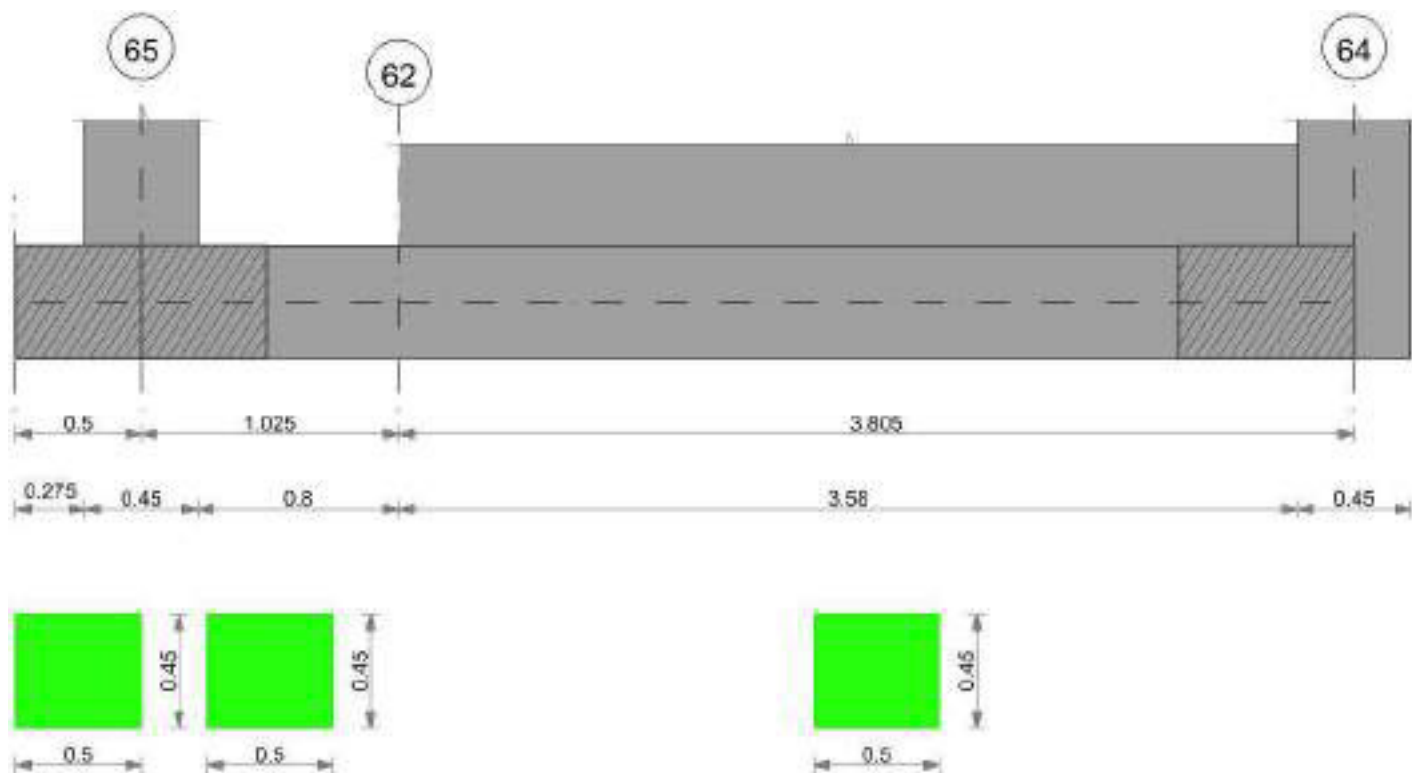
N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto			Differenziale						Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	772	SLE RA 20	0.05	0.002	772	1143	SLE RA 21	0.05	0	804	SLE RA 20	0.0033	0	SLE RA 2	Si
D	0.05	0	772	SLE RA 1	0.05	0	772	772	SLE RA 1	0.05	0	804	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	772	SLE RA 1	0.05	0	772	772	SLE RA 1	0.05	0	804	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

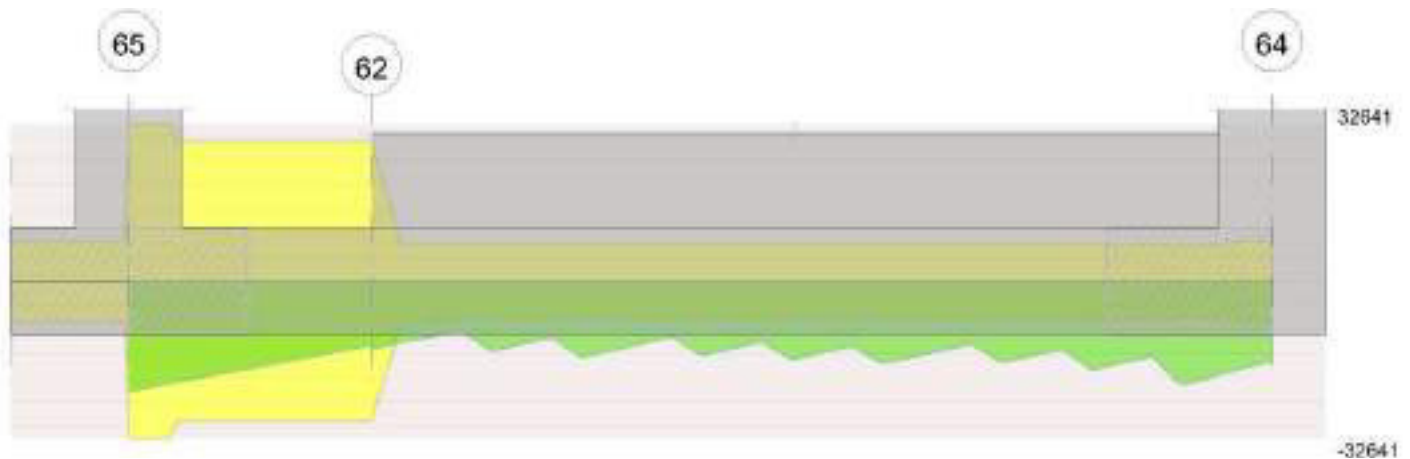
Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 21	0.19	0.02	804	984	SLE RA 21	0.19	0.01	804	SLE RA 20	0.1	0	984	SLE RA 2	Si
D	0.19	0	SLE RA 1	0.19	0	772	804	SLE RA 1	0.19	0	772	SLE RA 1	0.1	0	804	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	772	804	SLE RA 1	0.19	0	772	SLE RA 1	0.1	0	804	SLE RA 1	Si



Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 30000000

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettagonale	0.5	0.45	0.035	0.035	0.035

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Output campate

Campata 2 tra i fili 65 - 62, sezione R 50x45, asta 625

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000911	0.052	0.000603	0.051	4362.81	SLU 83	4362.81	9082.58	0.122	2.08							Si
0.51	0.000911	0.052	0.000603	0.051	-518.13	SLU 2	2268.55	9082.58	0.122	4	-905.22	SLU 83	-3679.62	-13290.66	0.141	3.61	Si
1.03	0.000911	0.052	0.000603	0.051							-7794.62	SLU 83	-7794.62	-13290.66	0.141	1.71	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000911	0.052	0.000603	0.051	4134.5	SLV FO 16	4134.5	8575.42	0.206	2.07	1623.56	SLV FO 1	-28.08	-12682.89	0.256	451.65	Si
0.51	0.000911	0.052	0.000603	0.051	608.25	SLV FO 10	2184.02	8575.42	0.206	3.93	-1813.04	SLV FO 7	-4884.53	-12682.89	0.256	2.6	Si
1.03	0.000911	0.052	0.000603	0.051							-9802.29	SLV FO 11	-9802.29	-12682.89	0.256	1.29	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.23	0.000911	0.052	0.000603	0.051	3606.2	SLD 16	3606.2	8575.42	0.206	2.38							Si
0.51	0.000911	0.052	0.000603	0.051	78.96	SLD 10	1894.55	8575.42	0.206	4.53	-1283.75	SLD 7	-3815.79	-12682.89	0.256	3.32	Si
1.03	0.000911	0.052	0.000603	0.051							-7773.18	SLD 11	-7773.18	-12682.89	0.256	1.63	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000206	0.000603	0	-22880	SLU 83	-22880	-8473	-71432	-32641	-32641	1	1.43	Si
0.21	0.0000206	0.000603	0	-20336	SLU 83	-20336	-8014	-63336	-28942	-28942	1	1.42	Si
0.23	0.0000206	0.000603	0	-20089	SLU 83	-20089	-8014	-63336	-28942	-28942	1	1.44	Si
0.51	0.0000206	0.000911	0	-16554	SLU 83	-16554	-9189	-63248	-28901	-28901	1	1.75	Si
1.03	0.0000206	0.000911	0	-10346	SLU 83	-10346	-9189	-63248	-28901	-28901	1	2.79	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000206	0.000603	0	-22705	SLV FO 12	-22705	-8473	-71432	-32641	-32641	1	1.44	Si
0.21	0.0000206	0.000603	0	-20839	SLV FO 12	-20839	-8014	-63336	-28942	-28942	1	1.39	Si
0.23	0.0000206	0.000603	0	-20656	SLV FO 12	-20656	-8014	-63336	-28942	-28942	1	1.4	Si
0.51	0.0000206	0.000911	0	-18009	SLV FO 12	-18009	-9189	-63248	-28901	-28901	1	1.6	Si
1.03	0.0000206	0.000911	0	-13200	SLV FO 12	-13200	-9189	-63248	-28901	-28901	1	2.19	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000206	0.000603	0	-19420	SLD 12	-19420	-8473	-71432	-32641	-32641	1	1.68	Si
0.21	0.0000206	0.000603	0	-17628	SLD 12	-17628	-8014	-63336	-28942	-28942	1	1.64	Si
0.23	0.0000206	0.000603	0	-17453	SLD 12	-17453	-8014	-63336	-28942	-28942	1	1.66	Si
0.51	0.0000206	0.000911	0	-14932	SLD 12	-14932	-9189	-63248	-28901	-28901	1	1.94	Si
1.03	0.0000206	0.000911	0	-10415	SLD 12	-10415	-9189	-63248	-28901	-28901	1	2.77	Si

Verifiche delle tensioni in esercizio

x	Rara								Quasi permanente								Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f	σ f lim.		Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.		
0.23	3179.02	20	3179.02	157404	1494000	2429464	36000000		2879.03	2	2879.03	142550	1120500				Si
0.51	-661.28	20	-2682.48	136667	1494000	1992274	36000000		-602.4	2	-2433.52	123983	1120500				Si
1.03	-5677.39	20	-5677.39	469635	1494000	17428270	36000000		-5144.05	2	-5144.05	425517	1120500				Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
1.03	superiore	0.324	0.00051	0.000164	20	0.324	0.00047	0.000153	6	0.324	0.00046	0.000149	2	Si



Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 65 - 62, sezione R 50x45, asta 625

Campata 3 tra i fili 62 - 64, sezione R 50x45, aste 624, 623, 622, 621, 620, 619, 618, 617, 616

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	2148	SLU 83	0.087	15987	6609	SLU 83	36606	Si
1.9	0.41	0.0003	2333	SLV FO 11	0.105	4036	7178	SLV FO 11	15877	Si
3.58	0.41	0.0003	2961	SLV FO 11	0.105	4036	9111	SLV FO 11	15877	Si
3.8	0.41	0.0003	3045	SLV FO 11	0.105	4036	9371	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.001	1626	SLD 15	0.169	17760	5004	SLD 15	42097	Si
1.9	0.41	0.0003	1956	SLD 11	0.086	4677	6018	SLD 11	15877	Si
3.58	0.41	0.0003	2332	SLD 11	0.086	4677	7177	SLD 11	15877	Si
3.8	0.41	0.0003	2384	SLD 11	0.086	4677	7335	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica
x	d	Af	M	Comb	σ c	σ c limite	σ f	σ f limite	M	Comb	σ c	σ c limite	
0	0.41	0.0000103	1564	SLE RA 20	40633	1494000	503848	36000000	1411	SLE QP 2	36648	1120500	Si
1.9	0.41	0.00000262	1629	SLE RA 20	46585	1494000	577656	36000000	1467	SLE QP 2	41978	1120500	Si
3.58	0.41	0.00000262	1686	SLE RA 20	48234	1494000	598104	36000000	1520	SLE QP 2	43468	1120500	Si
3.8	0.41	0.00000262	1696	SLE RA 20	48509	1494000	601511	36000000	1528	SLE QP 2	43722	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.06	1.1	SLU 5	ST	LT	-422	674	-40859	-1	1	19	0	0	1.1	12428	795	15.63	Si
5.06	1.1	SLV FO 6	SIS	LT	-6302	1498	-26775	-13	3	19	0	0	1.1	8144	6478	1.26	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste							Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
625,624,623,622,621,620,619,618,617,616							5.06	1.1	SLU 83	ST	BT	2.3	233280	64501	3.62	Si
625,624,623,622,621,620,619,618,617,616							5.06	1.1	SLV FO 11	SIS	BT	2.3	213939	60712	3.52	Si
625,624,623,622,621,620,619,618,617,616							5.06	1.1	SLD 11	SIS	BT	2.3	221238	53330	4.15	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	1044	-64501	-541.24	1305.94	0	1	0.02	-0.01	1.08	5.01	1496	2060	0	14430	
0	-56	-60712	-199.81	16140.74	0	0	0.27	0	1.09	4.52	1496	2060	0	14430	0.07
0	254	-53330	-259.87	9430.08	0	0	0.18	0	1.09	4.7	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

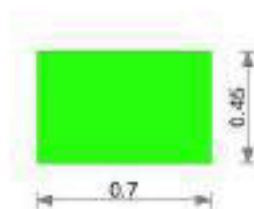
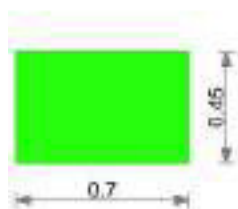
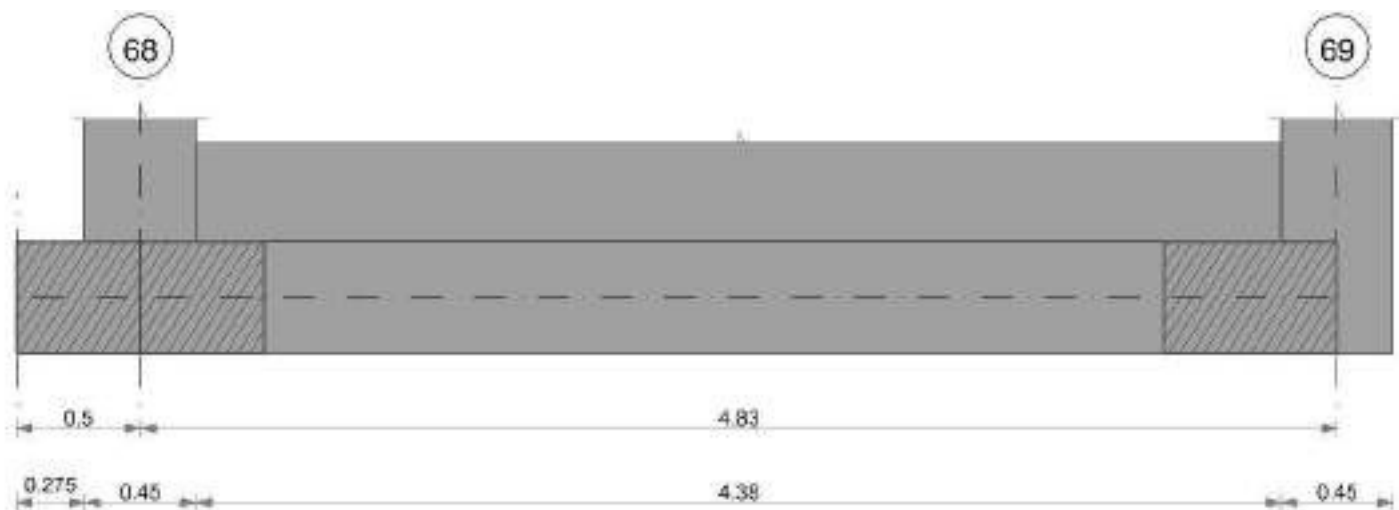
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	716	SLE RA 20	0.05	0.001	716	986	SLE RA 21	0.05	0	806	SLE RA 20	0.0033	0	SLE RA 1	Si
D	0.05	0	716	SLE RA 1	0.05	0	716	716	SLE RA 1	0.05	0	806	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	716	SLE RA 1	0.05	0	716	716	SLE RA 1	0.05	0	806	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.02	806	986	SLE RA 21	0.19	0.01	806	SLE RA 20	0.1	0	716	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	716	806	SLE RA 1	0.19	0	716	SLE RA 1	0.1	0	806	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	716	806	SLE RA 1	0.19	0	716	SLE RA 1	0.1	0	806	SLE RA 1	Si

CORDOLO 33

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

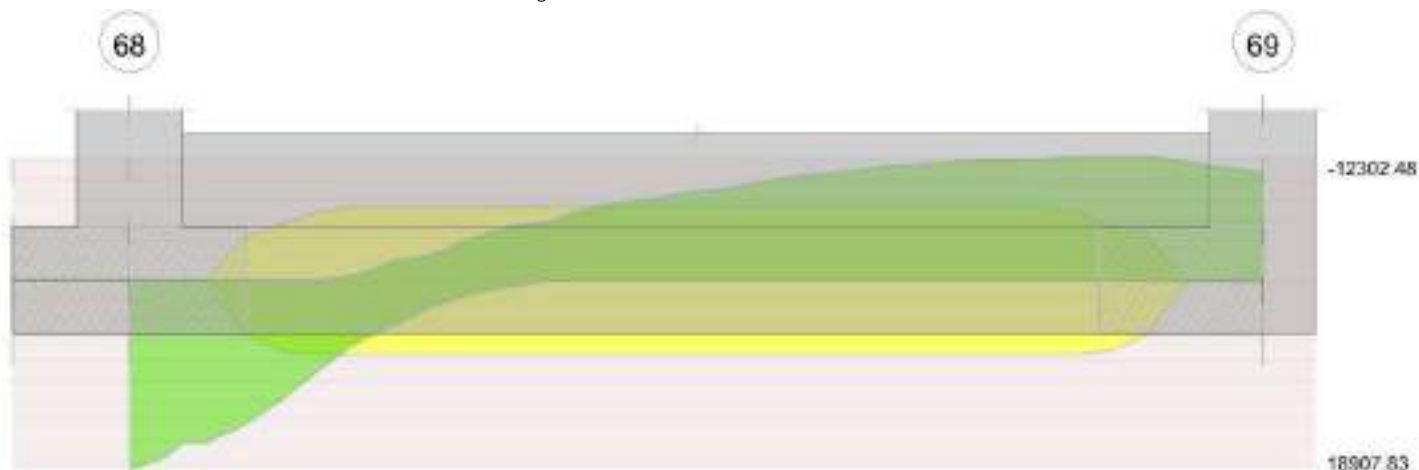
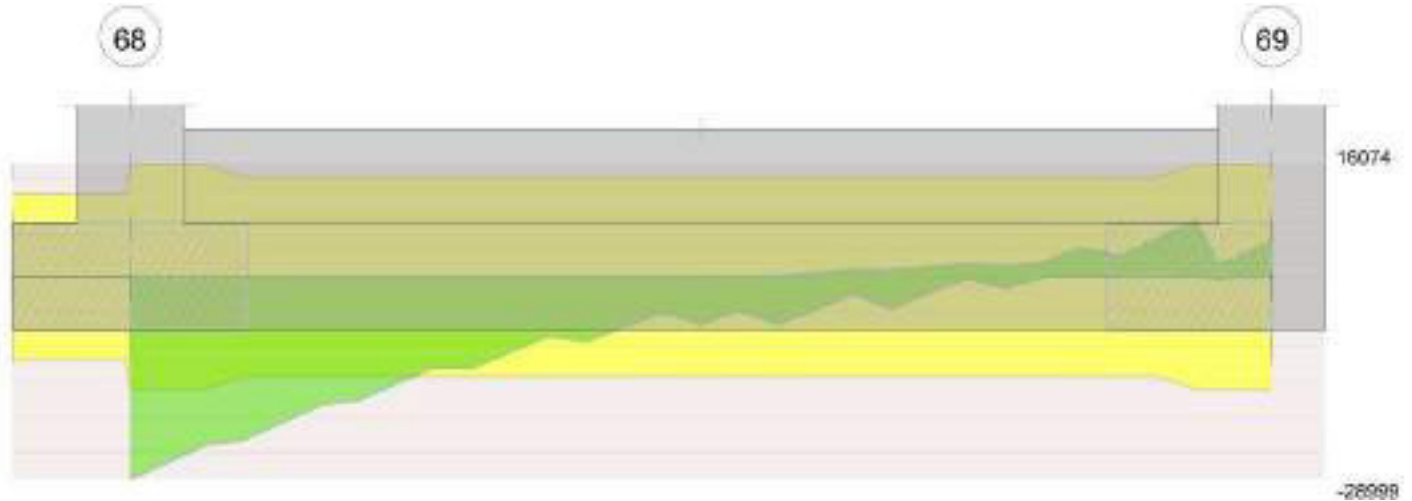


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 2 tra i fili 68 - 69, sezione R 70x45, aste 615, 614, 613, 612, 611, 610, 609, 608, 607, 606, 605

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3706	SLV FO 15	0.119	5179	9565	SLV FO 15	15877	Si
0.23	0.41	0.0003	3714	SLV FO 15	0.119	5179	9586	SLV FO 15	15877	Si
2.41	0.41	0.0003	3177	SLV FO 15	0.119	5179	8198	SLV FO 15	15877	Si
4.6	0.41	0.0003	4697	SLV FO 11	0.119	5179	12122	SLV FO 11	15877	Si
4.83	0.41	0.0003	5011	SLV FO 11	0.119	5179	12932	SLV FO 11	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3175	SLD 15	0.098	6008	8193	SLD 15	15877	Si
0.23	0.41	0.0003	3176	SLD 15	0.098	6008	8196	SLD 15	15877	Si
2.41	0.41	0.0003	2640	SLD 15	0.098	6008	6812	SLD 15	15877	Si
4.6	0.41	0.0003	3616	SLD 11	0.098	6008	9331	SLD 11	15877	Si
4.83	0.41	0.0003	3839	SLD 11	0.098	6008	9906	SLD 11	15877	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica	
x	d	Af		M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000338		2678	SLE RA 21	75845	1494000	940484	36000000	2432	SLE QP 2	68877	1120500	Si
0.23	0.41	0.00000338		2670	SLE RA 20	75615	1494000	937632	36000000	2424	SLE QP 2	68661	1120500	Si
2.41	0.41	0.00000338		2099	SLE RA 20	59439	1494000	737047	36000000	1901	SLE QP 2	53843	1120500	Si
4.6	0.41	0.00000338		2442	SLE RA 20	69151	1494000	857478	36000000	2210	SLE QP 2	62587	1120500	Si
4.83	0.41	0.00000338		2558	SLE RA 20	72440	1494000	898259	36000000	2315	SLE QP 2	65571	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
5.05	1.3	SLU 5	ST	LT	-339	769	-48636	0	1	19	0	0	1.1	14794	840	17.61	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste										Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
615,614,613,612,611,610,609,608,607,606,605										5.05	1.3	SLU 83	ST	BT	2.3	228242	76036	3	Si
615,614,613,612,611,610,609,608,607,606,605										5.05	1.3	SLV FO 15	SIS	BT	2.3	205377	79115	2.6	Si
615,614,613,612,611,610,609,608,607,606,605										5.05	1.3	SLD 15	SIS	BT	2.3	217034	67642	3.21	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	1173	-76036	7311.24	-3992.95	0	1	-0.05	0.1	1.11	4.95	1496	2060	0	14430	
0	-5009	-79115	11453.16	3238.6	0	-4	0.04	0.14	1.01	4.97	1496	2060	0	14430	0.07
0	-2569	-67642	8682.25	607.91	0	-2	0.01	0.13	1.04	5.04	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

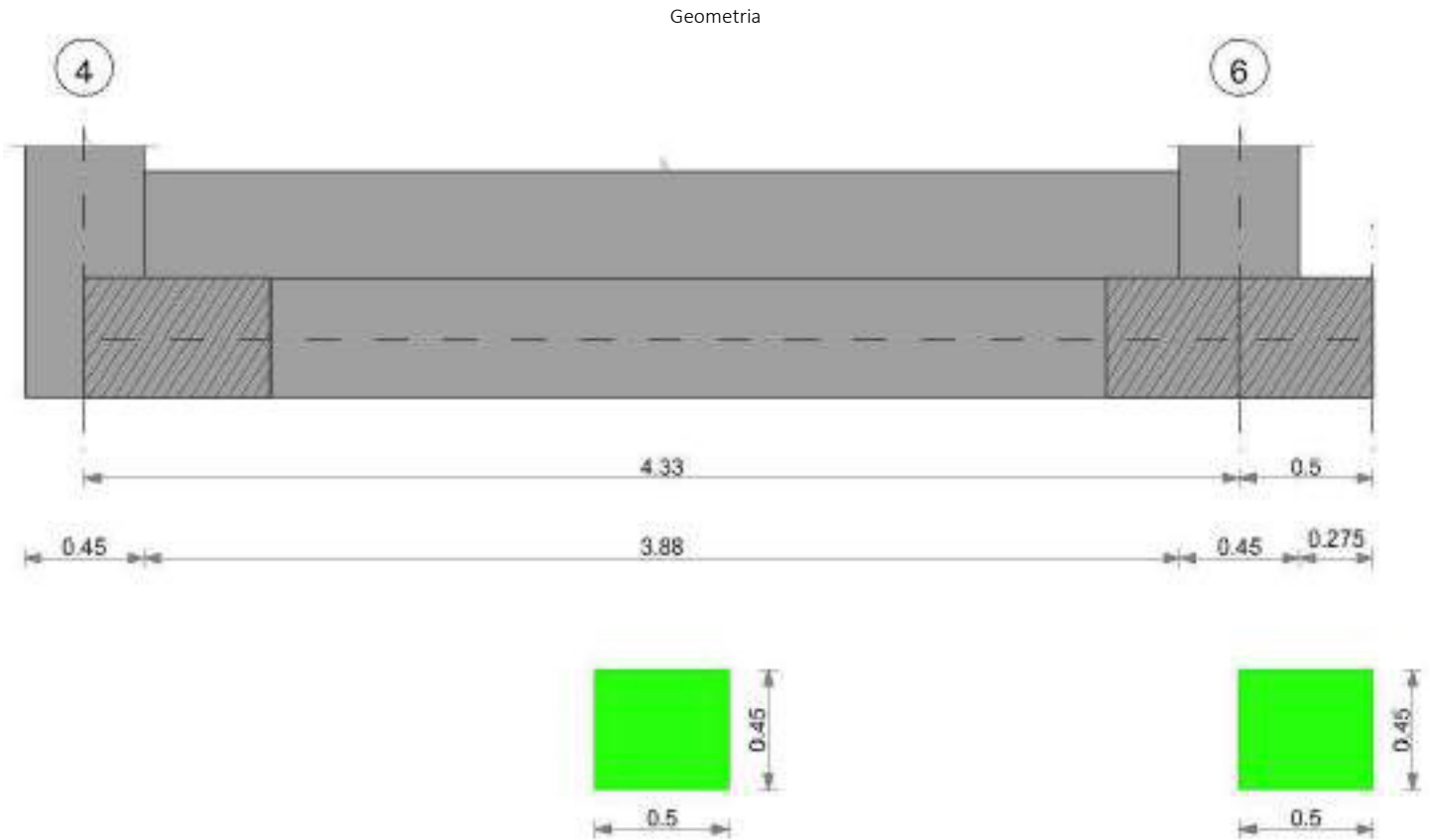
Sommario generale dei componenti assenti all'analisi																	
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.001	729	SLE RA 20	0.05	0	729	999	SLE RA 21	0.05	0	729	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	729	SLE RA 1	0.05	0	729	729	SLE RA 1	0.05	0	729	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	729	SLE RA 1	0.05	0	729	729	SLE RA 1	0.05	0	729	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	729	999	SLE RA 21	0.19	0	729	SLE RA 1	0.1	0	729	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	729	999	SLE RA 1	0.19	0	729	SLE RA 1	0.1	0	729	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	729	999	SLE RA 1	0.19	0	729	SLE RA 1	0.1	0	729	SLE RA 1	Si

CORDOLO 34



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

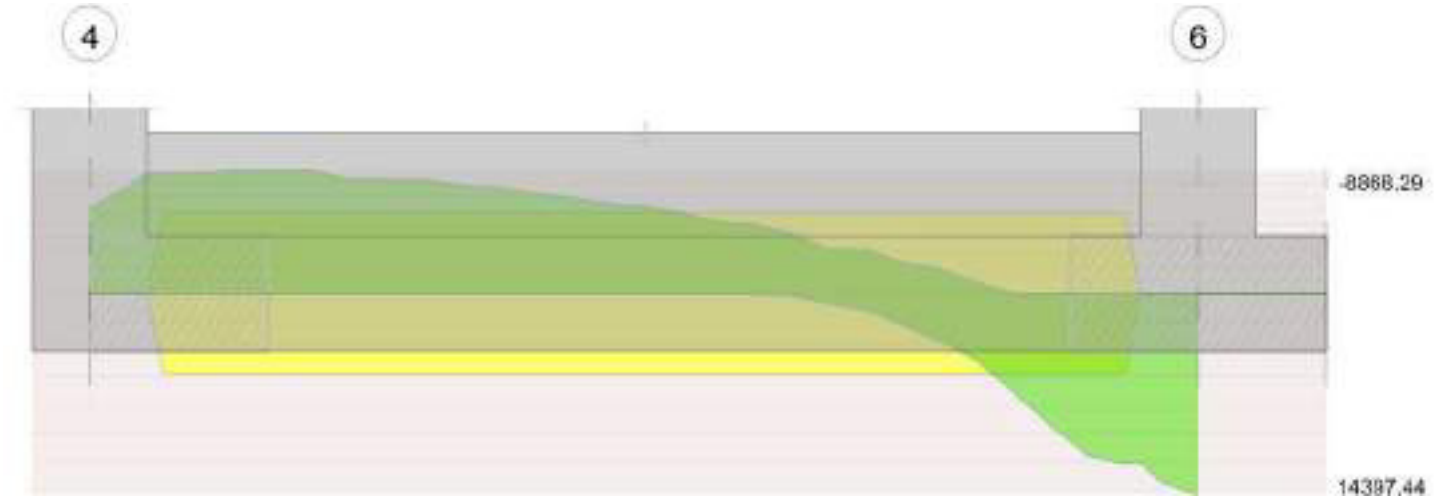


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 4 - 6, sezione R 50x45, aste 578, 577, 576, 575, 574, 573, 572, 571, 570, 569, 568

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.16	0.41	0.0002	1928	SLV FO 1	0.087	2741	6705	SLV FO 1	15877	Si
4.1	0.41	0.0002	2151	SLV FO 1	0.087	2741	7480	SLV FO 1	15877	Si
4.33	0.41	0.0002	2139	SLV FO 1	0.087	2741	7441	SLV FO 1	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2274	SLD 5	0.071	3173	7909	SLD 5	15877	Si
0.23	0.41	0.0002	2140	SLD 5	0.071	3173	7445	SLD 5	15877	Si
2.16	0.41	0.0002	1601	SLD 1	0.071	3173	5568	SLD 1	15877	Si
4.1	0.41	0.0002	1832	SLD 1	0.071	3173	6372	SLD 1	15877	Si
4.33	0.41	0.0002	1825	SLD 1	0.071	3173	6349	SLD 1	15877	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica	
x	d	Af		M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000177		1539	SLE RA 21	44525	1494000	552110	36000000	1395	SLE QP 2	40367	1120500	Si
0.23	0.41	0.00000177		1468	SLE RA 21	42476	1494000	526707	36000000	1331	SLE QP 2	38506	1120500	Si
2.16	0.41	0.00000177		1269	SLE RA 21	36706	1494000	455150	36000000	1151	SLE QP 2	33306	1120500	Si
4.1	0.41	0.00000177		1526	SLE RA 21	44148	1494000	547435	36000000	1388	SLE QP 2	40162	1120500	Si
4.33	0.41	0.00000177		1525	SLE RA 21	44114	1494000	547010	36000000	1387	SLE QP 2	40137	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.55	1.1	SLU 2	ST	LT	-766	-479	-42384	-1	-1	19	0	0	1.1	12892	904	14.27	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste										Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
578,577,576,575,574,573,572,571,570,569,568										4.55	1.1	SLU 84	ST	BT	2.3	188997	65782	2.87	Si
578,577,576,575,574,573,572,571,570,569,568										4.55	1.1	SLV FO 1	SIS	BT	2.3	166691	69251	2.41	Si
578,577,576,575,574,573,572,571,570,569,568										4.55	1.1	SLD 1	SIS	BT	2.3	175931	59018	2.98	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-668	-65782	-4089.93	1583.73	0	-1	0.02	-0.06	0.98	4.51	1496	2060	0	14430	
0	4630	-69251	-7270.49	-3550.38	0	4	-0.05	-0.1	0.89	4.45	1496	2060	0	14430	0.07
0	2489	-59018	-5364.83	-1507.81	0	2	-0.03	-0.09	0.92	4.5	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	lc	lg	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.04	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.04	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

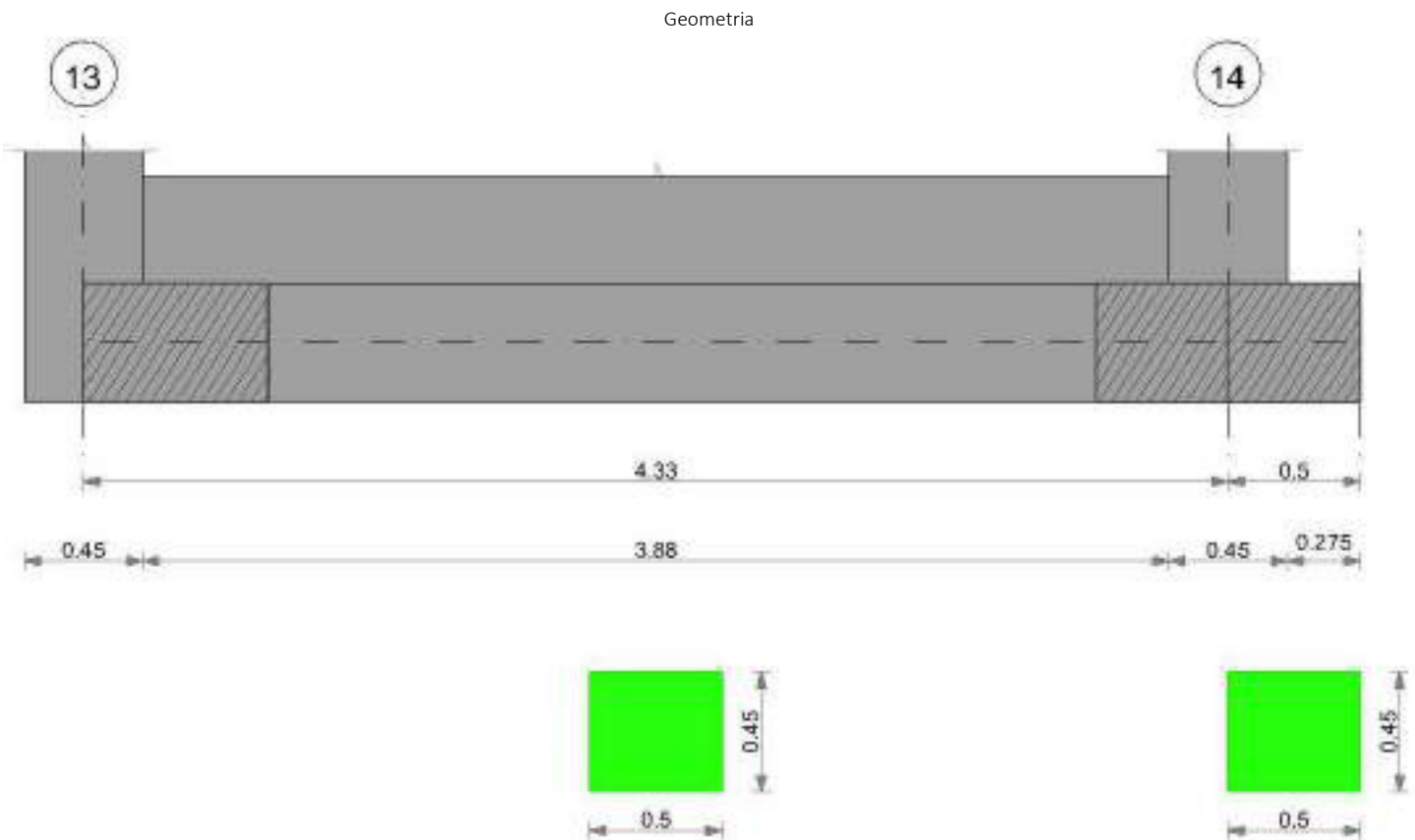
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0	655	SLE RA 21	0.05	0	655	305	SLE RA 20	0.05	0	655	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	655	SLE RA 1	0.05	0	655	655	SLE RA 1	0.05	0	655	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	655	SLE RA 1	0.05	0	655	655	SLE RA 1	0.05	0	655	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta			Distorsione angolare positiva			Distorsione angolare negativa			Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo J	D+ adm	D+	Nodo	D- adm	D-	Nodo	
E	0.19	0.01	SLE RA 20	0.19	0.01	655	0.19	0	655	0.1	0	655	Si
D	0.19	0	SLE RA 1	0.19	0	655	0.19	0	655	0.1	0	655	Si
Z	0.19	0	SLE RA 1	0.19	0	655	0.19	0	655	0.1	0	655	Si



CORDOLO 35



Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

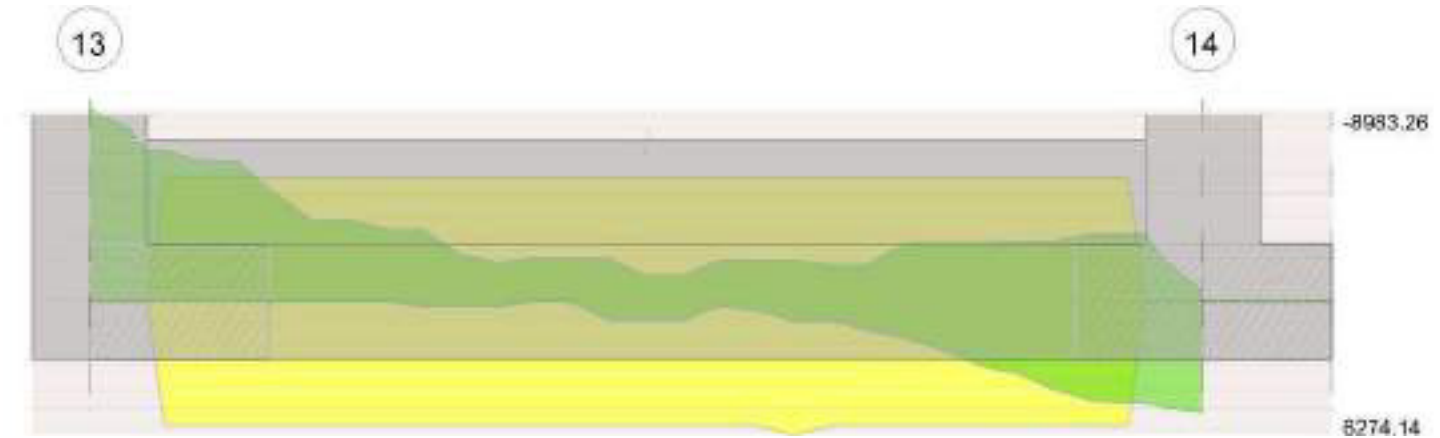


Diagramma verifica stato limite ultimo taglio



13

14

17895

-8455

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 293, 292, 291, 290, 289, 288, 287, 286, 285, 284, 283, 282

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.16	0.41	0.0002	2207	SLU 84	0.018	2820	6792	SLU 84	15877	Si
4.1	0.41	0.0002	2244	SLU 83	0.018	2820	6904	SLU 83	15877	Si
4.33	0.41	0.0002	2243	SLU 83	0.018	2820	6900	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2475	SLD 5	0.071	3173	7616	SLD 5	15877	Si
0.23	0.41	0.0002	2370	SLD 5	0.071	3173	7293	SLD 5	15877	Si
2.16	0.41	0.0002	1829	SLD 5	0.071	3173	5628	SLD 5	15877	Si
4.1	0.41	0.0002	1660	SLD 3	0.071	3173	5107	SLD 3	15877	Si
4.33	0.41	0.0002	1666	SLD 3	0.071	3173	5127	SLD 3	15877	Si

Verifiche delle tensioni di esercizio

Rara										Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	$\sigma_{climite}$	σ_f	$\sigma_{flimite}$	M	Comb	σ_c	$\sigma_{climite}$		
0	0.41	0.00000177	1793	SLE RA 21	51884	1494000	643359	36000000	1618	SLE QP 2	46810	1120500		Si
0.23	0.41	0.00000177	1746	SLE RA 21	50510	1494000	626329	36000000	1575	SLE QP 2	45567	1120500		Si
2.16	0.41	0.00000177	1612	SLE RA 21	46649	1494000	578446	36000000	1455	SLE QP 2	42097	1120500		Si
4.1	0.41	0.00000177	1635	SLE RA 20	47314	1494000	586689	36000000	1476	SLE QP 2	42715	1120500		Si
4.33	0.41	0.00000177	1634	SLE RA 20	47282	1494000	586301	36000000	1475	SLE QP 2	42676	1120500		Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.55	1.1	SLU 48	ST	LT	465	-424	-50863	1	0	19	0	0	1.1	15471	629	24.59	Si
4.55	1.1	SLV FO 12	SIS	LT	6242	-1316	-26981	13	-3	19	0	0	1.1	8207	6380	1.29	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste										Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
293,292,291,290,289,288,287,286,285,284,283,282										4.55	1.1	SLU 84	ST	BT	2.3	212966	62569	3.4	Si
293,292,291,290,289,288,287,286,285,284,283,282										4.55	1.1	SLV FO 5	SIS	BT	2.3	190389	58122	3.28	Si
293,292,291,290,289,288,287,286,285,284,283,282										4.55	1.1	SLD 5	SIS	BT	2.3	200373	51351	3.9	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-464	-62569	362.55	-742.26	0	0	-0.01	0.01	1.09	4.53	1496	2060	0	14430	
0	642	-58122	-281.79	-15278.18	0	1	-0.26	0	1.09	4.03	1496	2060	0	14430	0.07
0	242	-51351	-61.82	-8817.43	0	0	-0.17	0	1.1	4.21	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

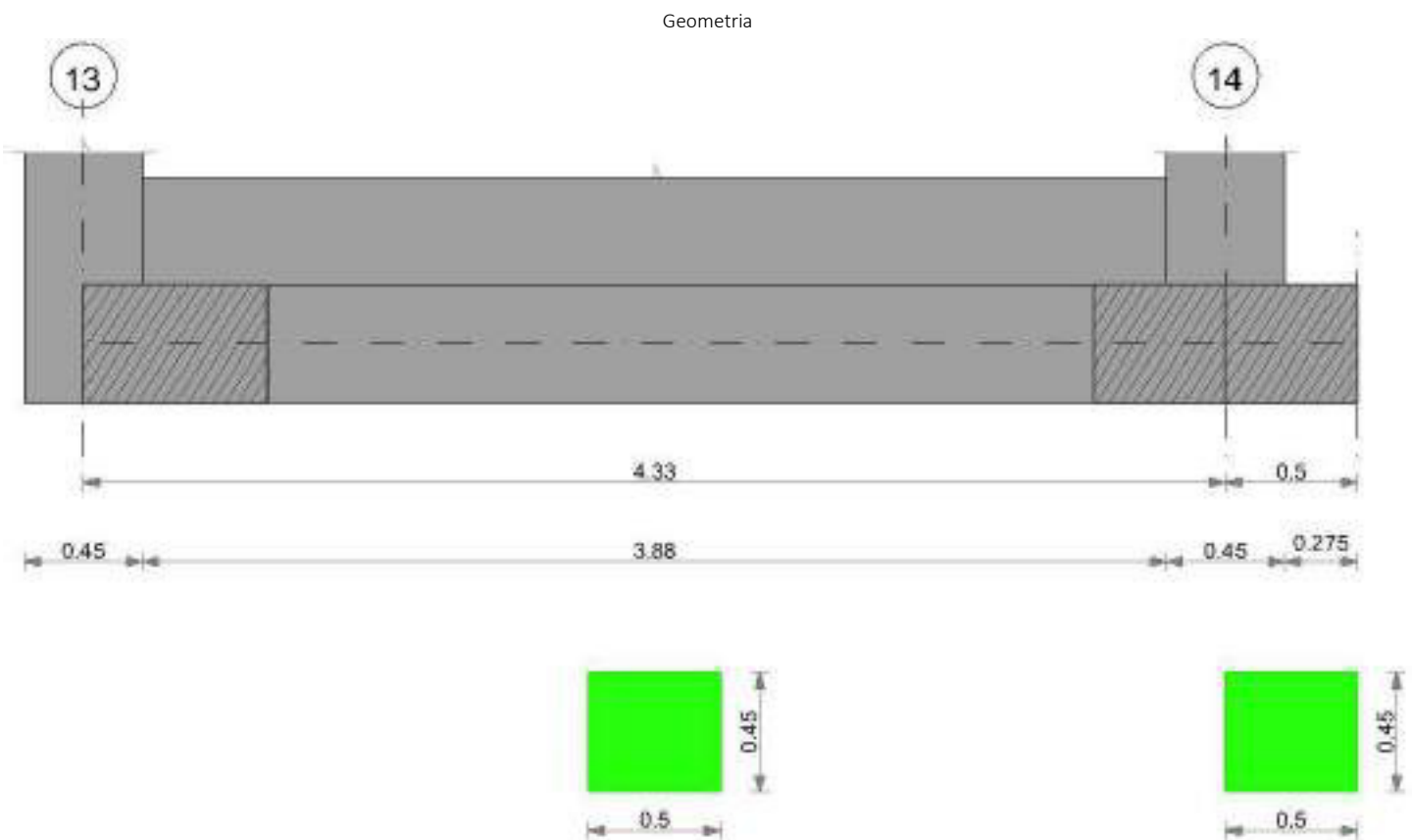
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	671	SLE RA 21	0.05	0.001	671	320	SLE RA 20	0.05	0	671	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	671	SLE RA 1	0.05	0	671	671	SLE RA 1	0.05	0	671	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	671	SLE RA 1	0.05	0	671	671	SLE RA 1	0.05	0	671	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta			Distorsione angolare positiva			Distorsione angolare negativa			Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.02	671	320	SLE RA 20	0.19	0	671	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	671	320	SLE RA 1	0.19	0	671	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	671	320	SLE RA 1	0.19	0	671	SLE RA 1	Si



CORDOLO 36



Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

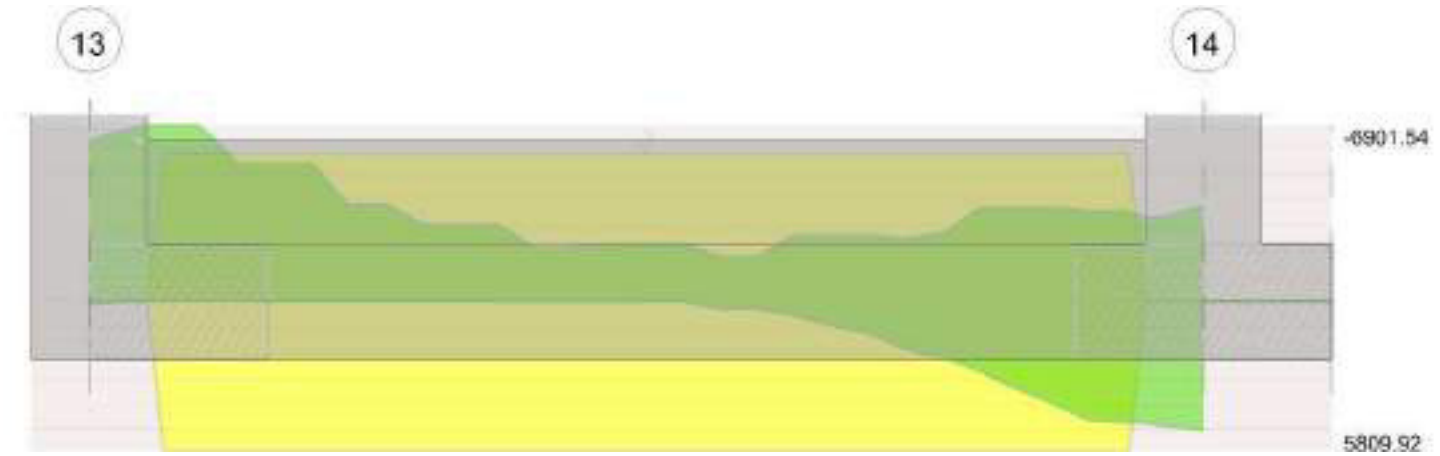
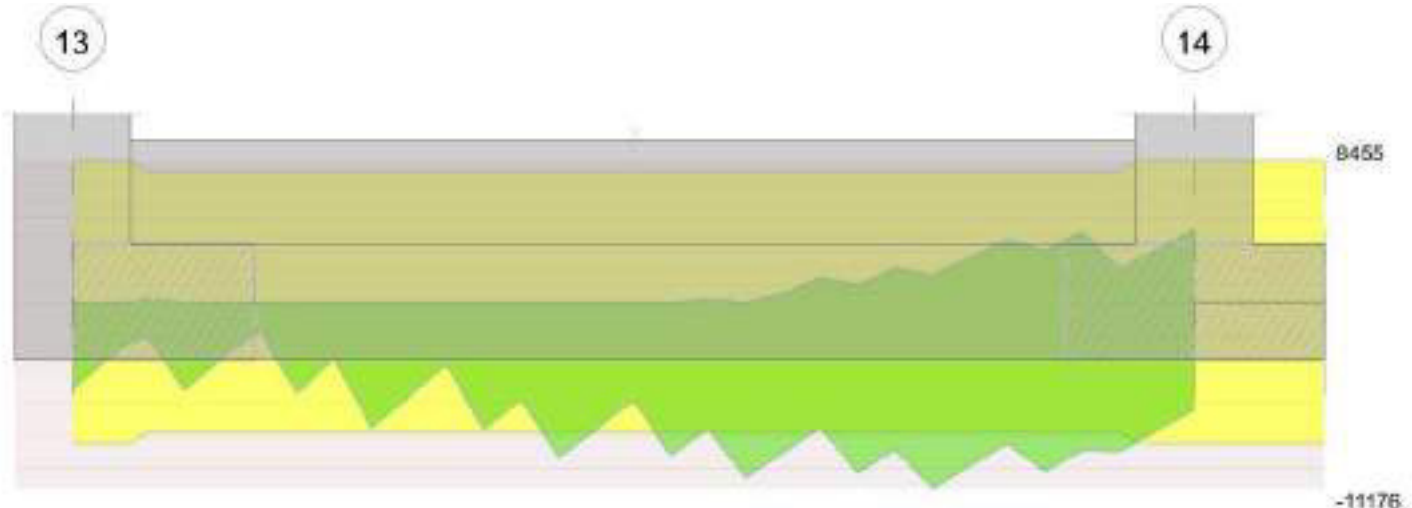


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 13 - 14, sezione R 50x45, aste 305, 304, 303, 302, 301, 300, 299, 298, 297, 296, 295, 294

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.16	0.41	0.0002	2242	SLU 84	0.018	2820	6899	SLU 84	15877	Si
4.1	0.41	0.0002	2263	SLU 83	0.018	2820	6964	SLU 83	15877	Si
4.33	0.41	0.0002	2262	SLU 83	0.018	2820	6960	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2502	SLD 5	0.071	3173	7698	SLD 5	15877	Si
0.23	0.41	0.0002	2396	SLD 5	0.071	3173	7374	SLD 5	15877	Si
2.16	0.41	0.0002	1840	SLD 5	0.071	3173	5661	SLD 5	15877	Si
4.1	0.41	0.0002	1658	SLD 3	0.071	3173	5103	SLD 3	15877	Si
4.33	0.41	0.0002	1665	SLD 4	0.071	3173	5123	SLD 4	15877	Si

Verifiche delle tensioni di esercizio

Rara				Quasi permanente				Verifica					
x	d	Af	M	Comb	σc	$\sigma c \text{ limite}$	σf	$\sigma f \text{ limite}$	M	Comb	σc	$\sigma c \text{ limite}$	
0	0.41	0.00000177	1831	SLE RA 21	52975	1494000	656895	36000000	1652	SLE QP 2	47792	1120500	Si
0.23	0.41	0.00000177	1783	SLE RA 21	51592	1494000	639742	36000000	1609	SLE QP 2	46541	1120500	Si
2.16	0.41	0.00000177	1638	SLE RA 21	47382	1494000	587535	36000000	1478	SLE QP 2	42752	1120500	Si
4.1	0.41	0.00000177	1650	SLE RA 20	47723	1494000	591768	36000000	1489	SLE QP 2	43068	1120500	Si
4.33	0.41	0.00000177	1648	SLE RA 20	47683	1494000	591273	36000000	1487	SLE QP 2	43021	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.55	1.1	SLU 48	ST	LT	482	-424	-51461	1	0	19	0	0	1.1	15653	642	24.38	Si
4.55	1.1	SLV FO 12	SIS	LT	6138	-1316	-27963	12	-3	19	0	0	1.1	8506	6278	1.35	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
305,304,303,302,301,300,299,298,297,296,295,294					4.55	1.1	SLU 84	ST	BT	2.3	212604	63356	3.36	Si
305,304,303,302,301,300,299,298,297,296,295,294					4.55	1.1	SLV FO 5	SIS	BT	2.3	189967	58166	3.27	Si
305,304,303,302,301,300,299,298,297,296,295,294					4.55	1.1	SLD 9	SIS	BT	2.3	191627	49444	3.88	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-464	-63356	362.55	-1024.44	0	0	-0.02	0.01	1.09	4.52	1496	2060	0	14430	
0	642	-58166	-281.79	-15560.77	0	1	-0.27	0	1.09	4.02	1496	2060	0	14430	0.07
0	-1800	-49444	897.29	-9104.58	0	-2	-0.18	0.02	1.06	4.19	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Verifiche geotecniche - Cedimenti assoluti e differenziali																		
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica	
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo i	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.		
E	0.05	0.002	674	SLE RA 21	0.05	0.001	674	322	SLE RA 20	0.05	0	674	SLE RA 1	0.0033	0	SLE RA 1	Si	
D	0.05	0	674	SLE RA 1	0.05	0	674	674	SLE RA 1	0.05	0	674	SLE RA 1	0.0033	0	SLE RA 1	Si	
Z	0.05	0	674	SLE RA 1	0.05	0	674	674	SLE RA 1	0.05	0	674	SLE RA 1	0.0033	0	SLE RA 1	Si	

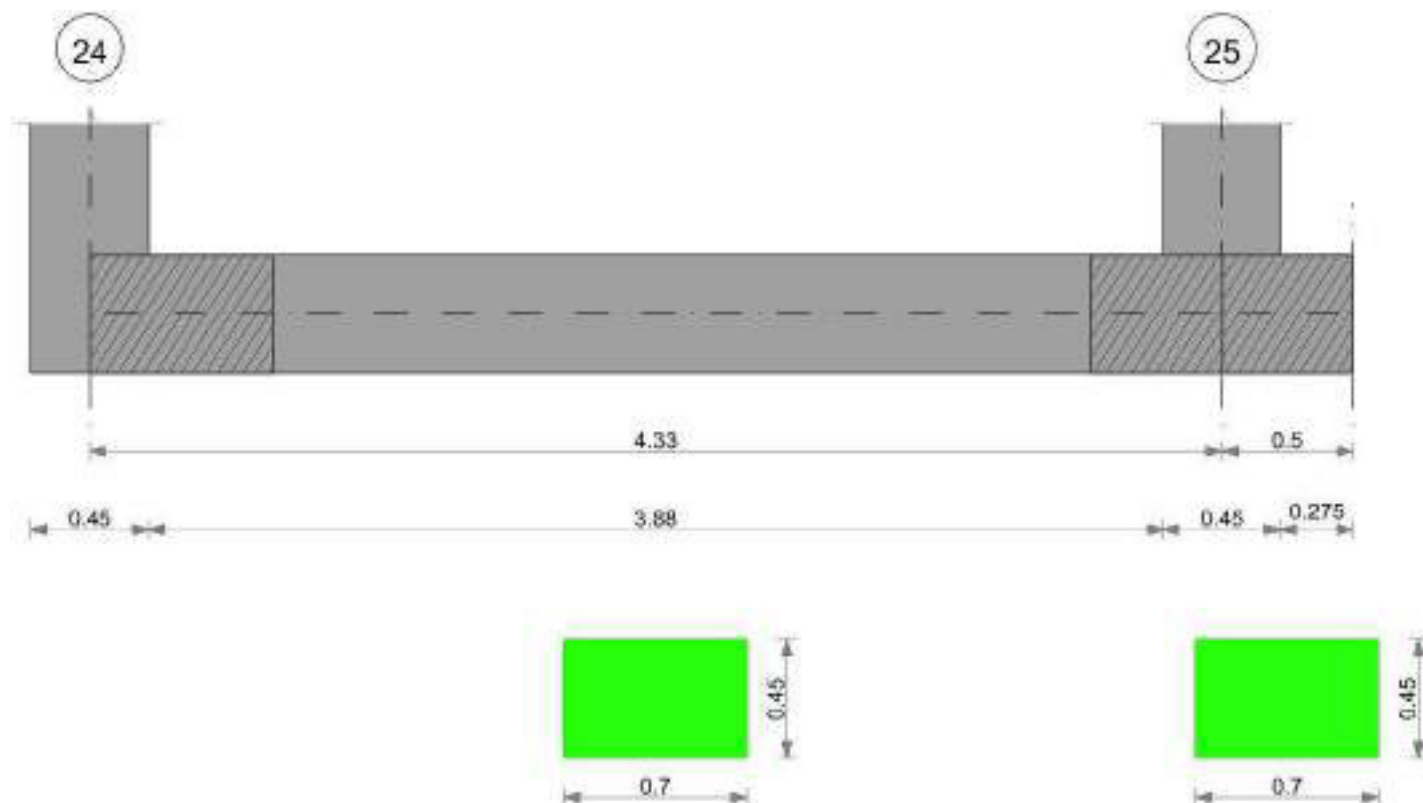
Verifiche geotecniche - Rotazioni assolute e differenziali



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.02	674	322	SLE RA 20	0.19	0	674	SLE RA 1	0.1	0	674	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	674	322	SLE RA 1	0.19	0	674	SLE RA 1	0.1	0	674	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	674	322	SLE RA 1	0.19	0	674	SLE RA 1	0.1	0	674	SLE RA 1	Si

CORDOLO 37

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copri ferro sup.	Copri ferro inf.	Copri ferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

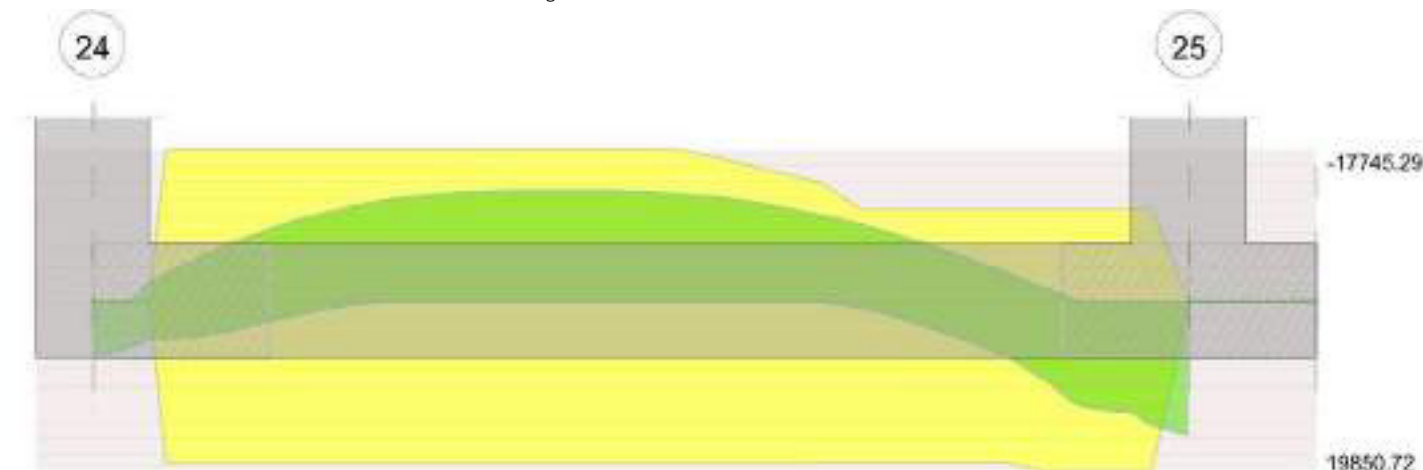
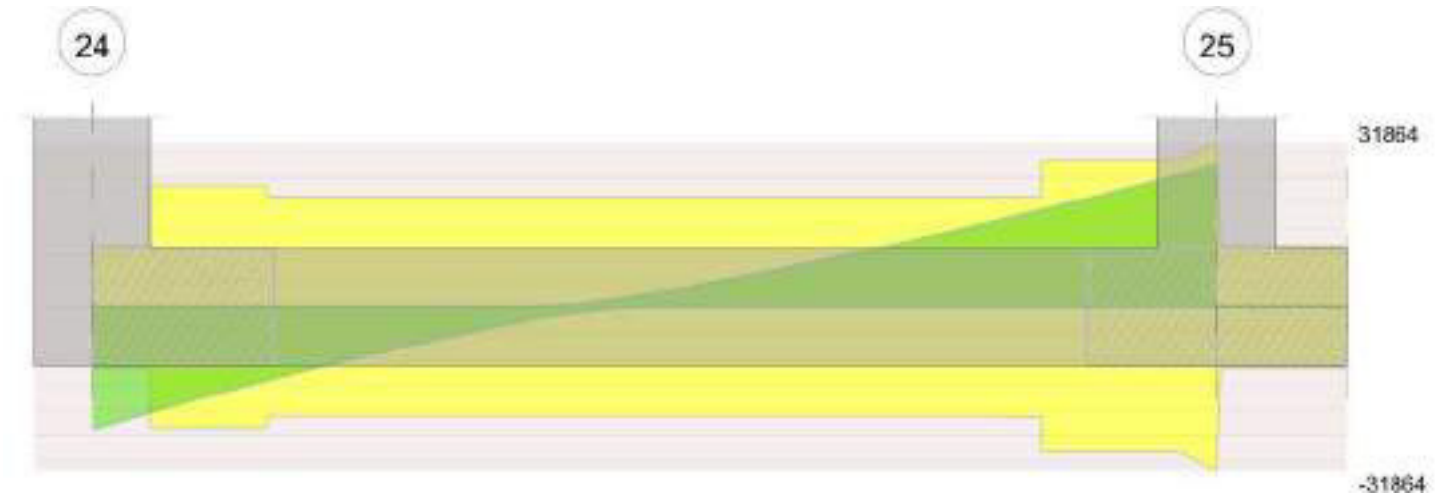


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 24 - 25, sezione R 70x45, aste 428, 427, 426

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.16	0.001272	0.052	0.001367	0.052							-11954.29	SLU 84	-12194.91	-18533.96	0.138	1.52	Si
4.1	0.000763	0.052	0.001367	0.052	12973.18	SLU 83	12973.18	19850.72	0.149	1.53							Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.16	0.001272	0.052	0.001367	0.052							-12585.59	SLV FO 5	-12916.42	-17745.29	0.248	1.37	Si
4.1	0.000763	0.052	0.001367	0.052	10802.28	SLV FO 11	10802.28	18946.56	0.267	1.75							Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
2.16	0.001272	0.052	0.001367	0.052							-10551.1	SLD 5	-10807.05	-17745.29	0.248	1.64	Si
4.1	0.000763	0.052	0.001367	0.052	9835.02	SLD 11	9835.02	18946.56	0.267	1.93							Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-23809	SLU 84	-23809	-11837	-100005	0	-11837	1	0.5	Si
0.23	0.0000168	0	0	-20436	SLU 84	-20436	-11837	-100005	-26553	-26553	1	1.3	Si
2.16	0.0000152	0.001138	0	2356	SLU 84	2356	12377	88449	21278	21278	1	9.03	Si
4.1	0.0000201	0.001367	0	24428	SLU 84	24428	13164	88547	28213	28213	1	1.15	Si
4.33	0.0000201	0.001367	0	27429	SLU 84	27429	13927	100005	31864	31864	1	1.16	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-23490	SLV FO 9	-23490	-11837	-100005	0	-11837	1	0.5	Si
0.23	0.0000168	0	0	-19620	SLV FO 9	-19620	-11837	-100005	-26553	-26553	1	1.35	Si
2.16	0.0000152	0.001138	0	2737	SLV FO 9	2737	12377	88449	21278	21278	1	7.77	Si
4.1	0.0000201	0.001367	0	17533	SLV FO 9	17533	13164	88547	28213	28213	1	1.61	Si
4.33	0.0000201	0.001367	0	19405	SLV FO 13	19405	13927	100005	31864	31864	1	1.64	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0	0	-20128	SLD 9	-20128	-11837	-100005	0	-11837	1	0.59	Si
0.23	0.0000168	0	0	-16971	SLD 9	-16971	-11837	-100005	-26553	-26553	1	1.56	Si
2.16	0.0000152	0.001138	0	2225	SLD 9	2225	12377	88449	21278	21278	1	9.56	Si
4.1	0.0000201	0.001367	0	16950	SLD 9	16950	13164	88547	28213	28213	1	1.66	Si
4.33	0.0000201	0.001367	0	18887	SLD 13	18887	13927	100005	31864	31864	1	1.69	Si

Verifiche delle tensioni in esercizio

x	Rara								Quasi permanente								Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.			
0	6647.21	20	4696.38	198789	1494000	0	36000000	6020.21	2	4246.36	179740	1120500					Si
0.23	3017.2	20	3017.2	127712	1494000	0	36000000	2719.98	2	2719.98	115131	1120500					Si
2.16	-8767.45	21	-8944.27	503546	1494000	19641077	36000000	-7932.56	2	-8092.57	455596	1120500					Si
4.1	9479.22	20	9479.22	551704	1494000	19462461	36000000	8575.97	2	8575.97	499134	1120500					Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
2.16	superiore	0.337	0.00057	0.000193	21	0.337	0.00053	0.000179	6	0.337	0.00052	0.000174	2	Si
4.1	inferiore	0.31	0.00057	0.000176	20	0.31	0.00053	0.000163	6	0.31	0.00051	0.000159	2	Si

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.55	1.3	SLU 48	ST	LT	681	-808	-50152	1	-1	19	0	0	1.1	15255	1057	14.44	Si



Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.55	1.3	SLV FO 8	SIS	LT	7961	2222	-33005	14	4	19	0	0	1.1	10039	8265	1.21	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste	Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
428,427,426	4.55	1.3	SLU 84	ST	BT	2.3	242644	61445	3.95	Si
428,427,426	4.55	1.3	SLV FO 9	SIS	BT	2.3	199567	50674	3.94	Si
428,427,426	4.55	1.3	SLD 9	SIS	BT	2.3	216138	46813	4.62	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	-945	-61445	593.74	-1545.45	0	-1	-0.03	0.01	1.28	4.5	1496	2060	0	14430	
0	-3545	-50674	1746.3	-17227.7	0	-4	-0.34	0.03	1.23	3.88	1496	2060	0	14430	0.07
0	-2323	-46813	1179.05	-10137.18	0	-3	-0.22	0.03	1.25	4.12	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.06	0	0	0.23	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.06	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

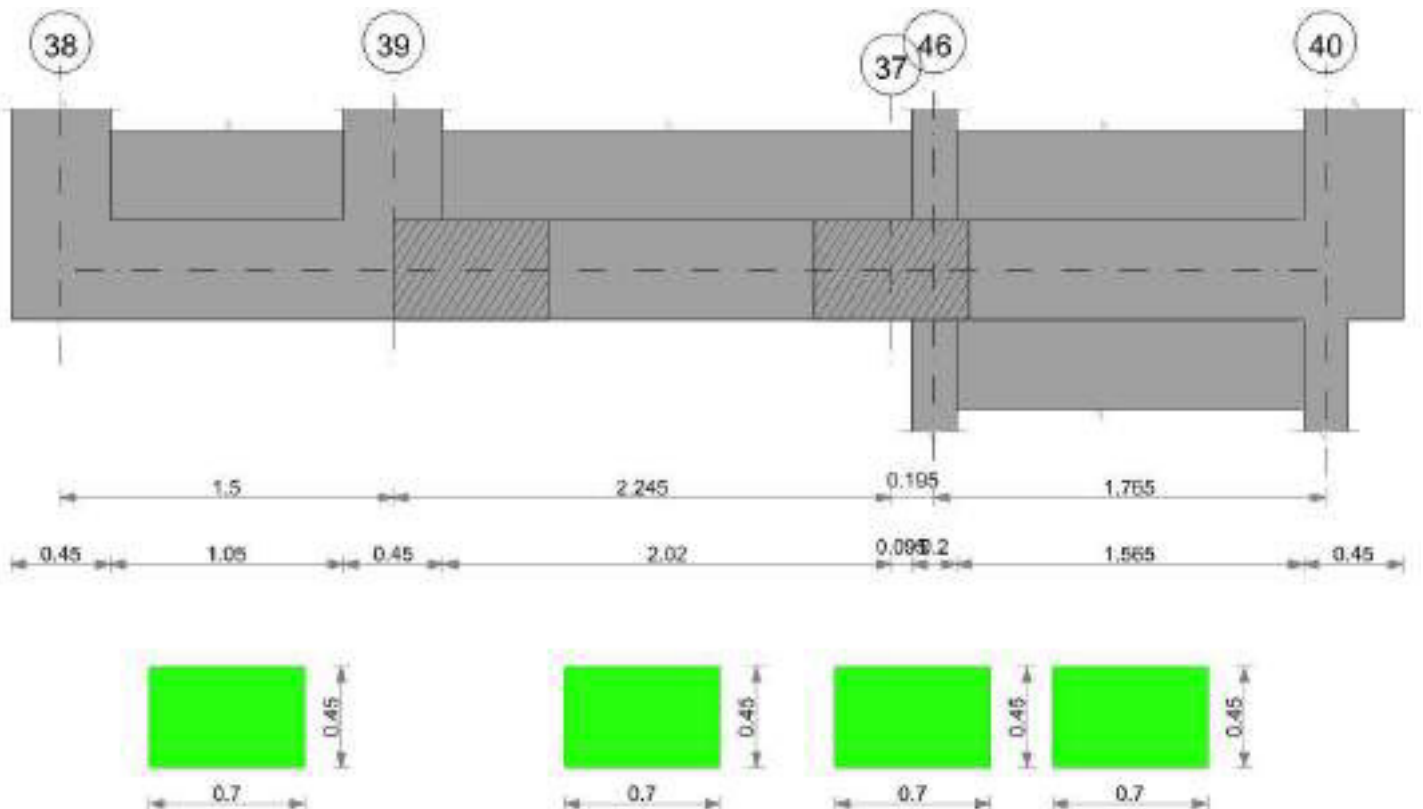
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	688	SLE RA 21	0.05	0.001	688	335	SLE RA 20	0.05	0	688	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	688	SLE RA 1	0.05	0	688	688	SLE RA 1	0.05	0	688	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	688	SLE RA 1	0.05	0	688	688	SLE RA 1	0.05	0	688	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta				Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.
E	0.19	0.01	SLE RA 20	0.19	0.01	688	335	SLE RA 20	0.19	0	688	SLE RA 1	0.1	0	688	SLE RA 1
D	0.19	0	SLE RA 1	0.19	0	688	335	SLE RA 1	0.19	0	688	SLE RA 1	0.1	0	688	SLE RA 1
Z	0.19	0	SLE RA 1	0.19	0	688	335	SLE RA 1	0.19	0	688	SLE RA 1	0.1	0	688	SLE RA 1

CORDOLO 38

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettilangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

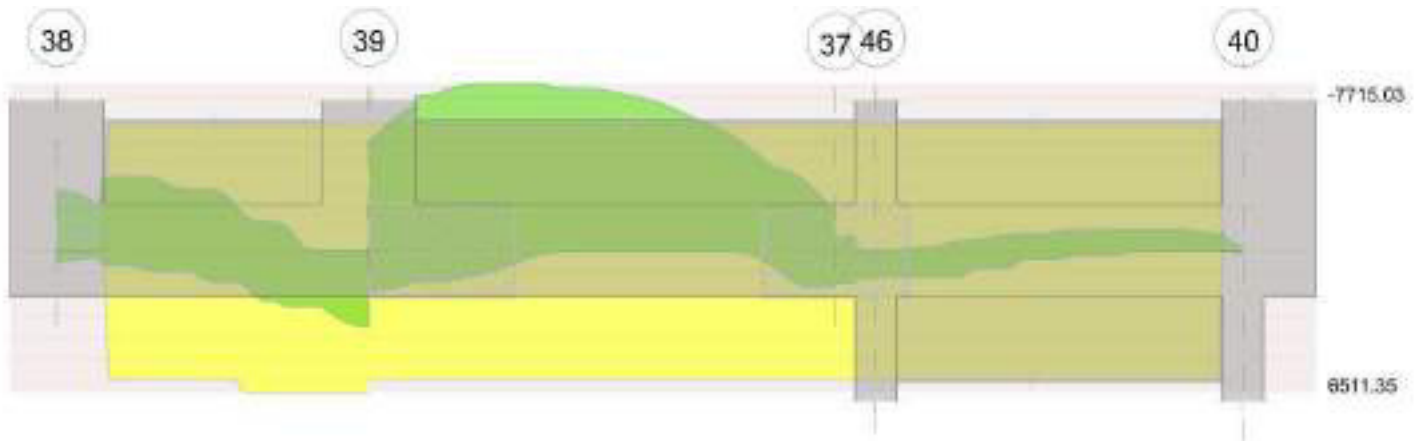
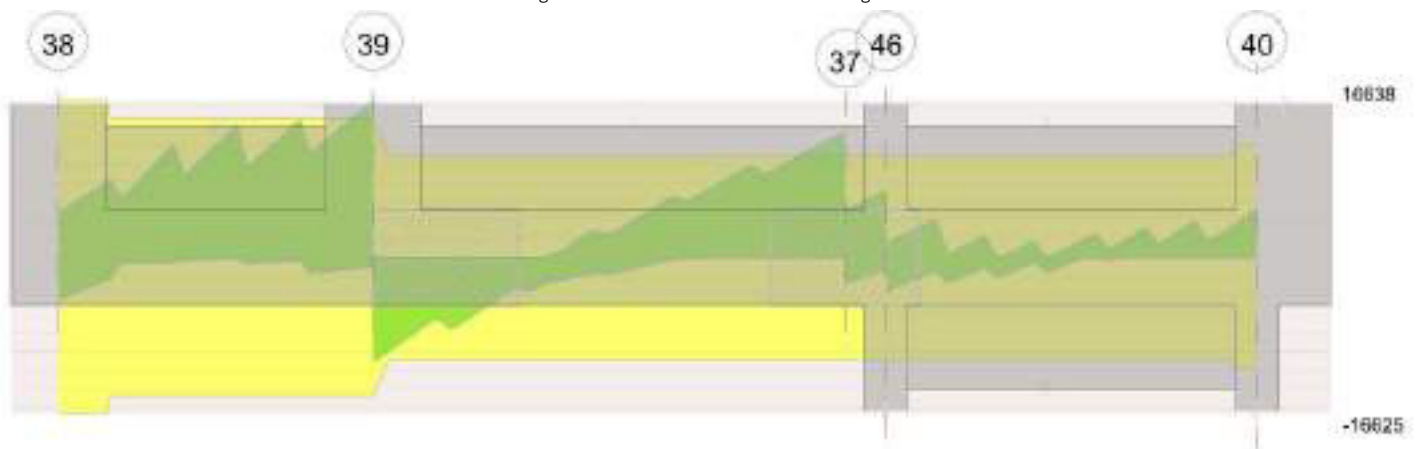


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 38 - 39, sezione R 70x45, aste 700, 699, 698, 697, 696

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0021	6698	SLV FO 10	0.285	29485	15759	SLV FO 10	19448	Si
0.23	0.41	0.0021	6407	SLV FO 10	0.285	29485	15076	SLV FO 10	19448	Si
0.75	0.41	0.0021	5754	SLV FO 10	0.285	29485	13539	SLV FO 10	19448	Si
1.27	0.41	0.0021	5121	SLV FO 10	0.285	29485	12050	SLV FO 10	19448	Si
1.5	0.41	0.0021	4846	SLV FO 6	0.285	29485	11402	SLV FO 6	19448	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0021	5131	SLD 10	0.237	34634	12072	SLD 10	19448	Si
0.23	0.41	0.0021	4937	SLD 10	0.237	34634	11616	SLD 10	19448	Si
0.75	0.41	0.0021	4503	SLD 10	0.237	34634	10596	SLD 10	19448	Si
1.27	0.41	0.0021	4081	SLD 10	0.237	34634	9603	SLD 10	19448	Si
1.5	0.41	0.0021	3895	SLD 6	0.237	34634	9166	SLD 6	19448	Si

Verifiche delle tensioni di esercizio

				Rara					Quasi permanente				Verifica	
x	d	Af		M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00002069		3464	SLE RA 21	80016	1494000	992197	36000000	3116	SLE QP 2	71967	1120500	Si
0.23	0.41	0.00002069		3388	SLE RA 21	78253	1494000	970341	36000000	3046	SLE QP 2	70366	1120500	Si
0.75	0.41	0.00002069		3221	SLE RA 21	74407	1494000	922643	36000000	2895	SLE QP 2	66872	1120500	Si
1.27	0.41	0.00002069		3056	SLE RA 21	70581	1494000	875210	36000000	2745	SLE QP 2	63404	1120500	Si
1.5	0.41	0.00002069		2977	SLE RA 21	68770	1494000	852747	36000000	2674	SLE QP 2	61766	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 2 tra i fili 39 - 37, sezione R 70x45, aste 695, 694, 693, 692, 691, 690

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0021	4846	SLV FO 6	0.285	29485	11402	SLV FO 6	19448	Si
0.23	0.41	0.0003	4574	SLV FO 6	0.118	5145	10761	SLV FO 6	15877	Si
1.12	0.41	0.0003	3708	SLV FO 6	0.118	5145	8724	SLV FO 6	15877	Si
2.24	0.41	0.0004	3703	SLU 84	0.035	6573	8714	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD



x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0021	3895	SLD 6	0.237	34634	9166	SLD 6	19448	Si
0.23	0.41	0.0003	3711	SLD 6	0.098	5969	8732	SLD 6	15877	Si
1.12	0.41	0.0003	3145	SLD 6	0.098	5969	7399	SLD 6	15877	Si
2.24	0.41	0.0004	2802	SLD 6	0.108	7334	6592	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00002069	2977	SLE RA 21	68770	1494000	852747	36000000	2674	SLE QP 2	61766	1120500	Si
0.23	0.41	0.00000336	2899	SLE RA 21	82124	1494000	1018333	36000000	2603	SLE QP 2	73748	1120500	Si
1.12	0.41	0.00000336	2695	SLE RA 21	76334	1494000	946541	36000000	2420	SLE QP 2	68568	1120500	Si
2.24	0.41	0.00000415	2707	SLE RA 21	75901	1494000	941168	36000000	2436	SLE QP 2	68295	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 3 tra i fili 37 - 46, sezione R 70x45, asta 689

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	3703	SLU 84	0.035	6573	8714	SLU 84	15877	Si
0.1	0.41	0.0003	3713	SLU 84	0.023	4108	8736	SLU 84	15877	Si
0.1	0.41	0.0003	3713	SLU 84	0.023	4108	8737	SLU 84	15877	Si
0.2	0.41	0.0003	3722	SLU 84	0.023	4108	8759	SLU 84	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0004	2802	SLD 6	0.108	7334	6592	SLD 6	15877	Si
0.1	0.41	0.0003	2781	SLD 6	0.086	4604	6543	SLD 6	15877	Si
0.1	0.41	0.0003	2780	SLD 6	0.086	4604	6542	SLD 6	15877	Si
0.2	0.41	0.0003	2759	SLD 6	0.086	4604	6491	SLD 6	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000415	2707	SLE RA 21	75901	1494000	941168	36000000	2436	SLE QP 2	68295	1120500	Si
0.1	0.41	0.00000258	2713	SLE RA 21	77664	1494000	963027	36000000	2442	SLE QP 2	69892	1120500	Si
0.1	0.41	0.00000258	2714	SLE RA 21	77668	1494000	963089	36000000	2442	SLE QP 2	69896	1120500	Si
0.2	0.41	0.00000258	2720	SLE RA 21	77857	1494000	965423	36000000	2448	SLE QP 2	70075	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Campata 4 tra i fili 46 - 40, sezione R 70x45, aste 688, 687, 686, 685, 684, 683, 682

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3722	SLU 84	0.023	4108	8759	SLU 84	15877	Si
0.1	0.41	0.0004	3733	SLU 84	0.03	5664	8783	SLU 84	15877	Si
0.88	0.41	0.0004	3800	SLU 84	0.03	5664	8941	SLU 84	15877	Si
1.66	0.41	0.0004	3894	SLU 83	0.03	5664	9162	SLU 83	15877	Si
1.76	0.41	0.0004	3908	SLU 83	0.03	5664	9195	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	2759	SLD 6	0.086	4604	6491	SLD 6	15877	Si
0.1	0.41	0.0004	2735	SLD 6	0.101	6328	6434	SLD 6	15877	Si
0.88	0.41	0.0004	2597	SLD 2	0.101	6328	6110	SLD 2	15877	Si
1.66	0.41	0.0004	2851	SLD 7	0.101	6328	6707	SLD 7	15877	Si
1.76	0.41	0.0004	2895	SLD 7	0.101	6328	6811	SLD 7	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000258	2720	SLE RA 21	77857	1494000	965423	36000000	2448	SLE QP 2	70075	1120500	Si
0.1	0.41	0.00000356	2727	SLE RA 21	77056	1494000	955489	36000000	2455	SLE QP 2	69365	1120500	Si
0.88	0.41	0.00000356	2774	SLE RA 21	78366	1494000	971739	36000000	2499	SLE QP 2	70604	1120500	Si
1.66	0.41	0.00000356	2839	SLE RA 20	80207	1494000	994568	36000000	2555	SLE QP 2	72181	1120500	Si
1.76	0.41	0.00000356	2849	SLE RA 20	80486	1494000	998030	36000000	2563	SLE QP 2	72422	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche - Cedimenti assoluti e differenziali

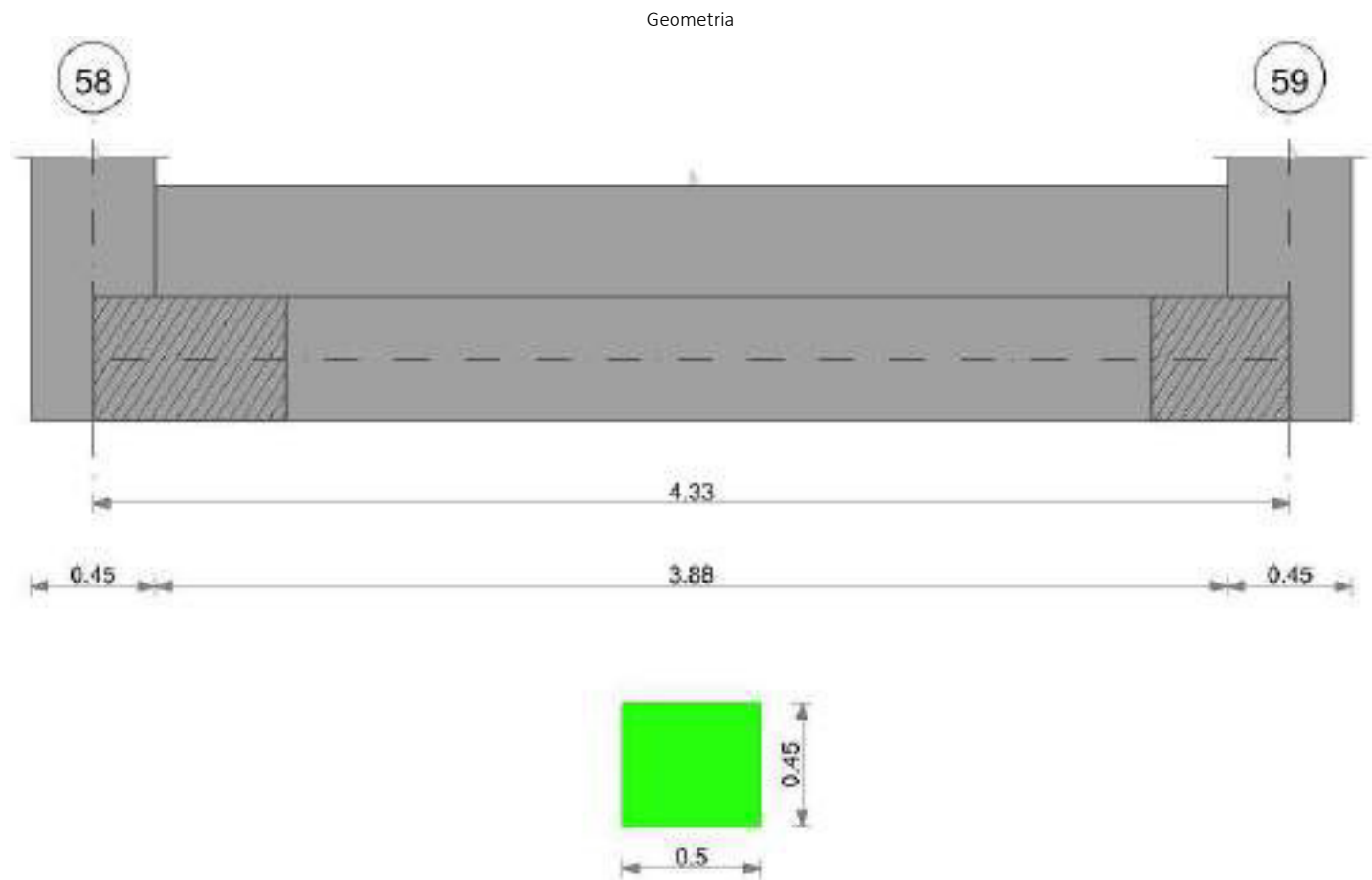
Tipo	Assoluto				Differenziale					Relativo				Rapp. inflessione			Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Rl adm	RI	Comb.	
E	0.05	0.003	694	SLE RA 21	0.05	0.002	694	186	SLE RA 20	0.05	0.001	509	SLE RA 21	0.0033	0	SLE RA 1	Si
D	0.05	0	694	SLE RA 1	0.05	0	694	694	SLE RA 1	0.05	0	518	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	694	SLE RA 1	0.05	0	694	694	SLE RA 1	0.05	0	518	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.03	365	186	SLE RA 21	0.19	0.01	518	SLE RA 20	0.1	0	694	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	694	518	SLE RA 1	0.19	0	694	SLE RA 1	0.1	0	518	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	694	518	SLE RA 1	0.19	0	694	SLE RA 1	0.1	0	518	SLE RA 1	Si



CORDOLO 39



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

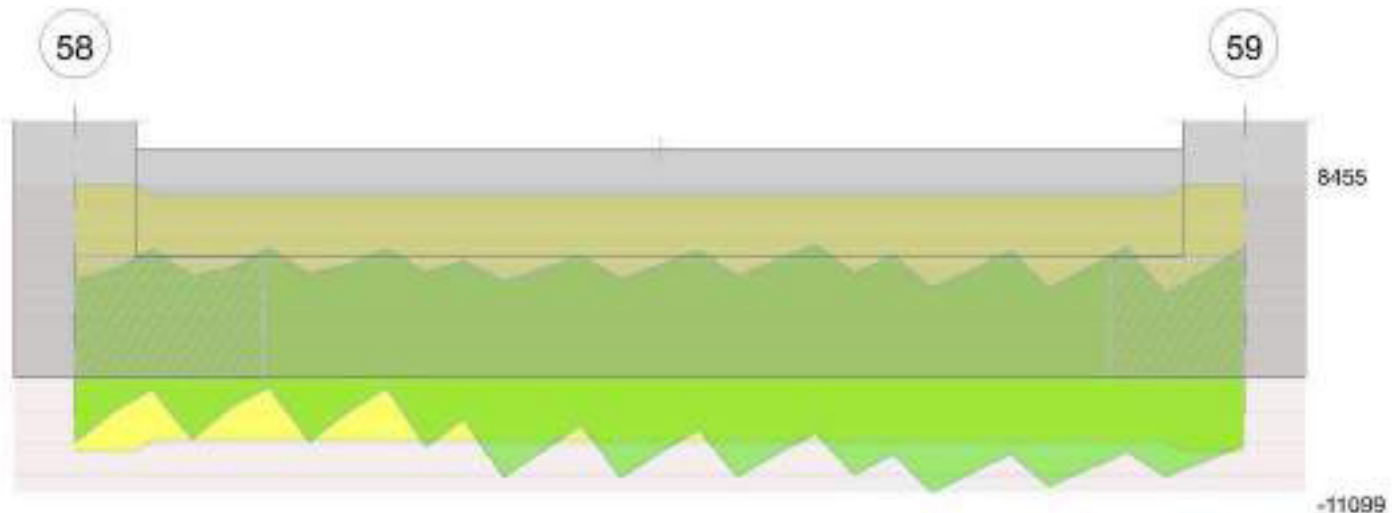
Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 58 - 59, sezione R 50x45, aste 450, 449, 448, 447, 446, 445, 444, 443, 442, 441, 440

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.16	0.41	0.0002	2206	SLU 84	0.017	2687	6788	SLU 84	15877	Si
4.1	0.41	0.0002	2244	SLU 83	0.017	2687	6905	SLU 83	15877	Si
4.33	0.41	0.0002	2265	SLU 83	0.017	2687	6970	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2500	SLD 10	0.07	3025	7693	SLD 10	15877	Si
0.23	0.41	0.0002	2390	SLD 10	0.07	3025	7354	SLD 10	15877	Si
2.16	0.41	0.0002	1798	SLD 10	0.07	3025	5533	SLD 10	15877	Si
4.1	0.41	0.0002	1659	SLD 15	0.07	3025	5104	SLD 15	15877	Si
4.33	0.41	0.0002	1690	SLD 15	0.07	3025	5200	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

Rara												Quasi permanente				Verifica
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	σc	σc limite	σc	Verifica
0	0.41	0.00000168	1828	SLE RA 21	52936	1494000	656411	36000000	1649	SLE QP 2	47771	1120500	47771	1120500	47771	Si
0.23	0.41	0.00000168	1778	SLE RA 21	51494	1494000	638525	36000000	1604	SLE QP 2	46466	1120500	46466	1120500	46466	Si
2.16	0.41	0.00000168	1612	SLE RA 21	46679	1494000	578816	36000000	1454	SLE QP 2	42125	1120500	42125	1120500	42125	Si
4.1	0.41	0.00000168	1636	SLE RA 20	47372	1494000	587415	36000000	1475	SLE QP 2	42732	1120500	42732	1120500	42732	Si
4.33	0.41	0.00000168	1650	SLE RA 20	47804	1494000	592765	36000000	1488	SLE QP 2	43104	1120500	43104	1120500	43104	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.78	1.1	SLU 43	ST	LT	234	325	-50019	0	0	19	0	0	1.1	15215	400	38.01	Si
4.78	1.1	SLV FO 7	SIS	LT	5598	1441	-28720	11	3	19	0	0	1.1	8736	5781	1.51	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
450,449,448,447,446,445,444,443,442,441,440	4.78	1.1	SLU 84	ST	BT	2.3	222146	62931	3.53	Si			
450,449,448,447,446,445,444,443,442,441,440	4.78	1.1	SLV FO 10	SIS	BT	2.3	197008	56930	3.46	Si			
450,449,448,447,446,445,444,443,442,441,440	4.78	1.1	SLD 10	SIS	BT	2.3	208205	50791	4.1	Si			

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	377	-62931	-386.62	-1407.5	0	0	-0.02	-0.01	1.09	4.74	1496	2060	0	14430	
0	-901	-56930	391.56	-16618.47	0	-1	-0.29	0.01	1.09	4.2	1496	2060	0	14430	0.07
0	-422	-50791	119.49	-9759.58	0	0	-0.19	0	1.1	4.4	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

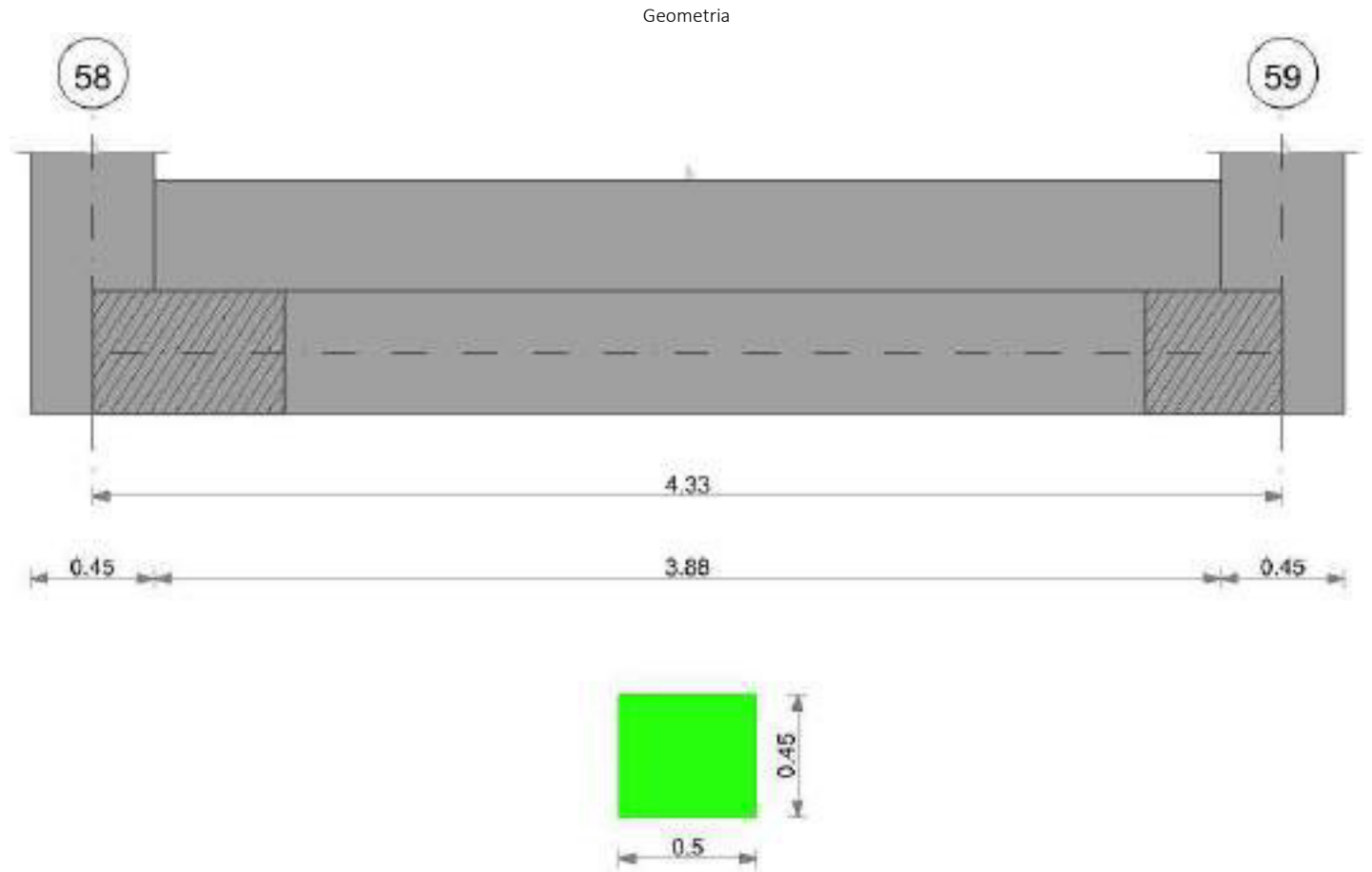
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	712	SLE RA 20	0.05	0.001	712	346	SLE RA 20	0.05	0	712	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	712	SLE RA 1	0.05	0	712	712	SLE RA 1	0.05	0	712	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	712	SLE RA 1	0.05	0	712	712	SLE RA 1	0.05	0	712	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.02	712	346	SLE RA 20	0.19	0	712	SLE RA 1	0.1	0	712	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	712	346	SLE RA 1	0.19	0	712	SLE RA 1	0.1	0	712	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	712	346	SLE RA 1	0.19	0	712	SLE RA 1	0.1	0	712	SLE RA 1	Si

CORDOLO 40



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x45	Rettangolare	0.5	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



Diagramma verifica stato limite ultimo taglio



58

59

16306

-8455

Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 58 - 59, sezione R 50x45, aste 439, 438, 437, 436, 435, 434, 433, 432, 431, 430, 429

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
2.16	0.41	0.0002	2157	SLU 84	0.017	2687	6636	SLU 84	15877	Si
4.1	0.41	0.0002	2205	SLU 83	0.017	2687	6784	SLU 83	15877	Si
4.33	0.41	0.0002	2226	SLU 83	0.017	2687	6850	SLU 83	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0002	2469	SLD 10	0.07	3025	7596	SLD 10	15877	Si
0.23	0.41	0.0002	2359	SLD 10	0.07	3025	7258	SLD 10	15877	Si
2.16	0.41	0.0002	1782	SLD 10	0.07	3025	5484	SLD 10	15877	Si
4.1	0.41	0.0002	1629	SLD 15	0.07	3025	5013	SLD 15	15877	Si
4.33	0.41	0.0002	1660	SLD 15	0.07	3025	5108	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

Rara									Quasi permanente				Verifica
x	d	Af	M	Comb	σ_c	σ_c limite	σ_f	σ_f limite	M	Comb	σ_c	σ_c limite	
0	0.41	0.00000168	1782	SLE RA 21	51622	1494000	640113	36000000	1608	SLE QP 2	46579	1120500	Si
0.23	0.41	0.00000168	1733	SLE RA 21	50187	1494000	622322	36000000	1563	SLE QP 2	45281	1120500	Si
2.16	0.41	0.00000168	1576	SLE RA 21	45632	1494000	565842	36000000	1422	SLE QP 2	41176	1120500	Si
4.1	0.41	0.00000168	1607	SLE RA 20	46541	1494000	577108	36000000	1450	SLE QP 2	41989	1120500	Si
4.33	0.41	0.00000168	1622	SLE RA 20	46978	1494000	582528	36000000	1463	SLE QP 2	42367	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.78	1.1	SLU 43	ST	LT	228	325	-49169	0	0	19	0	0	1.1	14956	397	37.69	Si
4.78	1.1	SLV FO 7	SIS	LT	5670	1441	-27310	12	3	19	0	0	1.1	8307	5851	1.42	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
439,438,437,436,435,434,433,432,431,430,429					4.78	1.1	SLU 84	ST	BT	2.3	222366	61813	3.6	Si
439,438,437,436,435,434,433,432,431,430,429					4.78	1.1	SLV FO 10	SIS	BT	2.3	197506	56853	3.47	Si
439,438,437,436,435,434,433,432,431,430,429					4.78	1.1	SLD 10	SIS	BT	2.3	208523	50425	4.14	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	377	-61813	-386.62	-1200.05	0	0	-0.02	-0.01	1.09	4.74	1496	2060	0	14430	
0	301	-56853	391.56	-16280.89	0	-1	-0.29	0.01	1.09	4.21	1496	2060	0	14430	0.07
0	-422	-50425	119.49	-9509.64	0	0	-0.19	0	1.1	4.4	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.27	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.002	714	SLE RA 20	0.05	0.001	714	348	SLE RA 20	0.05	0	714	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	714	SLE RA 1	0.05	0	714	714	SLE RA 1	0.05	0	714	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	714	SLE RA 1	0.05	0	714	714	SLE RA 1	0.05	0	714	SLE RA 1	0.0033	0	SLE RA 1	Si

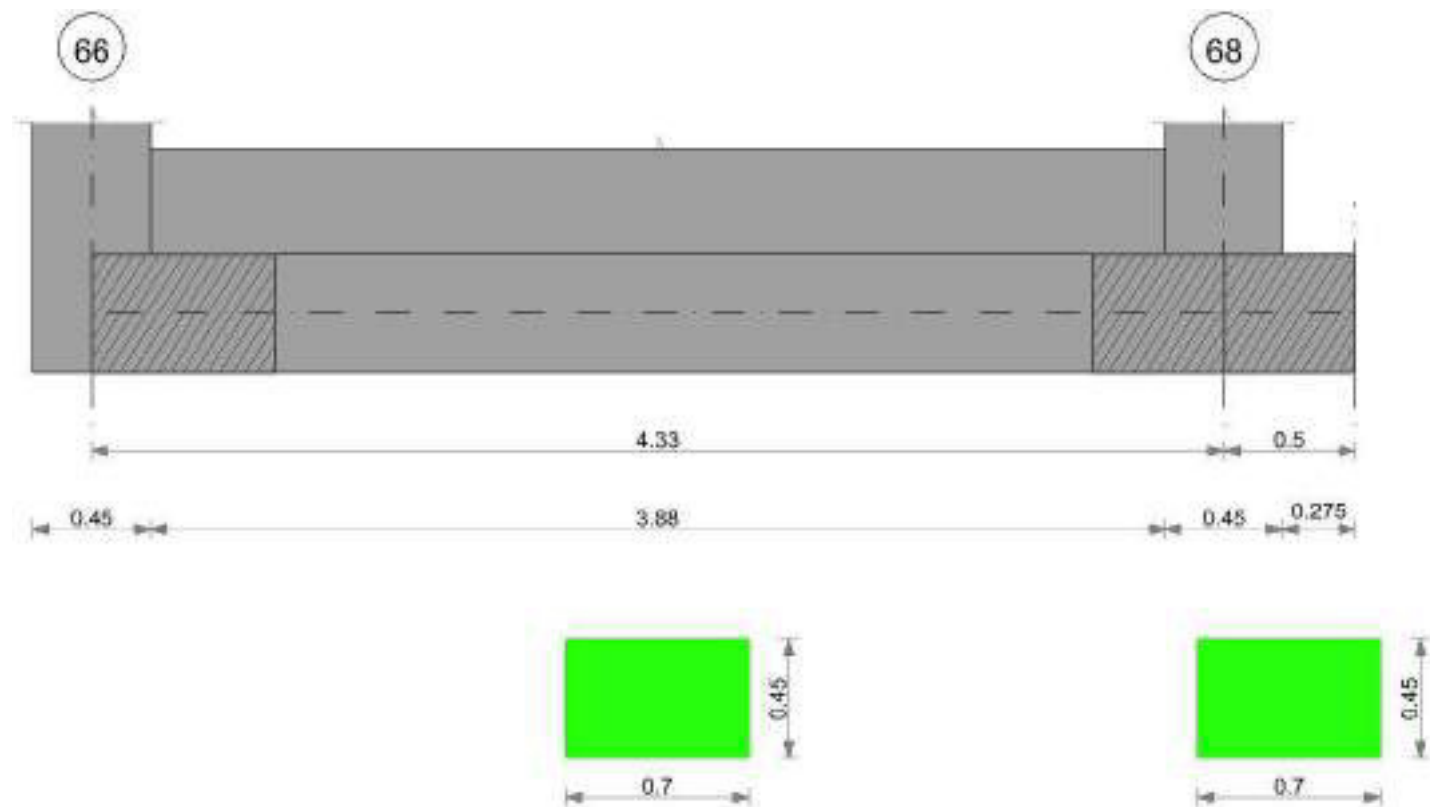
Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta			Distorsione angolare positiva			Distorsione angolare negativa			Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	
E	0.19	0.02	SLE RA 20	0.19	0.02	714	348	SLE RA 20	0.19	0	714	SLE RA 1	Si
D	0.19	0	SLE RA 1	0.19	0	714	348	SLE RA 1	0.19	0	714	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	714	348	SLE RA 1	0.19	0	714	SLE RA 1	Si



CORDOLO 41

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

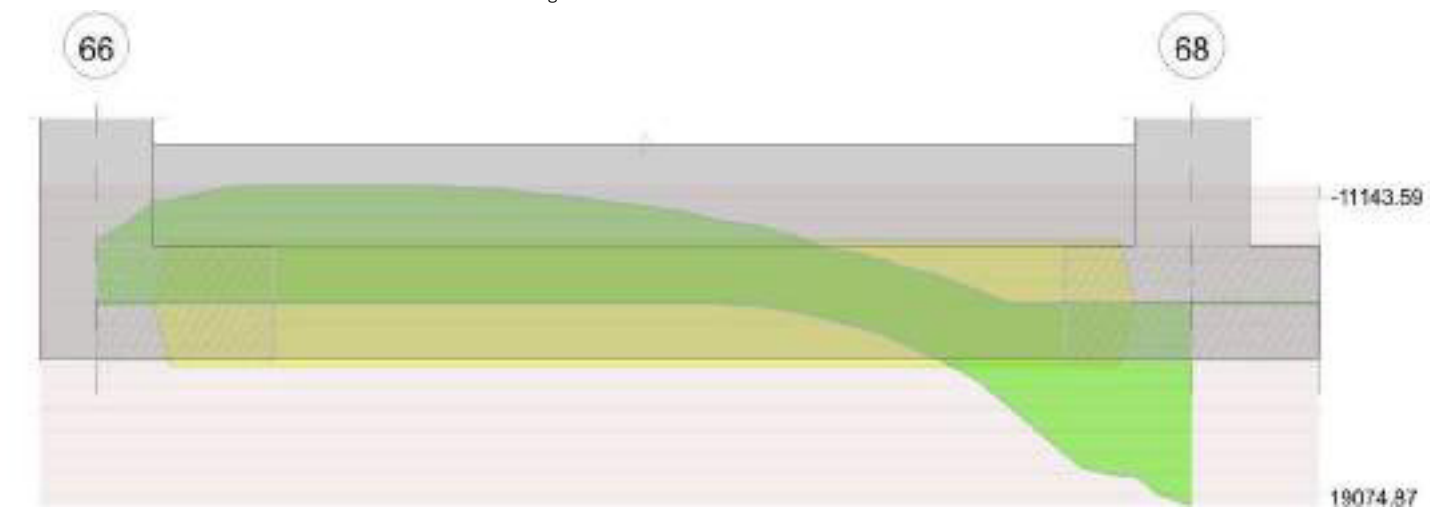
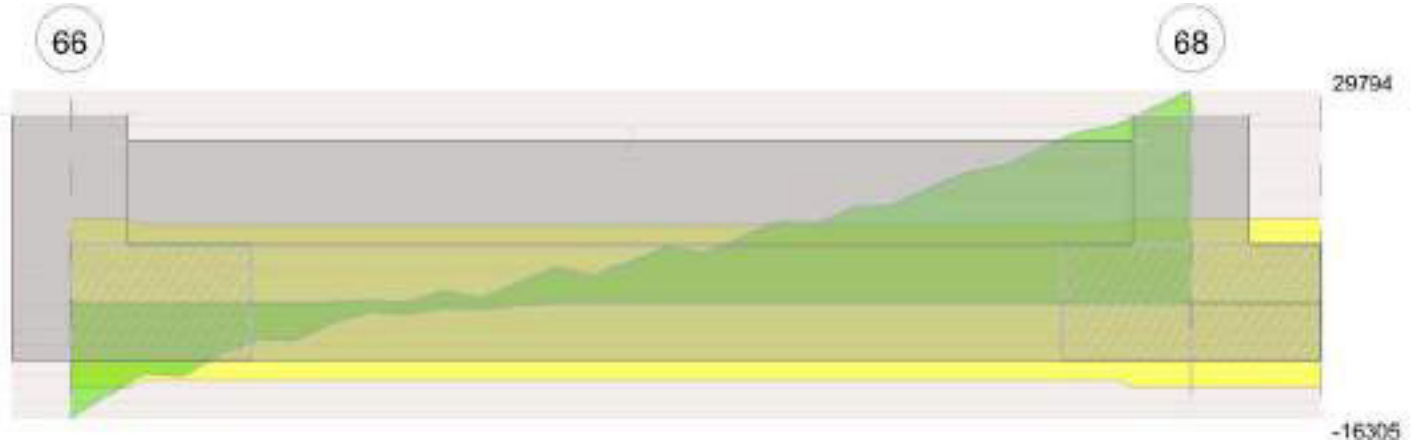


Diagramma verifica stato limite ultimo taglio



Output campate

Funzionamento trasversale della suola di fondazione

Campata 1 tra i fili 66 - 68, sezione R 70x45, aste 636, 635, 634, 633, 632, 631, 630, 629, 628, 627, 626

Verifiche di resistenza della suola di fondazione

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	5175	SLV FO 10	0.12	5239	13356	SLV FO 10	15877	Si
0.23	0.41	0.0003	4847	SLV FO 10	0.12	5239	12507	SLV FO 10	15877	Si
2.16	0.41	0.0003	3318	SLV FO 14	0.12	5239	8562	SLV FO 14	15877	Si
4.1	0.41	0.0003	3711	SLV FO 14	0.12	5239	9576	SLV FO 14	15877	Si
4.33	0.41	0.0003	3706	SLV FO 15	0.12	5239	9565	SLV FO 15	15877	Si

Verifiche di resistenza della suola di fondazione in condizioni SLD

x	d	Af	M	Comb	x/d	Mult	V	Comb	Vult	Verifica
0	0.41	0.0003	3973	SLD 10	0.099	6078	10253	SLD 10	15877	Si
0.23	0.41	0.0003	3741	SLD 10	0.099	6078	9655	SLD 10	15877	Si
2.16	0.41	0.0003	2762	SLD 14	0.099	6078	7129	SLD 14	15877	Si
4.1	0.41	0.0003	3177	SLD 14	0.099	6078	8200	SLD 14	15877	Si
4.33	0.41	0.0003	3175	SLD 15	0.099	6078	8193	SLD 15	15877	Si

Verifiche delle tensioni di esercizio

			Rara						Quasi permanente			Verifica	
x	d	Af	M	Comb	σc	σc limite	σf	σf limite	M	Comb	σc	σc limite	
0	0.41	0.00000342	2663	SLE RA 21	75388	1494000	934811	36000000	2410	SLE QP 2	68209	1120500	Si
0.23	0.41	0.00000342	2546	SLE RA 21	72080	1494000	893797	36000000	2304	SLE QP 2	65212	1120500	Si
2.16	0.41	0.00000342	2206	SLE RA 21	62453	1494000	774414	36000000	1998	SLE QP 2	56567	1120500	Si
4.1	0.41	0.00000342	2679	SLE RA 21	75845	1494000	940477	36000000	2433	SLE QP 2	68868	1120500	Si
4.33	0.41	0.00000342	2678	SLE RA 21	75806	1494000	939992	36000000	2432	SLE QP 2	68841	1120500	Si

Verifiche di apertura delle fessure

La campata non presenta apertura delle fessure nella suola

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
4.55	1.3	SLU 2	ST	LT	-357	484	-48404	0	1	19	0	0	1.1	14723	602	24.47	Si
4.55	1.3	SLV FO 7	SIS	LT	8218	1722	-27407	17	4	19	0	0	1.1	8396	8396	1.00	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste				Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
636,635,634,633,632,631,630,629,628,627,626				4.55	1.3	SLU 84	ST	BT	2.3	214899	75210	2.86	Si
636,635,634,633,632,631,630,629,628,627,626				4.55	1.3	SLV FO 14	SIS	BT	2.3	190550	78406	2.43	Si
636,635,634,633,632,631,630,629,628,627,626				4.55	1.3	SLD 14	SIS	BT	2.3	201348	67011	3	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
0	675	-75210	5902.49	2526.18	0	1	0.03	0.08	1.14	4.49	1496	2060	0	14430	
0	-5738	-78406	9971.03	-3888.5	0	-4	-0.05	0.13	1.05	4.46	1496	2060	0	14430	0.07
0	-3131	-67011	7435.28	-1422.86	0	-3	-0.02	0.11	1.08	4.51	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.05	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.05	0	0	0.23	0	0	0.02	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo J	Comb.	Sr adm	Sr	Nodo	Comb.	Ri adm	Ri	Comb.	
E	0.05	0.001	729	SLE RA 20	0.05	0	729	363	SLE RA 20	0.05	0	729	SLE RA 1	0.0033	0	SLE RA 1	Si
D	0.05	0	729	SLE RA 1	0.05	0	729	729	SLE RA 1	0.05	0	729	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	729	SLE RA 1	0.05	0	729	729	SLE RA 1	0.05	0	729	SLE RA 1	0.0033	0	SLE RA 1	Si

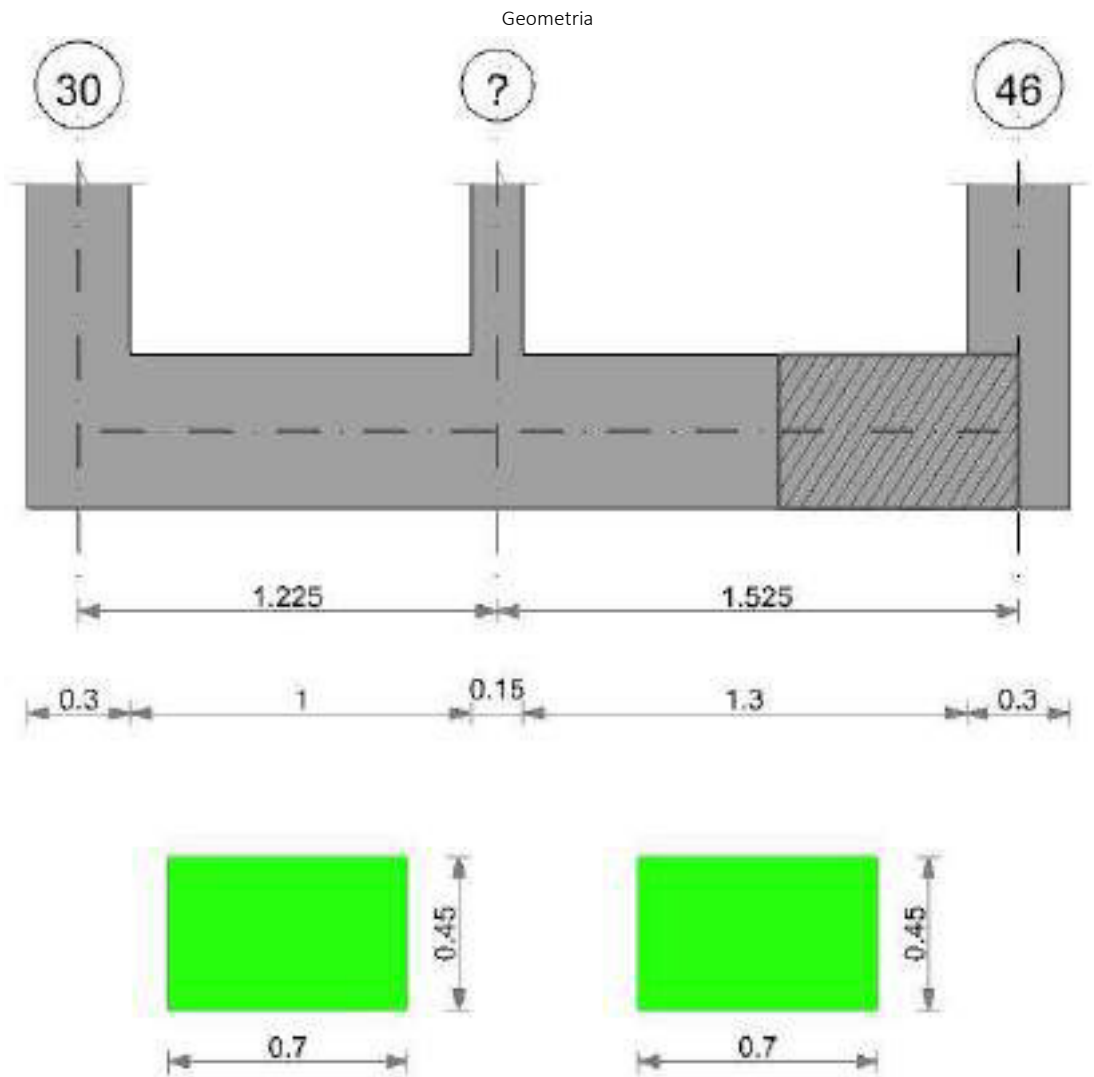
Verifiche geotecniche - Rotazioni assolute e differenziali

Verifica geotecnica - Rotazioni assolute e differenziali																		
Tipo	Rotazione rigida			Rotazione assoluta						Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.		
E	0.19	0.01	SLE RA 20	0.19	0.01	729	363	SLE RA 20	0.19	0	729	SLE RA 1	0.1	0	729	SLE RA 1	Si	



Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
D	0.19	0	SLE RA 1	0.19	0	729	363	SLE RA 1	0.19	0	729	SLE RA 1	0.1	0	729	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	729	363	SLE RA 1	0.19	0	729	SLE RA 1	0.1	0	729	SLE RA 1	Si

CORDOLO 42



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 70x45	Rettangolare	0.7	0.45	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

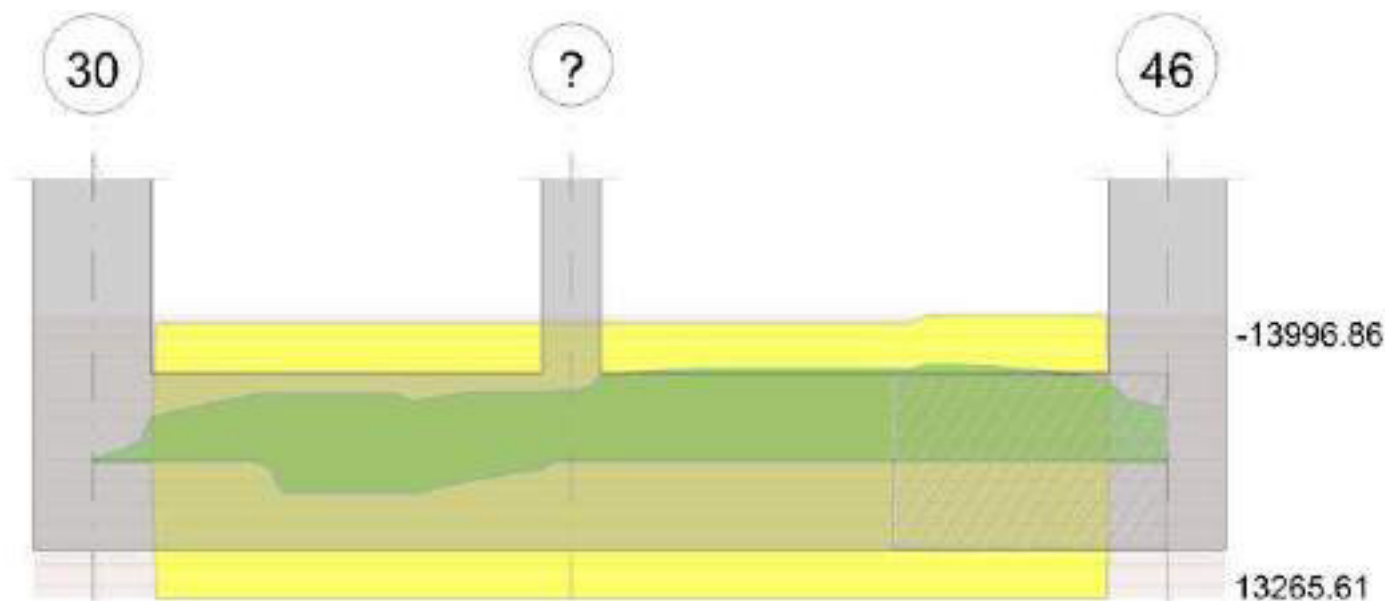
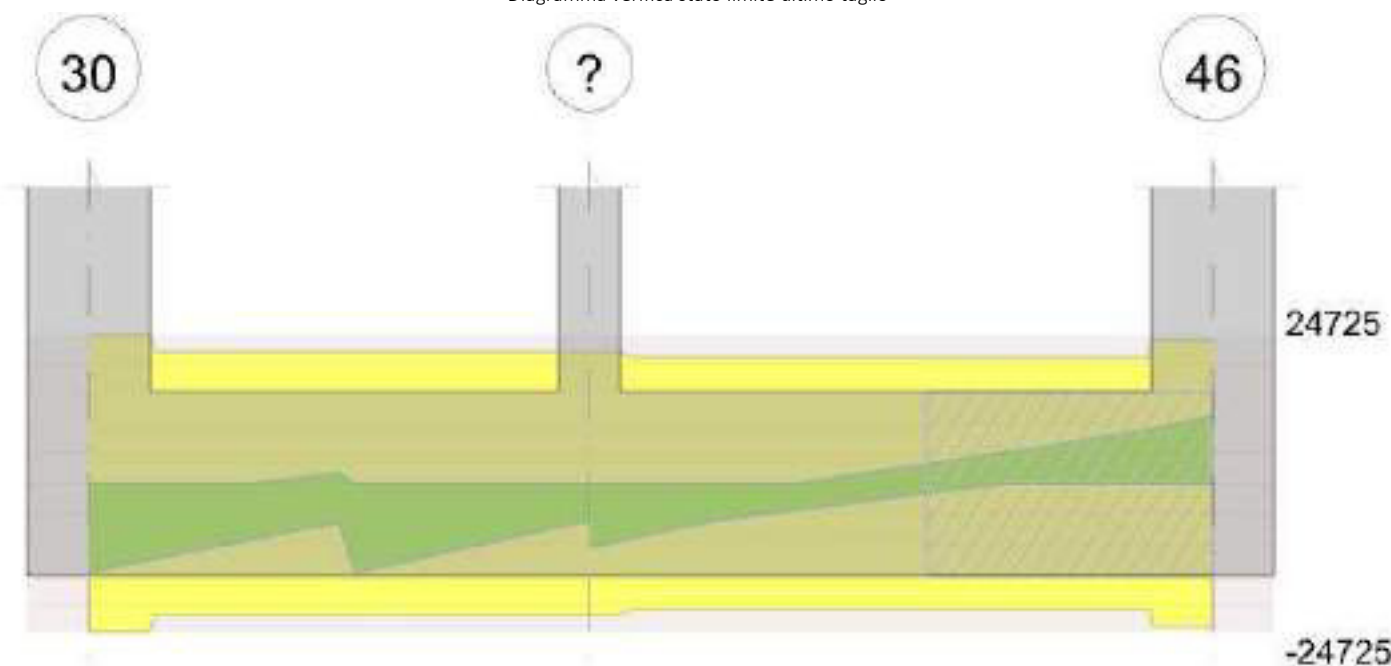


Diagramma verifica stato limite ultimo taglio



Output campate

Campata 1 tra i fili 30 - ?, sezione R 70x45, aste 541, 540

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.61	0.000942	0.053	0.000942	0.053	-3238.33	SLU 1	620.56	13996.86	0.128	22.56	-5065.16	SLU 78	-5065.16	-13996.86	0.128	2.76	Si
1.15	0.000942	0.053	0.000942	0.053							-5047.51	SLU 84	-5047.51	-13996.86	0.128	2.77	Si
1.23	0.000942	0.053	0.000942	0.053							-5550.42	SLU 84	-5319.76	-13996.86	0.128	2.63	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.61	0.000942	0.053	0.000942	0.053	-490.74	SLV FO 8	3082.55	13265.61	0.222	4.3	-6462.83	SLV FO 9	-6462.83	-13265.61	0.222	2.05	Si
1.15	0.000942	0.053	0.000942	0.053	-166.29	SLV FO 11	711.03	13265.61	0.222	18.66	-6596.3	SLV FO 6	-6596.3	-13265.61	0.222	2.01	Si
1.23	0.000942	0.053	0.000942	0.053							-6924.26	SLV FO 6	-6781.47	-13265.61	0.222	1.96	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0.61	0.000942	0.053	0.000942	0.053	-1791.33	SLD 8	1810.22	13265.61	0.222	7.33	-5162.24	SLD 9	-5162.24	-13265.61	0.222	2.57	Si



x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
1.15	0.000942	0.053	0.000942	0.053							-5195	SLD 6	-5195	-13265.61	0.222	2.55	Si
1.23	0.000942	0.053	0.000942	0.053							-5514.24	SLD 6	-5372.32	-13265.61	0.222	2.47	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-13276	SLU 84	-13276	-11837	-100005	-24725	-24725	1	1.86	Si
0.15	0.0000156	0	0	-10753	SLU 78	-10753	-11837	-100005	-24725	-24725	1	2.3	Si
0.61	0.0000156	0.000942	0	-3632	SLU 70	-3632	-11611	-88226	-21813	-21813	1	6.01	Si
0.65	0.0000156	0.000942	0	-14872	SLU 84	-14872	-11611	-88226	-21813	-21813	1	1.47	Si
1.15	0.0000156	0.000942	0	-7260	SLU 84	-7260	-11611	-88226	-21813	-21813	1	3	Si
1.23	0.0000156	0.000942	0	-6146	SLU 84	-6146	-11611	-88226	-21813	-21813	1	3.55	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-14826	SLV FO 9	-14826	-11837	-100005	-24725	-24725	1	1.67	Si
0.15	0.0000156	0	0	-12692	SLV FO 9	-12692	-11837	-100005	-24725	-24725	1	1.95	Si
0.61	0.0000156	0.000942	0	1690	SLV FO 8	1690	11611	88226	21813	21813	1	12.9	Si
0.61	0.0000156	0.000942	0	-6437	SLV FO 9	-6437	-11611	-88226	-21813	-21813	1	3.39	Si
1.15	0.0000156	0.000942	0	-6770	SLV FO 13	-6770	-11611	-88226	-21813	-21813	1	3.22	Si
1.23	0.0000156	0.000942	0	-5981	SLV FO 13	-5981	-11611	-88226	-21813	-21813	1	3.65	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0	0	-12311	SLD 9	-12311	-11837	-100005	-24725	-24725	1	2.01	Si
0.15	0.0000156	0	0	-10372	SLD 9	-10372	-11837	-100005	-24725	-24725	1	2.38	Si
0.61	0.0000156	0.000942	0	-4668	SLD 9	-4668	-11611	-88226	-21813	-21813	1	4.67	Si
0.65	0.0000156	0.000942	0	-11127	SLD 9	-11127	-11611	-88226	-21813	-21813	1	1.96	Si
1.15	0.0000156	0.000942	0	-5806	SLD 13	-5806	-11611	-88226	-21813	-21813	1	3.76	Si
1.23	0.0000156	0.000942	0	-5040	SLD 13	-5040	-11611	-88226	-21813	-21813	1	4.33	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-5.84	20	-5.84	-247	1494000	0	36000000	-5.36	2	-5.36	-227	1120500			Si
0.15	-1323.96	21	-2544.12	-107688	1494000	0	36000000	-1236.26	2	-2380.42	-100758	1120500			Si
0.61	-3705.86	15	-3705.86	135534	1494000	2033012	36000000	-3476.79	2	-3476.79	127156	1120500			Si
1.15	-3672.72	21	-3672.72	134322	1494000	2014832	36000000	-3381.29	2	-3381.29	123664	1120500			Si
1.23	-4036.2	21	-3869.71	141527	1494000	2122899	36000000	-3691.06	2	-3549.95	129832	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Campata 2 tra i fili ? - 46, sezione R 70x45, asta 539

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-5333.67	SLU 84	-5333.67	-13996.86	0.128	2.62	Si
0.08	0.000942	0.053	0.000942	0.053							-6083.97	SLU 84	-7561.37	-13996.86	0.128	1.85	Si
0.76	0.000942	0.053	0.000942	0.053							-9220.71	SLU 84	-9220.71	-13996.86	0.128	1.52	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-6786.52	SLV FO 6	-6786.52	-13265.61	0.222	1.95	Si
0.08	0.000942	0.053	0.000942	0.053							-7273.07	SLV FO 6	-8180.1	-13265.61	0.222	1.62	Si
0.76	0.000942	0.053	0.000942	0.053							-8737.92	SLV FO 10	-8864.03	-13265.61	0.222	1.5	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2} = 0.002$, $\epsilon_{yd} = 0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-5377.55	SLD 6	-5377.55	-13265.61	0.222	2.47	Si
0.08	0.000942	0.053	0.000942	0.053							-5868.27	SLD 6	-6805.56	-13265.61	0.222	1.95	Si
0.76	0.000942	0.053	0.000942	0.053							-7596.71	SLD 10	-7646.49	-13265.61	0.222	1.73	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-10620	SLU 84	-10620	-11611	-88226	-21813	-21813	1	2.05	Si
0.08	0.0000156	0.000942	0	-9514	SLU 84	-9514	-11611	-88226	-21813	-21813	1	2.29	Si
0.76	0.0000151	0.000942	0	500	SLU 28	500	11611	88226	21081	21081	1	42.14	Si
1.38	0.0000151	0	0	9050	SLU 84	9050	11837	100005	23896	23896	1	2.64	Si
1.53	0.0000151	0	0	11229	SLU 84	11229	11837	100005	23896	23896	1	2.13	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-9221	SLV FO 13	-9221	-11611	-88226	-21813	-21813	1	2.37	Si
0.08	0.0000156	0.000942	0	-8439	SLV FO 13	-8439	-11611	-88226	-21813	-21813	1	2.58	Si
0.76	0.0000151	0.000942	0	2560	SLV FO 2	2560	11611	88226	21081	21081	1	8.23	Si
0.76	0.0000151	0.000942	0	-2116	SLV FO 15	-2116	-11611	-88226	-21081	-21081	1	9.96	Si
1.38	0.0000151	0	0	9125	SLV FO 6	9125	11837	100005	23896	23896	1	2.62	Si
1.53	0.0000151	0	0	10945	SLV FO 6	10945	11837	100005	23896	23896	1	2.18	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000156	0.000942	0	-8301	SLD 13	-8301	-11611	-88226	-21813	-21813	1	2.63	Si
0.08	0.0000156	0.000942	0	-7541	SLD 13	-7541	-11611	-88226	-21813	-21813	1	2.89	Si
0.76	0.0000151	0.000942	0	1572	SLD 2	1572	11611	88226	21081	21081	1	13.41	Si
0.76	0.0000151	0.000942	0	-1128	SLD 15	-1128	-11611	-88226	-21081	-21081	1	18.69	Si
1.38	0.0000151	0	0	7773	SLD 6	7773	11837	100005	23896	23896	1	3.07	Si



x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
1.53	0.0000151	0	0	9431	SLD 6	9431	11837	100005	23896	23896	1	2.53	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-3878.2	21	-3878.2	141837	1494000	2127557	36000000	-3551.93	2	-3551.93	129904	1120500			Si
0.08	-4430.87	21	-5520.2	201890	1494000	3028345	36000000	-4049.65	2	-5029.92	183959	1120500			Si
0.76	-6753.97	21	-6753.97	247012	1494000	3705184	36000000	-6131.99	2	-6131.99	224265	1120500			Si
1.38	-4673.16	21	-5685.87	-240672	1494000	0	36000000	-4230.18	2	-5152.6	-218100	1120500			Si
1.53	-3563.79	21	-3563.79	-150848	1494000	0	36000000	-3220.78	2	-3220.78	-136329	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifiche geotecniche

Verifiche geotecniche di scorrimento sul piano di posa

Size X	Size Y	Comb.	Sis.	Cnd	Fx	Fy	Fz	IncX	IncY	Phi	Ad	RPI	yR	Rd	Ed	Rd/Ed	Verifica
3.05	1.3	SLU 18	ST	LT	76	883	-35844	0	1	19	0	0	1.1	10903	887	12.3	Si
3.05	1.3	SLV FO 11	SIS	LT	1814	5836	-25993	4	13	19	0	0	1.1	7906	6111	1.29	Si

Verifiche geotecniche di capacità portante sul piano di posa

Aste					Size X	Size Y	Comb	Type	Cond	yR	Rd	Ed	Rd/Ed	Verifica
541,540,539					3.05	1.3	SLU 84	ST	BT	2.3	162175	47994	3.38	Si
541,540,539					3.05	1.3	SLV FO 6	SIS	BT	2.3	144905	39063	3.71	Si
541,540,539					3.05	1.3	SLD 6	SIS	BT	2.3	155672	36202	4.3	Si

Verifiche geotecniche di capacità portante - parametri utilizzati nel calcolo di Rd

Fx	Fy	Fz	Mx	My	Inc.x	Inc.y	Ecc.x	Ecc.y	B'	L'	qd	ys	Fi	Coes	Amax
93	1072	-47994	-721.85	-1746.66	0	1	-0.04	-0.02	1.27	2.98	1496	2060	0	14430	
-1697	-4293	-39063	2439.98	-2183.37	-2	-6	-0.06	0.06	1.18	2.94	1496	2060	0	14430	0.07
-949	-2077	-36202	1147.89	-1727.48	-2	-3	-0.05	0.03	1.24	2.95	1496	2060	0	14430	0.03

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

N			S			D			I			B			G			P			E		
Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ik	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	5	0	0	0.09	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.03	0	0	0	0	0	0	0	1	1	1	0	0	0
1	5	0	0	0.08	0	0	0.23	0	0	0.01	0	0	0	0	0	0	0	1	1	1	0	0	0

Verifiche geotecniche - Cedimenti assoluti e differenziali

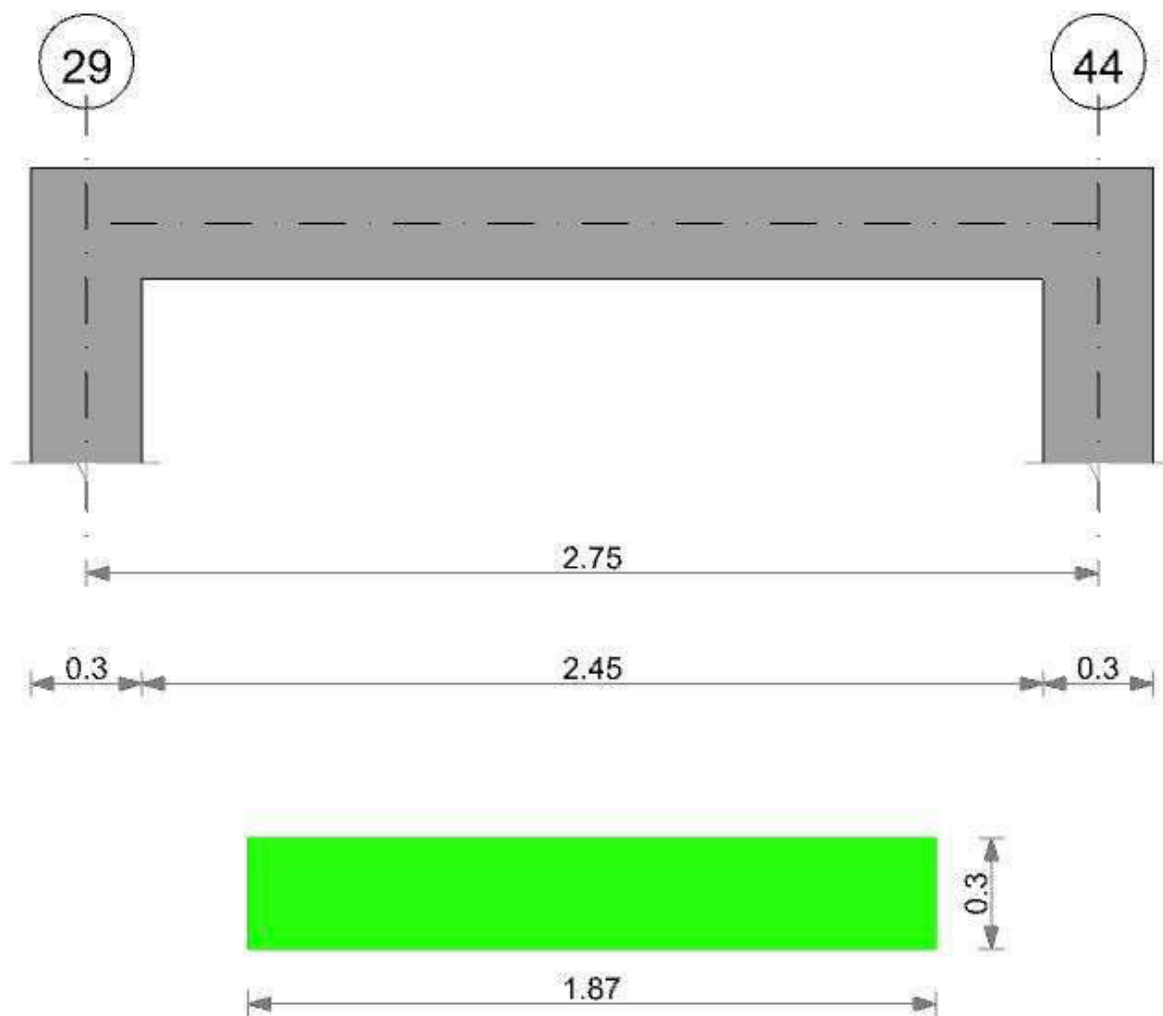
Tipo	Assoluto				Differenziale				Relativo				Rapp. inflessione				Verifica
	Sa adm	Sa	Nodo	Comb.	Sd adm	Sd	Nodo I	Nodo j	Comb.	Sr adm	Sr	Nodo	Comb.	RI adm	RI	Comb.	
E	0.05	0.002	510	SLE RA 21	0.05	0.001	510	508	SLE RA 21	0.05	0	508	SLE RA 8	0.0033	0	SLE RA 8	Si
D	0.05	0	510	SLE RA 1	0.05	0	510	510	SLE RA 1	0.05	0	508	SLE RA 1	0.0033	0	SLE RA 1	Si
Z	0.05	0	510	SLE RA 1	0.05	0	510	510	SLE RA 1	0.05	0	508	SLE RA 1	0.0033	0	SLE RA 1	Si

Verifiche geotecniche - Rotazioni assolute e differenziali

Tipo	Rotazione rigida			Rotazione assoluta					Distorsione angolare positiva				Distorsione angolare negativa				Verifica
	RR adm	RR	Comb.	R Adm	R Max	Nodo I	Nodo J	Comb.	D+ adm	D+	Nodo	Comb.	D- adm	D-	Nodo	Comb.	
E	0.19	0.01	SLE RA 21	0.19	0.01	510	508	SLE RA 21	0.19	0	510	SLE RA 1	0.1	0	508	SLE RA 8	Si
D	0.19	0	SLE RA 1	0.19	0	510	508	SLE RA 1	0.19	0	510	SLE RA 1	0.1	0	508	SLE RA 1	Si
Z	0.19	0	SLE RA 1	0.19	0	510	508	SLE RA 1	0.19	0	510	SLE RA 1	0.1	0	508	SLE RA 1	Si

PIANEROTTOLO

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 187x30	Rettangolare	1.87	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

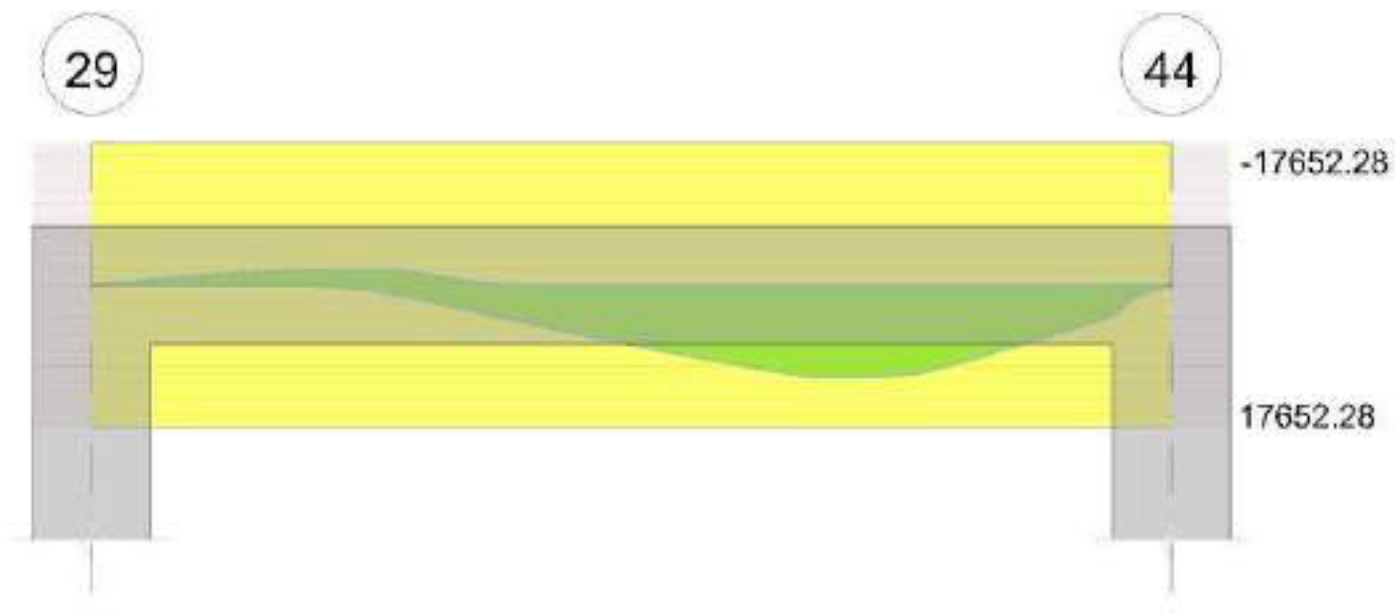


Diagramma verifica stato limite ultimo taglio

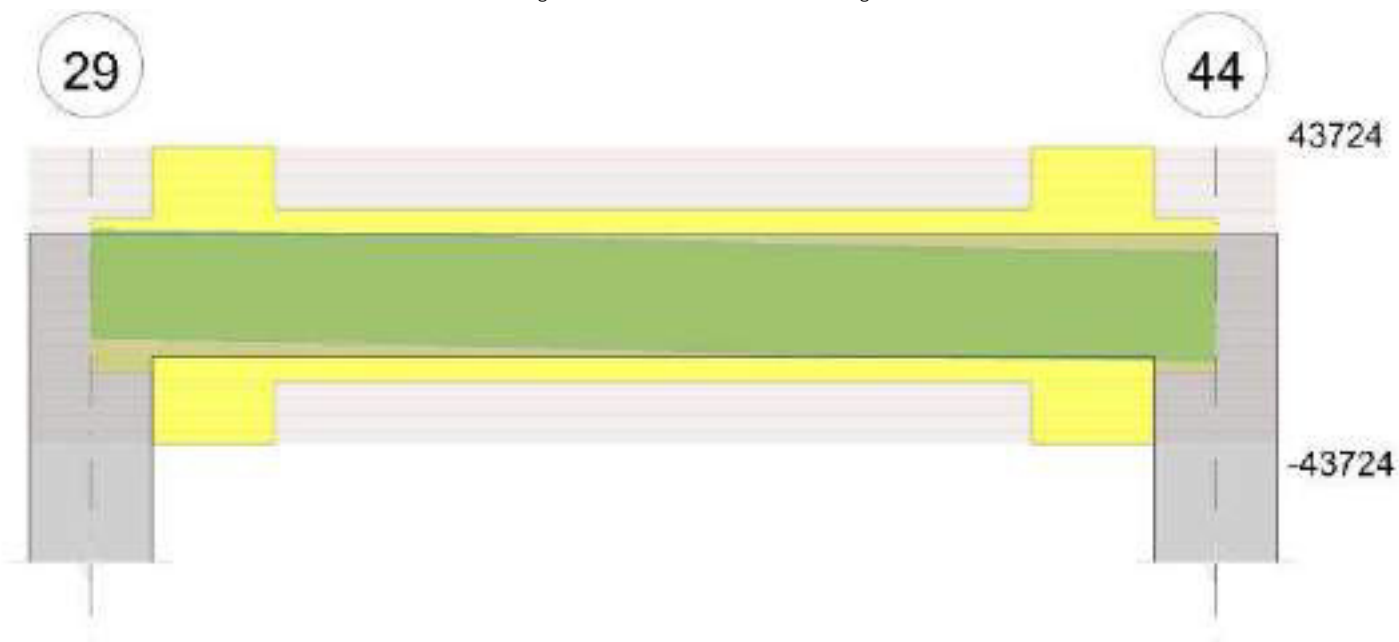
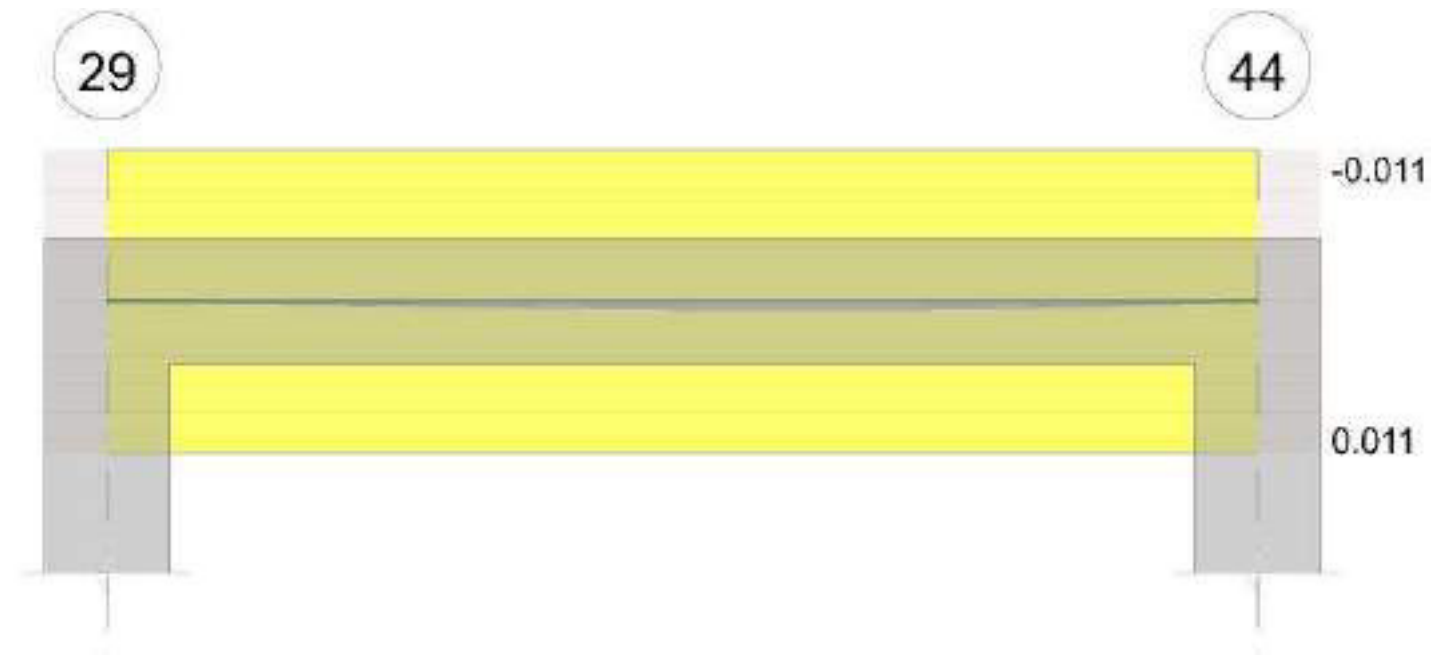


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 29 - 44, sezione R 187x30, aste 764, 765, 766; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001885	0.053	0.001885	0.053							-26.89	SLU 84	-26.89	-17652.28	0.184	656.41	Si
0.15	0.001885	0.053	0.001885	0.053							-391.04	SLU 70	-668.51	-17652.28	0.184	26.41	Si
1.38	0.001885	0.053	0.001885	0.053	6262.17	SLU 81	7345.99	17652.28	0.184	2.4							Si
1.83	0.001885	0.053	0.001885	0.053	10535.54	SLU 81	11333.48	17652.28	0.184	1.56							Si
2.6	0.001885	0.053	0.001885	0.053	2233.98	SLU 81	3895.33	17652.28	0.184	4.53							Si
2.75	0.001885	0.053	0.001885	0.053							-14.27	SLU 84	-14.27	-17652.28	0.184	1237.06	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001885	0.053	0.001885	0.053							-27.32	SLV 2	-27.32	-17652.28	0.184	646.02	Si
0.15	0.001885	0.053	0.001885	0.053							-452.61	SLV 13	-782.2	-17652.28	0.184	22.57	Si
1.38	0.001885	0.053	0.001885	0.053	4342.22	SLV 8	5043.1	17652.28	0.184	3.5							Si
1.83	0.001885	0.053	0.001885	0.053	7157.07	SLV 11	7695.01	17652.28	0.184	2.29							Si
2.6	0.001885	0.053	0.001885	0.053	1514.14	SLV 11	2638.64	17652.28	0.184	6.69							Si
2.75	0.001885	0.053	0.001885	0.053							-16.93	SLV 13	-16.93	-17652.28	0.184	1042.91	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001885	0.053	0.001885	0.053							-23.54	SLD 2	-23.54	-17652.28	0.184	749.82	Si
0.15	0.001885	0.053	0.001885	0.053							-385.43	SLD 13	-663.96	-17652.28	0.184	26.59	Si
1.38	0.001885	0.053	0.001885	0.053	4038.72	SLD 8	4723.48	17652.28	0.184	3.74							Si
1.83	0.001885	0.053	0.001885	0.053	6772.83	SLD 11	7291.73	17652.28	0.184	2.42							Si
2.6	0.001885	0.053	0.001885	0.053	1435.7	SLD 11	2502.7	17652.28	0.184	7.05							Si
2.75	0.001885	0.053	0.001885	0.053							-13.95	SLD 13	-13.95	-17652.28	0.184	1265.6	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.001885	0	-2453	SLU 70	-2453	-22808	-146639	0	-22808	1	9.3	Si
0.15	0.0000503	0.001885	0	-2474	SLU 70	-2474	-22808	-146639	-43724	-43724	1	17.67	Si
1.38	0.0000293	0.001885	0	9938	SLU 83	9938	22808	146639	25526	25526	1	2.57	Si
2.6	0.0000503	0.001885	0	-14972	SLU 81	-14972	-22808	-146639	-43724	-43724	1	2.92	Si
2.75	0	0.001885	0	-14996	SLU 81	-14996	-22808	-146639	0	-22808	1	1.52	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.001885	0	-431	Ger.	19149	22808	146639	0	22808	1	1.19	Si
0	0	0.001885	0	-2929	Ger.	-12553	-22808	-146639	0	-22808	1	1.82	Si
0.15	0.0000503	0.001885	0	-449	Ger.	18918	22808	146639	43724	43724	1	2.31	Si
0.15	0.0000503	0.001885	0	-2947	Ger.	-12784	-22808	-146639	-43724	-43724	1	3.42	Si
1.38	0.0000293	0.001885	0	6726	Ger.	15761	22808	146639	25526	25526	1	1.62	Si
1.38	0.0000293	0.001885	0	5311	Ger.	-15941	-22808	-146639	-25526	-25526	1	1.6	Si
2.6	0.0000503	0.001885	0	-7418	Ger.	12893	22808	146639	43724	43724	1	3.39	Si
2.6	0.0000503	0.001885	0	-10132	Ger.	-18809	-22808	-146639	-43724	-43724	1	2.32	Si
2.75	0	0.001885	0	-7432	Ger.	12667	22808	146639	0	22808	1	1.8	Si
2.75	0	0.001885	0	-10146	Ger.	-19035	-22808	-146639	0	-22808	1	1.2	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.001885	0	-2469	SLD 13	-2469	-22808	-146639	0	-22808	1	9.24	Si
0.15	0.0000503	0.001885	0	-2487	SLD 13	-2487	-22808	-146639	-43724	-43724	1	17.58	Si
1.38	0.0000293	0.001885	0	6455	SLD 11	6455	22808	146639	25526	25526	1	3.95	Si
2.6	0.0000503	0.001885	0	-9614	SLD 11	-9614	-22808	-146639	-43724	-43724	1	4.55	Si
2.75	0	0.001885	0	-9628	SLD 11	-9628	-22808	-146639	0	-22808	1	2.37	Si



Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma f.$	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma \text{ FRP}$	$\sigma \text{ FRP lim.}$	
0	-19.68	21	-19.68	623	1494000	9344	36000000	-17.17	2	-17.17	543	1120500			Si
0.15	-286.15	7	-489	15476	1494000	232141	36000000	-272.65	1	-465.72	14739	1120500			Si
1.38	4535.36	18	5323.96	168495	1494000	2527429	36000000	3548.84	2	4206.62	133133	1120500			Si
2.6	1621.61	18	2827.66	89491	1494000	1342368	36000000	1308.5	2	2282.23	72229	1120500			Si
2.75	-10.47	21	-10.47	331	1494000	4971	36000000	-9.09	2	-9.09	288	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	Dmax	Esm	Wd	Comb	
1.83	inferiore	0.381	0.00058	0.000219	18	0.381	0.0005	0.000189	6	0.381	0.00046	0.000177	2	Si

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente						Verifica	
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.		l/f
0.15	0.00003	0.00002	0.00003	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00005	2	0.00005	2	9999	Si
1.38	0.00028	0.00019	0.00026	0.00017	0.00023	0.00019	0.00022	0.00018	0.00022	0.00019	0.00054	2	0.00048	2	5072	Si
1.65	0.0003	0.0002	0.00027	0.00019	0.00025	0.00021	0.00023	0.00019	0.00023	0.00021	0.00058	2	0.00052	2	4710	Si
2.6	0.00006	0.00004	0.00006	0.00004	0.00005	0.00004	0.00005	0.00004	0.00005	0.00005	0.00013	2	0.00011	2	9999	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	p,tot	θ_m	θ_y	$\mu \Delta_{pl}$	Vrd	VRcd(cot $\theta=1$)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	0.928	0.046	0.3	0.007	0.00008	0.0061	0	22808	146639	43724	43724	46270	46270	-12784	-468	SLV 13	Si
2.75	1.375	0.046	0.3	0.007	0.0001	0.00609	0	22808	146639	43724	43724	42347	43724	-18809	59	SLV 1	Si

Valutazione dei tagli secondo gerarchia delle resistenze (yrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	3298	-12553	-14410	-2929	3298	19149	14410	-431
0.15	3067	-12784	-14410	-2947	3067	18918	14410	-449
1.38	-90	-15941	-14410	5311	-90	15761	14410	6726
2.6	-2958	-18809	-14410	-10132	-2958	12893	14410	-7418
2.75	-3184	-19035	-14410	-10146	-3184	12667	14410	-7432

Momenti resistenti a filo appoggi

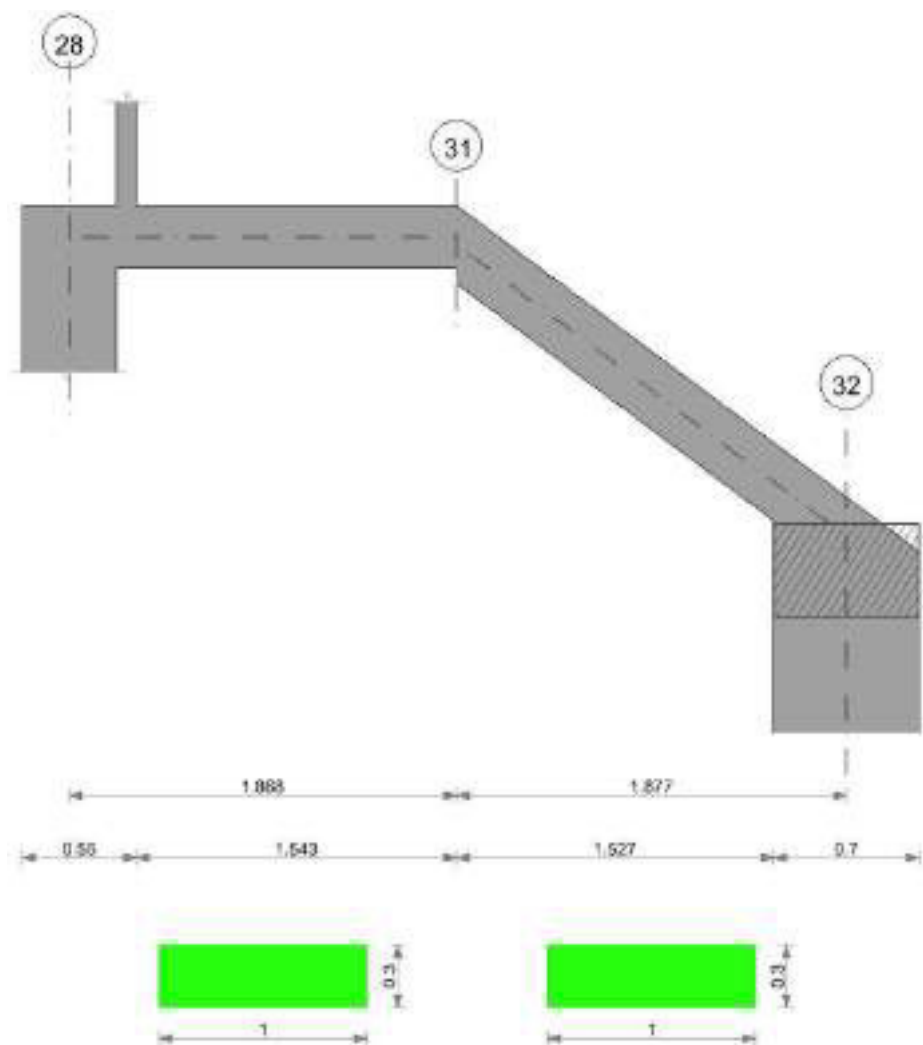
campata	x	appoggio	momento positivo	momento negativo
1	0.15	29	17652.28	-17652.28
1	2.6	44	17652.28	-17652.28

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

RAMPA 1

Geometria

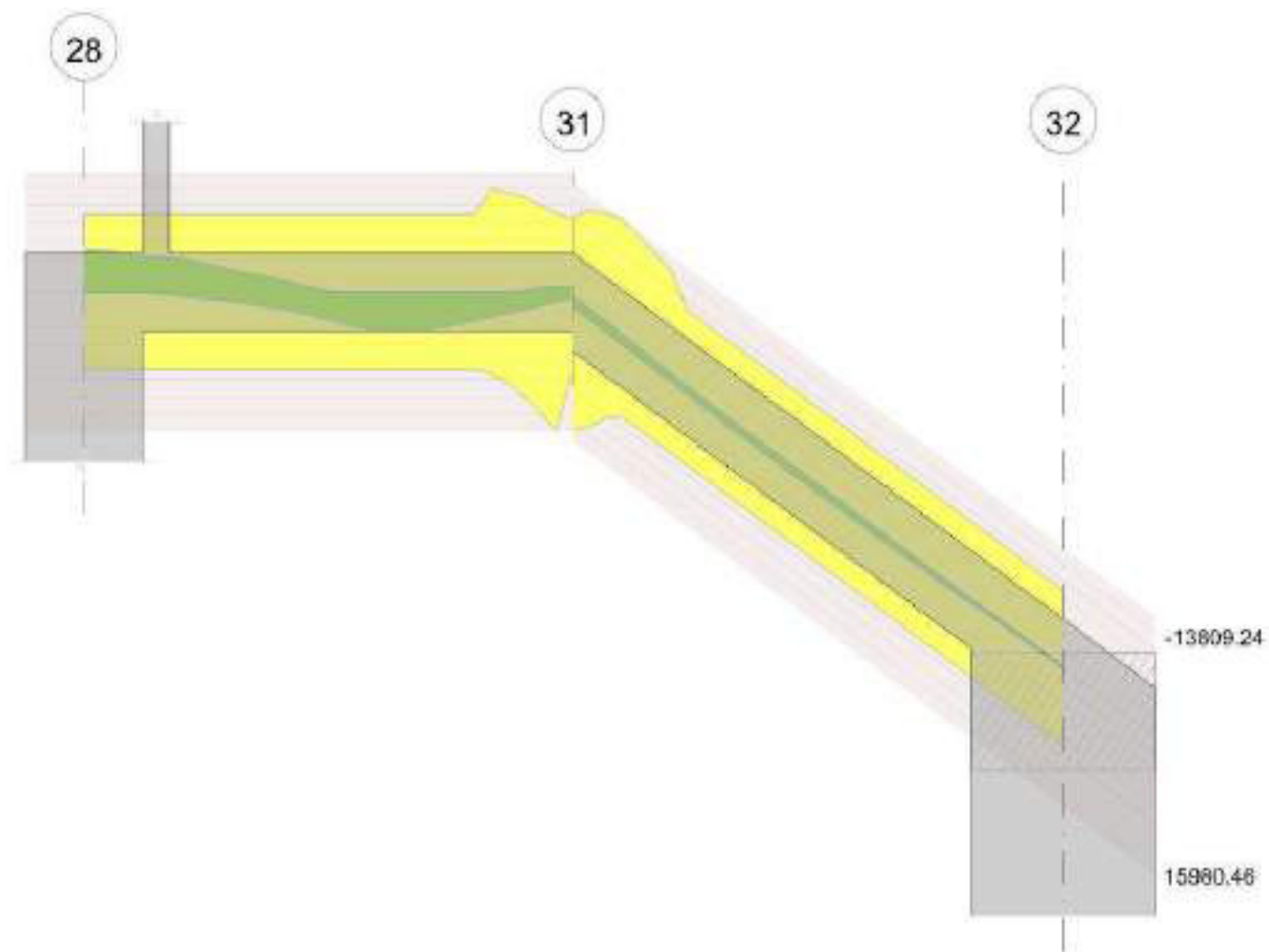


Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 100x30	Rettangolare	1	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione



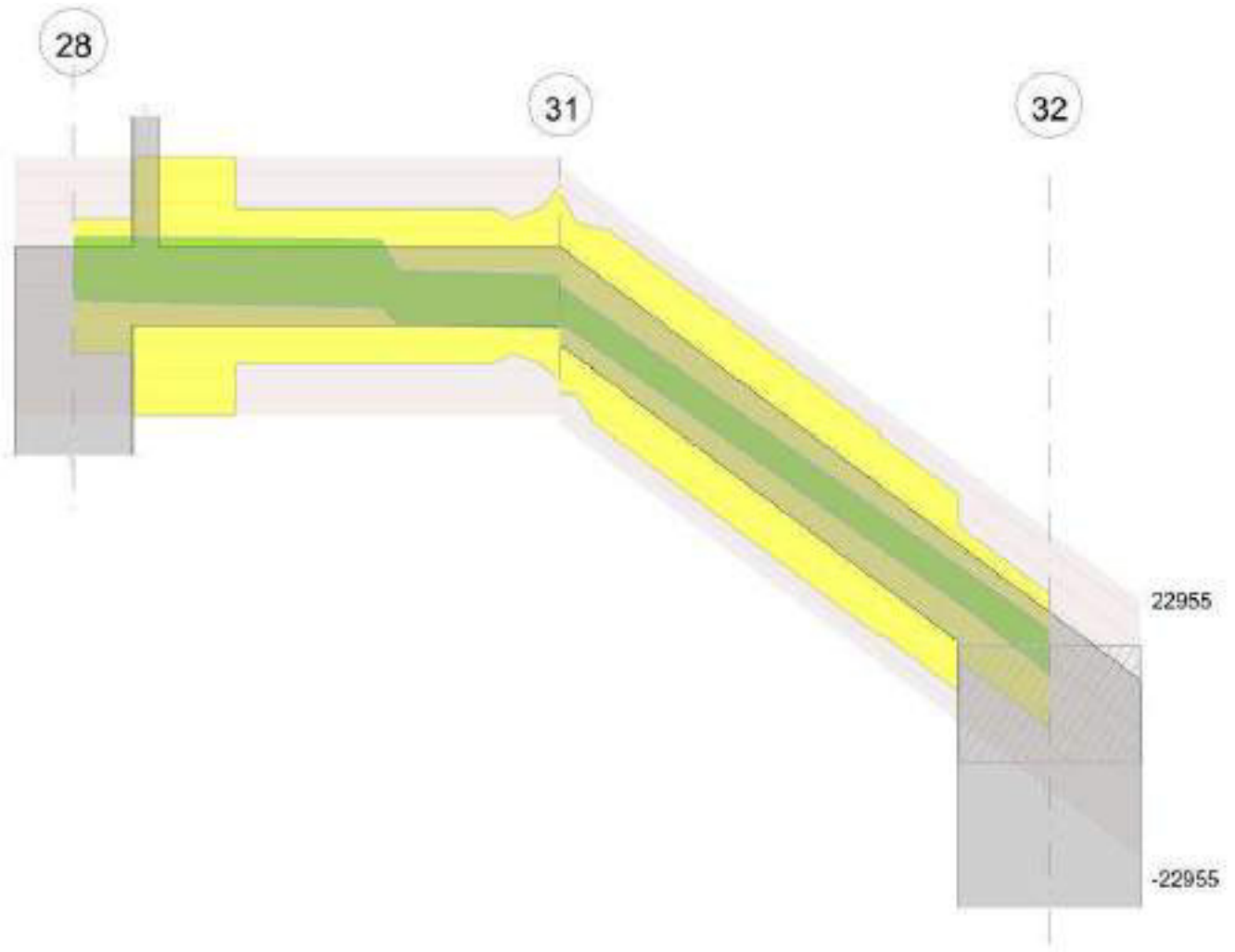
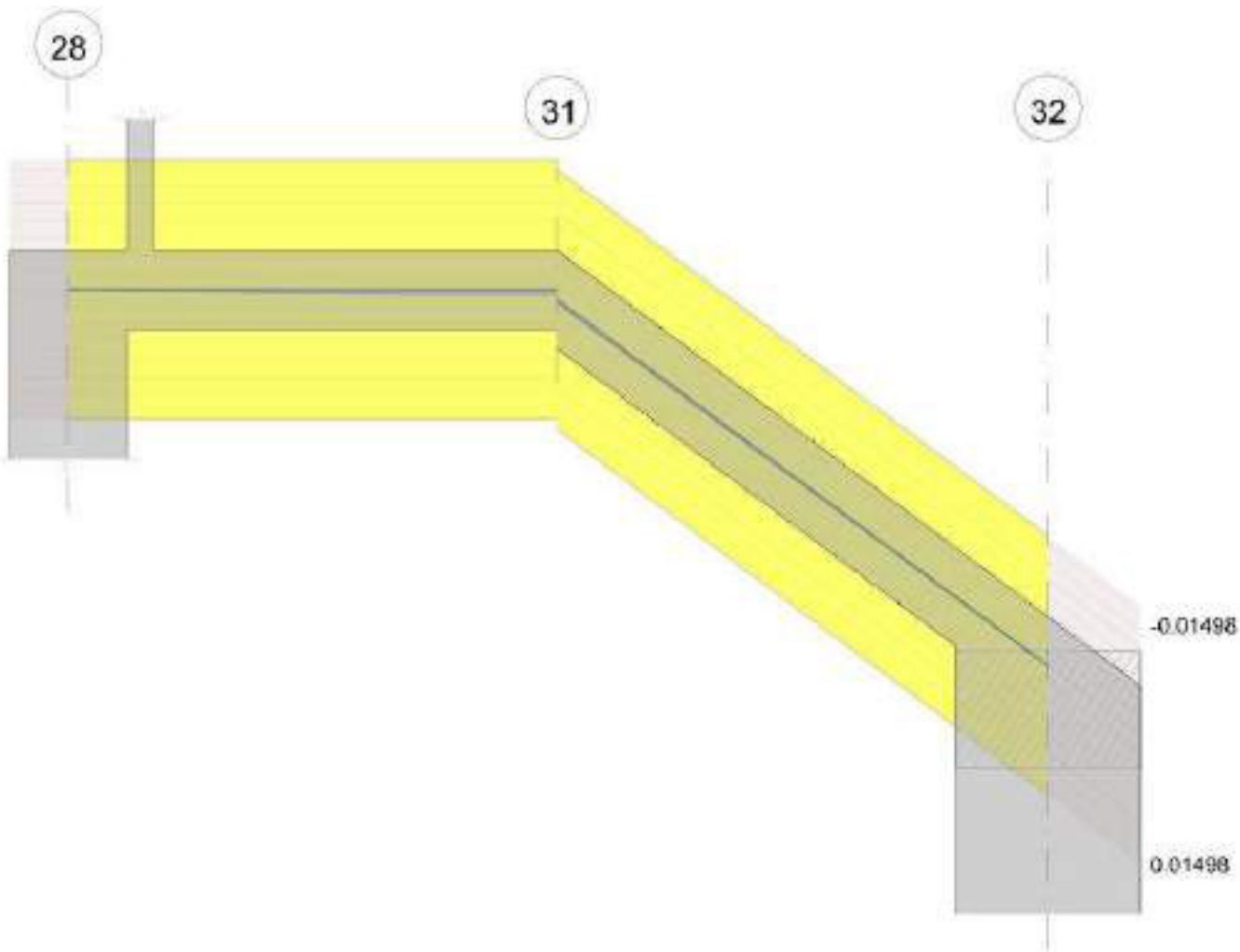


Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 28 - 31, sezione R 100x30, aste 763, 762; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-5555.9	SLU 84	-4630.82	-8920.31	0.18	1.93	Si
0.23	0.000942	0.053	0.000942	0.053							-3656.41	SLU 84	-3656.41	-8920.31	0.18	2.44	Si
0.93	0.000942	0.053	0.000942	0.053	2248.12	SLU 83	3153.35	8920.31	0.18	2.83							Si
1.87	0.000942	0.066	0.000942	0.053	-6.66	SLU 19	722.21	9298.71	0.206	12.88	-179.68	SLU 69	-179.68	-8434.9	0.19	46.94	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-5561.88	SLV 9	-4833.82	-8920.31	0.18	1.85	Si
0.23	0.000942	0.053	0.000942	0.053							-4064.08	SLV 9	-4064.08	-8920.31	0.18	2.19	Si
0.93	0.000942	0.053	0.000942	0.053	2073.13	SLV 8	2475.97	8920.31	0.18	3.6	591.14	SLV 9	-133.38	-8920.31	0.18	66.88	Si
1.87	0.000942	0.066	0.000942	0.053	431.65	SLV 6	759.44	9298.71	0.206	12.24	-626.28	SLV 11	-626.28	-8434.9	0.19	13.47	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.000942	0.053							-4777.62	SLD 9	-4108.52	-8920.31	0.18	2.17	Si
0.23	0.000942	0.053	0.000942	0.053							-3402.11	SLD 9	-3402.11	-8920.31	0.18	2.62	Si
0.93	0.000942	0.053	0.000942	0.053	1791.23	SLD 8	2253.64	8920.31	0.18	3.96							Si
1.87	0.000942	0.066	0.000942	0.053	227.54	SLD 6	617.02	9298.71	0.206	15.07	-422.18	SLD 11	-422.18	-8434.9	0.19	19.98	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000942	0	8680	SLU 84	8680	11927	78416	0	11927	1	1.37	Si
0.23	0.0000264	0.000942	0	8661	SLU 84	8661	11927	78416	22955	22955	1	2.65	Si
0.93	0.0000158	0.000942	0	8362	SLU 84	8362	11927	78416	13724	13724	1	1.64	Si
1.87	0.0000209	0.000942	0	-7350	SLU 83	-7350	-11650	-74237	-17198	-17198	1	2.34	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000942	0	6853	SLV 9	6853	11927	78416	0	11927	1	1.74	Si
0	0	0.000942	0	3867	Ger.	-2470	-11927	-78416	0	-11927	1	4.83	Si
0.23	0.0000264	0.000942	0	6842	SLV 9	6842	11927	78416	22955	22955	1	3.36	Si
0.23	0.0000264	0.000942	0	3856	Ger.	-2650	-11927	-78416	-22955	-22955	1	8.66	Si
0.93	0.0000158	0.000942	0	6671	SLV 9	6671	11927	78416	13724	13724	1	2.06	Si
0.93	0.0000158	0.000942	0	3685	Ger.	-3353	-11927	-78416	-13724	-13724	1	4.09	Si
1.87	0.0000209	0.000942	0	-3012	Ger.	1745	11927	78416	18167	18167	1	10.41	Si
1.87	0.0000209	0.000942	0	-6031	SLV 11	-6031	-11650	-74237	-17198	-17198	1	2.85	Si



Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000942	0	6290	SLD 9	6290	11927	78416	0	11927	1	1.9	Si
0.23	0.0000264	0.000942	0	6279	SLD 9	6279	11927	78416	22955	22955	1	3.66	Si
0.93	0.0000158	0.000942	0	6108	SLD 9	6108	11927	78416	13724	13724	1	2.25	Si
1.87	0.0000209	0.000942	0	-5450	SLD 11	-5450	-11650	-74237	-17198	-17198	1	3.16	Si

Verifiche delle tensioni in esercizio

x	Rara								Quasi permanente						Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-4054.1	21	-3380.9	201561	1494000	3023422	36000000	-3483.84	2	-2912.66	173646	1120500			Si
0.23	-2671.78	21	-2671.78	159285	1494000	2389280	36000000	-2310.89	2	-2310.89	137770	1120500			Si
0.93	1625.13	20	2284.33	136186	1494000	2042792	36000000	1332.13	2	1894.28	112932	1120500			Si
1.87	-127.22	6	-127.22	7659	1494000	115750	36000000	-115.28	1	-115.28	6940	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente						Verifica	
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.		l/f
0.23	0.00003	0.00002	0.00002	0.00001	0.00002	0.00002	0.00002	0.00001	0.00002	0.00002	0.00005	2	0.00004	2	9999	Si
0.93	0.00019	0.00013	0.00017	0.00012	0.00016	0.00013	0.00015	0.00012	0.00015	0.00013	0.00037	2	0.00033	2	9999	Si
1.56	0.00025	0.00018	0.00023	0.00016	0.00021	0.00018	0.0002	0.00016	0.0002	0.00018	0.0005	2	0.00045	2	7425	Si
1.87	0.00023	0.00017	0.00023	0.00016	0.0002	0.00017	0.00019	0.00016	0.00019	0.00017	0.00049	2	0.00043	2	7679	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	p,tot	θ,m	θ,y	μΔ,pl	Vrd	VRcd(cotθ=1)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.45	0.842	0.044	0.3	0.006	0.00029	0.00608	0	11927	78416	22955	22955	24452	24452	6842	-181	SLV 9	Si

Valutazione dei tagli secondo gerarchia delle resistenze (vrd =1,1)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	633	-2470	-2820	3867	633	6853	2945	6853
0.23	452	-2650	-2820	3856	452	6842	2945	6842
0.93	-250	-3353	-2820	3685	-250	6671	2945	6671
1.87	-1495	-6031	-2820	-6031	-1495	1745	2945	-3012

Campata 2 tra i fili 31 - 32, sezione R 100x30, asta 761; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.001791	0.065	-6.66	SLU 19	203.36	14717.51	0.244	72.37	-179.68	SLU 69	-179.68	-9660.04	0.22	53.76	Si
0.88	0.000942	0.053	0.000942	0.053	921.54	SLU 82	921.54	8920.31	0.18	9.68							Si
0.94	0.000942	0.053	0.000942	0.053	911.6	SLU 82	921.54	8920.31	0.18	9.68							Si
1.53	0.000942	0.053	0.000942	0.053	295.3	SLU 60	485.04	8920.31	0.18	18.39							Si
1.88	0.000942	0.053	0.000942	0.053							-526.34	SLU 84	-52.2	-8920.31	0.18	170.89	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.001791	0.065	430.97	SLV 6	535.76	14717.51	0.244	27.47	-625.6	SLV 11	-625.6	-9660.04	0.22	15.44	Si
0.56	0.000942	0.053	0.000942	0.053	750.44	SLV 6	753.99	8920.31	0.18	11.83							Si
0.94	0.000942	0.053	0.000942	0.053	683.29	SLV 6	724.06	8920.31	0.18	12.32							Si
1.53	0.000942	0.053	0.000942	0.053	331.2	SLV 8	415.81	8920.31	0.18	21.45	-20.61	SLV 9	-20.61	-8920.31	0.18	432.75	Si
1.88	0.000942	0.053	0.000942	0.053							-628.62	SLV 9	-224.37	-8920.31	0.18	39.76	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000942	0.053	0.001791	0.065	227.14	SLD 6	349.62	14717.51	0.244	42.1	-421.77	SLD 11	-421.77	-9660.04	0.22	22.9	Si
0.69	0.000942	0.053	0.000942	0.053	653.61	SLD 6	653.92	8920.31	0.18	13.64							Si
0.94	0.000942	0.053	0.000942	0.053	619.04	SLD 6	645.65	8920.31	0.18	13.82							Si
1.53	0.000942	0.053	0.000942	0.053	263.86	SLD 8	359.44	8920.31	0.18	24.82							Si
1.88	0.000942	0.053	0.000942	0.053							-517.59	SLD 9	-139.37	-8920.31	0.18	64.01	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000209	0.000942	0	1849	SLU 83	1849	11927	78416	18167	18167	1	9.83	Si
0.94	0.0000209	0.000942	0	-194	SLU 82	-194	-11927	-78416	-18167	-18167	1	93.87	Si
1.53	0.0000201	0.000942	0	-1470	SLU 82	-1470	-11927	-78416	-17490	-17490	1	11.9	Si
1.88	0	0.000942	0	-2229	SLU 82	-2229	-11927	-78416	0	-11927	1	5.35	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000209	0.000942	0	1481	Ger.	1745	11927	78416	18167	18167	1	10.41	Si
0	0.0000209	0.000942	0	812	Ger.	-4597	-11679	-74672	-17299	-17299	1	3.76	Si
0.94	0.0000209	0.000942	0	233	Ger.	3549	11927	78416	18167	18167	1	5.12	Si
0.94	0.0000209	0.000942	0	-436	Ger.	-2794	-11927	-78416	-18167	-18167	1	6.5	Si
1.53	0.0000201	0.000942	0	-549	Ger.	4680	11927	78416	17490	17490	1	3.74	Si
1.53	0.0000201	0.000942	0	-1218	Ger.	-1662	-11927	-78416	-17490	-17490	1	10.52	Si
1.88	0	0.000942	0	-1015	Ger.	5352	11927	78416	0	11927	1	2.23	Si
1.88	0	0.000942	0	-1684	SLV 6	-1684	-11927	-78416	0	-11927	1	7.08	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000209	0.000942	0	1353	SLD 11	1353	11927	78416	18167	18167	1	13.42	Si
0.94	0.0000209	0.000942	0	105	SLD 11	105	11927	78416	18167	18167	1	172.56	Si
0.94	0.0000209	0.000942	0	-308	SLD 6	-308	-11927	-78416	-18167	-18167	1	59.02	Si
1.53	0.0000201	0.000942	0	-1091	SLD 6	-1091	-11927	-78416	-17490	-17490	1	16.04	Si
1.88	0	0.000942	0	-1556	SLD 6	-1556	-11927	-78416	0	-11927	1	7.67	Si



Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma f.$	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma \text{ FRP}$	$\sigma \text{ FRP lim.}$	
0	-127.22	6	-127.22	7267	1494000	112982	36000000	-115.28	1	-115.28	6585	1120500			Si
0.94	663.95	19	671.12	40011	1494000	600159	36000000	522.27	2	526.98	31417	1120500			Si
1.53	214.06	18	352.81	21034	1494000	315509	36000000	155.29	2	269.83	16087	1120500			Si
1.88	-385.15	21	-26.91	1604	1494000	24067	36000000	-337.35	2	-10.68	637	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	I/f	
0	0.00023	0.00017	0.00018	0.00013	0.0002	0.00017	0.00015	0.00013	0.00019	0.00017	0.00039	2	0.00035	2	9586	Si
0.94	0.00016	0.00011	0.00013	0.00009	0.00014	0.00011	0.00011	0.00009	0.00013	0.00011	0.00028	2	0.00024	2	9999	Si
1.53	0.00007	0.00005	0.00005	0.00004	0.00006	0.00005	0.00004	0.00004	0.00005	0.00005	0.00011	2	0.0001	2	9999	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	p,tot	θ_m	θ_y	$\mu\Delta_{pl}$	Vrd	V _{Rcd} (cot $\theta=1$)	V _{Rsd}	V _w	V _r	V _u	V _{ed}	N _{ed}	Comb.	Verifica
3.62	1.872	0.044	0.3	0.006	0.00018	0.00586	0	11927	78416	17490	17490	16831	17490	-1662	249	SLV 2	Si

Valutazione dei tagli secondo gerarchia delle resistenze ($\gamma_{rd}=1,1$)

x	taglio negativo				taglio positivo			
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	-1495	-4597	-2820	812	-1495	1745	2945	1481
0.94	309	-2794	-2820	-436	309	3549	2945	233
1.53	1440	-1662	-2820	-1218	1440	4680	2945	-549
1.88	2113	-1684	-2820	-1684	2113	5352	2945	-1015

Momenti resistenti a filo appoggi

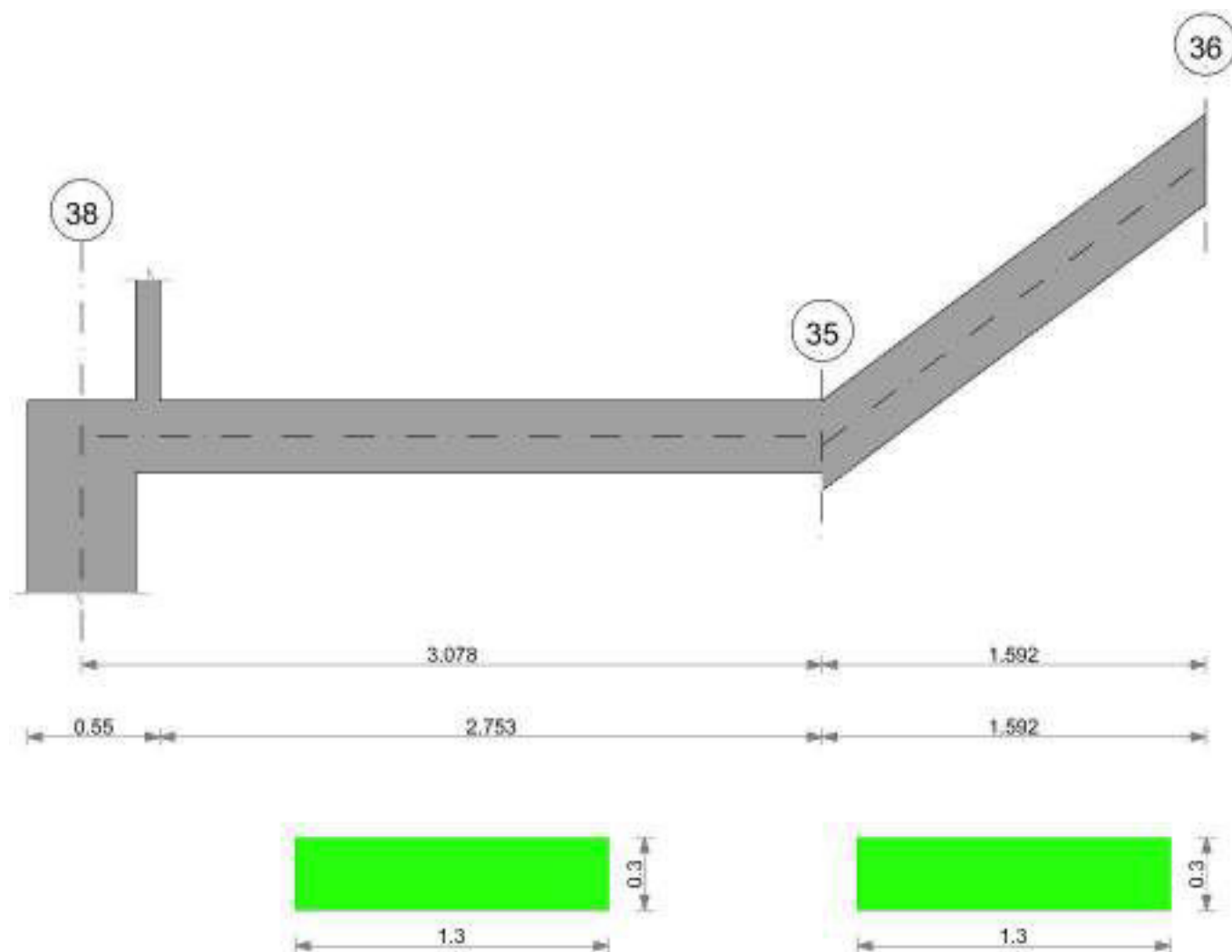
campata	x	appoggio	momento positivo	momento negativo
1	0.23	28	8920.31	-8920.31
2	1.53	32	8920.31	-8920.31

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

RAMPA 2

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 130x30	Rettangolare	1.3	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

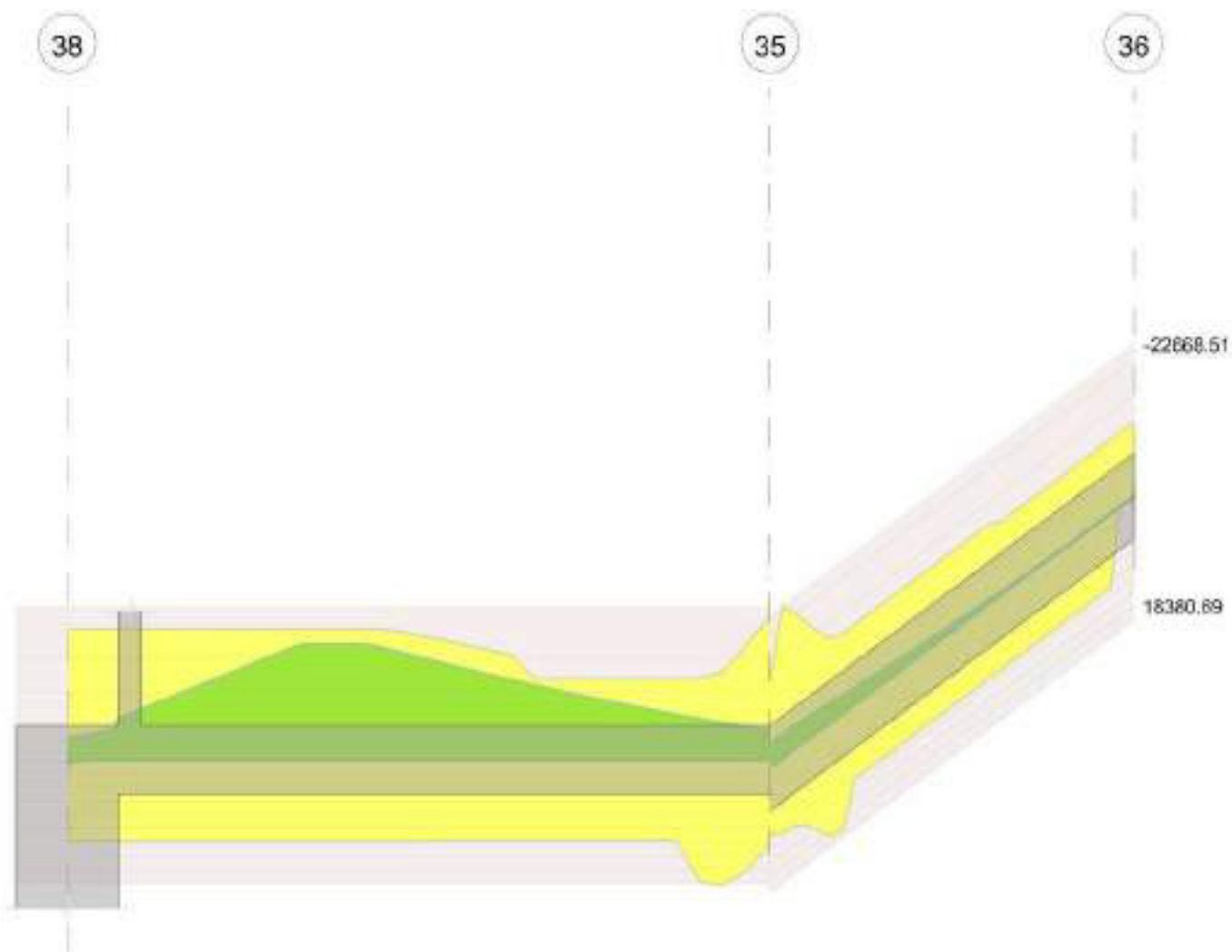


Diagramma verifica stato limite ultimo taglio

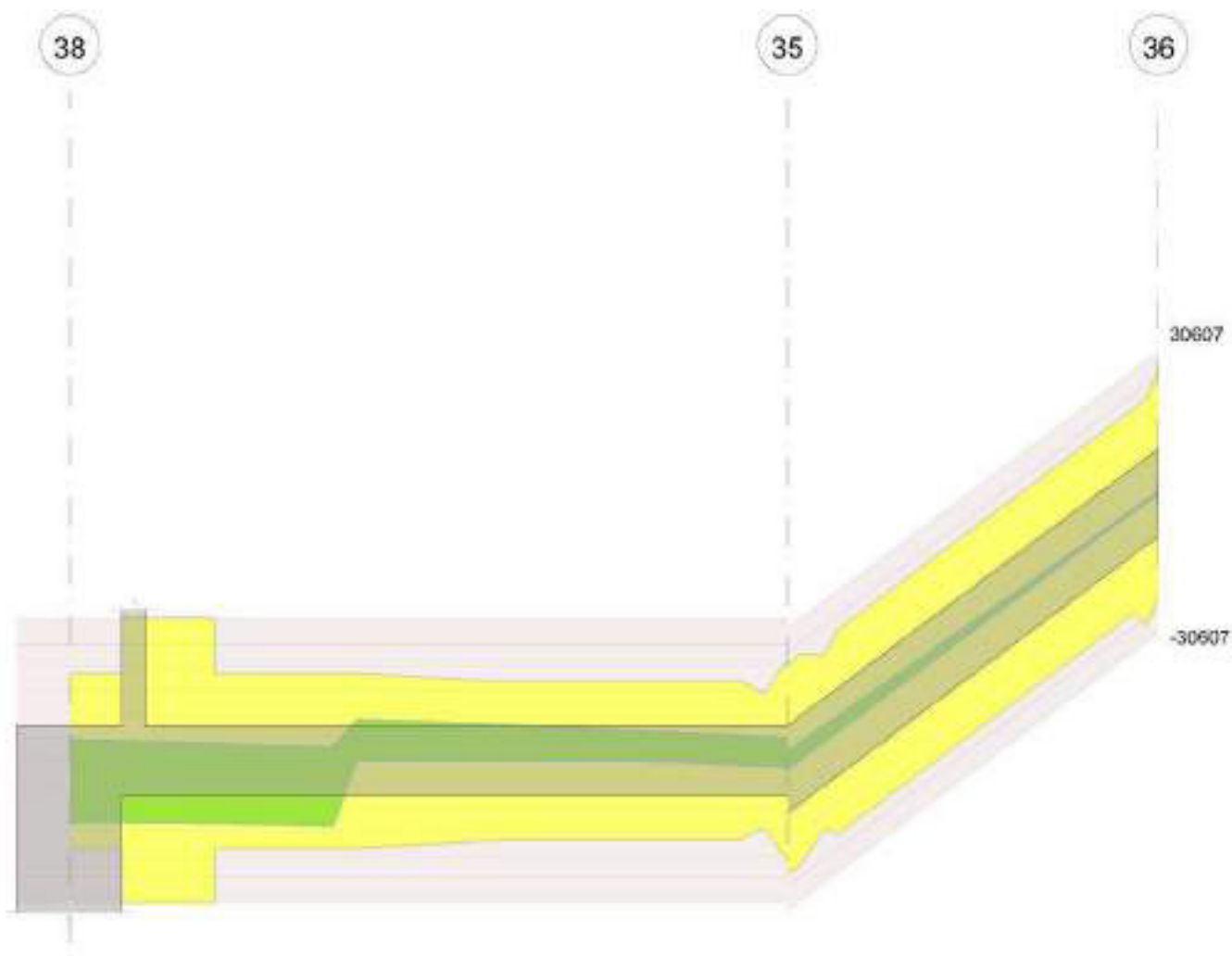


Diagramma verifica stato limite esercizio quasi permanente freccia



38

35

36

-0.03736

0.03736

Output campate

Campata 1 tra i fili 38 - 35, sezione R 130x30, aste 767, 768; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.002199	0.053	0.001257	0.053							-1660.77	SLU 84	-1660.77	-19204.84	0.225	11.56	Si
0.23	0.002199	0.053	0.001257	0.053							-4669.57	SLU 84	-6160.49	-19204.84	0.225	3.12	Si
1.54	0.002083	0.053	0.001257	0.053							-14188.99	SLU 83	-15140.89	-18305.39	0.219	1.21	Si
2.05	0.001257	0.053	0.001257	0.053							-10116.02	SLU 83	-10951.76	-11845.8	0.181	1.08	Si
3.08	0.002513	0.06	0.001257	0.053							-3779.03	SLU 83	-4348.93	-20984.41	0.249	4.83	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.002199	0.053	0.001257	0.053	1044.81	SLV 11	489.43	11900.2	0.191	24.31	-3268.86	SLV 6	-3268.86	-19204.84	0.225	5.88	Si
0.23	0.002199	0.053	0.001257	0.053							-4631.81	SLV 6	-5311.13	-19204.84	0.225	3.62	Si
1.54	0.002083	0.053	0.001257	0.053							-9131.18	SLV 7	-9699.98	-18305.39	0.219	1.89	Si
2.05	0.001257	0.053	0.001257	0.053							-6688.81	SLV 7	-7191.32	-11845.8	0.181	1.65	Si
3.08	0.002513	0.06	0.001257	0.053							-2836.37	SLV 7	-3187.17	-20984.41	0.249	6.58	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.002199	0.053	0.001257	0.053	228.64	SLD 11	228.64	11900.2	0.191	52.05	-2452.69	SLD 6	-2452.69	-19204.84	0.225	7.83	Si
0.23	0.002199	0.053	0.001257	0.053							-3983.05	SLD 6	-4743.61	-19204.84	0.225	4.05	Si
1.54	0.002083	0.053	0.001257	0.053							-8926.11	SLD 7	-9494.9	-18305.39	0.219	1.93	Si
2.05	0.001257	0.053	0.001257	0.053							-6483.8	SLD 7	-6986.3	-11845.8	0.181	1.7	Si
3.08	0.002513	0.06	0.001257	0.053							-2631.48	SLD 7	-2982.28	-20984.41	0.249	7.04	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.002199	0	-13188	SLU 81	-13188	-18843	-101941	0	-18843	1	1.43	Si
0.23	0.0000352	0.002199	0	-13218	SLU 81	-13218	-18843	-101941	-30607	-30607	1	2.32	Si
1.13	0.0000197	0.002199	0	-13927	SLU 81	-13927	-18843	-101941	-17115	-18843	1	1.35	Si
1.54	0.0000197	0.001897	0	8322	SLU 83	8322	17938	101941	17115	17938	1	2.16	Si
3.08	0.0000253	0.001257	0	4899	SLU 83	4899	15456	99225	21380	21380	1	4.36	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.002199	0	-5894	Ger.	4450	18843	101941	0	18843	1	4.23	Si
0	0	0.001257	0	-9874	SLV 11	-9874	-15636	-101941	0	-15636	1	1.58	Si
0.1	0	0.002199	0	-5898	Ger.	4345	18843	101941	0	18843	1	4.34	Si
0.1	0	0.001257	0	-9877	SLV 11	-9877	-15636	-101941	0	-15636	1	1.58	Si



x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0.23	0.0000352	0.002199	0	-5911	Ger.	4212	18843	101941	30607	30607	1	7.27	Si
0.23	0.0000352	0.002199	0	-9891	SLV 11	-9891	-18843	-101941	-30607	-30607	1	3.09	Si
1.54	0.0000197	0.001897	0	4976	SLV 1	4976	17938	101941	17115	17938	1	3.61	Si
3.08	0.0000253	0.001257	0	3023	SLV 1	3023	15456	99225	21380	21380	1	7.07	Si
3.08	0.0000253	0.001257	0	3022	Ger.	-1289	-15456	-99225	-21380	-21380	1	16.59	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.001257	0	-9115	SLD 11	-9115	-15636	-101941	0	-15636	1	1.72	Si
0.23	0.0000352	0.002199	0	-9132	SLD 11	-9132	-18843	-101941	-30607	-30607	1	3.35	Si
1.54	0.0000197	0.001897	0	4976	SLD 1	4976	17938	101941	17115	17938	1	3.61	Si
3.08	0.0000253	0.001257	0	3022	SLD 1	3022	15456	99225	21380	21380	1	7.07	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-1219.04	21	-1219.04	54758	1494000	788064	36000000	-1112.03	2	-1112.03	49951	1120500			Si
0.23	-3410.34	21	-4496.12	201959	1494000	2906568	36000000	-2915.95	2	-3809.69	171126	1120500			Si
1.54	-10347.03	20	-11038.73	834174	1494000	24494516	36000000	-8625.38	2	-9194.15	694782	1120500			Si
3.08	-2764.16	20	-3180.83	143363	1494000	2051312	36000000	-2331.05	2	-2681.82	120872	1120500			Si

Verifica di apertura delle fessure

x	Bordo	Rara				Frequente				Quasi permanente				Verifica
		Dmax	Esm	Wd	Comb.	Dmax	Esm	Wd	Comb.	Dmax	Esm	Wd	Comb.	
1.54	superiore	0.299	0.00074	0.000222	20	0.299	0.00075	0.000224	6	0.299	0.00069	0.000207	2	Si
2.05	superiore	0.417	0.00084	0.000349	20	0.417	0.00076	0.000317	6	0.417	0.0007	0.000292	2	Si

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente						Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f
0.23	0.00001	-0.00001	0.00001	0	0	0	0	0	0	0	0.00001	2	0.00001	2	9999
1.54	0.00083	0.00056	0.00125	0.00074	0.0007	0.00057	0.00097	0.00074	0.00065	0.00058	0.00245	2	0.00211	2	3813
3.08	0.00401	0.00291	0.00671	0.0038	0.00348	0.00295	0.00515	0.0038	0.00327	0.00295	0.01303	2	0.01119	2	717

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	p _{tot}	θ _m	θ _y	μΔ _{pl}	Vrd	V _{Rcd} (cotθ=1)	V _{Rsd}	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.45	4.895	0.056	0.3	0.009	0.00428	0.0059	0	18843	101941	30607	30607	29589	30607	-9891	-27	SLV 11	Si

Campata 2 tra i fili 35 - 36, sezione R 130x30, asta 769

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.001257	0.075							-3779.03	SLU 83	-3779.03	-12774.14	0.225	3.38	Si
0.8	0.001257	0.053	0.001257	0.053							-944.76	SLU 83	-1227.29	-10885.66	0.181	9.65	Si
1.59	0.001257	0.053	0	0	0	SLU 81	0	0	0	+	0	SLU 9	-18.77	-11486.6	0.136	612.08	Si

Verifiche a flessione in famiglia SLV (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2}=0.002$, $\epsilon_{yd}=0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.001257	0.075							-2834.71	SLV 7	-2834.71	-11035.99	0.26	3.89	Si
0.8	0.001257	0.053	0.001257	0.053							-835.19	SLV 7	-1044.53	-10885.66	0.247	10.42	Si
1.54	0.001257	0.053	0	0	15.38	SLV 10	28.14	0	0	0	-20.56	SLV 7	-78.03	-10920.51	0.252	139.95	Si
1.59	0.001257	0.053	0	0	1.5	SLV 8	24.7	0	0	0	-1.5	SLV 9	-47.85	-10920.51	0.252	228.22	Si

Verifiche SLD Resistenza a flessione (domini sostanzialmente elastici)

La struttura oppure parte di essa, è stata dichiarata come non dissipativa pertanto la verifica a pressoflessione, per tutte o solo alcune sezioni, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Le dilatazioni ultime utilizzate sono le seguenti: $\epsilon_{c2}=0.002$, $\epsilon_{yd}=0.0019$

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.001257	0.053	0.001257	0.075							-2630.47	SLD 7	-2630.47	-11035.99	0.26	4.2	Si
0.8	0.001257	0.053	0.001257	0.053							-732.84	SLD 7	-927.96	-10885.66	0.247	11.73	Si
1.54	0.001257	0.053	0	0	8.11	SLD 9	10.29	0	0	0	-13.29	SLD 8	-56.55	-10920.51	0.252	193.11	Si
1.59	0.001257	0.053	0	0	0.89	SLD 11	10.29	0	0	0	-0.89	SLD 6	-33.16	-10920.51	0.252	329.33	Si

Verifica a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000253	0.001257	0	3925	SLU 83	3925	15636	101941	21965	21965	1	5.6	Si
0.16	0.0000253	0.001257	0	3532	SLU 83	3532	14573	86370	18610	18610	1	5.27	Si
0.8	0.0000253	0.001257	0	1962	SLU 83	1962	15636	101941	21965	21965	1	11.19	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000253	0.001257	0	2682	SLV 7	2682	15636	101941	21965	21965	1	8.19	Si
0.16	0.0000253	0.001257	0	2440	SLV 7	2440	14573	86370	18610	18610	1	7.63	Si
0.8	0.0000253	0.001257	0	1471	SLV 7	1471	15636	101941	21965	21965	1	14.93	Si
1.59	0.0000253	0	0	261	SLV 7	261	16676	123815	26678	26678	1	102.25	Si
1.59	0.0000253	0.001257	0	-261	SLV 10	-261	-15636	-101941	-21965	-21965	1	84.18	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrcd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0.0000253	0.001257	0	2576	SLD 7	2576	15636	101941	21965	21965	1	8.53	Si
0.16	0.0000253	0.001257	0	2334	SLD 7	2334	14573	86370	18610	18610	1	7.97	Si
0.8	0.0000253	0.001257	0	1366	SLD 7	1366	15636	101941	21965	21965	1	16.09	Si
1.59	0.0000253	0	0	155	SLD 7	155	16676	123815	26678	26678	1	172	Si
1.59	0.0000253	0.001257	0	-155	SLD 10	-155	-15636	-101941	-21965	-21965	1	141.62	Si

Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σ c	σ c lim.	σ f.	σ f lim.	Mela	Comb.	Mdes	σ c	σ c lim.	σ FRP	σ FRP lim.	
0	-2764.16	20	-2764.16	130147	1494000	1926660	36000000	-2331.05	2	-2331.05	109754	1120500			Si



x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma f.$	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	σFRP	$\sigma FRP \text{ lim.}$	
0.8	-691.04	20	-897.69	41057	1494000	615851	36000000	-582.76	2	-757.04	34624	1120500			Si
1.59	0	18	0	0	1494000	0	36000000	0	2	0	0	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

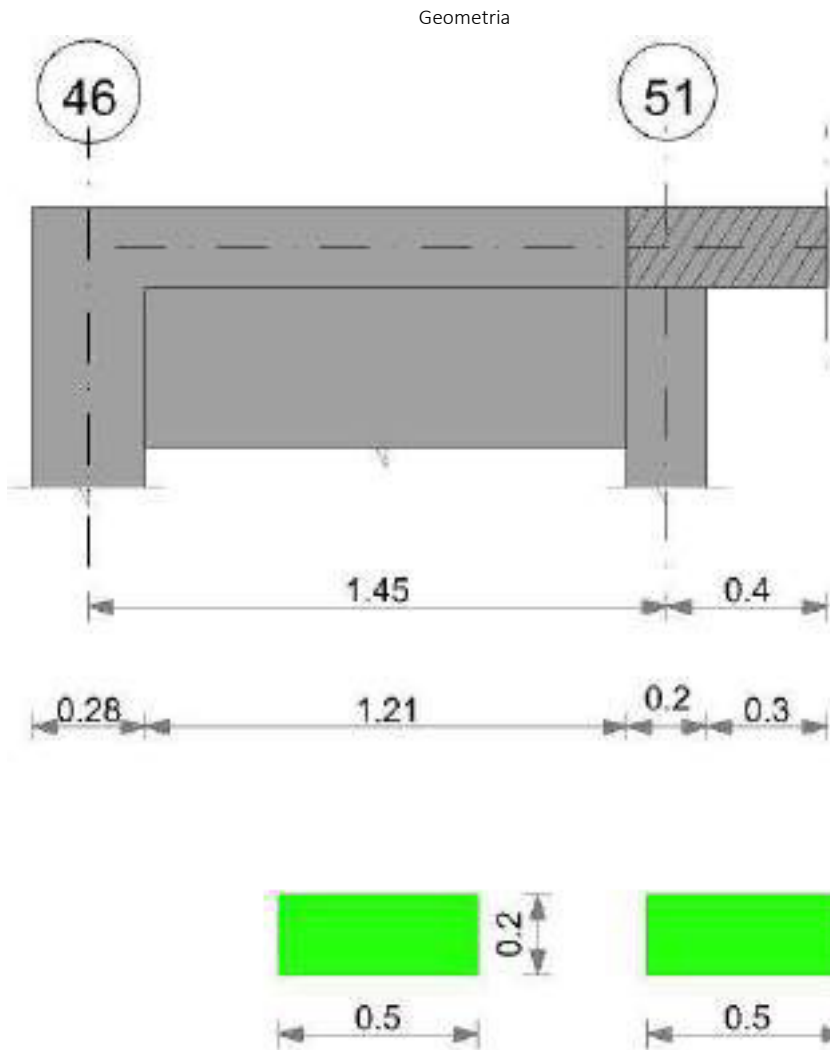
Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	l/f	
0	0.00401	0.00291	0.00538	0.00305	0.00348	0.00295	0.00412	0.00305	0.00327	0.00295	0.01044	2	0.00897	2	895	Si
0.8	0.00597	0.00438	0.00867	0.00494	0.0052	0.00442	0.00666	0.00494	0.0049	0.00443	0.01695	2	0.01457	2	551	Si
1.59	0.00801	0.0059	0.01202	0.00689	0.00698	0.00595	0.00926	0.00689	0.00658	0.00596	0.02362	2	0.02032	2	395	Si

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 46-54



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

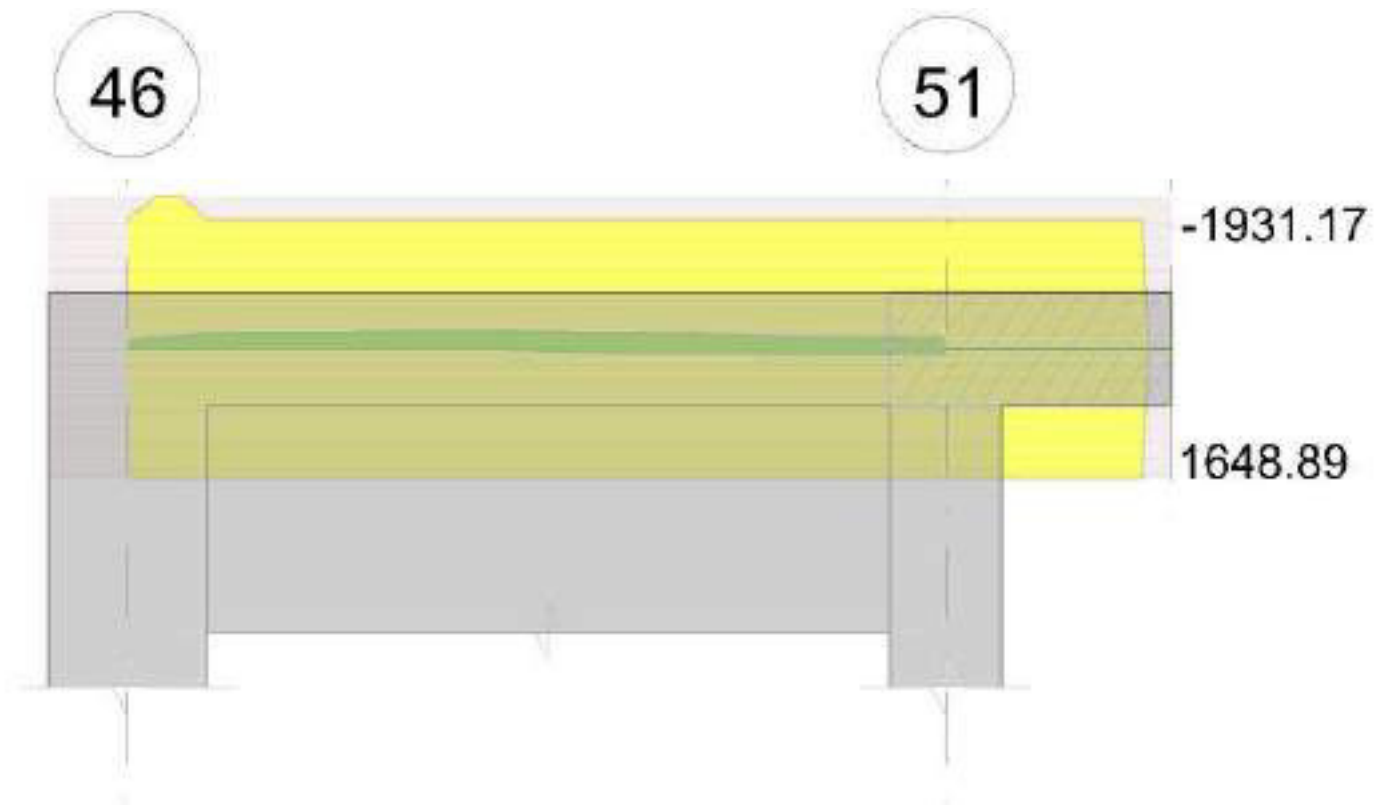


Diagramma verifica stato limite ultimo taglio

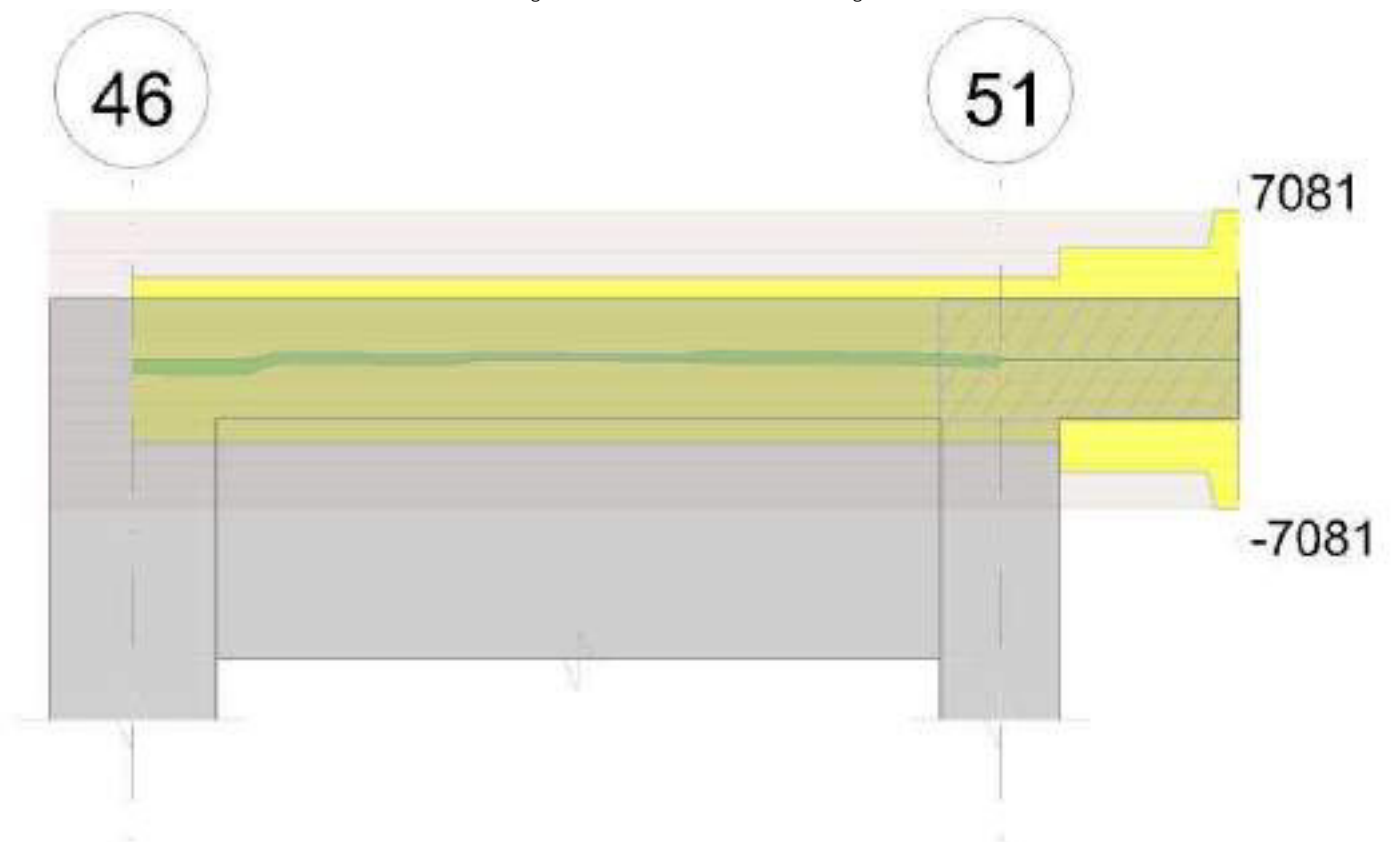
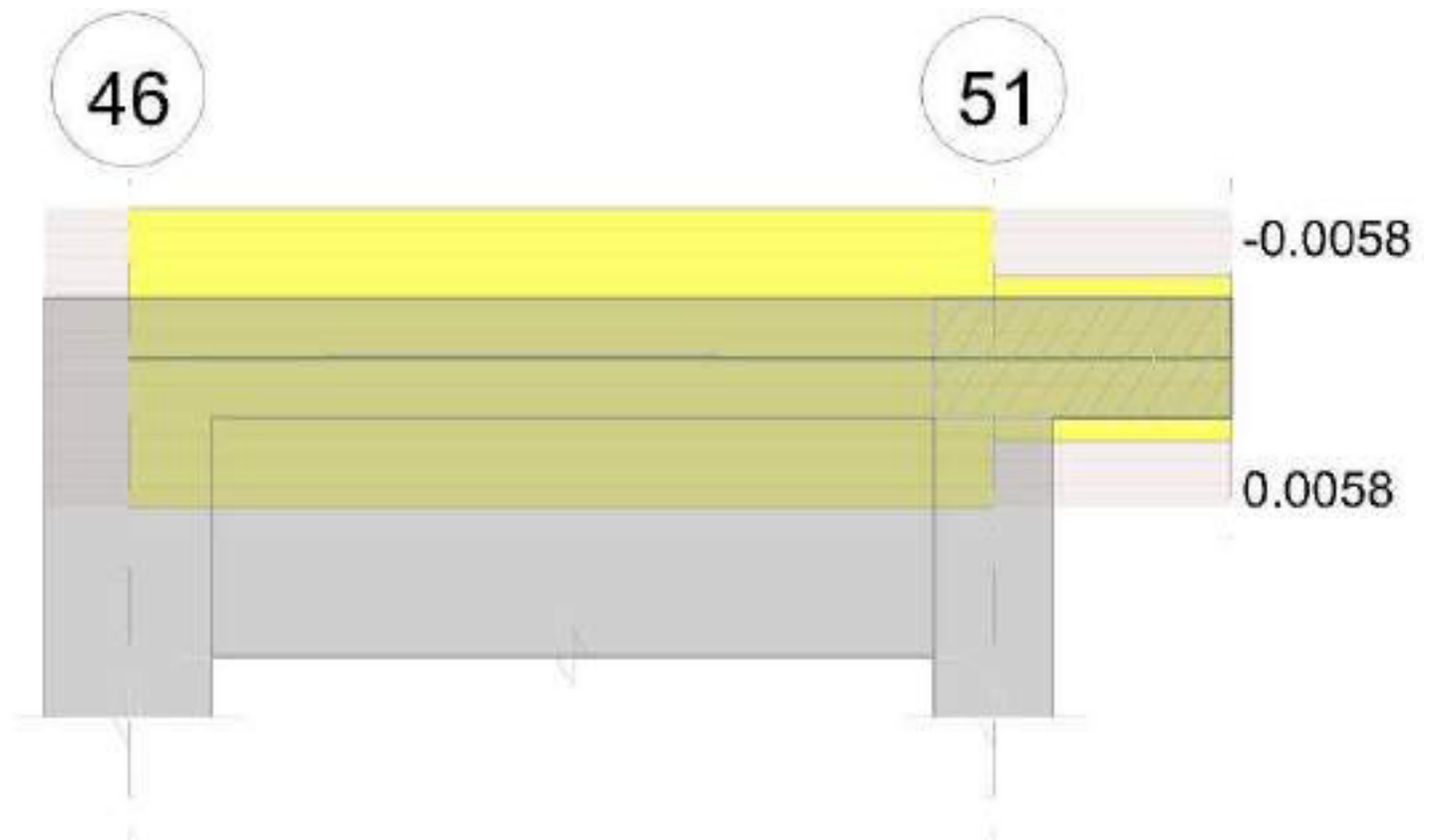


Diagramma verifica stato limite esercizio quasi permanente freccia



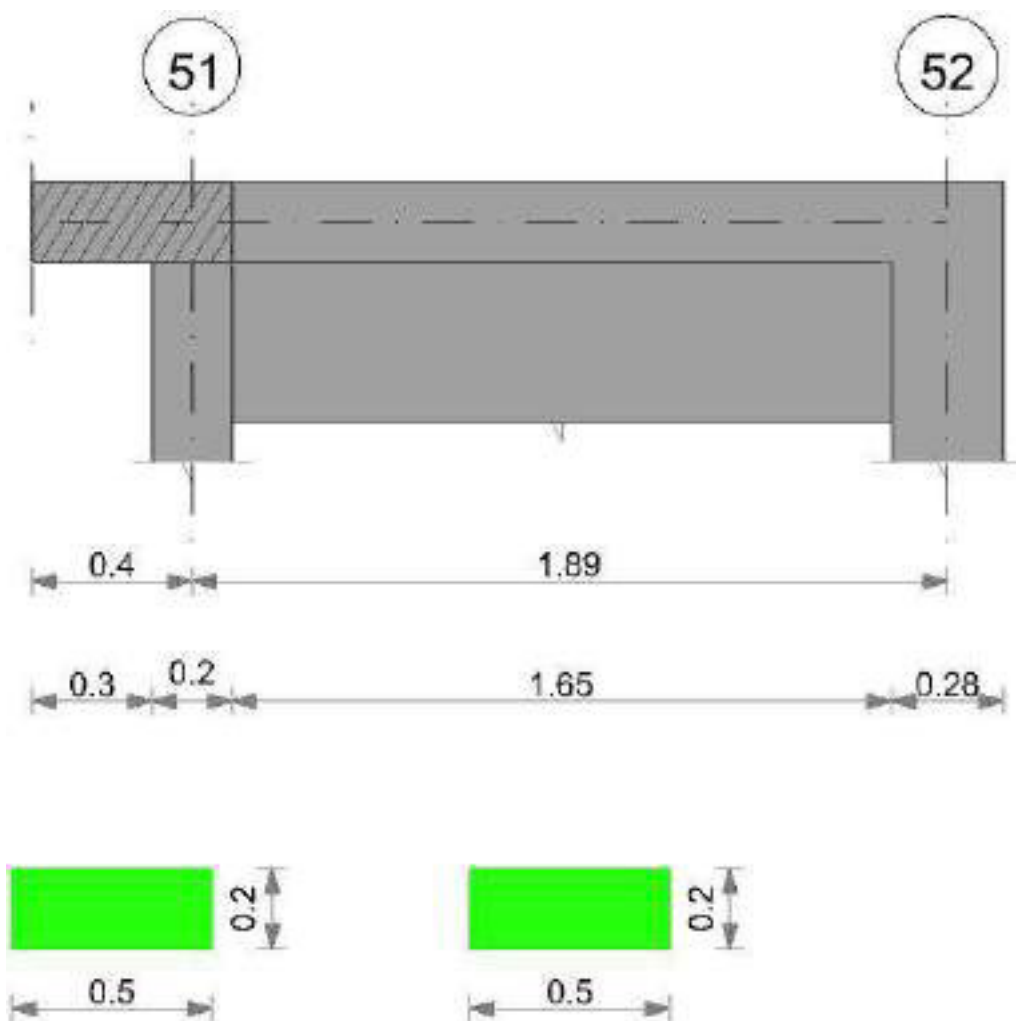
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Primo" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

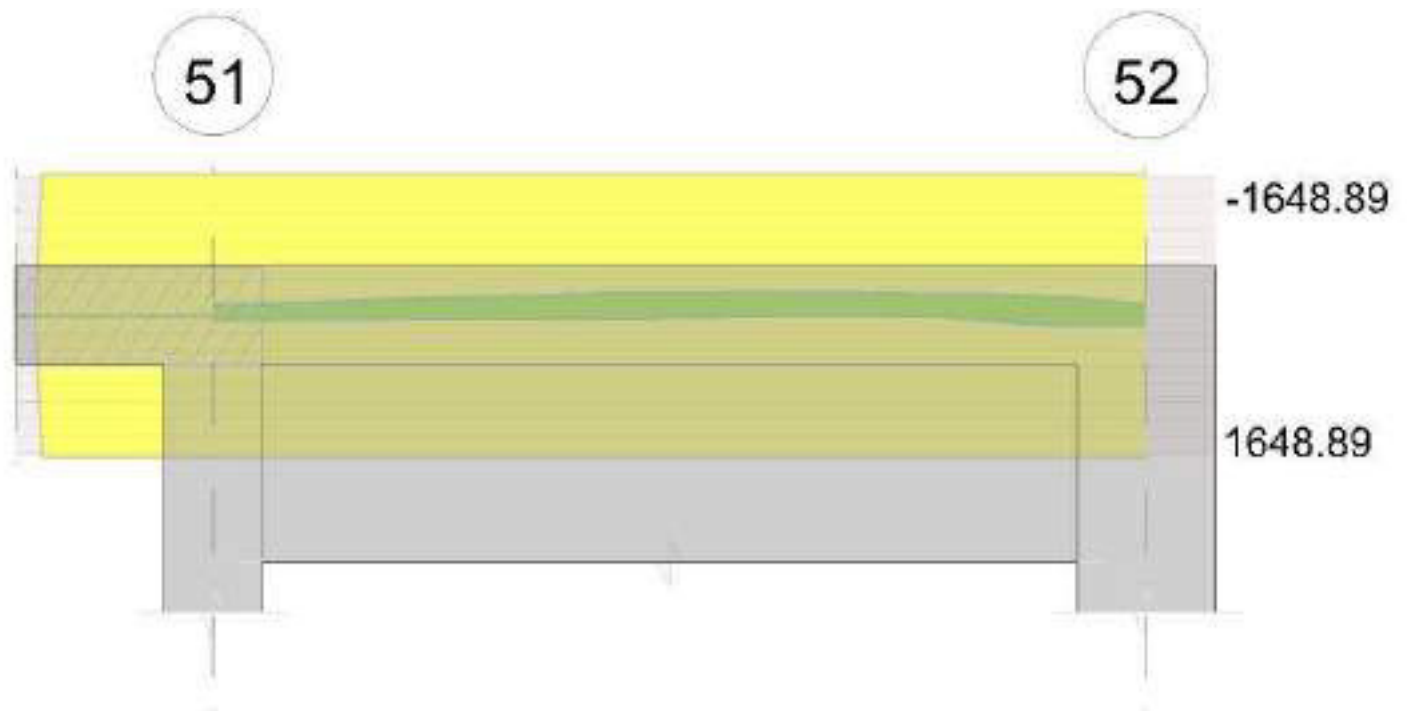
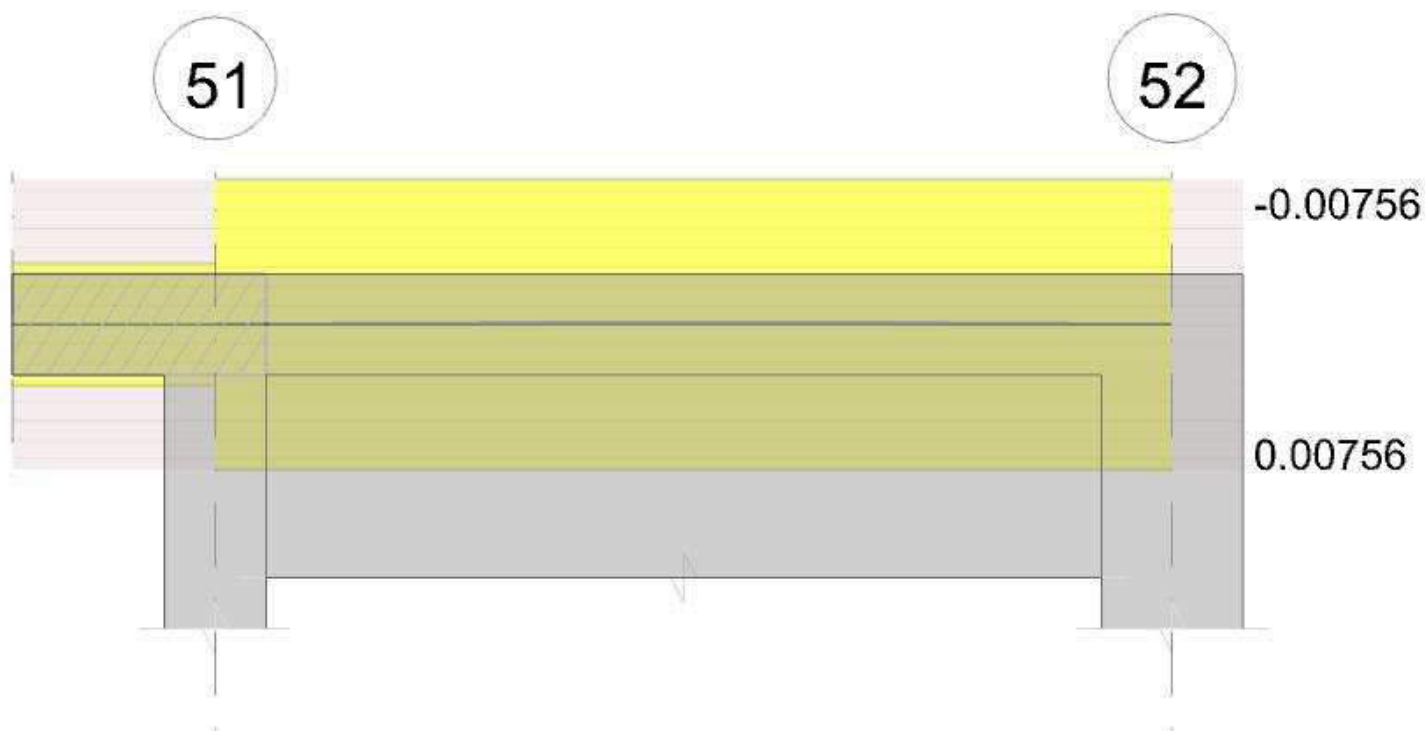


Diagramma verifica stato limite ultimo taglio



Diagramma verifica stato limite esercizio quasi permanente freccia



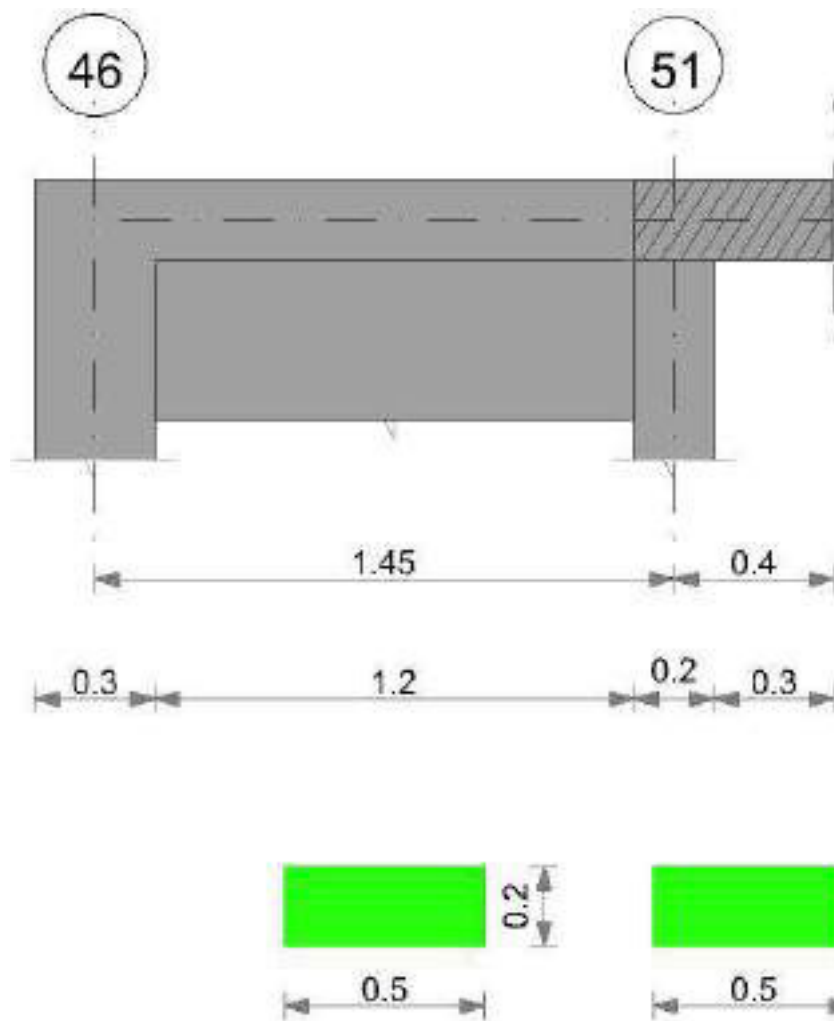
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 46-54

Geometria



Caratteristiche dei materiali
Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

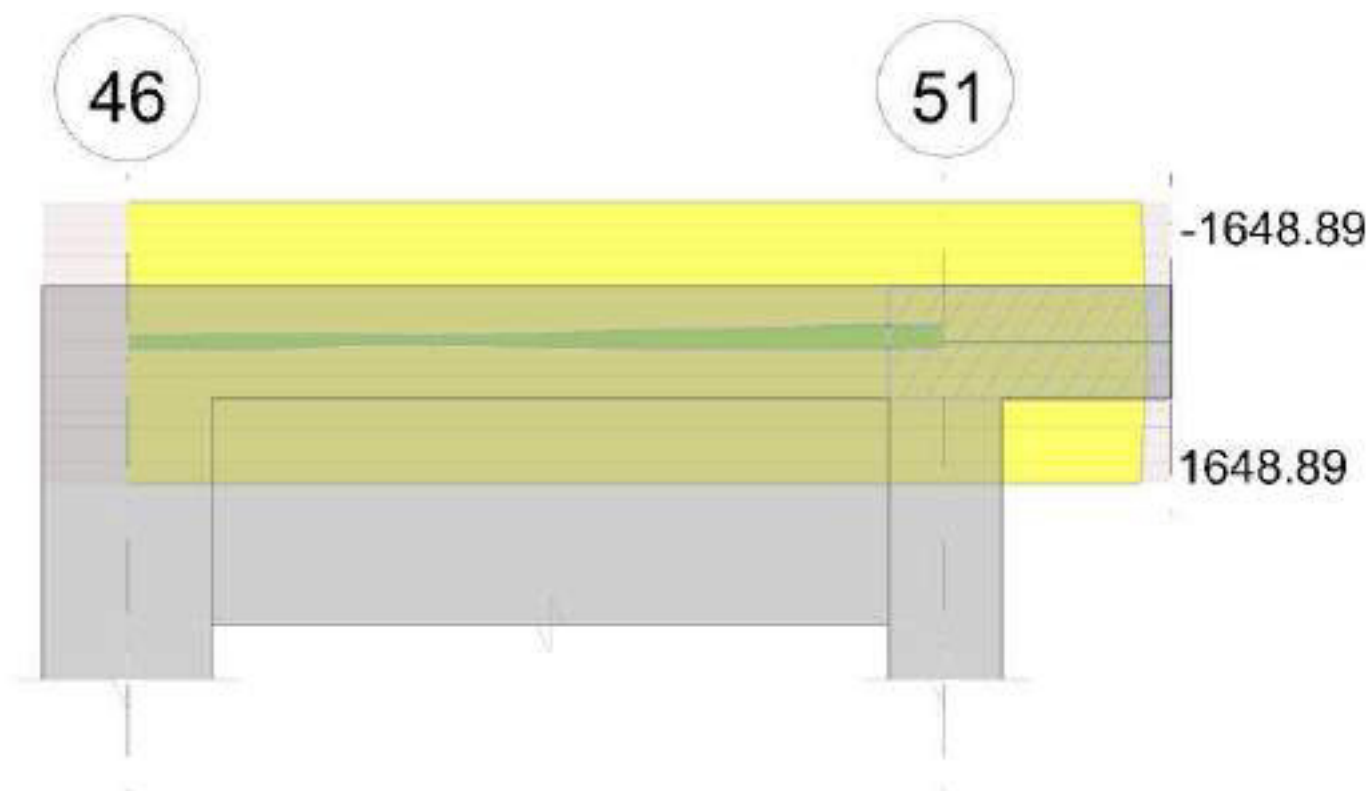


Diagramma verifica stato limite ultimo taglio

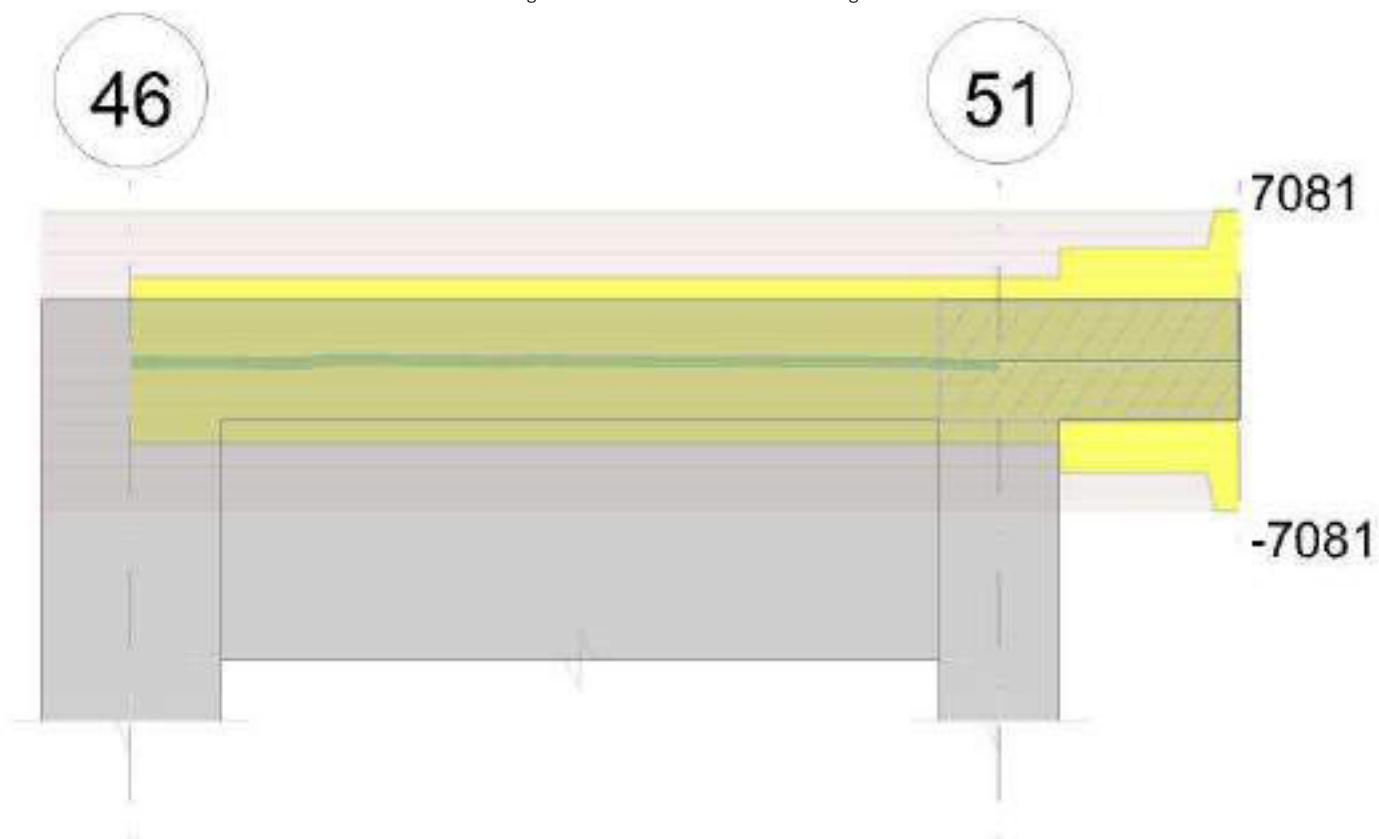
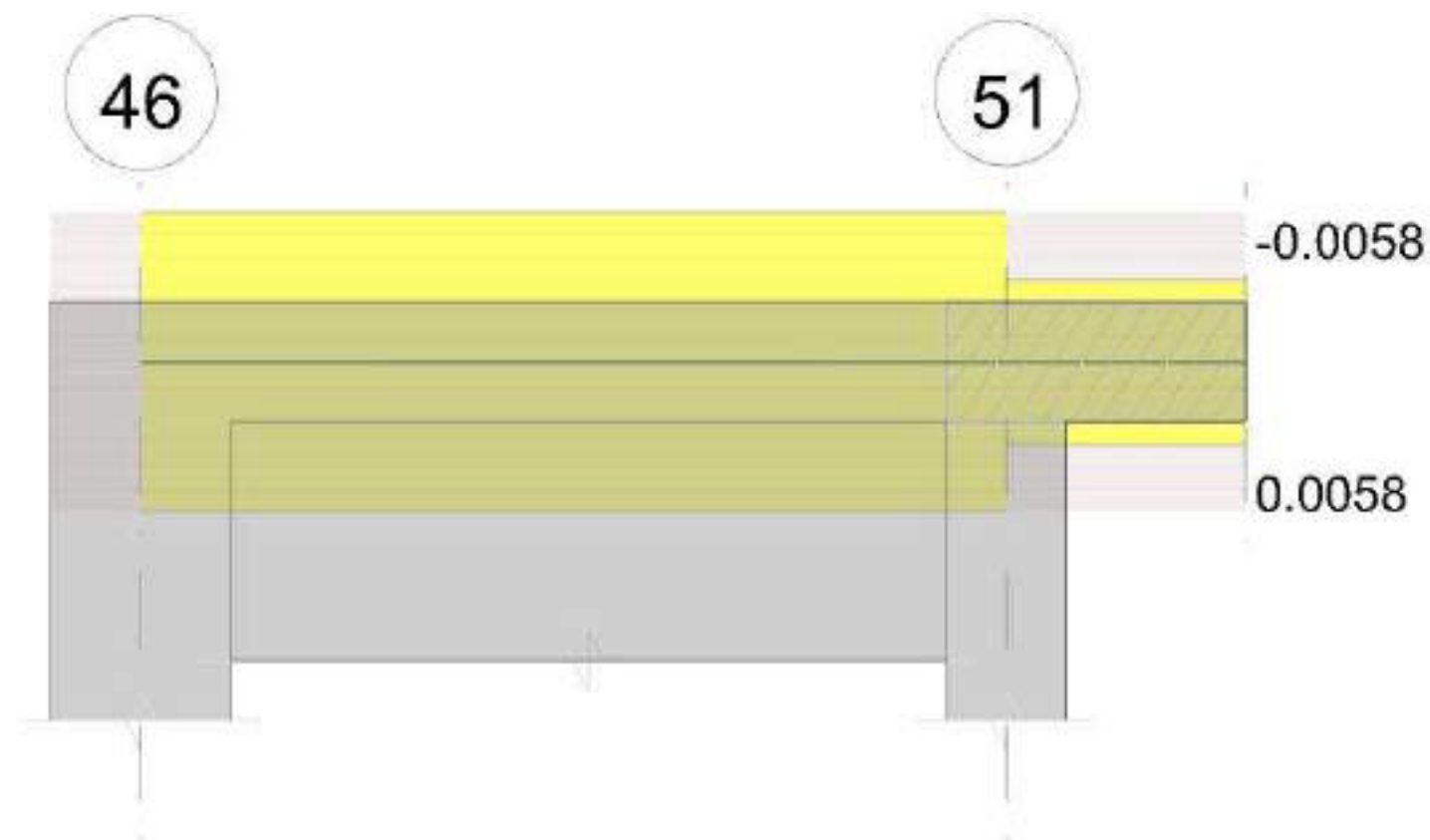


Diagramma verifica stato limite esercizio quasi permanente freccia



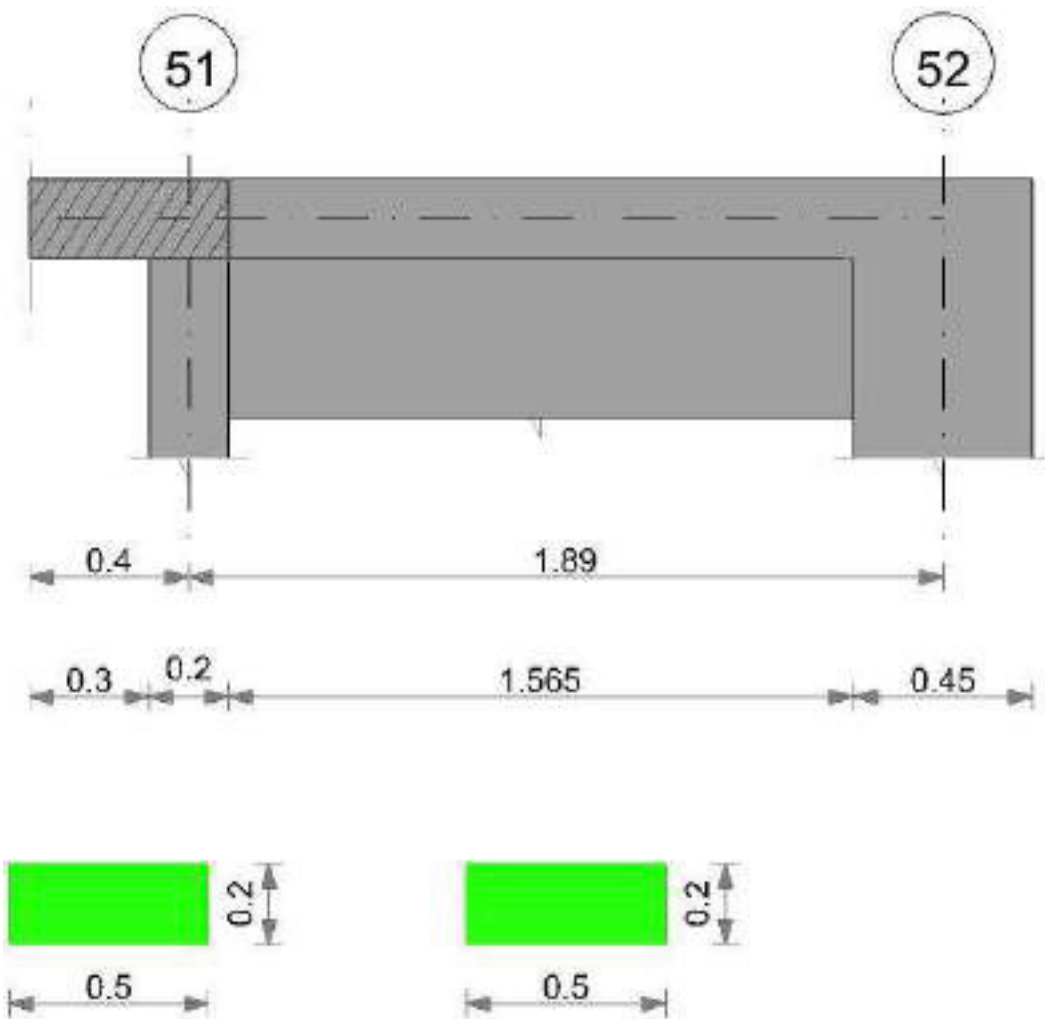
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Rialzato" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

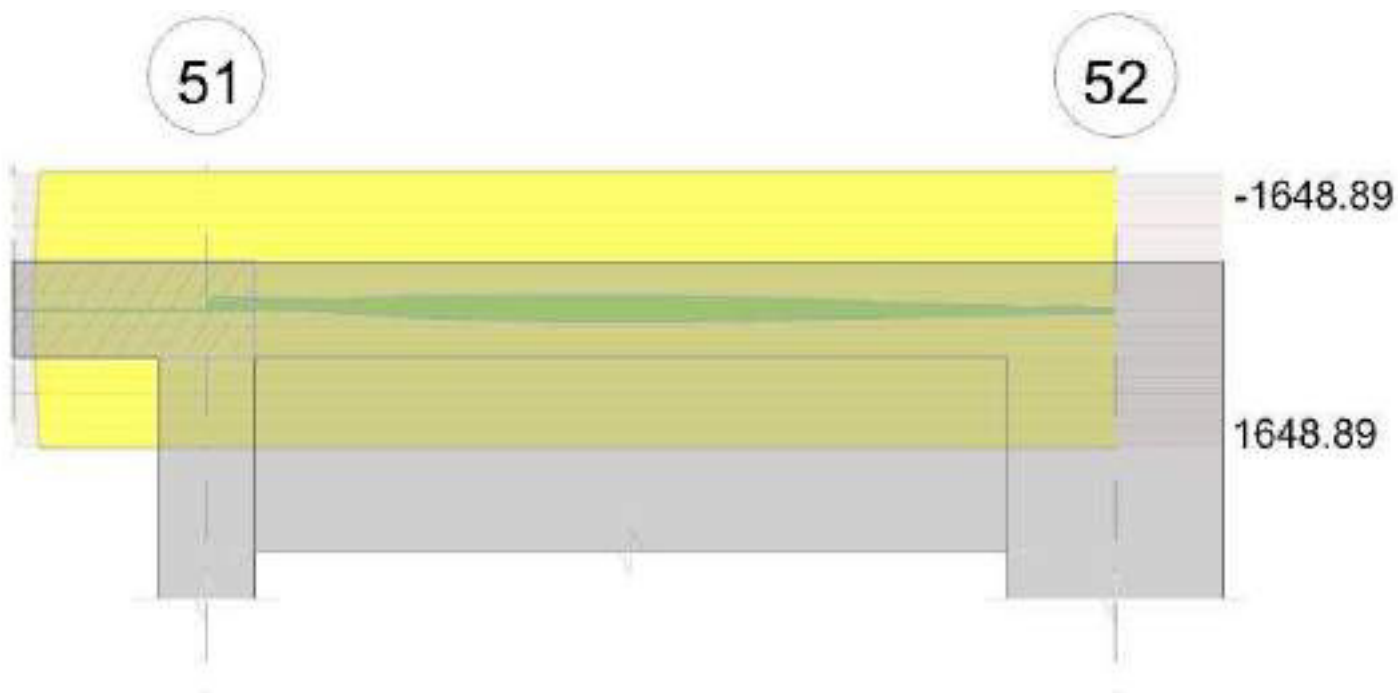
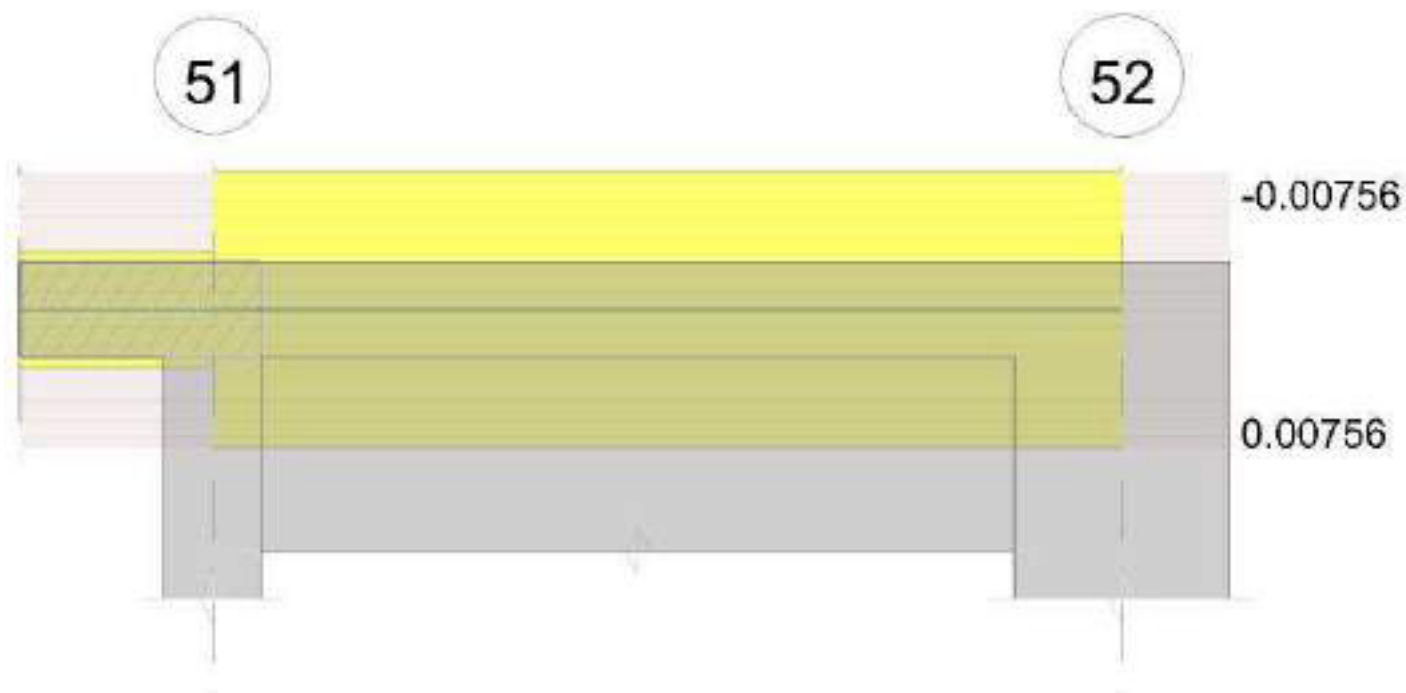


Diagramma verifica stato limite ultimo taglio



Diagramma verifica stato limite esercizio quasi permanente freccia



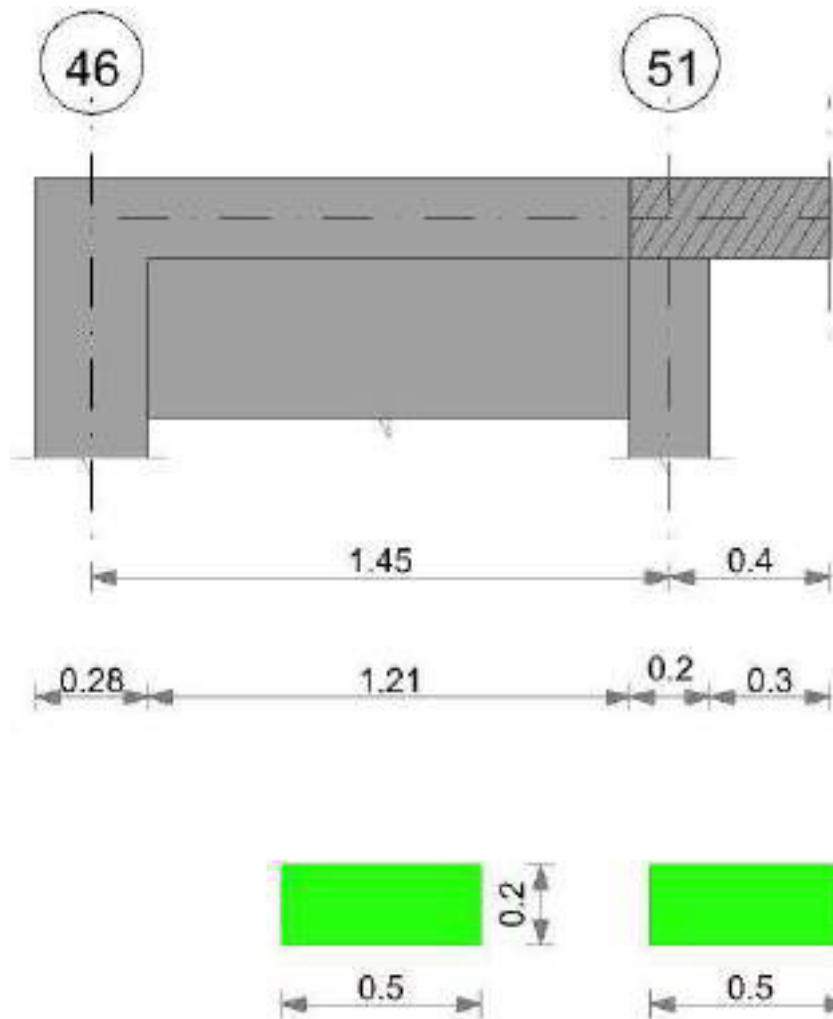
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 46-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

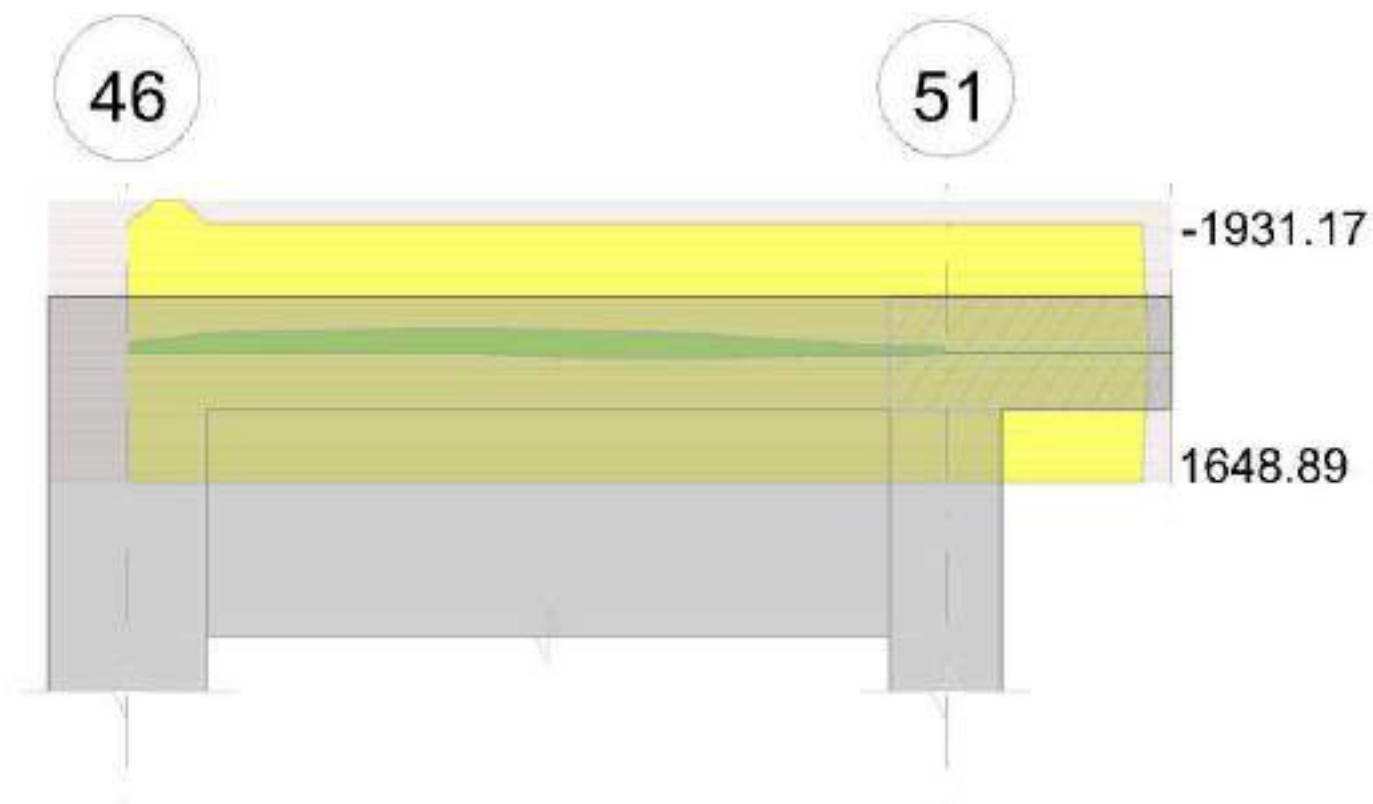


Diagramma verifica stato limite ultimo taglio

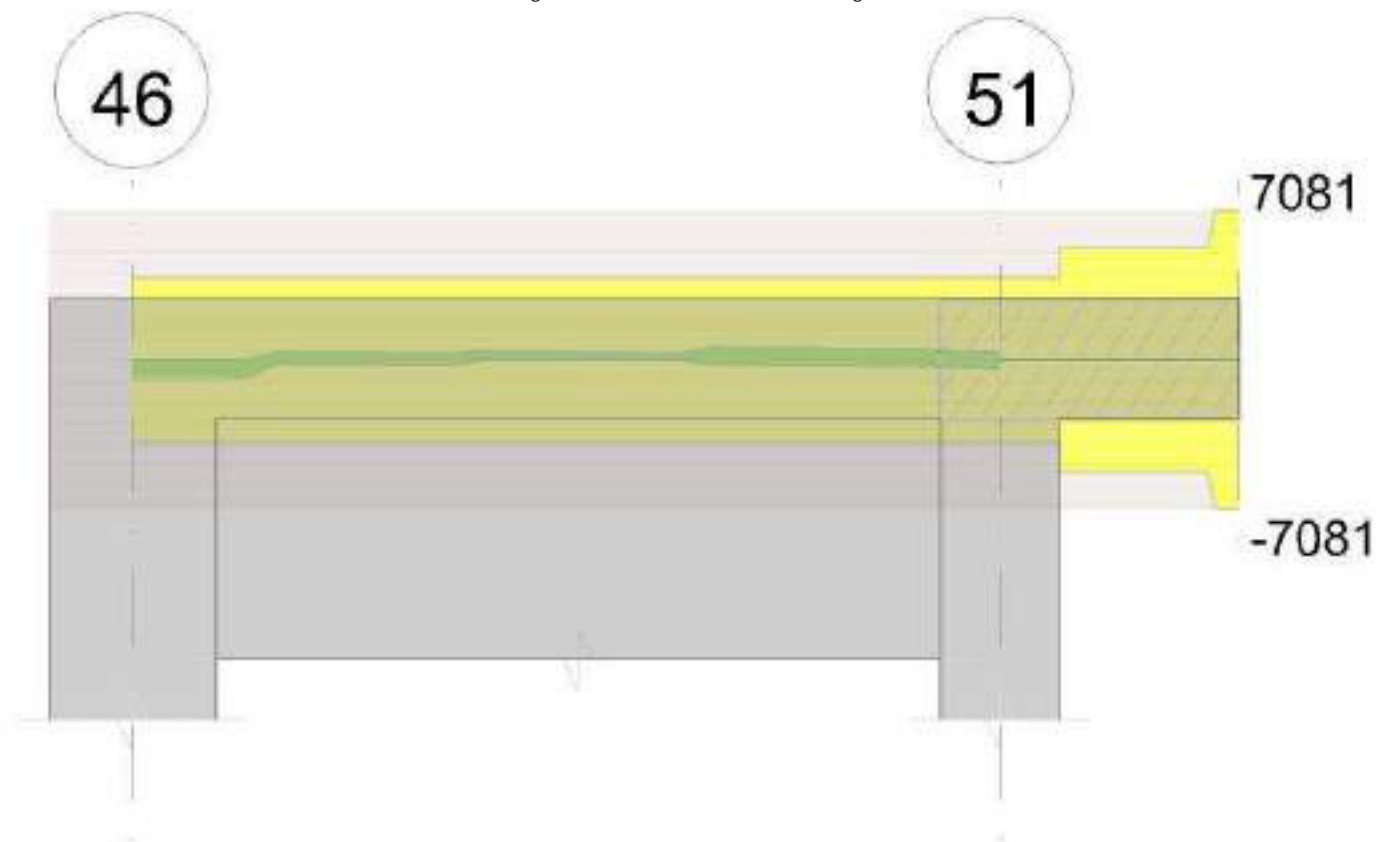
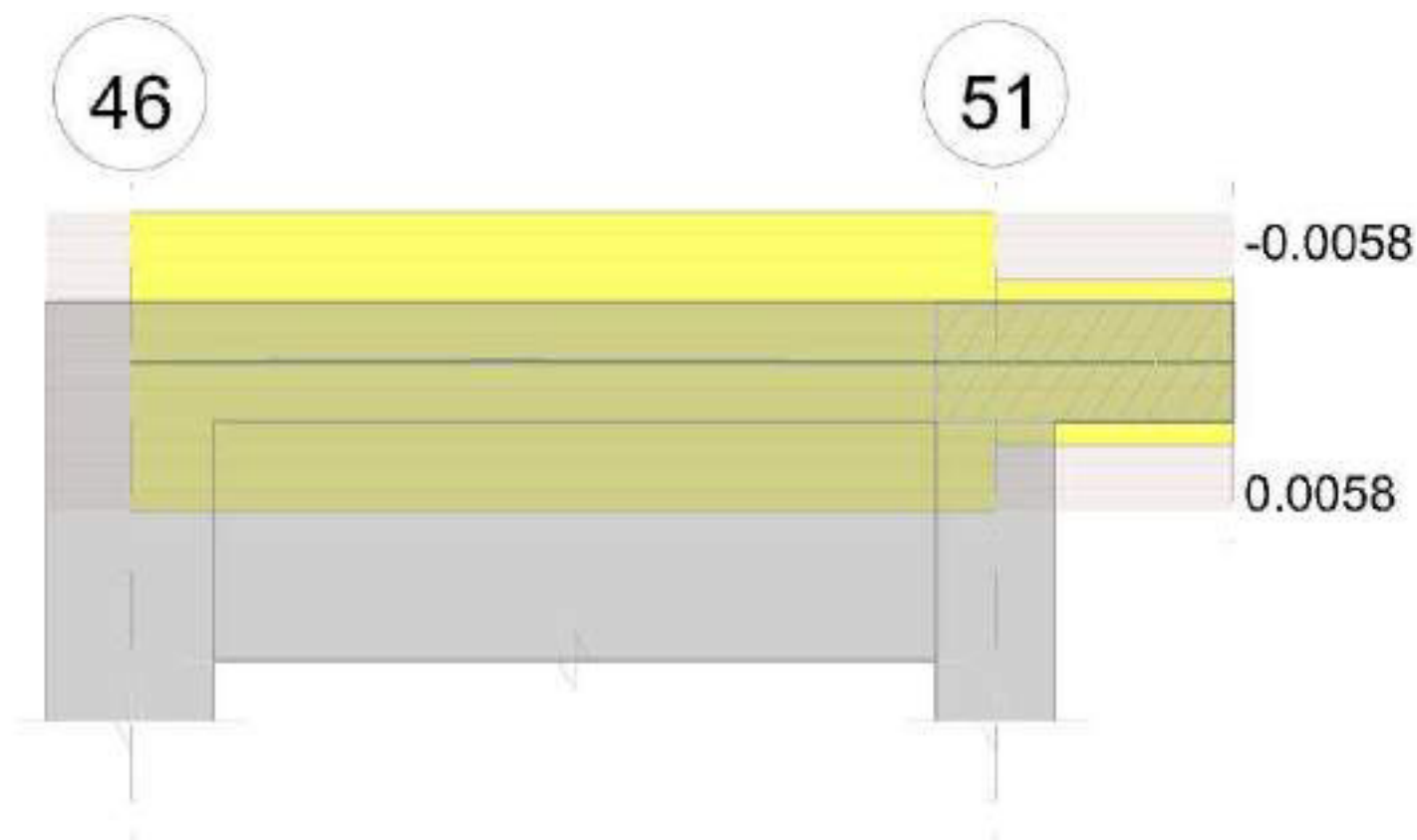


Diagramma verifica stato limite esercizio quasi permanente freccia



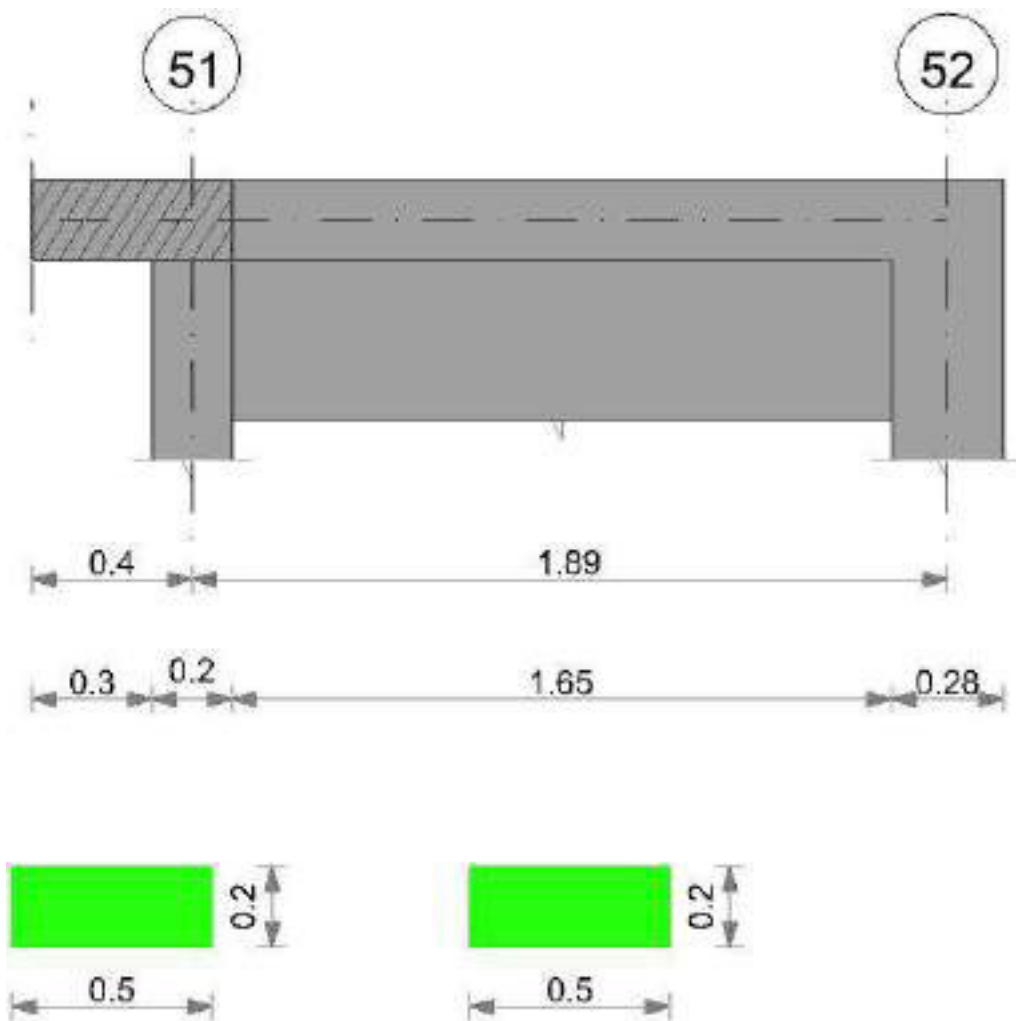
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Secondo" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

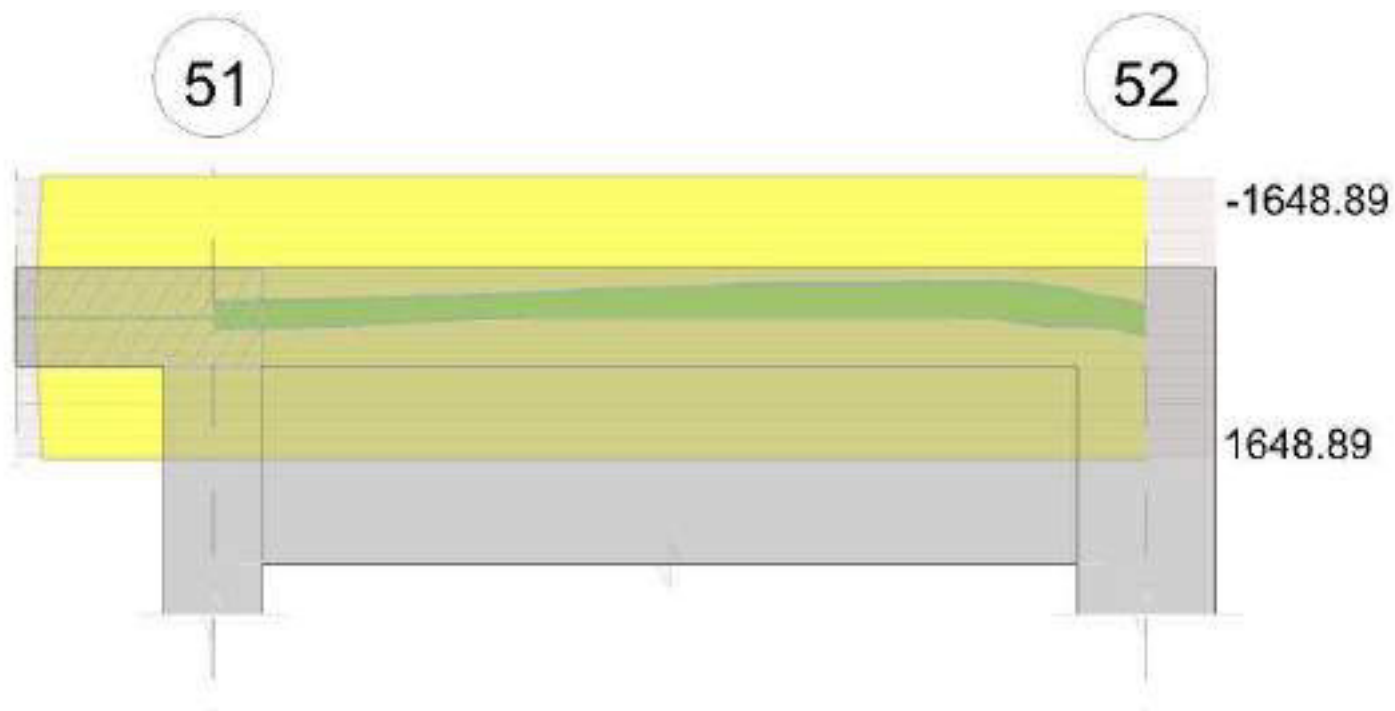
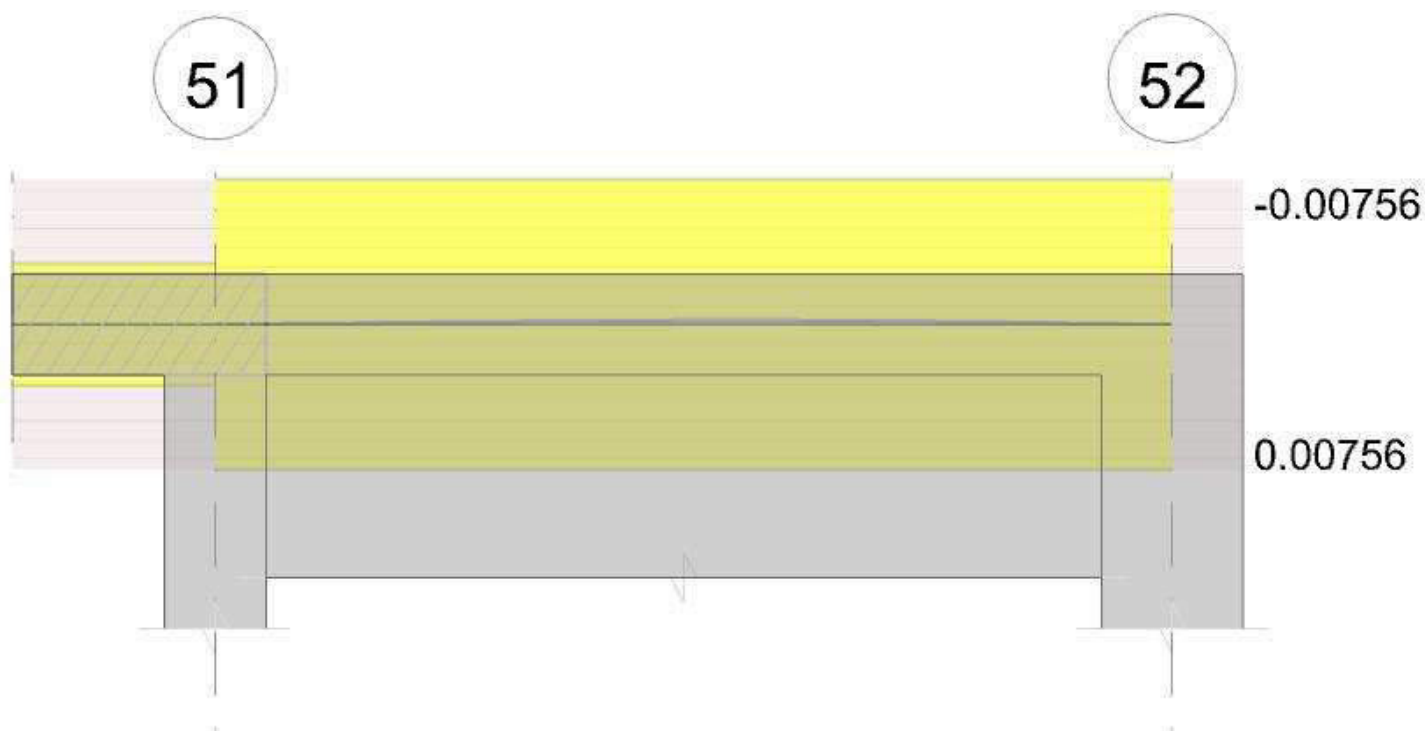


Diagramma verifica stato limite ultimo taglio



Diagramma verifica stato limite esercizio quasi permanente freccia



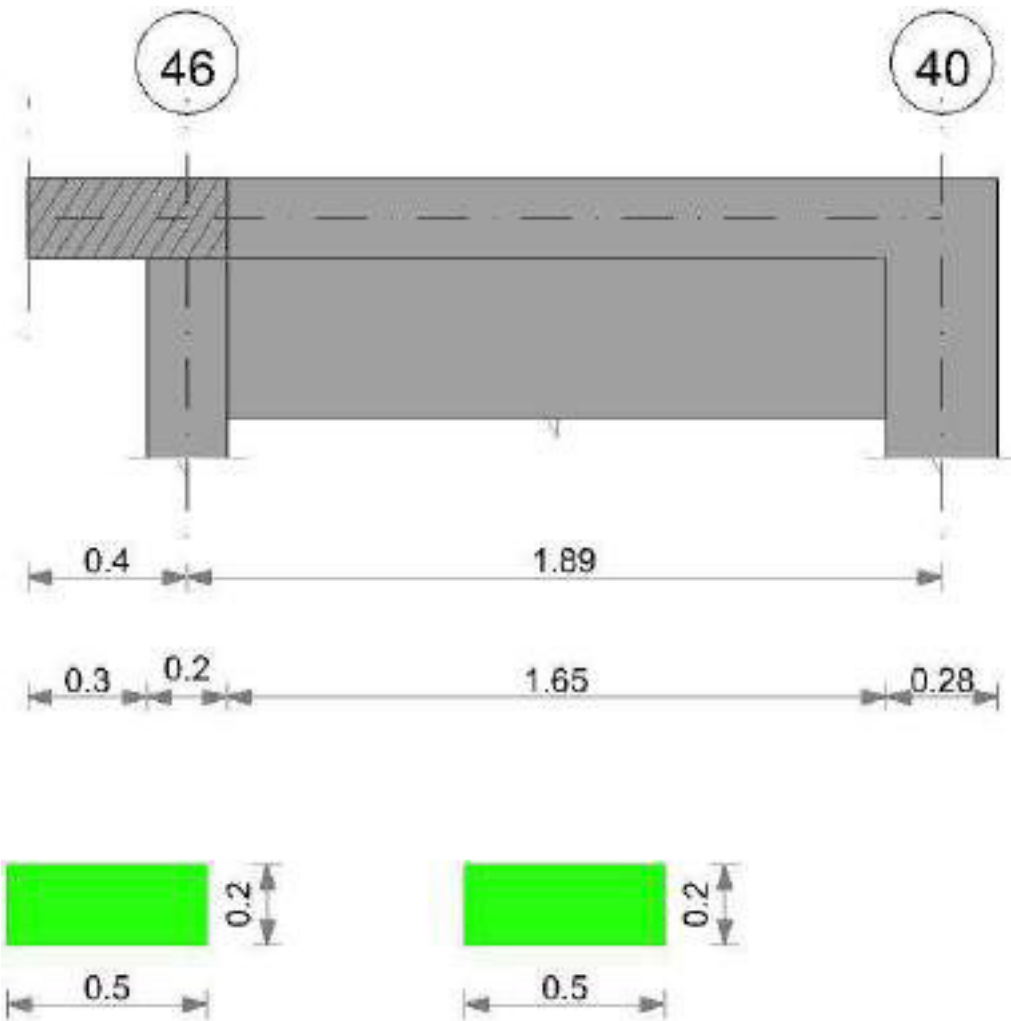
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 37-40

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

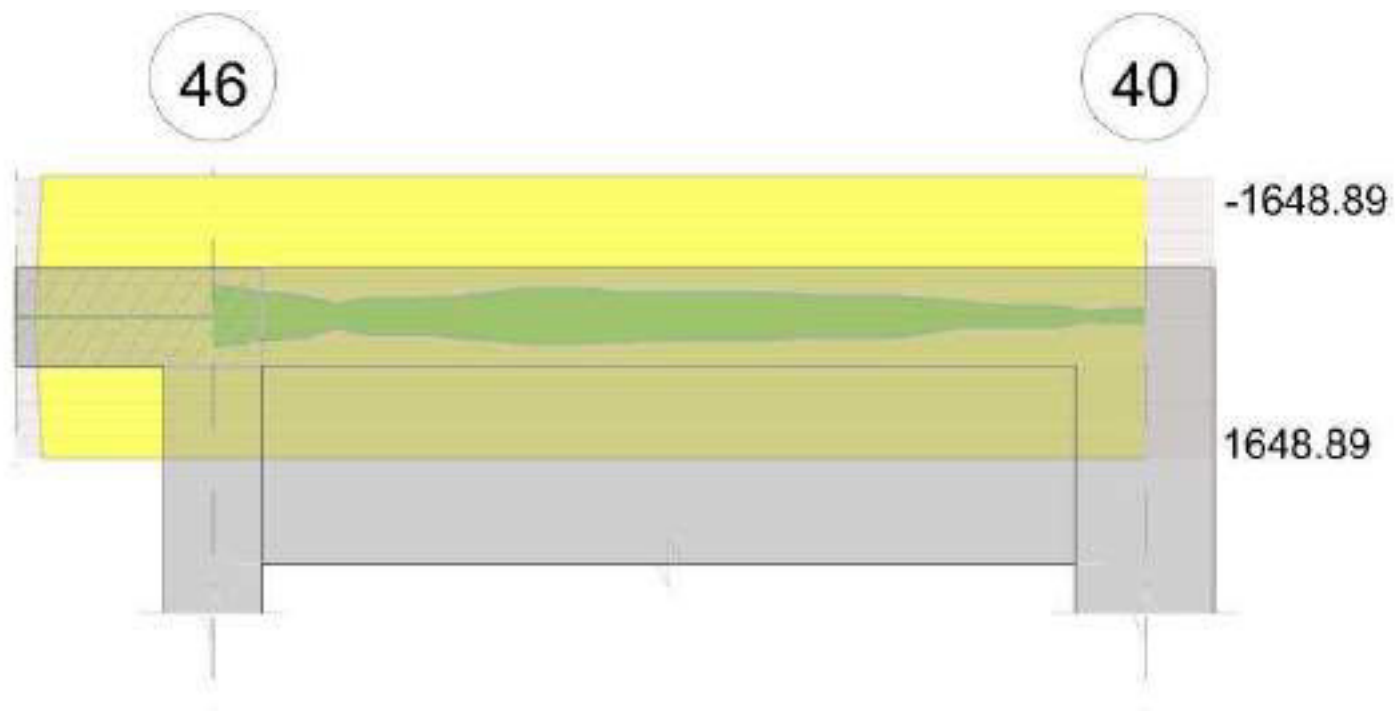


Diagramma verifica stato limite ultimo taglio

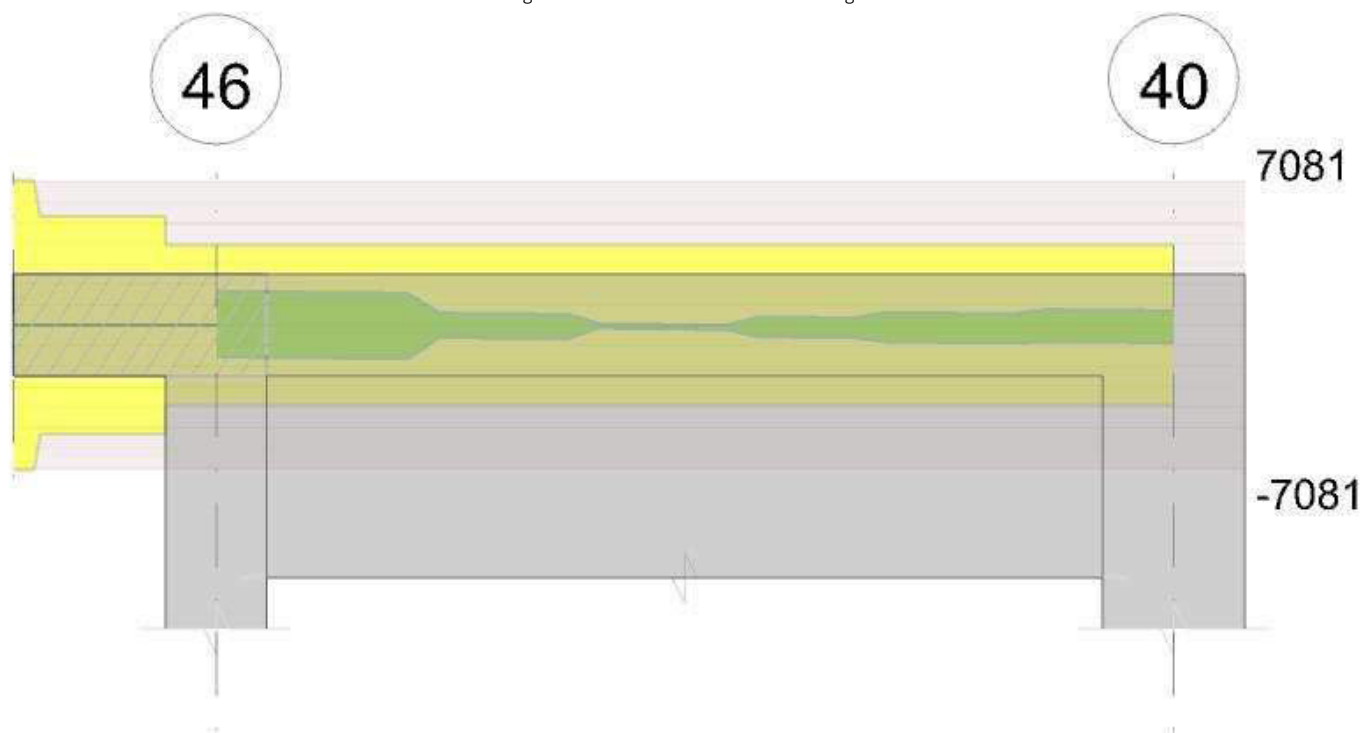
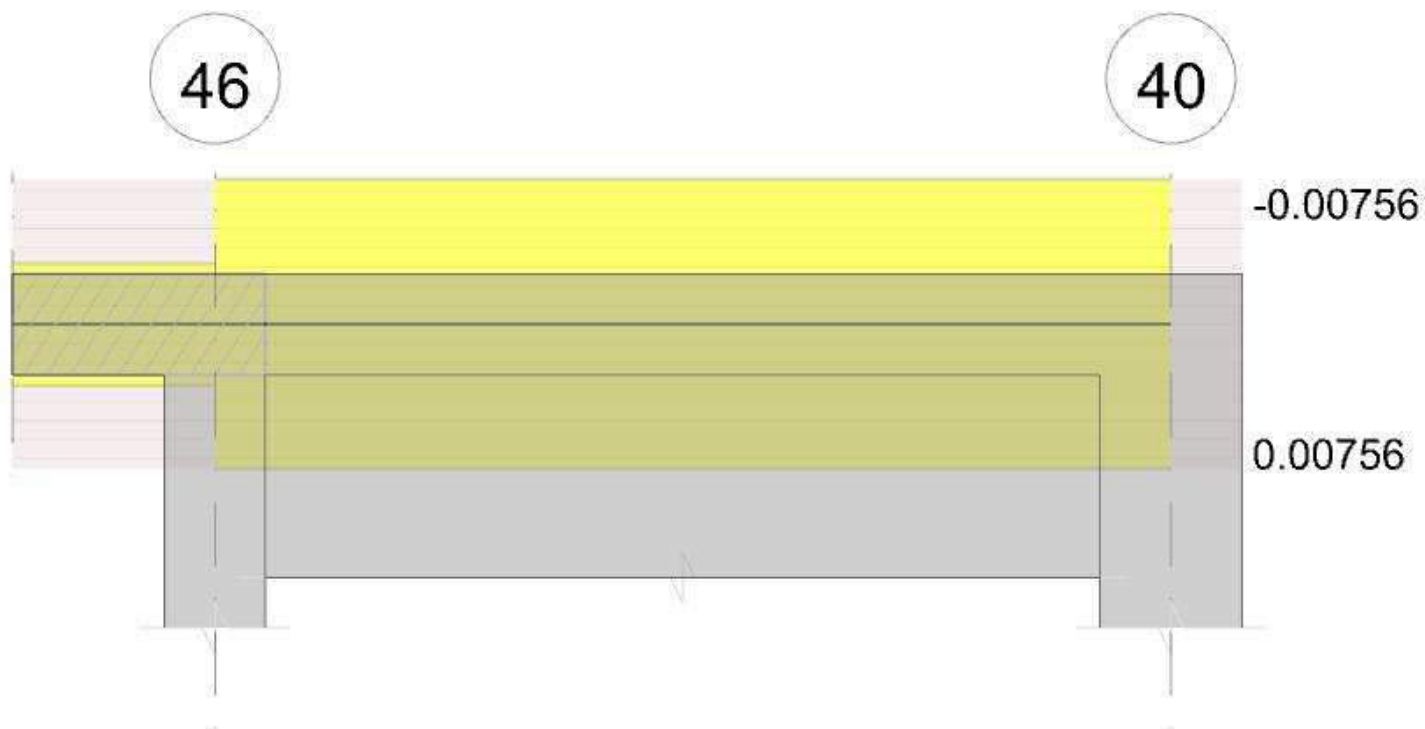


Diagramma verifica stato limite esercizio quasi permanente freccia



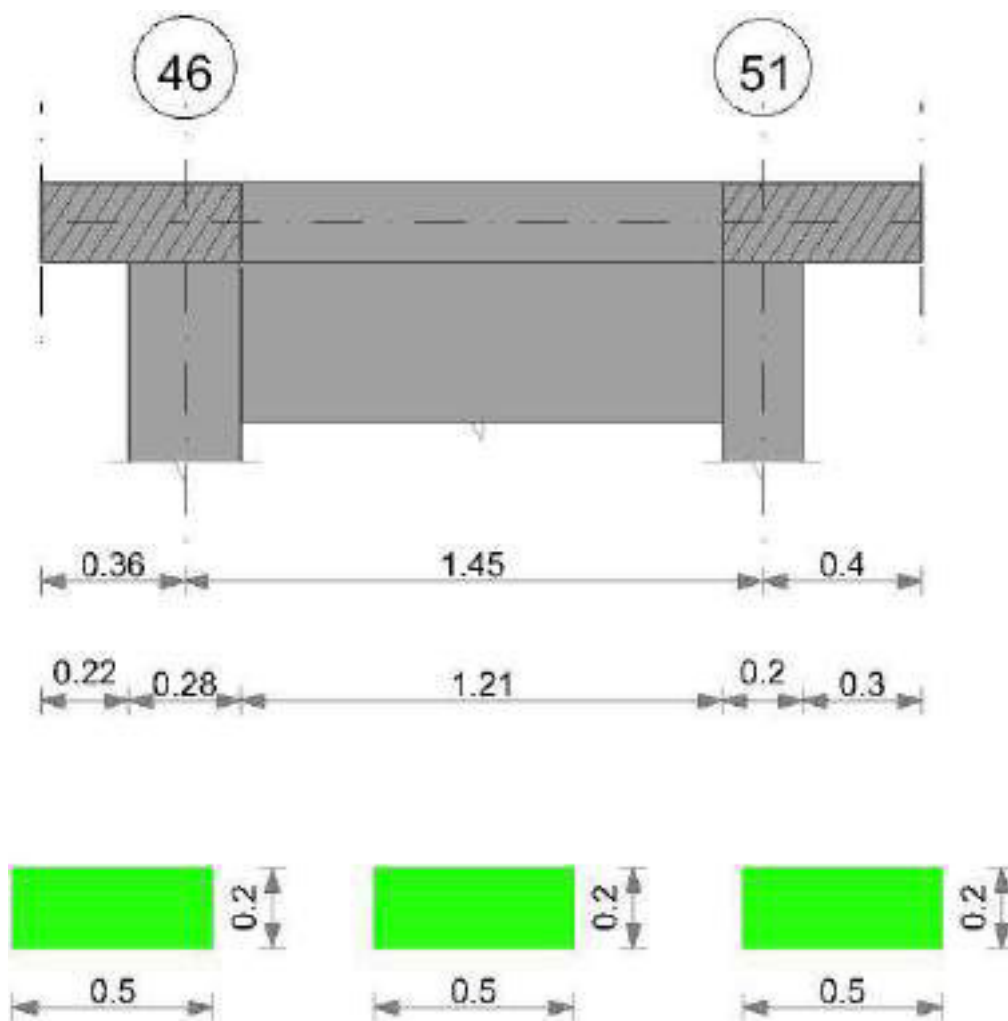
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 37-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

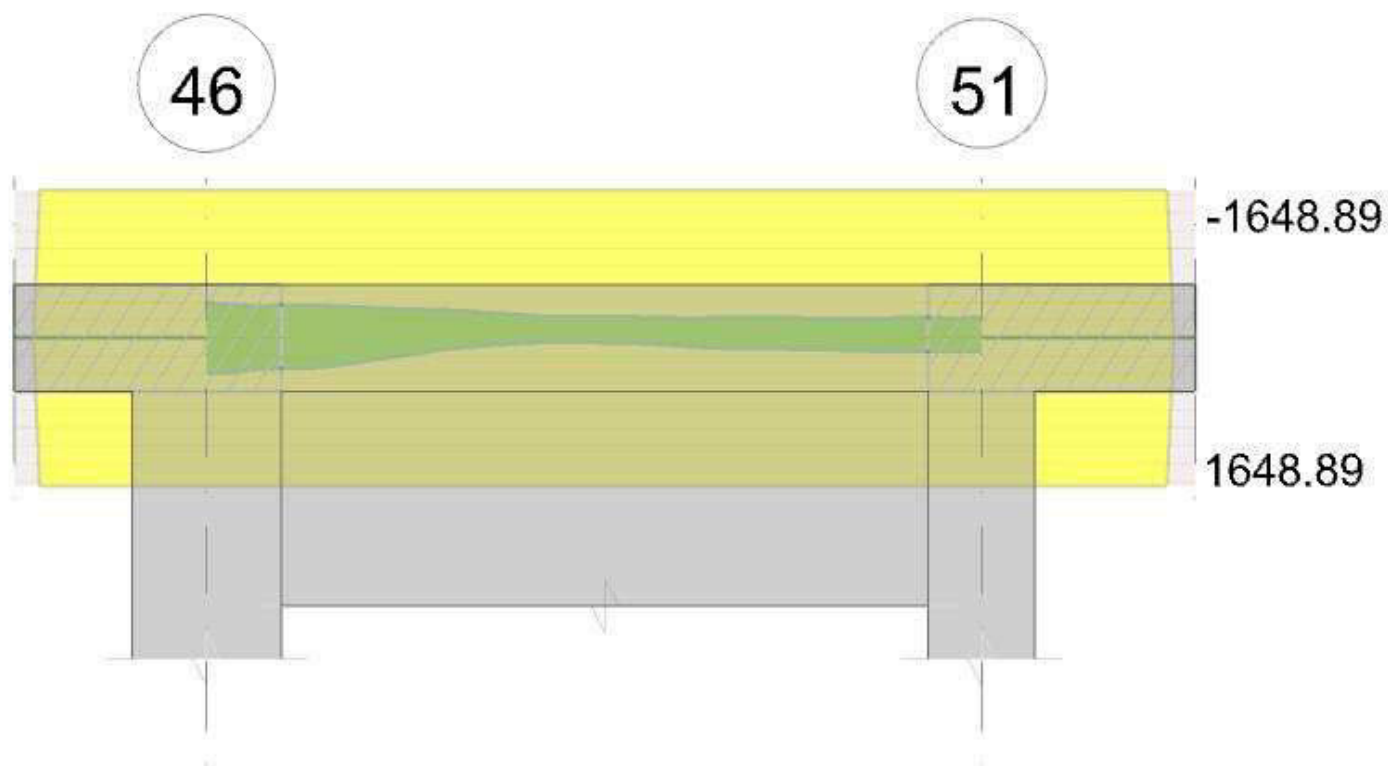


Diagramma verifica stato limite ultimo taglio

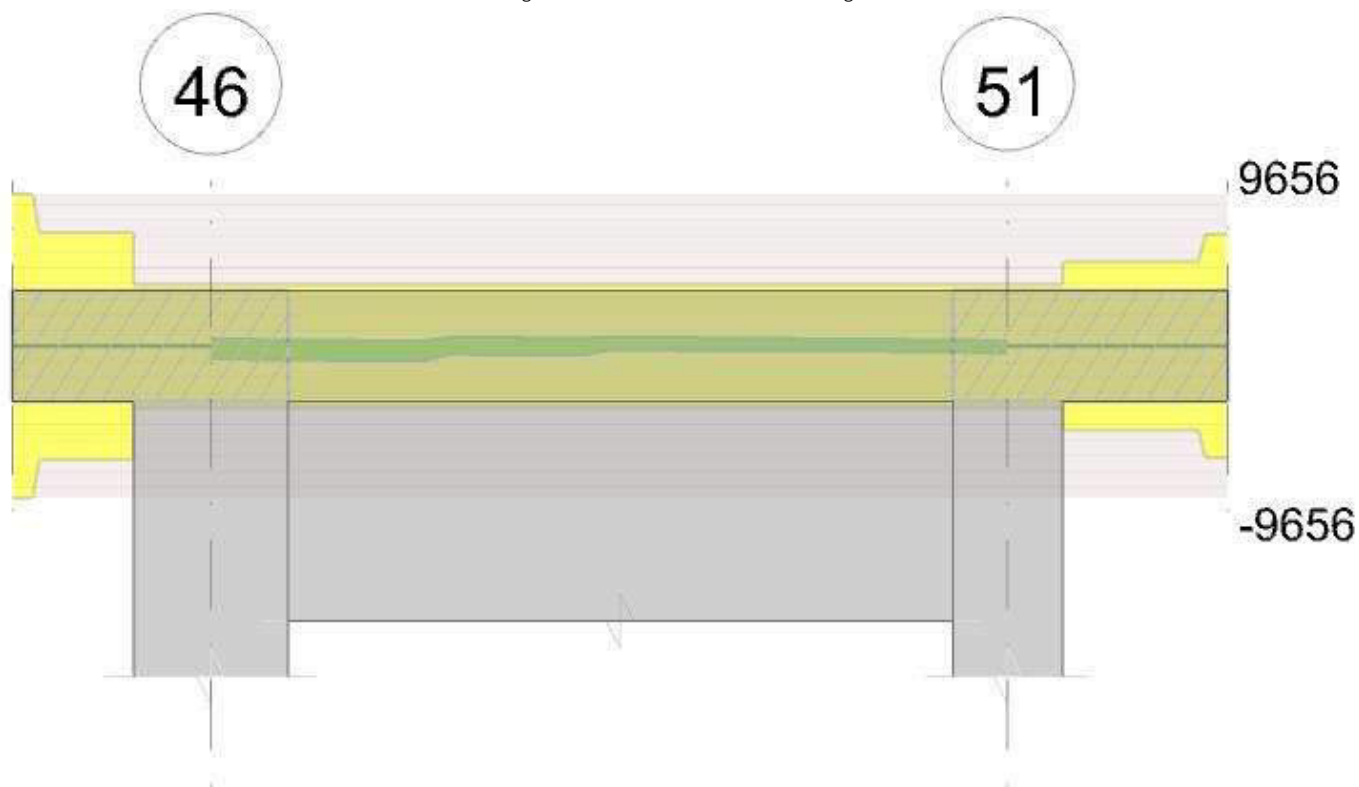
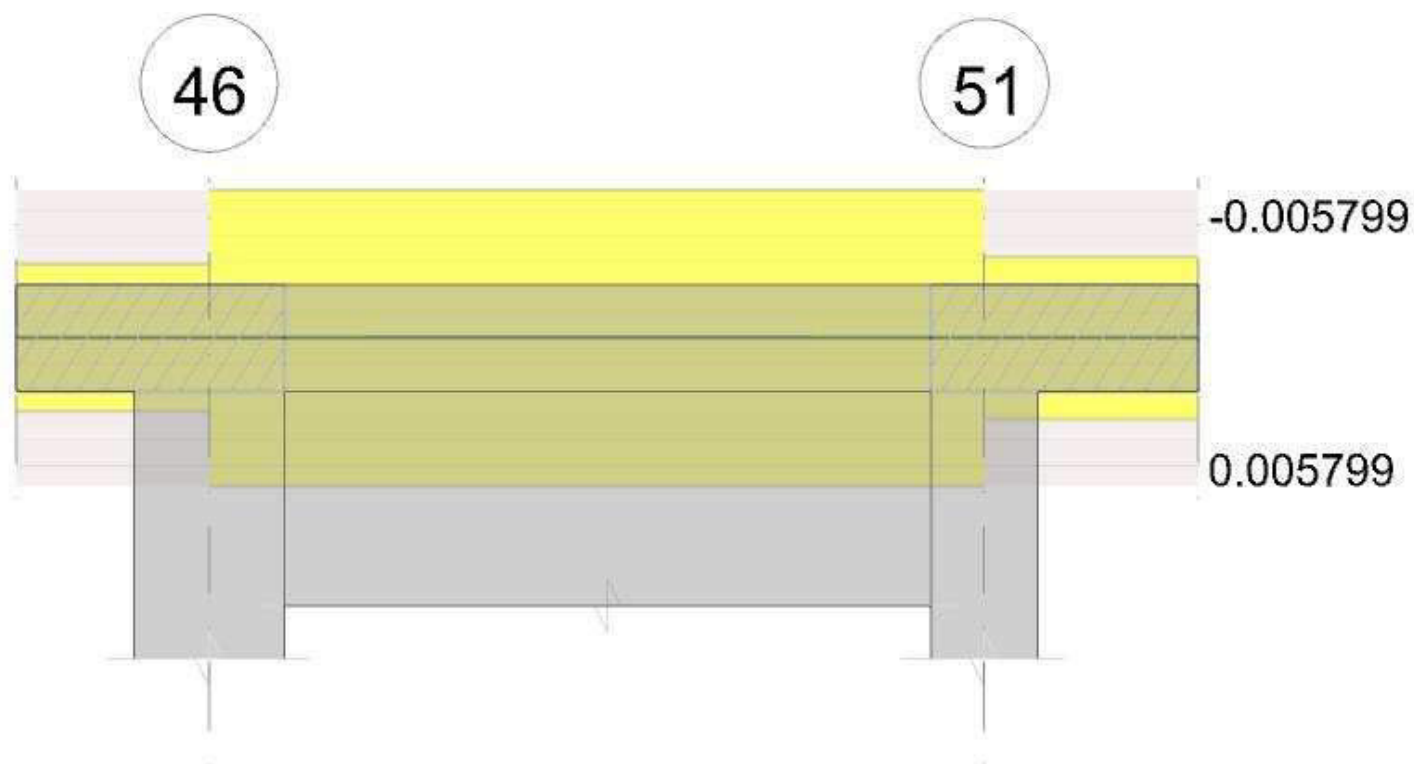


Diagramma verifica stato limite esercizio quasi permanente freccia



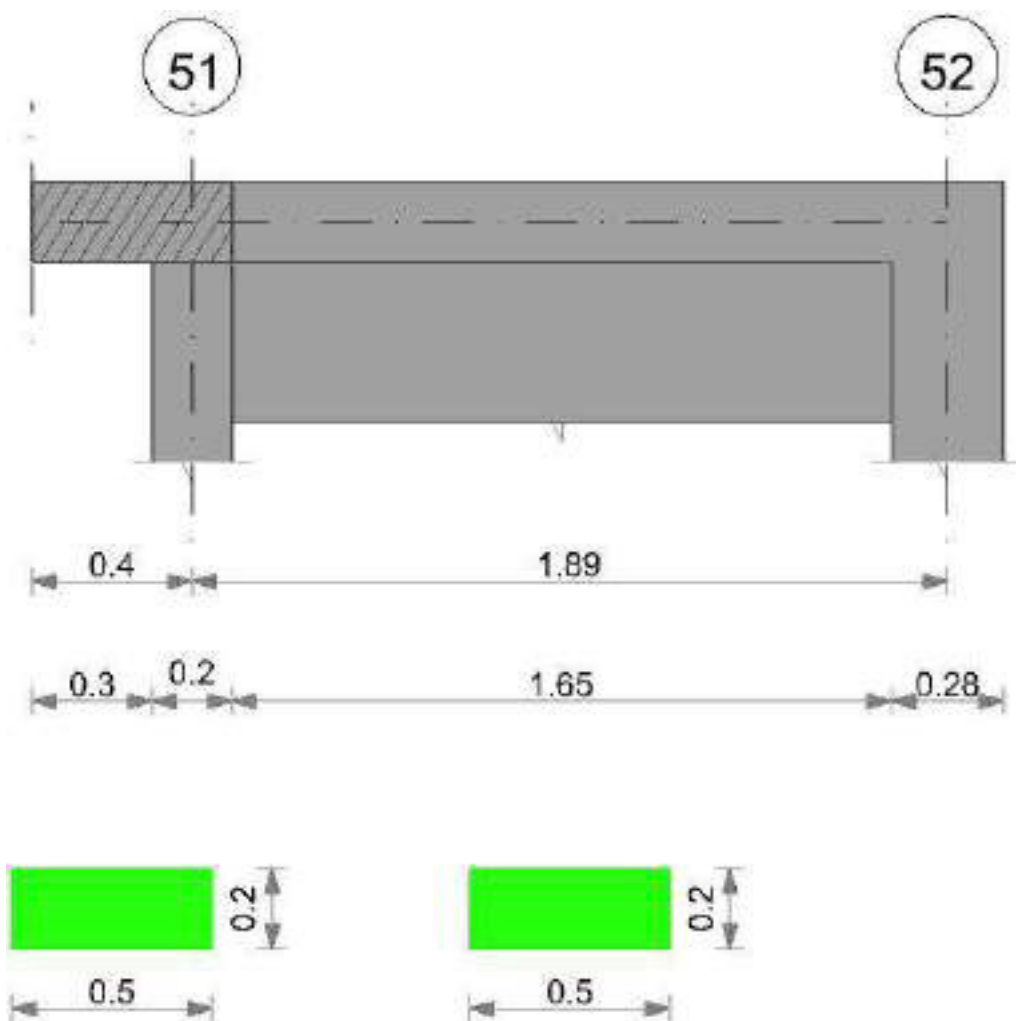
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Sottotetto" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

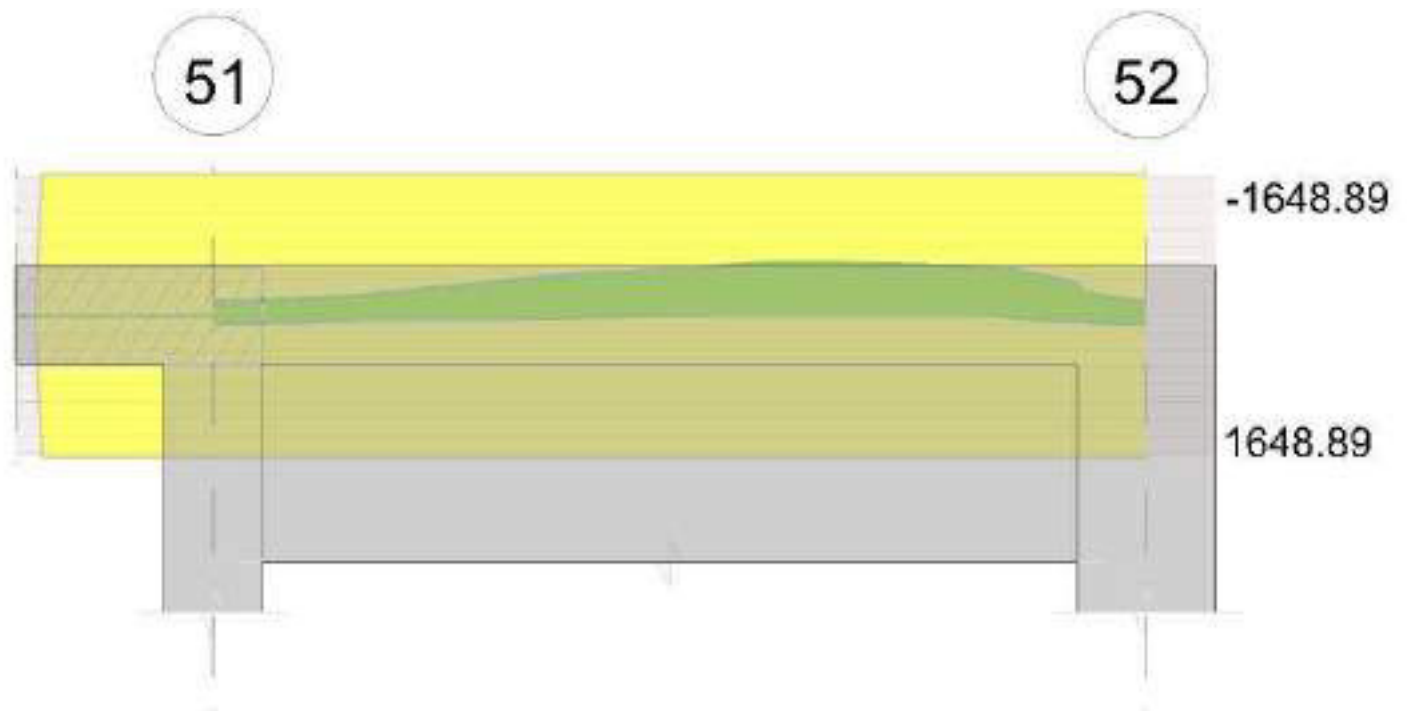


Diagramma verifica stato limite ultimo taglio

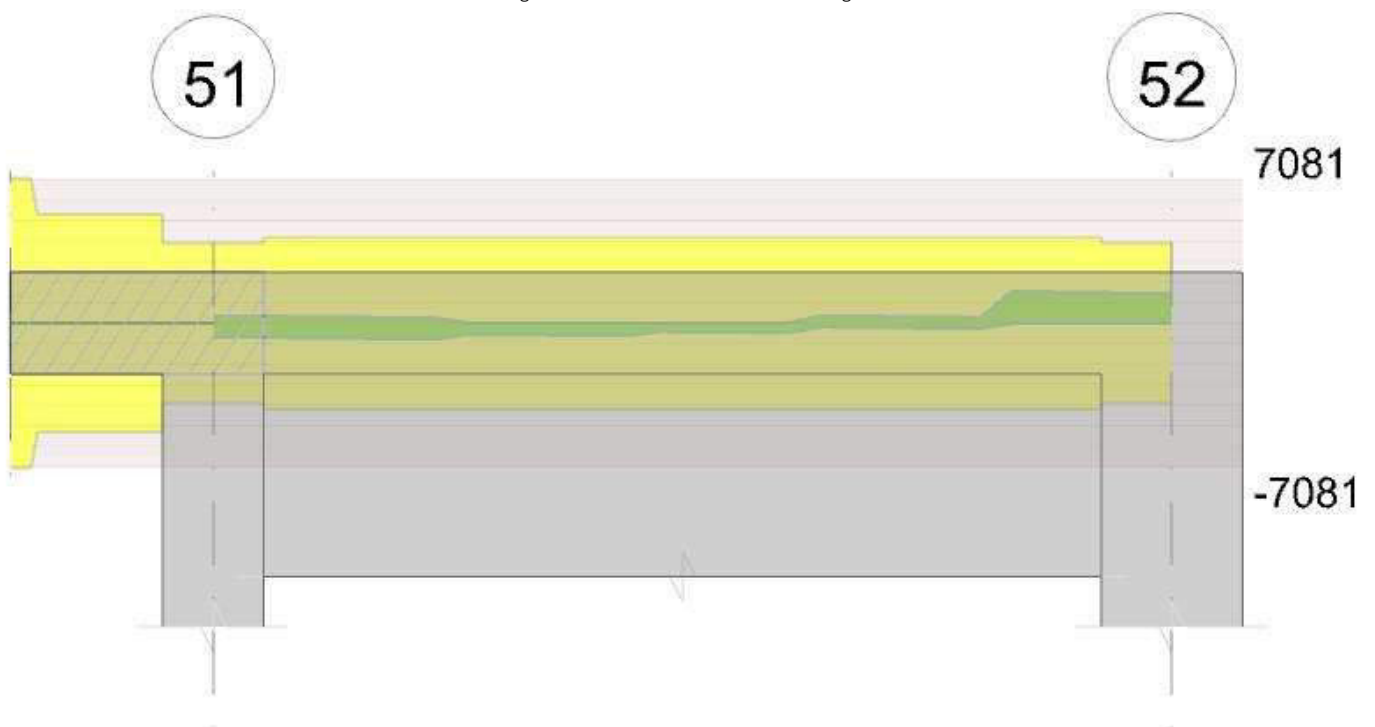
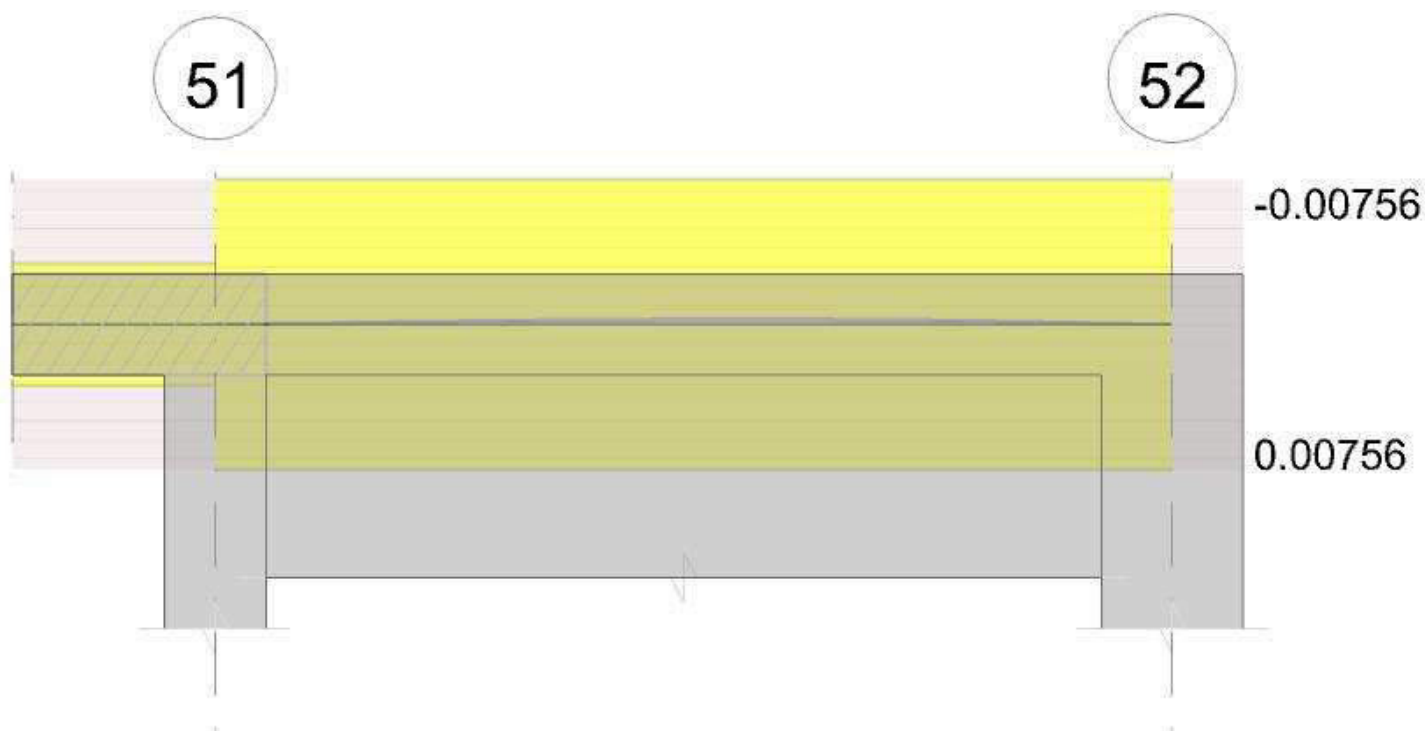


Diagramma verifica stato limite esercizio quasi permanente freccia



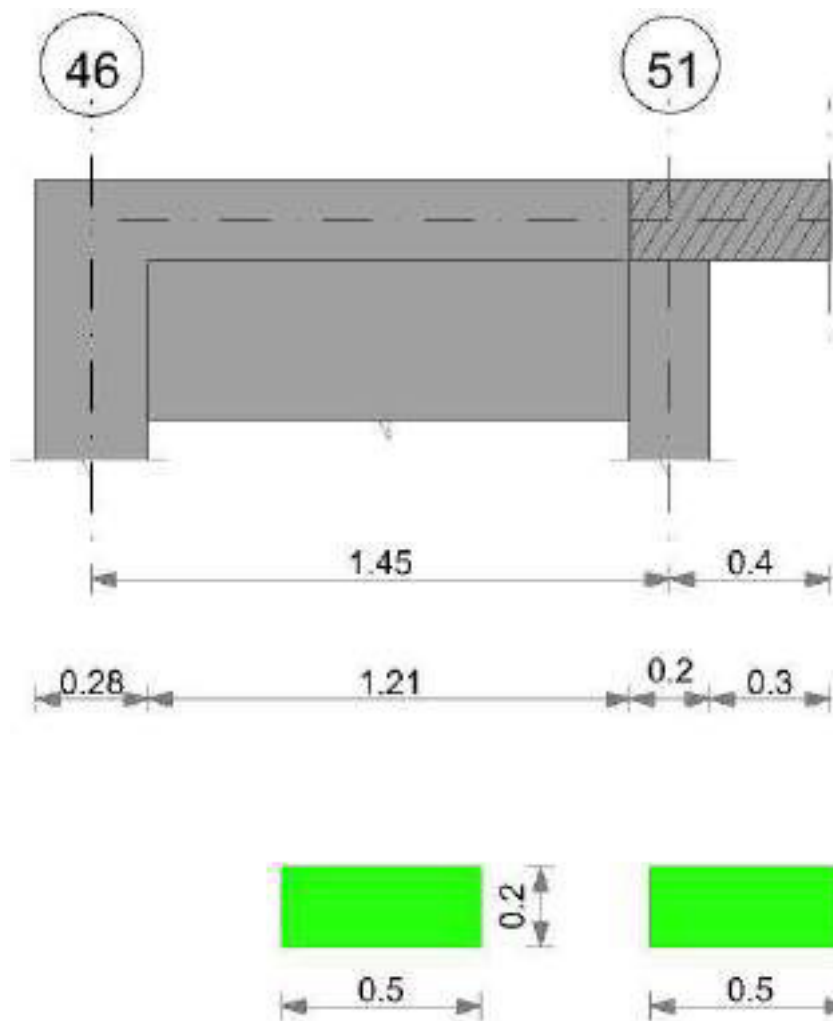
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 46-54

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

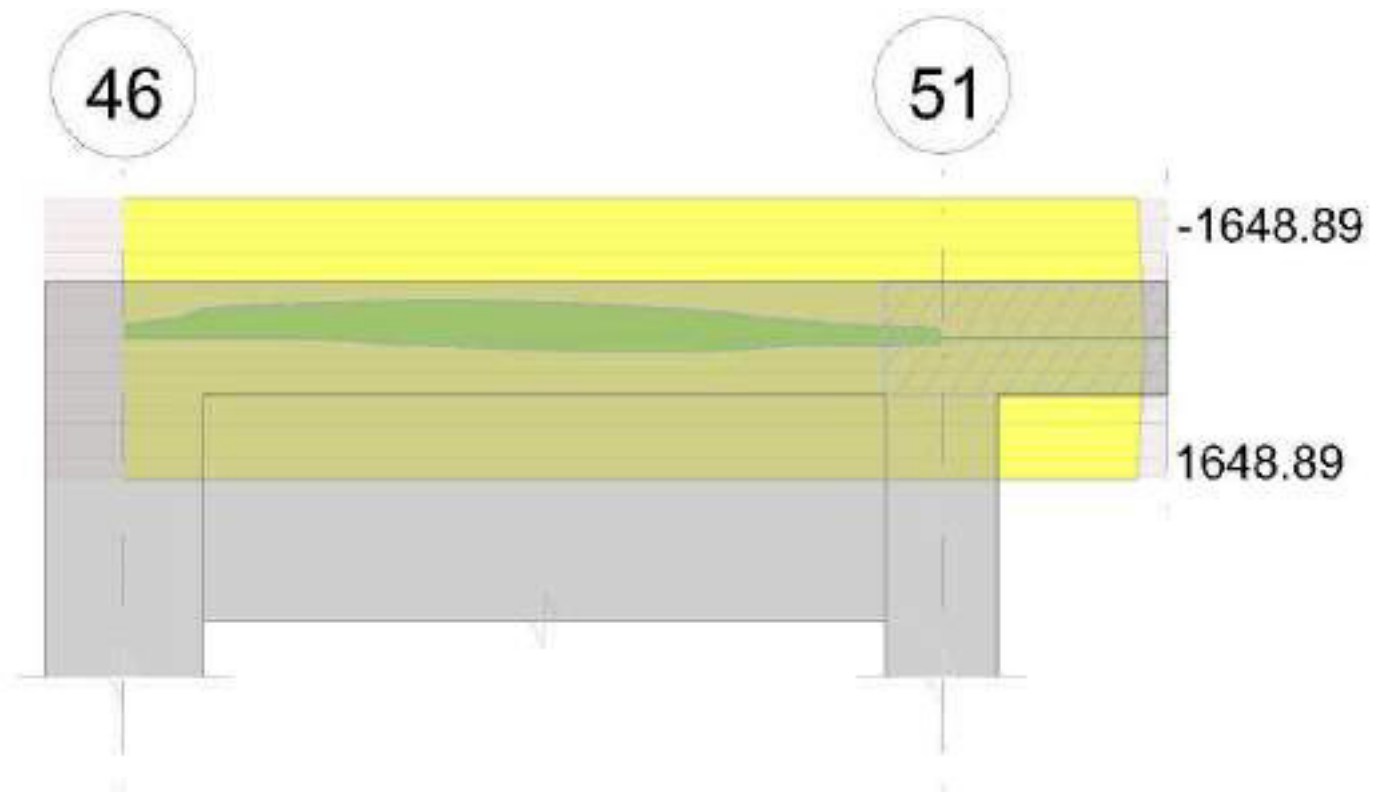


Diagramma verifica stato limite ultimo taglio

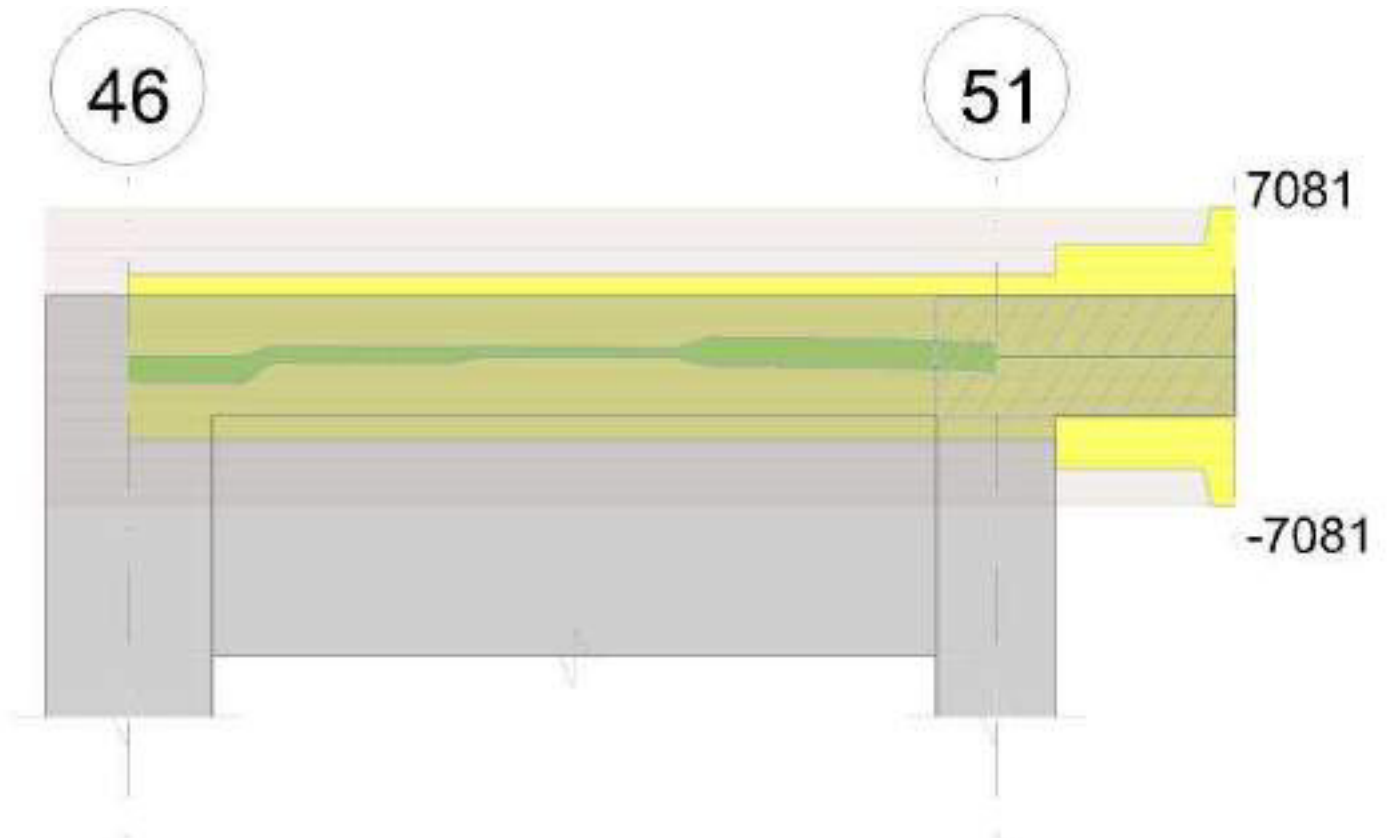
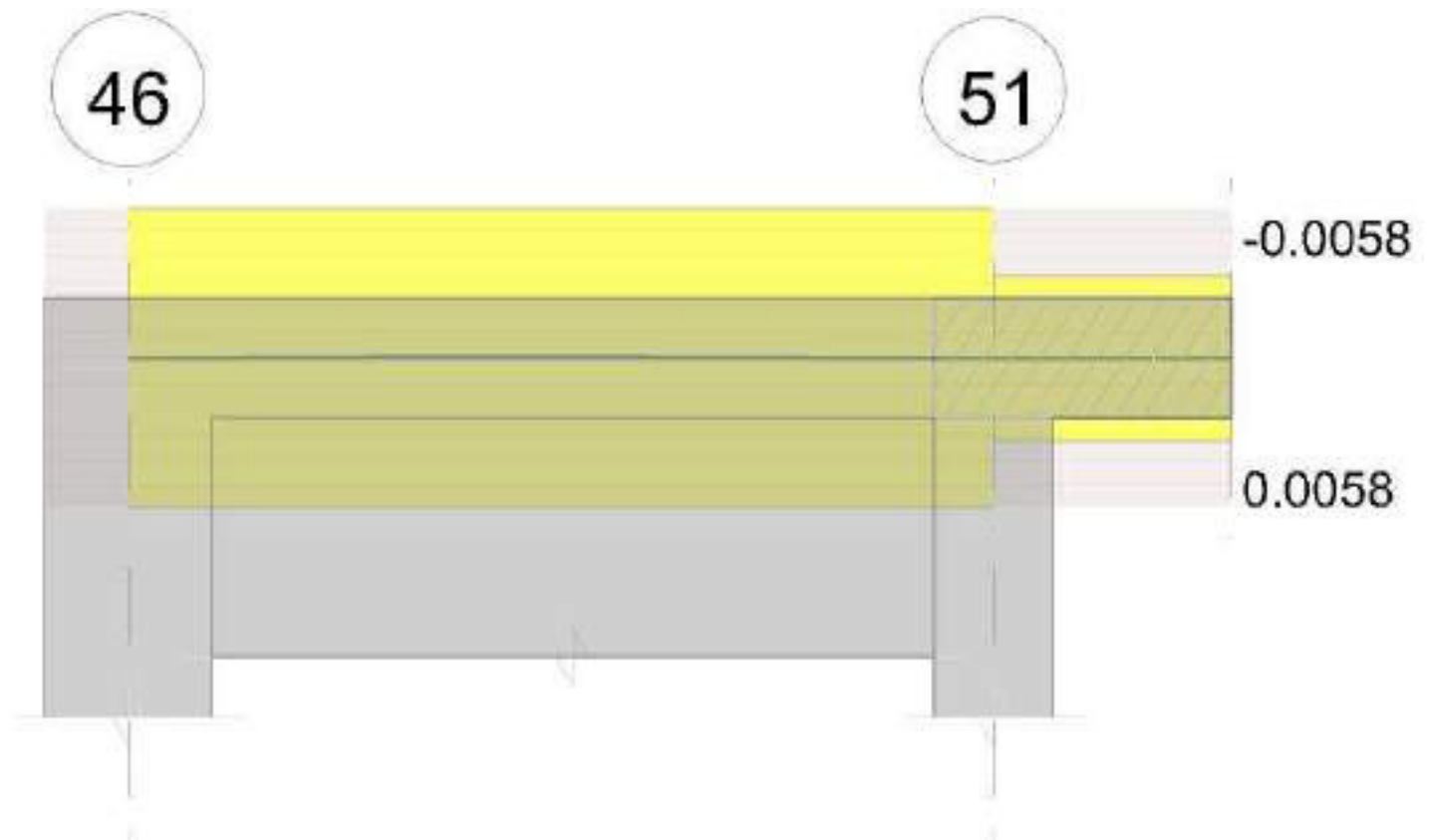


Diagramma verifica stato limite esercizio quasi permanente freccia



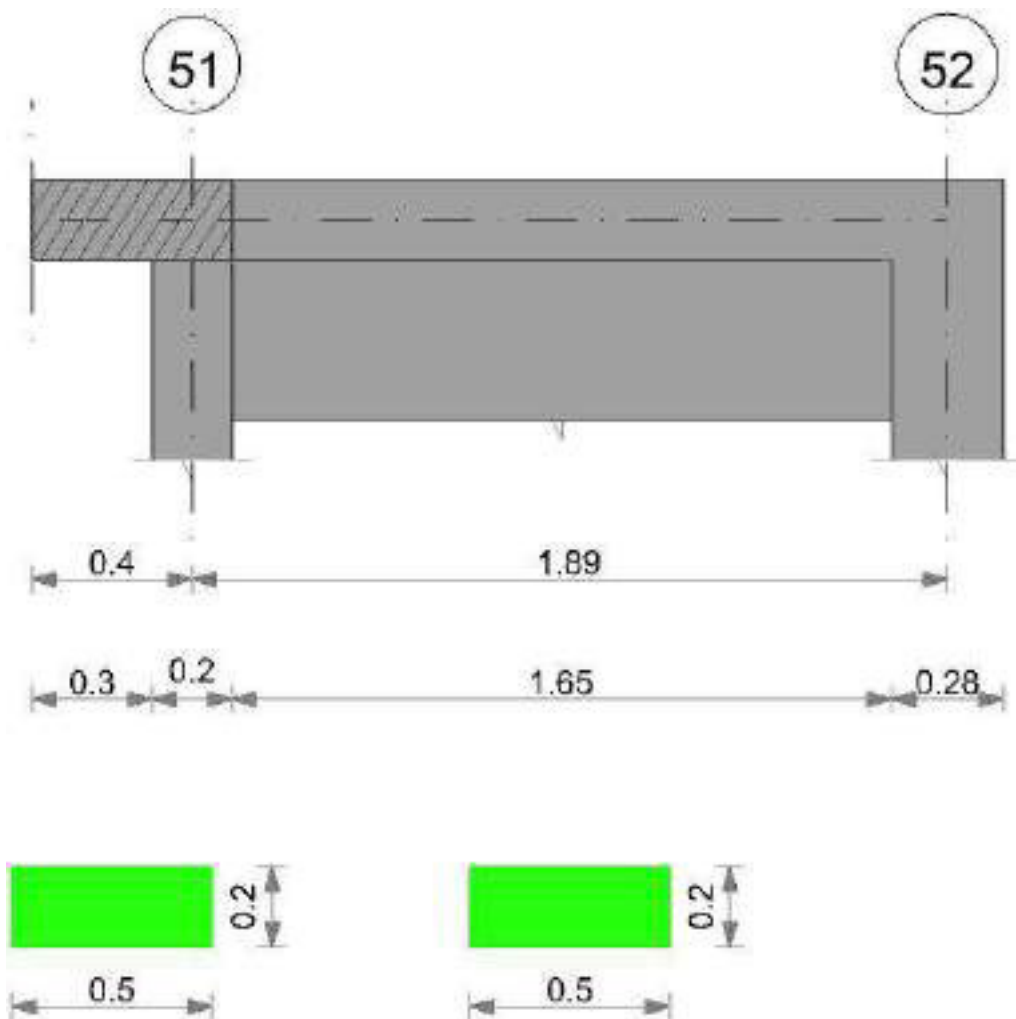
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

Trave a "Terzo" 51-52

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 50x20	Rettangolare	0.5	0.2	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

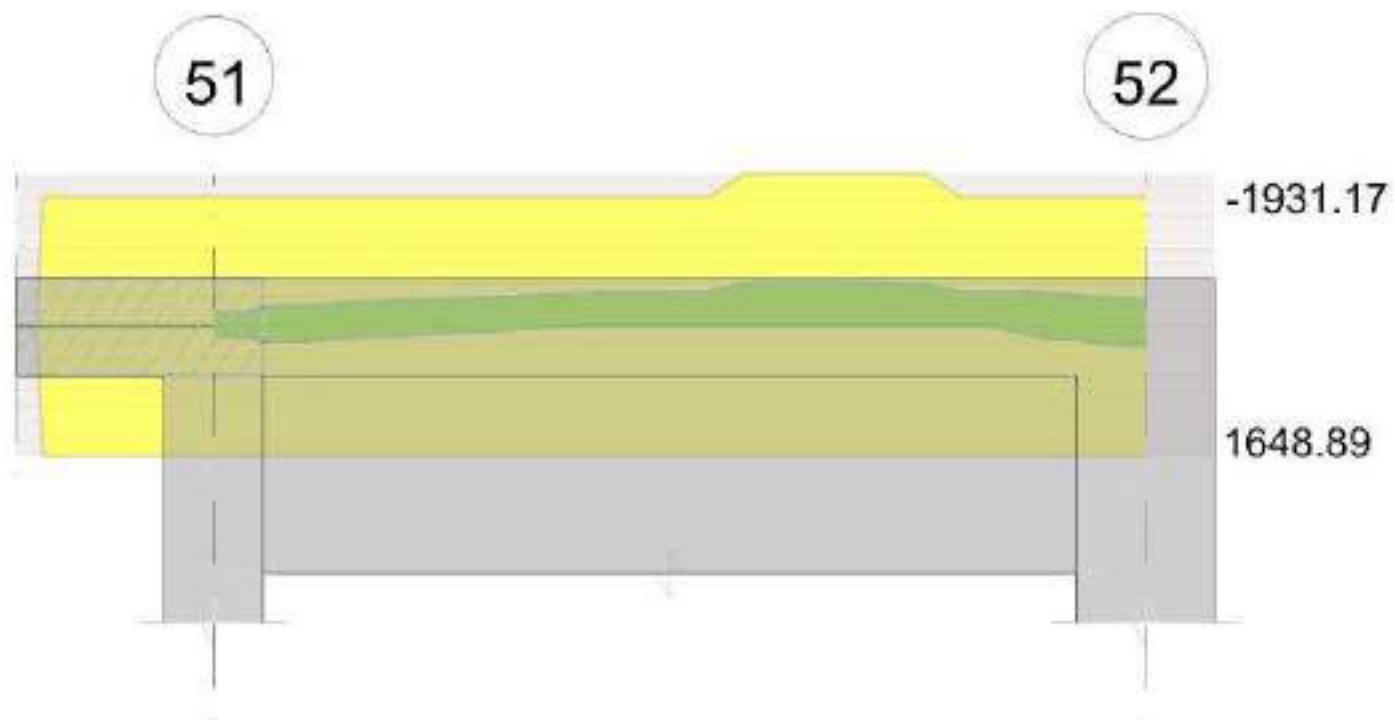


Diagramma verifica stato limite ultimo taglio

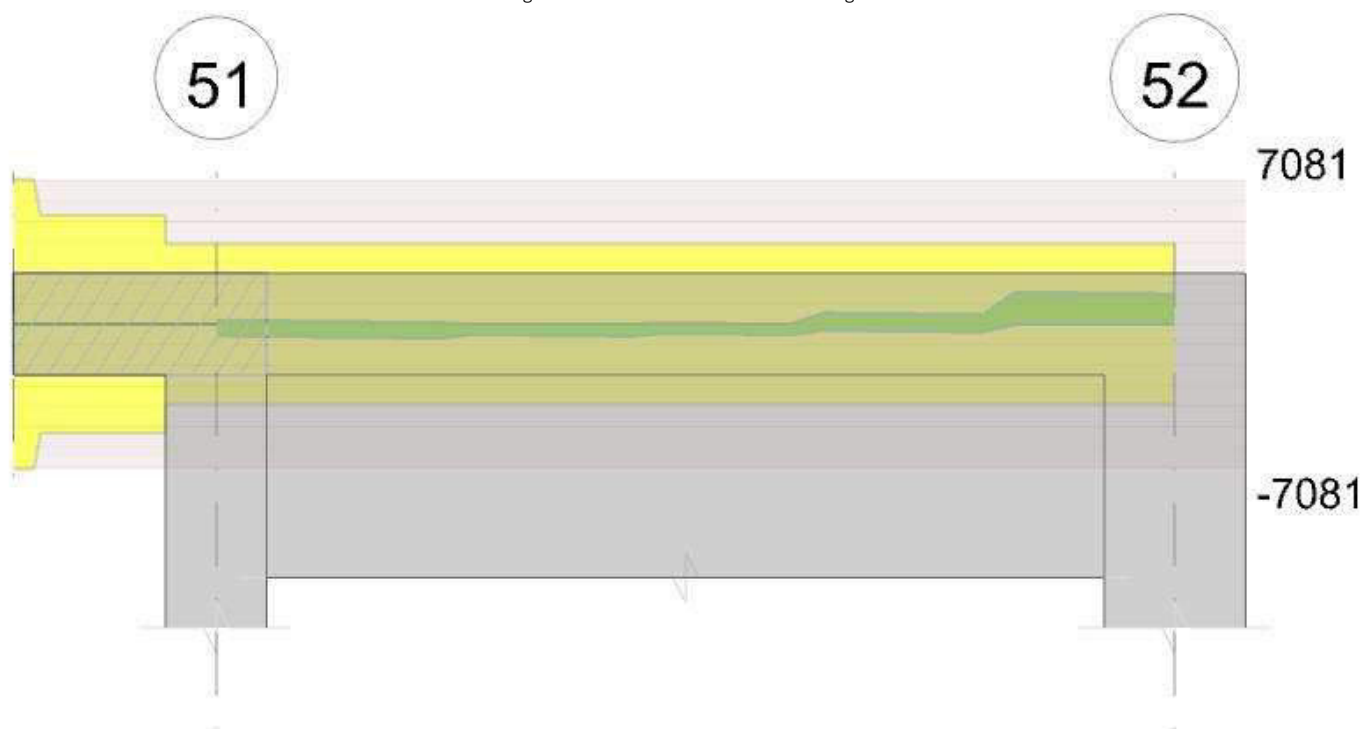
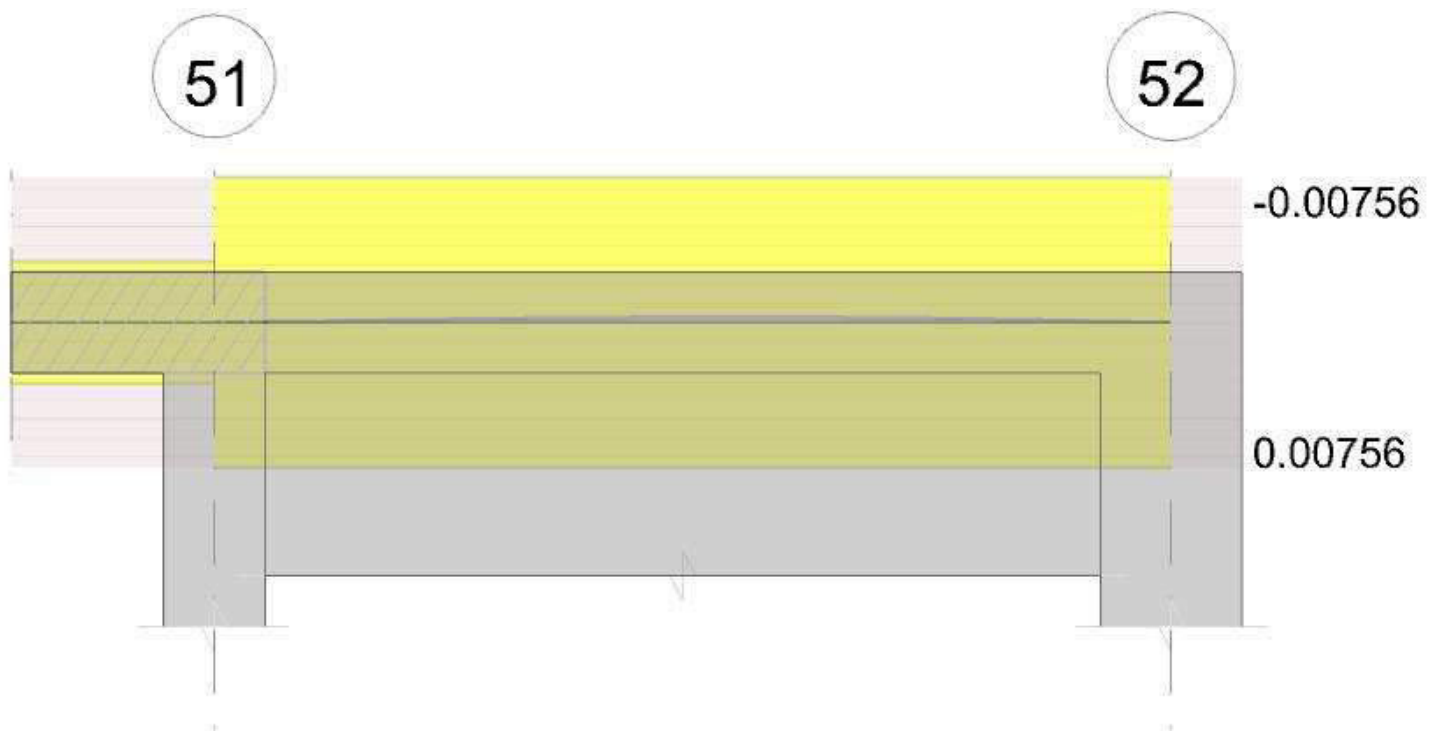


Diagramma verifica stato limite esercizio quasi permanente freccia



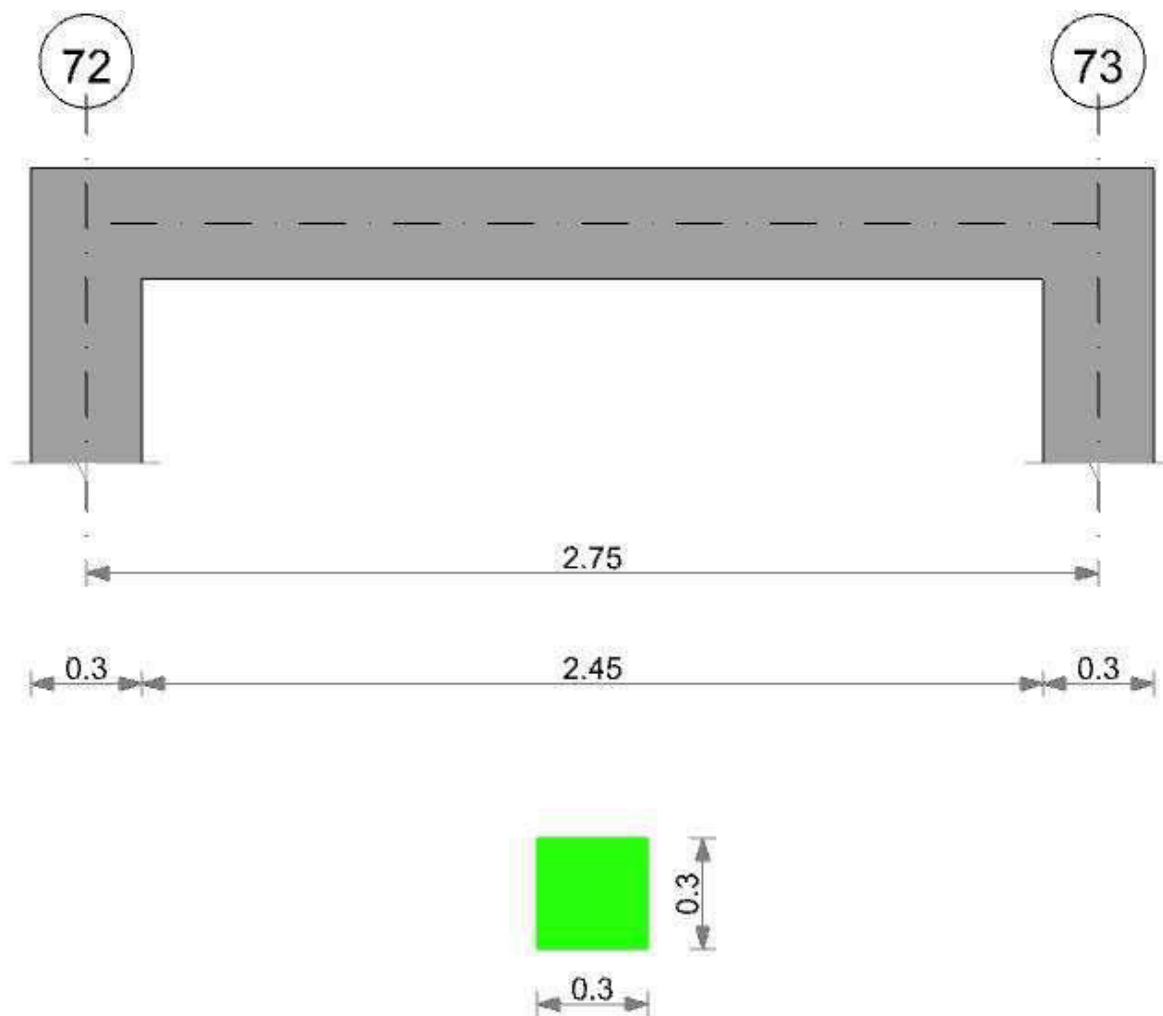
Output campate

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

TRAVE PIANO RIALZATO

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Elenco delle sezioni

N°	Descrizione	Tipo	Base	Altezza	Copriferro sup.	Copriferro inf.	Copriferro lat.
1	R 30x30	Rettangolare	0.3	0.3	0.035	0.035	0.035

Diagramma verifica stato limite ultimo flessione

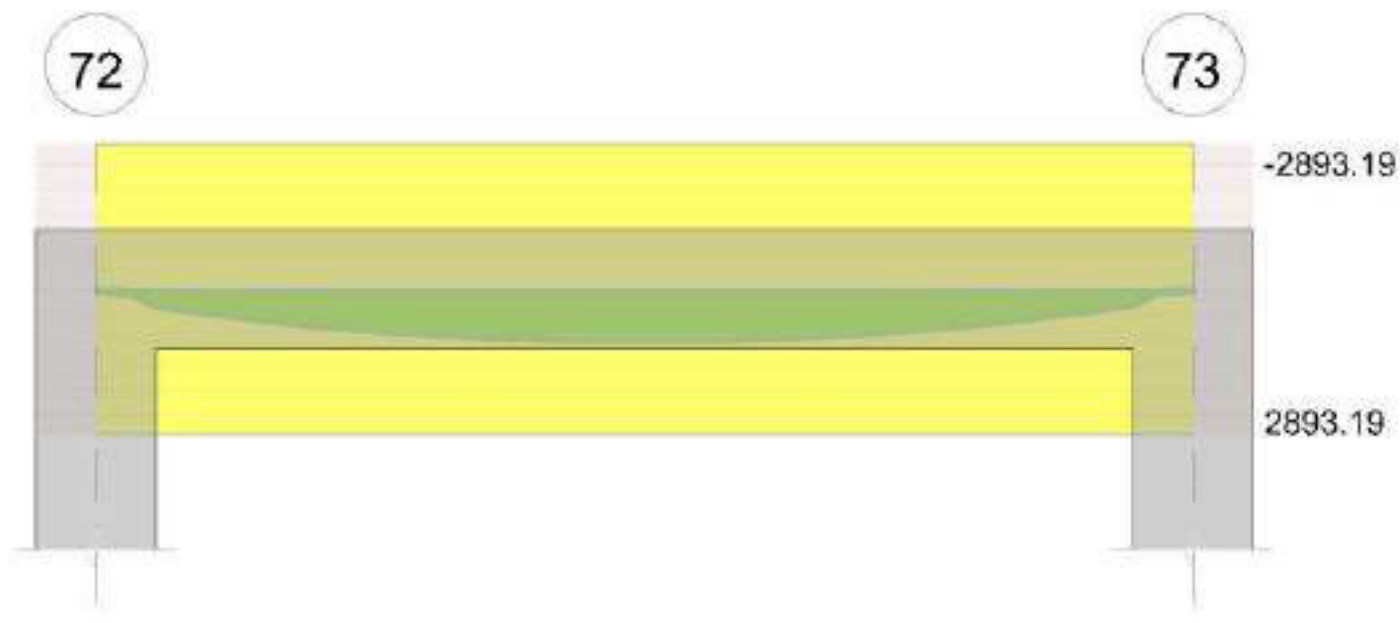
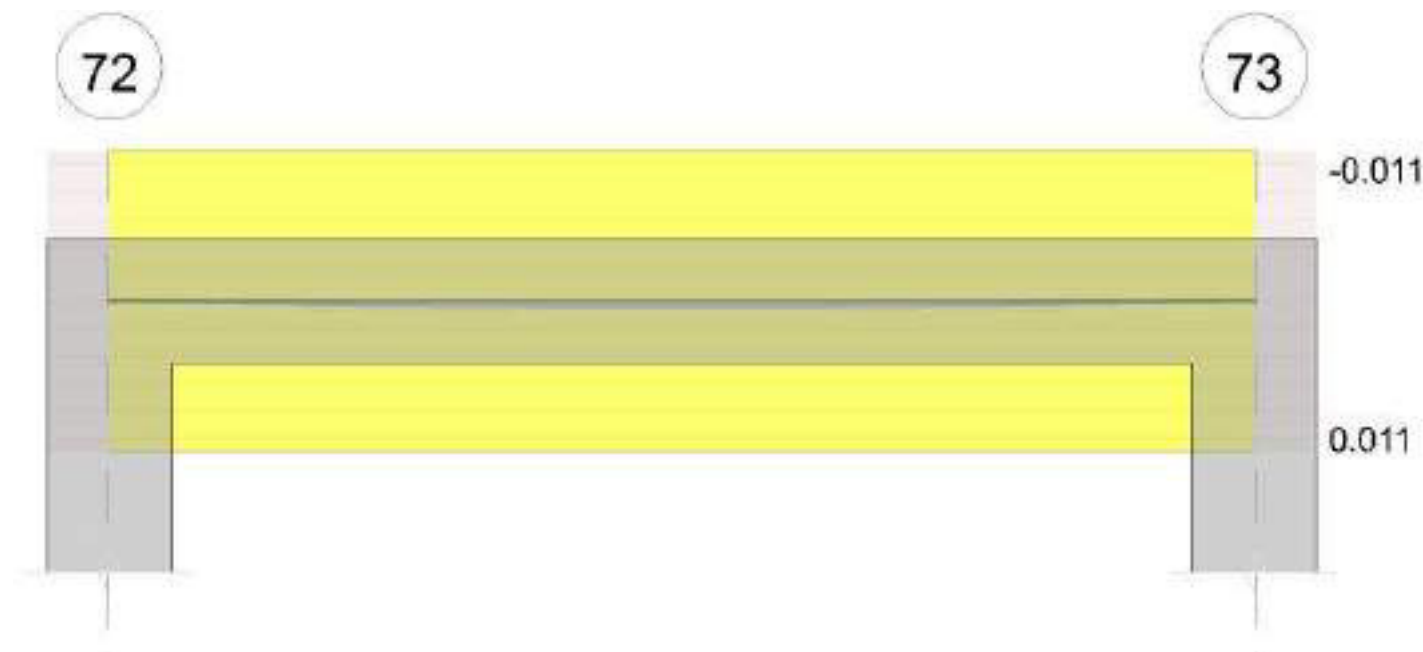


Diagramma verifica stato limite ultimo taglio



Diagramma verifica stato limite esercizio quasi permanente freccia



Output campate

Campata 1 tra i fili 72 - 73, sezione R 30x30, asta 499; campata a comportamento dissipativo

Verifiche a flessione in famiglia SLU

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05	21.54	SLU 77	21.54	2893.19	0.177	134.29							Si
0.15	0.000308	0.05	0.000308	0.05	232.29	SLU 83	375.13	2893.19	0.177	7.71							Si
1.38	0.000308	0.05	0.000308	0.05	1042.79	SLU 83	1042.79	2893.19	0.177	2.77							Si
2.6	0.000308	0.05	0.000308	0.05	207.48	SLU 83	352.59	2893.19	0.177	8.21							Si
2.75	0.000308	0.05	0.000308	0.05							-6.63	SLU 82	-6.63	-2893.19	0.177	436.4	Si

Verifiche a flessione in famiglia SLV

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05	68.93	SLV 15	68.93	2893.19	0.177	41.97	-38.6	SLV 2	-21.71	-2893.19	0.177	133.26	Si
0.15	0.000308	0.05	0.000308	0.05	163.22	SLV 15	226.77	2893.19	0.177	12.76							Si
1.38	0.000308	0.05	0.000308	0.05	523.42	SLV 3	523.42	2893.19	0.177	5.53							Si
2.6	0.000308	0.05	0.000308	0.05	167.36	SLV 4	231.92	2893.19	0.177	12.47							Si
2.75	0.000308	0.05	0.000308	0.05	71.59	SLV 4	71.59	2893.19	0.177	40.41	-77.22	SLV 13	-20.27	-2893.19	0.177	142.72	Si

Verifiche SLD Resistenza a flessione

x	A sup.	C.b. sup.	A inf.	C.b. inf.	M+ela	Comb.	M+des	M+ult	x/d	coeff	M-ela	Comb.	M-des	M-ult	x/d	coeff	Verifica
0	0.000308	0.05	0.000308	0.05	49.59	SLD 15	49.59	2893.19	0.177	58.35	-19.26	SLD 2	-19.26	-2893.19	0.177	150.24	Si
0.15	0.000308	0.05	0.000308	0.05	145.92	SLD 15	210.95	2893.19	0.177	13.72							Si
1.38	0.000308	0.05	0.000308	0.05	514.28	SLD 3	514.28	2893.19	0.177	5.63							Si
2.6	0.000308	0.05	0.000308	0.05	142.87	SLD 4	209.07	2893.19	0.177	13.84							Si
2.75	0.000308	0.05	0.000308	0.05	44.89	SLD 4	44.89	2893.19	0.177	64.45	-50.52	SLD 13	-25.98	-2893.19	0.177	111.36	Si

Verifiche a taglio in famiglia SLU

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000308	0	1496	SLU 82	1496	3700	23811	0	3700	1	2.47	Si
0.15	0.0000168	0.000308	0	1332	SLU 82	1332	3700	23811	14752	14752	1	11.08	Si
1.38	0.0000054	0.000308	0	-10	SLU 83	-10	-3700	-23811	-4784	-4784	1	472.46	Si
2.6	0.0000168	0.000308	0	-1352	SLU 83	-1352	-3700	-23811	-14752	-14752	1	10.91	Si
2.75	0	0.000308	0	-1516	SLU 83	-1516	-3700	-23811	0	-3700	1	2.44	Si

Verifiche a taglio in famiglia SLV

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000308	0	752	Ger.	3315	3700	23811	0	3700	1	1.12	Si
0	0	0.000308	0	666	Ger.	-1881	-3700	-23811	0	-3700	1	1.97	Si
0.15	0.0000168	0.000308	0	674	Ger.	3235	3700	23811	14752	14752	1	4.56	Si
0.15	0.0000168	0.000308	0	588	Ger.	-1961	-3700	-23811	-14752	-14752	1	7.52	Si
1.38	0.0000054	0.000308	0	37	Ger.	2598	3700	23811	4784	4784	1	1.84	Si
1.38	0.0000054	0.000308	0	-50	Ger.	-2598	-3700	-23811	-4784	-4784	1	1.84	Si
2.6	0.0000168	0.000308	0	-601	Ger.	1961	3700	23811	14752	14752	1	7.52	Si
2.6	0.0000168	0.000308	0	-687	Ger.	-3235	-3700	-23811	-14752	-14752	1	4.56	Si
2.75	0	0.000308	0	-679	Ger.	1881	3700	23811	0	3700	1	1.97	Si
2.75	0	0.000308	0	-765	Ger.	-3315	-3700	-23811	0	-3700	1	1.12	Si

Verifiche SLD Resistenza a taglio

x	A st	A sl	A sag	Vela	Comb.	Vdes	Vrd	Vrzd	Vrsd	Vult	cotgθ	coeff	Verifica
0	0	0.000308	0	737	SLD 2	737	3700	23811	0	3700	1	5.02	Si
0.15	0.0000168	0.000308	0	659	SLD 2	659	3700	23811	14752	14752	1	22.4	Si
1.38	0.0000054	0.000308	0	21	SLD 2	21	3700	23811	4784	4784	1	225.25	Si
1.38	0.0000054	0.000308	0	-34	SLD 15	-34	-3700	-23811	-4784	-4784	1	139.42	Si
2.6	0.0000168	0.000308	0	-672	SLD 15	-672	-3700	-23811	-14752	-14752	1	21.96	Si
2.75	0	0.000308	0	-750	SLD 15	-750	-3700	-23811	0	-3700	1	4.93	Si



Verifiche delle tensioni in esercizio

x	Rara							Quasi permanente							Verifica
	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma f.$	$\sigma f \text{ lim.}$	Mela	Comb.	Mdes	σc	$\sigma c \text{ lim.}$	$\sigma \text{ FRP}$	$\sigma \text{ FRP lim.}$	
0	15.92	14	15.92	3112	1494000	46676	36000000	15.16	2	15.16	2964	1120500			Si
0.15	164.23	20	264.74	51750	1494000	776243	36000000	115.15	2	182.81	35735	1120500			Si
1.38	734.38	20	734.38	143553	1494000	2153289	36000000	498.07	2	498.07	97360	1120500			Si
2.6	146.12	20	248.29	48534	1494000	728011	36000000	99.13	2	168.26	32891	1120500			Si
2.75	-4.62	19	-4.62	903	1494000	13551	36000000	-2.81	2	-2.81	550	1120500			Si

Verifica di apertura delle fessure

La campata non presenta apertura delle fessure

Verifica di deformabilità

x	Rara				Frequente				Quasi permanente							Verifica
	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess.+	Fess.-	Elastica+	Elastica-	Fess. viscosa+	Comb.	Fess. viscosa-	Comb.	I/f	
0.15	0.00005	0.00003	0.00004	0.00002	0.00004	0.00003	0.00003	0.00002	0.00003	0.00003	0.00008	2	0.00007	2	9999	Si
1.38	0.00028	0.00015	0.00026	0.00014	0.00021	0.00015	0.0002	0.00014	0.00019	0.00015	0.00047	2	0.00038	2	5839	Si
2.6	0.00005	0.00003	0.00004	0.00002	0.00004	0.00003	0.00003	0.00002	0.00003	0.00003	0.00008	2	0.00006	2	9999	Si

Verifiche taglio ciclico nel piano Circolare 7 21-01-19 §C8.7.2.3.5, [C8.7.2.8]

Ascissa	Lv	x	h	p_{tot}	θ_m	θ_y	$\mu \Delta_{pl}$	Vrd	Vrd(cot $\theta=1$)	VRsd	Vw	Vr	Vu	Ved	Ned	Comb.	Verifica
0.3	1.375	0.044	0.3	0.007	0.00012	0.00961	0	3700	23811	14752	14752	13543	14752	3235	0	SLV 7	Si
2.75	2.697	0.044	0.3	0.007	0.00023	0.00961	0	3700	23811	14752	14752	13364	14752	-3235	0	SLV 1	Si

Valutazione dei tagli secondo gerarchia delle resistenze (vrd =1,1)

x	taglio negativo								taglio positivo							
	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela	contr. grav.	Vdes	contr. mom. res.	Vela
0	717	-1881	-2362	666	717	3315	2362	752								
0.15	637	-1961	-2362	588	637	3235	2362	674								
1.38	0	-2598	-2362	-50	0	2598	2362	37								
2.6	-637	-3235	-2362	-687	-637	1961	2362	-601								
2.75	-717	-3315	-2362	-765	-717	1881	2362	-679								

Momenti resistenti a filo appoggi

campata	x	appoggio	momento positivo	momento negativo
1	0.15	72	2893.19	-2893.19
1	2.6	73	2893.19	-2893.19

Controllo diametro delle barre longitudinali nei nodi

Nessun nodo è da verificare

1.3 Verifiche pareti C.A.

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

Descrizione breve: nome sintetico assegnato al livello.

Descrizione: nome assegnato al livello.

Quota: quota superiore espressa nel sistema di riferimento assoluto. [m]

Spessore: spessore del livello. [m]

Descrizione: descrizione della sezione di verifica.

Dir.: direzione della sezione di verifica.

Base: base della sezione. [m]

Altezza: altezza della sezione. [m]

As,sup: area di acciaio efficace superiore. [m²]

As,inf: area di acciaio efficace inferiore. [m²]

c,sup: copriferro medio superiore. [m]

c,inf: copriferro medio inferiore. [m]

Comb.: combinazione di verifica.

MEd: momento agente. [daN*m]

NEd: sforzo normale agente, positivo se di trazione. [daN]

MRd: momento resistente. [daN*m]

NRd: sforzo normale resistente, positivo se di trazione. [daN]

c.s.: coefficiente di sicurezza.

Verifica: stato di verifica.

d: altezza utile. [m]

bw: minima larghezza anima. [m]

Armatura a taglio: necessità di armatura a taglio.

Asw/s: rapporto tra l'area dell'armatura trasversale e l'interasse tra due armature consecutive.

VEd: taglio agente. [daN]

Vrd,c: resistenza di calcolo a taglio per elementi privi di armature trasversali. [daN]

Vrcd: valore resistente di calcolo a taglio compressione del calcestruzzo d'anima. [daN]

Vrsd: valore resistente di calcolo a taglio trazione dell'armatura trasversale. [daN]

VRd: resistenza a taglio. [daN]

cotg(θ): cotangente dell'angolo dei puntoni rispetto all'asse.

Asl: area armatura longitudinale. [m²]

Sezione fessurata: sezione fessurata.

σc : tensione del calcestruzzo. [daN/m²]

$\sigma c \text{ limite}$: tensione limite del calcestruzzo. [daN/m²]



E_s/E_c : coefficiente di omogenizzazione.

σ_f : tensione dell'armatura. [daN/m²]

$\sigma_{f\text{ limite}}$: tensione limite dell'armatura. [daN/m²]

Spessore: spessore della parete in corrispondenza della barra. [m]

Φ : diametro barra. [m]

Φ_{max} : diametro massimo ammissibile. [m]

Passo: passo massimo delle barre. [m]

Passo max.: passo massimo delle barre ammissibile da norma. [m]

A_c : area sezione. [m²]

$A_{s,eff}$: area efficace delle barre presenti nella sezione. [m²]

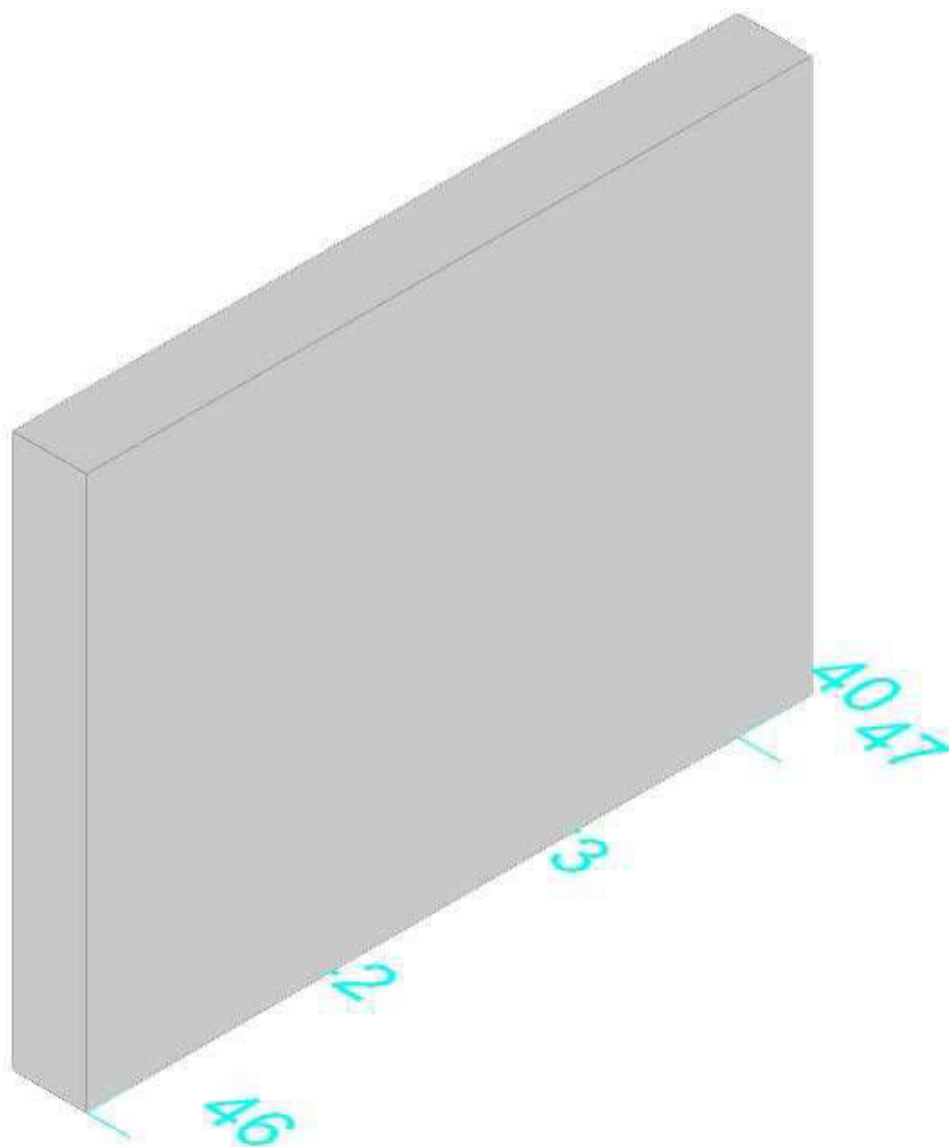
$A_{s,min}$: area minima richiesta. [m²]

% min: percentuale minima di area da prevedere.

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-2.8	0
L2	Fondazione	-1.3	0



Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
152 Prosp.A	Verticale	0.875	0.2	0.000294	0.000379	0.041	0.041
520 Prosp.A	Verticale	0.5	0.2	0.000184	0.000237	0.041	0.041
130 Prosp.A	Verticale	1	0.2	0.000367	0.000474	0.041	0.041
599 Prosp.A	Verticale	0.5	0.2	0.000417	0.000417	0.041	0.041
105 Prosp.A	Verticale	0.875	0.2	0.000331	0.000426	0.041	0.041
532 Prosp.A	Verticale	0.5	0.2	0.000565	0.000565	0.041	0.041
160 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
159 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041
161 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.0427	0.0427
158 Prosp.A	Orizzontale	1	0.2	0.001131	0.001131	0.041	0.041

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
152 Prosp.A	Verticale	SLU 83	-1044.37	3422	-2008.58	6580	1.9232	Si
520 Prosp.A	Verticale	SLV 4	-409.87	4250	-846.95	8782	2.0664	Si
130 Prosp.A	Verticale	SLU 83	-1261.08	2140	-2775.37	4709	2.2008	Si
599 Prosp.A	Verticale	SLU 83	553.6	1071	2189.87	4235	3.9557	Si
105 Prosp.A	Verticale	SLU 83	-658.03	507	-2650.93	2044	4.0286	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
152 Prosp.A	Verticale	SLD 3	-793.18	3519	-1865.54	8277	2.352	Si
520 Prosp.A	Verticale	SLD 4	-373.41	3436	-895.05	8237	2.397	Si
130 Prosp.A	Verticale	SLD 3	-934.91	1763	-2739.31	5165	2.93	Si
532 Prosp.A	Verticale	SLD 4	237.77	6525	1150.69	31576	4.8395	Si
160 Prosp.A	Orizzontale	SLD 2	1477.33	-4300	7697.16	-22403	5.2102	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
152 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLV 2	5892	432	687.08	5896	20511	0	5896	2.5	0.0006786	1.0007	Si
157 Prosp.A	Orizzontale	0.157	0.87	Non necessaria	0	SLU 84	7221	-3426	1139.75	9086	30340	0	9086	2.5	0.0010179	1.2581	Si
158 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLU 84	7467	-6078	1612.38	10672	35563	0	10672	2.5	0.001131	1.4292	Si
162 Prosp.A	Orizzontale	0.157	0.745	Non necessaria	0	SLU 83	5340	-5576	1064.94	8175	26261	0	8175	2.5	0.0009048	1.531	Si
152 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLU 83	4112	3690	-1042.72	6873	30461	0	6873	2.5	0.0003789	1.6713	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
152 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLD 2	5219	112	584.64	5896	20511	0	5896	2.5	0.0006786	1.1297	Si
157 Prosp.A	Orizzontale	0.157	0.87	Non necessaria	0	SLD 2	6165	-1216	990.3	8825	30071	0	8825	2.5	0.0010179	1.4314	Si
158 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 2	6223	-2930	1358.4	10296	35174	0	10296	2.5	0.001131	1.6544	Si
162 Prosp.A	Orizzontale	0.157	0.745	Non necessaria	0	SLD 3	3750	-4134	952.59	8006	26085	0	8006	2.5	0.0009048	2.1349	Si
152 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 1	3035	2993	-771.72	6873	30461	0	6873	2.5	0.0003789	2.2642	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
160 Prosp.A	Orizzontale	SLE QP 2	1268.57	-4937	No	-182753	1120500	15	6.1312	Si
159 Prosp.A	Orizzontale	SLE QP 2	1214.82	-5303	No	-177470	1120500	15	6.3138	Si
161 Prosp.A	Orizzontale	SLE QP 2	1080.07	-4579	No	-158246	1120500	15	7.0808	Si
158 Prosp.A	Orizzontale	SLE QP 2	1068.62	-3774	No	-152300	1120500	15	7.3572	Si
160 Prosp.A	Orizzontale	SLE RA 21	1391.9	-5472	No	-200755	1494000	15	7.4419	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
152 Prosp.A	Verticale	SLE RA 20	-768.58	2534	No	1296149	36000000	15	27.7746	Si
130 Prosp.A	Verticale	SLE RA 20	-927.96	1583	No	1257947	36000000	15	28.6181	Si
160 Prosp.A	Orizzontale	SLE RA 21	1391.9	-5472	No	1218773	36000000	15	29.5379	Si
520 Prosp.A	Verticale	SLE RA 20	-353.7	2247	No	1189068	36000000	15	30.2758	Si
159 Prosp.A	Orizzontale	SLE RA 21	1335.56	-5942	No	1125131	36000000	15	31.9963	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
18 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
136 Prosp.A	Verticale	0.2	0.012	0.02	Si
137 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
137 Prosp.A	Verticale	0.2	0.012	0.02	Si
138 Prosp.A	Orizzontale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
105 Prosp.A	Verticale	0.2	0.3	Si
18 Prosp.A	Verticale	0.2	0.3	Si
130 Prosp.A	Verticale	0.2	0.3	Si
520 Prosp.A	Verticale	0.2	0.3	Si
152 Prosp.A	Verticale	0.2	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
152 Prosp.A	Verticale	0.175	0.000673	0.00035	0.2	Si



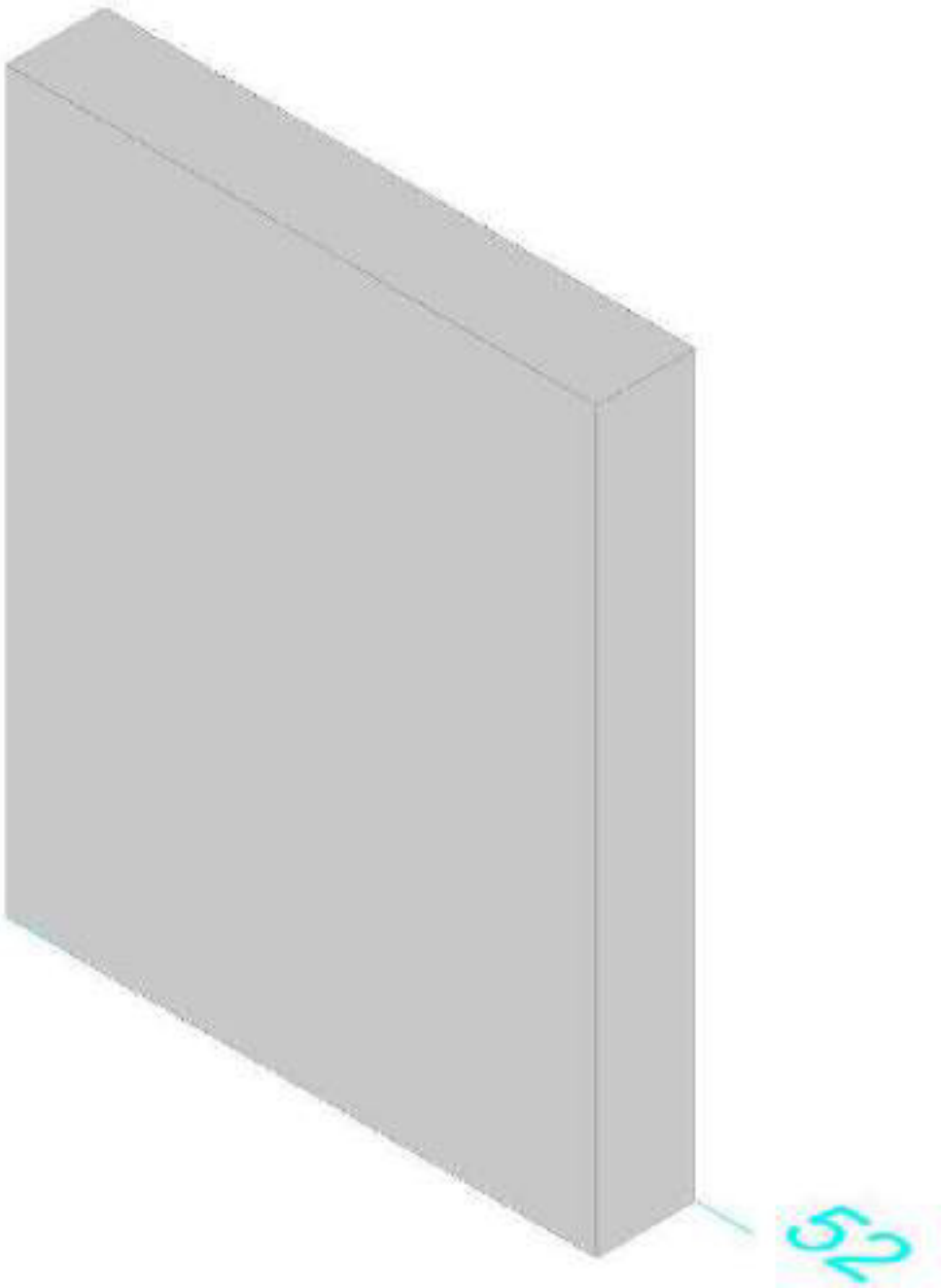
Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
18 Prosp.A	Verticale	0.1	0.000421	0.0002	0.2	Si
520 Prosp.A	Verticale	0.1	0.000421	0.0002	0.2	Si
130 Prosp.A	Verticale	0.2	0.000841	0.0004	0.2	Si
105 Prosp.A	Verticale	0.175	0.000757	0.00035	0.2	Si

Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-2.8	0
L2	Fondazione	-1.3	0



Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
652 Prosp.A	Verticale	0.5	0.2	0.000424	0.000424	0.041	0.041
166 Prosp.A	Verticale	0.875	0.2	0.000763	0.000763	0.041	0.041
144 Prosp.A	Verticale	1	0.2	0.000848	0.000848	0.041	0.041
164 Prosp.A	Orizzontale	0.7498	0.2	0.000905	0.000905	0.0432	0.0432
650 Prosp.A	Verticale	0.5	0.2	0.000423	0.000423	0.041	0.041
166 Prosp.A	Orizzontale	0.7505	0.2	0.000905	0.000905	0.0432	0.0432

Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
652 Prosp.A	Verticale	SLV 11	-1360.35	-1263	-2647.55	-2458	1.9462	Si
652 Prosp.A	Verticale	SLV 3	586.08	4114	1724.33	12103	2.9422	Si
166 Prosp.A	Verticale	SLV 11	-1516.38	-225	-4506.35	-669	2.9718	Si
166 Prosp.A	Verticale	SLV 3	586.08	4114	3090.1	21689	5.2725	Si
144 Prosp.A	Verticale	SLU 83	-651.39	1796	-4244.49	11700	6.5161	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
652 Prosp.A	Verticale	SLD 11	-1142.5	-240	-2526.1	-530	2.211	Si
166 Prosp.A	Verticale	SLD 11	-1286.06	598	-4336.98	2018	3.3723	Si
652 Prosp.A	Verticale	SLD 3	480.54	3783	1661.95	13085	3.4585	Si
166 Prosp.A	Verticale	SLD 3	480.54	3783	2978.1	23447	6.1975	Si
144 Prosp.A	Verticale	SLD 15	-548.3	1441	-4274.14	11233	7.7953	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
652 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 8	3288	-713	-1305.93	4602	17494	0	4602	2.5	0.0004238	1.3996	Si
166 Prosp.A	Orizzontale	0.157	0.751	Non necessaria	0	SLV 7	-4828	-1917	542.32	7782	26006	0	7782	2.5	0.0009048	1.6119	Si
165 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLV 7	-5582	-7635	380.96	10877	35755	0	10877	2.5	0.0011375	1.9484	Si
166 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 8	3380	-980	-1384.99	8097	30582	0	8097	2.5	0.0007628	2.3954	Si
651 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 3	-1127	-2561	-14.41	5279	17722	0	5279	2.5	0.0005655	4.6841	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrcd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
652 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 8	2502	114	357.12	4517	17406	0	4517	2.5	0.0004238	1.8058	Si
166 Prosp.A	Orizzontale	0.157	0.751	Non necessaria	0	SLD 7	-4144	-2871	395.84	7894	26122	0	7894	2.5	0.0009048	1.9048	Si
165 Prosp.A	Orizzontale	0.159	1	Non necessaria	0	SLD 7	-4786	-8268	238.64	10952	35833	0	10952	2.5	0.0011375	2.2882	Si
166 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 8	2605	-141	276.68	7997	30479	0	7997	2.5	0.0007628	3.0704	Si
651 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 3	-972	-2360	-38.08	5255	17697	0	5255	2.5	0.0005655	5.4047	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σc	σc limite	Es/Ec	c.s.	Verifica
164 Prosp.A	Orizzontale	SLE QP 2	-336.35	-7637	No	-100278	1120500	15	11.1739	Si
650 Prosp.A	Verticale	SLE QP 2	243.57	-3636	No	-96788	1120500	15	11.5768	Si
164 Prosp.A	Orizzontale	SLE RA 20	-370.76	-8393	No	-110397	1494000	15	13.5329	Si
650 Prosp.A	Verticale	SLE RA 20	267.53	-3913	No	-105594	1494000	15	14.1486	Si
166 Prosp.A	Orizzontale	SLE QP 2	-248.76	-6504	No	-78936	1120500	15	14.195	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	σf	σf limite	Es/Ec	c.s.	Verifica
652 Prosp.A	Verticale	SLE RA 20	331.78	3329	No	1220641	36000000	15	29.4927	Si
652 Prosp.A	Verticale	SLE RA 20	-317.69	13	No	746349	36000000	15	48.2348	Si
166 Prosp.A	Verticale	SLE RA 20	331.78	3329	No	695213	36000000	15	51.7827	Si
166 Prosp.A	Verticale	SLE RA 20	-483.82	183	No	659731	36000000	15	54.5677	Si
144 Prosp.A	Verticale	SLE RA 20	-481.06	1334	No	652565	36000000	15	55.1669	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
81 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
650 Prosp.A	Verticale	0.2	0.012	0.02	Si
166 Prosp.A	Verticale	0.2	0.012	0.02	Si
166 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
165 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
81 Prosp.A	Orizzontale	0.1	0.3	Si
650 Prosp.A	Verticale	0.1	0.3	Si
166 Prosp.A	Verticale	0.1	0.3	Si
166 Prosp.A	Orizzontale	0.1	0.3	Si
165 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
142 Prosp.A	Verticale	0.2	0.001691	0.0004	0.2	Si
81 Prosp.A	Verticale	0.1	0.000846	0.0002	0.2	Si
650 Prosp.A	Verticale	0.1	0.000846	0.0002	0.2	Si
144 Prosp.A	Verticale	0.2	0.001695	0.0004	0.2	Si
83 Prosp.A	Verticale	0.1	0.000848	0.0002	0.2	Si

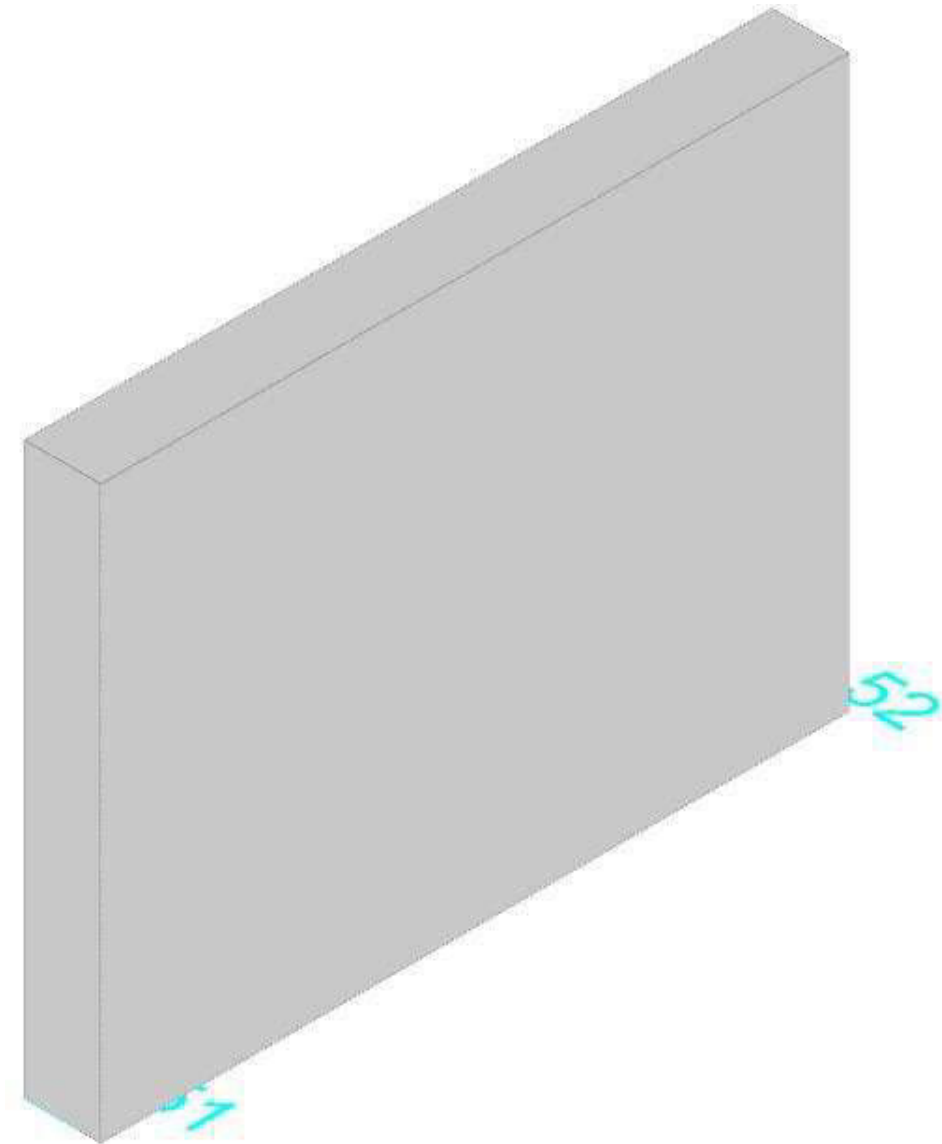


Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000
Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-2.8	0
L2	Fondazione	-1.3	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
524 Prosp.A	Verticale	0.5	0.2	0.000184	0.000248	0.041	0.041
156 Prosp.A	Verticale	0.875	0.2	0.000294	0.000397	0.041	0.041
126 Prosp.A	Verticale	1	0.2	0.00111	0.00111	0.041	0.041
134 Prosp.A	Verticale	1	0.2	0.000368	0.000496	0.041	0.041
129 Prosp.A	Verticale	1	0.2	0.001118	0.001118	0.041	0.041
592 Prosp.A	Verticale	0.5	0.2	0.000556	0.000556	0.041	0.041
149 Prosp.A	Verticale	0.8922	0.2	0.000991	0.000991	0.041	0.041



Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
524 Prosp.A	Verticale	SLV 11	-466.92	-1216	-1952.91	-5085	4.1825	Si
156 Prosp.A	Verticale	SLV 11	-690.28	-1482	-3076.28	-6607	4.4566	Si
126 Prosp.A	Verticale	SLV 7	392.88	10790	2259.31	62050	5.7506	Si
134 Prosp.A	Verticale	SLV 11	-557.42	-1082	-3708.1	-7200	6.6523	Si
129 Prosp.A	Verticale	SLV 7	238.34	7380	2090.12	64716	8.7695	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
524 Prosp.A	Verticale	SLD 11	-406.26	-1015	-1936.31	-4836	4.7661	Si
156 Prosp.A	Verticale	SLD 11	-603.21	-1267	-3065.1	-6439	5.0813	Si
126 Prosp.A	Verticale	SLD 7	343.69	8638	2400	60317	6.983	Si
134 Prosp.A	Verticale	SLD 11	-492.62	-1021	-3745.75	-7762	7.6038	Si
129 Prosp.A	Verticale	SLD 7	208.21	5935	2216.86	63188	10.6475	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrzd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
592 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLU 83	2391	-8031	461.77	5904	18397	0	5904	2.5	0.0005564	2.4697	Si
149 Prosp.A	Verticale	0.159	0.892	Non necessaria	0	SLU 83	2391	-7940	463.91	9768	32041	0	9768	2.5	0.0009907	4.0845	Si
524 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	619	-1216	-466.92	4072	17556	0	4072	2.5	0.000248	6.5783	Si
156 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	927	-1482	-690.28	7049	30644	0	7049	2.5	0.0003968	7.6036	Si
22 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLU 83	-759	-6140	285.52	6615	21253	0	6615	2.5	0.0006786	8.7152	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrzd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
592 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 7	2031	-8237	396.05	5929	18423	0	5929	2.5	0.0005564	2.9195	Si
149 Prosp.A	Verticale	0.159	0.892	Non necessaria	0	SLD 7	2031	-8129	398.1	9790	32064	0	9790	2.5	0.0009907	4.8195	Si
524 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	522	-1015	-406.26	4048	17532	0	4048	2.5	0.000248	7.7544	Si
156 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	803	-1267	-603.21	7024	30618	0	7024	2.5	0.0003968	8.7438	Si
22 Prosp.A	Orizzontale	0.156	0.6	Non necessaria	0	SLD 15	-609	-4361	235.63	6407	21038	0	6407	2.5	0.0006786	10.5121	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	oc	oc limite	Es/Ec	c.s.	Verifica
592 Prosp.A	Verticale	SLE QP 2	369.62	-3448	No	-123978	1120500	15	9.0379	Si
592 Prosp.A	Verticale	SLE RA 20	406.68	-3937	No	-137635	1494000	15	10.8548	Si
524 Prosp.A	Verticale	SLE QP 2	-308.29	-687	No	-93653	1120500	15	11.9644	Si
156 Prosp.A	Verticale	SLE QP 2	-461.85	-915	No	-79945	1120500	15	14.0159	Si
149 Prosp.A	Verticale	SLE QP 2	484.72	-1450	No	-76381	1120500	15	14.6699	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	of	of limite	Es/Ec	c.s.	Verifica
524 Prosp.A	Verticale	SLE RA 20	-329.42	-725	No	710695	36000000	15	50.6547	Si
126 Prosp.A	Verticale	SLE RA 20	285.01	5635	No	684594	36000000	15	52.5859	Si
156 Prosp.A	Verticale	SLE RA 20	-494.73	-973	No	622987	36000000	15	57.7861	Si
149 Prosp.A	Verticale	SLE RA 20	530.61	-1745	No	546784	36000000	15	65.8395	Si
129 Prosp.A	Verticale	SLE RA 20	172.78	3880	No	444395	36000000	15	81.009	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
22 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
124 Prosp.A	Verticale	0.2	0.012	0.02	Si
125 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
125 Prosp.A	Verticale	0.2	0.012	0.02	Si
126 Prosp.A	Orizzontale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
134 Prosp.A	Verticale	0.2	0.3	Si
22 Prosp.A	Verticale	0.2	0.3	Si
109 Prosp.A	Verticale	0.2	0.3	Si
524 Prosp.A	Verticale	0.2	0.3	Si
156 Prosp.A	Verticale	0.2	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
84 Prosp.A	Verticale	0.1	0.000394	0.0002	0.2	Si
156 Prosp.A	Verticale	0.175	0.000691	0.00035	0.2	Si
22 Prosp.A	Verticale	0.1	0.000432	0.0002	0.2	Si
134 Prosp.A	Verticale	0.2	0.000863	0.0004	0.2	Si
524 Prosp.A	Verticale	0.1	0.000432	0.0002	0.2	Si

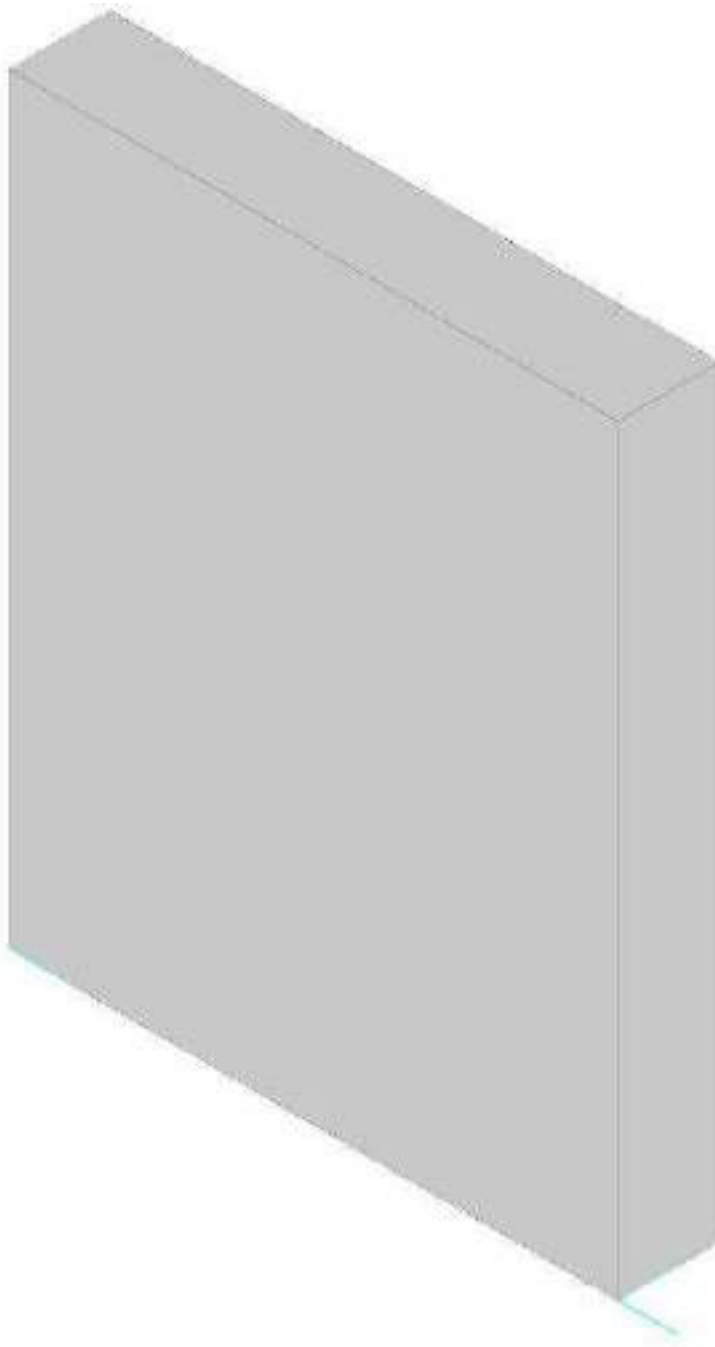
Verifiche generali

Parete Fondazione ascensore - Fondazione

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Livelli significativi

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione ascensore	-2.8	0
L2	Fondazione	-1.3	0

Verifiche nei nodi

Sezioni rettangolari

Descrizione	Dir.	Base	Altezza	As,sup	As,inf	c,sup	c,inf
131 Prosp.A	Verticale	1	0.2	0.000846	0.000846	0.041	0.041
153 Prosp.A	Verticale	0.875	0.2	0.000762	0.000762	0.041	0.041
106 Prosp.A	Verticale	0.875	0.2	0.000762	0.000762	0.041	0.041
521 Prosp.A	Verticale	0.5	0.2	0.000423	0.000423	0.041	0.041
133 Prosp.A	Verticale	1	0.2	0.000846	0.000846	0.041	0.041
523 Prosp.A	Verticale	0.5	0.2	0.000423	0.000423	0.041	0.041
131 Prosp.A	Orizzontale	0.75	0.2	0.000905	0.000905	0.0432	0.0432
153 Prosp.A	Orizzontale	0.75	0.2	0.000905	0.000905	0.0432	0.0432
132 Prosp.A	Verticale	1	0.2	0.001131	0.001131	0.041	0.041



Verifiche a flessione SLU D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
131 Prosp.A	Verticale	SLU 83	461.62	7525	2418.57	39427	5.2393	Si
153 Prosp.A	Verticale	SLV 11	624.9	-1242	5092.39	-10125	8.1491	Si
106 Prosp.A	Verticale	SLU 83	303.53	2713	2845.97	25442	9.3761	Si
521 Prosp.A	Verticale	SLV 11	406.89	-2901	4284.88	-30548	10.5307	Si
133 Prosp.A	Verticale	SLV 11	-442.56	-662	-5495.69	-8222	12.4179	Si

Verifiche a flessione SLD Resistenza D.M. 17-01-18 §4.1.2.3.4.2

Descrizione	Dir.	Comb.	MEd	NEd	MRd	NRd	c.s.	Verifica
131 Prosp.A	Verticale	SLD 7	375.23	4982	2700.91	35863	7.1981	Si
153 Prosp.A	Verticale	SLD 11	551.92	-1355	5265.53	-12926	9.5405	Si
106 Prosp.A	Verticale	SLD 11	253.97	1674	3145.12	20730	12.384	Si
521 Prosp.A	Verticale	SLD 11	357.74	-3219	4909.59	-44173	13.7237	Si
133 Prosp.A	Verticale	SLD 11	-381.18	-586	-5511.62	-8478	14.4595	Si

Verifiche a taglio SLU D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrzd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
521 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 15	-1007	-4415	364.73	5042	17951	0	5042	2.5	0.0004231	5.0078	Si
523 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLV 11	-838	-1280	-267.26	4668	17564	0	4668	2.5	0.0004231	5.568	Si
153 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	-1440	-1989	552.33	8213	30707	0	8213	2.5	0.0007616	5.7047	Si
131 Prosp.A	Verticale	0.159	1	Non necessaria	0	SLU 83	-1328	7525	461.62	9030	34813	0	9030	2.5	0.0008463	6.7991	Si
155 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLV 11	-1192	-1427	-429.4	8146	30637	0	8146	2.5	0.0007616	6.8324	Si

Verifiche a taglio SLD Resistenza D.M. 17-01-18 §4.1.2.3.5

Descrizione	Dir.	d	bw	Armatura a taglio	Asw/s	Comb.	VEd	NEd	MEd	Vrd,c	Vrzd	Vrsd	VRd	cotg(θ)	Asl	c.s.	Verifica
521 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 15	-801	-4481	333.37	5050	17959	0	5050	2.5	0.0004231	6.3025	Si
523 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	-728	-1280	-228.99	4668	17564	0	4668	2.5	0.0004231	6.416	Si
153 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	-1241	-2300	496.76	8251	30745	0	8251	2.5	0.0007616	6.6508	Si
155 Prosp.A	Verticale	0.159	0.875	Non necessaria	0	SLD 11	-1045	-1371	-369.18	8140	30630	0	8140	2.5	0.0007616	7.7875	Si
522 Prosp.A	Verticale	0.159	0.5	Non necessaria	0	SLD 11	-649	-2342	147.45	5253	17695	0	5253	2.5	0.0005655	8.0978	Si

Verifiche SLE tensione calcestruzzo D.M. 17-01-18 §4.1.2.2.5.1

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	oc	oc limite	Es/Ec	c.s.	Verifica
521 Prosp.A	Verticale	SLE QP 2	278.89	-4580	No	-114517	1120500	15	9.7846	Si
521 Prosp.A	Verticale	SLE RA 20	297.81	-5142	No	-124509	1494000	15	11.9991	Si
153 Prosp.A	Verticale	SLE QP 2	405.56	-2799	No	-75329	1120500	15	14.8748	Si
523 Prosp.A	Verticale	SLE QP 2	-177.92	-2108	No	-65832	1120500	15	17.0207	Si
131 Prosp.A	Orizzontale	SLE QP 2	102.72	-7776	No	-61345	1120500	15	18.2656	Si

Verifiche SLE tensione acciaio D.M. 17-01-18 §4.1.2.2.5.2

Descrizione	Dir.	Comb.	MEd	NEd	Sezione fessurata	of	of limite	Es/Ec	c.s.	Verifica
131 Prosp.A	Verticale	SLE RA 20	341.67	5521	No	767917	36000000	15	46.8801	Si
153 Prosp.A	Verticale	SLE RA 20	462.1	-1764	No	483208	36000000	15	74.502	Si
106 Prosp.A	Verticale	SLE RA 20	224.32	1983	No	449864	36000000	15	80.0241	Si
153 Prosp.A	Orizzontale	SLE RA 2	52.3	-4911	No	-337208	36000000	15	106.7592	Si
132 Prosp.A	Verticale	SLE RA 20	205.36	1405	No	321682	36000000	15	111.9118	Si

Verifica diametro massimo D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Spessore	Φ	Φ max	Verifica
19 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
521 Prosp.A	Verticale	0.2	0.012	0.02	Si
155 Prosp.A	Verticale	0.2	0.012	0.02	Si
155 Prosp.A	Orizzontale	0.2	0.012	0.02	Si
154 Prosp.A	Verticale	0.2	0.012	0.02	Si

Verifica passo massimo per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Passo	Passo max.	Verifica
19 Prosp.A	Orizzontale	0.1	0.3	Si
521 Prosp.A	Verticale	0.1	0.3	Si
155 Prosp.A	Verticale	0.1	0.3	Si
155 Prosp.A	Orizzontale	0.1	0.3	Si
154 Prosp.A	Verticale	0.1	0.3	Si

Verifica area minima per verifica di duttilità D.M. 17-01-18 §7.4.6.2.4

Descrizione	Dir.	Ac	As,eff	As,min	% min	Verifica
523 Prosp.A	Verticale	0.1	0.000846	0.0002	0.2	Si
133 Prosp.A	Verticale	0.2	0.001692	0.0004	0.2	Si
21 Prosp.A	Verticale	0.1	0.000846	0.0002	0.2	Si
521 Prosp.A	Verticale	0.1	0.000846	0.0002	0.2	Si
131 Prosp.A	Verticale	0.2	0.001693	0.0004	0.2	Si



Verifiche generali

1.4 Verifiche piastre C.A.

Le unità di misura elencate nel capitolo sono in [m, daN, deg] ove non espressamente specificato.

Nodo: indice del nodo di verifica.

Dir.: direzione della sezione di verifica.

B: base della sezione rettangolare di verifica. [m]

H: altezza della sezione rettangolare di verifica. [m]

A. sup.: area barre armatura superiori. [m²]

C. sup.: distanza media delle barre superiori dal bordo superiore della sezione. [m]

A. inf.: area barre armatura inferiori. [m²]

C. inf.: distanza media delle barre inferiori dal bordo inferiore della sezione. [m]

Comb.: combinazione di verifica.

M: momento flettente. [daN*m]

N: sforzo normale. [daN]

Mu: momento flettente ultimo. [daN*m]

Nu: sforzo normale ultimo. [daN]

c.s.: coefficiente di sicurezza.

Verifica: stato di verifica.

σ_c : tensione nel calcestruzzo. [daN/m²]

σ_{lim} : tensione limite. [daN/m²]

Es/Ec: coefficiente di omogenizzazione.

σ_f : tensione nell'acciaio d'armatura. [daN/m²]

Comb.: combinazione.

Fh: componente orizzontale del carico. [daN]

Fv: componente verticale del carico. [daN]

Cnd: resistenza valutata a breve o lungo termine (BT - LT).

Ad: adesione di progetto. [daN/m²]

Phi: angolo di attrito di progetto. [deg]

RPl: resistenza passiva laterale unitaria di progetto. [daN/m²]

γ_R : coefficiente parziale sulla resistenza di progetto.

Rd: resistenza alla traslazione di progetto. [daN]

Ed: azione di progetto. [daN]

Rd/Ed: coefficiente di sicurezza allo scorrimento.

ID: indice della verifica di capacità portante.

Fx: componente lungo x del carico. [daN]

Fy: componente lungo y del carico. [daN]

Fz: componente verticale del carico. [daN]

Mx: componente lungo x del momento. [daN*m]

My: componente lungo y del momento. [daN*m]

ix: inclinazione del carico in x. [deg]

iy: inclinazione del carico in y. [deg]

ex: eccentricità del carico in x. [m]

ey: eccentricità del carico in y. [m]

B': larghezza efficace. [m]

L': lunghezza efficace. [m]

C: coesione di progetto. [daN/m²]

Qs: sovraccarico laterale da piano di posa. [daN/m²]

Rd: resistenza alla rottura del complesso di progetto. [daN]

Ed: azione di progetto (sforzo normale al piano di posa). [daN]

Rd/Ed: coefficiente di sicurezza alla capacità portante.

N:

Nq: fattore di capacità portante per il termine di sovraccarico.

Nc: fattore di capacità portante per il termine coesivo.

Ng: fattore di capacità portante per il termine attritivo.

S:

Sq: fattore correttivo di capacità portante per forma (shape), per il termine di sovraccarico.

Sc: fattore correttivo di capacità portante per forma (shape), per il termine coesivo.

Sg: fattore correttivo di capacità portante per forma (shape), per il termine attritivo.

D:

Dq: fattore correttivo di capacità portante per approfondimento (deep), per il termine di sovraccarico.

Dc: fattore correttivo di capacità portante per approfondimento (deep), per il termine coesivo.

Dg: fattore correttivo di capacità portante per approfondimento (deep), per il termine attritivo.

I:

Iq: fattore correttivo di capacità portante per inclinazione del carico, per il termine di sovraccarico.

Ic: fattore correttivo di capacità portante per inclinazione del carico, per il termine coesivo.



Ig: fattore correttivo di capacità portante per inclinazione del carico, per il termine attritivo.

B:

Bq: fattore correttivo di capacità portante per inclinazione della base, per il termine di sovraccarico.

Bc: fattore correttivo di capacità portante per inclinazione della base, per il termine coesivo.

Bg: fattore correttivo di capacità portante per inclinazione della base, per il termine attritivo.

G:

Gq: fattore correttivo di capacità portante per inclinazione del pendio, per il termine di sovraccarico.

Gc: fattore correttivo di capacità portante per inclinazione del pendio, per il termine coesivo.

Gg: fattore correttivo di capacità portante per inclinazione del pendio, per il termine attritivo.

P:

Pq: fattore correttivo di capacità portante per punzonamento, per il termine di sovraccarico.

Pc: fattore correttivo di capacità portante per punzonamento, per il termine coesivo.

Pg: fattore correttivo di capacità portante per punzonamento, per il termine attritivo.

E:

Eq: fattore correttivo di capacità portante per sisma (earthquake), per il termine di sovraccarico.

Ec: fattore correttivo di capacità portante per sisma (earthquake), per il termine coesivo.

Eg: fattore correttivo di capacità portante per sisma (earthquake), per il termine attritivo.

esm: deformazione unitaria media delle barre di armatura.

Δmax: distanza massima tra le fessure. [m]

Wd: valore di calcolo di apertura delle fessure. [m]

Platea 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-17.056; -4.784; -1.3), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).

Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
326	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLV FO 6	7462.3	0	8172.84	0	1.0952	Si
293	X	0.5	0.45	0.000961	0.048	0.000716	0.048	SLV FO 5	8641.11	0	9895.52	0	1.1452	Si
288	Y	0.8	0.45	0.000905	0.048	0.001056	0.046	SLV FO 9	-10571.54	0	-12187.82	0	1.1529	Si
334	X	0.96	0.45	0.001674	0.048	0.001087	0.048	SLU 84	14134.25	0	16303.19	0	1.1535	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
326	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLD 6	6533.89	0	8172.84	0	1.2508	Si
293	X	0.5	0.45	0.000961	0.048	0.000716	0.048	SLD 5	7442.85	0	9895.52	0	1.3295	Si
334	X	0.96	0.45	0.001674	0.048	0.001087	0.048	SLD 5	11008.53	0	15320.24	0	1.3917	Si
288	Y	0.8	0.45	0.000905	0.048	0.001056	0.046	SLD 9	-8626.04	0	-12187.82	0	1.4129	Si



Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
336	X	0.5	0.45	0.000961	0.048	0.000595	0.048	SLE QP 2	7204.88	0	-654499	1120500	15	Si
336	X	0.5	0.45	0.000961	0.048	0.000595	0.048	SLE RA 21	7966.33	0	-723670	1494000	15	Si
326	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLE QP 2	5347.68	0	-509351	1120500	15	Si
293	X	0.5	0.45	0.000961	0.048	0.000716	0.048	SLE QP 2	5902.03	0	-497483	1120500	15	Si
334	X	0.96	0.45	0.001674	0.048	0.001087	0.048	SLE QP 2	9378.28	0	-458326	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σf	σlim	Es/Ec	Verifica
326	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLE RA 21	5881.53	0	26901913	36000000	15	Si
334	X	0.96	0.45	0.001674	0.048	0.001087	0.048	SLE RA 21	10366.44	0	25923639	36000000	15	Si
293	X	0.5	0.45	0.000961	0.048	0.000716	0.048	SLE RA 21	6527.25	0	24945719	36000000	15	Si
292	X	0.918	0.45	0.00165	0.048	0.001258	0.048	SLE RA 21	9240.91	0	2981160	36000000	15	Si

Verifiche SLE fessurazione nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	esm	Δmax	Wd	Es/Ec	Verifica
336	X	0.5	0.45	0.000961	0.048	0.000595	0.048	SLE FR 6	7397.22	0	0.00107	0.323	0.000346	15	Si
334	X	0.96	0.45	0.001674	0.048	0.001087	0.048	SLE QP 2	9378.28	0	0.00068	0.337	0.000231	15	Si
326	X	0.5	0.45	0.000622	0.048	0.000595	0.048	SLE QP 2	5347.68	0	0.00071	0.321	0.000229	15	Si
293	X	0.5	0.45	0.000961	0.048	0.000716	0.048	SLE QP 2	5902.03	0	0.00066	0.303	0.000199	15	Si

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente

Centro impronta, nel sistema globale: -15.4; -4; -1.8

Lato minore B dell'impronta: 1.5

Lato maggiore L dell'impronta: 3.3

Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0.24

Comb.	Fh	Fv	Cnd	Ad	Phi	RPI	yR	Rd	Ed	Rd/Ed	Verifica
SLU 48	909	-54254	LT	0	19	0	1.1	16503	909	18.16	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m

Peso specifico efficace del terreno di progetto γs: 2060 daN/m³

Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03

Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 0

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	yR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	255	943	-67944	1526.28	304.58	0	1	0	0.02	1.45	3.28	LT	0	37	0	2.3	163054	67944	2.4	Si
3	SLD 9	2052	-2807	-67127	4154.56	1209.63	2	-2	0.02	0.06	1.38	3.26	LT	0	37	0	2.3	130614	67127	1.95	Si

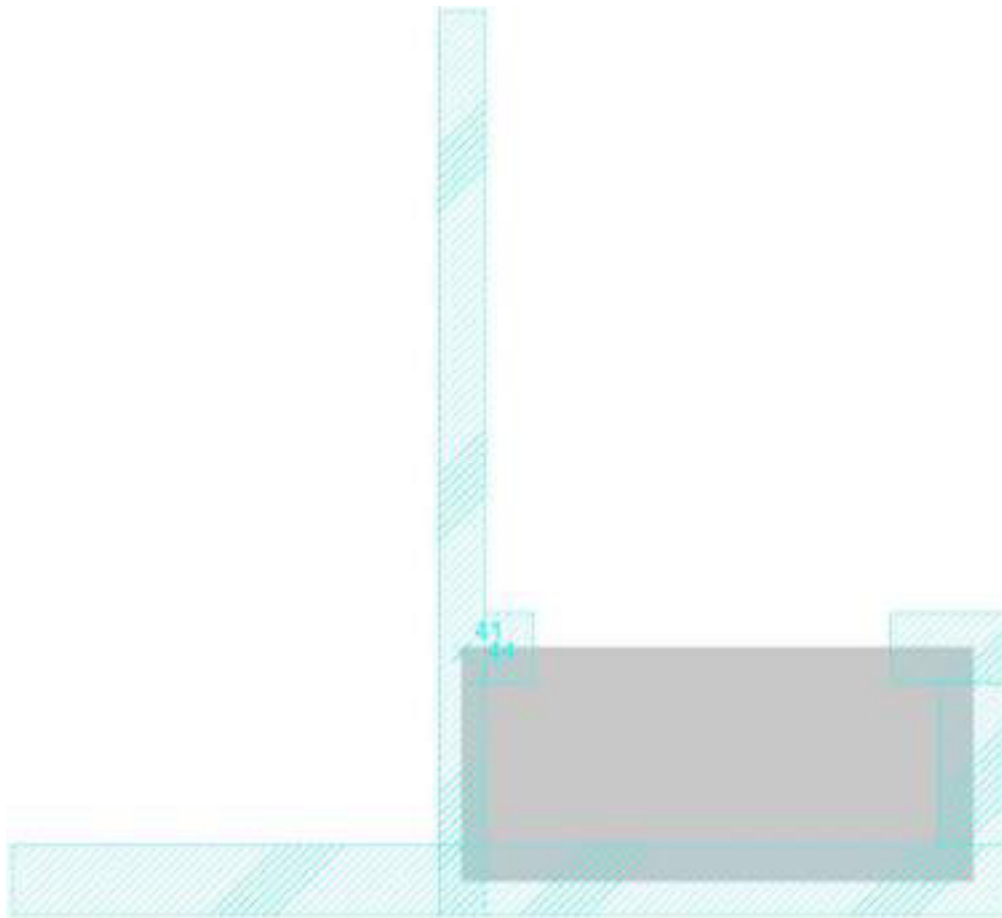
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	lc	lg	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.33	1.34	0.82	1	1	1	0.98	0.98	0.96	1	1	1	1	1	1	1	1	1	1	1	1
2	43	56	66	1.06	1.06	0.97	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	0.96	0.98	0.96
3	43	56	66	1.32	1.33	0.83	1	1	1	0.92	0.92	0.87	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

platea 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.013; -4.784; -1.3), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).

Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
221	X	0.5	0.45	0.000283	0.048	0.001114	0.048	SLV FO 6	-3513.24	0	-4004.82	0	1.1399	Si
341	Y	0.5	0.45	0.000283	0.036	0.000377	0.036	SLU 84	4384.19	0	5864.64	0	1.3377	Si
341	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLV FO 5	5912.35	0	8372.76	0	1.4161	Si
368	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5541.87	0	-8385.71	0	1.5132	Si
369	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLV FO 10	-5344	0	-8385.71	0	1.5692	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
221	X	0.5	0.45	0.000283	0.048	0.001114	0.048	SLD 10	-2609.81	0	-4004.82	0	1.5345	Si
341	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLD 5	5188.62	0	8372.76	0	1.6137	Si
341	Y	0.5	0.45	0.000283	0.036	0.000377	0.036	SLD 13	3263.61	0	5326.59	0	1.6321	Si
372	X	0.765	0.45	0.000885	0.048	0.000893	0.048	SLD 5	6736.4	0	12236.58	0	1.8165	Si
368	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLD 10	-4349.52	0	-8385.71	0	1.928	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
341	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE QP 2	4264.64	0	-219095	1120500	15	Si
372	X	0.765	0.45	0.000885	0.048	0.000893	0.048	SLE QP 2	5598.32	0	-189611	1120500	15	Si
341	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4679.83	0	-240425	1494000	15	Si
341	Y	0.5	0.45	0.000283	0.036	0.000377	0.036	SLE QP 2	2951.46	0	-160761	1120500	15	Si
372	X	0.765	0.45	0.000885	0.048	0.000893	0.048	SLE RA 21	6140.66	0	-207980	1494000	15	Si



Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	af	alim	Es/Ec	Verifica
341	X	0.5	0.45	0.000622	0.048	0.000615	0.048	SLE RA 21	4679.83	0	2839333	36000000	15	Si
372	X	0.765	0.45	0.000885	0.048	0.000893	0.048	SLE RA 21	6140.66	0	2452659	36000000	15	Si
341	Y	0.5	0.45	0.000283	0.036	0.000377	0.036	SLE RA 21	3224.72	0	2188744	36000000	15	Si
368	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE RA 21	-3104.82	0	1999674	36000000	15	Si
337	Y	0.5	0.45	0.000622	0.049	0.000716	0.047	SLE RA 21	3112.31	0	1980760	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente

Centro impronta, nel sistema globale: -9.4; -4; -1.8

Lato minore B dell'impronta: 1.5

Lato maggiore L dell'impronta: 3.3

Area dell'impronta rettangolare di calcolo: 4.9

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 0.22

Comb.	Fh	Fv	Cnd	Ad	Phi	RPI	yR	Rd	Ed	Rd/Ed	Verifica
SLU 48	1061	-53381	LT	0	19	0	1.1	16237	1061	15.3	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato: 1.5 m

Profondità massima del bulbo di rottura considerato (per condizione non drenata): 0.75 m

Peso specifico efficace del terreno di progetto γ_s : 2060 daN/m³

Accelerazione normalizzata massima attesa al suolo A_{max} per verifiche in SLD: 0.03

Accelerazione normalizzata massima attesa al suolo A_{max} per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 0

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	yR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	-309	1111	-66713	884.18	580.63	0	1	0.01	0.01	1.47	3.27	LT	0	37	0	2.3	164859	66713	2.47	Si
3	SLD 6	-1923	-2653	-66197	3604.76	-302.34	-2	-2	0	0.05	1.39	3.28	LT	0	37	0	2.3	135254	66197	2.04	Si

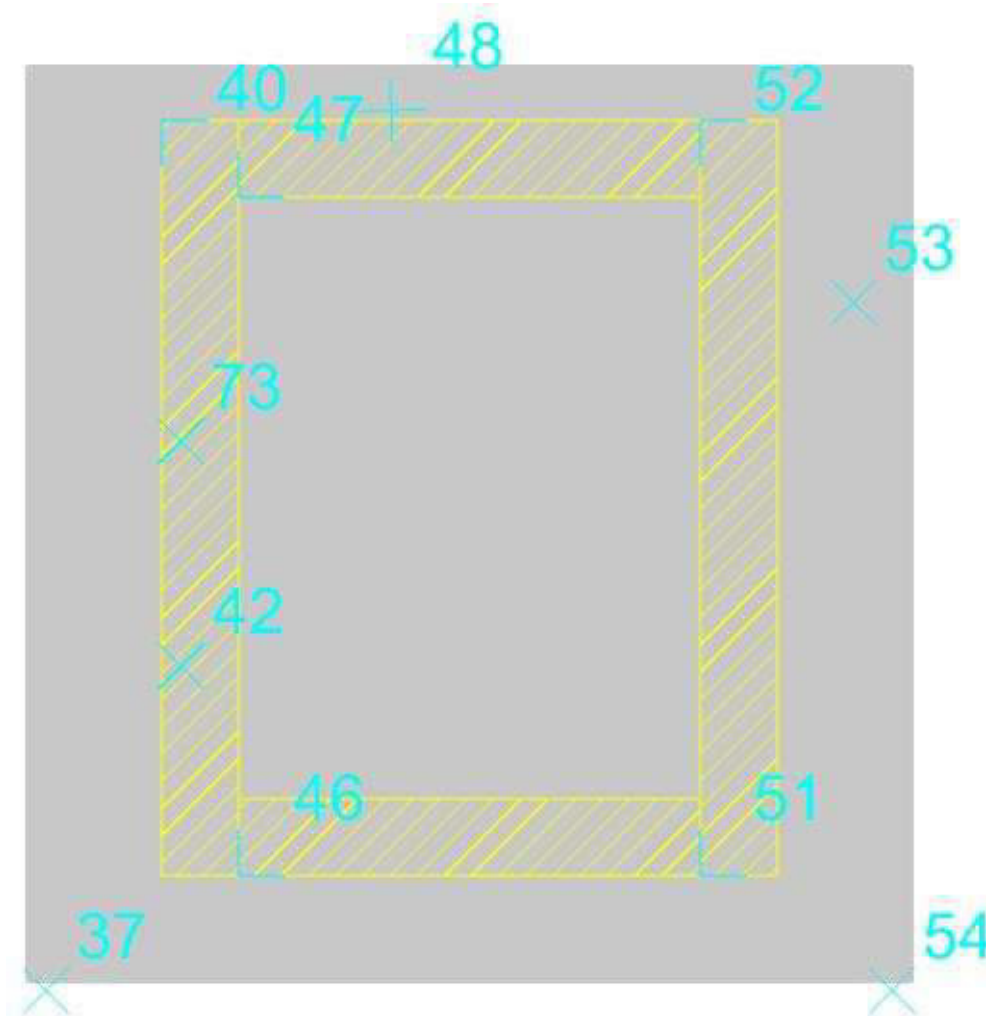
Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	43	56	66	1.34	1.35	0.82	1	1	1	0.97	0.97	0.95	1	1	1	1	1	1	1	1	1	1	1	1
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	43	56	66	1.32	1.33	0.83	1	1	1	0.92	0.92	0.88	1	1	1	1	1	1	1	1	1	0.99	0.99	0.99

Platea a "Fondazione ascensore"

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Geometria



Caratteristiche dei materiali

Acciaio: B450C Fyk 45000000

Calcestruzzo: C25/30 Rck 3000000

Sistema di riferimento e direzioni di armatura

Le coordinate citate nel seguito sono espresse in un sistema di riferimento cartesiano con origine in (-11.413; -1.219; -2.8), direzione dell'asse X = (0.01; 0; 0), direzione dell'asse Y = (0; 0.01; 0).

Le direzioni X/Y di armatura e le sezioni X/Y di verifica sono individuate dagli assi del sistema di riferimento.

Verifiche nei nodi

Verifiche SLU flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione, per le combinazioni SLV, viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
45	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 83	1953.67	0	12569.19	0	6.4336	Si
54	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 83	1923.39	0	12625.02	0	6.5639	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 84	1859.14	0	12595.57	0	6.7749	Si
66	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 83	1820.86	0	12590.62	0	6.9146	Si
40	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLU 83	1756.24	0	12571.52	0	7.1582	Si

Verifiche SLD Resistenza flessione nei nodi

Piastra di fondazione con comportamento non dissipativo pertanto la verifica a pressoflessione viene eseguita calcolando i momenti resistenti in campo sostanzialmente elastico secondo D.M. 17-01-2018 §7.4.1

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	Mu	Nu	c.s.	Verifica
66	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 11	1401.21	0	11760	0	8.3928	Si
77	Y	0.885	0.3	0.000962	0.036	0.001129	0.036	SLD 11	1205.7	0	10148.15	0	8.4168	Si
90	Y	0.615	0.3	0.000687	0.036	0.000803	0.036	SLD 11	827.25	0	7028.06	0	8.4957	Si
45	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 7	1346.55	0	11505.21	0	8.5442	Si
54	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLD 11	1398.76	0	12076.5	0	8.6337	Si

Verifiche SLE tensione calcestruzzo nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	σc	σlim	Es/Ec	Verifica
45	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1308.19	0	-72406	1120500	15	Si
54	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1292.94	0	-71563	1120500	15	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1239.36	0	-68597	1120500	15	Si



Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	ac	alim	Es/Ec	Verifica
66	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1229.08	0	-68028	1120500	15	Si
40	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE QP 2	1189.41	0	-65832	1120500	15	Si

Verifiche SLE tensione acciaio nei nodi

Nodo	Dir.	B	H	A. sup.	C. sup.	A. inf.	C. inf.	Comb.	M	N	af	alim	Es/Ec	Verifica
45	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 20	1433.77	0	891392	36000000	15	Si
54	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 20	1413.15	0	878574	36000000	15	Si
36	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 21	1362.85	0	847302	36000000	15	Si
66	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 20	1339.49	0	832777	36000000	15	Si
40	Y	1	0.3	0.001131	0.036	0.001319	0.036	SLE RA 20	1293.01	0	803880	36000000	15	Si

Verifiche SLE fessurazione nei nodi

La piastra non presenta nodi con apertura delle fessure.

Verifiche geotecniche

Dati geometrici dell'impronta di calcolo

Forma dell'impronta di calcolo: rettangolare di area equivalente

Centro impronta, nel sistema globale: -10.3; 0; -3.1

Lato minore B dell'impronta: 2.3

Lato maggiore L dell'impronta: 2.4

Area dell'impronta rettangolare di calcolo: 5.5

Verifica di scorrimento sul piano di posa

Coefficiente di sicurezza minimo per scorrimento 3.09

Comb.	Fh	Fv	Cnd	Ad	Phi	RPI	yR	Rd	Ed	Rd/Ed	Verifica
SLU 43	915	-52653	LT	0	19	0	1.1	16016	915	17.51	Si
SLV FO 15	4502	-45724	LT	0	19	0	1.1	13908	4502	3.09	Si

Verifica di capacità portante sul piano di posa

Profondità massima del bulbo di rottura considerato (per condizione non drenata): 1.15 m

Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLD: 0.03

Accelerazione normalizzata massima attesa al suolo Amax per verifiche in SLV: 0.073

Coefficiente di sicurezza minimo per portanza 3.24

ID	Comb.	Fx	Fy	Fz	Mx	My	ix	iy	ex	ey	B'	L'	Cnd	C	Phi	Qs	yR	Rd	Ed	Rd/Ed	Verifica
1	SLU 84	315	732	-67793	112.69	-288.2	0	1	0	0	2.29	2.38	BT	14430	0	585	2.3	219592	67793	3.24	Si
2	SLV FO 10	54	-881	-48234	4574.64	646.71	0	-1	0.01	0.09	2.19	2.27	BT	14430	0	585	2.3	200630	48234	4.16	Si
3	SLD 6	-1111	-456	-46818	2524.82	-616.53	-1	-1	-0.01	0.05	2.27	2.27	BT	14430	0	585	2.3	209180	46818	4.47	Si

Verifiche geotecniche di capacità portante - fattori utilizzati nel calcolo di Rd

ID	N			S			D			I			B			G			P			E		
	Nq	Nc	Ng	Sq	Sc	Sg	Dq	Dc	Dg	Iq	Ic	Ig	Bq	Bc	Bg	Gq	Gc	Gg	Pq	Pc	Pg	Eq	Ec	Eg
1	1	5	0	0	0.19	0	0	0.05	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
2	1	5	0	0	0.19	0	0	0.05	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
3	1	5	0	0	0.2	0	0	0.05	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0

1.5 Verifica sismica globale

Le unità di misura elencate nel capitolo sono in [m] ove non espressamente specificato.

Desc.: descrizione.

Stato limite: (muratura) V=Taglio; PF=Pressoflessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.

Molt.: moltiplicatore minimo della azione sismica che produce lo stato limite.

Comb.: combinazione.

PGA: accelerazione al suolo.

iPGA (ZE): indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).

TR: tempo di ritorno.

(TR/TRrif)^.41: indicatore di rischio sismico in termini di periodo di ritorno.

fa: fattore di accelerazione.

Stato limite: (muratura) V=Taglio; PF=Presso flessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.

Coeff.s.: coefficiente minimo prodotto dallo stato limite.

Verifica: stato di verifica.

Trave: titolo della trave.

Pressoflessione: dati della verifica a pressoflessione.

Coeff.s.: coefficiente di sicurezza a flessione.

itr: indicatore di rischio sismico in termini di tempo di ritorno.

campata: campata di riferimento.

dist.: ascissa relativa all'inizio della campata. [m]

Taglio: dati della verifica a taglio.

Coeff.s.: coefficiente di sicurezza a taglio.

Maschio: maschio.

Stato limite: (maschio muratura) V=Taglio; PF=Presso flessione; PFFP=Presso flessione fuori piano; R=Ribaltamento.

Trave: trave di collegamento in muratura.

Stato limite: (trave muratura) V=Taglio; F=Flessione.

S. L.: stato limite di riferimento.

TR,C: periodo di ritorno di capacità.



PGA,C: accelerazione di aggancio di capacità.

TR,Rif: periodo di ritorno di riferimento.

PGA,Rif: accelerazione di aggancio di riferimento.

Tipo rottura: tipo di rottura che fornisce il valore minimo degli elementi considerati.

PAM: perdita media annua attesa.

Classe PAM: classe di rischio PAM.

IS-V: indice di sicurezza.

Classe IS-V: classe di rischio IS-V.

λ_{SLR} : frequenza media annua di superamento in Stato Limite di Ricostruzione.

λ_{SLC} : frequenza media annua di superamento in Stato Limite di Collasso.

λ_{SLV} : frequenza media annua di superamento in Stato Limite di salvaguardia della Vita.

λ_{SLD} : frequenza media annua di superamento in Stato Limite di Danno.

λ_{SLO} : frequenza media annua di superamento in Stato Limite di Operatività.

λ_{SLID} : frequenza media annua di superamento in Stato Limite di Inizio Danno.

Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO ($ag/g_{SLO} \cdot S \cdot ST$) $PGA_{SLOrif} = 0.081$

Accelerazione di aggancio SLD ($ag/g_{SLD} \cdot S \cdot ST$) $PGA_{SLDrif} = 0.101$

Accelerazione di aggancio SLV ($ag/g_{SLV} \cdot S \cdot ST$) $PGA_{SLVrif} = 0.244$

$Tr_{SLOrif} = 30$ anni

$Tr_{SLDrif} = 50$ anni

$Tr_{SLVrif} = 475$ anni

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	IPGA (ζE)	TR	$(TR/TRrif)^{.41}$	fa
Maschio 213	PF	0.173	SLV 10	0.0467	0.1911	8	0.1874	0.1859
Maschio 75	V	0.965	SLV 11	0.2353	0.963	429	0.9591	0.9623
Maschio 213	PFFP	0.62	SLV 10	0.1471	0.602	132	0.5915	0.6018
Maschio 168	R	0.883	SLV 10	0.2147	0.8787	337	0.8687	0.8784
Trave di accoppiamento 11	PF	0.214	SLV 3	0.049	0.2007	9	0.1967	0.1953
Trave di accoppiamento 58	V	0.112	SLV 14	0.0261	0.1068	2	0.1062	0.1039

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	49.974	SLU 2	Si
Maschio 1	V SLU	16.997	SLU 52	Si
Maschio 1	PF	2.265	SLV 9	Si
Maschio 1	V	2.109	SLV 9	Si
Maschio 1	PFFP	11.074	SLV 13	Si
Maschio 1	R	2.366	SLV 4	Si
Maschio 2	PF SLU	7.03	SLU 48	Si
Maschio 2	V SLU	2.459	SLU 69	Si
Maschio 2	PF	1.403	SLV 9	Si
Maschio 2	V	2.895	SLV 12	Si
Maschio 2	PFFP	1.243	SLV 9	Si
Maschio 2	R	1.84	SLV 8	Si
Maschio 3	PF SLU	5.587	SLU 48	Si
Maschio 3	V SLU	5.296	SLU 44	Si
Maschio 3	PF	2.227	SLV 9	Si
Maschio 3	V	4.53	SLV 14	Si
Maschio 3	PFFP	5.717	SLV 9	Si
Maschio 3	R	2.411	SLV 8	Si
Maschio 4	PF SLU	4.055	SLU 84	Si
Maschio 4	V SLU	7.398	SLU 44	Si
Maschio 4	PF	1.37	SLV 9	Si
Maschio 4	V	2.177	SLV 5	Si
Maschio 4	PFFP	31.367	SLV 9	Si
Maschio 4	R	1.419	SLV 4	Si
Maschio 7	PF SLU	6.586	SLU 47	Si
Maschio 7	V SLU	2.192	SLU 68	Si
Maschio 7	PF	2.47	SLV 12	Si
Maschio 7	V	2.835	SLV 9	Si
Maschio 7	PFFP	3.326	SLV 12	Si
Maschio 7	R	1.986	SLV 5	Si
Maschio 8	PF SLU	3.077	SLU 76	Si
Maschio 8	V SLU	2.786	SLU 77	Si
Maschio 8	PF	2.251	SLV 15	Si
Maschio 8	V	2.226	SLV 13	Si
Maschio 8	PFFP	5.26	SLV 12	Si
Maschio 8	R	2.412	SLV 5	Si
Maschio 9	PF SLU	1.175	SLU 84	Si
Maschio 9	V SLU	3.154	SLU 60	Si
Maschio 9	PF	1.594	SLV 9	Si
Maschio 9	V	2.863	SLV 4	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 9	PFFP	31.38	SLV 12	Si
Maschio 9	R	1.791	SLV 5	Si
Maschio 11	PF SLU	4.887	SLU 84	Si
Maschio 11	V SLU	15.744	SLU 43	Si
Maschio 11	PF	2.813	SLV 9	Si
Maschio 11	V	2.613	SLV 12	Si
Maschio 11	PFFP	22.484	SLV 12	Si
Maschio 11	R	1.685	SLV 1	Si
Maschio 12	PF SLU	41.829	SLU 83	Si
Maschio 12	V SLU	4.205	SLU 44	Si
Maschio 12	PF	5.958	SLV 14	Si
Maschio 12	V	3.92	SLV 14	Si
Maschio 12	PFFP	42.439	SLV 16	Si
Maschio 12	R	1.452	SLV 1	Si
Maschio 13	PF SLU	8.586	SLU 84	Si
Maschio 13	V SLU	40.487	SLU 60	Si
Maschio 13	PF	3.092	SLV 13	Si
Maschio 13	V	4.592	SLV 3	Si
Maschio 13	PFFP	57.084	SLV 14	Si
Maschio 13	R	1.621	SLV 3	Si
Maschio 16	PF SLU	2.73	SLU 83	Si
Maschio 16	V SLU	1.531	SLU 83	Si
Maschio 16	PF	1.26	SLV 5	Si
Maschio 16	V	2.401	SLV 12	Si
Maschio 16	PFFP	2.057	SLV 9	Si
Maschio 16	R	2.417	SLV 8	Si
Maschio 18	PF SLU	5.305	SLU 84	Si
Maschio 18	V SLU	2.144	SLU 84	Si
Maschio 18	PF	0	SLV 7	No
Maschio 18	V	2.307	SLV 13	Si
Maschio 18	PFFP	0	SLV 12	No
Maschio 18	R	3.003	SLV 6	Si
Maschio 19	PF SLU	4.223	SLU 83	Si
Maschio 19	V SLU	3.579	SLU 44	Si
Maschio 19	PF	1.963	SLV 12	Si
Maschio 19	V	2.35	SLV 5	Si
Maschio 19	PFFP	28.55	SLV 9	Si
Maschio 19	R	1.695	SLV 4	Si
Maschio 20	PF SLU	6.14	SLU 84	Si
Maschio 20	V SLU	2.637	SLU 43	Si
Maschio 20	PF	1.799	SLV 8	Si
Maschio 20	V	1.619	SLV 8	Si
Maschio 20	PFFP	17.829	SLV 8	Si
Maschio 20	R	2.096	SLV 13	Si
Maschio 22	PF SLU	2.272	SLU 48	Si
Maschio 22	V SLU	4.458	SLU 77	Si
Maschio 22	PF	2.012	SLV 11	Si
Maschio 22	V	4.084	SLV 16	Si
Maschio 22	PFFP	17.849	SLV 9	Si
Maschio 22	R	8.494	SLV 16	Si
Maschio 23	PF SLU	29.311	SLU 48	Si
Maschio 23	V SLU	5.364	SLU 48	Si
Maschio 23	PF	4.146	SLV 10	Si
Maschio 23	V	1.962	SLV 16	Si
Maschio 23	PFFP	6.493	SLV 9	Si
Maschio 23	R	1.78	SLV 7	Si
Maschio 24	PF SLU	5.054	SLU 84	Si
Maschio 24	V SLU	9.948	SLU 62	Si
Maschio 24	PF	3.054	SLV 14	Si
Maschio 24	V	3.706	SLV 16	Si
Maschio 24	PFFP	46.754	SLV 5	Si
Maschio 24	R	1.749	SLV 3	Si
Maschio 25	PF SLU	25.983	SLU 77	Si
Maschio 25	V SLU	13.747	SLU 45	Si
Maschio 25	PF	2.429	SLV 7	Si
Maschio 25	V	2.22	SLV 11	Si
Maschio 25	PFFP	17.329	SLV 7	Si
Maschio 25	R	1.711	SLV 14	Si
Maschio 26	PF SLU	16.42	SLU 48	Si
Maschio 26	V SLU	14.061	SLU 50	Si
Maschio 26	PF	6.451	SLV 14	Si
Maschio 26	V	2.429	SLV 3	Si
Maschio 26	PFFP	10.828	SLV 6	Si
Maschio 26	R	1.483	SLV 12	Si
Maschio 27	PF SLU	2.282	SLU 83	Si
Maschio 27	V SLU	1.17	SLU 83	Si
Maschio 27	PF	1.17	SLV 1	Si
Maschio 27	V	2.218	SLV 7	Si
Maschio 27	PFFP	0	SLV 1	No
Maschio 27	R	3.505	SLV 11	Si
Maschio 29	PF SLU	3.604	SLU 77	Si
Maschio 29	V SLU	1.625	SLU 68	Si
Maschio 29	PF	1.135	SLV 7	Si
Maschio 29	V	1.532	SLV 10	Si
Maschio 29	PFFP	13.095	SLV 6	Si
Maschio 29	R	13.497	SLV 13	Si
Maschio 31	PF SLU	3.507	SLU 69	Si
Maschio 31	V SLU	5.287	SLU 84	Si
Maschio 31	PF	0	SLV 7	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 31	V	2.208	SLV 13	Si
Maschio 31	PFFP	0	SLV 8	No
Maschio 31	R	3.085	SLV 9	Si
Maschio 34	PF SLU	34.244	SLU 44	Si
Maschio 34	V SLU	5.975	SLU 43	Si
Maschio 34	PF	2.758	SLV 7	Si
Maschio 34	V	2.787	SLV 11	Si
Maschio 34	PFFP	26.092	SLV 7	Si
Maschio 34	R	1.801	SLV 14	Si
Maschio 35	PF SLU	2.264	SLU 84	Si
Maschio 35	V SLU	3.294	SLU 60	Si
Maschio 35	PF	2.192	SLV 11	Si
Maschio 35	V	3.13	SLV 15	Si
Maschio 35	PFFP	26.659	SLV 7	Si
Maschio 35	R	1.764	SLV 10	Si
Maschio 36	PF SLU	6.408	SLU 84	Si
Maschio 36	V SLU	3.414	SLU 44	Si
Maschio 36	PF	1.559	SLV 6	Si
Maschio 36	V	2.348	SLV 6	Si
Maschio 36	PFFP	21.798	SLV 6	Si
Maschio 36	R	1.451	SLV 15	Si
Maschio 38	PF SLU	2.924	SLU 83	Si
Maschio 38	V SLU	11.107	SLU 83	Si
Maschio 38	PF	1.659	SLV 15	Si
Maschio 38	V	10.345	SLV 15	Si
Maschio 38	PFFP	51.51	SLV 3	Si
Maschio 38	R	1.725	SLV 14	Si
Maschio 39	PF SLU	8.734	SLU 83	Si
Maschio 39	V SLU	3.029	SLU 49	Si
Maschio 39	PF	5.544	SLV 1	Si
Maschio 39	V	3.788	SLV 1	Si
Maschio 39	PFFP	42.584	SLV 2	Si
Maschio 39	R	1.637	SLV 15	Si
Maschio 40	PF SLU	2.882	SLU 76	Si
Maschio 40	V SLU	2.84	SLU 81	Si
Maschio 40	PF	2.165	SLV 4	Si
Maschio 40	V	2.291	SLV 2	Si
Maschio 40	PFFP	5.238	SLV 7	Si
Maschio 40	R	2.515	SLV 10	Si
Maschio 41	PF SLU	7.288	SLU 47	Si
Maschio 41	V SLU	1.501	SLU 76	Si
Maschio 41	PF	2.206	SLV 7	Si
Maschio 41	V	2.511	SLV 6	Si
Maschio 41	PFFP	3.816	SLV 7	Si
Maschio 41	R	2.575	SLV 10	Si
Maschio 42	PF SLU	5.739	SLU 83	Si
Maschio 42	V SLU	1.419	SLU 83	Si
Maschio 42	PF	4.037	SLV 1	Si
Maschio 42	V	3.58	SLV 7	Si
Maschio 42	PFFP	8.532	SLV 6	Si
Maschio 42	R	3.211	SLV 12	Si
Maschio 43	PF SLU	9.037	SLU 82	Si
Maschio 43	V SLU	1.123	SLU 77	Si
Maschio 43	PF	1.104	SLV 6	Si
Maschio 43	V	2.075	SLV 7	Si
Maschio 43	PFFP	0	SLV 6	No
Maschio 43	R	2.718	SLV 11	Si
Maschio 44	PF SLU	13.459	SLU 52	Si
Maschio 44	V SLU	40.722	SLU 47	Si
Maschio 44	PF	2.008	SLV 6	Si
Maschio 44	V	4.507	SLV 6	Si
Maschio 44	PFFP	15.923	SLV 2	Si
Maschio 44	R	2.113	SLV 15	Si
Maschio 45	PF SLU	39.76	SLU 44	Si
Maschio 45	V SLU	32.465	SLU 2	Si
Maschio 45	PF	2.098	SLV 12	Si
Maschio 45	V	1.439	SLV 9	Si
Maschio 45	PFFP	6.261	SLV 15	Si
Maschio 45	R	1.725	SLV 3	Si
Maschio 46	PF SLU	21.837	SLU 43	Si
Maschio 46	V SLU	19.339	SLU 43	Si
Maschio 46	PF	0	SLV 9	No
Maschio 46	V	4.229	SLV 12	Si
Maschio 46	PFFP	1.273	SLV 9	Si
Maschio 46	R	1.775	SLV 3	Si
Maschio 47	PF SLU	2.609	SLU 83	Si
Maschio 47	V SLU	1.227	SLU 64	Si
Maschio 47	PF	1.723	SLV 16	Si
Maschio 47	V	1.77	SLV 16	Si
Maschio 47	PFFP	2.632	SLV 9	Si
Maschio 47	R	1.468	SLV 8	Si
Maschio 48	PF SLU	12.05	SLU 31	Si
Maschio 48	V SLU	5.496	SLU 42	Si
Maschio 48	PF	1.102	SLV 8	Si
Maschio 48	V	3.651	SLV 4	Si
Maschio 48	PFFP	1.967	SLV 12	Si
Maschio 48	R	1.725	SLV 2	Si
Maschio 49	PF SLU	3.072	SLU 84	Si
Maschio 49	V SLU	1.084	SLU 68	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 49	PF	2.658	SLV 15	Si
Maschio 49	V	1.92	SLV 9	Si
Maschio 49	PFFP	4.052	SLV 12	Si
Maschio 49	R	1.781	SLV 1	Si
Maschio 51	PF SLU	2.549	SLU 83	Si
Maschio 51	V SLU	2.966	SLU 44	Si
Maschio 51	PF	7.087	SLV 13	Si
Maschio 51	V	2.166	SLV 9	Si
Maschio 51	PFFP	6.864	SLV 9	Si
Maschio 51	R	0.91	SLV 4	No
Maschio 53	PF SLU	2.115	SLU 84	Si
Maschio 53	V SLU	2.818	SLU 60	Si
Maschio 53	PF	0.871	SLV 8	No
Maschio 53	V	2.455	SLV 4	Si
Maschio 53	PFFP	6.063	SLV 11	Si
Maschio 53	R	1.471	SLV 13	Si
Maschio 54	PF SLU	5.263	SLU 84	Si
Maschio 54	V SLU	2.345	SLU 50	Si
Maschio 54	PF	3.275	SLV 12	Si
Maschio 54	V	2.541	SLV 8	Si
Maschio 54	PFFP	8.047	SLV 12	Si
Maschio 54	R	0.966	SLV 1	No
Maschio 56	PF SLU	1.964	SLU 84	Si
Maschio 56	V SLU	1.077	SLU 84	Si
Maschio 56	PF	1.032	SLV 15	Si
Maschio 56	V	1.967	SLV 13	Si
Maschio 56	PFFP	3.177	SLV 8	Si
Maschio 56	R	1.865	SLV 2	Si
Maschio 61	PF SLU	11.734	SLU 41	Si
Maschio 61	V SLU	2.826	SLU 42	Si
Maschio 61	PF	1.132	SLV 8	Si
Maschio 61	V	1.967	SLV 9	Si
Maschio 61	PFFP	13.218	SLV 11	Si
Maschio 61	R	2.048	SLV 6	Si
Maschio 62	PF SLU	15.515	SLU 40	Si
Maschio 62	V SLU	5.148	SLU 43	Si
Maschio 62	PF	2.3	SLV 7	Si
Maschio 62	V	3.334	SLV 9	Si
Maschio 62	PFFP	13.646	SLV 11	Si
Maschio 62	R	2.345	SLV 6	Si
Maschio 63	PF SLU	8.317	SLU 83	Si
Maschio 63	V SLU	3.759	SLU 60	Si
Maschio 63	PF	1.765	SLV 8	Si
Maschio 63	V	2.116	SLV 8	Si
Maschio 63	PFFP	10.401	SLV 12	Si
Maschio 63	R	1.636	SLV 1	Si
Maschio 65	PF SLU	9.069	SLU 83	Si
Maschio 65	V SLU	2.801	SLU 44	Si
Maschio 65	PF	5.028	SLV 15	Si
Maschio 65	V	4.228	SLV 13	Si
Maschio 65	PFFP	15.751	SLV 16	Si
Maschio 65	R	1.104	SLV 1	Si
Maschio 66	PF SLU	10.284	SLU 84	Si
Maschio 66	V SLU	20.121	SLU 62	Si
Maschio 66	PF	4.031	SLV 2	Si
Maschio 66	V	3.126	SLV 13	Si
Maschio 66	PFFP	21.803	SLV 14	Si
Maschio 66	R	1.145	SLV 1	Si
Maschio 67	PF SLU	8.333	SLU 83	Si
Maschio 67	V SLU	7.962	SLU 65	Si
Maschio 67	PF	3.33	SLV 3	Si
Maschio 67	V	2.397	SLV 2	Si
Maschio 67	PFFP	20.55	SLV 1	Si
Maschio 67	R	1.378	SLV 16	Si
Maschio 68	PF SLU	4.455	SLU 84	Si
Maschio 68	V SLU	3.751	SLU 44	Si
Maschio 68	PF	3.296	SLV 2	Si
Maschio 68	V	4.646	SLV 2	Si
Maschio 68	PFFP	14.395	SLV 2	Si
Maschio 68	R	1.176	SLV 15	Si
Maschio 69	PF SLU	16.401	SLU 84	Si
Maschio 69	V SLU	2.31	SLU 84	Si
Maschio 69	PF	1.831	SLV 5	Si
Maschio 69	V	2.09	SLV 1	Si
Maschio 69	PFFP	5.281	SLV 10	Si
Maschio 69	R	1.106	SLV 3	Si
Maschio 70	PF SLU	18.238	SLU 84	Si
Maschio 70	V SLU	11.073	SLU 40	Si
Maschio 70	PF	2.645	SLV 1	Si
Maschio 70	V	2.901	SLV 1	Si
Maschio 70	PFFP	7.479	SLV 10	Si
Maschio 70	R	1.345	SLV 3	Si
Maschio 71	PF SLU	14.171	SLU 83	Si
Maschio 71	V SLU	34.242	SLU 50	Si
Maschio 71	PF	3.228	SLV 14	Si
Maschio 71	V	3.148	SLV 3	Si
Maschio 71	PFFP	9.444	SLV 5	Si
Maschio 71	R	1.369	SLV 16	Si
Maschio 72	PF SLU	30.612	SLU 40	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 72	V SLU	2.402	SLU 82	Si
Maschio 72	PF	1.063	SLV 3	Si
Maschio 72	V	1.814	SLV 14	Si
Maschio 72	PFFP	8.123	SLV 1	Si
Maschio 72	R	1.103	SLV 16	Si
Maschio 73	PF SLU	14.815	SLU 42	Si
Maschio 73	V SLU	3.896	SLU 42	Si
Maschio 73	PF	0.265	SLV 8	No
Maschio 73	V	2.282	SLV 6	Si
Maschio 73	PFFP	6.744	SLV 11	Si
Maschio 73	R	1.944	SLV 10	Si
Maschio 75	PF SLU	25.529	SLU 83	Si
Maschio 75	V SLU	2.5	SLU 81	Si
Maschio 75	PF	4.409	SLV 11	Si
Maschio 75	V	0.972	SLV 11	No
Maschio 75	PFFP	106.433	SLV 7	Si
Maschio 75	R	2.795	SLV 10	Si
Maschio 76	PF SLU	30.312	SLU 19	Si
Maschio 76	V SLU	3.302	SLU 60	Si
Maschio 76	PF	2.856	SLV 11	Si
Maschio 76	V	1.772	SLV 11	Si
Maschio 76	PFFP	19.031	SLV 7	Si
Maschio 76	R	1.742	SLV 14	Si
Maschio 77	PF SLU	3.474	SLU 83	Si
Maschio 77	V SLU	1.343	SLU 62	Si
Maschio 77	PF	2.464	SLV 7	Si
Maschio 77	V	1.44	SLV 11	Si
Maschio 77	PFFP	12.348	SLV 2	Si
Maschio 77	R	1.217	SLV 15	Si
Maschio 84	PF SLU	5.203	SLU 84	Si
Maschio 84	V SLU	2.692	SLU 43	Si
Maschio 84	PF	4.477	SLV 11	Si
Maschio 84	V	2.935	SLV 11	Si
Maschio 84	PFFP	8.117	SLV 7	Si
Maschio 84	R	1.076	SLV 14	Si
Maschio 85	PF SLU	2.403	SLU 83	Si
Maschio 85	V SLU	3.396	SLU 62	Si
Maschio 85	PF	0.764	SLV 11	No
Maschio 85	V	1.982	SLV 15	Si
Maschio 85	PFFP	3.118	SLV 8	Si
Maschio 85	R	1.526	SLV 2	Si
Maschio 86	PF SLU	3.498	SLU 83	Si
Maschio 86	V SLU	2.744	SLU 44	Si
Maschio 86	PF	5.443	SLV 6	Si
Maschio 86	V	2.322	SLV 10	Si
Maschio 86	PFFP	5.299	SLV 6	Si
Maschio 86	R	0.984	SLV 15	No
Maschio 90	PF SLU	3.007	SLU 76	Si
Maschio 90	V SLU	1.132	SLU 65	Si
Maschio 90	PF	2.501	SLV 4	Si
Maschio 90	V	1.891	SLV 2	Si
Maschio 90	PFFP	4.128	SLV 7	Si
Maschio 90	R	1.697	SLV 14	Si
Maschio 91	PF SLU	13.292	SLU 34	Si
Maschio 91	V SLU	2.234	SLU 84	Si
Maschio 91	PF	1.049	SLV 11	Si
Maschio 91	V	2.84	SLV 15	Si
Maschio 91	PFFP	2.308	SLV 7	Si
Maschio 91	R	1.736	SLV 13	Si
Maschio 92	PF SLU	3.93	SLU 43	Si
Maschio 92	V SLU	1.243	SLU 69	Si
Maschio 92	PF	1.494	SLV 1	Si
Maschio 92	V	2.295	SLV 3	Si
Maschio 92	PFFP	2.325	SLV 6	Si
Maschio 92	R	1.597	SLV 11	Si
Maschio 93	PF SLU	9.786	SLU 42	Si
Maschio 93	V SLU	2.509	SLU 84	Si
Maschio 93	PF	0	SLV 5	No
Maschio 93	V	3.441	SLV 10	Si
Maschio 93	PFFP	0	SLV 6	No
Maschio 93	R	1.66	SLV 16	Si
Maschio 94	PF SLU	18.562	SLU 44	Si
Maschio 94	V SLU	12.3	SLU 47	Si
Maschio 94	PF	2.209	SLV 6	Si
Maschio 94	V	2.897	SLV 6	Si
Maschio 94	PFFP	9.758	SLV 1	Si
Maschio 94	R	1.555	SLV 16	Si
Maschio 95	PF SLU	61.607	SLU 28	Si
Maschio 95	V SLU	28.074	SLU 44	Si
Maschio 95	PF	4.095	SLV 12	Si
Maschio 95	V	1.832	SLV 9	Si
Maschio 95	PFFP	4.835	SLV 14	Si
Maschio 95	R	2.018	SLV 3	Si
Maschio 96	PF SLU	8.235	SLU 43	Si
Maschio 96	V SLU	11.399	SLU 43	Si
Maschio 96	PF	1.333	SLV 5	Si
Maschio 96	V	4.606	SLV 12	Si
Maschio 96	PFFP	4.494	SLV 10	Si
Maschio 96	R	2.151	SLV 3	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 97	PF SLU	9.889	SLU 43	Si
Maschio 97	V SLU	2.282	SLU 81	Si
Maschio 97	PF	1.548	SLV 5	Si
Maschio 97	V	4.031	SLV 16	Si
Maschio 97	PFFP	2.824	SLV 5	Si
Maschio 97	R	1.442	SLV 16	Si
Maschio 98	PF SLU	11.831	SLU 47	Si
Maschio 98	V SLU	8.706	SLU 41	Si
Maschio 98	PF	1.814	SLV 13	Si
Maschio 98	V	4.901	SLV 8	Si
Maschio 98	PFFP	4.231	SLV 11	Si
Maschio 98	R	1.984	SLV 2	Si
Maschio 99	PF SLU	8.522	SLU 84	Si
Maschio 99	V SLU	2.03	SLU 76	Si
Maschio 99	PF	3.893	SLV 4	Si
Maschio 99	V	3.201	SLV 13	Si
Maschio 99	PFFP	4.465	SLV 12	Si
Maschio 99	R	1.911	SLV 1	Si
Maschio 100	PF SLU	3.445	SLU 68	Si
Maschio 100	V SLU	3	SLU 82	Si
Maschio 100	PF	1.129	SLV 13	Si
Maschio 100	V	2.97	SLV 13	Si
Maschio 100	PFFP	4.554	SLV 11	Si
Maschio 100	R	1.756	SLV 2	Si
Maschio 101	PF SLU	15.386	SLU 84	Si
Maschio 101	V SLU	2.984	SLU 44	Si
Maschio 101	PF	3.945	SLV 9	Si
Maschio 101	V	2.845	SLV 9	Si
Maschio 101	PFFP	4.202	SLV 9	Si
Maschio 101	R	1.146	SLV 3	Si
Maschio 103	PF SLU	4.73	SLU 68	Si
Maschio 103	V SLU	6.255	SLU 60	Si
Maschio 103	PF	0.55	SLV 8	No
Maschio 103	V	3.085	SLV 13	Si
Maschio 103	PFFP	4.396	SLV 11	Si
Maschio 103	R	1.677	SLV 13	Si
Maschio 104	PF SLU	10.863	SLU 83	Si
Maschio 104	V SLU	2.809	SLU 43	Si
Maschio 104	PF	3.703	SLV 12	Si
Maschio 104	V	3.126	SLV 12	Si
Maschio 104	PFFP	5.133	SLV 12	Si
Maschio 104	R	1.225	SLV 1	Si
Maschio 106	PF SLU	5.922	SLU 42	Si
Maschio 106	V SLU	2.544	SLU 84	Si
Maschio 106	PF	1.612	SLV 15	Si
Maschio 106	V	3.177	SLV 15	Si
Maschio 106	PFFP	3.502	SLV 8	Si
Maschio 106	R	1.884	SLV 2	Si
Maschio 110	PF SLU	3.755	SLU 84	Si
Maschio 110	V SLU	4.573	SLU 44	Si
Maschio 110	PF	1.133	SLV 5	Si
Maschio 110	V	2.607	SLV 5	Si
Maschio 110	PFFP	3.162	SLV 9	Si
Maschio 110	R	1.115	SLV 3	Si
Maschio 111	PF SLU	20.38	SLU 40	Si
Maschio 111	V SLU	1.858	SLU 84	Si
Maschio 111	PF	2.875	SLV 8	Si
Maschio 111	V	2.904	SLV 9	Si
Maschio 111	PFFP	4.224	SLV 11	Si
Maschio 111	R	1.991	SLV 1	Si
Maschio 113	PF SLU	20.051	SLU 42	Si
Maschio 113	V SLU	8.739	SLU 43	Si
Maschio 113	PF	22.759	SLV 15	Si
Maschio 113	V	3.633	SLV 7	Si
Maschio 113	PFFP	8.803	SLV 12	Si
Maschio 113	R	2.518	SLV 1	Si
Maschio 115	PF SLU	3.026	SLU 83	Si
Maschio 115	V SLU	6.941	SLU 43	Si
Maschio 115	PF	0	SLV 5	No
Maschio 115	V	4.101	SLV 7	Si
Maschio 115	PFFP	0	SLV 9	No
Maschio 115	R	1.527	SLV 1	Si
Maschio 116	PF SLU	7.346	SLU 81	Si
Maschio 116	V SLU	4.292	SLU 44	Si
Maschio 116	PF	4.125	SLV 16	Si
Maschio 116	V	5.891	SLV 13	Si
Maschio 116	PFFP	7.749	SLV 13	Si
Maschio 116	R	1.393	SLV 4	Si
Maschio 117	PF SLU	40.137	SLU 50	Si
Maschio 117	V SLU	19.935	SLU 65	Si
Maschio 117	PF	5.329	SLV 4	Si
Maschio 117	V	3.617	SLV 13	Si
Maschio 117	PFFP	12.815	SLV 16	Si
Maschio 117	R	1.196	SLV 1	Si
Maschio 118	PF SLU	15.386	SLU 83	Si
Maschio 118	V SLU	15.787	SLU 60	Si
Maschio 118	PF	1.005	SLV 2	Si
Maschio 118	V	6.345	SLV 2	Si
Maschio 118	PFFP	11.944	SLV 4	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 118	R	1.461	SLV 16	Si
Maschio 119	PF SLU	10.118	SLU 84	Si
Maschio 119	V SLU	5.821	SLU 65	Si
Maschio 119	PF	2.216	SLV 2	Si
Maschio 119	V	4.337	SLV 2	Si
Maschio 119	PFFP	15.512	SLV 15	Si
Maschio 119	R	1.152	SLV 16	Si
Maschio 120	PF SLU	6.848	SLU 84	Si
Maschio 120	V SLU	4.251	SLU 44	Si
Maschio 120	PF	1.859	SLV 2	Si
Maschio 120	V	3.478	SLV 6	Si
Maschio 120	PFFP	13.826	SLV 2	Si
Maschio 120	R	1.293	SLV 14	Si
Maschio 121	PF SLU	8.398	SLU 44	Si
Maschio 121	V SLU	6.536	SLU 44	Si
Maschio 121	PF	3.347	SLV 2	Si
Maschio 121	V	6.554	SLV 1	Si
Maschio 121	PFFP	8.433	SLV 3	Si
Maschio 121	R	1.381	SLV 14	Si
Maschio 122	PF SLU	8.924	SLU 48	Si
Maschio 122	V SLU	16.594	SLU 50	Si
Maschio 122	PF	1.181	SLV 16	Si
Maschio 122	V	4.535	SLV 16	Si
Maschio 122	PFFP	4.868	SLV 14	Si
Maschio 122	R	1.59	SLV 3	Si
Maschio 123	PF SLU	25.992	SLU 84	Si
Maschio 123	V SLU	12.182	SLU 40	Si
Maschio 123	PF	3.736	SLV 1	Si
Maschio 123	V	3.693	SLV 1	Si
Maschio 123	PFFP	7.364	SLV 10	Si
Maschio 123	R	1.628	SLV 3	Si
Maschio 124	PF SLU	28.585	SLU 81	Si
Maschio 124	V SLU	12.637	SLU 64	Si
Maschio 124	PF	2.747	SLV 1	Si
Maschio 124	V	3.764	SLV 3	Si
Maschio 124	PFFP	6.641	SLV 5	Si
Maschio 124	R	1.568	SLV 16	Si
Maschio 125	PF SLU	9.17	SLU 82	Si
Maschio 125	V SLU	22.743	SLU 50	Si
Maschio 125	PF	0.875	SLV 3	No
Maschio 125	V	4.06	SLV 3	Si
Maschio 125	PFFP	3.735	SLV 3	Si
Maschio 125	R	1.576	SLV 16	Si
Maschio 127	PF SLU	14.264	SLU 77	Si
Maschio 127	V SLU	2.386	SLU 60	Si
Maschio 127	PF	3.382	SLV 11	Si
Maschio 127	V	3.083	SLV 11	Si
Maschio 127	PFFP	7.06	SLV 8	Si
Maschio 127	R	1.543	SLV 14	Si
Maschio 128	PF SLU	5.09	SLU 83	Si
Maschio 128	V SLU	1.897	SLU 60	Si
Maschio 128	PF	3.053	SLV 7	Si
Maschio 128	V	2.814	SLV 11	Si
Maschio 128	PFFP	8.632	SLV 3	Si
Maschio 128	R	1.356	SLV 14	Si
Maschio 133	PF SLU	5.496	SLU 82	Si
Maschio 133	V SLU	1.676	SLU 70	Si
Maschio 133	PF	0.973	SLV 4	No
Maschio 133	V	2.863	SLV 2	Si
Maschio 133	PFFP	4.585	SLV 11	Si
Maschio 133	R	1.7	SLV 13	Si
Maschio 135	PF SLU	9.428	SLU 77	Si
Maschio 135	V SLU	3.616	SLU 43	Si
Maschio 135	PF	3.536	SLV 7	Si
Maschio 135	V	3.44	SLV 11	Si
Maschio 135	PFFP	5.102	SLV 7	Si
Maschio 135	R	1.318	SLV 14	Si
Maschio 136	PF SLU	5.046	SLU 68	Si
Maschio 136	V SLU	4.039	SLU 68	Si
Maschio 136	PF	0.55	SLV 11	No
Maschio 136	V	2.728	SLV 15	Si
Maschio 136	PFFP	3.358	SLV 8	Si
Maschio 136	R	1.635	SLV 2	Si
Maschio 137	PF SLU	18.394	SLU 82	Si
Maschio 137	V SLU	2.763	SLU 47	Si
Maschio 137	PF	4.27	SLV 10	Si
Maschio 137	V	2.827	SLV 6	Si
Maschio 137	PFFP	4.094	SLV 6	Si
Maschio 137	R	1.196	SLV 15	Si
Maschio 140	PF SLU	2.999	SLU 78	Si
Maschio 140	V SLU	4.035	SLU 82	Si
Maschio 140	PF	0.662	SLV 4	No
Maschio 140	V	2.952	SLV 2	Si
Maschio 140	PFFP	4.319	SLV 8	Si
Maschio 140	R	1.904	SLV 13	Si
Maschio 141	PF SLU	6.284	SLU 84	Si
Maschio 141	V SLU	2.607	SLU 44	Si
Maschio 141	PF	2.895	SLV 15	Si
Maschio 141	V	2.209	SLV 2	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 141	PFFP	3.849	SLV 7	Si
Maschio 141	R	1.986	SLV 14	Si
Maschio 142	PF SLU	13.24	SLU 41	Si
Maschio 142	V SLU	5.269	SLU 41	Si
Maschio 142	PF	2.425	SLV 11	Si
Maschio 142	V	3.584	SLV 11	Si
Maschio 142	PFFP	4.595	SLV 8	Si
Maschio 142	R	1.909	SLV 13	Si
Maschio 143	PF SLU	18.94	SLU 43	Si
Maschio 143	V SLU	2.775	SLU 81	Si
Maschio 143	PF	1.993	SLV 10	Si
Maschio 143	V	3.986	SLV 3	Si
Maschio 143	PFFP	2.386	SLV 10	Si
Maschio 143	R	1.416	SLV 3	Si
Maschio 144	PF SLU	9.985	SLU 43	Si
Maschio 144	V SLU	5.154	SLU 42	Si
Maschio 144	PF	1.859	SLV 10	Si
Maschio 144	V	3.811	SLV 10	Si
Maschio 144	PFFP	4.438	SLV 5	Si
Maschio 144	R	1.96	SLV 16	Si
Maschio 145	PF SLU	7.608	SLU 70	Si
Maschio 145	V SLU	17.156	SLU 79	Si
Maschio 145	PF	2.4	SLV 7	Si
Maschio 145	V	2.511	SLV 11	Si
Maschio 145	PFFP	5.21	SLV 3	Si
Maschio 145	R	1.786	SLV 14	Si
Maschio 146	PF SLU	8.253	SLU 44	Si
Maschio 146	V SLU	6.36	SLU 44	Si
Maschio 146	PF	1.959	SLV 6	Si
Maschio 146	V	2.772	SLV 10	Si
Maschio 146	PFFP	3.425	SLV 6	Si
Maschio 146	R	1.766	SLV 15	Si
Maschio 147	PF SLU	38.286	SLU 26	Si
Maschio 147	V SLU	27.393	SLU 35	Si
Maschio 147	PF	7.437	SLV 11	Si
Maschio 147	V	2.3	SLV 12	Si
Maschio 147	PFFP	3.248	SLV 14	Si
Maschio 147	R	3.34	SLV 3	Si
Maschio 148	PF SLU	8.92	SLU 43	Si
Maschio 148	V SLU	11.1	SLU 40	Si
Maschio 148	PF	1.966	SLV 5	Si
Maschio 148	V	5.42	SLV 5	Si
Maschio 148	PFFP	3.211	SLV 10	Si
Maschio 148	R	2.932	SLV 1	Si
Maschio 149	PF SLU	6.47	SLU 50	Si
Maschio 149	V SLU	5.224	SLU 81	Si
Maschio 149	PF	3.29	SLV 16	Si
Maschio 149	V	7.86	SLV 16	Si
Maschio 149	PFFP	2.301	SLV 5	Si
Maschio 149	R	2.531	SLV 4	Si
Maschio 150	PF SLU	8.882	SLU 44	Si
Maschio 150	V SLU	6.977	SLU 41	Si
Maschio 150	PF	1.647	SLV 13	Si
Maschio 150	V	5.172	SLV 8	Si
Maschio 150	PFFP	2.562	SLV 15	Si
Maschio 150	R	2.895	SLV 4	Si
Maschio 151	PF SLU	10.656	SLU 73	Si
Maschio 151	V SLU	3.021	SLU 68	Si
Maschio 151	PF	3.473	SLV 4	Si
Maschio 151	V	3.82	SLV 13	Si
Maschio 151	PFFP	2.609	SLV 12	Si
Maschio 151	R	2.752	SLV 1	Si
Maschio 152	PF SLU	3.373	SLU 68	Si
Maschio 152	V SLU	4.322	SLU 84	Si
Maschio 152	PF	0.659	SLV 13	No
Maschio 152	V	3.26	SLV 13	Si
Maschio 152	PFFP	2.161	SLV 15	Si
Maschio 152	R	2.714	SLV 4	Si
Maschio 153	PF SLU	13.91	SLU 52	Si
Maschio 153	V SLU	5.278	SLU 44	Si
Maschio 153	PF	3.985	SLV 10	Si
Maschio 153	V	4.469	SLV 9	Si
Maschio 153	PFFP	2.646	SLV 10	Si
Maschio 153	R	1.879	SLV 3	Si
Maschio 155	PF SLU	4.471	SLU 68	Si
Maschio 155	V SLU	7.345	SLU 70	Si
Maschio 155	PF	0.33	SLV 8	No
Maschio 155	V	3.06	SLV 13	Si
Maschio 155	PFFP	2.217	SLV 15	Si
Maschio 155	R	2.121	SLV 13	Si
Maschio 156	PF SLU	11.097	SLU 77	Si
Maschio 156	V SLU	3.766	SLU 43	Si
Maschio 156	PF	4.085	SLV 12	Si
Maschio 156	V	4.311	SLV 11	Si
Maschio 156	PFFP	3.065	SLV 16	Si
Maschio 156	R	2.083	SLV 2	Si
Maschio 158	PF SLU	4.89	SLU 42	Si
Maschio 158	V SLU	2.063	SLU 78	Si
Maschio 158	PF	1.155	SLV 15	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 158	V	2.945	SLV 13	Si
Maschio 158	PFFP	1.853	SLV 8	Si
Maschio 158	R	2.779	SLV 13	Si
Maschio 162	PF SLU	20.109	SLU 44	Si
Maschio 162	V SLU	14.217	SLU 44	Si
Maschio 162	PF	1.565	SLV 5	Si
Maschio 162	V	4.38	SLV 5	Si
Maschio 162	PFFP	2.823	SLV 10	Si
Maschio 162	R	1.607	SLV 1	Si
Maschio 163	PF SLU	5.331	SLU 42	Si
Maschio 163	V SLU	2.269	SLU 42	Si
Maschio 163	PF	3.387	SLV 13	Si
Maschio 163	V	3.04	SLV 13	Si
Maschio 163	PFFP	13.454	SLV 12	Si
Maschio 163	R	4.221	SLV 6	Si
Maschio 164	PF SLU	7.197	SLU 40	Si
Maschio 164	V SLU	2.995	SLU 84	Si
Maschio 164	PF	1.825	SLV 13	Si
Maschio 164	V	3.882	SLV 13	Si
Maschio 164	PFFP	7.593	SLV 15	Si
Maschio 164	R	6.482	SLV 2	Si
Maschio 166	PF SLU	7.747	SLU 42	Si
Maschio 166	V SLU	24.586	SLU 43	Si
Maschio 166	PF	6.061	SLV 9	Si
Maschio 166	V	4.045	SLV 7	Si
Maschio 166	PFFP	2.33	SLV 12	Si
Maschio 166	R	3.379	SLV 13	Si
Maschio 168	PF SLU	5.91	SLU 60	Si
Maschio 168	V SLU	26.021	SLU 60	Si
Maschio 168	PF	0.567	SLV 7	No
Maschio 168	V	12.518	SLV 7	Si
Maschio 168	PFFP	3.315	SLV 12	Si
Maschio 168	R	0.814	SLV 10	No
Maschio 169	PF SLU	8.876	SLU 43	Si
Maschio 169	V SLU	6.995	SLU 44	Si
Maschio 169	PF	4.94	SLV 16	Si
Maschio 169	V	9.302	SLV 14	Si
Maschio 169	PFFP	4.079	SLV 14	Si
Maschio 169	R	2.135	SLV 4	Si
Maschio 170	PF SLU	46.606	SLU 48	Si
Maschio 170	V SLU	17.472	SLU 65	Si
Maschio 170	PF	5.081	SLV 13	Si
Maschio 170	V	4.097	SLV 14	Si
Maschio 170	PFFP	6.925	SLV 13	Si
Maschio 170	R	1.501	SLV 3	Si
Maschio 171	PF SLU	16.76	SLU 30	Si
Maschio 171	V SLU	13.553	SLU 36	Si
Maschio 171	PF	0.738	SLV 1	No
Maschio 171	V	6.238	SLV 2	Si
Maschio 171	PFFP	5.093	SLV 7	Si
Maschio 171	R	2.103	SLV 14	Si
Maschio 172	PF SLU	12.357	SLU 23	Si
Maschio 172	V SLU	6.067	SLU 65	Si
Maschio 172	PF	2.048	SLV 1	Si
Maschio 172	V	5.65	SLV 1	Si
Maschio 172	PFFP	7.992	SLV 3	Si
Maschio 172	R	1.363	SLV 13	Si
Maschio 173	PF SLU	9.552	SLU 44	Si
Maschio 173	V SLU	6.991	SLU 44	Si
Maschio 173	PF	1.595	SLV 2	Si
Maschio 173	V	4.476	SLV 2	Si
Maschio 173	PFFP	7.272	SLV 2	Si
Maschio 173	R	1.747	SLV 15	Si
Maschio 174	PF SLU	10.427	SLU 43	Si
Maschio 174	V SLU	9.307	SLU 41	Si
Maschio 174	PF	5.096	SLV 3	Si
Maschio 174	V	10.561	SLV 16	Si
Maschio 174	PFFP	4.652	SLV 1	Si
Maschio 174	R	2.144	SLV 16	Si
Maschio 175	PF SLU	14.208	SLU 42	Si
Maschio 175	V SLU	28.513	SLU 42	Si
Maschio 175	PF	1.97	SLV 16	Si
Maschio 175	V	7.638	SLV 1	Si
Maschio 175	PFFP	3.249	SLV 14	Si
Maschio 175	R	2.647	SLV 16	Si
Maschio 176	PF SLU	16.676	SLU 40	Si
Maschio 176	V SLU	8.66	SLU 82	Si
Maschio 176	PF	2.027	SLV 5	Si
Maschio 176	V	3.352	SLV 1	Si
Maschio 176	PFFP	2.897	SLV 10	Si
Maschio 176	R	2.648	SLV 15	Si
Maschio 177	PF SLU	13.412	SLU 60	Si
Maschio 177	V SLU	5.692	SLU 81	Si
Maschio 177	PF	1.747	SLV 1	Si
Maschio 177	V	3.068	SLV 3	Si
Maschio 177	PFFP	3.289	SLV 5	Si
Maschio 177	R	2.394	SLV 16	Si
Maschio 178	PF SLU	13.617	SLU 50	Si
Maschio 178	V SLU	20.761	SLU 50	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 178	PF	1.197	SLV 3	Si
Maschio 178	V	4.983	SLV 3	Si
Maschio 178	PFFP	2.602	SLV 3	Si
Maschio 178	R	2.582	SLV 16	Si
Maschio 180	PF SLU	16.397	SLU 50	Si
Maschio 180	V SLU	4.554	SLU 43	Si
Maschio 180	PF	4.755	SLV 11	Si
Maschio 180	V	4.133	SLV 8	Si
Maschio 180	PFFP	3.225	SLV 8	Si
Maschio 180	R	2.386	SLV 14	Si
Maschio 181	PF SLU	7.545	SLU 28	Si
Maschio 181	V SLU	2.038	SLU 78	Si
Maschio 181	PF	3.171	SLV 8	Si
Maschio 181	V	3.371	SLV 9	Si
Maschio 181	PFFP	3.362	SLV 7	Si
Maschio 181	R	1.899	SLV 14	Si
Maschio 186	PF SLU	4.68	SLU 40	Si
Maschio 186	V SLU	1.803	SLU 70	Si
Maschio 186	PF	0.659	SLV 4	No
Maschio 186	V	2.902	SLV 4	Si
Maschio 186	PFFP	2.369	SLV 11	Si
Maschio 186	R	2.679	SLV 13	Si
Maschio 188	PF SLU	10.276	SLU 50	Si
Maschio 188	V SLU	7.186	SLU 43	Si
Maschio 188	PF	4.493	SLV 7	Si
Maschio 188	V	5.245	SLV 11	Si
Maschio 188	PFFP	2.946	SLV 4	Si
Maschio 188	R	2.135	SLV 13	Si
Maschio 189	PF SLU	3.849	SLU 65	Si
Maschio 189	V SLU	7.024	SLU 65	Si
Maschio 189	PF	0.477	SLV 2	No
Maschio 189	V	2.498	SLV 2	Si
Maschio 189	PFFP	1.378	SLV 4	Si
Maschio 189	R	2.089	SLV 2	Si
Maschio 190	PF SLU	13.788	SLU 82	Si
Maschio 190	V SLU	4.557	SLU 51	Si
Maschio 190	PF	3.813	SLV 5	Si
Maschio 190	V	4.655	SLV 6	Si
Maschio 190	PFFP	2.603	SLV 5	Si
Maschio 190	R	1.842	SLV 16	Si
Maschio 193	PF SLU	2.852	SLU 65	Si
Maschio 193	V SLU	6.523	SLU 83	Si
Maschio 193	PF	0.231	SLV 2	No
Maschio 193	V	3.079	SLV 2	Si
Maschio 193	PFFP	2.178	SLV 4	Si
Maschio 193	R	2.478	SLV 15	Si
Maschio 194	PF SLU	9.363	SLU 65	Si
Maschio 194	V SLU	3.807	SLU 65	Si
Maschio 194	PF	2.41	SLV 15	Si
Maschio 194	V	3.778	SLV 2	Si
Maschio 194	PFFP	2.857	SLV 7	Si
Maschio 194	R	2.909	SLV 14	Si
Maschio 195	PF SLU	7.005	SLU 41	Si
Maschio 195	V SLU	4.771	SLU 41	Si
Maschio 195	PF	2.029	SLV 2	Si
Maschio 195	V	4.928	SLV 11	Si
Maschio 195	PFFP	2.814	SLV 4	Si
Maschio 195	R	2.922	SLV 15	Si
Maschio 196	PF SLU	16.175	SLU 43	Si
Maschio 196	V SLU	17.512	SLU 43	Si
Maschio 196	PF	2.668	SLV 10	Si
Maschio 196	V	9.864	SLV 3	Si
Maschio 196	PFFP	2.817	SLV 10	Si
Maschio 196	R	2.42	SLV 15	Si
Maschio 197	PF SLU	6.203	SLU 40	Si
Maschio 197	V SLU	4.19	SLU 42	Si
Maschio 197	PF	2.17	SLV 10	Si
Maschio 197	V	5.474	SLV 10	Si
Maschio 197	PFFP	3.047	SLV 5	Si
Maschio 197	R	2.849	SLV 16	Si
Maschio 198	PF SLU	27.767	SLU 30	Si
Maschio 198	V SLU	18.18	SLU 44	Si
Maschio 198	PF	5.553	SLV 7	Si
Maschio 198	V	2.226	SLV 6	Si
Maschio 198	PFFP	3.434	SLV 2	Si
Maschio 198	R	3.144	SLV 15	Si
Maschio 199	PF SLU	33.995	SLU 26	Si
Maschio 199	V SLU	10.476	SLU 78	Si
Maschio 199	PF	4.931	SLV 7	Si
Maschio 199	V	6.067	SLV 8	Si
Maschio 199	PFFP	1.567	SLV 2	Si
Maschio 199	R	10.851	SLV 13	Si
Maschio 200	PF SLU	6.797	SLU 33	Si
Maschio 200	V SLU	5.648	SLU 36	Si
Maschio 200	PF	1.472	SLV 5	Si
Maschio 200	V	7.726	SLV 5	Si
Maschio 200	PFFP	1.628	SLV 5	Si
Maschio 200	R	6.296	SLV 15	Si
Maschio 202	PF SLU	9.805	SLU 44	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 202	V SLU	5.289	SLU 41	Si
Maschio 202	PF	1.297	SLV 9	Si
Maschio 202	V	6.525	SLV 8	Si
Maschio 202	PFFP	1.515	SLV 8	Si
Maschio 202	R	7.079	SLV 14	Si
Maschio 203	PF SLU	10.352	SLU 73	Si
Maschio 203	V SLU	3.844	SLU 70	Si
Maschio 203	PF	4.105	SLV 9	Si
Maschio 203	V	6.743	SLV 9	Si
Maschio 203	PFFP	1.528	SLV 13	Si
Maschio 203	R	7.129	SLV 13	Si
Maschio 204	PF SLU	2.707	SLU 44	Si
Maschio 204	V SLU	4.66	SLU 78	Si
Maschio 204	PF	0.503	SLV 13	No
Maschio 204	V	5.004	SLV 9	Si
Maschio 204	PFFP	0	SLV 4	No
Maschio 204	R	5.965	SLV 3	Si
Maschio 205	PF SLU	2.134	SLU 51	Si
Maschio 205	V SLU	4.094	SLU 51	Si
Maschio 205	PF	2.066	SLV 10	Si
Maschio 205	V	6.746	SLV 12	Si
Maschio 205	PFFP	1.854	SLV 10	Si
Maschio 205	R	7.315	SLV 16	Si
Maschio 207	PF SLU	2.754	SLU 23	Si
Maschio 207	V SLU	7.801	SLU 65	Si
Maschio 207	PF	0.31	SLV 13	No
Maschio 207	V	4.163	SLV 13	Si
Maschio 207	PFFP	0	SLV 13	No
Maschio 207	R	7.406	SLV 1	Si
Maschio 208	PF SLU	6.194	SLU 8	Si
Maschio 208	V SLU	5.88	SLU 44	Si
Maschio 208	PF	2.629	SLV 9	Si
Maschio 208	V	8.03	SLV 11	Si
Maschio 208	PFFP	1.662	SLV 12	Si
Maschio 208	R	12.241	SLV 2	Si
Maschio 209	PF SLU	2.592	SLU 40	Si
Maschio 209	V SLU	2.374	SLU 42	Si
Maschio 209	PF	0.947	SLV 4	No
Maschio 209	V	4.415	SLV 13	Si
Maschio 209	PFFP	1.054	SLV 8	Si
Maschio 209	R	7.069	SLV 2	Si
Maschio 211	PF SLU	6.344	SLU 35	Si
Maschio 211	V SLU	2.775	SLU 82	Si
Maschio 211	PF	0.719	SLV 5	No
Maschio 211	V	3.997	SLV 5	Si
Maschio 211	PFFP	0.987	SLV 10	No
Maschio 211	R	12.843	SLV 3	Si
Maschio 212	PF SLU	4.186	SLU 31	Si
Maschio 212	V SLU	16.226	SLU 50	Si
Maschio 212	PF	0	SLV 7	No
Maschio 212	V	9.069	SLV 7	Si
Maschio 212	PFFP	0	SLV 7	No
Maschio 212	R	8.806	SLV 2	Si
Maschio 213	PF SLU	1.676	SLU 36	Si
Maschio 213	V SLU	2.936	SLU 36	Si
Maschio 213	PF	0	SLD 5	No
Maschio 213	V	3.674	SLV 10	Si
Maschio 213	PFFP	0	SLV 10	No
Maschio 213	R	4.426	SLV 2	Si
Maschio 214	PF SLU	7.548	SLU 8	Si
Maschio 214	V SLU	5.606	SLU 35	Si
Maschio 214	PF	2.478	SLV 14	Si
Maschio 214	V	20.101	SLV 3	Si
Maschio 214	PFFP	1.888	SLV 14	Si
Maschio 214	R	7.367	SLV 3	Si
Maschio 215	PF SLU	23.998	SLU 31	Si
Maschio 215	V SLU	27.029	SLU 65	Si
Maschio 215	PF	2.496	SLV 13	Si
Maschio 215	V	5.979	SLV 14	Si
Maschio 215	PFFP	4.099	SLV 13	Si
Maschio 215	R	2.555	SLV 4	Si
Maschio 216	PF SLU	5.366	SLU 42	Si
Maschio 216	V SLU	6.023	SLU 78	Si
Maschio 216	PF	0.617	SLV 3	No
Maschio 216	V	7.787	SLV 1	Si
Maschio 216	PFFP	2.171	SLV 8	Si
Maschio 216	R	1.572	SLV 9	Si
Maschio 217	PF SLU	7.955	SLU 31	Si
Maschio 217	V SLU	6.73	SLU 70	Si
Maschio 217	PF	0.838	SLV 1	No
Maschio 217	V	7.137	SLV 1	Si
Maschio 217	PFFP	3.52	SLV 4	Si
Maschio 217	R	2.522	SLV 13	Si
Maschio 218	PF SLU	12.02	SLU 44	Si
Maschio 218	V SLU	21.573	SLU 44	Si
Maschio 218	PF	1.197	SLV 1	Si
Maschio 218	V	6.835	SLV 5	Si
Maschio 218	PFFP	3.738	SLV 2	Si
Maschio 218	R	2.528	SLV 15	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 219	PF SLU	8.59	SLU 6	Si
Maschio 219	V SLU	4.67	SLU 41	Si
Maschio 219	PF	2.794	SLV 16	Si
Maschio 219	V	16.575	SLV 16	Si
Maschio 219	PFFP	2.132	SLV 1	Si
Maschio 219	R	7.611	SLV 4	Si
Maschio 221	PF SLU	9.393	SLU 40	Si
Maschio 221	V SLU	6.847	SLU 82	Si
Maschio 221	PF	1.535	SLV 5	Si
Maschio 221	V	4.507	SLV 1	Si
Maschio 221	PFFP	1.622	SLV 5	Si
Maschio 221	R	6.719	SLV 3	Si
Maschio 222	PF SLU	19.65	SLU 81	Si
Maschio 222	V SLU	11.493	SLU 81	Si
Maschio 222	PF	2.648	SLV 1	Si
Maschio 222	V	7.775	SLV 3	Si
Maschio 222	PFFP	2.165	SLV 5	Si
Maschio 222	R	6.922	SLV 16	Si
Maschio 228	PF SLU	2.113	SLU 40	Si
Maschio 228	V SLU	1.99	SLU 40	Si
Maschio 228	PF	0.219	SLV 15	No
Maschio 228	V	3.24	SLV 2	Si
Maschio 228	PFFP	0	SLV 15	No
Maschio 228	R	9.455	SLV 2	Si
Maschio 229	PF SLU	5.491	SLU 18	Si
Maschio 229	V SLU	19.817	SLU 44	Si
Maschio 229	PF	2.631	SLV 9	Si
Maschio 229	V	11.763	SLV 12	Si
Maschio 229	PFFP	1.103	SLV 3	Si
Maschio 229	R	11.109	SLV 13	Si
Maschio 231	PF SLU	1.666	SLU 51	Si
Maschio 231	V SLU	2.038	SLU 51	Si
Maschio 231	PF	1.674	SLV 5	Si
Maschio 231	V	7.573	SLV 9	Si
Maschio 231	PFFP	2.027	SLV 6	Si
Maschio 231	R	6.101	SLV 3	Si
Maschio 234	PF SLU	2.718	SLU 44	Si
Maschio 234	V SLU	8.892	SLU 44	Si
Maschio 234	PF	0	SLV 2	No
Maschio 234	V	4.493	SLV 2	Si
Maschio 234	PFFP	0	SLV 11	No
Maschio 234	R	5.279	SLV 15	Si
Maschio 235	PF SLU	6.661	SLU 44	Si
Maschio 235	V SLU	4.832	SLU 65	Si
Maschio 235	PF	2.61	SLV 2	Si
Maschio 235	V	6.99	SLV 6	Si
Maschio 235	PFFP	1.338	SLV 2	Si
Maschio 235	R	7.695	SLV 2	Si
Maschio 236	PF SLU	5.917	SLU 39	Si
Maschio 236	V SLU	3.804	SLU 77	Si
Maschio 236	PF	1.397	SLV 11	Si
Maschio 236	V	5.719	SLV 11	Si
Maschio 236	PFFP	1.584	SLV 12	Si
Maschio 236	R	6.932	SLV 1	Si
Maschio 237	PF SLU	6.419	SLU 43	Si
Maschio 237	V SLU	24.347	SLU 43	Si
Maschio 237	PF	0.768	SLV 1	No
Maschio 237	V	17.403	SLV 3	Si
Maschio 237	PFFP	1.182	SLV 1	Si
Maschio 237	R	60.18	SLV 16	Si
Maschio 238	PF SLU	3.818	SLU 40	Si
Maschio 238	V SLU	3.846	SLU 84	Si
Maschio 238	PF	1.596	SLV 10	Si
Maschio 238	V	6.874	SLV 10	Si
Maschio 238	PFFP	1.768	SLV 14	Si
Maschio 238	R	78.412	SLV 4	Si
Maschio 239	PF SLU	24.911	SLU 30	Si
Maschio 239	V SLU	7.077	SLU 78	Si
Maschio 239	PF	4.937	SLV 8	Si
Maschio 239	V	4.896	SLV 11	Si
Maschio 239	PFFP	1.69	SLV 9	Si
Maschio 239	R	10.241	SLV 16	Si
Maschio 243	PF SLU	2.161	SLU 35	Si
Maschio 243	V SLU	3.377	SLU 78	Si
Maschio 243	PF	0.505	SLV 13	No
Maschio 243	V	7.615	SLV 13	Si
Maschio 243	PFFP	2.119	SLV 8	Si
Maschio 243	R	4.885	SLV 15	Si
Maschio 248	PF SLU	1.409	SLU 84	Si
Maschio 248	V SLU	1.499	SLU 81	Si
Maschio 248	PF	0	SLV 4	No
Maschio 248	V	1.651	SLV 13	Si
Maschio 248	PFFP	0	SLV 12	No
Maschio 248	R	1.419	SLV 2	Si
Maschio 249	PF SLU	2.339	SLU 84	Si
Maschio 249	V SLU	3.715	SLU 77	Si
Maschio 249	PF	0	SLV 7	No
Maschio 249	V	2.276	SLV 15	Si
Maschio 249	PFFP	0	SLV 12	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 249	R	1.445	SLV 9	Si
Maschio 252	PF SLU	2.793	SLU 84	Si
Maschio 252	V SLU	2.999	SLU 84	Si
Maschio 252	PF	0	SLV 8	No
Maschio 252	V	1.968	SLV 15	Si
Maschio 252	PFFP	2.723	SLV 8	Si
Maschio 252	R	1.332	SLV 2	Si
Maschio 253	PF SLU	5.559	SLU 83	Si
Maschio 253	V SLU	3.156	SLU 83	Si
Maschio 253	PF	0	SLV 4	No
Maschio 253	V	2.035	SLV 13	Si
Maschio 253	PFFP	3.134	SLV 11	Si
Maschio 253	R	1.29	SLV 13	Si
Maschio 258	PF SLU	5.559	SLU 83	Si
Maschio 258	V SLU	1.956	SLU 84	Si
Maschio 258	PF	0	SLD 13	No
Maschio 258	V	2.011	SLV 15	Si
Maschio 258	PFFP	1.773	SLV 4	Si
Maschio 258	R	1.663	SLV 2	Si
Maschio 259	PF SLU	4.75	SLU 83	Si
Maschio 259	V SLU	2.742	SLU 83	Si
Maschio 259	PF	0	SLV 2	No
Maschio 259	V	1.982	SLV 15	Si
Maschio 259	PFFP	1.73	SLV 11	Si
Maschio 259	R	1.589	SLV 13	Si
Maschio 266	PF SLU	4.626	SLU 83	Si
Maschio 266	V SLU	2.098	SLU 83	Si
Maschio 266	PF	0	SLD 13	No
Maschio 266	V	2.296	SLV 15	Si
Maschio 266	PFFP	0	SLV 13	No
Maschio 266	R	6.391	SLV 3	Si
Maschio 267	PF SLU	5.035	SLU 60	Si
Maschio 267	V SLU	10.658	SLU 60	Si
Maschio 267	PF	0	SLD 15	No
Maschio 267	V	2.272	SLV 15	Si
Maschio 267	PFFP	1.209	SLV 4	Si
Maschio 267	R	6.31	SLV 4	Si
Maschio 270	PF SLU	14.126	SLU 42	Si
Maschio 270	V SLU	7.939	SLU 43	Si
Maschio 270	PF	1.52	SLV 11	Si
Maschio 270	V	2.821	SLV 11	Si
Maschio 270	PFFP	4.38	SLV 7	Si
Maschio 270	R	1.71	SLV 14	Si
Maschio 271	PF SLU	3.094	SLU 28	Si
Maschio 271	V SLU	4.799	SLU 35	Si
Maschio 271	PF	2.616	SLV 15	Si
Maschio 271	V	4.3	SLV 2	Si
Maschio 271	PFFP	1.055	SLV 11	Si
Maschio 271	R	3.576	SLV 2	Si
Maschio 272	PF SLU	7.031	SLU 42	Si
Maschio 272	V SLU	11.309	SLU 42	Si
Maschio 272	PF	2.34	SLV 11	Si
Maschio 272	V	3.025	SLV 6	Si
Maschio 272	PFFP	3.272	SLV 7	Si
Maschio 272	R	2.335	SLV 14	Si

Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.318	SLV 13	0.316	1.294	1033	1.375	Si
	V	1.28	SLV 11	0.308	1.259	946	1.326	Si
	PFFP	1.835	SLV 13	0.362	1.483	1618	1.653	Si
	R	1.817	SLV 4	0.362	1.483	1618	1.653	Si
2	PF	1.032	SLV 9	0.252	1.03	518	1.036	Si
	V	3.247	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.008	SLV 9	0.246	1.007	485	1.009	Si
	R	1.511	SLV 8	0.36	1.472	1576	1.635	Si
3	PF	1.093	SLV 9	0.265	1.086	608	1.107	Si
	V	3.82	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.17	SLV 9	0.283	1.158	736	1.197	Si
	R	1.844	SLV 8	0.362	1.483	1618	1.653	Si
4	PF	1.204	SLV 9	0.29	1.189	796	1.236	Si
	V	2.359	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.154	SLV 9	0.362	1.483	1618	1.653	Si
	R	1.318	SLV 4	0.316	1.294	1033	1.375	Si
7	PF	1.108	SLV 12	0.269	1.101	632	1.124	Si
	V	3.035	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.092	SLV 12	0.265	1.085	607	1.106	Si
	R	1.591	SLV 5	0.362	1.483	1618	1.653	Si
8	PF	1.33	SLV 12	0.319	1.306	1062	1.391	Si
	V	1.774	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.234	SLV 12	0.297	1.216	853	1.271	Si
	R	1.826	SLV 5	0.362	1.483	1618	1.653	Si
9	PF	1.423	SLV 8	0.34	1.391	1310	1.516	Si
	V	3.606	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.777	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.519	SLV 5	0.362	1.48	1606	1.648	Si
11	PF	1.557	SLV 12	0.362	1.483	1618	1.653	Si
	V	2.164	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	1.953	SLV 12	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
12	R	1.521	SLV 1	0.362	1.482	1612	1.65	Si
	PF	2.573	SLV 16	0.362	1.483	1618	1.653	Si
	V	4.074	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	2.975	SLV 16	0.362	1.483	1618	1.653	Si
13	R	1.366	SLV 1	0.327	1.339	1154	1.439	Si
	PF	2.93	SLV 13	0.362	1.483	1618	1.653	Si
	V	3.752	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
16	R	1.546	SLV 3	0.362	1.483	1618	1.653	Si
	PF	1.079	SLV 5	0.262	1.073	587	1.091	Si
	V	3.001	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.048	SLV 9	0.255	1.045	541	1.055	Si
18	R	1.826	SLV 8	0.362	1.483	1618	1.653	Si
	PF	0.769	SLV 12	0.186	0.761	230	0.743	No
	V	1.878	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	0.703	SLV 11	0.169	0.691	181	0.673	No
19	R	2.093	SLV 6	0.362	1.483	1618	1.653	Si
	PF	1.466	SLV 9	0.349	1.43	1436	1.574	Si
	V	2.153	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	2.318	SLV 9	0.362	1.483	1618	1.653	Si
20	R	1.568	SLV 8	0.362	1.483	1618	1.653	Si
	PF	1.335	SLV 8	0.32	1.31	1074	1.397	Si
	V	1.802	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.646	SLV 8	0.362	1.483	1618	1.653	Si
22	R	1.836	SLV 9	0.362	1.483	1618	1.653	Si
	PF	2.165	SLV 14	0.362	1.483	1618	1.653	Si
	V	3.704	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
23	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	1.253	SLV 10	0.302	1.234	891	1.294	Si
	V	2.215	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.243	SLV 9	0.299	1.225	871	1.282	Si
24	R	1.512	SLV 7	0.36	1.473	1580	1.637	Si
	PF	3.547	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.84	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
25	R	1.659	SLV 3	0.362	1.483	1618	1.653	Si
	PF	1.551	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.956	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.031	SLV 7	0.362	1.483	1618	1.653	Si
26	R	1.548	SLV 10	0.362	1.483	1618	1.653	Si
	PF	1.592	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.187	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.467	SLV 5	0.35	1.431	1439	1.575	Si
27	R	1.339	SLV 12	0.321	1.314	1085	1.403	Si
	PF	1.174	SLV 1	0.284	1.161	743	1.201	Si
	V	2.964	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	0.95	SLV 1	0.232	0.948	412	0.943	No
29	R	2.29	SLV 11	0.362	1.483	1618	1.653	Si
	PF	1.185	SLV 6	0.286	1.171	762	1.214	Si
	V	1.707	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.929	SLV 6	0.362	1.483	1618	1.653	Si
31	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	0.767	SLV 8	0.186	0.759	229	0.741	No
	V	1.663	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	0.892	SLV 8	0.217	0.888	346	0.878	No
34	R	2.139	SLV 9	0.362	1.483	1618	1.653	Si
	PF	1.765	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.471	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.313	SLV 7	0.362	1.483	1618	1.653	Si
35	R	1.614	SLV 14	0.362	1.483	1618	1.653	Si
	PF	1.473	SLV 11	0.351	1.437	1457	1.583	Si
	V	3.072	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.724	SLV 7	0.362	1.483	1618	1.653	Si
36	R	1.494	SLV 10	0.356	1.456	1522	1.612	Si
	PF	1.252	SLV 6	0.301	1.233	888	1.292	Si
	V	2.485	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.656	SLV 6	0.362	1.483	1618	1.653	Si
38	R	1.345	SLV 15	0.322	1.319	1100	1.411	Si
	PF	1.588	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.846	SLV 3	0.362	1.483	1618	1.653	Si
39	R	1.558	SLV 14	0.362	1.483	1618	1.653	Si
	PF	2.494	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.075	SLV 2	0.362	1.483	1618	1.653	Si
40	R	1.512	SLV 15	0.36	1.473	1580	1.637	Si
	PF	1.338	SLV 7	0.321	1.313	1082	1.401	Si
	V	1.807	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.244	SLV 7	0.299	1.226	873	1.283	Si
41	R	1.89	SLV 10	0.362	1.483	1618	1.653	Si
	PF	1.147	SLV 7	0.278	1.136	696	1.17	Si
	V	3.141	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.125	SLV 7	0.273	1.116	660	1.144	Si
42	R	1.895	SLV 10	0.362	1.483	1618	1.653	Si
	PF	1.399	SLV 6	0.334	1.369	1243	1.484	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.453	SLV 6	0.347	1.419	1397	1.556	Si
	R	2.219	SLV 12	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
43	PF	1.01	SLV 6	0.247	1.009	488	1.011	Si
	V	2.687	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	0.949	SLV 6	0.231	0.947	411	0.942	No
44	R	1.958	SLV 11	0.362	1.483	1618	1.653	Si
	PF	1.74	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.855	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.039	SLV 2	0.362	1.483	1618	1.653	Si
45	R	1.738	SLV 15	0.362	1.483	1618	1.653	Si
	PF	1.452	SLV 16	0.346	1.418	1394	1.555	Si
	V	1.135	SLV 9	0.275	1.125	676	1.156	Si
	PFFP	1.985	SLV 15	0.362	1.483	1618	1.653	Si
46	R	1.507	SLV 3	0.359	1.468	1564	1.63	Si
	PF	0.948	SLV 9	0.231	0.946	409	0.941	No
	V	3.488	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.022	SLV 9	0.249	1.021	505	1.025	Si
47	R	1.542	SLV 3	0.362	1.483	1618	1.653	Si
	PF	1.145	SLV 5	0.277	1.134	692	1.167	Si
	V	2.379	SLV 16	0.362	1.483	1618	1.653	Si
	PFFP	1.123	SLV 9	0.272	1.114	656	1.142	Si
48	R	1.3	SLV 8	0.312	1.278	990	1.351	Si
	PF	1.02	SLV 8	0.249	1.019	501	1.022	Si
	V	3.36	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.093	SLV 12	0.265	1.086	608	1.107	Si
49	R	1.489	SLV 2	0.355	1.452	1507	1.605	Si
	PF	1.343	SLV 8	0.322	1.318	1095	1.408	Si
	V	2.568	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.349	SLV 12	0.323	1.323	1110	1.416	Si
51	R	1.579	SLV 1	0.362	1.483	1618	1.653	Si
	PF	1.512	SLV 9	0.36	1.473	1580	1.637	Si
	V	1.917	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.588	SLV 9	0.362	1.483	1618	1.653	Si
53	R	0.927	SLV 4	0.226	0.924	385	0.917	No
	PF	0.973	SLV 8	0.237	0.972	440	0.969	No
	V	3.038	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.327	SLV 11	0.318	1.303	1055	1.387	Si
54	R	1.36	SLV 13	0.326	1.333	1138	1.431	Si
	PF	1.48	SLV 12	0.353	1.443	1479	1.593	Si
	V	3.039	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.83	SLV 12	0.362	1.483	1618	1.653	Si
56	R	0.971	SLV 1	0.237	0.97	437	0.966	No
	PF	1.044	SLV 15	0.254	1.041	535	1.05	Si
	V	2.57	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.246	SLV 8	0.3	1.228	877	1.286	Si
61	R	1.656	SLV 2	0.362	1.483	1618	1.653	Si
	PF	1.02	SLV 8	0.249	1.019	501	1.022	Si
	V	2.277	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.208	SLV 11	0.291	1.192	804	1.241	Si
62	R	1.673	SLV 6	0.362	1.483	1618	1.653	Si
	PF	1.146	SLV 11	0.277	1.136	694	1.168	Si
	V	2.69	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.304	SLV 11	0.313	1.281	999	1.356	Si
63	R	1.847	SLV 6	0.362	1.483	1618	1.653	Si
	PF	1.841	SLV 8	0.362	1.483	1618	1.653	Si
	V	1.995	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	2.931	SLV 12	0.362	1.483	1618	1.653	Si
65	R	1.532	SLV 1	0.362	1.483	1618	1.653	Si
	PF	2.404	SLV 15	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.497	SLV 15	0.362	1.483	1618	1.653	Si
66	R	1.086	SLV 1	0.264	1.08	597	1.098	Si
	PF	3.757	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.831	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
67	R	1.133	SLV 1	0.275	1.124	673	1.154	Si
	PF	3.594	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.572	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
68	R	1.345	SLV 16	0.322	1.319	1100	1.411	Si
	PF	2.588	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.481	SLV 2	0.362	1.483	1618	1.653	Si
69	R	1.143	SLV 15	0.277	1.133	689	1.165	Si
	PF	1.155	SLV 5	0.279	1.144	709	1.178	Si
	V	1.834	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.435	SLV 10	0.343	1.402	1344	1.532	Si
70	R	1.075	SLV 3	0.261	1.07	581	1.086	Si
	PF	1.519	SLV 5	0.362	1.48	1606	1.648	Si
	V	2.052	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.721	SLV 10	0.362	1.483	1618	1.653	Si
71	R	1.288	SLV 3	0.309	1.267	963	1.336	Si
	PF	1.949	SLV 5	0.362	1.483	1618	1.653	Si
	V	2.294	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.964	SLV 5	0.362	1.483	1618	1.653	Si
72	R	1.299	SLV 16	0.312	1.277	987	1.35	Si
	PF	1.026	SLV 3	0.25	1.024	510	1.03	Si
	V	1.762	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	1.934	SLV 1	0.362	1.483	1618	1.653	Si
73	R	1.074	SLV 16	0.261	1.069	579	1.085	Si
	PF	0.871	SLV 8	0.212	0.866	324	0.855	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	2.554	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.082	SLV 11	0.263	1.076	591	1.094	Si
	R	1.606	SLV 10	0.362	1.483	1618	1.653	Si
75	PF	2.243	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.965	SLV 11	0.235	0.963	429	0.959	No
	PFFP	2.903	SLV 7	0.362	1.483	1618	1.653	Si
	R	2.26	SLV 10	0.362	1.483	1618	1.653	Si
76	PF	1.679	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.895	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	2.344	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.598	SLV 10	0.362	1.483	1618	1.653	Si
77	PF	2.968	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.689	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	3.126	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.179	SLV 15	0.285	1.166	751	1.207	Si
84	PF	1.632	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.961	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.961	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.065	SLV 14	0.259	1.061	566	1.075	Si
85	PF	0.951	SLV 11	0.232	0.949	413	0.944	No
	V	2.23	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.141	SLV 8	0.276	1.131	686	1.163	Si
	R	1.396	SLV 2	0.334	1.366	1234	1.479	Si
86	PF	1.255	SLV 6	0.302	1.236	895	1.297	Si
	V	2.234	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.39	SLV 6	0.332	1.361	1218	1.471	Si
	R	0.986	SLV 15	0.241	0.986	457	0.984	No
90	PF	1.325	SLV 11	0.318	1.301	1050	1.384	Si
	V	2.439	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.41	SLV 7	0.337	1.379	1273	1.498	Si
	R	1.527	SLV 14	0.362	1.483	1618	1.653	Si
91	PF	1.008	SLV 11	0.246	1.007	485	1.009	Si
	V	2.618	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.141	SLV 7	0.276	1.131	686	1.163	Si
	R	1.505	SLV 13	0.358	1.466	1557	1.627	Si
92	PF	1.105	SLV 10	0.268	1.097	627	1.121	Si
	V	3.157	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.103	SLV 6	0.268	1.096	624	1.118	Si
	R	1.381	SLV 11	0.33	1.353	1194	1.459	Si
93	PF	0.846	SLV 10	0.205	0.841	300	0.828	No
	V	3.401	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	0.915	SLV 6	0.223	0.912	371	0.904	No
	R	1.458	SLV 16	0.348	1.423	1412	1.563	Si
94	PF	1.955	SLV 3	0.362	1.483	1618	1.653	Si
	V	2.102	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	2.19	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.4	SLV 16	0.335	1.37	1245	1.484	Si
95	PF	2.5	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.798	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	2.424	SLV 14	0.362	1.483	1618	1.653	Si
	R	1.748	SLV 3	0.362	1.483	1618	1.653	Si
96	PF	1.063	SLV 5	0.259	1.059	563	1.072	Si
	V	3.883	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.635	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.872	SLV 3	0.362	1.483	1618	1.653	Si
97	PF	1.101	SLV 5	0.267	1.094	621	1.116	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.145	SLV 5	0.277	1.134	692	1.167	Si
	R	1.334	SLV 16	0.32	1.309	1072	1.396	Si
98	PF	1.285	SLV 8	0.309	1.264	956	1.332	Si
	V	4.007	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.628	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.677	SLV 2	0.362	1.483	1618	1.653	Si
99	PF	1.833	SLV 8	0.362	1.483	1618	1.653	Si
	V	4.036	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.488	SLV 12	0.354	1.451	1504	1.604	Si
	R	1.682	SLV 1	0.362	1.483	1618	1.653	Si
100	PF	1.061	SLV 15	0.258	1.057	560	1.07	Si
	V	3.137	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.481	SLV 11	0.353	1.444	1482	1.594	Si
	R	1.577	SLV 2	0.362	1.483	1618	1.653	Si
101	PF	1.904	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.565	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.662	SLV 9	0.362	1.483	1618	1.653	Si
	R	1.114	SLV 3	0.27	1.106	642	1.131	Si
103	PF	0.886	SLV 8	0.215	0.881	340	0.872	No
	V	2.746	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.343	SLV 11	0.322	1.318	1095	1.408	Si
	R	1.49	SLV 13	0.355	1.452	1510	1.607	Si
104	PF	2.057	SLV 12	0.362	1.483	1618	1.653	Si
	V	3.468	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	2.208	SLV 12	0.362	1.483	1618	1.653	Si
	R	1.184	SLV 1	0.286	1.17	760	1.213	Si
106	PF	1.321	SLV 8	0.317	1.297	1040	1.379	Si
	V	3.438	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.266	SLV 8	0.304	1.246	917	1.31	Si
	R	1.66	SLV 2	0.362	1.483	1618	1.653	Si
110	PF	1.079	SLV 5	0.262	1.073	587	1.091	Si
	V	2.85	SLV 5	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
111	PFFP	1.283	SLV 9	0.308	1.262	952	1.33	Si
	R	1.099	SLV 3	0.267	1.092	618	1.114	Si
	PF	1.326	SLV 8	0.318	1.302	1052	1.385	Si
	V	3.397	SLV 8	0.362	1.483	1618	1.653	Si
113	PFFP	1.515	SLV 11	0.361	1.476	1593	1.642	Si
	R	1.795	SLV 1	0.362	1.483	1618	1.653	Si
	PF	2.387	SLV 11	0.362	1.483	1618	1.653	Si
	V	3.12	SLV 7	0.362	1.483	1618	1.653	Si
115	PFFP	2.147	SLV 12	0.362	1.483	1618	1.653	Si
	R	2.037	SLV 5	0.362	1.483	1618	1.653	Si
	PF	0.664	SLV 10	0.158	0.648	156	0.633	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
116	PFFP	0.876	SLV 10	0.213	0.871	329	0.86	No
	R	1.434	SLV 1	0.342	1.401	1341	1.53	Si
	PF	2.181	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
117	PFFP	2.219	SLV 13	0.362	1.483	1618	1.653	Si
	R	1.321	SLV 4	0.317	1.297	1040	1.379	Si
	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.026	SLV 14	0.362	1.483	1618	1.653	Si
118	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.176	SLV 1	0.284	1.163	746	1.203	Si
	PF	1.002	SLV 2	0.245	1.002	477	1.002	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
119	PFFP	3.554	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.382	SLV 16	0.331	1.353	1196	1.46	Si
	PF	2.477	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
120	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.136	SLV 16	0.275	1.126	678	1.157	Si
	PF	2	SLV 2	0.362	1.483	1618	1.653	Si
	V	3.156	SLV 6	0.362	1.483	1618	1.653	Si
121	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.268	SLV 14	0.305	1.248	921	1.312	Si
	PF	2.493	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
122	PFFP	2.525	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.313	SLV 14	0.315	1.29	1021	1.369	Si
	PF	1.108	SLV 16	0.269	1.101	632	1.124	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
123	PFFP	1.526	SLV 14	0.362	1.483	1618	1.653	Si
	R	1.429	SLV 3	0.341	1.397	1327	1.524	Si
	PF	2.093	SLV 5	0.362	1.483	1618	1.653	Si
	V	3.106	SLV 1	0.362	1.483	1618	1.653	Si
124	PFFP	2.058	SLV 10	0.362	1.483	1618	1.653	Si
	R	1.514	SLV 3	0.36	1.475	1590	1.641	Si
	PF	1.882	SLV 5	0.362	1.483	1618	1.653	Si
	V	3.188	SLV 3	0.362	1.483	1618	1.653	Si
125	PFFP	1.902	SLV 5	0.362	1.483	1618	1.653	Si
	R	1.453	SLV 16	0.347	1.419	1397	1.556	Si
	PF	0.961	SLV 3	0.234	0.959	425	0.955	No
	V	4.092	SLV 3	0.362	1.483	1618	1.653	Si
127	PFFP	1.291	SLV 3	0.31	1.269	969	1.34	Si
	R	1.411	SLV 16	0.337	1.38	1276	1.5	Si
	PF	2.053	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.805	SLV 7	0.362	1.483	1618	1.653	Si
128	PFFP	2.247	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.421	SLV 14	0.339	1.389	1304	1.513	Si
	PF	4.036	SLV 6	0.362	1.483	1618	1.653	Si
	V	3.074	SLV 7	0.362	1.483	1618	1.653	Si
133	PFFP	2.333	SLV 3	0.362	1.483	1618	1.653	Si
	R	1.3	SLV 14	0.312	1.278	990	1.351	Si
	PF	0.984	SLV 4	0.24	0.984	454	0.982	No
	V	2.844	SLV 2	0.362	1.483	1618	1.653	Si
135	PFFP	1.403	SLV 11	0.335	1.373	1253	1.488	Si
	R	1.504	SLV 13	0.358	1.465	1554	1.626	Si
	PF	2.123	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.566	SLV 7	0.362	1.483	1618	1.653	Si
136	PFFP	2.258	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.269	SLV 14	0.305	1.249	923	1.313	Si
	PF	0.845	SLV 4	0.205	0.84	299	0.827	No
	V	2.571	SLV 2	0.362	1.483	1618	1.653	Si
137	PFFP	1.224	SLV 8	0.295	1.207	834	1.26	Si
	R	1.466	SLV 2	0.349	1.43	1436	1.574	Si
	PF	1.877	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.54	SLV 6	0.362	1.483	1618	1.653	Si
140	PFFP	1.635	SLV 6	0.362	1.483	1618	1.653	Si
	R	1.155	SLV 15	0.279	1.144	709	1.178	Si
	PF	0.855	SLV 4	0.208	0.85	308	0.837	No
	V	3.022	SLV 2	0.362	1.483	1618	1.653	Si
141	PFFP	1.446	SLV 8	0.345	1.412	1376	1.547	Si
	R	1.657	SLV 13	0.362	1.483	1618	1.653	Si
	PF	1.655	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.59	SLV 2	0.362	1.483	1618	1.653	Si
142	PFFP	1.572	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.752	SLV 14	0.362	1.483	1618	1.653	Si
	PF	1.368	SLV 11	0.327	1.34	1159	1.442	Si
	V	3.699	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.716	SLV 8	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
143	R	1.638	SLV 13	0.362	1.483	1618	1.653	Si
	PF	1.157	SLV 10	0.28	1.146	713	1.181	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.1	SLV 10	0.267	1.093	619	1.115	Si
144	R	1.308	SLV 3	0.314	1.285	1009	1.362	Si
	PF	1.16	SLV 10	0.281	1.148	718	1.185	Si
	V	4.078	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.543	SLV 5	0.362	1.483	1618	1.653	Si
145	R	1.737	SLV 16	0.362	1.483	1618	1.653	Si
	PF	2.027	SLV 7	0.362	1.483	1618	1.653	Si
	V	2.321	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	2.171	SLV 3	0.362	1.483	1618	1.653	Si
146	R	1.58	SLV 14	0.362	1.483	1618	1.653	Si
	PF	1.338	SLV 6	0.321	1.313	1082	1.401	Si
	V	2.139	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	1.442	SLV 6	0.344	1.408	1364	1.541	Si
147	R	1.543	SLV 15	0.362	1.483	1618	1.653	Si
	PF	3.831	SLV 15	0.362	1.483	1618	1.653	Si
	V	2.304	SLV 12	0.362	1.483	1618	1.653	Si
	PFFP	2.54	SLV 14	0.362	1.483	1618	1.653	Si
148	R	2.767	SLV 3	0.362	1.483	1618	1.653	Si
	PF	1.299	SLV 5	0.312	1.277	987	1.35	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.257	SLV 10	0.362	1.483	1618	1.653	Si
149	R	2.439	SLV 1	0.362	1.483	1618	1.653	Si
	PF	1.424	SLV 5	0.34	1.392	1313	1.517	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.345	SLV 5	0.322	1.319	1100	1.411	Si
150	R	2.009	SLV 8	0.362	1.483	1618	1.653	Si
	PF	1.268	SLV 13	0.305	1.248	921	1.312	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.766	SLV 15	0.362	1.483	1618	1.653	Si
151	R	2.25	SLV 4	0.362	1.483	1618	1.653	Si
	PF	2.078	SLV 8	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.571	SLV 12	0.362	1.483	1618	1.653	Si
152	R	2.308	SLV 5	0.362	1.483	1618	1.653	Si
	PF	0.841	SLV 13	0.204	0.835	294	0.821	No
	V	3.431	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.351	SLV 15	0.324	1.325	1115	1.419	Si
153	R	2.231	SLV 4	0.362	1.483	1618	1.653	Si
	PF	2.155	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.829	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.515	SLV 10	0.361	1.476	1593	1.642	Si
155	R	1.65	SLV 3	0.362	1.483	1618	1.653	Si
	PF	0.771	SLV 13	0.186	0.763	232	0.745	No
	V	3.034	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	1.315	SLV 15	0.316	1.292	1025	1.371	Si
156	R	1.737	SLV 13	0.362	1.483	1618	1.653	Si
	PF	2.646	SLV 12	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.899	SLV 16	0.362	1.483	1618	1.653	Si
158	R	1.835	SLV 2	0.362	1.483	1618	1.653	Si
	PF	1.091	SLV 15	0.265	1.085	605	1.104	Si
	V	3.328	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	1.214	SLV 8	0.293	1.198	815	1.248	Si
162	R	2.315	SLV 13	0.362	1.483	1618	1.653	Si
	PF	1.281	SLV 5	0.308	1.26	948	1.328	Si
	V	3.571	SLV 5	0.362	1.483	1618	1.653	Si
	PFFP	1.468	SLV 9	0.35	1.432	1442	1.577	Si
163	R	1.494	SLV 1	0.356	1.456	1522	1.612	Si
	PF	1.884	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.629	SLV 4	0.362	1.483	1618	1.653	Si
	PFFP	2.445	SLV 12	0.362	1.483	1618	1.653	Si
164	R	2.948	SLV 6	0.362	1.483	1618	1.653	Si
	PF	1.428	SLV 13	0.341	1.396	1324	1.522	Si
	V	3.484	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	2.887	SLV 15	0.362	1.483	1618	1.653	Si
166	R	3.653	SLV 2	0.362	1.483	1618	1.653	Si
	PF	1.504	SLV 8	0.358	1.465	1554	1.626	Si
	V	3.096	SLV 7	0.362	1.483	1618	1.653	Si
	PFFP	1.27	SLV 12	0.305	1.25	925	1.314	Si
168	R	2.291	SLV 5	0.362	1.483	1618	1.653	Si
	PF	0.776	SLV 7	0.188	0.769	236	0.751	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.465	SLV 12	0.349	1.43	1433	1.573	Si
169	R	0.883	SLV 10	0.215	0.879	337	0.869	No
	PF	1.942	SLV 14	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.853	SLV 14	0.362	1.483	1618	1.653	Si
170	R	1.87	SLV 4	0.362	1.483	1618	1.653	Si
	PF	2.48	SLV 13	0.362	1.483	1618	1.653	Si
	V	3.196	SLV 14	0.362	1.483	1618	1.653	Si
	PFFP	3.231	SLV 13	0.362	1.483	1618	1.653	Si
171	R	1.408	SLV 3	0.337	1.377	1268	1.496	Si
	PF	0.778	SLV 1	0.188	0.771	238	0.753	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.806	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.872	SLV 14	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
172	PF	1.788	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	3.929	SLV 3	0.362	1.483	1618	1.653	Si
173	R	1.285	SLV 13	0.309	1.264	956	1.332	Si
	PF	1.563	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
174	PFFP	3.452	SLV 2	0.362	1.483	1618	1.653	Si
	R	1.626	SLV 15	0.362	1.483	1618	1.653	Si
	PF	2.511	SLV 1	0.362	1.483	1618	1.653	Si
175	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.194	SLV 1	0.362	1.483	1618	1.653	Si
	R	1.891	SLV 16	0.362	1.483	1618	1.653	Si
176	PF	1.746	SLV 16	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.914	SLV 14	0.362	1.483	1618	1.653	Si
177	R	2.05	SLV 12	0.362	1.483	1618	1.653	Si
	PF	1.414	SLV 5	0.338	1.383	1285	1.504	Si
	V	2.571	SLV 1	0.362	1.483	1618	1.653	Si
178	PFFP	1.577	SLV 10	0.362	1.483	1618	1.653	Si
	R	2.065	SLV 11	0.362	1.483	1618	1.653	Si
	PF	1.549	SLV 1	0.362	1.483	1618	1.653	Si
180	V	2.41	SLV 3	0.362	1.483	1618	1.653	Si
	PFFP	1.808	SLV 5	0.362	1.483	1618	1.653	Si
	R	2.046	SLV 16	0.362	1.483	1618	1.653	Si
181	PF	1.09	SLV 3	0.265	1.084	603	1.103	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.506	SLV 3	0.358	1.467	1560	1.628	Si
186	R	2.198	SLV 16	0.362	1.483	1618	1.653	Si
	PF	2.317	SLV 7	0.362	1.483	1618	1.653	Si
	V	3.433	SLV 8	0.362	1.483	1618	1.653	Si
188	PFFP	1.842	SLV 8	0.362	1.483	1618	1.653	Si
	R	1.959	SLV 14	0.362	1.483	1618	1.653	Si
	PF	1.946	SLV 7	0.362	1.483	1618	1.653	Si
189	V	3.767	SLV 8	0.362	1.483	1618	1.653	Si
	PFFP	1.561	SLV 7	0.362	1.483	1618	1.653	Si
	R	1.686	SLV 14	0.362	1.483	1618	1.653	Si
190	PF	0.803	SLV 4	0.194	0.796	259	0.78	No
	V	3.055	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.354	SLV 11	0.324	1.328	1123	1.423	Si
193	R	2.104	SLV 13	0.362	1.483	1618	1.653	Si
	PF	2.979	SLV 7	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
194	PFFP	1.784	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.873	SLV 13	0.362	1.483	1618	1.653	Si
	PF	0.616	SLV 2	0.146	0.598	129	0.586	No
195	V	2.608	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.086	SLV 4	0.264	1.08	597	1.098	Si
	R	1.717	SLV 2	0.362	1.483	1618	1.653	Si
196	PF	2.011	SLV 5	0.362	1.483	1618	1.653	Si
	V	4.064	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	1.453	SLV 5	0.347	1.419	1397	1.556	Si
197	R	1.64	SLV 16	0.362	1.483	1618	1.653	Si
	PF	0.636	SLV 2	0.151	0.619	140	0.606	No
	V	3.126	SLV 2	0.362	1.483	1618	1.653	Si
198	PFFP	1.385	SLV 4	0.331	1.356	1204	1.464	Si
	R	1.911	SLV 15	0.362	1.483	1618	1.653	Si
	PF	1.687	SLV 11	0.362	1.483	1618	1.653	Si
199	V	3.905	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.733	SLV 7	0.362	1.483	1618	1.653	Si
	R	2.459	SLV 10	0.362	1.483	1618	1.653	Si
200	PF	1.435	SLV 2	0.343	1.402	1344	1.532	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.942	SLV 4	0.362	1.483	1618	1.653	Si
202	R	2.329	SLV 15	0.362	1.483	1618	1.653	Si
	PF	1.395	SLV 10	0.334	1.365	1231	1.478	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
203	PFFP	1.517	SLV 10	0.361	1.478	1599	1.645	Si
	R	2.014	SLV 11	0.362	1.483	1618	1.653	Si
	PF	1.432	SLV 10	0.342	1.399	1336	1.528	Si
204	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.883	SLV 5	0.362	1.483	1618	1.653	Si
	R	2.515	SLV 16	0.362	1.483	1618	1.653	Si
205	PF	3.589	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.115	SLV 6	0.362	1.483	1618	1.653	Si
	PFFP	2.494	SLV 2	0.362	1.483	1618	1.653	Si
206	R	2.637	SLV 15	0.362	1.483	1618	1.653	Si
	PF	3.937	SLV 7	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
207	PFFP	1.516	SLV 2	0.361	1.477	1596	1.644	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	1.22	SLV 5	0.294	1.204	826	1.255	Si
208	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.439	SLV 5	0.343	1.406	1356	1.537	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
209	PF	1.181	SLV 8	0.285	1.168	755	1.209	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.383	SLV 8	0.331	1.354	1199	1.462	Si
210	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PF	1.926	SLV 8	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.385	SLV 13	0.331	1.356	1204	1.464	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
204	PF	0.604	SLV 9	0.143	0.587	124	0.577	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.668	SLV 8	0.159	0.652	158	0.637	No
	R	4.039	SLV 7	0.362	1.483	1618	1.653	Si
205	PF	2.221	SLV 6	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.236	SLV 10	0.298	1.218	857	1.274	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
207	PF	0.523	SLV 13	0.124	0.506	87	0.499	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.719	SLV 13	0.173	0.708	191	0.688	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
208	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.146	SLV 12	0.277	1.136	694	1.168	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
209	PF	0.979	SLV 4	0.239	0.977	447	0.975	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.023	SLV 8	0.25	1.021	506	1.026	Si
	R	3.524	SLV 2	0.362	1.483	1618	1.653	Si
211	PF	0.88	SLV 5	0.214	0.876	334	0.866	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.99	SLV 10	0.242	0.99	462	0.989	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
212	PF	0.723	SLV 7	0.174	0.711	193	0.691	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.758	SLV 11	0.183	0.75	221	0.731	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
213	PF	0.173	SLV 10	0.047	0.191	8	0.187	No
	V	3.953	SLV 10	0.362	1.483	1618	1.653	Si
	PFFP	0.62	SLV 10	0.147	0.602	132	0.592	No
	R	2.892	SLV 2	0.362	1.483	1618	1.653	Si
214	PF	1.471	SLV 14	0.351	1.435	1451	1.581	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.173	SLV 14	0.283	1.16	740	1.199	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
215	PF	1.632	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	2.071	SLV 13	0.362	1.483	1618	1.653	Si
	R	2.069	SLV 4	0.362	1.483	1618	1.653	Si
216	PF	0.633	SLV 1	0.151	0.617	139	0.604	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.132	SLV 8	0.274	1.122	670	1.151	Si
	R	1.344	SLV 9	0.322	1.318	1097	1.409	Si
217	PF	0.917	SLV 1	0.223	0.914	374	0.907	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.581	SLV 4	0.362	1.483	1618	1.653	Si
	R	1.924	SLV 13	0.362	1.483	1618	1.653	Si
218	PF	1.162	SLV 1	0.281	1.15	721	1.187	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.88	SLV 2	0.362	1.483	1618	1.653	Si
	R	2.047	SLV 15	0.362	1.483	1618	1.653	Si
219	PF	2.409	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.311	SLV 1	0.315	1.288	1016	1.366	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
221	PF	1.297	SLV 5	0.311	1.275	982	1.347	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.384	SLV 5	0.331	1.355	1202	1.463	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
222	PF	2.308	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.883	SLV 5	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
228	PF	0.431	SLV 4	0.101	0.414	53	0.407	No
	V	4.021	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.922	SLV 15	0.225	0.919	379	0.912	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
229	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.084	SLV 3	0.263	1.078	594	1.096	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
231	PF	2.12	SLV 9	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.314	SLV 6	0.315	1.291	1023	1.37	Si
	R	3.549	SLV 3	0.362	1.483	1618	1.653	Si
234	PF	0.412	SLV 2	0.097	0.395	47	0.387	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	0.639	SLV 11	0.152	0.623	142	0.61	No
	R	3.309	SLV 15	0.362	1.483	1618	1.653	Si
235	PF	2.214	SLV 11	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.228	SLV 2	0.296	1.211	841	1.264	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
236	PF	1.253	SLV 11	0.302	1.234	891	1.294	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	1.467	SLV 12	0.35	1.431	1439	1.575	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
237	PF	0.854	SLV 1	0.207	0.849	307	0.836	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.086	SLV 1	0.264	1.08	597	1.098	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
238	PF	1.454	SLV 10	0.347	1.42	1400	1.558	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.515	SLV 14	0.361	1.476	1593	1.642	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
239	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.628	SLV 9	0.362	1.483	1618	1.653	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
243	PF	0.686	SLV 13	0.164	0.671	169	0.655	No
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.88	SLV 8	0.362	1.483	1618	1.653	Si
	R	2.715	SLV 15	0.362	1.483	1618	1.653	Si
248	PF	0.711	SLV 15	0.171	0.699	186	0.681	No
	V	2.006	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.835	SLV 8	0.202	0.828	288	0.815	No
	R	1.281	SLV 2	0.308	1.26	948	1.328	Si
249	PF	0.66	SLV 15	0.157	0.642	153	0.628	No
	V	2.197	SLV 13	0.362	1.483	1618	1.653	Si
	PFFP	0.842	SLV 8	0.204	0.836	295	0.823	No
	R	1.286	SLV 9	0.309	1.265	958	1.333	Si
252	PF	0.483	SLV 15	0.114	0.466	71	0.459	No
	V	1.893	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.179	SLV 8	0.285	1.166	751	1.207	Si
	R	1.218	SLV 2	0.294	1.202	822	1.252	Si
253	PF	0.575	SLV 15	0.136	0.558	110	0.549	No
	V	1.755	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.216	SLV 11	0.293	1.2	818	1.25	Si
	R	1.198	SLV 13	0.289	1.183	785	1.229	Si
258	PF	0.324	SLV 15	0.077	0.313	27	0.309	No
	V	1.999	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.137	SLV 4	0.275	1.127	679	1.158	Si
	R	1.393	SLV 2	0.333	1.364	1226	1.475	Si
259	PF	0.494	SLV 15	0.116	0.477	75	0.469	No
	V	1.901	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.131	SLV 11	0.274	1.122	669	1.151	Si
	R	1.375	SLV 13	0.329	1.347	1177	1.451	Si
266	PF	0.206	SLV 15	0.047	0.191	8	0.187	No
	V	2.453	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	0.735	SLV 15	0.177	0.727	203	0.706	No
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
267	PF	0.323	SLV 15	0.075	0.308	26	0.304	No
	V	2.309	SLV 15	0.362	1.483	1618	1.653	Si
	PFFP	1.139	SLV 4	0.276	1.129	682	1.16	Si
	R	1000	SLV 1	0.362	1.483	1618	1.653	Si
270	PF	1.102	SLV 11	0.267	1.095	622	1.117	Si
	V	2.376	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.391	SLV 7	0.333	1.362	1221	1.473	Si
	R	1.556	SLV 14	0.362	1.483	1618	1.653	Si
271	PF	2.15	SLV 11	0.362	1.483	1618	1.653	Si
	V	3.496	SLV 2	0.362	1.483	1618	1.653	Si
	PFFP	1.043	SLV 11	0.254	1.04	534	1.049	Si
	R	3.284	SLV 2	0.362	1.483	1618	1.653	Si
272	PF	1.408	SLV 11	0.337	1.377	1268	1.496	Si
	V	2.438	SLV 11	0.362	1.483	1618	1.653	Si
	PFFP	1.578	SLV 7	0.362	1.483	1618	1.653	Si
	R	2.053	SLV 14	0.362	1.483	1618	1.653	Si

Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.463	SLV 12	0.349	1.428	1427	1.57	Si
2	F	0.873	SLV 12	0.212	0.868	326	0.857	No
	V	1.186	SLV 12	0.286	1.172	763	1.214	Si
3	F	0.655	SLV 8	0.156	0.639	151	0.625	No
	V	0.607	SLV 8	0.144	0.589	125	0.578	No
5	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.454	SLV 9	0.347	1.42	1400	1.558	Si
6	F	1.219	SLV 9	0.294	1.203	824	1.253	Si
	V	0.929	SLV 9	0.226	0.926	387	0.919	No
7	F	3.444	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.566	SLV 4	0.134	0.548	106	0.541	No
8	F	0.975	SLV 9	0.238	0.973	441	0.97	No
	V	0.662	SLV 9	0.157	0.644	154	0.63	No
9	F	0.858	SLV 2	0.208	0.853	311	0.841	No
	V	0.81	SLV 2	0.196	0.803	265	0.787	No
10	F	0.376	SLV 13	0.088	0.359	38	0.355	No
	V	0.147	SLV 4	0.035	0.143	4	0.141	No
11	F	0.214	SLV 3	0.049	0.201	9	0.197	No
	V	0.151	SLV 3	0.035	0.143	4	0.141	No
12	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.097	SLV 15	0.266	1.09	615	1.112	Si
13	F	1.155	SLV 13	0.279	1.144	709	1.178	Si
	V	0.562	SLV 13	0.133	0.544	104	0.536	No



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
14	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.81	SLV 16	0.196	0.803	265	0.787	No
15	F	0.67	SLV 16	0.16	0.654	159	0.638	No
	V	1.069	SLV 16	0.26	1.064	572	1.079	Si
16	F	0.315	SLV 12	0.079	0.323	30	0.322	No
	V	0.284	SLV 12	0.073	0.298	24	0.294	No
18	F	3.882	SLV 16	0.362	1.483	1618	1.653	Si
	V	0.979	SLV 16	0.239	0.977	447	0.975	No
19	F	0.652	SLV 16	0.155	0.635	149	0.622	No
	V	0.952	SLV 16	0.232	0.95	415	0.946	No
20	F	3.965	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.971	SLV 3	0.237	0.97	437	0.966	No
21	F	0.312	SLV 7	0.079	0.323	30	0.322	No
	V	0.638	SLV 7	0.152	0.621	141	0.608	No
23	F	0.991	SLV 13	0.242	0.991	463	0.99	No
	V	1.179	SLV 13	0.285	1.166	751	1.207	Si
26	F	0.896	SLV 15	0.218	0.892	351	0.883	No
	V	0.119	SLV 15	0.026	0.107	2	0.106	No
27	F	2.546	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.61	SLV 15	0.145	0.593	127	0.582	No
28	F	0.793	SLV 15	0.192	0.785	250	0.769	No
	V	0.278	SLV 13	0.066	0.269	19	0.267	No
29	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.301	SLV 6	0.312	1.279	992	1.352	Si
30	F	0.379	SLV 6	0.094	0.384	44	0.377	No
	V	1.304	SLV 6	0.313	1.281	999	1.356	Si
31	F	4.019	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.798	SLV 7	0.193	0.791	254	0.774	No
32	F	0.479	SLV 7	0.114	0.468	72	0.461	No
	V	0.734	SLV 7	0.177	0.725	202	0.704	No
33	F	1.394	SLV 12	0.333	1.364	1229	1.477	Si
	V	1.169	SLV 12	0.283	1.157	733	1.195	Si
34	F	0.649	SLV 12	0.155	0.633	148	0.62	No
	V	0.658	SLV 12	0.156	0.64	152	0.627	No
35	F	1.447	SLV 13	0.345	1.413	1379	1.548	Si
	V	1.362	SLV 13	0.326	1.335	1144	1.434	Si
36	F	0.76	SLV 9	0.184	0.751	222	0.732	No
	V	0.826	SLV 9	0.2	0.82	280	0.805	No
38	F	1.057	SLV 13	0.257	1.053	554	1.065	Si
	V	1.58	SLV 13	0.362	1.483	1618	1.653	Si
39	F	1.624	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.937	SLV 9	0.228	0.934	396	0.928	No
40	F	1.442	SLV 9	0.344	1.408	1364	1.541	Si
	V	0.779	SLV 4	0.188	0.771	238	0.753	No
42	F	1.933	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.961	SLV 2	0.234	0.959	425	0.955	No
44	F	1.046	SLV 12	0.255	1.043	538	1.052	Si
	V	0.375	SLV 12	0.093	0.38	43	0.373	No
45	F	0.871	SLV 8	0.212	0.866	324	0.855	No
	V	0.675	SLV 8	0.161	0.66	162	0.643	No
46	F	1.575	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.629	SLV 15	0.15	0.612	137	0.601	No
47	F	0.459	SLV 13	0.108	0.442	63	0.437	No
	V	0.541	SLV 13	0.128	0.523	95	0.517	No
48	F	1.516	SLV 2	0.361	1.477	1596	1.644	Si
	V	0.628	SLV 2	0.149	0.61	136	0.599	No
49	F	1.087	SLV 16	0.264	1.081	599	1.1	Si
	V	0.929	SLV 16	0.226	0.926	387	0.919	No
50	F	0.711	SLV 16	0.171	0.699	186	0.681	No
	V	0.731	SLV 16	0.176	0.72	199	0.7	No
51	F	1.207	SLV 1	0.291	1.191	802	1.24	Si
	V	0.992	SLV 1	0.242	0.992	464	0.99	No
52	F	0.531	SLV 1	0.125	0.513	90	0.506	No
	V	0.792	SLV 1	0.192	0.784	249	0.767	No
53	F	1.032	SLV 3	0.252	1.03	518	1.036	Si
	V	0.843	SLV 3	0.205	0.837	296	0.824	No
54	F	0.664	SLV 3	0.158	0.648	156	0.633	No
	V	0.675	SLV 3	0.161	0.66	162	0.643	No
56	F	1.382	SLV 2	0.331	1.353	1196	1.46	Si
	V	0.833	SLV 2	0.202	0.827	287	0.813	No
58	F	2.884	SLV 14	0.362	1.483	1618	1.653	Si
	V	0.112	SLV 14	0.026	0.107	2	0.106	No
59	F	0.757	SLV 14	0.183	0.748	220	0.729	No
	V	0.702	SLV 14	0.168	0.689	180	0.672	No
60	F	1.144	SLV 2	0.277	1.134	691	1.166	Si
	V	0.827	SLV 2	0.201	0.821	281	0.806	No
61	F	1.338	SLV 15	0.321	1.313	1082	1.401	Si
	V	0.639	SLV 15	0.152	0.623	142	0.61	No
63	F	0.655	SLV 2	0.156	0.639	151	0.625	No
	V	1.595	SLV 2	0.362	1.483	1618	1.653	Si
64	F	1.367	SLV 2	0.327	1.34	1157	1.441	Si
	V	1.323	SLV 2	0.317	1.299	1045	1.382	Si
65	F	0.684	SLV 2	0.163	0.669	168	0.653	No
	V	0.824	SLV 2	0.2	0.817	278	0.803	No
66	F	1.748	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.59	SLV 3	0.362	1.483	1618	1.653	Si
67	F	0.911	SLV 7	0.222	0.907	367	0.9	No
	V	0.918	SLV 7	0.224	0.915	375	0.908	No
68	F	1.726	SLV 12	0.362	1.483	1618	1.653	Si



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	1.074	SLV 12	0.261	1.069	579	1.085	Si
69	F	1.707	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.106	SLV 12	0.268	1.098	628	1.121	Si
70	F	1.792	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.229	SLV 13	0.296	1.212	843	1.265	Si
71	F	2.137	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.009	SLV 13	0.246	1.009	487	1.01	Si
72	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.747	SLV 13	0.18	0.738	212	0.718	No
73	F	3.343	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.087	SLV 2	0.362	1.483	1618	1.653	Si
74	F	1.676	SLV 4	0.362	1.483	1618	1.653	Si
	V	0.929	SLV 9	0.226	0.926	387	0.919	No
75	F	2.339	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.068	SLV 4	0.26	1.063	570	1.078	Si
77	F	2.071	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.05	SLV 13	0.256	1.047	544	1.057	Si
79	F	1.418	SLV 12	0.339	1.387	1296	1.509	Si
	V	0.564	SLV 12	0.134	0.548	106	0.541	No
80	F	1.714	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.147	SLV 7	0.278	1.136	696	1.17	Si
81	F	2.969	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.851	SLV 14	0.207	0.845	304	0.833	No
82	F	0.862	SLV 4	0.209	0.856	315	0.845	No
	V	0.86	SLV 13	0.209	0.855	313	0.843	No
83	F	1.408	SLV 15	0.337	1.377	1268	1.496	Si
	V	1.561	SLV 6	0.362	1.483	1618	1.653	Si
84	F	3.158	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.092	SLV 2	0.265	1.085	607	1.106	Si
85	F	2.657	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.055	SLV 1	0.257	1.051	551	1.063	Si
86	F	1.547	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.065	SLV 16	0.259	1.061	566	1.075	Si
87	F	1.996	SLV 16	0.362	1.483	1618	1.653	Si
	V	0.867	SLV 16	0.21	0.861	319	0.849	No
88	F	1.072	SLV 1	0.261	1.067	577	1.083	Si
	V	0.971	SLV 1	0.237	0.97	437	0.966	No
89	F	2.093	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.641	SLV 3	0.153	0.625	143	0.611	No
90	F	1.352	SLV 14	0.324	1.326	1117	1.42	Si
	V	0.907	SLV 14	0.221	0.903	362	0.895	No
91	F	1.761	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.96	SLV 3	0.234	0.959	424	0.954	No
93	F	1.938	SLV 2	0.362	1.483	1618	1.653	Si
	V	0.781	SLV 2	0.189	0.774	240	0.756	No
95	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.833	SLV 7	0.202	0.827	287	0.813	No
96	F	2.332	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.53	SLV 10	0.362	1.483	1618	1.653	Si
97	F	1.575	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.887	SLV 2	0.216	0.882	340	0.872	No
98	F	2.587	SLV 6	0.362	1.483	1618	1.653	Si
	V	1.051	SLV 15	0.256	1.048	545	1.058	Si
99	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.704	SLV 2	0.169	0.692	182	0.675	No
100	F	2.418	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.639	SLV 2	0.362	1.483	1618	1.653	Si
101	F	1.763	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.223	SLV 2	0.295	1.206	832	1.258	Si
102	F	2.031	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.993	SLV 2	0.243	0.993	465	0.991	No
103	F	1.881	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.276	SLV 3	0.307	1.255	938	1.322	Si
104	F	2.063	SLV 3	0.362	1.483	1618	1.653	Si
	V	1.352	SLV 3	0.324	1.326	1117	1.42	Si
105	F	3.349	SLV 6	0.362	1.483	1618	1.653	Si
	V	0.777	SLV 6	0.188	0.77	237	0.752	No
106	F	3.006	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.601	SLV 12	0.362	1.483	1618	1.653	Si
107	F	2.62	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.946	SLV 12	0.362	1.483	1618	1.653	Si
108	F	2.668	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.801	SLV 9	0.362	1.483	1618	1.653	Si
109	F	2.117	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.7	SLV 9	0.362	1.483	1618	1.653	Si
110	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.161	SLV 13	0.281	1.15	720	1.186	Si
111	F	3.965	SLV 13	0.362	1.483	1618	1.653	Si
	V	3.641	SLV 2	0.362	1.483	1618	1.653	Si
112	F	2.194	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.181	SLV 9	0.285	1.168	755	1.209	Si
113	F	2.902	SLV 4	0.362	1.483	1618	1.653	Si
	V	1.642	SLV 4	0.362	1.483	1618	1.653	Si
115	F	2.558	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.318	SLV 13	0.316	1.294	1033	1.375	Si
117	F	1.634	SLV 12	0.362	1.483	1618	1.653	Si
	V	0.741	SLV 12	0.179	0.731	207	0.711	No
118	F	2.051	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.428	SLV 10	0.341	1.396	1324	1.522	Si



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
119	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.417	SLV 14	0.339	1.386	1293	1.508	Si
120	F	1.069	SLV 4	0.26	1.064	572	1.079	Si
	V	1.055	SLV 13	0.257	1.051	551	1.063	Si
121	F	1.598	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.766	SLV 5	0.362	1.483	1618	1.653	Si
122	F	3.875	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.563	SLV 2	0.362	1.483	1618	1.653	Si
123	F	3.576	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.735	SLV 1	0.362	1.483	1618	1.653	Si
124	F	2.515	SLV 16	0.362	1.483	1618	1.653	Si
	V	1.629	SLV 1	0.362	1.483	1618	1.653	Si
125	F	3.673	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.326	SLV 16	0.318	1.302	1052	1.385	Si
126	F	3.031	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.904	SLV 3	0.22	0.9	359	0.892	No
127	F	2.876	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.961	SLV 1	0.234	0.959	425	0.955	No
128	F	2.414	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.368	SLV 3	0.327	1.34	1159	1.442	Si
129	F	2.264	SLV 14	0.362	1.483	1618	1.653	Si
	V	1.397	SLV 3	0.334	1.367	1237	1.481	Si
131	F	2.367	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.011	SLV 2	0.247	1.01	489	1.012	Si
133	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.747	SLV 7	0.362	1.483	1618	1.653	Si
134	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
135	F	1.879	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.056	SLV 2	0.257	1.052	553	1.064	Si
136	F	2.987	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.491	SLV 15	0.355	1.453	1513	1.608	Si
137	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.219	SLV 2	0.294	1.203	824	1.253	Si
138	F	2.849	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
139	F	2.466	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.701	SLV 15	0.362	1.483	1618	1.653	Si
140	F	2.861	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.659	SLV 2	0.362	1.483	1618	1.653	Si
141	F	3.219	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.059	SLV 7	0.362	1.483	1618	1.653	Si
142	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.107	SLV 7	0.362	1.483	1618	1.653	Si
143	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.787	SLV 12	0.362	1.483	1618	1.653	Si
144	F	1.888	SLV 8	0.362	1.483	1618	1.653	Si
	V	3.126	SLV 8	0.362	1.483	1618	1.653	Si
145	F	3.737	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.499	SLV 9	0.362	1.483	1618	1.653	Si
146	F	1.841	SLV 9	0.362	1.483	1618	1.653	Si
	V	2.067	SLV 9	0.362	1.483	1618	1.653	Si
147	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.497	SLV 13	0.362	1.483	1618	1.653	Si
148	F	3.271	SLV 13	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
149	F	3.093	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.823	SLV 9	0.362	1.483	1618	1.653	Si
150	F	1.71	SLV 8	0.362	1.483	1618	1.653	Si
	V	2.15	SLV 8	0.362	1.483	1618	1.653	Si
151	F	3.803	SLV 13	0.362	1.483	1618	1.653	Si
	V	2.488	SLV 13	0.362	1.483	1618	1.653	Si
152	F	2.52	SLV 12	0.362	1.483	1618	1.653	Si
	V	1.115	SLV 12	0.27	1.107	643	1.132	Si
153	F	2.463	SLV 10	0.362	1.483	1618	1.653	Si
	V	1.923	SLV 10	0.362	1.483	1618	1.653	Si
154	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
155	F	1.33	SLV 4	0.319	1.306	1062	1.391	Si
	V	1.64	SLV 9	0.362	1.483	1618	1.653	Si
156	F	2.073	SLV 16	0.362	1.483	1618	1.653	Si
	V	2.344	SLV 1	0.362	1.483	1618	1.653	Si
157	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.949	SLV 15	0.362	1.483	1618	1.653	Si
158	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
159	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.41	SLV 16	0.362	1.483	1618	1.653	Si
160	F	2.17	SLV 16	0.362	1.483	1618	1.653	Si
	V	4.086	SLV 16	0.362	1.483	1618	1.653	Si
161	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.861	SLV 1	0.362	1.483	1618	1.653	Si
162	F	1.365	SLV 1	0.327	1.338	1151	1.437	Si
	V	2.568	SLV 1	0.362	1.483	1618	1.653	Si
163	F	3.466	SLV 14	0.362	1.483	1618	1.653	Si
	V	2.456	SLV 14	0.362	1.483	1618	1.653	Si
164	F	2.649	SLV 3	0.362	1.483	1618	1.653	Si
	V	3.883	SLV 3	0.362	1.483	1618	1.653	Si
165	F	2.747	SLV 2	0.362	1.483	1618	1.653	Si



Trave	Stato limite	Molt.	Comb.	PGA	iPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	1.906	SLV 2	0.362	1.483	1618	1.653	Si
166	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
167	F	0.531	SLV 7	0.127	0.518	93	0.512	No
	V	0.628	SLV 10	0.149	0.61	136	0.599	No
168	F	2.585	SLV 2	0.362	1.483	1618	1.653	Si
	V	1.567	SLV 2	0.362	1.483	1618	1.653	Si
169	F	1.894	SLV 2	0.362	1.483	1618	1.653	Si
	V	2.057	SLV 15	0.362	1.483	1618	1.653	Si
170	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	2.141	SLV 2	0.362	1.483	1618	1.653	Si
171	F	3.63	SLV 2	0.362	1.483	1618	1.653	Si
	V	1000	SLV 1	0.362	1.483	1618	1.653	Si
172	F	3.543	SLV 6	0.362	1.483	1618	1.653	Si
	V	2.579	SLV 6	0.362	1.483	1618	1.653	Si
173	F	1.772	SLV 11	0.362	1.483	1618	1.653	Si
	V	2.123	SLV 6	0.362	1.483	1618	1.653	Si
174	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	3.601	SLV 7	0.362	1.483	1618	1.653	Si
175	F	2.862	SLV 10	0.362	1.483	1618	1.653	Si
	V	3.756	SLV 10	0.362	1.483	1618	1.653	Si
180	F	0.584	SLV 13	0.139	0.567	115	0.559	No
	V	0.825	SLV 13	0.2	0.819	279	0.804	No
181	F	1.524	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.973	SLV 13	0.237	0.972	440	0.969	No
182	F	0.591	SLV 13	0.14	0.574	118	0.565	No
	V	0.704	SLV 13	0.169	0.692	182	0.675	No
183	F	1.175	SLV 15	0.284	1.162	744	1.202	Si
	V	0.942	SLV 13	0.229	0.939	401	0.933	No
184	F	0.856	SLV 15	0.208	0.851	309	0.838	No
	V	0.921	SLV 15	0.224	0.918	378	0.911	No
185	F	1.469	SLV 15	0.35	1.433	1445	1.578	Si
	V	1.252	SLV 15	0.301	1.233	888	1.292	Si
186	F	3.497	SLV 15	0.362	1.483	1618	1.653	Si
	V	3.567	SLV 15	0.362	1.483	1618	1.653	Si

Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	2	0.026	475	0.244	taglio trave connessione in muratura

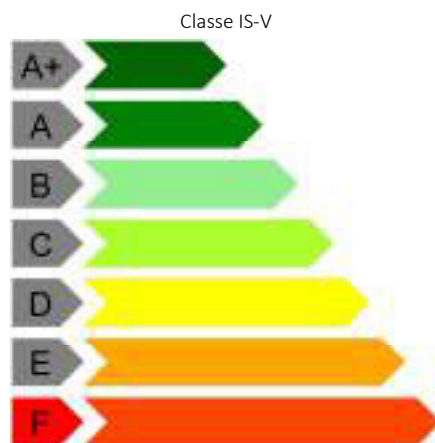
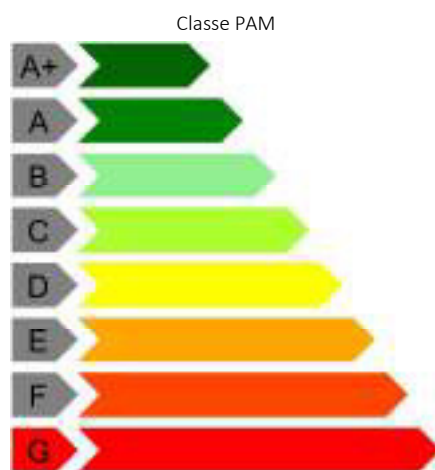
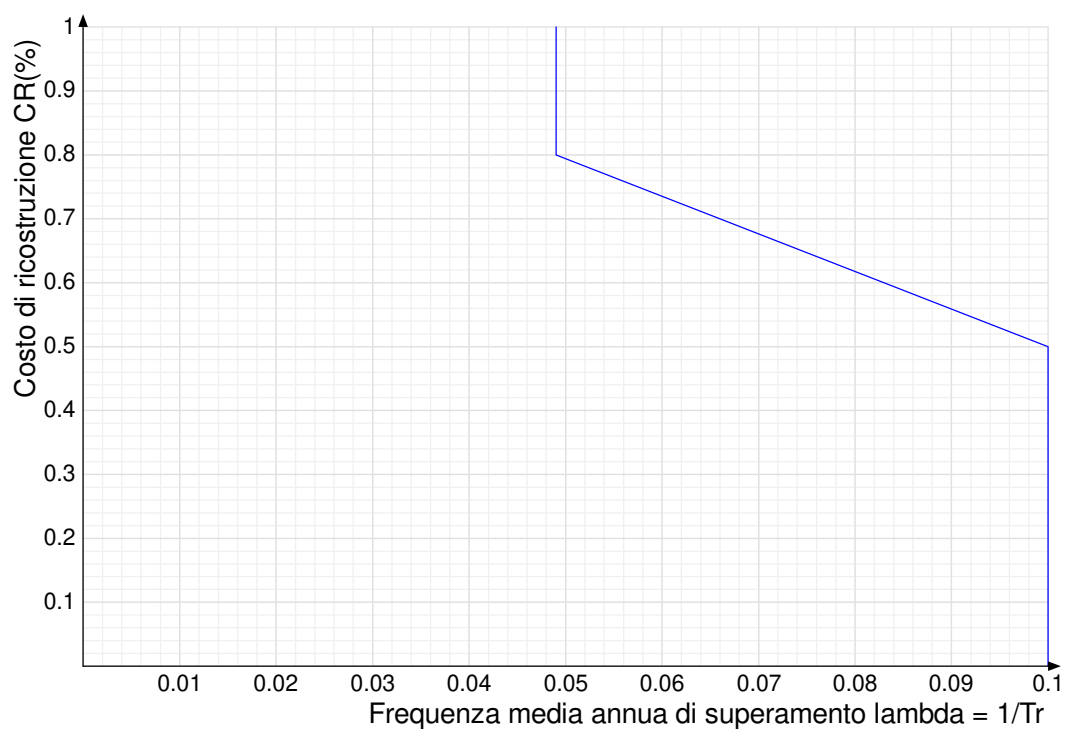
Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
2	475	8.215	G	10.678	F	taglio trave connessione in muratura

Coefficienti λ relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

λ_{SLR}	λ_{SLC}	λ_{SLV}	λ_{SLD}	λ_{SLO}	λ_{SLID}
0.049	0.049	0.1	0.1	0.1	0.1

Andamento della curva che individua il PAM (Perdita Annuale Media Attesa)



1.6 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [m, daN, s] ove non espressamente specificato.



X_{ini}: coordinate del punto iniziale del maschio. [m]
Y_{ini}: coordinate del punto iniziale del maschio. [m]
X_{fin}: coordinate del punto finale del maschio. [m]
Y_{fin}: coordinate del punto finale del maschio. [m]
Quota i.: livello o falda inferiore.
Quota s.: livello o falda superiore.
l: lunghezza del maschio. [m]
Sp.: spessore. [m]
h_{netta}: altezza netta (a filo solai). [m]
h_{ini}: altezza nel modello al punto iniziale. [m]
h_{fin}: altezza nel modello al punto finale. [m]
a: distanza tra irrigidimenti laterali. [m]
a.s.,sx: lunghezza di appoggio del solaio di sinistra. [m]
a.s.,dx: lunghezza di appoggio del solaio di destra. [m]
f_b: resistenza normalizzata a compressione verticale dei blocchi. [daN/m²]
f_k: resistenza caratteristica a compressione della muratura utilizzata. [daN/m²]
f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]
f_{medio}: resistenza media a compressione della muratura utilizzata. [daN/m²]
τ₀: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]
f_{v0}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]
μ: coefficiente di attrito [C8.7.1.17].
φ: coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.
f_{v,lim}: valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/m²]
E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]
G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]
FC: fattore di confidenza della muratura.
Materiale: descrizione del materiale.
Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
t_{fv}: spessore di calcolo equivalente verticale di uno strato di rinforzo.
t_{fo}: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.
E: modulo di elasticità longitudinale. [daN/m²]
ε_u: dilatazione a rottura.
Tipo fibra: natura della fibra.
materiale: materiale fibra del rinforzo.
lato applicazione: lato di applicazione del rinforzo.
esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.
ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.
ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.
ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.
ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.
strati: numero strati del rinforzo.
verifica taglio: tipo di verifica a taglio.
elim,conv / ε, CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.
α_t: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a taglio secondo CNR-DT 215 §4.1.1.
α: coefficiente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.
elim,conv: deformazione limite convenzionale del rinforzo FRCCM.
ε_{f,d}: deformazione di progetto del rinforzo FRCCM ovvero CRM.
γ_{F,d}: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.
connettori: presenza di connettori per la prevenzione del distacco del rinforzo.
tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.
CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.
CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.
intonaco: materiale intonaco FRCCM ovvero CRM.
spessore intonaco: spessore intonaco. [m]
tipo blocco fibrenet: tipo blocco muratura per verifica a taglio tipo Fibrenet.
Comb.: combinazione.
Quota: quota della sezione di verifica. [m]
M: momento flettente nel piano. [daN*m]
N: sforzo normale. [daN]
ε_m: deformazione della muratura.
ε_m: deformazione elastica della muratura.
ε_{mu}: deformazione ultima della muratura.
df: distanza tra il lembo compresso e la fibra tesa più lontana. [m]
M_{0d}: momento resistente della sezione non rinforzata. [daN*m]
M_{1d}: momento resistente della sezione rinforzata. [daN*m]
M_{Rd}: momento resistente della sezione. [daN*m]
c.s.: coefficiente di sicurezza.
incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
Verifica: stato di verifica.
N_{mur}: aliquota di sforzo normale recepito dalla sola muratura. [daN]



V: taglio nel piano. [daN]
df: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]
l': lunghezza della parte compressa della parete. [m]
 σ_N : tensione media nella zona compressa. [daN/m²]
fvd: resistenza a taglio di calcolo. [daN/m²]
Vt: resistenza a taglio della muratura non rinforzata. [daN]
Vt,f: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]
Vt,c: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]
Vt,c int.: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]
Vt,R: resistenza a taglio della sezione rinforzata. [daN]
res. > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
fd: resistenza a compressione di calcolo. [daN/m²]
Sa: accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.
 σ_0 : tensione media di compressione. [daN/m²]
M: momento flettente fuori piano. [daN*m]
Mc: momento di collasso per azioni perpendicolari al piano. [daN*m]
Coeff.s.: coefficiente di sicurezza.
N top: sforzo normale in sommità. [daN]
N base: sforzo normale al piede. [daN]
V orto: taglio fuori piano. [daN]
 α_0 : moltiplicatore secondo [C8.7.1.1].
M*: massa partecipante al cinematisimo. [daN/(m/s²)]
e*: frazione di massa partecipante della muratura [C8.7.1.5].
 α_0^* : accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [m/s²]
 α_{Lim} : accelerazione limite [C7.2.11]. [m/s²]
Stato limite: pF_SLU=Presso flessione per azioni non sismiche; V_SLU=Taglio per azioni non sismiche; PF_SLV=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche; PFFP_SLV=Presso flessione fuori piano per azioni sismiche; R_SLV=Ribaltamento per azioni sismiche.
Sa: accelerazione massima adimensionalizzata rispetto a quella di gravità.
Mu: momento flettente ultimo. [daN*m]

Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.603	5.876	-24.603	-3.284	L2	L4	9.16	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ_0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 27	-1.3	-4589.57	-77553	-0.0000307	0.0003743	0.0035	9.16	289554.95	329909.81	329909.81	71.88	No	Si
SLU 27	1.59	-1795.02	-68210	-0.0000263	0.0003743	0.0035	9.16	261625.1	298461.58	298461.58	166.27	No	Si
SLU 52	-1.3	2042.31	-88624	-0.0000345	0.0003743	0.0035	9.16	320182.55	343231.9	343231.9	168.06	No	Si
SLU 52	1.59	5329.73	-75973	-0.0000303	0.0003743	0.0035	9.16	284965.7	298329.01	298329.01	55.97	No	Si
SLU 5	-1.3	1532.6	-65445	-0.0000251	0.0003743	0.0035	9.16	252994.95	261829.79	261829.79	170.84	No	Si
SLU 5	1.59	4072.8	-56144	-0.0000221	0.0003743	0.0035	9.16	222739.11	230239.38	230239.38	56.53	No	Si
SLU 2	-1.3	2036.86	-64448	-0.0000249	0.0003743	0.0035	9.16	249842.03	258414.41	258414.41	126.87	No	Si
SLU 2	1.59	4527.8	-54964	-0.0000218	0.0003743	0.0035	9.16	218764.03	226274.23	226274.23	49.97	No	Si
SLU 55	-1.3	1538.05	-89621	-0.0000348	0.0003743	0.0035	9.16	322809.36	346818.38	346818.38	225.49	No	Si
SLU 55	1.59	4874.73	-77154	-0.0000306	0.0003743	0.0035	9.16	288399.45	302470.52	302470.52	62.05	No	Si
SLU 44	-1.3	2480.87	-80199	-0.0000312	0.0003743	0.0035	9.16	297116.36	313200.93	313200.93	126.25	No	Si
SLU 44	1.59	5387.63	-67758	-0.000027	0.0003743	0.0035	9.16	260224.93	269780.18	269780.18	50.07	No	Si
SLU 35	-1.3	-5028.13	-85979	-0.0000342	0.0003743	0.0035	9.16	313107.64	357262.75	357262.75	71.05	No	Si
SLU 35	1.59	-1852.91	-76425	-0.0000296	0.0003743	0.0035	9.16	286284.77	326104.08	326104.08	176	No	Si
SLU 47	-1.3	1976.61	-81196	-0.0000315	0.0003743	0.0035	9.16	299926.52	316729.22	316729.22	160.24	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 47	1.59	4932.63	-68938	-0.0000274	0.0003743	0.0035	9.16	263870.37	273853.48	273853.48	55.52	No	Si
SLU 13	-1.3	1094.04	-73871	-0.0000283	0.0003743	0.0035	9.16	278774.5	290977.99	290977.99	265.97	No	Si
SLU 13	1.59	4014.9	-64360	-0.0000253	0.0003743	0.0035	9.16	249562.43	258113.02	258113.02	64.29	No	Si
SLU 10	-1.3	1598.3	-72874	-0.0000281	0.0003743	0.0035	9.16	275804.93	287503.54	287503.54	179.88	No	Si
SLU 10	1.59	4469.91	-63179	-0.000025	0.0003743	0.0035	9.16	245799.03	254079.38	254079.38	56.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 14	-1.3	28224.88	-38272	-0.000021	0.0005615	0.0035	9.16		170567.28	170567.28	6.04		Si
SLV 14	1.59	27528.99	-20221	-0.0000141	0.0005615	0.0035	9.16		93996.22	93996.22	3.41		Si
SLV 11	-1.3	-108604.82	-62306	-0.0000506	0.0005615	0.0035	9.16		287161.47	287161.47	2.64		Si
SLV 11	1.59	-90154.58	-48838	-0.0000408	0.0005615	0.0035	9.16		233848.87	233848.87	2.59		Si
SLV 9	-1.3	109431.7	-58783	-0.0000498	0.0005615	0.0035	9.16		253263.32	253263.32	2.31		Si
SLV 9	1.59	91445.33	-47192	-0.0000409	0.0005615	0.0035	9.16		207078.4	207078.4	2.26		Si
SLV 13	-1.3	34526.14	-38228	-0.0000225	0.0005615	0.0035	9.16		170388.66	170388.66	4.94		Si
SLV 13	1.59	27995.57	-19962	-0.0000141	0.0005615	0.0035	9.16		92861.39	92861.39	3.32		Si
SLV 5	-1.3	109107.87	-77452	-0.0000565	0.0005615	0.0035	9.16		320269.64	320269.64	2.94		Si
SLV 5	1.59	91416.2	-70990	-0.0000494	0.0005615	0.0035	9.16		298548.78	298548.78	3.27		Si
SLV 12	-1.3	-112847.26	-62336	-0.0000519	0.0005615	0.0035	9.16		287271.73	287271.73	2.55		Si
SLV 12	1.59	-90468.72	-49013	-0.000041	0.0005615	0.0035	9.16		234540.7	234540.7	2.59		Si
SLV 7	-1.3	-108928.66	-80975	-0.0000579	0.0005615	0.0035	9.16		357327.59	357327.59	3.28		Si
SLV 7	1.59	-90183.71	-72636	-0.0000498	0.0005615	0.0035	9.16		326387.8	326387.8	3.62		Si
SLV 6	-1.3	104865.43	-77481	-0.0000555	0.0005615	0.0035	9.16		320368.25	320368.25	3.06		Si
SLV 6	1.59	91102.06	-71165	-0.0000494	0.0005615	0.0035	9.16		299135.24	299135.24	3.28		Si
SLV 8	-1.3	-113171.1	-81005	-0.000059	0.0005615	0.0035	9.16		357433.15	357433.15	3.16		Si
SLV 8	1.59	-90497.85	-72811	-0.0000499	0.0005615	0.0035	9.16		327057.38	327057.38	3.61		Si
SLV 10	-1.3	105189.27	-58812	-0.0000485	0.0005615	0.0035	9.16		253378.44	253378.44	2.41		Si
SLV 10	1.59	91131.19	-47367	-0.0000408	0.0005615	0.0035	9.16		207789.69	207789.69	2.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	-1.3	223.77	-90687	-80611	3953	9.16	9.16	-19556	9552	52086	30925	123431	23358	78129	Si	19.77	Si
SLU 65	1.59	3724.56	-78263	-69567	3984	9.16	9.16	-16877	9195	47669	30925	123431	23358	71503	Si	17.95	Si
SLU 52	-1.3	2042.31	-88624	-78777	4084	9.16	9.16	-19111	9493	51353	30925	123431	23358	77029	Si	18.86	Si
SLU 52	1.59	5329.73	-75973	-67532	4135	9.16	9.16	-16383	9129	46855	30925	123431	23358	70282	Si	17	Si
SLU 55	-1.3	1538.05	-89621	-79664	4095	9.16	9.16	-19326	9521	51707	30925	123431	23358	77561	Si	18.94	Si
SLU 55	1.59	4874.73	-77154	-68581	4140	9.16	9.16	-16638	9163	47275	30925	123431	23358	70912	Si	17.13	Si
SLU 76	-1.3	-719.05	-100110	-88987	4293	9.16	9.16	-21588	9823	55436	30925	123431	23358	83155	Si	19.37	Si
SLU 76	1.59	3211.67	-87659	-77919	4314	9.16	9.16	-18903	9465	51010	30925	123431	23358	76514	Si	17.74	Si
SLU 47	-1.3	1976.61	-81196	-72174	3765	9.16	9.16	-17509	9279	48712	30925	123431	23358	73067	Si	19.41	Si
SLU 47	1.59	4932.63	-68938	-61278	3815	9.16	9.16	-14866	8927	44353	30925	123431	23358	66530	Si	17.44	Si
SLU 44	-1.3	2480.87	-80199	-71288	3754	9.16	9.16	-17294	9250	48357	30925	123431	23358	72536	Si	19.32	Si
SLU 44	1.59	5387.63	-67758	-60229	3810	9.16	9.16	-14612	8893	43934	30925	123431	23358	65901	Si	17.3	Si
SLU 73	-1.3	-214.79	-99113	-88101	4283	9.16	9.16	-21373	9794	55082	30925	123431	23358	82623	Si	19.29	Si
SLU 73	1.59	3666.67	-86479	-76870	4309	9.16	9.16	-18649	9431	50590	30925	123431	23358	75885	Si	17.61	Si
SLU 13	-1.3	1094.04	-73871	-65663	3518	9.16	9.16	-15930	9068	46107	30925	123431	23358	69161	Si	19.66	Si
SLU 13	1.59	4014.9	-64360	-57209	3558	9.16	9.16	-13879	8795	42726	30925	123431	23358	64089	Si	18.01	Si
SLU 68	-1.3	-280.49	-91684	-81497	3963	9.16	9.16	-19771	9581	52441	30925	123431	23358	78661	Si	19.85	Si
SLU 68	1.59	3269.56	-79444	-70616	3989	9.16	9.16	-17132	9229	48089	30925	123431	23358	72133	Si	18.08	Si
SLU 10	-1.3	1598.3	-72874	-64777	3508	9.16	9.16	-15715	9040	45753	30925	123431	23358	68629	Si	19.57	Si
SLU 10	1.59	4469.91	-63179	-56159	3553	9.16	9.16	-13624	8761	42306	30925	123431	23358	63459	Si	17.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	-1.3	109431.7	-58783	-52251	36209	9.16	8.1551	-12676	12952	50664	30925	185146	23358	81590		2.25	Si
SLV 9	1.59	91445.33	-47192	-41948	36733	9.16	7.9268	-10177	12452	46543	30925	185146	23358	77469		2.11	Si
SLV 12	-1.3	-	-62336	-55409	-31165	9.16	8.309	-14913	13399	51928	30925	185146	23358	82853		2.66	Si
SLV 12	1.59	112847.26	-49013	-43567	-31349	9.16	8.2026	-11856	12788	47202	30925	185146	23358	78128		2.49	Si
SLV 7	-1.3	-	-80975	-71978	-26863	9.16	9.16	-17462	13909	58555	30925	185146	23358	89480		3.33	Si
SLV 7	1.59	108928.66	-72636	-64565	-27394	9.16	9.16	-15664	13549	55851	30925	185146	23358	86776		3.17	Si
SLV 11	-1.3	-	-62306	-55383	-26419	9.16	8.5108	-14557	13328	51917	30925	185146	23358	82843		3.14	Si
SLV 11	1.59	-90154.58	-48838	-43412	-26577	9.16	8.2021	-11814	12780	47168	30925	185146	23358	78094		2.94	Si
SLD 9	-1.3	67006.51	-62806	-55827	23302	9.16	9.16	-13544	13125	54103	30925	185146	23358	85028		3.65	Si
SLD 9	1.59	56719.82	-51819	-46062	23625	9.16	9.16	-11175	12652	52150	30925	185146	23358	83075		3.52	Si
SLV 5	-1.3	109107.87	-77452	-68846	35765	9.16	9.16	-16702	13757	57302	30925	185146	23358	88227		2.47	Si
SLV 5	1.59	91416.2	-70990	-63102	35915	9.16	9.16	-15309	13478	55558	30925	185146	23358	86483		2.41	Si
SLV 8	-1.3	-113171.1	-81005	-72004	-31610	9.16	9.16	-17468	13910	58565	30925	185146	23358	89491		2.83	Si
SLV 8	1.59	-90497.85	-72811	-64721	-32167	9.16	9.16	-15701	13557	55882	30925	185146	23358	86807		2.7	Si
SLD 5	-1.3	66792.49	-74775	-66466	23007	9.16	9.16	-16125	13642	56350	30925	185146	23358	87276		3.79	Si
SLD 5	1.59	56670.5	-66991	-59548	23105	9.16	9.16	-14446	13306	54847	30925	185146	23358	85773		3.71	Si
SLV 10	-1.3	105189.27	-58812	-52277	31463	9.16	8.3743	-12682	12953	50675	30925	185146	23358	81600		2.59	Si
SLV 10	1.59	91131.19	-47367	-42104	31961	9.16	7.9682	-10214	12460	46606	30925	185146	23358	77531		2.43	Si
SLV 6	-1.3	104865.43	-77481	-68872	31018	9.16	9.16	-16708	13758	57312	30925	185146	23358	88238		2.84	Si
SLV 6	1.59	91102.06	-71165	-63257	31143	9.16	9.16	-15346	13486	55589	30925	185146	23358	86514		2.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	o0	N	M	Mc	Coeff.s.	Verifica
SLV 13	179667	0.25	8252	-34013	653.71	7239.52	11.07	Si
SLV 14	179667	0.25	8288	-34164	653.71	7269.76	11.12	Si



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.25	8401	-34629	653.71	7362.95	11.26	Si
SLV 16	179667	0.25	8438	-34780	653.71	7393.12	11.31	Si
SLV 9	179667	0.25	13837	-57037	653.71	11670.62	17.85	Si
SLV 10	179667	0.25	13862	-57139	653.71	11689.31	17.88	Si
SLV 11	179667	0.25	14335	-59090	653.71	12047.21	18.43	Si
SLV 12	179667	0.25	14360	-59191	653.71	12065.75	18.46	Si
SLV 5	179667	0.25	18769	-77367	653.71	15268.12	23.36	Si
SLV 6	179667	0.25	18794	-77468	653.71	15285.33	23.38	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-100041	-101559	6520	0.491	11865	0.958	7.44851	3.14871	Si
SLV 3	-99781	-101516	6503	0.492	11838.6	0.958	7.46622	3.14871	Si
SLV 2	-99547	-100502	6480	0.493	11814.8	0.958	7.48342	3.14871	Si
SLV 1	-99287	-100458	6463	0.494	11788.4	0.958	7.5013	3.14871	Si
SLV 8	-72811	-81005	4599	0.649	9099	0.947	9.95572	2.77912	Si
SLV 7	-72636	-80975	4588	0.65	9081.2	0.947	9.97715	2.77912	Si
SLV 6	-71165	-77481	4464	0.662	8931.9	0.946	10.16645	2.77912	Si
SLV 5	-70990	-77452	4452	0.663	8914.2	0.946	10.18879	2.77912	Si
SLV 12	-49013	-62336	2914	0.904	6689.5	0.931	14.11143	2.77912	Si
SLV 11	-48838	-62306	2903	0.907	6671.8	0.931	14.15452	2.77912	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	49.974	SLU 2	Si
V_SLU	16.997	SLU 52	Si
PF_SLV	2.265	SLV 9	Si
V_SLV	2.109	SLV 9	Si
PFFP_SLV	11.074	SLV 13	Si
R_SLV	2.366	SLV 4	Si

Maschio 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.763	5.876	-24.603	5.876	L2	L4	1.84	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	0.7	84.25	-24057	-0.0000474	0.0003743	0.0035	1.84	15816.52	17320.93	17320.93	205.58	No	Si
SLU 70	1.1	2316.88	-23488	-0.0000611	0.0003743	0.0035	1.84	15588.19	17011.04	17011.04	7.34	No	Si
SLU 71	0.7	78.16	-24117	-0.0000474	0.0003743	0.0035	1.84	15840.09	17353.57	17353.57	222.01	No	Si
SLU 71	1.1	2329.31	-23528	-0.0000613	0.0003743	0.0035	1.84	15604.61	17032.95	17032.95	7.31	No	Si
SLU 49	0.7	131.44	-20511	-0.0000403	0.0003743	0.0035	1.84	14278.72	15416.05	15416.05	117.29	No	Si
SLU 49	1.1	2115.94	-19875	-0.000052	0.0003743	0.0035	1.84	13974.07	15080.29	15080.29	7.13	No	Si
SLU 45	0.7	114.01	-20411	-0.00004	0.0003743	0.0035	1.84	14231.68	15363.43	15363.43	134.75	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 45	1.1	2101.41	-19756	-0.0000517	0.0003743	0.0035	1.84	13916.11	15017.72	15017.72	7.15	No	Si
SLU 51	0.7	118.46	-20314	-0.0000398	0.0003743	0.0035	1.84	14185.5	15312.05	15312.05	129.26	No	Si
SLU 51	1.1	2081.55	-19681	-0.0000514	0.0003743	0.0035	1.84	13879.16	14978.04	14978.04	7.2	No	Si
SLU 43	0.7	76.71	-19859	-0.0000386	0.0003743	0.0035	1.84	13966.4	15071.99	15071.99	196.48	No	Si
SLU 43	1.1	2005.69	-19208	-0.0000499	0.0003743	0.0035	1.84	13644.97	14730.25	14730.25	7.34	No	Si
SLU 69	0.7	91.15	-24314	-0.0000479	0.0003743	0.0035	1.84	15917	17460.97	17460.97	191.57	No	Si
SLU 69	1.1	2363.69	-23723	-0.000062	0.0003743	0.0035	1.84	15683.21	17138.62	17138.62	7.25	No	Si
SLU 50	0.7	125.35	-20571	-0.0000404	0.0003743	0.0035	1.84	14306.92	15447.73	15447.73	123.24	No	Si
SLU 50	1.1	2128.36	-19915	-0.0000522	0.0003743	0.0035	1.84	13993.68	15101.55	15101.55	7.1	No	Si
SLU 48	0.7	138.33	-20767	-0.0000409	0.0003743	0.0035	1.84	14399.04	15551.99	15551.99	112.42	No	Si
SLU 48	1.1	2162.75	-20110	-0.0000528	0.0003743	0.0035	1.84	14087.6	15204.04	15204.04	7.03	No	Si
SLU 46	0.7	107.12	-20155	-0.0000394	0.0003743	0.0035	1.84	14109.38	15227.96	15227.96	142.16	No	Si
SLU 46	1.1	2054.6	-19521	-0.0000509	0.0003743	0.0035	1.84	13800.77	14894.4	14894.4	7.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	0.7	888.68	-34752	-0.0000733	0.0005615	0.0035	1.84		25062.27	25062.27	28.2		Si
SLV 7	1.1	4627.87	-33494	-0.0000957	0.0005615	0.0035	1.84		24379.93	24379.93	5.27		Si
SLV 11	0.7	212.44	-31044	-0.0000611	0.0005615	0.0035	1.84		23062.02	23062.02	108.56		Si
SLV 11	1.1	4006.65	-29606	-0.0000831	0.0005615	0.0035	1.84		22294.5	22294.5	5.56		Si
SLV 9	0.7	-759.63	-639	-0.0000945	0.0005615	0.0035	1.472		1468.27	1468.27	1.93		Si
SLV 9	1.1	-1428.75	-1237	-0.0001722	0.0005615	0.0035	1.472		2004.69	2004.69	1.4		Si
SLV 14	0.7	-1365.83	-7759	-0.0000225	0.0005615	0.0035	1.84		7623.02	7623.02	5.58		Si
SLV 14	1.1	-87.22	-7170	-0.0000137	0.0005615	0.0035	1.84		7129.49	7129.49	81.74		Si
SLV 13	0.7	-1177.6	-6798	-0.0000196	0.0005615	0.0035	1.84		6817.19	6817.19	5.79		Si
SLV 13	1.1	-283.11	-6526	-0.0000137	0.0005615	0.0035	1.84		6589.76	6589.76	23.28		Si
SLV 10	0.7	-886.36	-1285	-0.0000124	0.0005615	0.0035	1.472		2047.55	2047.55	2.31		Si
SLV 10	1.1	-1296.86	-1671	-0.0000255	0.0005615	0.0035	1.472		2391.33	2391.33	1.84		Si
SLV 12	0.7	85.71	-31691	-0.0000616	0.0005615	0.0035	1.84		23408.72	23408.72	273.11		Si
SLV 12	1.1	4138.54	-30040	-0.0000849	0.0005615	0.0035	1.84		22525.59	22525.59	5.44		Si
SLV 8	0.7	761.95	-35399	-0.0000738	0.0005615	0.0035	1.84		25414.31	25414.31	33.35		Si
SLV 8	1.1	4759.76	-33928	-0.0000975	0.0005615	0.0035	1.84		24614.77	24614.77	5.17		Si
SLD 8	0.7	471.19	-28815	-0.0000582	0.0005615	0.0035	1.84		21874.26	21874.26	46.42		Si
SLD 8	1.1	3567.31	-27752	-0.0000763	0.0005615	0.0035	1.84		21309.55	21309.55	5.97		Si
SLV 4	0.7	1179.92	-29240	-0.0000637	0.0005615	0.0035	1.84		22099.64	22099.64	18.73		Si
SLV 4	1.1	3614.12	-28639	-0.0000784	0.0005615	0.0035	1.84		21780.83	21780.83	6.03		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	0.7	84.25	-24057	-21384	-5115	1.84	1.84	-25826	10388	8601	30925	24794	4692	12902	Si	2.52	Si
SLU 70	1.1	2316.88	-23488	-20878	-4920	1.84	1.84	-25215	10306	8534	30925	24794	4692	12801	Si	2.6	Si
SLU 72	0.7	71.27	-23861	-21210	-5056	1.84	1.84	-25616	10360	8578	30925	24794	4692	12867	Si	2.54	Si
SLU 72	1.1	2282.5	-23294	-20706	-4863	1.84	1.84	-25007	10279	8511	30925	24794	4692	12766	Si	2.63	Si
SLU 78	0.7	-27.48	-26836	-23854	-5287	1.84	1.84	-28809	10786	9018	30925	24794	4692	13527	Si	2.56	Si
SLU 78	1.1	2359.78	-26365	-23435	-5073	1.84	1.84	-28304	10718	8906	30925	24794	4692	13360	Si	2.63	Si
SLU 69	0.7	91.15	-24314	-21612	-5265	1.84	1.84	-26102	10425	8632	30925	24794	4692	12947	Si	2.46	Si
SLU 69	1.1	2363.69	-23723	-21087	-5069	1.84	1.84	-25467	10340	8562	30925	24794	4692	12842	Si	2.53	Si
SLU 77	0.7	-20.58	-27092	-24082	-5437	1.84	1.84	-29084	10822	9079	30925	24794	4692	13618	Si	2.5	Si
SLU 77	1.1	2406.59	-26600	-23644	-5221	1.84	1.84	-28556	10752	8962	30925	24794	4692	13443	Si	2.57	Si
SLU 66	0.7	66.83	-23958	-21296	-5166	1.84	1.84	-25720	10374	8589	30925	24794	4692	12884	Si	2.49	Si
SLU 66	1.1	2302.36	-23369	-20773	-4973	1.84	1.84	-25088	10289	8520	30925	24794	4692	12780	Si	2.57	Si
SLU 64	0.7	29.52	-23406	-20805	-5008	1.84	1.84	-25127	10295	8524	30925	24794	4692	12786	Si	2.55	Si
SLU 64	1.1	2206.64	-22821	-20285	-4820	1.84	1.84	-24499	10211	8455	30925	24794	4692	12682	Si	2.63	Si
SLU 79	0.7	-33.56	-26896	-23907	-5377	1.84	1.84	-28873	10794	9032	30925	24794	4692	13548	Si	2.52	Si
SLU 79	1.1	2372.21	-26405	-23471	-5164	1.84	1.84	-28347	10724	8916	30925	24794	4692	13374	Si	2.59	Si
SLU 74	0.7	-44.9	-26736	-23766	-5338	1.84	1.84	-28703	10771	8995	30925	24794	4692	13492	Si	2.53	Si
SLU 74	1.1	2345.25	-26246	-23330	-5126	1.84	1.84	-28176	10701	8878	30925	24794	4692	13317	Si	2.6	Si
SLU 71	0.7	78.16	-24117	-21437	-5206	1.84	1.84	-25891	10397	8608	30925	24794	4692	12912	Si	2.48	Si
SLU 71	1.1	2329.31	-23528	-20914	-5011	1.84	1.84	-25259	10312	8539	30925	24794	4692	12808	Si	2.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	0.7	888.68	-34752	-30891	-11977	1.84	1.84	-37308	16250	13455	30925	37191	4692	41883		3.5	Si
SLV 7	1.1	4627.87	-33494	-29772	-11941	1.84	1.84	-35957	16250	13455	30925	37191	4692	41883		3.51	Si
SLD 8	0.7	471.19	-28815	-25614	-9561	1.84	1.84	-30934	16250	13455	30925	37191	4692	41883		4.38	Si
SLD 8	1.1	3567.31	-27752	-24669	-9477	1.84	1.84	-29793	16250	13455	30925	37191	4692	41883		4.42	Si
SLV 16	0.7	-1074.2	-16880	-15005	-9722	1.84	1.84	-18122	14041	11626	30925	37191	4692	41883		4.31	Si
SLV 16	1.1	1543.4	-15681	-13939	-9387	1.84	1.84	-16834	13784	11413	30925	37191	4692	41883		4.46	Si
SLV 15	0.7	-885.98	-15920	-14151	-8034	1.84	1.84	-17090	13835	11455	30925	37191	4692	41883		5.21	Si
SLV 15	1.1	1347.51	-15037	-13366	-7702	1.84	1.84	-16142	13645	11298	30925	37191	4692	41883		5.44	Si
SLD 11	0.7	109.93	-26058	-23162	-9710	1.84	1.84	-27974	16011	13257	30925	37191	4692	41883		4.31	Si
SLD 11	1.1	3091.59	-24996	-22219	-9564	1.84	1.84	-26834	15784	13069	30925	37191	4692	41883		4.38	Si
SLV 8	0.7	761.95	-35399	-31466	-13114	1.84	1.84	-38002	16250	13455	30925	37191	4692	41883		3.19	Si
SLV 8	1.1	4759.76	-33928	-30158	-13075	1.84	1.84	-36423	16250	13455	30925	37191	4692	41883		3.2	Si
SLD 12	0.7	30.6	-26463	-23522	-10422	1.84	1.84	-28409	16098	13329	30925	37191	4692	41883		4.02	Si
SLD 12	1.1	3174.15	-25268	-22460	-10274	1.84	1.84	-27126	15842	13117	30925	37191	4692	41883		4.08	Si
SLD 7	0.7	550.52	-28411	-25254	-8850	1.84	1.84	-30500	16250	13455	30925	37191	4692	41883		4.73	Si
SLD 7	1.1	3484.75	-27481	-24427	-8767	1.84	1.84	-29502	16250	13455	30925	37191	4692	41883		4.78	Si
SLV 12	0.7	85.71	-31691	-28170	-14465	1.84	1.84	-34022	16250	13455	30925	37191	4692	41883		2.9	Si
SLV 12	1.1	4138.54	-30040	-26703	-14305	1.84	1.84	-32249	16250	13455	30925	37191	4692	41883		2.93	Si
SLV 11	0.7	212.44	-31044	-27595	-13329	1.84	1.84	-33327	16250	13455	30925	37191	4692	41883		3.14	Si
SLV 11	1.1	4006.65	-29606	-26317	-13170	1.84	1.84	-31784	16250	13455	30925	37191	4692	41883		3.18	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.25	881	-730	131.31	163.25	1.24	Si
SLV 10	179667	0.25	1441	-1193	131.31	265.87	2.02	Si
SLV 5	179667	0.25	5207	-4311	131.31	936.94	7.14	Si
SLV 6	179667	0.25	5766	-4774	131.31	1033.66	7.87	Si
SLV 13	179667	0.25	6554	-5426	131.31	1168.54	8.9	Si
SLV 14	179667	0.25	7384	-6114	131.31	1309.19	9.97	Si
SLV 15	179667	0.25	15857	-13130	131.31	2647.46	20.16	Si
SLV 16	179667	0.25	16688	-13818	131.31	2769.25	21.09	Si
SLV 1	179667	0.25	20972	-17364	131.31	3370.47	25.67	Si
SLV 2	179667	0.25	21802	-18052	131.31	3481.9	26.52	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-31277	-29989	1686	0.342	3521.2	0.971	5.11397	2.77912	Si
SLV 7	-30924	-29594	1665	0.345	3485.3	0.97	5.16728	2.77912	Si
SLV 4	-26722	-25933	1469	0.391	3057.5	0.967	5.87448	3.14871	Si
SLV 3	-26198	-25346	1437	0.398	3004.2	0.966	5.98168	3.14871	Si
SLV 12	-27406	-26191	1470	0.383	3127.1	0.967	5.76069	2.77912	Si
SLV 11	-27053	-25796	1449	0.388	3091.2	0.967	5.82928	2.77912	Si
SLV 2	-18873	-18577	1062	0.527	2259.1	0.956	8.00901	3.14871	Si
SLV 1	-18349	-17990	1030	0.54	2205.8	0.955	8.21521	3.14871	Si
SLV 16	-13818	-13274	749	0.689	1745.8	0.945	10.59075	3.14871	Si
SLV 15	-13294	-12688	717	0.711	1692.6	0.943	10.95831	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.03	SLU 48	Si
V_SLU	2.459	SLU 69	Si
PF_SLV	1.403	SLV 9	Si
V_SLV	2.895	SLV 12	Si
PFFP_SLV	1.243	SLV 9	Si
R_SLV	1.84	SLV 8	Si

Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.876	-21.763	5.876	L2	L4	2.145	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	Intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	0.7	-3981.07	-24032	-0.000059	0.0003743	0.0035	2.145	19471.27	22322.09	22322.09	5.61	No	Si
SLU 50	1.1	-2955.32	-23067	-0.0000522	0.0003743	0.0035	2.145	18932.48	21635.92	21635.92	7.32	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 69	0.7	-4525.03	-28656	-0.0000705	0.0003743	0.0035	2.145	21771.94	25302.96	25302.96	5.59	No	Si
SLU 69	1.1	-3509.45	-27681	-0.0000635	0.0003743	0.0035	2.145	21325.59	24708.51	24708.51	7.04	No	Si
SLU 45	0.7	-3943.55	-23835	-0.0000585	0.0003743	0.0035	2.145	19363.17	22181.65	22181.65	5.62	No	Si
SLU 45	1.1	-2907.13	-22871	-0.0000516	0.0003743	0.0035	2.145	18820.24	21497.16	21497.16	7.39	No	Si
SLU 79	0.7	-4788.6	-31979	-0.0000783	0.0003743	0.0035	2.145	23136.73	27071.64	27071.64	5.65	No	Si
SLU 79	1.1	-3735.2	-31004	-0.000071	0.0003743	0.0035	2.145	22761.12	26629.14	26629.14	7.13	No	Si
SLU 77	0.7	-4831.01	-32203	-0.0000789	0.0003743	0.0035	2.145	23219.98	27174.17	27174.17	5.62	No	Si
SLU 77	1.1	-3786.11	-31227	-0.0000717	0.0003743	0.0035	2.145	22849.13	26730.03	26730.03	7.06	No	Si
SLU 66	0.7	-4445.1	-28236	-0.0000692	0.0003743	0.0035	2.145	21582.14	25047.11	25047.11	5.63	No	Si
SLU 66	1.1	-3410.35	-27261	-0.0000622	0.0003743	0.0035	2.145	21126.85	24448.13	24448.13	7.17	No	Si
SLU 49	0.7	-3957.9	-23996	-0.0000588	0.0003743	0.0035	2.145	19451.4	22296.17	22296.17	5.63	No	Si
SLU 49	1.1	-2941.43	-23031	-0.0000521	0.0003743	0.0035	2.145	18911.84	21610.31	21610.31	7.35	No	Si
SLU 70	0.7	-4459.45	-28396	-0.0000696	0.0003743	0.0035	2.145	21654.98	25144.52	25144.52	5.64	No	Si
SLU 70	1.1	-3444.65	-27421	-0.0000627	0.0003743	0.0035	2.145	21203.1	24547.83	24547.83	7.13	No	Si
SLU 48	0.7	-4023.48	-24256	-0.0000596	0.0003743	0.0035	2.145	19593.33	22480.2	22480.2	5.59	No	Si
SLU 48	1.1	-3006.24	-23291	-0.0000529	0.0003743	0.0035	2.145	19059.25	21794.32	21794.32	7.25	No	Si
SLU 71	0.7	-4482.62	-28433	-0.0000698	0.0003743	0.0035	2.145	21671.37	25166.57	25166.57	5.61	No	Si
SLU 71	1.1	-3458.54	-27457	-0.0000628	0.0003743	0.0035	2.145	21220.26	24570.31	24570.31	7.1	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 16	0.7	-6487	-20919	-0.0000637	0.0005615	0.0035	2.145		21183.83	21183.83	3.27		Si
SLV 16	1.1	-2688.59	-20150	-0.0000447	0.0005615	0.0035	2.145		20529.73	20529.73	7.64		Si
SLD 16	0.7	-5298.33	-20932	-0.0000582	0.0005615	0.0035	2.145		21194.39	21194.39	4		Si
SLD 16	1.1	-2573.44	-20178	-0.0000442	0.0005615	0.0035	2.145		20553.93	20553.93	7.99		Si
SLV 9	0.7	359.99	-4305	-0.0000083	0.0005615	0.0035	2.145		4747.43	4747.43	13.19		Si
SLV 9	1.1	1687.34	-3338	-0.0000132	0.0005615	0.0035	2.145		3758.13	3758.13	2.23		Si
SLV 10	0.7	0.06	-4545	-0.0000071	0.0005615	0.0035	2.145		4993.44	4993.44	84323.6		Si
SLV 10	1.1	1691.43	-3579	-0.0000134	0.0005615	0.0035	2.145		4005.59	4005.59	2.37		Si
SLV 15	0.7	-5952.4	-20562	-0.0000606	0.0005615	0.0035	2.145		20880.44	20880.44	3.51		Si
SLV 15	1.1	-2694.66	-19792	-0.0000441	0.0005615	0.0035	2.145		20222.81	20222.81	7.5		Si
SLV 14	0.7	-4088.32	-11734	-0.000037	0.0005615	0.0035	2.145		13017.49	13017.49	3.18		Si
SLV 14	1.1	-359.96	-10848	-0.0000188	0.0005615	0.0035	2.145		12187.6	12187.6	33.86		Si
SLV 13	0.7	-3553.71	-11376	-0.000034	0.0005615	0.0035	2.145		12684.43	12684.43	3.57		Si
SLV 13	1.1	-366.03	-10490	-0.0000182	0.0005615	0.0035	2.145		11849.56	11849.56	32.37		Si
SLD 15	0.7	-4957.1	-20703	-0.0000562	0.0005615	0.0035	2.145		21000.9	21000.9	4.24		Si
SLD 15	1.1	-2577.32	-19950	-0.0000439	0.0005615	0.0035	2.145		20358.33	20358.33	7.9		Si
SLV 12	0.7	-7995.55	-35163	-0.0000968	0.0005615	0.0035	2.145		32008.02	32008.02	4		Si
SLV 12	1.1	-6070.67	-34586	-0.0000863	0.0005615	0.0035	2.145		31610.47	31610.47	5.21		Si
SLV 11	0.7	-7635.62	-34922	-0.0000946	0.0005615	0.0035	2.145		31842.08	31842.08	4.17		Si
SLV 11	1.1	-6074.76	-34345	-0.0000859	0.0005615	0.0035	2.145		31445.08	31445.08	5.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	0.7	-4017.9	-26304	-23382	-2703	2.145	2.145	-24223	10174	10390	30925	28904	5470	15585	Si	5.77	Si
SLU 52	1.1	-2925.76	-25340	-22524	-2703	2.145	2.145	-23335	10056	10136	30925	28904	5470	15203	Si	5.62	Si
SLU 48	0.7	-4023.48	-24256	-21560	-2516	2.145	2.145	-22337	9923	9850	30925	28904	5470	14774	Si	5.87	Si
SLU 48	1.1	-3006.24	-23291	-20703	-2516	2.145	2.145	-21448	9804	9595	30925	28904	5470	14392	Si	5.72	Si
SLU 49	0.7	-3957.9	-23996	-21329	-2514	2.145	2.145	-22097	9891	9781	30925	28904	5470	14671	Si	5.84	Si
SLU 49	1.1	-2941.43	-23031	-20472	-2514	2.145	2.145	-21209	9772	9526	30925	28904	5470	14290	Si	5.68	Si
SLU 45	0.7	-3943.55	-23835	-21187	-2564	2.145	2.145	-21950	9871	9739	30925	28904	5470	14608	Si	5.7	Si
SLU 45	1.1	-2907.13	-22871	-20329	-2564	2.145	2.145	-21061	9753	9484	30925	28904	5470	14226	Si	5.55	Si
SLU 43	0.7	-3821.21	-23191	-20614	-2633	2.145	2.145	-21357	9792	9569	30925	28904	5470	14353	Si	5.45	Si
SLU 43	1.1	-2727.11	-22227	-19757	-2633	2.145	2.145	-20468	9674	9337	30925	28904	5470	14006	Si	5.32	Si
SLU 44	0.7	-3711.91	-22758	-20229	-2630	2.145	2.145	-20958	9739	9454	30925	28904	5470	14182	Si	5.39	Si
SLU 44	1.1	-2649.1	-21793	-19372	-2630	2.145	2.145	-20069	9620	9286	30925	28904	5470	13929	Si	5.3	Si
SLU 46	0.7	-3877.97	-23575	-20956	-2562	2.145	2.145	-21710	9839	9670	30925	28904	5470	14505	Si	5.66	Si
SLU 46	1.1	-2842.33	-22611	-20098	-2562	2.145	2.145	-20822	9721	9415	30925	28904	5470	14123	Si	5.51	Si
SLU 50	0.7	-3981.07	-24032	-21362	-2537	2.145	2.145	-22131	9895	9791	30925	28904	5470	14686	Si	5.79	Si
SLU 50	1.1	-2955.32	-23067	-20504	-2537	2.145	2.145	-21242	9777	9536	30925	28904	5470	14304	Si	5.64	Si
SLU 47	0.7	-3791.84	-23178	-20603	-2582	2.145	2.145	-21345	9790	9565	30925	28904	5470	14348	Si	5.56	Si
SLU 47	1.1	-2748.21	-22213	-19745	-2582	2.145	2.145	-20456	9672	9336	30925	28904	5470	14004	Si	5.42	Si
SLU 51	0.7	-3915.49	-23772	-21130	-2535	2.145	2.145	-21891	9863	9722	30925	28904	5470	14583	Si	5.75	Si
SLU 51	1.1	-2890.52	-22807	-20273	-2535	2.145	2.145	-21003	9745	9467	30925	28904	5470	14201	Si	5.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	0.7	-4957.1	-20703	-18403	-6005	2.145	2.145	-19066	14230	13735	30925	43356	5470	44661		7.44	Si
SLD 15	1.1	-2577.32	-19950	-17733	-5996	2.145	2.145	-18372	14091	13601	30925	43356	5470	44527		7.43	Si
SLD 16	0.7	-5298.33	-20932	-18606	-6868	2.145	2.145	-19276	14272	13776	30925	43356	5470	44701		6.51	Si
SLD 16	1.1	-2573.44	-20178	-17936	-6859	2.145	2.145	-18582	14133	13642	30925	43356	5470	44567		6.5	Si
SLV 16	0.7	-6487	-20919	-18595	-9606	2.145	2.145	-19264	14270	13774	30925	43356	5470	44699		4.65	Si
SLV 16	1.1	-2688.59	-20150	-17911	-9581	2.145	2.145	-18556	14128	13637	30925	43356	5470	44562		4.65	Si
SLV 13	0.7	-3553.71	-11376	-10112	-8156	2.145	2.145	-10476	12512	12077	30925	43356	5470	43003		5.27	Si
SLV 13	1.1	-366.03	-10490	-9325	-8020	2.145	2.145	-9660	12349	11920	30925	43356	5470	42845		5.34	Si
SLD 13	0.7	-3479.48	-15002	-13335	-5937	2.145	2.145	-13815	13180	12722	30925	43356	5470	43647		7.35	Si
SLD 13	1.1	-1146.4	-14175	-12600	-5856	2.145	2.145	-13053	13027	12575	30925	43356	5470	43500		7.43	Si
SLD 14	0.7	-3820.71	-15230	-13538	-6800	2.145	2.145	-14025	13222	12762	30925	43356	5470	43688		6.42	Si
SLD 14	1.1	-1142.53	-14403	-12803	-6719	2.145	2.145	-13263	13069	12615	30925	43356	5470	43541		6.48	Si
SLV 1	0.7	-117.78	-21622	-19220	5517	2.145	2.145	-19912	14399	13899	30925	43356	5470	44824		8.12	Si
SLV 1	1.1	-2264.19	-20896	-18574	5492	2.145	2.145	-19243	14265	13769	30925	43356	5470	44695		8.14	Si
SLV 15	0.7	-5952.4	-20562	-18277	-8254	2.145	2.145	-18935	14204	13710	30925	43356	5470	44636		5.41	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	1.1	-4592.82	-30198	-26842	5284	2.145	2.145	-27809	15978	15423	30925	43356	5470	46349		8.77	Si
SLV 14	0.7	-4088.32	-11734	-10430	-9508	2.145	2.145	-10806	12578	12141	30925	43356	5470	43066		4.53	Si
SLV 14	1.1	-359.96	-10848	-9643	-9372	2.145	2.145	-9990	12415	11983	30925	43356	5470	42909		4.58	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.25	4142	-3998	153.08	875.18	5.72	Si
SLV 10	179667	0.25	4393	-4241	153.08	926.7	6.05	Si
SLV 5	179667	0.25	8282	-7994	153.08	1701.14	11.11	Si
SLV 6	179667	0.25	8533	-8237	153.08	1749.7	11.43	Si
SLV 13	179667	0.25	11324	-10931	153.08	2277.05	14.87	Si
SLV 14	179667	0.25	11697	-11291	153.08	2345.88	15.32	Si
SLV 15	179667	0.25	21673	-20919	153.08	4038.91	26.38	Si
SLV 16	179667	0.25	22046	-21280	153.08	4096.76	26.76	Si
SLV 1	179667	0.25	25124	-24251	153.08	4558.78	29.78	Si
SLV 2	179667	0.25	25497	-24611	153.08	4612.97	30.13	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-28614	-43968	828	0.445	3306.1	0.964	6.70167	2.77912	Si
SLV 7	-28465	-43791	826	0.446	3290.9	0.964	6.73038	2.77912	Si
SLV 4	-22908	-38332	701	0.532	2725.7	0.957	8.07513	3.14871	Si
SLV 12	-26504	-39774	759	0.474	3091.4	0.962	7.15625	2.77912	Si
SLV 3	-22686	-38069	698	0.536	2703.2	0.957	8.14037	3.14871	Si
SLV 11	-26355	-39597	757	0.476	3076.2	0.962	7.18953	2.77912	Si
SLV 2	-15876	-29270	524	0.715	2011.6	0.944	11.00829	3.14871	Si
SLV 16	-15874	-24350	472	0.718	2011.4	0.944	11.05241	3.14871	Si
SLV 1	-15654	-29007	521	0.723	1989.1	0.944	11.13709	3.14871	Si
SLV 15	-15652	-24088	469	0.726	1988.9	0.944	11.18179	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.587	SLU 48	Si
V_SLU	5.296	SLU 44	Si
PF_SLV	2.227	SLV 9	Si
V_SLV	4.53	SLV 14	Si
PFFP_SLV	5.717	SLV 9	Si
R_SLV	2.411	SLV 8	Si

Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	2.071	-19.618	4.851	L2	L4	2.78	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	3200000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 79	-1.3	888.77	-81980	-0.0001651	0.0004492	0.0035	2.78	22279.56	65826.3	33419.35	37.6	Si	Si
SLU 79	0.7	8674.91	-77793	-0.0001955	0.0004492	0.0035	2.78	25584.69	64559.73	38377.04	4.42	Si	Si
SLU 77	-1.3	938.37	-82501	-0.0001666	0.0004492	0.0035	2.78	21835.15	65983.8	32752.72	34.9	Si	Si
SLU 77	0.7	8728.33	-78314	-0.0001972	0.0004492	0.0035	2.78	25199.75	64717.22	37799.62	4.33	Si	Si
SLU 82	-1.3	246.64	-82921	-0.000164	0.0004492	0.0035	2.78	21471.52	66110.76	32207.28	130.59	Si	Si
SLU 82	0.7	8838.21	-78734	-0.0001989	0.0004492	0.0035	2.78	24884.06	64844.18	37326.09	4.22	Si	Si
SLU 75	-1.3	284.27	-81206	-0.00016	0.0004492	0.0035	2.78	22927.08	65591.98	34390.61	120.98	Si	Si
SLU 75	0.7	8745.47	-77019	-0.0001938	0.0004492	0.0035	2.78	26143.72	64325.41	39215.58	4.48	Si	Si
SLU 78	-1.3	388.25	-82162	-0.0001629	0.0004492	0.0035	2.78	22125.63	65881.15	33188.44	85.48	Si	Si
SLU 78	0.7	8840.64	-77975	-0.0001969	0.0004492	0.0035	2.78	25451.47	64614.58	38177.2	4.32	Si	Si
SLU 83	-1.3	900.73	-84216	-0.0001707	0.0004492	0.0035	2.78	20318.99	66502.57	30478.49	33.84	Si	Si
SLU 83	0.7	8821.07	-80029	-0.0002024	0.0004492	0.0035	2.78	23879.49	65235.99	35819.23	4.06	Si	Si
SLU 84	-1.3	350.61	-83877	-0.0001669	0.0004492	0.0035	2.78	20625.35	66399.92	30938.02	88.24	Si	Si
SLU 84	0.7	8933.38	-79690	-0.0002021	0.0004492	0.0035	2.78	24147.08	65133.35	36220.62	4.05	Si	Si
SLU 80	-1.3	338.65	-81641	-0.0001614	0.0004492	0.0035	2.78	22565.22	65723.66	33847.83	99.95	Si	Si
SLU 80	0.7	8787.22	-77454	-0.0001952	0.0004492	0.0035	2.78	25831.59	64457.08	38747.38	4.41	Si	Si
SLU 81	-1.3	796.75	-83260	-0.0001677	0.0004492	0.0035	2.78	21174.02	66213.4	31761.02	39.86	Si	Si
SLU 81	0.7	8725.9	-79073	-0.0001993	0.0004492	0.0035	2.78	24625.32	64946.82	36937.98	4.23	Si	Si
SLU 74	-1.3	834.39	-81545	-0.0001637	0.0004492	0.0035	2.78	22645.45	65694.63	33968.17	40.71	Si	Si
SLU 74	0.7	8633.16	-77358	-0.0001942	0.0004492	0.0035	2.78	25900.85	64428.05	38851.28	4.5	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 9	-1.3	-31068.74	-32058	-0.0002718	0.0006738	0.0035	2.224		42559.31	42559.31	1.37		Si
SLV 9	0.7	11106.56	-28294	-0.0000905	0.0006738	0.0035	2.78		34689.92	34689.92	3.12		Si
SLV 10	-1.3	-29537.62	-32381	-0.0002371	0.0006738	0.0035	2.224		42883.29	42883.29	1.45		Si
SLV 10	0.7	10421.28	-28617	-0.0000885	0.0006738	0.0035	2.78		35021.53	35021.53	3.36		Si
SLV 5	-1.3	-31082.85	-39069	-0.0002294	0.0006738	0.0035	2.224		49413.6	49413.6	1.59		Si
SLV 5	0.7	11662.34	-35285	-0.0001059	0.0006738	0.0035	2.78		41854.25	41854.25	3.59		Si
SLV 6	-1.3	-29551.73	-39393	-0.0002127	0.0006738	0.0035	2.224		49718.79	49718.79	1.68		Si
SLV 6	0.7	10977.06	-35609	-0.0001038	0.0006738	0.0035	2.78		42185.85	42185.85	3.84		Si
SLV 11	-1.3	30048.84	-72409	-0.0002655	0.0006738	0.0035	2.78		71471.06	71471.06	2.38		Si
SLV 11	0.7	1197.87	-69797	-0.0001303	0.0006738	0.0035	2.78		70001.08	70001.08	58.44		Si
SLV 12	-1.3	31579.95	-72733	-0.0002736	0.0006738	0.0035	2.78		71653.15	71653.15	2.27		Si
SLV 12	0.7	512.6	-70121	-0.000128	0.0006738	0.0035	2.78		70183.18	70183.18	136.92		Si
SLD 9	-1.3	-19139.27	-41060	-0.0001475	0.0006738	0.0035	2.78		51290.54	51290.54	2.68		Si
SLD 9	0.7	9231.36	-37539	-0.0001006	0.0006738	0.0035	2.78		44163.5	44163.5	4.78		Si
SLD 10	-1.3	-18180.8	-41262	-0.0001439	0.0006738	0.0035	2.78		51481.59	51481.59	2.83		Si
SLD 10	0.7	8802.38	-37742	-0.0000993	0.0006738	0.0035	2.78		44371.08	44371.08	5.04		Si
SLV 8	-1.3	31565.85	-79745	-0.0002916	0.0006738	0.0035	2.78		75598.54	75598.54	2.39		Si
SLV 8	0.7	1068.38	-77112	-0.0001445	0.0006738	0.0035	2.78		74117.34	74117.34	69.37		Si
SLV 7	-1.3	30034.73	-79421	-0.0002832	0.0006738	0.0035	2.78		75416.45	75416.45	2.51		Si
SLV 7	0.7	1753.66	-76789	-0.0001469	0.0006738	0.0035	2.78		73935.24	73935.24	42.16		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 5	-1.3	-829.28	-51448	-37417	-3411	2.78	2.78	-44864	10833	19031	88358	29972	14178	28546	Si	8.37	Si
SLU 5	0.7	5992.01	-48279	-35112	-3411	2.78	2.78	-42101	10833	18144	88358	29972	14178	27216	Si	7.98	Si
SLU 65	-1.3	-506.56	-72056	-52404	-4308	2.78	2.78	-62835	10833	24798	88358	29972	14178	37196	Si	8.63	Si
SLU 65	0.7	8108.67	-67869	-49359	-4308	2.78	2.78	-59184	10833	23626	88358	29972	14178	35439	Si	8.23	Si
SLU 47	-1.3	-1059.4	-63506	-46186	-4252	2.78	2.78	-55379	10833	22405	88358	29972	14178	33608	Si	7.9	Si
SLU 47	0.7	7444.59	-59422	-43216	-4252	2.78	2.78	-51818	10833	21262	88358	29972	14178	31893	Si	7.5	Si
SLU 52	-1.3	-892.86	-69997	-50907	-4403	2.78	2.78	-61040	10833	24221	88358	29972	14178	36332	Si	8.25	Si
SLU 52	0.7	7912.52	-65913	-47937	-4403	2.78	2.78	-57478	10833	23079	88358	29972	14178	34618	Si	7.86	Si
SLU 44	-1.3	-1163.37	-62550	-45491	-4257	2.78	2.78	-54545	10833	22138	88358	29972	14178	33206	Si	7.8	Si
SLU 44	0.7	7349.43	-58466	-42521	-4257	2.78	2.78	-50984	10833	20995	88358	29972	14178	31492	Si	7.4	Si
SLU 46	-1.3	-643.05	-64253	-46729	-4033	2.78	2.78	-56030	10833	22614	88358	29972	14178	33921	Si	8.41	Si
SLU 46	0.7	7423.14	-60169	-43759	-4033	2.78	2.78	-52469	10833	21471	88358	29972	14178	32207	Si	7.99	Si
SLU 49	-1.3	-539.08	-65209	-47425	-4029	2.78	2.78	-56864	10833	22882	88358	29972	14178	34322	Si	8.52	Si
SLU 49	0.7	7518.3	-61125	-44455	-4029	2.78	2.78	-53303	10833	21739	88358	29972	14178	32608	Si	8.09	Si
SLU 51	-1.3	-588.68	-64688	-47046	-4027	2.78	2.78	-56410	10833	22736	88358	29972	14178	34104	Si	8.47	Si
SLU 51	0.7	7464.88	-60604	-44076	-4027	2.78	2.78	-52849	10833	21593	88358	29972	14178	32390	Si	8.04	Si
SLU 55	-1.3	-788.88	-70953	-51602	-4398	2.78	2.78	-61873	10833	24489	88358	29972	14178	36733	Si	8.35	Si
SLU 55	0.7	8007.68	-66869	-48632	-4398	2.78	2.78	-58312	10833	23346	88358	29972	14178	35019	Si	7.96	Si
SLU 2	-1.3	-933.26	-50492	-36721	-3415	2.78	2.78	-44030	10833	18763	88358	29972	14178	28145	Si	8.24	Si
SLU 2	0.7	5896.84	-47323	-34417	-3415	2.78	2.78	-41267	10833	17877	88358	29972	14178	26815	Si	7.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	-1.3	-31082.85	-39069	-28414	-21734	2.224	1.7833	0	0	0	88358	35966	11342	47309		2.18	Si
SLV 5	0.7	11662.34	-35285	-25662	-21721	2.78	2.78	-30770	16250	16825	88358	44958	14178	59136		2.72	Si
SLV 8	-1.3	31565.85	-79745	-57996	15617	2.78	2.78	-69540	16250	29266	88358	44958	14178	59136		3.79	Si
SLV 8	0.7	1068.38	-77112	-56082	15598	2.78	2.78	-67244	16250	28530	88358	44958	14178	59136		3.79	Si
SLV 6	-1.3	-29551.73	-39393	-28649	-20625	2.224	1.9195	0	0	0	88358	35966	11342	47309		2.29	Si
SLV 6	0.7	10977.06	-35609	-25898	-20613	2.78	2.78	-31052	16250	16916	88358	44958	14178	59136		2.87	Si
SLV 11	-1.3	30048.84	-72409	-52661	14786	2.78	2.78	-63143	16250	27214	88358	44958	14178	59136		4	Si
SLV 11	0.7	1197.87	-69797	-50761	14774	2.78	2.78	-60865	16250	26483	88358	44958	14178	59136		4	Si
SLD 5	-1.3	-19148.09	-45554	-33130	-14572	2.78	2.78	-39725	16250	19699	88358	44958	14178	59136		4.06	Si
SLD 5	0.7	9587.68	-42021	-30561	-14561	2.78	2.78	-36643	16250	18710	88358	44958	14178	59136		4.06	Si
SLV 7	-1.3	30034.73	-79421	-57761	14509	2.78	2.78	-69258	16250	29176	88358	44958	14178	59136		4.08	Si
SLV 7	0.7	1753.66	-76789	-55846	14489	2.78	2.78	-66962	16250	28439	88358	44958	14178	59136		4.08	Si
SLV 9	-1.3	-31068.74	-32058	-23315	-21456	2.224	1.2625	0	0	0	88358	35966	11342	47309		2.2	Si
SLV 9	0.7	11106.56	-28294	-20577	-21437	2.78	2.78	-24673	16250	14869	88358	44958	14178	59136		2.76	Si
SLV 12	-1.3	31579.95	-72733	-52897	15894	2.78	2.78	-63425	16250	27304	88358	44958	14178	59136		3.72	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.7	512.6	-70121	-50997	15882	2.78	2.78	-61147	16250	26573	88358	44958	14178	59136		3.72	Si
SLD 9	-1.3	-19139.27	-41060	-29862	-14394	2.78	2.7716	-35805	16250	18441	88358	44958	14178	59136		4.11	Si
SLD 9	0.7	9231.36	-37539	-27301	-14378	2.78	2.78	-32735	16250	17456	88358	44958	14178	59136		4.11	Si
SLV 10	-1.3	-29537.62	-32381	-23550	-20348	2.224	1.4335	0	0	0	88358	35966	11342	47309		2.32	Si
SLV 10	0.7	10421.28	-28617	-20813	-20329	2.78	2.78	-24955	16250	14960	88358	44958	14178	59136		2.91	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-29235	0.25	137.03	3546.58	5049.65	4298.12	31.37	Si
SLV 10	-29559	0.25	137.03	3576.45	5099.1	4337.77	31.66	Si
SLV 13	-35326	0.25	137.03	4074.31	5980.87	5027.59	36.69	Si
SLV 14	-35807	0.25	137.03	4112.86	6054.36	5083.61	37.1	Si
SLV 5	-36228	0.25	137.03	4146.23	6116.08	5131.15	37.45	Si
SLV 6	-36551	0.25	137.03	4171.66	6163.56	5167.61	37.71	Si
SLV 15	-47606	0.25	137.03	4916.93	7720.25	6318.59	46.11	Si
SLV 16	-48087	0.25	137.03	4943.9	7782.85	6363.38	46.44	Si
SLV 1	-58633	0.25	137.03	5421.38	9068.4	7244.89	52.87	Si
SLV 2	-59114	0.25	137.03	5437.94	9121.39	7279.66	53.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-49600	-73880	-432	0.347	5390.2	0.98	5.14968	3.62783	Si
SLV 3	-49169	-73400	-432	0.35	5346.2	0.98	5.18731	3.62783	Si
SLV 8	-54828	-79745	-130	0.326	5922.8	0.982	4.81818	2.98849	Si
SLV 7	-54538	-79421	-130	0.327	5893.2	0.982	4.83936	2.98849	Si
SLV 2	-40253	-61775	-431	0.412	4437.8	0.976	6.14033	3.62783	Si
SLV 1	-39821	-61294	-431	0.416	4393.9	0.976	6.19691	3.62783	Si
SLV 12	-50022	-72733	130	0.351	5433.1	0.98	5.1992	2.98849	Si
SLV 11	-49731	-72409	130	0.352	5403.5	0.98	5.22455	2.98849	Si
SLV 16	-33579	-50508	435	0.48	3758.1	0.972	7.17023	3.62783	Si
SLV 15	-33148	-50027	435	0.485	3714.1	0.972	7.25067	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.055	SLU 84	Si
V_SLU	7.398	SLU 44	Si
PF_SLV	1.37	SLV 9	Si
V_SLV	2.177	SLV 5	Si
PFFP_SLV	31.367	SLV 9	Si
R_SLV	1.419	SLV 4	Si

Maschio 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.543	-3.284	-24.603	-3.284	L2	L4	2.06	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 51	0.7	600.6	-22717	-0.0000421	0.0003743	0.0035	2.06	17766.6	19219.31	19219.31	32	No	Si
SLU 51	1.1	2686.35	-21555	-0.0000509	0.0003743	0.0035	2.06	17130.83	18546.85	18546.85	6.9	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 55	0.7	594.1	-25498	-0.0000473	0.0003743	0.0035	2.06	19167.7	20855.38	20855.38	35.1	No	Si
SLU 55	1.1	2878.78	-24340	-0.0000572	0.0003743	0.0035	2.06	18604.88	20169.71	20169.71	7.01	No	Si
SLU 49	0.7	612.18	-22873	-0.0000425	0.0003743	0.0035	2.06	17849.58	19309.97	19309.97	31.54	No	Si
SLU 49	1.1	2716.14	-21707	-0.0000513	0.0003743	0.0035	2.06	17215.61	18634.36	18634.36	6.86	No	Si
SLU 2	0.7	555.3	-18079	-0.0000335	0.0003743	0.0035	2.06	15054.53	15866.08	15866.08	28.57	No	Si
SLU 2	1.1	2253.44	-17140	-0.0000405	0.0003743	0.0035	2.06	14448.19	15134.73	15134.73	6.72	No	Si
SLU 65	0.7	609.71	-25587	-0.0000475	0.0003743	0.0035	2.06	19209.5	20907.88	20907.88	34.29	No	Si
SLU 65	1.1	2920.98	-24411	-0.0000576	0.0003743	0.0035	2.06	18639.83	20211.11	20211.11	6.92	No	Si
SLU 47	0.7	683.42	-22560	-0.0000423	0.0003743	0.0035	2.06	17682.3	19127.92	19127.92	27.99	No	Si
SLU 47	1.1	2798.91	-21359	-0.0000511	0.0003743	0.0035	2.06	17021.23	18434.67	18434.67	6.59	No	Si
SLU 46	0.7	594.64	-22620	-0.0000419	0.0003743	0.0035	2.06	17714.68	19162.93	19162.93	32.23	No	Si
SLU 46	1.1	2669.94	-21458	-0.0000506	0.0003743	0.0035	2.06	17076.79	18491.41	18491.41	6.93	No	Si
SLU 5	0.7	572.84	-18332	-0.000034	0.0003743	0.0035	2.06	15214.5	16063.96	16063.96	28.04	No	Si
SLU 5	1.1	2299.64	-17389	-0.0000412	0.0003743	0.0035	2.06	14610.42	15327.57	15327.57	6.67	No	Si
SLU 44	0.7	665.88	-22307	-0.0000417	0.0003743	0.0035	2.06	17545.67	18981.28	18981.28	28.51	No	Si
SLU 44	1.1	2752.71	-21111	-0.0000504	0.0003743	0.0035	2.06	16880.53	18269.69	18269.69	6.64	No	Si
SLU 68	0.7	627.25	-25840	-0.0000481	0.0003743	0.0035	2.06	19328.03	21058.17	21058.17	33.57	No	Si
SLU 68	1.1	2967.19	-24659	-0.0000583	0.0003743	0.0035	2.06	18262.65	20357.81	20357.81	6.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 9	0.7	698.79	-33248	-0.0000606	0.0005615	0.0035	2.06		28060.38	28060.38	40.16		Si
SLV 9	1.1	4686.75	-31392	-0.000078	0.0005615	0.0035	2.06		26965.6	26965.6	5.75		Si
SLV 12	0.7	-1482.04	-2856	-0.0000125	0.0005615	0.0035	2.06		3974.12	3974.12	2.68		Si
SLV 12	1.1	-1451.88	-2464	-0.0000125	0.0005615	0.0035	1.648		3586.63	3586.63	2.47		Si
SLV 6	0.7	2166.88	-35808	-0.000073	0.0005615	0.0035	2.06		29572.09	29572.09	13.65		Si
SLV 6	1.1	5252.86	-34756	-0.0000874	0.0005615	0.0035	2.06		28949	28949	5.51		Si
SLV 10	0.7	857.95	-32678	-0.0000604	0.0005615	0.0035	2.06		27725.46	27725.46	32.32		Si
SLV 10	1.1	4632.84	-31008	-0.000077	0.0005615	0.0035	2.06		26696.33	26696.33	5.76		Si
SLV 15	0.7	-2387.9	-10350	-0.0000286	0.0005615	0.0035	2.06		11084.09	11084.09	4.64		Si
SLV 15	1.1	21.41	-8559	-0.0000142	0.0005615	0.0035	2.06		8606.41	8606.41	401.94		Si
SLD 6	0.7	1439.27	-29665	-0.0000579	0.0005615	0.0035	2.06		25668.38	25668.38	17.83		Si
SLD 6	1.1	3958.14	-28732	-0.0000692	0.0005615	0.0035	2.06		24936.86	24936.86	6.3		Si
SLD 5	0.7	1339.64	-30022	-0.000058	0.0005615	0.0035	2.06		25949.01	25949.01	19.37		Si
SLD 5	1.1	3991.89	-28972	-0.0000698	0.0005615	0.0035	2.06		25124.81	25124.81	6.29		Si
SLV 5	0.7	2007.72	-36378	-0.0000733	0.0005615	0.0035	2.06		29910.14	29910.14	14.9		Si
SLV 5	1.1	5306.76	-35139	-0.0000884	0.0005615	0.0035	2.06		29175.94	29175.94	5.5		Si
SLV 16	0.7	-2151.5	-9503	-0.0000026	0.0005615	0.0035	2.06		10310.76	10310.76	4.79		Si
SLV 16	1.1	-58.65	-7990	-0.0000134	0.0005615	0.0035	2.06		8900.8	8900.8	151.75		Si
SLV 11	0.7	-1641.2	-3426	-0.0000139	0.0005615	0.0035	2.06		4535.54	4535.54	2.76		Si
SLV 11	1.1	-1397.97	-2847	-0.0000118	0.0005615	0.0035	2.06		3965.9	3965.9	2.84		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	α_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	0.7	609.71	-25587	-22744	-6563	2.06	2.06	-24535	10216	9665	30925	27758	5253	14498	Si	2.21	Si
SLU 65	1.1	2920.98	-24411	-21698	-6370	2.06	2.06	-23407	10065	9367	30925	27758	5253	14051	Si	2.21	Si
SLU 70	0.7	556.01	-26153	-23247	-6532	2.06	2.06	-25078	10288	9809	30925	27758	5253	14713	Si	2.25	Si
SLU 70	1.1	2884.42	-25006	-22228	-6335	2.06	2.06	-23978	10142	9518	30925	27758	5253	14277	Si	2.25	Si
SLU 52	0.7	576.57	-25245	-22440	-6388	2.06	2.06	-24207	10172	9579	30925	27758	5253	14368	Si	2.25	Si
SLU 52	1.1	2832.58	-24092	-21415	-6200	2.06	2.06	-23102	10025	9293	30925	27758	5253	13939	Si	2.25	Si
SLU 72	0.7	544.43	-25997	-23108	-6476	2.06	2.06	-24928	10268	9769	30925	27758	5253	14654	Si	2.26	Si
SLU 72	1.1	2854.63	-24854	-22093	-6280	2.06	2.06	-23832	10122	9480	30925	27758	5253	14220	Si	2.26	Si
SLU 68	0.7	627.25	-25840	-22969	-6647	2.06	2.06	-24777	10248	9729	30925	27758	5253	14594	Si	2.2	Si
SLU 68	1.1	2967.19	-24659	-21919	-6452	2.06	2.06	-23645	10097	9430	30925	27758	5253	14145	Si	2.19	Si
SLU 76	0.7	537.93	-28778	-25580	-6971	2.06	2.06	-27595	10624	10474	30925	27758	5253	15711	Si	2.25	Si
SLU 76	1.1	3047.06	-27640	-24569	-6757	2.06	2.06	-26504	10478	10186	30925	27758	5253	15279	Si	2.26	Si
SLU 67	0.7	538.47	-25900	-23022	-6448	2.06	2.06	-24835	10256	9745	30925	27758	5253	14617	Si	2.27	Si
SLU 67	1.1	2838.22	-24758	-22007	-6253	2.06	2.06	-23740	10110	9455	30925	27758	5253	14183	Si	2.27	Si
SLU 55	0.7	594.1	-25498	-22665	-6473	2.06	2.06	-24450	10204	9643	30925	27758	5253	14464	Si	2.23	Si
SLU 55	1.1	2878.78	-24340	-21636	-6282	2.06	2.06	-23340	10056	9350	30925	27758	5253	14024	Si	2.23	Si
SLU 47	0.7	683.42	-22560	-20053	-6149	2.06	2.06	-21632	9829	9111	30925	27758	5253	13667	Si	2.22	Si
SLU 47	1.1	2798.91	-21359	-18986	-5977	2.06	2.06	-20481	9675	8969	30925	27758	5253	13453	Si	2.25	Si
SLU 44	0.7	665.88	-22307	-19828	-6065	2.06	2.06	-21390	9796	9081	30925	27758	5253	13622	Si	2.25	Si
SLU 44	1.1	2752.71	-21111	-18765	-5895	2.06	2.06	-20243	9644	8940	30925	27758	5253	13409	Si	2.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	0.7	698.79	-33248	-29554	-16221	2.06	2.06	-31881	16250	15064	30925	41638	5253	45989		2.84	Si
SLV 9	1.1	4686.75	-31392	-27904	-15936	2.06	2.06	-30101	16250	15064	30925	41638	5253	45989		2.89	Si
SLV 14	0.7	-1449.5	-18450	-16400	-10509	2.06	2.06	-17691	13955	12936	30925	41638	5253	43862		4.17	Si
SLV 14	1.1	1766.76	-16553	-14714	-10260	2.06	2.06	-15872	13591	12599	30925	41638	5253	43524		4.24	Si
SLV 10	0.7	857.95	-32678	-29047	-15208	2.06	2.06	-31334	16250	15064	30925	41638	5253	45989		3.02	Si
SLV 10	1.1	4632.84	-31008	-27563	-14923	2.06	2.06	-29734	16250	15064	30925	41638	5253	45989		3.08	Si
SLD 9	0.7	509.81	-28021	-24907	-11788	2.06	2.06	-26869	15790	14638	30925	41638	5253	45563		3.87	Si
SLD 9	1.1	3600.87	-26579	-23626	-11556	2.06	2.06	-25486	15514	14381	30925	41638	5253	45307		3.92	Si
SLV 6	0.7	2166.88	-35808	-31829	-12986	2.06	2.06	-34336	16250	15064	30925	41638	5253	45989		3.54	Si
SLV 6	1.1	5252.86	-34756	-30894	-12743	2.06	2.06	-33327	16250	15064	30925	41638	5253	45989		3.61	Si
SLD 10	0.7	609.45	-27664	-24590	-11154	2.06	2.06	-26526	15722	14574	30925	41638	5253	45500		4.08	Si
SLD 10	1.1	3567.12	-26339	-23412	-10923	2.06	2.06	-25256	15468	14339	30925	41638	5253	45264		4.14	Si
SLD 6	0.7	1439.27	-29665	-26369	-9733	2.06	2.06	-28445	16106	14930	30925	41638	5253	45855		4.71	Si
SLD 6	1.1	3958.14	-28732	-25539	-9522	2.06	2.06	-27551	15927	14764	30925	41638	5253	45690		4.8	Si
SLV 5	0.7	2007.72	-36378	-32336	-13999	2.06	2.06	-34883	16250	15064	30925	41638	5253	45989		3.29	Si
SLV 5	1.1	5306.76	-35139	-31235	-13755	2.06	2.06	-33695	16250	15064	30925	41638	5253	45989		3.34	Si
SLV 13	0.7	-1685.9	-19297	-17153	-12014	2.06	2.06	-18504	14117	13087	30925	41638	5253	44012		3.66	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	1.1	1846.83	-17123	-15220	-11763	2.06	2.06	-16419	13700	12700	30925	41638	5253	43626		3.71	Si
SLD 5	0.7	1339.64	-30022	-26686	-10367	2.06	2.06	-28788	16174	14994	30925	41638	5253	45919		4.43	Si
SLD 5	1.1	3991.89	-28972	-25753	-10156	2.06	2.06	-27781	15973	14807	30925	41638	5253	45732		4.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.25	2382	-2208	147.01	489.02	3.33	Si
SLV 11	179667	0.25	2921	-2708	147.01	597.69	4.07	Si
SLV 8	179667	0.25	6138	-5690	147.01	1228.69	8.36	Si
SLV 7	179667	0.25	6677	-6190	147.01	1331.83	9.06	Si
SLV 16	179667	0.25	8536	-7912	147.01	1680.81	11.43	Si
SLV 15	179667	0.25	9337	-8656	147.01	1828.45	12.44	Si
SLV 14	179667	0.25	17678	-16388	147.01	3260.44	22.18	Si
SLV 13	179667	0.25	18480	-17131	147.01	3388.06	23.05	Si
SLV 4	179667	0.25	21055	-19518	147.01	3786.08	25.75	Si
SLV 3	179667	0.25	21857	-20261	147.01	3906.31	26.57	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-32208	-32492	-1721	0.368	3656.3	0.969	5.51851	2.77912	Si
SLV 6	-31890	-32079	-1704	0.371	3623.9	0.968	5.56777	2.77912	Si
SLV 1	-26837	-28542	-1487	0.429	3109.6	0.964	6.47147	3.14871	Si
SLV 2	-26364	-27928	-1462	0.436	3061.5	0.963	6.57525	3.14871	Si
SLV 9	-28780	-28322	-1519	0.406	3307.4	0.966	6.11331	2.77912	Si
SLV 10	-28462	-27908	-1502	0.41	3275	0.965	6.17451	2.77912	Si
SLV 3	-18739	-20899	-1080	0.583	2286.3	0.952	8.89729	3.14871	Si
SLV 4	-18266	-20286	-1055	0.596	2238.2	0.951	9.10083	3.14871	Si
SLV 13	-15411	-14640	-812	0.692	1948.5	0.945	10.64706	3.14871	Si
SLV 14	-14938	-14026	-787	0.71	1900.5	0.944	10.94076	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.586	SLU 47	Si
V_SLU	2.192	SLU 68	Si
PF_SLV	2.47	SLV 12	Si
V_SLV	2.835	SLV 9	Si
PFFP_SLV	3.326	SLV 12	Si
R_SLV	1.986	SLV 5	Si

Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.313	-3.284	-21.543	-3.284	L2	L4	3.23	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 68	0.7	-17159.52	-38467	-0.0000798	0.0003743	0.0035	3.23	45975.54	52859.97	52859.97	3.08	No	Si
SLU 68	1.1	-12861.35	-37152	-0.0000686	0.0003743	0.0035	3.23	44936.67	51563.76	51563.76	4.01	No	Si
SLU 80	0.7	-18546.11	-43549	-0.0000897	0.0003743	0.0035	3.23	49634.27	57718.67	57718.67	3.11	No	Si
SLU 80	1.1	-13794.36	-42234	-0.0000772	0.0003743	0.0035	3.23	48741.32	56509.94	56509.94	4.1	No	Si
SLU 78	0.7	-18656.07	-43773	-0.0000902	0.0003743	0.0035	3.23	49782.65	57925.97	57925.97	3.1	No	Si
SLU 78	1.1	-13886.17	-42458	-0.0000777	0.0003743	0.0035	3.23	48896.14	56714.94	56714.94	4.08	No	Si
SLU 65	0.7	-16974.49	-38095	-0.0000789	0.0003743	0.0035	3.23	45685.28	52491.56	52491.56	3.09	No	Si
SLU 65	1.1	-12706.48	-36779	-0.0000678	0.0003743	0.0035	3.23	44635.72	51190.38	51190.38	4.03	No	Si
SLU 73	0.7	-18465.92	-42814	-0.0000885	0.0003743	0.0035	3.23	49140.1	57041.78	57041.78	3.09	No	Si
SLU 73	1.1	-13836.04	-41499	-0.0000763	0.0003743	0.0035	3.23	48226.05	55840.58	55840.58	4.04	No	Si
SLU 55	0.7	-16813.77	-38004	-0.0000784	0.0003743	0.0035	3.23	45614.07	52401.94	52401.94	3.12	No	Si
SLU 55	1.1	-12630.36	-36700	-0.0000675	0.0003743	0.0035	3.23	44571.41	51108.96	51108.96	4.05	No	Si
SLU 44	0.7	-15137.31	-32912	-0.0000682	0.0003743	0.0035	3.23	41331.31	47107.06	47107.06	3.11	No	Si
SLU 44	1.1	-11345.93	-31608	-0.0000584	0.0003743	0.0035	3.23	40143.74	45685.69	45685.69	4.03	No	Si
SLU 76	0.7	-18650.95	-43187	-0.0000894	0.0003743	0.0035	3.23	49392	57384.27	57384.27	3.08	No	Si
SLU 76	1.1	-13990.91	-41871	-0.0000771	0.0003743	0.0035	3.23	48488.64	56179.26	56179.26	4.02	No	Si
SLU 70	0.7	-17164.65	-39054	-0.0000806	0.0003743	0.0035	3.23	46426.62	53442.64	53442.64	3.11	No	Si
SLU 70	1.1	-12756.61	-37738	-0.0000691	0.0003743	0.0035	3.23	45404.6	52139.99	52139.99	4.09	No	Si
SLU 47	0.7	-15322.34	-33284	-0.0000691	0.0003743	0.0035	3.23	41663.69	47498.56	47498.56	3.1	No	Si
SLU 47	1.1	-11500.8	-31980	-0.0000592	0.0003743	0.0035	3.23	40486.73	46098.12	46098.12	4.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 13	0.7	-20622.05	-31358	-0.000077	0.0005615	0.0035	3.23		47837.08	47837.08	2.32		Si
SLV 13	1.1	-12279.17	-29594	-0.0000565	0.0005615	0.0035	3.23		45560.18	45560.18	3.71		Si
SLV 10	0.7	-23642.86	-46931	-0.0001013	0.0005615	0.0035	3.23		66167.15	66167.15	2.8		Si
SLV 10	1.1	-17649.6	-45739	-0.0000869	0.0005615	0.0035	3.23		64853.71	64853.71	3.67		Si
SLD 15	0.7	-13908.12	-23500	-0.000053	0.0005615	0.0035	3.23		37539.59	37539.59	2.7		Si
SLD 15	1.1	-7941.27	-22007	-0.0000391	0.0005615	0.0035	3.23		35530.51	35530.51	4.47		Si
SLD 14	0.7	-16980.02	-30114	-0.0000669	0.0005615	0.0035	3.23		46233.38	46233.38	2.72		Si
SLD 14	1.1	-10871.41	-28639	-0.0000525	0.0005615	0.0035	3.23		44329.47	44329.47	4.08		Si
SLV 16	0.7	-13561.33	-19310	-0.0000487	0.0005615	0.0035	3.23		31805.93	31805.93	2.35		Si
SLV 16	1.1	-6913.25	-17516	-0.0000321	0.0005615	0.0035	3.23		29276.09	29276.09	4.23		Si
SLV 14	0.7	-19614.67	-30661	-0.0000737	0.0005615	0.0035	3.23		46943.31	46943.31	2.39		Si
SLV 14	1.1	-12000.65	-28897	-0.0000551	0.0005615	0.0035	3.23		44660.95	44660.95	3.72		Si
SLV 15	0.7	-14568.7	-20007	-0.0000521	0.0005615	0.0035	3.23		32793.52	32793.52	2.25		Si
SLV 15	1.1	-7191.76	-18213	-0.0000334	0.0005615	0.0035	3.23		30256.93	30256.93	4.21		Si
SLD 13	0.7	-17623.01	-30559	-0.0000688	0.0005615	0.0035	3.23		46810.07	46810.07	2.66		Si
SLD 13	1.1	-11049.18	-29084	-0.0000534	0.0005615	0.0035	3.23		44902.05	44902.05	4.06		Si
SLD 16	0.7	-13265.14	-23055	-0.0000511	0.0005615	0.0035	3.23		36939.64	36939.64	2.78		Si
SLD 16	1.1	-7763.5	-21562	-0.0000383	0.0005615	0.0035	3.23		34931.23	34931.23	4.5		Si
SLV 9	0.7	-24321.09	-47400	-0.0001033	0.0005615	0.0035	3.23		66685.91	66685.91	2.74		Si
SLV 9	1.1	-17837.12	-46208	-0.0000879	0.0005615	0.0035	3.23		65370.13	65370.13	3.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.7	-18565.47	-45185	-40164	-12158	3.23	3.23	-27633	10629	23062	30925	43524	8236	34593	Si	2.85	Si
SLU 83	1.1	-13596.47	-43869	-38995	-12158	3.23	3.23	-26828	10522	22594	30925	43524	8236	33892	Si	2.79	Si
SLU 77	0.7	-18221.28	-43758	-38896	-11891	3.23	3.23	-26761	10513	22555	30925	43524	8236	33833	Si	2.85	Si
SLU 77	1.1	-13359.05	-42443	-37727	-11891	3.23	3.23	-25956	10405	22087	30925	43524	8236	33131	Si	2.79	Si
SLU 56	0.7	-16384.09	-38576	-34289	-10689	3.23	3.23	-23591	10090	20712	30925	43524	8236	31069	Si	2.91	Si
SLU 56	1.1	-11998.5	-37272	-33131	-10689	3.23	3.23	-22794	9984	20249	30925	43524	8236	30373	Si	2.84	Si
SLU 64	0.7	-16249.83	-38070	-33840	-10790	3.23	3.23	-23282	10049	20533	30925	43524	8236	30799	Si	2.85	Si
SLU 64	1.1	-11827.95	-36754	-32671	-10790	3.23	3.23	-22477	9941	20065	30925	43524	8236	30097	Si	2.79	Si
SLU 71	0.7	-16619.89	-38815	-34502	-10941	3.23	3.23	-23737	10109	20797	30925	43524	8236	31196	Si	2.85	Si
SLU 71	1.1	-12137.68	-37499	-33333	-10941	3.23	3.23	-22933	10002	20330	30925	43524	8236	30494	Si	2.79	Si
SLU 74	0.7	-18036.25	-43386	-38565	-11816	3.23	3.23	-26533	10482	22423	30925	43524	8236	33634	Si	2.85	Si
SLU 74	1.1	-13204.18	-42071	-37396	-11816	3.23	3.23	-25728	10375	21955	30925	43524	8236	32932	Si	2.79	Si
SLU 81	0.7	-18380.44	-44812	-39833	-12083	3.23	3.23	-27405	10598	22930	30925	43524	8236	34395	Si	2.85	Si
SLU 81	1.1	-13441.61	-43497	-38664	-12083	3.23	3.23	-26601	10491	22462	30925	43524	8236	33693	Si	2.79	Si
SLU 66	0.7	-16544.82	-38666	-34370	-10911	3.23	3.23	-23646	10097	20745	30925	43524	8236	31117	Si	2.85	Si
SLU 66	1.1	-12074.62	-37351	-33201	-10911	3.23	3.23	-22842	9990	20277	30925	43524	8236	30415	Si	2.79	Si
SLU 79	0.7	-18111.32	-43534	-38697	-11846	3.23	3.23	-26623	10494	22475	30925	43524	8236	33713	Si	2.85	Si
SLU 79	1.1	-13267.24	-42219	-37528	-11846	3.23	3.23	-25819	10387	22008	30925	43524	8236	33011	Si	2.79	Si
SLU 69	0.7	-16729.85	-39039	-34701	-10986	3.23	3.23	-23874	10128	20877	30925	43524	8236	31316	Si	2.85	Si
SLU 69	1.1	-12229.49	-37723	-33532	-10986	3.23	3.23	-23070	10020	20409	30925	43524	8236	30614	Si	2.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	0.7	-16980.02	-30114	-26768	-16728	3.23	3.1534	-19041	14225	21202	30925	65286	8236	52128		3.12	Si
SLD 14	1.1	-10871.41	-28639	-25457	-16728	3.23	3.23	-17514	13920	20678	30925	65286	8236	51603		3.08	Si
SLV 16	0.7	-13561.33	-19310	-17164	-19223	3.23	2.7381	-14026	13222	17361	30925	65286	8236	48286		2.51	Si
SLV 16	1.1	-6913.25	-17516	-15570	-19047	3.23	3.23	-10712	12559	18255	30925	65286	8236	49180		2.58	Si
SLV 10	0.7	-23642.86	-46931	-41716	-15394	3.23	3.23	-28701	16157	27182	30925	65286	8236	58107		3.77	Si
SLV 10	1.1	-17649.6	-45739	-40657	-15653	3.23	3.23	-27972	16011	26758	30925	65286	8236	57683		3.69	Si
SLV 13	0.7	-20622.05	-31358	-27874	-23335	3.23	2.8721	-21761	14769	21645	30925	65286	8236	52570		2.25	Si
SLV 13	1.1	-12279.17	-29594	-26305	-23331	3.23	3.23	-18098	14036	21017	30925	65286	8236	51943		2.23	Si
SLV 14	0.7	-19614.67	-30661	-27255	-21513	3.23	2.9258	-20892	14595	21397	30925	65286	8236	52323		2.43	Si
SLV 14	1.1	-12000.65	-28897	-25686	-21509	3.23	3.23	-17672	13951	20770	30925	65286	8236	51695		2.4	Si
SLD 16	0.7	-13265.14	-23055	-20493	-15291	3.23	3.1189	-14705	13358	18748	30925	65286	8236	49673		3.25	Si
SLD 16	1.1	-7763.5	-21562	-19166	-15181	3.23	3.23	-13186	13054	18974	30925	65286	8236	49899		3.29	Si
SLV 15	0.7	-14568.7	-20007	-17784	-21045	3.23	2.6604	-14963	13409	17609	30925	65286	8236	48534		2.31	Si
SLV 15	1.1	-7191.76	-18213	-16189	-20869	3.23	3.23	-11138	12644	18378	30925	65286	8236	49304		2.36	Si
SLD 15	0.7	-13908.12	-23500	-20889	-16454	3.23	3.0695	-15233	13463	18851	30925	65286	8236	49776		3.03	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	1.1	-7941.27	-22007	-19561	-16344	3.23	3.23	-13458	13108	19053	30925	65286	8236	49978		3.06	Si
SLD 13	0.7	-17623.01	-30559	-27163	-17892	3.23	3.1149	-19565	14330	21361	30925	65286	8236	52286		2.92	Si
SLD 13	1.1	-11049.18	-29084	-25852	-17891	3.23	3.23	-17786	13974	20836	30925	65286	8236	51762		2.89	Si
SLV 9	0.7	-24321.09	-47400	-42134	-16620	3.23	3.23	-28988	16214	27348	30925	65286	8236	58274		3.51	Si
SLV 9	1.1	-17837.12	-46208	-41074	-16880	3.23	3.23	-28259	16068	26925	30925	65286	8236	57850		3.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.25	3802	-5527	230.51	1212.54	5.26	Si
SLV 11	179667	0.25	4100	-5959	230.51	1304.78	5.66	Si
SLV 8	179667	0.25	5682	-8259	230.51	1789.17	7.76	Si
SLV 7	179667	0.25	5980	-8692	230.51	1879.02	8.15	Si
SLV 16	179667	0.25	9529	-13850	230.51	2921.79	12.68	Si
SLV 15	179667	0.25	9970	-14492	230.51	3047.82	13.22	Si
SLV 4	179667	0.25	15795	-22958	230.51	4631.35	20.09	Si
SLV 3	179667	0.25	16237	-23600	230.51	4745.53	20.59	Si
SLV 14	179667	0.25	16379	-23807	230.51	4781.99	20.75	Si
SLV 13	179667	0.25	16821	-24449	230.51	4895.06	21.24	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-41106	-43263	-2001	0.444	4776.7	0.963	6.70193	2.77912	Si
SLV 6	-40768	-42808	-1989	0.447	4742.4	0.963	6.74968	2.77912	Si
SLV 9	-38891	-39778	-1895	0.466	4551.4	0.961	7.03886	2.77912	Si
SLV 10	-38553	-39322	-1882	0.469	4517.1	0.961	7.09195	2.77912	Si
SLV 1	-32361	-35536	-1406	0.549	3887.5	0.955	8.3539	3.14871	Si
SLV 2	-31860	-34859	-1388	0.556	3836.6	0.955	8.46721	3.14871	Si
SLV 13	-24977	-23917	-1050	0.682	3137.7	0.946	10.48485	3.14871	Si
SLV 14	-24476	-23240	-1031	0.694	3086.9	0.945	10.66818	3.14871	Si
SLV 3	-22580	-25332	-786	0.747	2894.7	0.942	11.53032	3.14871	Si
SLV 4	-22079	-24655	-768	0.761	2843.9	0.941	11.75234	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.077	SLU 76	Si
V_SLU	2.786	SLU 77	Si
PF_SLV	2.251	SLV 15	Si
V_SLV	2.226	SLV 13	Si
PFFP_SLV	5.26	SLV 12	Si
R_SLV	2.412	SLV 5	Si

Maschio 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.523	-3.284	-17.313	-3.284	L2	L4	0.79	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε_fd	γ_F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	0.7	3650.76	-24400	-0.0003053	0.0003743	0.0035	0.79	3140.58	5930.25	4710.86	1.29	Si	Si
SLU 79	1.1	2938.74	-20268	-0.0002219	0.0003743	0.0035	0.79	3522.68	5424.87	5284.02	1.8	Si	Si
SLU 77	0.7	3668.52	-24519	-0.000308	0.0003743	0.0035	0.79	3124.01	5939.36	4686.02	1.28	Si	Si
SLU 77	1.1	2956.43	-20374	-0.0002237	0.0003743	0.0035	0.79	3517.58	5440.04	5276.37	1.78	Si	Si
SLU 81	0.7	3754.52	-25119	-0.0003218	0.0003743	0.0035	0.79	3035.93	5985.2	4553.89	1.21	Si	Si
SLU 81	1.1	3005.99	-20875	-0.0002301	0.0003743	0.0035	0.79	3489.91	5512.49	5234.87	1.74	Si	Si
SLU 78	0.7	3688.17	-24685	-0.0003113	0.0003743	0.0035	0.79	3100.53	5951.99	4650.8	1.26	Si	Si
SLU 78	1.1	2992.86	-20545	-0.0002271	0.0003743	0.0035	0.79	3508.73	5464.84	5263.09	1.76	Si	Si
SLU 82	0.7	3774.17	-25285	-0.0003253	0.0003743	0.0035	0.79	3010.28	5997.83	4515.42	1.2	Si	Si
SLU 82	1.1	3042.43	-21047	-0.0002336	0.0003743	0.0035	0.79	3479.18	5537.28	5218.77	1.72	Si	Si
SLU 84	0.7	3802.97	-25481	-0.0003302	0.0003743	0.0035	0.79	2979.09	6012.81	4468.64	1.18	Si	Si
SLU 84	1.1	3072.25	-21222	-0.0002367	0.0003743	0.0035	0.79	3467.58	5562.56	5201.37	1.69	Si	Si
SLU 80	0.7	3670.41	-24565	-0.0003085	0.0003743	0.0035	0.79	3117.52	5942.88	4676.29	1.27	Si	Si
SLU 80	1.1	2975.18	-20440	-0.0002253	0.0003743	0.0035	0.79	3514.22	5449.67	5271.33	1.77	Si	Si
SLU 83	0.7	3783.32	-25316	-0.0003266	0.0003743	0.0035	0.79	3005.45	6000.18	4508.17	1.19	Si	Si
SLU 83	1.1	3035.81	-21050	-0.0002332	0.0003743	0.0035	0.79	3478.97	5537.76	5218.45	1.72	Si	Si
SLU 76	0.7	3654.71	-24479	-0.0003063	0.0003743	0.0035	0.79	3129.57	5936.33	4694.35	1.28	Si	Si
SLU 76	1.1	2969.64	-20380	-0.0002245	0.0003743	0.0035	0.79	3517.27	5440.93	5275.91	1.78	Si	Si
SLU 75	0.7	3659.37	-24488	-0.0003068	0.0003743	0.0035	0.79	3128.31	5937.01	4692.46	1.28	Si	Si
SLU 75	1.1	2963.04	-20370	-0.0002241	0.0003743	0.0035	0.79	3517.74	5439.56	5276.62	1.78	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.7	3554.07	-25283	-0.0002551	0.0005615	0.0035	0.79		6971.33	6971.33	1.96		Si
SLV 5	1.1	3768.18	-22463	-0.0002534	0.0005615	0.0035	0.79		6522.85	6522.85	1.73		Si
SLD 9	0.7	2801.99	-20864	-0.0001958	0.0005615	0.0035	0.79		6178.44	6178.44	2.21		Si
SLD 9	1.1	3270.69	-18933	-0.000211	0.0005615	0.0035	0.79		5762.59	5762.59	1.76		Si
SLV 3	0.7	3108.65	-17129	-0.0001964	0.0005615	0.0035	0.79		5374.11	5374.11	1.73		Si
SLV 3	1.1	1042.45	-11849	-0.0000847	0.0005615	0.0035	0.79		3996.42	3996.42	3.83		Si
SLV 8	0.7	1991.17	-9721	-0.0001177	0.0005615	0.0035	0.79		3401.76	3401.76	1.71		Si
SLV 8	1.1	-59.75	-5278	-0.0000235	0.0005615	0.0035	0.79		2202.9	2202.9	36.87		Si
SLV 2	0.7	3718.53	-21980	-0.0002485	0.0005615	0.0035	0.79		6418.78	6418.78	1.73		Si
SLV 2	1.1	2006.12	-16604	-0.000142	0.0005615	0.0035	0.79		5261.02	5261.02	2.62		Si
SLV 13	0.7	1769.86	-15963	-0.0001302	0.0005615	0.0035	0.79		5122.87	5122.87	2.89		Si
SLV 13	1.1	3102.45	-15921	-0.0001944	0.0005615	0.0035	0.79		5113.77	5113.77	1.65		Si
SLV 9	0.7	3004.66	-23523	-0.0002194	0.0005615	0.0035	0.79		6709.35	6709.35	2.23		Si
SLV 9	1.1	4050.98	-22158	-0.0002719	0.0005615	0.0035	0.79		6457.19	6457.19	1.59		Si
SLV 10	0.7	3083.64	-23625	-0.0002234	0.0005615	0.0035	0.79		6724.52	6724.52	2.18		Si
SLV 10	1.1	3947.52	-21934	-0.0002638	0.0005615	0.0035	0.79		6408.98	6408.98	1.62		Si
SLV 4	0.7	3225.97	-17281	-0.0002043	0.0005615	0.0035	0.79		5406.71	5406.71	1.68		Si
SLV 4	1.1	888.78	-11516	-0.0000779	0.0005615	0.0035	0.79		3903.5	3903.5	4.39		Si
SLV 14	0.7	1887.17	-16114	-0.0001352	0.0005615	0.0035	0.79		5155.47	5155.47	2.73		Si
SLV 14	1.1	2948.78	-15588	-0.0001835	0.0005615	0.0035	0.79		5041.52	5041.52	1.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 63	0.7	3420.72	-22791	-18232	2796	0.79	0.7347	-51287	10833	6003	88358	10645	4029	9004	Si	3.22	Si
SLU 63	1.1	2726.86	-18835	-15068	-106	0.79	0.7507	-42386	10833	5159	88358	10645	4029	7738	Si	72.78	Si
SLU 53	0.7	3257.47	-21633	-17306	2665	0.79	0.7333	-48681	10833	5756	88358	10645	4029	8634	Si	3.24	Si
SLU 53	1.1	2581.22	-17812	-14250	-79	0.79	0.7503	-40083	10833	4941	88358	10645	4029	7411	Si	93.68	Si
SLU 83	0.7	3783.32	-25316	-20252	3075	0.79	0.7367	-56969	10833	6541	88358	10645	4029	9812	Si	3.19	Si
SLU 83	1.1	3035.81	-21050	-16840	-104	0.79	0.7523	-47370	10833	5631	88358	10645	4029	8447	Si	80.94	Si
SLU 81	0.7	3754.52	-25119	-20096	3068	0.79	0.7366	-56528	10833	6500	88358	10645	4029	9749	Si	3.18	Si
SLU 81	1.1	3005.99	-20875	-16700	-87	0.79	0.753	-46976	10833	5594	88358	10645	4029	8391	Si	96.73	Si
SLU 60	0.7	3372.27	-22429	-17943	2818	0.79	0.7339	-50473	10833	5926	88358	10645	4029	8888	Si	3.15	Si
SLU 60	1.1	2660.6	-18488	-14791	-39	0.79	0.7533	-41606	10833	5085	88358	10645	4029	7627	Si	197.21	Si
SLU 58	0.7	3268.51	-21710	-17368	2666	0.79	0.7333	-48854	10833	5772	88358	10645	4029	8658	Si	3.25	Si
SLU 58	1.1	2593.35	-17882	-14306	-87	0.79	0.7499	-40241	10833	4956	88358	10645	4029	7433	Si	85.25	Si
SLU 61	0.7	3391.93	-22595	-18076	2789	0.79	0.7346	-50846	10833	5961	88358	10645	4029	8941	Si	3.21	Si
SLU 61	1.1	2697.04	-18660	-14928	-89	0.79	0.7514	-41992	10833	5122	88358	10645	4029	7682	Si	86.6	Si
SLU 84	0.7	3802.97	-25481	-20385	3046	0.79	0.7373	-57341	10833	6577	88358	10645	4029	9865	Si	3.24	Si
SLU 84	1.1	3072.25	-21222	-16977	-154	0.79	0.7507	-47756	10833	5668	88358	10645	4029	8502	Si	55.07	Si
SLU 62	0.7	3401.07	-22625	-18100	2824	0.79	0.734	-50915	10833	5967	88358	10645	4029	8951	Si	3.17	Si
SLU 62	1.1	2690.42	-18663	-14931	-56	0.79	0.7525	-41999	10833	5122	88358	10645	4029	7683	Si	136.48	Si
SLU 82	0.7	3774.17	-25285	-20228	3040	0.79	0.7372	-56900	10833	6535	88358	10645	4029	9802	Si	3.22	Si
SLU 82	1.1	3042.43	-21047	-16837	-137	0.79	0.7513	-47363	10833	5631	88358	10645	4029	8446	Si	61.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	0.7	3601.22	-21829	-17463	5146	0.79	0.6901	-49122	16250	6368	88358	15968	4029	19997		3.89	Si
SLV 1	1.1	2159.79	-16937	-13549	995	0.79	0.79	-38114	16250	5777	88358	15968	4029	19997		20.1	Si
SLV 2	0.7	3718.53	-21980	-17584	5795	0.79	0.6775	-49463	16250	6400	88358	15968	4029	19997		3.45	Si
SLV 2	1.1	2006.12	-16604	-13283	1505	0.79	0.79	-37366	16250	5777	88358	15968	4029	19997		13.28	Si
SLD 2	0.7	3274.53	-20004	-16003	4438	0.79	0.6939	-45015	16250	5979	88358	15968	4029	19997		4.51	Si
SLD 2	1.1	1991.93	-15514	-12411	953	0.79	0.79	-34912	16250	5777	88358	15968	4029	19997		20.99	Si
SLV 8	0.7	1991.17	-9721	-7777	5416	0.79	0.5705	-21875	14792	3797	88358	15968	4029	19997		3.69	Si
SLV 8	1.1	-59.75	-5278	-4223	3843	0.79	0.79	-11878	12792	4548	88358	15968	4029	19997		5.2	Si
SLV 7	0.7	1912.18	-9619	-7695	4979	0.79	0.5886	-21646	14746	3906	88358	15968	4029	19997		4.02	Si
SLV 7	1.1	43.71	-5502	-4402	3499	0.79	0.79	-12382	12893	4583	88358	15968	4029	19997		5.71	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	0.7	3108.65	-17129	-13704	6336	0.79	0.6406	-38547	16250	5365	88358	15968	4029	19997		3.16	Si
SLV 3	1.1	1042.45	-11849	-9479	2841	0.79	0.79	-26663	15749	5599	88358	15968	4029	19997		7.04	Si
SLD 3	0.7	2896.6	-17004	-13603	4763	0.79	0.6739	-38264	16250	5339	88358	15968	4029	19997		4.2	Si
SLD 3	1.1	1398.47	-12580	-10064	1771	0.79	0.79	-28310	16079	5716	88358	15968	4029	19997		11.29	Si
SLV 4	0.7	3225.97	-17281	-13825	6985	0.79	0.625	-38888	16250	5398	88358	15968	4029	19997		2.86	Si
SLV 4	1.1	888.78	-11516	-9213	3351	0.79	0.79	-25915	15600	5546	88358	15968	4029	19997		5.97	Si
SLD 8	0.7	2193.84	-12380	-9904	4144	0.79	0.6534	-27859	15988	4701	88358	15968	4029	19997		4.83	Si
SLD 8	1.1	720.54	-8503	-6803	2365	0.79	0.79	-19136	14244	5064	88358	15968	4029	19997		8.45	Si
SLD 4	0.7	2971.48	-17100	-13680	5177	0.79	0.6637	-38482	16250	5359	88358	15968	4029	19997		3.86	Si
SLD 4	1.1	1300.39	-12368	-9894	2096	0.79	0.79	-27832	15983	5682	88358	15968	4029	19997		9.54	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-7975	0.25	56.38	1530.77	2007.56	1769.16	31.38	Si
SLV 11	-8024	0.25	56.38	1538.57	2018.89	1778.73	31.55	Si
SLV 8	-8984	0.25	56.38	1686.92	2239.41	1963.16	34.82	Si
SLV 7	-9033	0.25	56.38	1694.31	2250.48	1972.39	34.98	Si
SLV 16	-13316	0.25	56.38	2261.27	3191.67	2726.47	48.36	Si
SLV 15	-13389	0.25	56.38	2269.61	3206.34	2737.98	48.56	Si
SLV 4	-16680	0.25	56.38	2599.99	3840.76	3220.37	57.12	Si
SLV 3	-16753	0.25	56.38	2606.3	3853.86	3230.08	57.29	Si
SLV 14	-18914	0.25	56.38	2773.06	4228.34	3500.7	62.09	Si
SLV 13	-18987	0.25	56.38	2778.02	4240.59	3509.3	62.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 5	-13916	-38634	-727	0.333	1561.4	0.972	4.97656	2.77912	Si
SLV 6	-13777	-38519	-718	0.336	1547.3	0.971	5.02325	2.77912	Si
SLV 9	-13555	-39053	-705	0.341	1524.7	0.971	5.09758	2.77912	Si
SLV 10	-13416	-38938	-696	0.344	1510.6	0.971	5.14668	2.77912	Si
SLV 1	-10892	-28863	-535	0.414	1253.6	0.965	6.23651	3.14871	Si
SLV 2	-10685	-28691	-522	0.421	1232.6	0.965	6.34792	3.14871	Si
SLV 13	-9689	-30259	-462	0.459	1131.2	0.962	6.93882	3.14871	Si
SLV 14	-9483	-30087	-448	0.468	1110.2	0.961	7.07784	3.14871	Si
SLV 3	-7910	-20882	-347	0.549	950.3	0.955	8.35321	3.14871	Si
SLV 4	-7703	-20710	-333	0.562	929.3	0.954	8.55691	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.175	SLU 84	Si
V_SLU	3.154	SLU 60	Si
PF_SLV	1.594	SLV 9	Si
V_SLV	2.863	SLV 4	Si
PFFP_SLV	31.38	SLV 12	Si
R_SLV	1.791	SLV 5	Si

Maschio 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	1.046	-18.448	-3.284	L2	L4	4.33	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	-1.3	20040.64	-110098	-0.000175	0.0004492	0.0035	4.33	73021.09	151547.86	109531.63	5.47	Si	Si
SLU 77	1.59	5564.09	-72943	-0.0000938	0.0004492	0.0035	4.33	85346.27	119085.85	119085.85	21.4	No	Si
SLU 73	-1.3	21186.5	-108452	-0.0001747	0.0004492	0.0035	4.33	74364.1	150795.1	111546.15	5.26	Si	Si
SLU 73	1.59	5726.33	-71737	-0.0000925	0.0004492	0.0035	4.33	85115.25	117631.29	117631.29	20.54	No	Si
SLU 80	-1.3	20783.85	-110041	-0.0001764	0.0004492	0.0035	4.33	73068.55	151521.94	109602.82	5.27	Si	Si
SLU 80	1.59	5678.57	-73001	-0.000094	0.0004492	0.0035	4.33	85356.41	119156.02	119156.02	20.98	No	Si
SLU 81	-1.3	20701.64	-111746	-0.000179	0.0004492	0.0035	4.33	71601.9	152301.8	107402.85	5.19	Si	Si
SLU 81	1.59	5624.5	-73812	-0.000095	0.0004492	0.0035	4.33	85488.14	120134.03	120134.03	21.36	No	Si
SLU 82	-1.3	21503.19	-112256	-0.0001816	0.0004492	0.0035	4.33	71148.02	152534.95	106722.03	4.96	Si	Si
SLU 82	1.59	5762.23	-74337	-0.0000959	0.0004492	0.0035	4.33	85563.82	120766.98	120766.98	20.96	No	Si
SLU 83	-1.3	20767.5	-112711	-0.0001807	0.0004492	0.0035	4.33	70737.15	152742.94	106105.72	5.11	Si	Si
SLU 83	1.59	5646.53	-74620	-0.0000961	0.0004492	0.0035	4.33	85601.42	121107.38	121107.38	21.45	No	Si
SLU 84	-1.3	21569.05	-113220	-0.0001833	0.0004492	0.0035	4.33	70269.86	152976.09	105404.79	4.89	Si	Si
SLU 84	1.59	5784.26	-75144	-0.000097	0.0004492	0.0035	4.33	85665.55	121740.33	121740.33	21.05	No	Si
SLU 75	-1.3	20776.34	-109643	-0.0001758	0.0004492	0.0035	4.33	73399.55	151339.87	110099.32	5.3	Si	Si
SLU 75	1.59	5679.79	-72661	-0.0000936	0.0004492	0.0035	4.33	85295.76	118745.45	118745.45	20.91	No	Si
SLU 78	-1.3	20842.19	-110608	-0.0001775	0.0004492	0.0035	4.33	72590.13	151781.01	108885.19	5.22	Si	Si
SLU 78	1.59	5701.82	-73468	-0.0000947	0.0004492	0.0035	4.33	85434.4	119718.81	119718.81	21	No	Si
SLU 76	-1.3	21252.36	-109417	-0.0001764	0.0004492	0.0035	4.33	73586.01	151236.24	110379.02	5.19	Si	Si
SLU 76	1.59	5748.36	-72544	-0.0000936	0.0004492	0.0035	4.33	85274.23	118604.64	118604.64	20.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	-1.3	41289.13	-91694	-0.0001756	0.0006738	0.0035	4.33		151337.66	151337.66	3.67		Si
SLD 9	1.59	6599.17	-63265	-0.0000807	0.0006738	0.0035	4.33		114557.29	114557.29	17.36		Si
SLV 11	-1.3	-30120.83	-42562	-0.0000938	0.0006738	0.0035	4.33		91701.69	91701.69	3.04		Si
SLV 11	1.59	641.23	-23707	-0.0000264	0.0006738	0.0035	4.33		49525.64	49525.64	77.24		Si
SLV 8	-1.3	-30305.69	-49557	-0.0001026	0.0006738	0.0035	4.33		103117.51	103117.51	3.4		Si
SLV 8	1.59	-187.9	-26845	-0.0000291	0.0006738	0.0035	4.33		64194.7	64194.7	341.65		Si
SLD 5	-1.3	42244.96	-96597	-0.0001841	0.0006738	0.0035	4.33		157351.42	157351.42	3.72		Si
SLD 5	1.59	5932.54	-65800	-0.0000826	0.0006738	0.0035	4.33		118560.16	118560.16	19.98		Si
SLV 5	-1.3	59656.5	-109369	-0.0002348	0.0006738	0.0035	4.33		170560.23	170560.23	2.86		Si
SLV 5	1.59	7180.27	-75873	-0.0000967	0.0006738	0.0035	4.33		131934.17	131934.17	18.37		Si
SLV 7	-1.3	-28630.12	-50211	-0.0001007	0.0006738	0.0035	4.33		104131.27	104131.27	3.64		Si
SLV 7	1.59	-391.9	-27667	-0.0000303	0.0006738	0.0035	4.33		65694.06	65694.06	167.63		Si
SLV 12	-1.3	-31796.4	-41907	-0.0000958	0.0006738	0.0035	4.33		90627.65	90627.65	2.85		Si
SLV 12	1.59	845.24	-22885	-0.0000258	0.0006738	0.0035	4.33		47975.56	47975.56	56.76		Si
SLV 6	-1.3	57980.93	-108714	-0.0002306	0.0006738	0.0035	4.33		169996.51	169996.51	2.93		Si
SLV 6	1.59	7384.28	-75051	-0.0000961	0.0006738	0.0035	4.33		130926.25	130926.25	17.73		Si
SLV 10	-1.3	56490.21	-101065	-0.0002165	0.0006738	0.0035	4.33		162830.42	162830.42	2.88		Si
SLV 10	1.59	8417.41	-71091	-0.000093	0.0006738	0.0035	4.33		126068.88	126068.88	14.98		Si
SLV 9	-1.3	58165.78	-101720	-0.0002205	0.0006738	0.0035	4.33		163633.48	163633.48	2.81		Si
SLV 9	1.59	8213.4	-71913	-0.0000936	0.0006738	0.0035	4.33		127076.8	127076.8	15.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	-1.3	18054.84	-100430	-73040	-3029	4.33	4.33	-56228	10833	36719	88358	46683	22083	55078	Si	18.18	Si
SLU 69	1.59	5266.09	-66059	-48043	-2293	4.33	4.33	-36985	10833	26721	88358	46683	22083	40081	Si	17.48	Si
SLU 43	-1.3	16138.22	-86748	-63089	-2880	4.33	4.33	-48568	10833	32739	88358	46683	22083	49108	Si	17.05	Si
SLU 43	1.59	4873.68	-55779	-40567	-2261	4.33	4.33	-31229	10833	23730	88358	46683	22083	35595	Si	15.74	Si
SLU 66	-1.3	17988.98	-99465	-72338	-3010	4.33	4.33	-55688	10833	36438	88358	46683	22083	54657	Si	18.16	Si
SLU 66	1.59	5244.06	-65252	-47456	-2285	4.33	4.33	-36533	10833	26486	88358	46683	22083	39729	Si	17.39	Si
SLU 48	-1.3	16328.29	-89243	-64904	-2927	4.33	4.33	-49965	10833	33465	88358	46683	22083	50197	Si	17.15	Si
SLU 48	1.59	4940.99	-57860	-42080	-2280	4.33	4.33	-32394	10833	24335	88358	46683	22083	36503	Si	16.01	Si
SLU 1	-1.3	12869.37	-69679	-50676	-2242	4.33	4.33	-39012	10833	27774	88358	46683	22083	41660	Si	18.58	Si
SLU 1	1.59	3834.72	-45069	-32778	-1743	4.33	4.33	-25233	10833	20615	88358	46683	22083	30922	Si	17.74	Si
SLU 71	-1.3	17996.49	-99863	-72628	-3021	4.33	4.33	-55911	10833	36554	88358	46683	22083	54831	Si	18.15	Si
SLU 71	1.59	5242.83	-65593	-47704	-2291	4.33	4.33	-36724	10833	26585	88358	46683	22083	39877	Si	17.4	Si
SLU 50	-1.3	16269.94	-88677	-64492	-2919	4.33	4.33	-49648	10833	33300	88358	46683	22083	49950	Si	17.11	Si
SLU 50	1.59	4917.74	-57393	-41741	-2278	4.33	4.33	-32133	10833	24200	88358	46683	22083	36299	Si	15.93	Si
SLU 45	-1.3	16262.43	-88279	-64203	-2908	4.33	4.33	-49425	10833	33184	88358	46683	22083	49776	Si	17.12	Si
SLU 45	1.59	4918.97	-57053	-41493	-2271	4.33	4.33	-31942	10833	24101	88358	46683	22083	36151	Si	15.92	Si
SLU 64	-1.3	17864.78	-97935	-71225	-2982	4.33	4.33	-54831	10833	35993	88358	46683	22083	53989	Si	18.11	Si
SLU 64	1.59	5198.77	-63979	-46530	-2274	4.33	4.33	-35820	10833	26115	88358	46683	22083	39173	Si	17.23	Si
SLU 53	-1.3	18248.23	-97947	-71234	-2893	4.33	4.33	-54838	10833	35996	88358	46683	22083	53995	Si	18.67	Si
SLU 53	1.59	5216.97	-63936	-46499	-2186	4.33	4.33	-35796	10833	26103	88358	46683	22083	39154	Si	17.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.3	57980.93	-108714	-79065	28937	4.33	4.33	-60866	16250	42881	88358	70024	22083	92107		3.18	Si
SLV 6	1.59	7384.28	-75051	-54583	29591	4.33	4.33	-42019	16250	33088	88358	70024	22083	92107		3.11	Si
SLV 5	-1.3	59656.5	-109369	-79541	30718	4.33	4.33	-61233	16250	43071	88358	70024	22083	92107		3	Si
SLV 5	1.59	7180.27	-75873	-55180	31389	4.33	4.33	-42479	16250	33327	88358	70024	22083	92107		2.93	Si
SLV 11	-1.3	-30120.83	-42562	-30954	-33471	4.33	4.33	-23829	16250	23637	88358	70024	22083	92107		2.75	Si
SLV 11	1.59	641.23	-23707	-17241	-33035	4.33	4.33	-13273	15155	19686	88358	70024	22083	92107		2.79	Si
SLV 9	-1.3	58165.78	-101720	-73978	30317	4.33	4.33	-56950	16250	40846	88358	70024	22083	92107		3.04	Si
SLV 9	1.59	8213.4	-71913	-52300	30988	4.33	4.33	-40262	16250	32175	88358	70024	22083	92107		2.97	Si
SLV 7	-1.3	-28630.12	-50211	-36517	-33069	4.33	4.33	-28112	16250	25862	88358	70024	22083	92107		2.79	Si
SLV 7	1.59	-391.9	-27667	-20121	-32634	4.33	4.33	-15490	15598	20262	88358	70024	22083	92107		2.82	Si
SLD 8	-1.3	-13429.04	-59582	-43332	-22426	4.33	4.33	-33358	16250	28588	88358	70024	22083	92107		4.11	Si
SLD 8	1.59	1426.33	-35493	-25813	-21963	4.33	4.33	-19871	16250	21581	88358	70024	22083	92107		4.19	Si
SLD 12	-1.3	-14384.87	-54679	-39766	-22683	4.33	4.33	-30613	16250	27162	88358	70024	22083	92107		4.06	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	1.59	2092.97	-32958	-23970	-22220	4.33	4.33	-18452	16190	21031	88358	70024	22083	92107		4.15	Si
SLV 10	-1.3	56490.21	-101065	-73502	28536	4.33	4.33	-56583	16250	40655	88358	70024	22083	92107		3.23	Si
SLV 10	1.59	8417.41	-71091	-51702	29190	4.33	4.33	-39802	16250	31936	88358	70024	22083	92107		3.16	Si
SLV 8	-1.3	-30305.69	-49557	-36041	-34850	4.33	4.33	-27745	16250	25672	88358	70024	22083	92107		2.64	Si
SLV 8	1.59	-187.9	-26845	-19524	-34432	4.33	4.33	-15030	15506	20142	88358	70024	22083	92107		2.68	Si
SLV 12	-1.3	-31796.4	-41907	-30478	-35252	4.33	4.2188	-24346	16250	23447	88358	70024	22083	92107		2.61	Si
SLV 12	1.59	845.24	-22885	-16643	-34833	4.33	4.33	-12812	15062	19566	88358	70024	22083	92107		2.64	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-30786	0.25	213.43	4020.82	5576.7	4798.76	22.48	Si
SLV 11	-31605	0.25	213.43	4111.39	5704.8	4908.1	23	Si
SLV 8	-36368	0.25	213.43	4621.92	6449.76	5535.84	25.94	Si
SLV 7	-37186	0.25	213.43	4706.74	6576.98	5641.86	26.43	Si
SLV 16	-43266	0.25	213.43	5310.55	7518.04	6414.29	30.05	Si
SLV 15	-44482	0.25	213.43	5425.66	7703.96	6564.81	30.76	Si
SLV 14	-59716	0.25	213.43	6710.66	10008.09	8359.38	39.17	Si
SLV 13	-60931	0.25	213.43	6800.58	10185.6	8493.09	39.79	Si
SLV 4	-61872	0.25	213.43	6868.96	10323.15	8596.06	40.28	Si
SLV 3	-63088	0.25	213.43	6955.58	10500.72	8728.15	40.9	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-63821	-97748	386	0.411	7026.8	0.977	6.11129	3.62783	Si
SLV 2	-62600	-96775	386	0.417	6902.4	0.976	6.21263	3.62783	Si
SLV 5	-75873	-109369	126	0.359	8254.6	0.98	5.33015	2.98849	Si
SLV 6	-75051	-108714	126	0.363	8170.9	0.98	5.37903	2.98849	Si
SLV 9	-71913	-101720	-99	0.376	7851.1	0.979	5.58088	2.98849	Si
SLV 10	-71091	-101065	-99	0.38	7767.4	0.979	5.63519	2.98849	Si
SLV 13	-50619	-72248	-364	0.499	5682.2	0.972	7.46232	3.62783	Si
SLV 3	-49359	-80000	384	0.509	5553.8	0.971	7.62103	3.62783	Si
SLV 14	-49399	-71276	-364	0.509	5557.9	0.971	7.62159	3.62783	Si
SLV 4	-48139	-79028	384	0.52	5429.5	0.97	7.78823	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.887	SLV 84	Si
V_SLV	15.744	SLV 43	Si
PF_SLV	2.813	SLV 9	Si
V_SLV	2.613	SLV 12	Si
PFFP_SLV	22.484	SLV 12	Si
R_SLV	1.685	SLV 1	Si

Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.638	1.046	-24.603	1.046	L2	L4	4.965	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 80	-1.3	278.76	-176451	-0.0001307	0.0004492	0.0035	4.965	154914.37	266384.18	232371.56	833.58	Si	Si
SLU 80	0.8	-5629.73	-145560	-0.0001099	0.0004492	0.0035	4.965	168682.4	251628.88	251628.88	44.7	No	Si
SLU 84	-1.3	101.62	-181499	-0.000135	0.0004492	0.0035	4.965	151014.18	269029.84	226521.26	2229.11	Si	Si
SLU 84	0.8	-5947.14	-150399	-0.0001142	0.0004492	0.0035	4.965	167672.03	255803.91	251508.05	42.29	Si	Si
SLU 41	-1.3	-112.81	-154684	-0.0001119	0.0004492	0.0035	4.965	166421.67	258401.9	249632.51	2212.9	Si	Si
SLU 41	0.8	-5310.7	-129675	-0.0000966	0.0004492	0.0035	4.965	169005.62	237097.39	237097.39	44.65	No	Si
SLU 74	-1.3	322.1	-175684	-0.0001301	0.0004492	0.0035	4.965	155466.21	265982.34	233199.32	724	Si	Si
SLU 74	0.8	-5626.28	-144868	-0.0001093	0.0004492	0.0035	4.965	168792.05	250996.03	250996.03	44.61	No	Si
SLU 78	-1.3	291.15	-177462	-0.0001316	0.0004492	0.0035	4.965	154170.48	266913.97	231255.73	794.29	Si	Si
SLU 78	0.8	-5628.11	-146475	-0.0001106	0.0004492	0.0035	4.965	168524.03	252465.76	252465.76	44.86	No	Si
SLU 81	-1.3	132.57	-179722	-0.0001334	0.0004492	0.0035	4.965	152440.46	268098.21	228660.68	1724.79	Si	Si
SLU 81	0.8	-5945.31	-148792	-0.0001129	0.0004492	0.0035	4.965	168054.71	254585.82	252082.07	42.4	Si	Si
SLU 82	-1.3	73.84	-179780	-0.0001334	0.0004492	0.0035	4.965	152394.53	268128.8	228591.79	3095.97	Si	Si
SLU 82	0.8	-5879.08	-148856	-0.0001129	0.0004492	0.0035	4.965	168040.33	254644.53	252060.49	42.87	Si	Si
SLU 83	-1.3	160.36	-181441	-0.000135	0.0004492	0.0035	4.965	151061.93	268999.24	226592.89	1413.04	Si	Si
SLU 83	0.8	-6013.37	-150335	-0.0001142	0.0004492	0.0035	4.965	167688.22	255765	251532.33	41.83	Si	Si
SLU 79	-1.3	337.5	-176392	-0.0001307	0.0004492	0.0035	4.965	154956.76	266353.59	232435.14	688.69	Si	Si
SLU 79	0.8	-5695.96	-145496	-0.0001099	0.0004492	0.0035	4.965	168692.93	251570.17	251570.17	44.17	No	Si
SLU 77	-1.3	349.88	-177403	-0.0001316	0.0004492	0.0035	4.965	154213.95	266883.38	231320.92	661.14	Si	Si
SLU 77	0.8	-5694.34	-146411	-0.0001106	0.0004492	0.0035	4.965	168535.63	252407.05	252407.05	44.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	-1.3	33791.65	-155927	-0.0001388	0.0006738	0.0035	4.965		288372.8	288372.8	8.53		Si
SLV 3	0.8	-8210.04	-132693	-0.0000978	0.0006738	0.0035	4.965		268631.2	268631.2	32.72		Si
SLD 14	-1.3	-21002.54	-98949	-0.0000843	0.0006738	0.0035	4.965		217375.77	217375.77	10.35		Si
SLD 14	0.8	-748.26	-76553	-0.0000513	0.0006738	0.0035	4.965		178443.07	178443.07	238.48		Si
SLV 15	-1.3	-31403.28	-85420	-0.0000834	0.0006738	0.0035	4.965		194254.17	194254.17	6.19		Si
SLV 15	0.8	-606.83	-63590	-0.0000424	0.0006738	0.0035	4.965		153996.76	153996.76	253.77		Si
SLV 13	-1.3	-32874.45	-86566	-0.0000854	0.0006738	0.0035	4.965		196292.86	196292.86	5.97		Si
SLV 13	0.8	730.02	-64330	-0.000043	0.0006738	0.0035	4.965		142235.42	142235.42	194.84		Si
SLV 4	-1.3	33758.7	-155790	-0.0001386	0.0006738	0.0035	4.965		288179.98	288179.98	8.54		Si
SLV 4	0.8	-8082.47	-132570	-0.0000976	0.0006738	0.0035	4.965		268465.17	268465.17	33.22		Si
SLV 2	-1.3	32287.53	-156936	-0.0001382	0.0006738	0.0035	4.965		289792.36	289792.36	8.98		Si
SLV 2	0.8	-6745.61	-133311	-0.000097	0.0006738	0.0035	4.965		269469.83	269469.83	39.95		Si
SLV 1	-1.3	32320.48	-157074	-0.0001383	0.0006738	0.0035	4.965		289985.18	289985.18	8.97		Si
SLV 1	0.8	-6873.19	-133433	-0.0000972	0.0006738	0.0035	4.965		269635.87	269635.87	39.23		Si
SLV 14	-1.3	-32907.39	-86429	-0.0000854	0.0006738	0.0035	4.965		196049.06	196049.06	5.96		Si
SLV 14	0.8	857.6	-64208	-0.000043	0.0006738	0.0035	4.965		142013.26	142013.26	165.59		Si
SLD 13	-1.3	-20981.51	-99036	-0.0000843	0.0006738	0.0035	4.965		217522.16	217522.16	10.37		Si
SLD 13	0.8	-829.69	-76631	-0.0000515	0.0006738	0.0035	4.965		178590.21	178590.21	215.25		Si
SLV 16	-1.3	-31436.22	-85282	-0.0000833	0.0006738	0.0035	4.965		194010.37	194010.37	6.17		Si
SLV 16	0.8	-479.26	-63467	-0.0000422	0.0006738	0.0035	4.965		153753.35	153753.35	320.82		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	-1.3	885.47	-141424	-113140	-17584	4.965	4.965	-50639	10833	58161	88358	80293	25321	87241	Si	4.96	Si
SLU 51	0.8	-3976.4	-112938	-90351	-17427	4.965	4.965	-40439	10833	49046	88358	80293	25321	73568	Si	4.22	Si
SLU 47	-1.3	818.53	-139744	-111795	-17458	4.965	4.965	-50037	10833	57623	88358	80293	25321	86434	Si	4.95	Si
SLU 47	0.8	-3864.19	-111439	-89151	-17304	4.965	4.965	-39902	10833	48566	88358	80293	25321	72849	Si	4.21	Si
SLU 48	-1.3	956.59	-142377	-113902	-17639	4.965	4.965	-50980	10833	58466	88358	80293	25321	87698	Si	4.97	Si
SLU 48	0.8	-4041.01	-113789	-91031	-17479	4.965	4.965	-40744	10833	49318	88358	80293	25321	73977	Si	4.23	Si
SLU 50	-1.3	944.21	-141366	-113093	-17532	4.965	4.965	-50618	10833	58142	88358	80293	25321	87213	Si	4.97	Si
SLU 50	0.8	-4042.63	-112874	-90299	-17375	4.965	4.965	-40416	10833	49025	88358	80293	25321	73538	Si	4.23	Si
SLU 49	-1.3	897.85	-142435	-113948	-17691	4.965	4.965	-51001	10833	58484	88358	80293	25321	87726	Si	4.96	Si
SLU 49	0.8	-3974.78	-113853	-91083	-17531	4.965	4.965	-40767	10833	49338	88358	80293	25321	74007	Si	4.22	Si
SLU 44	-1.3	790.74	-138025	-110420	-17297	4.965	4.965	-49421	10833	57073	88358	80293	25321	85609	Si	4.95	Si
SLU 44	0.8	-3796.13	-109896	-87917	-17148	4.965	4.965	-39350	10833	48072	88358	80293	25321	72108	Si	4.21	Si
SLU 46	-1.3	870.07	-140716	-112573	-17530	4.965	4.965	-50385	10833	57934	88358	80293	25321	86901	Si	4.96	Si
SLU 46	0.8	-3906.72	-112311	-89849	-17374	4.965	4.965	-40214	10833	48845	88358	80293	25321	73267	Si	4.22	Si
SLU 65	-1.3	532.54	-157258	-125807	-18565	4.965	4.965	-56308	10833	63227	88358	80293	25321	94841	Si	5.11	Si
SLU 65	0.8	-4550.05	-127628	-102102	-18382	4.965	4.965	-45699	10833	53746	88358	80293	25321	80619	Si	4.39	Si
SLU 45	-1.3	928.8	-140658	-112526	-17477	4.965	4.965	-50364	10833	57915	88358	80293	25321	86873	Si	4.97	Si
SLU 45	0.8	-3972.95	-112247	-89797	-17323	4.965	4.965	-40191	10833	48824	88358	80293	25321	73236	Si	4.23	Si
SLU 43	-1.3	888.64	-137927	-110342	-17209	4.965	4.965	-49386	10833	57042	88358	80293	25321	85562	Si	4.97	Si
SLU 43	0.8	-3906.51	-109789	-87832	-17061	4.965	4.965	-39311	10833	48038	88358	80293	25321	72057	Si	4.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	-1.3	-20981.51	-99036	-79229	-25762	4.965	4.965	-35461	16250	51050	88358	120440	25321	139409		5.41	Si
SLD 13	0.8	-829.69	-76631	-61305	-25896	4.965	4.965	-27439	16250	43881	88358	120440	25321	132239		5.11	Si
SLD 15	-1.3	-20073.22	-98328	-78663	-24584	4.965	4.965	-35208	16250	50824	88358	120440	25321	139182		5.66	Si
SLD 15	0.8	-1661.87	-76174	-60939	-24736	4.965	4.965	-27275	16250	43735	88358	120440	25321	132093		5.34	Si
SLV 15	-1.3	-31403.28	-85420	-68336	-30407	4.965	4.965	-30586	16250	46693	88358	120440	25321	135052		4.44	Si
SLV 15	0.8	-606.83	-63590	-50872	-30785	4.965	4.965	-22769	16250	39708	88358	120440	25321	128066		4.16	Si
SLV 13	-1.3	-32874.45	-86566	-69253	-32310	4.965	4.965	-30996	16250	47060	88358	120440	25321	135419		4.19	Si
SLV 13	0.8	730.02	-64330	-51464	-32660	4.965	4.965	-23034	16250	39945	88358	120440	25321	128303		3.93	Si
SLV 16	-1.3	-31436.22	-85282	-68226	-30467	4.965	4.965	-30536	16250	46649	88358	120440	25321	135008		4.43	Si
SLV 16	0.8	-479.26	-63467	-50774	-30843	4.965	4.965	-22725	16250	39669	88358	120440	25321	128027		4.15	Si
SLD 16	-1.3	-20094.25	-98241	-78593	-24622	4.965	4.965	-35176	16250	50796	88358	120440	25321	139154		5.65	Si
SLD 16	0.8	-1580.44	-76096	-60877	-24773	4.965	4.965	-27247	16250	43710	88358	120440	25321	132068		5.33	Si
SLV 9	-1.3	-11777.96	-112559	-90047	-22479	4.965	4.965	-40303	16250	55377	88358	120440	25321	143736		6.39	Si
SLV 9	0.8	-350.6	-89360	-71488	-22444	4.965	4.965	-31997	16250	47954	88358	120440	25321	136313		6.07	Si
SLV 14	-1.3	-32907.39	-86429	-69143	-32370	4.965	4.965	-30947	16250	47016	88358	120440	25321	135375		4.18	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	0.8	857.6	-64208	-51366	-32718	4.965	4.965	-22990	16250	39906	88358	120440	25321	128264		3.92	Si
SLV 10	-1.3	-11800.14	-112467	-89973	-22519	4.965	4.965	-40270	16250	55348	88358	120440	25321	143706		6.38	Si
SLV 10	0.8	-264.7	-89278	-71422	-22483	4.965	4.965	-31967	16250	47928	88358	120440	25321	136286		6.06	Si
SLD 14	-1.3	-21002.54	-98949	-79159	-25800	4.965	4.965	-35430	16250	51022	88358	120440	25321	139381		5.4	Si
SLD 14	0.8	-748.26	-76553	-61242	-25933	4.965	4.965	-27411	16250	43856	88358	120440	25321	132214		5.1	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-70775	0.25	360.1	13172.15	17392.77	15282.46	42.44	Si
SLV 15	-70900	0.25	360.1	13190.55	17420.41	15305.48	42.5	Si
SLV 14	-71603	0.25	360.1	13293.63	17575.7	15434.67	42.86	Si
SLV 13	-71728	0.25	360.1	13311.92	17603.34	15457.63	42.93	Si
SLV 12	-92885	0.25	360.1	16158.67	22047	19102.83	53.05	Si
SLV 11	-92970	0.25	360.1	16169.02	22063.65	19116.33	53.09	Si
SLV 10	-95644	0.25	360.1	16493.66	22590.39	19542.02	54.27	Si
SLV 9	-95729	0.25	360.1	16503.75	22606.95	19555.35	54.31	Si
SLV 8	-112647	0.25	360.1	18373.34	25790.9	22082.12	61.32	Si
SLV 7	-112731	0.25	360.1	18381.86	25805.81	22093.84	61.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-117353	-157074	33	0.308	12858.4	0.978	4.57236	3.14871	Si
SLV 2	-117226	-156936	29	0.308	12845.4	0.978	4.57642	3.14871	Si
SLV 3	-116032	-155927	222	0.309	12723.7	0.978	4.58737	3.14871	Si
SLV 4	-115905	-155790	218	0.309	12710.8	0.978	4.59149	3.14871	Si
SLV 5	-99813	-133711	-270	0.344	11071.5	0.975	5.12377	2.77912	Si
SLV 6	-99727	-133619	-272	0.344	11062.8	0.975	5.12674	2.77912	Si
SLV 7	-95407	-129889	361	0.354	10622.8	0.974	5.28824	2.77912	Si
SLV 8	-95322	-129797	359	0.355	10614.1	0.974	5.2922	2.77912	Si
SLV 9	-83474	-112559	-339	0.391	9407.6	0.97	5.86258	2.77912	Si
SLV 10	-83388	-112467	-341	0.392	9398.9	0.97	5.86684	2.77912	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	41.829	SLV 83	Si
V_SLV	4.205	SLV 44	Si
PF_SLV	5.958	SLV 14	Si
V_SLV	3.92	SLV 14	Si
PFFP_SLV	42.439	SLV 16	Si
R_SLV	1.452	SLV 1	Si

Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-14.963	1.046	-18.838	1.046	L2	L4	3.875	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 79	-1.3	-15590.58	-136819	-0.0001568	0.0004492	0.0035	3.875	94861.5	164894.42	142292.24	9.13	Si	Si
SLU 79	0.8	-14301.17	-130751	-0.0001473	0.0004492	0.0035	3.875	97869.45	161910.48	146804.18	10.27	Si	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 81	-1.3	-15849.31	-139373	-0.0001604	0.0004492	0.0035	3.875	93395.53	166150.05	140093.3	8.84	Si	Si
SLU 81	0.8	-14705.16	-133437	-0.0001512	0.0004492	0.0035	3.875	96620.51	163231.42	144930.76	9.86	Si	Si
SLU 75	-1.3	-15688.15	-135969	-0.000156	0.0004492	0.0035	3.875	95323.16	164476.47	142984.74	9.11	Si	Si
SLU 75	0.8	-14076.13	-130038	-0.0001461	0.0004492	0.0035	3.875	98178.8	161560	147268.19	10.46	Si	Si
SLU 84	-1.3	-16176.71	-140688	-0.0001626	0.0004492	0.0035	3.875	92594.19	166774.82	138891.29	8.59	Si	Si
SLU 84	0.8	-14743.24	-134906	-0.000153	0.0004492	0.0035	3.875	95882.11	163953.68	143823.16	9.76	Si	Si
SLU 77	-1.3	-15681.47	-137644	-0.000158	0.0004492	0.0035	3.875	94401.33	165299.67	141601.99	9.03	Si	Si
SLU 77	0.8	-14382.97	-131585	-0.0001484	0.0004492	0.0035	3.875	97495.73	162320.61	146243.6	10.17	Si	Si
SLU 83	-1.3	-16009.67	-140868	-0.0001625	0.0004492	0.0035	3.875	92482.42	166817.06	138723.63	8.66	Si	Si
SLU 83	0.8	-14877.61	-134945	-0.0001533	0.0004492	0.0035	3.875	95861.97	163972.86	143792.95	9.67	Si	Si
SLU 82	-1.3	-16016.35	-139194	-0.0001605	0.0004492	0.0035	3.875	93502.43	166061.81	140253.64	8.76	Si	Si
SLU 82	0.8	-14570.78	-133398	-0.0001509	0.0004492	0.0035	3.875	96639.57	163212.25	144959.36	9.95	Si	Si
SLU 78	-1.3	-15848.51	-137464	-0.0001581	0.0004492	0.0035	3.875	94502.58	165211.43	141753.86	8.94	Si	Si
SLU 78	0.8	-14248.59	-131546	-0.0001481	0.0004492	0.0035	3.875	97513.48	162301.44	146270.23	10.27	Si	Si
SLU 80	-1.3	-15757.63	-136640	-0.0001569	0.0004492	0.0035	3.875	94960.05	164806.19	142440.08	9.04	Si	Si
SLU 80	0.8	-14166.79	-130712	-0.000147	0.0004492	0.0035	3.875	97886.62	161891.31	146829.92	10.36	Si	Si
SLU 76	-1.3	-15708.64	-135026	-0.0001549	0.0004492	0.0035	3.875	95820.36	164012.4	143730.53	9.15	Si	Si
SLU 76	0.8	-13904.75	-129178	-0.0001448	0.0004492	0.0035	3.875	98539.76	161137.1	147809.65	10.63	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 9	-1.3	-28908.95	-80280	-0.0001101	0.0006738	0.0035	3.875		135991.62	135991.62	4.7		Si
SLV 9	0.8	2139.88	-82605	-0.0000742	0.0006738	0.0035	3.875		132451.58	132451.58	61.9		Si
SLV 10	-1.3	-28711.77	-80376	-0.0001099	0.0006738	0.0035	3.875		136110.23	136110.23	4.74		Si
SLV 10	0.8	2130.9	-82359	-0.0000739	0.0006738	0.0035	3.875		132103.82	132103.82	61.99		Si
SLV 15	-1.3	-39637.58	-88912	-0.0001342	0.0006738	0.0035	3.875		146671.89	146671.89	3.7		Si
SLV 15	0.8	3532.39	-80989	-0.0000747	0.0006738	0.0035	3.875		130172.4	130172.4	36.85		Si
SLV 16	-1.3	-39344.72	-89055	-0.0001339	0.0006738	0.0035	3.875		146846.86	146846.86	3.73		Si
SLV 16	0.8	3519.05	-80623	-0.0000743	0.0006738	0.0035	3.875		129655.88	129655.88	36.84		Si
SLD 16	-1.3	-29075.64	-90486	-0.0001203	0.0006738	0.0035	3.875		148502.38	148502.38	5.11		Si
SLD 16	0.8	-1215.44	-83355	-0.0000736	0.0006738	0.0035	3.875		139795.91	139795.91	115.02		Si
SLD 15	-1.3	-29262.57	-90395	-0.0001204	0.0006738	0.0035	3.875		148397.27	148397.27	5.07		Si
SLD 15	0.8	-1206.93	-83589	-0.0000738	0.0006738	0.0035	3.875		140085.13	140085.13	116.07		Si
SLV 14	-1.3	-44572.57	-82628	-0.0001351	0.0006738	0.0035	3.875		138896.46	138896.46	3.12		Si
SLV 14	0.8	7802.09	-78621	-0.0000785	0.0006738	0.0035	3.875		126833.16	126833.16	16.26		Si
SLV 13	-1.3	-44865.43	-82485	-0.0001354	0.0006738	0.0035	3.875		138720.29	138720.29	3.09		Si
SLV 13	0.8	7815.43	-78988	-0.0000789	0.0006738	0.0035	3.875		127349.69	127349.69	16.29		Si
SLD 13	-1.3	-32498.93	-86418	-0.0001212	0.0006738	0.0035	3.875		143586.26	143586.26	4.42		Si
SLD 13	0.8	1442.74	-82353	-0.000073	0.0006738	0.0035	3.875		132095.21	132095.21	91.56		Si
SLD 14	-1.3	-32312.01	-86509	-0.0001211	0.0006738	0.0035	3.875		143698.7	143698.7	4.45		Si
SLD 14	0.8	1434.23	-82119	-0.0000727	0.0006738	0.0035	3.875		131765.52	131765.52	91.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 20	-1.3	-11815.84	-105162	-84130	1511	3.875	3.875	-48247	10833	43724	88358	62666	19763	65586	Si	43.4	Si
SLU 20	0.8	-11336.42	-100652	-80521	1530	3.875	3.875	-46177	10833	42280	88358	62666	19763	63421	Si	41.44	Si
SLU 58	-1.3	-13647.89	-121376	-97101	1580	3.875	3.875	-55685	10833	48912	88358	62666	19763	73368	Si	46.42	Si
SLU 58	0.8	-12869.35	-115148	-92119	1603	3.875	3.875	-52828	10833	46919	88358	62666	19763	70379	Si	43.92	Si
SLU 21	-1.3	-11982.88	-104983	-83986	1471	3.875	3.875	-48164	10833	43666	88358	62666	19763	65500	Si	44.52	Si
SLU 21	0.8	-11202.05	-100613	-80490	1491	3.875	3.875	-46159	10833	42268	88358	62666	19763	63402	Si	42.53	Si
SLU 61	-1.3	-14073.66	-123751	-99000	1707	3.875	3.875	-56774	10833	49672	88358	62666	19763	74508	Si	43.64	Si
SLU 61	0.8	-13138.96	-117796	-94237	1730	3.875	3.875	-54043	10833	47766	88358	62666	19763	71650	Si	41.41	Si
SLU 62	-1.3	-14066.97	-125425	-100340	1763	3.875	3.875	-57543	10833	50208	88358	62666	19763	75311	Si	42.72	Si
SLU 62	0.8	-13445.79	-119343	-95474	1786	3.875	3.875	-54752	10833	48261	88358	62666	19763	72392	Si	40.54	Si
SLU 63	-1.3	-14234.02	-125245	-100196	1723	3.875	3.875	-57460	10833	50150	88358	62666	19763	75225	Si	43.66	Si
SLU 63	0.8	-13311.42	-119304	-95443	1746	3.875	3.875	-54734	10833	48249	88358	62666	19763	72373	Si	41.45	Si
SLU 60	-1.3	-13906.61	-123930	-99144	1747	3.875	3.875	-56857	10833	49729	88358	62666	19763	74594	Si	42.69	Si
SLU 60	0.8	-13273.33	-117835	-94268	1770	3.875	3.875	-54060	10833	47779	88358	62666	19763	71668	Si	40.49	Si
SLU 18	-1.3	-11655.48	-103668	-82934	1496	3.875	3.875	-47561	10833	43246	88358	62666	19763	64868	Si	43.37	Si
SLU 18	0.8	-11163.96	-99144	-79315	1515	3.875	3.875	-45485	10833	41798	88358	62666	19763	62697	Si	41.39	Si
SLU 19	-1.3	-11822.52	-103488	-82791	1456	3.875	3.875	-47478	10833	43188	88358	62666	19763	64782	Si	44.5	Si
SLU 19	0.8	-11029.59	-99105	-79284	1475	3.875	3.875	-45467	10833	41785	88358	62666	19763	62678	Si	42.49	Si
SLU 53	-1.3	-13578.41	-120706	-96565	1568	3.875	3.875	-55378	10833	48697	88358	62666	19763	73046	Si	46.58	Si
SLU 53	0.8	-12778.69	-114475	-91580	1590	3.875	3.875	-52519	10833	46704	88358	62666	19763	70055	Si	44.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	-1.3	23241.85	-103968	-83175	24773	3.875	3.875	-47699	16250	48378	88358	93999	19763	113762		4.59	Si
SLV 3	0.8	-26954.03	-98169	-78535	24357	3.875	3.875	-45038	16250	46523	88358	93999	19763	113762		4.67	Si
SLD 3	-1.3	10981.29	-100087	-80069	16169	3.875	3.875	-45918	16250	47136	88358	93999	19763	113762		7.04	Si
SLD 3	0.8	-20586.17	-94671	-75737	15922	3.875	3.875	-43433	16250	45403	88358	93999	19763	113762		7.14	Si
SLV 14	-1.3	-44572.57	-86228	-66102	-22837	3.875	3.875	-37908	16250	41550	88358	93999	19763	113762		4.98	Si
SLV 14	0.8	7802.09	-78621	-62897	-22387	3.875	3.875	-36070	16250	40268	88358	93999	19763	113762		5.08	Si
SLV 15	-1.3	-39637.58	-88912	-71130	-21386	3.875	3.875	-40791	16250	43561	88358	93999	19763	113762		5.32	Si
SLV 15	0.8	3532.39	-80989	-64791	-20983	3.875	3.875	-37156	16250	41025	88358	93999	19763	113762		5.42	Si
SLV 2	-1.3	18306.86	-97684	-78147	23322	3.875	3.875	-44815	16250	46367	88358	93999	19763	113762		4.88	Si
SLV 2	0.8	-22684.33	-95801	-76641	22953	3.875	3.875	-43952	16250	45765	88358	93999	19763	113762		4.96	Si
SLV 16	-1.3	-39344.72	-89055	-71244	-21615	3.875	3.875	-40857	16250	43606	88358	93999	19763	113762		5.26	Si
SLV 16	0.8	3519.05	-80623	-64498	-21213	3.875	3.875	-36988	16250	40908	88358	93999	19763	113762		5.36	Si
SLV 1	-1.3	18014	-97541	-78033	23551	3.875	3.875	-44750	16250	46322	88358	93999	19763	113762		4.83	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	0.8	-26967.37	-97802	-78242	24127	3.875	3.875	-44870	16250	46405	88358	93999	19763	113762		4.72	Si
SLV 13	-1.3	-44865.43	-82485	-65988	-22608	3.875	3.875	-37843	16250	41504	88358	93999	19763	113762		5.03	Si
SLV 13	0.8	7815.43	-78988	-63190	-22157	3.875	3.875	-36238	16250	40385	88358	93999	19763	113762		5.13	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-79784	0.25	281.04	13470.02	18616.36	16043.19	57.08	Si
SLV 13	-80022	0.25	281.04	13496.81	18661.08	16078.95	57.21	Si
SLV 10	-82099	0.25	281.04	13727.08	19051.09	16389.08	58.31	Si
SLV 9	-82260	0.25	281.04	13744.61	19081.2	16412.9	58.4	Si
SLV 16	-82851	0.25	281.04	13808.96	19192.31	16500.64	58.71	Si
SLV 15	-83089	0.25	281.04	13834.73	19237.04	16535.88	58.84	Si
SLV 6	-87118	0.25	281.04	14258.38	19983.26	17120.82	60.92	Si
SLV 5	-87278	0.25	281.04	14274.77	20011.63	17143.2	61	Si
SLV 12	-92324	0.25	281.04	14772.06	20904.39	17838.22	63.47	Si
SLV 11	-92484	0.25	281.04	14787.27	20932.76	17860.02	63.55	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-78578	-103968	137	0.342	8709.9	0.975	5.10373	3.14871	Si
SLV 1	-78231	-97541	179	0.343	8674.6	0.975	5.11307	3.14871	Si
SLV 4	-78153	-104111	127	0.344	8666.7	0.975	5.12629	3.14871	Si
SLV 2	-77807	-97684	170	0.344	8631.4	0.975	5.13578	3.14871	Si
SLV 7	-72930	-106220	18	0.363	8134.7	0.973	5.42334	2.77912	Si
SLV 8	-72644	-106316	12	0.364	8105.6	0.973	5.44085	2.77912	Si
SLV 15	-61484	-88912	-56	0.412	6969.2	0.969	6.17992	3.14871	Si
SLV 5	-71775	-84797	160	0.366	8017.1	0.973	5.46212	2.77912	Si
SLV 6	-71489	-84892	154	0.367	7988	0.973	5.48005	2.77912	Si
SLV 16	-61060	-89055	-65	0.414	6926	0.969	6.21134	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.586	SLU 84	Si
V_SLU	40.487	SLU 60	Si
PF_SLV	3.092	SLV 13	Si
V_SLV	4.592	SLV 3	Si
PFFP_SLV	57.084	SLV 14	Si
R_SLV	1.621	SLV 3	Si

Maschio 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-19.618	6.576	-17.768	6.576	L2	L4	1.85	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.7	-3183.12	-23719	-0.000067	0.0003743	0.0035	1.85	15800.4	18214.07	18214.07	5.72	No	Si
SLU 77	1.1	-6468	-22876	-0.0000875	0.0003743	0.0035	1.85	15449.14	17757.8	17757.8	2.75	No	Si
SLU 79	0.7	-3156.5	-23527	-0.0000664	0.0003743	0.0035	1.85	15721.72	18110.48	18110.48	5.74	No	Si
SLU 79	1.1	-6415.69	-22684	-0.0000867	0.0003743	0.0035	1.85	15366.92	17652.4	17652.4	2.75	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 82	0.7	-3207.69	-23550	-0.0000668	0.0003743	0.0035	1.85	15731.11	18122.78	18122.78	5.65	No	Si
SLU 82	1.1	-6428	-22707	-0.0000868	0.0003743	0.0035	1.85	15376.74	17664.96	17664.96	2.75	No	Si
SLU 84	0.7	-3251.79	-23915	-0.0000679	0.0003743	0.0035	1.85	15879.62	18319.75	18319.75	5.63	No	Si
SLU 84	1.1	-6530.8	-23071	-0.0000884	0.0003743	0.0035	1.85	15531.96	17864.41	17864.41	2.74	No	Si
SLU 75	0.7	-3145.9	-23155	-0.0000655	0.0003743	0.0035	1.85	15567.08	17909.75	17909.75	5.69	No	Si
SLU 75	1.1	-6313.19	-22312	-0.0000851	0.0003743	0.0035	1.85	15205.43	17441.97	17441.97	2.76	No	Si
SLU 83	0.7	-3244.91	-24114	-0.0000683	0.0003743	0.0035	1.85	15959.57	18427.86	18427.86	5.68	No	Si
SLU 83	1.1	-6582.82	-23271	-0.0000892	0.0003743	0.0035	1.85	15615.58	17972.51	17972.51	2.73	No	Si
SLU 80	0.7	-3163.37	-23328	-0.0000666	0.0003743	0.0035	1.85	15639.21	18003.14	18003.14	5.69	No	Si
SLU 80	1.1	-6363.67	-22484	-0.0000859	0.0003743	0.0035	1.85	15280.75	17542.37	17542.37	2.76	No	Si
SLU 78	0.7	-3189.99	-23520	-0.0000666	0.0003743	0.0035	1.85	15718.73	18106.58	18106.58	5.68	No	Si
SLU 78	1.1	-6415.99	-22677	-0.0000867	0.0003743	0.0035	1.85	15363.81	17648.41	17648.41	2.75	No	Si
SLU 81	0.7	-3200.82	-23749	-0.0000672	0.0003743	0.0035	1.85	15812.65	18230.32	18230.32	5.7	No	Si
SLU 81	1.1	-6480.02	-22906	-0.0000876	0.0003743	0.0035	1.85	15461.95	17774.25	17774.25	2.74	No	Si
SLU 74	0.7	-3139.02	-23354	-0.0000659	0.0003743	0.0035	1.85	15650.34	18017.57	18017.57	5.74	No	Si
SLU 74	1.1	-6365.2	-22511	-0.0000859	0.0003743	0.0035	1.85	15292.36	17557.17	17557.17	2.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 10	0.7	-1534.28	-2876	-0.0000165	0.0005615	0.0035	1.48		3473.75	3473.75	2.26		Si
SLV 10	1.1	-1056.75	-2528	-0.0000112	0.0005615	0.0035	1.85		3165.67	3165.67	3		Si
SLV 2	0.7	-4879.94	-14465	-0.000057	0.0005615	0.0035	1.85		13018.98	13018.98	2.67		Si
SLV 2	1.1	-3333.48	-14138	-0.0000466	0.0005615	0.0035	1.85		12768.93	12768.93	3.83		Si
SLV 9	0.7	-1876.9	-2738	-0.0000257	0.0005615	0.0035	1.48		3351.48	3351.48	1.79		Si
SLV 9	1.1	-938.74	-2390	-0.00001	0.0005615	0.0035	1.85		3043.25	3043.25	3.24		Si
SLV 6	0.7	-3260	-4228	-0.0000625	0.0005615	0.0035	1.48		4660.62	4660.62	1.43		Si
SLV 6	1.1	-1026.1	-4007	-0.0000133	0.0005615	0.0035	1.85		4467.66	4467.66	4.35		Si
SLV 1	0.7	-5388.83	-14260	-0.0000605	0.0005615	0.0035	1.85		12862.36	12862.36	2.39		Si
SLV 1	1.1	-3158.2	-13933	-0.0000451	0.0005615	0.0035	1.85		12611.84	12611.84	3.99		Si
SLD 5	0.7	-3061.92	-8585	-0.0000344	0.0005615	0.0035	1.85		8349.1	8349.1	2.73		Si
SLD 5	1.1	-2188.78	-8197	-0.0000281	0.0005615	0.0035	1.85		8028.74	8028.74	3.67		Si
SLV 5	0.7	-3602.61	-4090	-0.0001502	0.0005615	0.0035	1.48		4540.23	4540.23	1.26		Si
SLV 5	1.1	-908.09	-3869	-0.0000124	0.0005615	0.0035	1.85		4347.23	4347.23	4.79		Si
SLV 14	0.7	872.43	-9958	-0.0000235	0.0005615	0.0035	1.85		8821.48	8821.48	10.11		Si
SLV 14	1.1	-3435.64	-9209	-0.0000381	0.0005615	0.0035	1.85		8862.19	8862.19	2.58		Si
SLV 16	0.7	1138.36	-17352	-0.0000393	0.0005615	0.0035	1.85		14254	14254	12.52		Si
SLV 16	1.1	-5419.5	-16385	-0.0000642	0.0005615	0.0035	1.85		14459.5	14459.5	2.67		Si
SLV 13	0.7	363.55	-9753	-0.0000201	0.0005615	0.0035	1.85		8653.55	8653.55	23.8		Si
SLV 13	1.1	-3260.36	-9004	-0.0000365	0.0005615	0.0035	1.85		8693.8	8693.8	2.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	0.7	-3139.02	-23354	-20760	8089	1.85	1.85	-24936	10269	8549	30925	24929	4718	12824	Si	1.59	Si
SLU 74	1.1	-6365.2	-22511	-20010	8089	1.85	1.85	-24036	10149	8449	30925	24929	4718	12674	Si	1.57	Si
SLU 81	0.7	-3200.82	-23749	-21111	8221	1.85	1.85	-25358	10326	8596	30925	24929	4718	12894	Si	1.57	Si
SLU 81	1.1	-6480.02	-22906	-20361	8221	1.85	1.85	-24458	10205	8496	30925	24929	4718	12744	Si	1.55	Si
SLU 78	0.7	-3189.99	-23520	-20907	8088	1.85	1.85	-25113	10293	8569	30925	24929	4718	12853	Si	1.59	Si
SLU 78	1.1	-6415.99	-22677	-20157	8088	1.85	1.85	-24212	10173	8469	30925	24929	4718	12703	Si	1.57	Si
SLU 80	0.7	-3163.37	-23328	-20736	8024	1.85	1.85	-24908	10265	8546	30925	24929	4718	12819	Si	1.6	Si
SLU 80	1.1	-6363.67	-22484	-19986	8024	1.85	1.85	-24007	10145	8446	30925	24929	4718	12669	Si	1.58	Si
SLU 82	0.7	-3207.69	-23550	-20933	8074	1.85	1.85	-25145	10297	8572	30925	24929	4718	12859	Si	1.59	Si
SLU 82	1.1	-6428	-22707	-20184	8074	1.85	1.85	-24245	10177	8472	30925	24929	4718	12709	Si	1.57	Si
SLU 83	0.7	-3244.91	-24114	-21435	8368	1.85	1.85	-25748	10377	8639	30925	24929	4718	12959	Si	1.55	Si
SLU 83	1.1	-6582.82	-23271	-20685	8368	1.85	1.85	-24847	10257	8539	30925	24929	4718	12809	Si	1.53	Si
SLU 84	0.7	-3251.79	-23915	-21258	8221	1.85	1.85	-25535	10349	8616	30925	24929	4718	12923	Si	1.57	Si
SLU 84	1.1	-6530.8	-23071	-20508	8221	1.85	1.85	-24634	10229	8516	30925	24929	4718	12773	Si	1.55	Si
SLU 77	0.7	-3183.12	-23719	-21084	8236	1.85	1.85	-25326	10321	8592	30925	24929	4718	12889	Si	1.57	Si
SLU 77	1.1	-6468	-22876	-20334	8236	1.85	1.85	-24425	10201	8492	30925	24929	4718	12739	Si	1.55	Si
SLU 75	0.7	-3145.9	-23155	-20582	7942	1.85	1.85	-24723	10241	8526	30925	24929	4718	12788	Si	1.61	Si
SLU 75	1.1	-6313.19	-22312	-19833	7942	1.85	1.85	-23823	10121	8426	30925	24929	4718	12638	Si	1.59	Si
SLU 79	0.7	-3156.5	-23527	-20913	8171	1.85	1.85	-25121	10294	8570	30925	24929	4718	12854	Si	1.57	Si
SLU 79	1.1	-6415.69	-22684	-20163	8171	1.85	1.85	-24220	10174	8470	30925	24929	4718	12705	Si	1.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	0.7	-1403.02	-22940	-20391	12224	1.85	1.85	-24494	15315	12750	30925	37393	4718	42111		3.44	Si
SLD 11	1.1	-6315.04	-22034	-19586	12272	1.85	1.85	-23526	15122	12589	30925	37393	4718	42111		3.43	Si
SLV 11	0.7	-990.47	-27383	-24341	16311	1.85	1.85	-29238	16250	13528	30925	37393	4718	42111		2.58	Si
SLV 11	1.1	-7551.59	-26311	-23387	16385	1.85	1.85	-28093	16035	13349	30925	37393	4718	42111		2.57	Si
SLV 14	0.7	872.43	-9958	-8852	11364	1.85	1.85	-10633	12543	10442	30925	37393	4718	41368		3.64	Si
SLV 14	1.1	-3435.64	-9209	-8186	11292	1.85	1.6558	-11031	12623	9405	30925	37393	4718	40331		3.57	Si
SLV 12	0.7	-647.85	-27521	-24463	17462	1.85	1.85	-29385	16250	13528	30925	37393	4718	42111		2.41	Si
SLV 12	1.1	-7669.6	-26449	-23510	17537	1.85	1.85	-28240	16065	13374	30925	37393	4718	42111		2.4	Si
SLD 12	0.7	-1188.54	-23026	-20468	12945	1.85	1.85	-24586	15334	12765	30925	37393	4718	42111		3.25	Si
SLD 12	1.1	-6388.91	-22120	-19663	12993	1.85	1.85	-23619	15140	12604	30925	37393	4718	42111		3.24	Si
SLD 16	0.7	-36.17	-16698	-14842	12667	1.85	1.85	-17829	13982	11640	30925	37393	4718	42111		3.32	Si
SLD 16	1.1	-5001.64	-15864	-14102	12655	1.85	1.8292	-16939	13804	11363	30925	37393	4718	42111		3.33	Si
SLV 15	0.7	629.48	-17147	-15241	15122	1.85	1.85	-18308	14078	11720	30925	37393	4718	42111		2.78	Si
SLV 15	1.1	-5244.21	-16180	-14382	15103	1.85	1.8026	-17276	13872	11253	30925	37393	4718	42111		2.79	Si
SLV 16	0.7	1138.36	-17352	-15424	16833	1.85	1.85	-18527	14122	11757	30925	37393	4718	42111		2.5	Si
SLV 16	1.1	-5419.5	-16385	-14564	16814	1.85	1.7827	-17495	13916	11163	30925	37393	4718	42089		2.5	Si
SLV 7	0.7	-2716.18	-28735	-25542	11621	1.85	1.85	-30682	16250	13528	30925	37393	4718	42111		3.62	Si
SLV 7	1.1	-7520.94	-27789	-24702	11723	1.85	1.85	-29672	16250	13528	30925	37393	4718	42111		3.59	Si
SLV 8	0.7	-2373.56	-28873	-25665	12772	1.85	1.85	-30829	16250	13528	30925	37393	4718	42111		3.3	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	1.1	-7638.96	-27927	-24824	12875	1.85	1.85	-29819	16250	13528	30925	37393	4718	42111		3.27	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.25	1464	-1219	132.03	271.63	2.06	Si
SLV 10	179667	0.25	1703	-1418	132.03	315.39	2.39	Si
SLV 5	179667	0.25	2862	-2382	132.03	525.96	3.98	Si
SLV 6	179667	0.25	3100	-2581	132.03	568.9	4.31	Si
SLV 13	179667	0.25	9647	-8031	132.03	1692.9	12.82	Si
SLV 14	179667	0.25	10002	-8326	132.03	1750.73	13.26	Si
SLV 1	179667	0.25	14305	-11909	132.03	2428.53	18.39	Si
SLV 2	179667	0.25	14659	-12204	132.03	2482.31	18.8	Si
SLV 15	179667	0.25	18108	-15075	132.03	2989.72	22.64	Si
SLV 16	179667	0.25	18463	-15370	132.03	3040.19	23.03	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-23815	-20272	-1016	0.445	2763.5	0.963	6.71753	2.77912	Si
SLV 7	-23700	-20058	-1009	0.447	2751.8	0.963	6.74744	2.77912	Si
SLV 12	-22567	-19050	-976	0.465	2636.5	0.962	7.03351	2.77912	Si
SLV 11	-22452	-18835	-969	0.467	2624.8	0.961	7.0665	2.77912	Si
SLV 4	-18009	-14365	-785	0.562	2173.1	0.954	8.56454	3.14871	Si
SLV 3	-17838	-14047	-775	0.567	2155.8	0.954	8.63877	3.14871	Si
SLV 16	-13849	-10290	-651	0.697	1750.8	0.945	10.71539	3.14871	Si
SLV 15	-13678	-9971	-641	0.704	1733.5	0.944	10.83398	3.14871	Si
SLV 2	-11761	-8035	-546	0.797	1539.3	0.938	12.34257	3.14871	Si
SLV 1	-11590	-7716	-535	0.807	1522	0.938	12.50088	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.73	SLU 83	Si
V_SLU	1.531	SLU 83	Si
PF_SLV	1.26	SLV 5	Si
V_SLV	2.401	SLV 12	Si
PFFP_SLV	2.057	SLV 9	Si
R_SLV	2.417	SLV 8	Si

Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.784	-17.053	-4.784	L2	L4	3.29	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 40	-1.3	-2395.14	-15219	-0.0000204	0.0003743	0.0035	3.29	22507.23	25967.12	25967.12	10.84	No	Si
SLU 40	1.59	-6955.75	-24112	-0.0000392	0.0003743	0.0035	3.29	33319.5	37733.41	37733.41	5.42	No	Si
SLU 42	-1.3	-2418.36	-15322	-0.0000206	0.0003743	0.0035	3.29	22642.49	26113.25	26113.25	10.8	No	Si
SLU 42	1.59	-7085.22	-24297	-0.0000396	0.0003743	0.0035	3.29	33525.73	37963.64	37963.64	5.36	No	Si
SLU 75	-1.3	-2845.52	-17537	-0.0000238	0.0003743	0.0035	3.29	25491.44	29135.13	29135.13	10.24	No	Si
SLU 75	1.59	-7643.24	-27051	-0.0000439	0.0003743	0.0035	3.29	36513.34	41329.06	41329.06	5.41	No	Si
SLU 82	-1.3	-2839.54	-18025	-0.0000243	0.0003743	0.0035	3.29	26105.94	29793.08	29793.08	10.49	No	Si
SLU 82	1.59	-7930.96	-28050	-0.0000456	0.0003743	0.0035	3.29	37555.2	42540.9	42540.9	5.36	No	Si
SLU 80	-1.3	-2854.63	-17569	-0.0000238	0.0003743	0.0035	3.29	25532.45	29178.78	29178.78	10.22	No	Si
SLU 80	1.59	-7681.14	-27105	-0.000044	0.0003743	0.0035	3.29	36570.22	41395.63	41395.63	5.39	No	Si
SLU 78	-1.3	-2868.74	-17640	-0.0000239	0.0003743	0.0035	3.29	25621.49	29273.68	29273.68	10.2	No	Si
SLU 78	1.59	-7772.71	-27236	-0.0000444	0.0003743	0.0035	3.29	36707.72	41556.97	41556.97	5.35	No	Si
SLU 84	-1.3	-2862.76	-18129	-0.0000245	0.0003743	0.0035	3.29	26234.89	29932.19	29932.19	10.46	No	Si
SLU 84	1.59	-8060.43	-28234	-0.0000461	0.0003743	0.0035	3.29	37745.56	42759.95	42759.95	5.3	No	Si
SLU 36	-1.3	-2424.34	-14833	-0.00002	0.0003743	0.0035	3.29	21999.13	25419.14	25419.14	10.48	No	Si
SLU 36	1.59	-6797.49	-23299	-0.0000379	0.0003743	0.0035	3.29	32402.09	36705.96	36705.96	5.4	No	Si
SLU 76	-1.3	-2854.53	-17646	-0.0000239	0.0003743	0.0035	3.29	25629.16	29281.87	29281.87	10.26	No	Si
SLU 76	1.59	-7680.13	-27090	-0.000044	0.0003743	0.0035	3.29	36554.13	41376.79	41376.79	5.39	No	Si
SLU 83	-1.3	-2828.07	-17859	-0.0000241	0.0003743	0.0035	3.29	25897.1	29568.54	29568.54	10.46	No	Si
SLU 83	1.59	-7867.74	-27980	-0.0000454	0.0003743	0.0035	3.29	37483.45	42458.29	42458.29	5.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 11	-1.3	-1126.98	3648	0.2780114	0.0005615	0.0035	2.632		0	0	0		No
SLV 11	1.59	8122.68	-1927	-0.0115461	0.0005615	0.0035	2.632		3699.27	3699.27	0.46		No
SLV 15	-1.3	-6072.26	-6351	-0.0000208	0.0005615	0.0035	2.632		13097.76	13097.76	2.16		Si
SLV 15	1.59	4867.91	-8117	-0.0000175	0.0005615	0.0035	3.29		13489.91	13489.91	2.77		Si
SLV 16	-1.3	-5566.84	-6187	-0.0000187	0.0005615	0.0035	3.29		12841.19	12841.19	2.31		Si
SLV 16	1.59	3544.94	-9288	-0.0000162	0.0005615	0.0035	3.29		15298.39	15298.39	4.32		Si
SLV 2	-1.3	2034.97	-17757	-0.0000222	0.0005615	0.0035	3.29		27920.98	27920.98	13.72		Si
SLV 2	1.59	-14469.67	-28356	-0.0000579	0.0005615	0.0035	3.29		44856.72	44856.72	3.1		Si
SLV 8	-1.3	1929.43	3061	0.2289631	0.0005615	0.0035	2.632		0	0	0		No
SLV 8	1.59	3761.29	-5853	-0.0000131	0.0005615	0.0035	3.29		9959.35	9959.35	2.65		Si
SLV 1	-1.3	1529.55	-17921	-0.0000214	0.0005615	0.0035	3.29		28160.08	28160.08	18.41		Si
SLV 1	1.59	-13146.69	-27186	-0.000054	0.0005615	0.0035	3.29		43319.53	43319.53	3.3		Si
SLV 7	-1.3	1589.14	2950	0.2211576	0.0005615	0.0035	2.632		0	0	0		No
SLV 7	1.59	4652.01	-5065	-0.0000157	0.0005615	0.0035	3.29		8709.18	8709.18	1.87		Si
SLV 12	-1.3	-786.69	3758	0.285971	0.0005615	0.0035	2.632		0	0	0		No
SLV 12	1.59	7231.96	-2715	-0.0060514	0.0005615	0.0035	2.632		4965.76	4965.76	0.69		No
SLV 5	-1.3	-3250.59	-27866	-0.0000354	0.0005615	0.0035	3.29		44214.5	44214.5	13.6		Si
SLV 5	1.59	-16833.71	-33759	-0.0000688	0.0005615	0.0035	3.29		51868.11	51868.11	3.08		Si
SLV 6	-1.3	-2910.31	-27755	-0.0000346	0.0005615	0.0035	3.29		44069.79	44069.79	15.14		Si
SLV 6	1.59	-17724.43	-34547	-0.0000715	0.0005615	0.0035	3.29		52853.2	52853.2	2.98		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.3	-2839.54	-18025	-16023	9408	3.29	3.29	-10822	8387	13536	30925	44333	8389	20304	Si	2.16	Si
SLU 82	1.59	-7930.96	-28050	-24933	-2107	3.29	3.29	-16841	9190	17100	30925	44333	8389	25650	Si	12.17	Si
SLU 78	-1.3	-2868.74	-17640	-15680	9121	3.29	3.29	-10591	8357	13399	30925	44333	8389	20098	Si	2.2	Si
SLU 78	1.59	-7772.71	-27236	-24210	-2142	3.29	3.29	-16352	9125	16811	30925	44333	8389	25216	Si	11.77	Si
SLU 80	-1.3	-2854.63	-17569	-15617	9062	3.29	3.29	-10548	8351	13374	30925	44333	8389	20060	Si	2.21	Si
SLU 80	1.59	-7681.14	-27105	-24094	-2155	3.29	3.29	-16274	9114	16764	30925	44333	8389	25146	Si	11.67	Si
SLU 79	-1.3	-2819.94	-17299	-15377	8984	3.29	3.29	-10386	8329	13278	30925	44333	8389	19917	Si	2.22	Si
SLU 79	1.59	-7488.45	-26851	-23868	-2162	3.29	3.29	-16121	9094	16674	30925	44333	8389	25011	Si	11.57	Si
SLU 63	-1.3	-2501.28	-16549	-14710	8793	3.29	3.29	-9936	8269	13011	30925	44333	8389	19516	Si	2.22	Si
SLU 63	1.59	-7212.74	-25269	-22461	-1680	3.29	3.29	-15171	8967	16111	30925	44333	8389	24167	Si	14.39	Si
SLU 83	-1.3	-2828.07	-17859	-15475	9415	3.29	3.29	-10722	8374	13477	30925	44333	8389	20215	Si	2.15	Si
SLU 83	1.59	-7867.74	-27980	-24871	-2108	3.29	3.29	-16799	9184	17075	30925	44333	8389	25613	Si	12.15	Si
SLU 84	-1.3	-2862.76	-18129	-16114	9494	3.29	3.29	-10884	8396	13573	30925	44333	8389	20359	Si	2.14	Si
SLU 84	1.59	-8060.43	-28234	-25097	-2101	3.29	3.29	-16952	9205	17166	30925	44333	8389	25748	Si	12.25	Si
SLU 81	-1.3	-2804.85	-17756	-15783	9330	3.29	3.29	-10661	8366	13440	30925	44333	8389	20160	Si	2.16	Si
SLU 81	1.59	-7738.28	-27796	-24707	-2114	3.29	3.29	-16688	9170	17010	30925	44333	8389	25514	Si	12.07	Si
SLU 77	-1.3	-2834.05	-17370	-15440	9042	3.29	3.29	-10429	8335	13303	30925	44333	8389	19954	Si	2.21	Si
SLU 77	1.59	-7580.02	-26982	-23984	-2149	3.29	3.29	-16200	9104	16720	30925	44333	8389	25080	Si	11.67	Si
SLU 75	-1.3	-2845.52	-17537	-15588	9035	3.29	3.29	-10529	8348	13362	30925	44333	8389	20043	Si	2.22	Si
SLU 75	1.59	-7643.24	-27051	-24046	-2149	3.29	3.29	-16242	9110	16745	30925	44333	8389	25117	Si	11.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	-1.3	-7018.76	-15431	-13717	-509	3.29	3.29	-9265	12270	18165	30925	66499	8389	49091		96.48	Si
SLV 14	1.59	-2900.78	-17897	-15908	-18093	3.29	3.29	-10745	12566	18603	30925	66499	8389	49529		2.74	Si
SLD 13	-1.3	-5518.36	-14205	-12627	700	3.29	3.29	-8529	12122	17947	30925	66499	8389	48873		69.8	Si
SLD 13	1.59	-2679.54	-17168	-15260	-14273	3.29	3.29	-10307	12478	18474	30925	66499	8389	49399		3.46	Si
SLD 15	-1.3	-4617.61	-8487	-7544	-383	3.29	3.29	-5096	11436	16931	30925	66499	8389	47856		124.92	Si
SLD 15	1.59	1298.91	-11854	-10537	-13329	3.29	3.29	-7117	11840	17529	30925	66499	8389	48455		3.64	Si
SLV 4	-1.3	3486.89	-8512	-7566	14390	3.29	3.29	-5110	11439	16935	30925	66499	8389	47861		3.33	Si
SLV 4	1.59	-8023.95	-19748	-17554	18086	3.29	3.29	-11857	12788	18933	30925	66499	8389	49858		2.76	Si
SLV 15	-1.3	-6072.26	-6351	-5645	-4066	2.632	2.0667	0	0	0	30925	53199	6712	30925		7.61	Si
SLV 15	1.59	4867.91	-8117	-7215	-19875	3.29	3.1359	-4874	11391	16075	30925	66499	8389	47001		2.36	Si
SLV 13	-1.3	-7524.18	-15596	-13863	-2305	3.29	3.29	-9364	12289	18194	30925	66499	8389	49120		21.31	Si
SLV 13	1.59	-1577.8	-16726	-14867	-21382	3.29	3.29	-10042	12425	18395	30925	66499	8389	49321		2.31	Si
SLV 16	-1.3	-5566.84	-6187	-5499	-2270	3.29	2.2356	-5479	11513	12890	30925	66499	8389	43816		19.3	Si
SLV 16	1.59	3544.94	-9288	-8256	-16587	3.29	3.29	-5577	11532	17073	30925	66499	8389	47999		2.89	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	1.59	-13146.69	-27186	-24165	13291	3.29	3.29	-16322	13681	20356	30925	66499	8389	51282		3.86	Si
SLV 2	-1.3	2034.97	-17757	-15784	16151	3.29	3.29	-10661	12549	18579	30925	66499	8389	49504		3.07	Si
SLV 2	1.59	-14469.67	-28356	-25206	16580	3.29	3.29	-17025	13822	20773	30925	66499	8389	51698		3.12	Si
SLV 3	-1.3	2981.48	-8676	-7712	12594	3.29	3.29	-5209	11458	16964	30925	66499	8389	47890		3.8	Si
SLV 3	1.59	-6700.97	-18577	-16513	14798	3.29	3.29	-11154	12647	18724	30925	66499	8389	49650		3.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	0	1422	234.79	0	0	No, Trazione
SLV 12	179667	0.25	0	3433	234.79	0	0	No, Trazione
SLV 8	179667	0.25	0	1030	234.79	0	0	No, Trazione
SLV 11	179667	0.25	0	3826	234.79	0	0	No, Trazione
SLV 15	179667	0.25	2084	-3085	234.79	684.65	2.92	Si
SLV 16	179667	0.25	2478	-3668	234.79	811.93	3.46	Si
SLV 3	179667	0.25	7495	-11096	234.79	2374.06	10.11	Si
SLV 13	179667	0.25	7763	-11493	234.79	2454.53	10.45	Si
SLV 4	179667	0.25	7889	-11679	234.79	2492.04	10.61	Si
SLV 14	179667	0.25	8157	-12076	234.79	2572.05	10.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-34547	-27755	-673	0.549	4120.8	0.957	8.34503	2.77912	Si
SLV 5	-33759	-27866	-672	0.559	4040.7	0.956	8.50212	2.77912	Si
SLV 2	-28356	-17757	-225	0.654	3491.9	0.95	10.00459	3.14871	Si
SLV 10	-31409	-27058	-680	0.591	3801.9	0.954	9.00955	2.77912	Si
SLV 1	-27186	-17921	-224	0.676	3373	0.948	10.35411	3.14871	Si
SLV 9	-30621	-27168	-680	0.603	3721.8	0.953	9.19713	2.77912	Si
SLV 4	-19748	-8512	152	0.867	2619.3	0.936	13.46379	3.14871	Si
SLV 3	-18577	-8676	153	0.908	2500.9	0.934	14.14065	3.14871	Si
SLV 14	-17897	-15431	-250	0.93	2432.2	0.932	14.49947	3.14871	Si
SLV 13	-16726	-15596	-249	0.978	2314	0.929	15.30145	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.305	SLU 84	Si
V_SLU	2.144	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	2.307	SLV 13	Si
PFFP_SLV	0	SLV 12	No
R_SLV	3.003	SLV 6	Si

Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.071	-15.058	6.351	L2	L4	4.28	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	-1.3	24045.52	-112957	-0.0001915	0.0004492	0.0035	4.28	67688.73	149926.09	101533.1	4.22	Si	Si
SLU 83	0.7	2043.19	-100847	-0.0001267	0.0004492	0.0035	4.28	77089.53	142730.91	115634.29	56.6	Si	Si
SLU 80	-1.3	22391.58	-109476	-0.0001821	0.0004492	0.0035	4.28	70800.7	148347.39	106201.06	4.74	Si	Si
SLU 80	0.7	2060.71	-97451	-0.0001219	0.0004492	0.0035	4.28	79007.77	139929.42	118511.65	57.51	Si	Si
SLU 84	-1.3	22895.45	-112531	-0.0001883	0.0004492	0.0035	4.28	68086.99	149733.05	102130.48	4.46	Si	Si
SLU 84	0.7	1975.08	-100355	-0.0001258	0.0004492	0.0035	4.28	77386.89	142325.09	116080.33	58.77	Si	Si
SLU 79	-1.3	23541.65	-109901	-0.0001853	0.0004492	0.0035	4.28	70437.92	148540.43	105656.88	4.49	Si	Si
SLU 79	0.7	2128.82	-97943	-0.0001227	0.0004492	0.0035	4.28	78749.39	140335.24	118124.08	55.49	Si	Si
SLU 74	-1.3	23269.66	-109336	-0.0001837	0.0004492	0.0035	4.28	70919.04	148283.85	106378.56	4.57	Si	Si
SLU 74	0.7	2084.34	-97381	-0.0001218	0.0004492	0.0035	4.28	79044.36	139871.1	118566.54	56.88	Si	Si
SLU 75	-1.3	22119.59	-108910	-0.0001805	0.0004492	0.0035	4.28	71275.25	148090.82	106912.88	4.83	Si	Si
SLU 75	0.7	2016.23	-96889	-0.000121	0.0004492	0.0035	4.28	79295.19	139465.29	118942.78	58.99	Si	Si
SLU 78	-1.3	22638.61	-110189	-0.0001838	0.0004492	0.0035	4.28	70189.53	148671.11	105284.3	4.65	Si	Si
SLU 78	0.7	2118.79	-98145	-0.000123	0.0004492	0.0035	4.28	78641.32	140501.95	117961.99	55.67	Si	Si
SLU 81	-1.3	23526.5	-111677	-0.0001882	0.0004492	0.0035	4.28	68871.03	149345.8	103306.55	4.39	Si	Si
SLU 81	0.7	1940.63	-99591	-0.0001247	0.0004492	0.0035	4.28	77836.03	141694.25	116754.04	60.16	Si	Si
SLU 82	-1.3	22376.43	-111251	-0.000185	0.0004492	0.0035	4.28	69254.43	149152.76	103881.65	4.64	Si	Si
SLU 82	0.7	1872.52	-99099	-0.0001238	0.0004492	0.0035	4.28	78116.52	141288.43	117174.78	62.58	Si	Si
SLU 77	-1.3	23788.68	-110615	-0.000187	0.0004492	0.0035	4.28	69818.46	148864.14	104727.7	4.4	Si	Si
SLU 77	0.7	2186.9	-98637	-0.0001238	0.0004492	0.0035	4.28	78373.63	140907.77	117560.44	53.76	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	-1.3	-48388.63	-51270	-0.0001417	0.0006738	0.0035	4.28		103805.84	103805.84	2.15		Si
SLV 6	0.7	-2914.88	-37714	-0.000046	0.0006738	0.0035	4.28		81887.61	81887.61	28.09		Si
SLV 10	-1.3	-46611.95	-47563	-0.000135	0.0006738	0.0035	4.28		98090.99	98090.99	2.1		Si
SLV 10	0.7	-4550.43	-36308	-0.000047	0.0006738	0.0035	4.28		79469.25	79469.25	17.46		Si
SLD 11	-1.3	54832.7	-89391	-0.0002004	0.0006738	0.0035	4.28		146366.1	146366.1	2.67		Si
SLD 11	0.7	3992.09	-83508	-0.000102	0.0006738	0.0035	4.28		139223.91	139223.91	34.87		Si
SLV 9	-1.3	-47621.85	-47586	-0.0001377	0.0006738	0.0035	4.28		98126.39	98126.39	2.06		Si
SLV 9	0.7	-4363.05	-36178	-0.0000465	0.0006738	0.0035	4.28		79245.03	79245.03	18.16		Si
SLD 12	-1.3	55464.89	-89377	-0.0002016	0.0006738	0.0035	4.28		146348.65	146348.65	2.64		Si
SLD 12	0.7	3874.79	-83589	-0.0001019	0.0006738	0.0035	4.28		139322.95	139322.95	35.96		Si
SLV 11	-1.3	79114.9	-98432	-0.000263	0.0006738	0.0035	4.28		157339.93	157339.93	1.99		Si
SLV 11	0.7	5670.43	-94327	-0.0001185	0.0006738	0.0035	4.28		152357.28	152357.28	26.87		Si
SLV 5	-1.3	-49398.53	-51293	-0.0001443	0.0006738	0.0035	4.28		103841.24	103841.24	2.1		Si
SLV 5	0.7	-2727.5	-37583	-0.0000455	0.0006738	0.0035	4.28		81663.39	81663.39	29.94		Si
SLV 7	-1.3	77338.22	-102139	-0.0002639	0.0006738	0.0035	4.28		161539.34	161539.34	2.09		Si
SLV 7	0.7	7305.98	-95733	-0.0001232	0.0006738	0.0035	4.28		154063.78	154063.78	21.09		Si
SLV 12	-1.3	80124.79	-98409	-0.0002655	0.0006738	0.0035	4.28		157312.06	157312.06	1.96		Si
SLV 12	0.7	5483.05	-94457	-0.0001184	0.0006738	0.0035	4.28		152515.5	152515.5	27.82		Si
SLV 8	-1.3	78348.12	-102116	-0.0002662	0.0006738	0.0035	4.28		161519.76	161519.76	2.06		Si
SLV 8	0.7	7118.6	-95863	-0.0001231	0.0006738	0.0035	4.28		154221.99	154221.99	21.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	-1.3	18719.08	-97798	-71126	-12740	4.28	4.28	-55394	10833	35867	88358	46144	21828	53800	Si	4.22	Si
SLU 68	0.7	1873.24	-86158	-62660	-12847	4.28	4.28	-48801	10833	32481	88358	46144	21828	48721	Si	3.79	Si
SLU 52	-1.3	16977.37	-93759	-68188	-12615	4.28	4.28	-53106	10833	34692	88358	46144	21828	52037	Si	4.13	Si
SLU 52	0.7	1433.02	-82357	-59896	-12720	4.28	4.28	-46648	10833	31375	88358	46144	21828	47062	Si	3.7	Si
SLU 44	-1.3	14590.6	-83644	-60832	-11867	4.28	4.28	-47377	10833	31749	88358	46144	21828	47624	Si	4.01	Si
SLU 44	0.7	1393.52	-72649	-52835	-11965	4.28	4.28	-41149	10833	28551	88358	46144	21828	42826	Si	3.58	Si
SLU 49	-1.3	16642.4	-87201	-63419	-11680	4.28	4.28	-49392	10833	32784	88358	46144	21828	49176	Si	4.21	Si
SLU 49	0.7	1702.13	-76184	-55407	-11779	4.28	4.28	-43151	10833	29579	88358	46144	21828	44369	Si	3.77	Si
SLU 51	-1.3	16395.36	-86487	-62900	-11622	4.28	4.28	-48987	10833	32576	88358	46144	21828	48864	Si	4.2	Si
SLU 51	0.7	1644.05	-75490	-54902	-11721	4.28	4.28	-42758	10833	29377	88358	46144	21828	44066	Si	3.76	Si
SLU 46	-1.3	16123.37	-85921	-62488	-11625	4.28	4.28	-48667	10833	32412	88358	46144	21828	48618	Si	4.18	Si
SLU 46	0.7	1599.57	-74927	-54493	-11724	4.28	4.28	-42440	10833	29214	88358	46144	21828	43820	Si	3.74	Si
SLU 55	-1.3	17496.39	-95038	-69119	-12670	4.28	4.28	-53831	10833	35064	88358	46144	21828	52596	Si	4.15	Si
SLU 55	0.7	1535.59	-83614	-60810	-12775	4.28	4.28	-47360	10833	31740	88358	46144	21828	47611	Si	3.73	Si
SLU 47	-1.3	15109.63	-84924	-61763	-11922	4.28	4.28	-48102	10833	32122	88358	46144	21828	48182	Si	4.04	Si
SLU 47	0.7	1496.08	-73905	-53749	-12020	4.28	4.28	-41861	10833	28916	88358	46144	21828	43374	Si	3.61	Si
SLU 65	-1.3	18200.05	-96519	-70195	-12685	4.28	4.28	-54669	10833	35494	88358	46144	21828	53242	Si	4.2	Si
SLU 65	0.7	1770.68	-84901	-61746	-12792	4.28	4.28	-48089	10833	32115	88358	46144	21828	48172	Si	3.77	Si
SLU 2	-1.3	11733.15	-67574	-49144	-9549	4.28	4.28	-38274	10833	27074	88358	46144	21828	40612	Si	4.25	Si
SLU 2	0.7	1145.21	-58926	-42855	-9626	4.28	4.28	-33376	10833	24559	88358	46144	21828	36838	Si	3.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	-1.3	-22968.15	-57937	-42136	-26043	4.28	4.28	-32816	16250	27980	88358	69216	21828	91044		3.5	Si
SLD 10	0.7	-2283.09	-47636	-34644	-26057	4.28	4.28	-26981	16250	24983	88358	69216	21828	91044		3.49	Si
SLV 1	-1.3	-7358.5	-73420	-53397	-20606	4.28	4.28	-41586	16250	32484	88358	69216	21828	91044		4.42	Si
SLV 1	0.7	2737.83	-59544	-43305	-20858	4.28	4.28	-33727	16250	28447	88358	69216	21828	91044		4.36	Si
SLD 6	-1.3	-24106.44	-60311	-43862	-26986	4.28	4.28	-34161	16250	28670	88358	69216	21828	91044		3.37	Si
SLD 6	0.7	-1236.55	-48533	-35297	-27068	4.28	4.28	-27490	16250	25244	88358	69216	21828	91044		3.36	Si
SLV 5	-1.3	-49398.53	-51293	-37304	-38638	4.28	3.5308	-35825	16250	26047	88358	69216	21828	91044		2.36	Si
SLV 5	0.7	-2727.5	-37583	-27333	-38734	4.28	4.28	-21288	16250	22059	88358	69216	21828	91044		2.35	Si
SLD 5	-1.3	-24738.63	-60325	-43873	-27401	4.28	4.28	-34169	16250	28674	88358	69216	21828	91044		3.32	Si
SLD 5	0.7	-1119.25	-48452	-35238	-27483	4.28	4.28	-27444	16250	25221	88358	69216	21828	91044		3.31	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-1.3	80124.79	-98409	-71570	20421	4.28	3.9774	-55740	16250	39753	88358	69216	21828	91044		4.46	Si
SLV 12	0.7	5483.05	-94457	-68696	20351	4.28	4.28	-53502	16250	38603	88358	69216	21828	91044		4.47	Si
SLV 9	-1.3	-47621.85	-47586	-34608	-37157	4.28	3.4177	-34299	16250	24969	88358	69216	21828	91044		2.45	Si
SLV 9	0.7	-4363.05	-36178	-26311	-37144	4.28	4.28	-20491	16250	21650	88358	69216	21828	91044		2.45	Si
SLV 6	-1.3	-48388.63	-51270	-37288	-37976	4.28	3.5886	-35223	16250	26040	88358	69216	21828	91044		2.4	Si
SLV 6	0.7	-2914.88	-37714	-27428	-38073	4.28	4.28	-21362	16250	22097	88358	69216	21828	91044		2.39	Si
SLV 10	-1.3	-46611.95	-47563	-34591	-36495	4.28	3.48	-33662	16250	24962	88358	69216	21828	91044		2.49	Si
SLV 10	0.7	-4550.43	-36308	-26406	-36483	4.28	4.28	-20565	16250	21688	88358	69216	21828	91044		2.5	Si
SLD 9	-1.3	-23600.34	-57952	-42147	-26458	4.28	4.28	-32825	16250	27984	88358	69216	21828	91044		3.44	Si
SLD 9	0.7	-2165.79	-47554	-34585	-26471	4.28	4.28	-26935	16250	24959	88358	69216	21828	91044		3.44	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-40300	0.25	210.96	5009.82	7036.11	6022.97	28.55	Si
SLV 10	-40387	0.25	210.96	5018.4	7049.66	6034.03	28.6	Si
SLV 5	-42251	0.25	210.96	5199.78	7336.42	6268.1	29.71	Si
SLV 6	-42338	0.25	210.96	5208.14	7349.73	6278.93	29.76	Si
SLV 13	-57325	0.25	210.96	6504.14	9629.66	8066.9	38.24	Si
SLV 14	-57454	0.25	210.96	6514.07	9648.55	8081.31	38.31	Si
SLV 1	-63826	0.25	210.96	6977.34	10580.05	8778.69	41.61	Si
SLV 2	-63956	0.25	210.96	6986.2	10598.95	8792.57	41.68	Si
SLV 15	-73886	0.25	210.96	7603.25	11945.04	9774.15	46.33	Si
SLV 16	-74015	0.25	210.96	7610.45	11961.91	9786.18	46.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-62451	-88640	-440	0.413	6881.2	0.976	6.1508	3.62783	Si
SLV 3	-62373	-88674	-438	0.414	6873.2	0.976	6.15782	3.62783	Si
SLV 8	-75236	-102116	-178	0.358	8183.7	0.98	5.30573	2.98849	Si
SLV 7	-75183	-102139	-177	0.358	8178.3	0.98	5.30909	2.98849	Si
SLV 16	-58903	-76282	381	0.435	6519.7	0.975	6.47955	3.62783	Si
SLV 15	-58824	-76316	383	0.435	6511.7	0.975	6.48655	3.62783	Si
SLV 12	-74172	-98409	68	0.363	8075.2	0.98	5.39059	2.98849	Si
SLV 11	-74119	-98432	69	0.364	8069.8	0.98	5.3936	2.98849	Si
SLV 2	-50417	-73386	-417	0.495	5655.5	0.972	7.39729	3.62783	Si
SLV 1	-50338	-73420	-415	0.495	5647.5	0.972	7.4078	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.223	SLU 83	Si
V_SLU	3.579	SLU 44	Si
PF_SLV	1.963	SLV 12	Si
V_SLV	2.35	SLV 5	Si
PFFP_SLV	28.55	SLV 9	Si
R_SLV	1.695	SLV 4	Si

Maschio 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.784	-13.763	1.046	L2	L4	5.83	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	-1.3	-1611.4	-61951	-0.0000586	0.0003743	0.0035	5.83	117759.63	143646.24	143646.24	89.14	No	Si
SLU 76	1.59	-27873.05	-86860	-0.000114	0.0003743	0.0035	5.83	129689.41	171166.2	171166.2	6.14	No	Si
SLU 77	-1.3	-314.41	-62368	-0.0000577	0.0003743	0.0035	5.83	118126.74	144164.49	144164.49	458.53	No	Si
SLU 77	1.59	-27102.1	-87796	-0.0001143	0.0003743	0.0035	5.83	129741.7	172044.63	172044.63	6.35	No	Si
SLU 75	-1.3	-1113.09	-62086	-0.0000582	0.0003743	0.0035	5.83	117879.2	143813.87	143813.87	129.2	No	Si
SLU 75	1.59	-27584.49	-87181	-0.0001141	0.0003743	0.0035	5.83	129710.56	171466.15	171466.15	6.22	No	Si
SLU 81	-1.3	-953.42	-63186	-0.0000592	0.0003743	0.0035	5.83	118830.06	145188.2	145188.2	152.28	No	Si
SLU 81	1.59	-27654.69	-89217	-0.0001167	0.0003743	0.0035	5.83	129766.24	173396.03	173396.03	6.27	No	Si
SLU 78	-1.3	-951.4	-62682	-0.0000587	0.0003743	0.0035	5.83	118399.34	144556.33	144556.33	151.94	No	Si
SLU 78	1.59	-27742.52	-88157	-0.0001155	0.0003743	0.0035	5.83	129754.21	172386.13	172386.13	6.21	No	Si
SLU 82	-1.3	-1590.41	-63501	-0.0000601	0.0003743	0.0035	5.83	119094.24	145583.84	145583.84	91.54	No	Si
SLU 82	1.59	-28295.11	-89578	-0.0001178	0.0003743	0.0035	5.83	129761.94	173743.15	173743.15	6.14	No	Si
SLU 73	-1.3	-1773.09	-61355	-0.0000581	0.0003743	0.0035	5.83	117225.22	142910.22	142910.22	80.6	No	Si
SLU 73	1.59	-27715.02	-85883	-0.0001127	0.0003743	0.0035	5.83	129604.27	170260.09	170260.09	6.14	No	Si
SLU 84	-1.3	-1428.72	-64097	-0.0000606	0.0003743	0.0035	5.83	119586.78	146338.74	146338.74	102.43	No	Si
SLU 84	1.59	-28453.14	-90555	-0.0001192	0.0003743	0.0035	5.83	129728.92	174688.78	174688.78	6.14	No	Si
SLU 80	-1.3	-1025.05	-62338	-0.0000584	0.0003743	0.0035	5.83	118100.11	144126.54	144126.54	140.6	No	Si
SLU 80	1.59	-27604.14	-87596	-0.0001146	0.0003743	0.0035	5.83	129732.92	171855.77	171855.77	6.23	No	Si
SLU 83	-1.3	-791.73	-63783	-0.0000596	0.0003743	0.0035	5.83	119328.72	145940.34	145940.34	184.33	No	Si
SLU 83	1.59	-27812.73	-90193	-0.000118	0.0003743	0.0035	5.83	129744.77	174337.8	174337.8	6.27	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	-1.3	36313.82	-23423	-0.0000585	0.0005615	0.0035	5.83		65333.08	65333.08	1.8		Si
SLV 8	1.59	19273.53	-38291	-0.000051	0.0005615	0.0035	5.83		98937.51	98937.51	5.13		Si
SLD 8	-1.3	22335.71	-30757	-0.0000468	0.0005615	0.0035	5.83		82683.49	82683.49	3.7		Si
SLD 8	1.59	4735.47	-46224	-0.0000449	0.0005615	0.0035	5.83		116451.23	116451.23	24.59		Si
SLV 6	-1.3	-33937.33	-59086	-0.0000848	0.0005615	0.0035	5.83		153399.51	153399.51	4.52		Si
SLV 6	1.59	-53422.43	-78896	-0.0001246	0.0005615	0.0035	5.83		189339.13	189339.13	3.54		Si
SLV 10	-1.3	-36285.79	-61631	-0.0000896	0.0005615	0.0035	5.83		158392.18	158392.18	4.37		Si
SLV 10	1.59	-56710.09	-79382	-0.0001285	0.0005615	0.0035	5.83		190138.6	190138.6	3.35		Si
SLV 9	-1.3	-37024.11	-61983	-0.0000907	0.0005615	0.0035	5.83		159050.92	159050.92	4.3		Si
SLV 9	1.59	-56957.6	-79832	-0.0001292	0.0005615	0.0035	5.83		190880.26	190880.26	3.35		Si
SLV 11	-1.3	33227.04	-26321	-0.0000541	0.0005615	0.0035	5.83		72607.22	72607.22	2.19		Si
SLV 11	1.59	15738.36	-39227	-0.0000486	0.0005615	0.0035	5.83		100982.61	100982.61	6.42		Si
SLV 5	-1.3	-34675.64	-59438	-0.0000859	0.0005615	0.0035	5.83		154112.74	154112.74	4.44		Si
SLV 5	1.59	-53669.95	-79346	-0.0001253	0.0005615	0.0035	5.83		190079.27	190079.27	3.54		Si
SLD 7	-1.3	21873.54	-30978	-0.0000466	0.0005615	0.0035	5.83		83154.12	83154.12	3.8		Si
SLD 7	1.59	4580.53	-46505	-0.0000451	0.0005615	0.0035	5.83		117080.52	117080.52	25.56		Si
SLV 12	-1.3	33965.35	-25968	-0.0000549	0.0005615	0.0035	5.83		71734.48	71734.48	2.11		Si
SLV 12	1.59	15985.88	-38777	-0.0000484	0.0005615	0.0035	5.83		99998.69	99998.69	6.26		Si
SLV 7	-1.3	35575.5	-23775	-0.0000571	0.0005615	0.0035	5.83		66219.81	66219.81	1.86		Si
SLV 7	1.59	19026.02	-38741	-0.0000512	0.0005615	0.0035	5.83		99919.97	99919.97	5.25		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	-1.3	88.54	-56277	-47391	7889	5.83	5.83	-27096	10557	27375	30925	52373	14866	41063	Si	5.2	Si
SLU 66	1.59	-24594.32	-77636	-65377	19616	5.83	5.83	-37380	10833	34570	30925	52373	14866	51854	Si	2.64	Si
SLU 71	-1.3	176.58	-56529	-47603	7920	5.83	5.83	-27217	10573	27460	30925	52373	14866	41190	Si	5.2	Si
SLU 71	1.59	-24613.97	-78051	-65727	19681	5.83	5.83	-37580	10833	34709	30925	52373	14866	52064	Si	2.65	Si
SLU 62	-1.3	-1159.82	-57261	-48220	6921	5.83	5.83	-27570	10620	27707	30925	52373	14866	41560	Si	6	Si
SLU 62	1.59	-25446.64	-80645	-67911	20173	5.83	5.83	-38829	10833	35583	30925	52373	14866	53375	Si	2.65	Si
SLU 48	-1.3	-117.86	-50351	-42401	7444	5.83	5.83	-24243	10177	25379	30925	52373	14866	38069	Si	5.11	Si
SLU 48	1.59	-22386.27	-69064	-58159	17980	5.83	5.83	-33253	10833	31682	30925	52373	14866	47523	Si	2.64	Si
SLU 60	-1.3	-1321.51	-56665	-47718	6828	5.83	5.83	-27283	10582	27506	30925	52373	14866	41259	Si	6.04	Si
SLU 60	1.59	-25288.61	-79668	-67089	20005	5.83	5.83	-38358	10833	35254	30925	52373	14866	52881	Si	2.64	Si
SLU 53	-1.3	-844.18	-55250	-46527	7093	5.83	5.83	-26602	10491	27030	30925	52373	14866	40544	Si	5.72	Si
SLU 53	1.59	-24577.99	-77270	-65070	19537	5.83	5.83	-37204	10833	34447	30925	52373	14866	51670	Si	2.64	Si
SLU 43	-1.3	-514.89	-48815	-41107	7196	5.83	5.83	-23503	10078	24862	30925	52373	14866	37293	Si	5.18	Si
SLU 43	1.59	-21931.82	-66549	-56041	17540	5.83	5.83	-32042	10833	30835	30925	52373	14866	46253	Si	2.64	Si
SLU 50	-1.3	-191.51	-50007	-42111	7382	5.83	5.83	-24077	10155	25263	30925	52373	14866	37895	Si	5.13	Si
SLU 50	1.59	-22247.89	-68502	-57686	17876	5.83	5.83	-32982	10833	31493	30925	52373	14866	47240	Si	2.64	Si
SLU 45	-1.3	-279.55	-49755	-41899	7351	5.83	5.83	-23956	10139	25179	30925	52373	14866	37768	Si	5.14	Si
SLU 45	1.59	-22228.24	-68087	-57336	17811	5.83	5.83	-32782	10833	31353	30925	52373	14866	47030	Si	2.64	Si
SLU 64	-1.3	-146.8	-55336	-46599	7735	5.83	5.83	-26643	10497	27059	30925	52373	14866	40588	Si	5.25	Si
SLU 64	1.59	-24297.91	-76097	-64082	19344	5.83	5.83	-36639	10833	34051	30925	52373	14866	51077	Si	2.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	-1.3	13548.33	-33373	-28103	15545	5.83	5.83	-16068	13630	23870	30925	78559	14866	54796		3.52	Si
SLV 3	1.59	-2642.03	-52495	-44206	23209	5.83	5.83	-25275	15472	30311	30925	78559	14866	61237		2.64	Si
SLD 7	-1.3	21873.54	-30978	-26087	17787	5.83	5.83	-14915	13400	23436	30925	78559	14866	54362		3.06	Si
SLD 7	1.59	4580.53	-46505	-39162	27026	5.83	5.83	-22391	14895	28294	30925	78559	14866	59219		2.19	Si
SLV 8	-1.3	36313.82	-23423	-19725	25757	5.83	4.0939	-11278	12672	20519	30925	78559	14866	51444		2	Si
SLV 8	1.59	19273.53	-38291	-32245	34875	5.83	5.83	-18436	14104	25527	30925	78559	14866	56452		1.62	Si
SLV 12	-1.3	33965.35	-25968	-21868	22887	5.83	4.8212	-12503	12917	21376	30925	78559	14866	52302		2.29	Si
SLV 12	1.59	15985.88	-38777	-32655	33128	5.83	5.83	-18670	14151	25691	30925	78559	14866	56616		1.71	Si
SLV 7	-1.3	35575.5	-23775	-20021	25123	5.83	4.256	-11447	12706	20638	30925	78559	14866	51563		2.05	Si
SLV 7	1.59	19026.02	-38741	-32624	34442	5.83	5.83	-18653	14147	25679	30925	78559	14866	56604		1.64	Si
SLV 11	-1.3	33227.04	-26321	-22165	22252	5.83	4.9578	-12673	12951	21495	30925	78559	14866	52420		2.36	Si
SLV 11	1.59	15738.36	-39227	-33033	32696	5.83	5.83	-18887	14194	25842	30925	78559	14866	56768		1.74	Si
SLV 4	-1.3	14644.94	-32850	-27663	16487	5.83	5.83	-15816	13580	23751	30925	78559	14866	54677		3.32	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	1.59	-2274.4	-51827	-43644	23852	5.83	5.83	-24953	15407	30086	30925	78559	14866	61012		2.56	Si
SLD 11	-1.3	20364.52	-32608	-27459	15945	5.83	5.83	-15700	13557	23711	30925	78559	14866	54636		3.43	Si
SLD 11	1.59	2473.72	-46810	-39419	25907	5.83	5.83	-22538	14924	28396	30925	78559	14866	59322		2.29	Si
SLD 12	-1.3	20826.7	-32387	-27273	16342	5.83	5.83	-15594	13535	23673	30925	78559	14866	54599		3.34	Si
SLD 12	1.59	2628.67	-46528	-39182	26178	5.83	5.83	-22402	14897	28302	30925	78559	14866	59227		2.26	Si
SLD 8	-1.3	22335.71	-30757	-25901	18184	5.83	5.83	-14809	13378	23399	30925	78559	14866	54324		2.99	Si
SLD 8	1.59	4735.47	-46224	-38925	27297	5.83	5.83	-22256	14868	28199	30925	78559	14866	59124		2.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.25	22990	-40209	287.36	5123.38	17.83	Si
SLV 7	179667	0.25	23256	-40675	287.36	5172.13	18	Si
SLV 12	179667	0.25	23825	-41671	287.36	5275.45	18.36	Si
SLV 11	179667	0.25	24092	-42137	287.36	5323.43	18.53	Si
SLV 4	179667	0.25	30083	-52615	287.36	6337.59	22.05	Si
SLV 3	179667	0.25	30479	-53307	287.36	6400.26	22.27	Si
SLV 16	179667	0.25	32869	-57488	287.36	6767.24	23.55	Si
SLV 15	179667	0.25	33265	-58180	287.36	6826.13	23.75	Si
SLV 2	179667	0.25	37054	-64808	287.36	7362.48	25.62	Si
SLV 1	179667	0.25	37450	-65500	287.36	7415.67	25.81	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-66297	-52557	677	0.508	7461.3	0.971	7.60335	3.62783	Si
SLV 14	-65628	-52033	671	0.512	7393.3	0.971	7.67161	3.62783	Si
SLV 1	-64677	-44072	-215	0.525	7296.4	0.97	7.86809	3.62783	Si
SLV 9	-79832	-61983	443	0.438	8839.8	0.975	6.52106	2.98849	Si
SLV 2	-64008	-43548	-221	0.53	7228.4	0.97	7.93805	3.62783	Si
SLV 10	-79382	-61631	439	0.44	8794	0.975	6.5534	2.98849	Si
SLV 5	-79346	-59438	175	0.443	8790.3	0.975	6.60279	2.98849	Si
SLV 6	-78896	-59086	171	0.445	8744.5	0.975	6.63579	2.98849	Si
SLV 15	-54115	-41858	610	0.604	6221.3	0.965	9.08826	3.62783	Si
SLV 16	-53447	-41335	604	0.61	6153.2	0.965	9.18887	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.14	SLU 84	Si
V_SLU	2.637	SLU 43	Si
PF_SLV	1.799	SLV 8	Si
V_SLV	1.619	SLV 8	Si
PFFP_SLV	17.829	SLV 8	Si
R_SLV	2.096	SLV 13	Si

Maschio 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.728	3.311	-14.008	3.311	L2	L4	4.28	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	-1.3	-14122.92	-40283	-0.0000684	0.0004492	0.0035	4.28	64070.95	83187.88	83187.88	5.89	No	Si
SLU 51	0.8	19620.63	-22049	-0.0000563	0.0004492	0.0035	4.28	40553.9	44926.05	44926.05	2.29	No	Si
SLU 48	-1.3	-14361.72	-40605	-0.0000692	0.0004492	0.0035	4.28	64405.24	83691.47	83691.47	5.83	No	Si
SLU 48	0.8	19890.13	-22191	-0.000057	0.0004492	0.0035	4.28	40772.29	45181.63	45181.63	2.27	No	Si
SLU 71	-1.3	-16117.78	-46391	-0.0000794	0.0004492	0.0035	4.28	69920.99	92169.25	92169.25	5.72	No	Si
SLU 71	0.8	22670.86	-26362	-0.0000663	0.0004492	0.0035	4.28	46934.83	52416.01	52416.01	2.31	No	Si
SLU 47	-1.3	-13780.96	-39811	-0.0000672	0.0004492	0.0035	4.28	63577.31	82451.95	82451.95	5.98	No	Si
SLU 47	0.8	19236.38	-21824	-0.0000553	0.0004492	0.0035	4.28	40207.2	44521.63	44521.63	2.31	No	Si
SLU 45	-1.3	-14076.27	-40199	-0.0000682	0.0004492	0.0035	4.28	63983.8	83057.3	83057.3	5.9	No	Si
SLU 45	0.8	19567.47	-21985	-0.0000561	0.0004492	0.0035	4.28	40454.48	44809.92	44809.92	2.29	No	Si
SLU 49	-1.3	-14276.94	-40507	-0.0000689	0.0004492	0.0035	4.28	64304.2	83538.81	83538.81	5.85	No	Si
SLU 49	0.8	19797.76	-22164	-0.0000568	0.0004492	0.0035	4.28	40730.4	45132.56	45132.56	2.28	No	Si
SLU 69	-1.3	-16271.8	-46615	-0.0000799	0.0004492	0.0035	4.28	70116.79	92498.15	92498.15	5.68	No	Si
SLU 69	0.8	22848	-26476	-0.0000668	0.0004492	0.0035	4.28	47097.83	52593.52	52593.52	2.3	No	Si
SLU 70	-1.3	-16187.03	-46518	-0.0000797	0.0004492	0.0035	4.28	70031.78	92355.07	92355.07	5.71	No	Si
SLU 70	0.8	22755.63	-26449	-0.0000666	0.0004492	0.0035	4.28	47059.13	52551.34	52551.34	2.31	No	Si
SLU 50	-1.3	-14207.69	-40380	-0.0000686	0.0004492	0.0035	4.28	64172.58	83340.54	83340.54	5.87	No	Si
SLU 50	0.8	19713	-22077	-0.0000565	0.0004492	0.0035	4.28	40595.87	44975.12	44975.12	2.28	No	Si
SLU 46	-1.3	-13991.5	-40101	-0.0000679	0.0004492	0.0035	4.28	63881.68	82904.64	82904.64	5.93	No	Si
SLU 46	0.8	19475.1	-21957	-0.0000559	0.0004492	0.0035	4.28	40412.44	44760.85	44760.85	2.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	-1.3	-10892.61	-42441	-0.0000642	0.0006738	0.0035	4.28	89740.61	89740.61	89740.61	8.24		Si
SLV 7	0.8	21612.27	-21193	-0.0000595	0.0006738	0.0035	4.28	44276.75	44276.75	44276.75	2.05		Si
SLV 14	-1.3	-30671.44	-28770	-0.0000856	0.0006738	0.0035	4.28	66294.47	66294.47	66294.47	2.16		Si
SLV 14	0.8	18244.8	-22099	-0.0000527	0.0006738	0.0035	4.28	45979.57	45979.57	45979.57	2.52		Si
SLD 12	-1.3	-19007.4	-37877	-0.0000719	0.0006738	0.0035	4.28	82167.85	82167.85	82167.85	4.32		Si
SLD 12	0.8	20957.42	-21751	-0.0000581	0.0006738	0.0035	4.28	45331.39	45331.39	45331.39	2.16		Si
SLV 13	-1.3	-30395.95	-28885	-0.0000848	0.0006738	0.0035	4.28	66502.63	66502.63	66502.63	2.19		Si
SLV 13	0.8	18201.04	-22015	-0.0000525	0.0006738	0.0035	4.28	45823.18	45823.18	45823.18	2.52		Si
SLV 12	-1.3	-23152.72	-39564	-0.0000806	0.0006738	0.0035	4.28	85048.77	85048.77	85048.77	3.67		Si
SLV 12	0.8	23392.57	-22703	-0.0000646	0.0006738	0.0035	4.28	47107.42	47107.42	47107.42	2.01		Si
SLV 16	-1.3	-33723.75	-32236	-0.0000947	0.0006738	0.0035	4.28	72464.59	72464.59	72464.59	2.15		Si
SLV 16	0.8	21566.75	-23167	-0.0000603	0.0006738	0.0035	4.28	47972.73	47972.73	47972.73	2.22		Si
SLD 11	-1.3	-18891.3	-37925	-0.0000717	0.0006738	0.0035	4.28	82251.25	82251.25	82251.25	4.35		Si
SLD 11	0.8	20938.98	-21716	-0.0000581	0.0006738	0.0035	4.28	45265.48	45265.48	45265.48	2.16		Si
SLV 15	-1.3	-33448.26	-32351	-0.0000939	0.0006738	0.0035	4.28	72662.47	72662.47	72662.47	2.17		Si
SLV 15	0.8	21523	-23083	-0.0000602	0.0006738	0.0035	4.28	47816.34	47816.34	47816.34	2.22		Si
SLV 11	-1.3	-22967.24	-39642	-0.0000804	0.0006738	0.0035	4.28	85175.08	85175.08	85175.08	3.71		Si
SLV 11	0.8	23363.11	-22647	-0.0000645	0.0006738	0.0035	4.28	47002.13	47002.13	47002.13	2.01		Si
SLV 8	-1.3	-11078.09	-42364	-0.0000644	0.0006738	0.0035	4.28	89614.3	89614.3	89614.3	8.09		Si
SLV 8	0.8	21641.73	-21249	-0.0000596	0.0006738	0.0035	4.28	44383.79	44383.79	44383.79	2.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	-1.3	-17813	-53419	-38850	-5596	4.28	4.28	-30257	10833	22957	88358	46144	21828	34435	Si	6.15	Si
SLU 83	0.8	25714.17	-31901	-23200	-5597	4.28	4.0018	-18069	10743	16697	88358	46144	21828	25046	Si	4.48	Si
SLU 81	-1.3	-17527.56	-53013	-38555	-5509	4.28	4.28	-30027	10833	22839	88358	46144	21828	34258	Si	6.22	Si
SLU 81	0.8	25391.5	-31694	-23050	-5510	4.28	4.0166	-17952	10727	16637	88358	46144	21828	24956	Si	4.53	Si
SLU 77	-1.3	-17658.27	-51820	-37687	-5480	4.28	4.28	-29351	10833	22492	88358	46144	21828	33737	Si	6.16	Si
SLU 77	0.8	25204.18	-30499	-22181	-5481	4.28	3.9408	-17275	10637	16289	88358	46144	21828	24434	Si	4.46	Si
SLU 78	-1.3	-17573.5	-51722	-37616	-5468	4.28	4.28	-29296	10833	22463	88358	46144	21828	33695	Si	6.16	Si
SLU 78	0.8	25111.81	-30471	-22161	-5469	4.28	3.9477	-17259	10635	16281	88358	46144	21828	24422	Si	4.47	Si
SLU 79	-1.3	-17504.25	-51595	-37524	-5435	4.28	4.28	-29224	10833	22426	88358	46144	21828	33639	Si	6.19	Si
SLU 79	0.8	25027.04	-30384	-22097	-5435	4.28	3.9489	-17210	10628	16256	88358	46144	21828	24384	Si	4.49	Si
SLU 75	-1.3	-17288.05	-51316	-37321	-5381	4.28	4.28	-29066	10833	22345	88358	46144	21828	33517	Si	6.23	Si
SLU 75	0.8	24789.14	-30265	-22011	-5382	4.28	3.9628	-17142	10619	16221	88358	46144	21828	24332	Si	4.52	Si
SLU 80	-1.3	-17419.47	-51497	-37452	-5422	4.28	4.28	-29169	10833	22398	88358	46144	21828	33597	Si	6.2	Si
SLU 80	0.8	24934.67	-30356	-22077	-5423	4.28	3.9558	-17194	10626	16248	88358	46144	21828	24372	Si	4.49	Si
SLU 74	-1.3	-17372.83	-51414	-37392	-5394	4.28	4.28	-29121	10833	22373	88358	46144	21828	33560	Si	6.22	Si
SLU 74	0.8	24881.51	-30292	-22030	-5395	4.28	3.9558	-17158	10621	16229	88358	46144	21828	24344	Si	4.51	Si
SLU 84	-1.3	-17728.23	-53321	-38779	-5583	4.28	4.28	-30202	10833	22928	88358	46144	21828	34393	Si	6.16	Si
SLU 84	0.8	25621.8	-31873	-23181	-5584	4.28	4.0084	-18053	10740	16689	88358	46144	21828	25034	Si	4.48	Si
SLU 82	-1.3	-17442.78	-52915	-38484	-5497	4.28	4.28	-29972	10833	22810	88358	46144	21828	34215	Si	6.22	Si
SLU 82	0.8	25299.13	-31667	-23030	-5498	4.28	4.0232	-17936	10725	16629	88358	46144	21828	24944	Si	4.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.3	9577.3	-38102	-27710	14737	4.28	4.28	-21581	16250	22210	88358	69216	21828	91044		6.18	Si
SLV 2	0.8	12408.66	-17252	-12547	14392	4.28	4.2622	-9772	14454	18482	88358	69216	21828	91044		6.33	Si
SLV 16	-1.3	-33723.75	-32236	-23444	-22292	4.28	3.2815	-24061	16250	20503	88358	69216	21828	91044		4.08	Si
SLV 16	0.8	21566.75	-23167	-16849	-21948	4.28	3.6272	-13122	15124	17865	88358	69216	21828	91044		4.15	Si
SLV 13	-1.3	-30395.95	-28885	-21007	-21381	4.28	3.2631	-21654	16250	19529	88358	69216	21828	91044		4.26	Si
SLV 13	0.8	18201.04	-22015	-16011	-21027	4.28	3.9397	-12469	14994	17722	88358	69216	21828	91044		4.33	Si
SLD 16	-1.3	-25857.45	-33274	-24199	-15562	4.28	4.0887	-19902	16250	20805	88358	69216	21828	91044		5.85	Si
SLD 16	0.8	19872.09	-22076	-16055	-15347	4.28	3.7195	-12504	15001	17548	88358	69216	21828	91044		5.93	Si
SLV 1	-1.3	9852.79	-38217	-27794	15092	4.28	4.28	-21646	16250	22243	88358	69216	21828	91044		6.03	Si
SLV 1	0.8	12364.91	-17168	-12486	14746	4.28	4.2593	-9724	14445	18458	88358	69216	21828	91044		6.17	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	-1.3	-23969.33	-31131	-22641	-15216	4.28	4.1102	-18512	16202	20182	88358	69216	21828	91044		5.98	Si
SLD 14	0.8	17818.45	-21415	-15575	-14995	4.28	3.9239	-12130	14926	17570	88358	69216	21828	91044		6.07	Si
SLD 15	-1.3	-25681.61	-33347	-24252	-15336	4.28	4.1096	-19844	16250	20827	88358	69216	21828	91044		5.94	Si
SLD 15	0.8	19844.16	-22022	-16016	-15120	4.28	3.7167	-12474	14995	17532	88358	69216	21828	91044		6.02	Si
SLV 15	-1.3	-33448.26	-32351	-23528	-21938	4.28	3.3183	-23881	16250	20537	88358	69216	21828	91044		4.15	Si
SLV 15	0.8	21523	-23083	-16788	-21593	4.28	3.6228	-13075	15115	17841	88358	69216	21828	91044		4.22	Si
SLV 14	-1.3	-30671.44	-28770	-20924	-21736	4.28	3.2217	-21860	16250	19495	88358	69216	21828	91044		4.19	Si
SLV 14	0.8	18244.8	-22099	-16072	-21382	4.28	3.9432	-12517	15003	17748	88358	69216	21828	91044		4.26	Si
SLD 13	-1.3	-23793.49	-31205	-22694	-14990	4.28	4.1325	-18455	16191	20203	88358	69216	21828	91044		6.07	Si
SLD 13	0.8	17790.52	-21362	-15536	-14768	4.28	3.9216	-12100	14920	17553	88358	69216	21828	91044		6.16	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-23362	0.25	210.96	3156.42	4374.62	3765.52	17.85	Si
SLV 10	-23376	0.25	210.96	3158.16	4376.93	3767.54	17.86	Si
SLV 5	-23533	0.25	210.96	3176.93	4401.85	3789.39	17.96	Si
SLV 6	-23547	0.25	210.96	3178.67	4404.15	3791.41	17.97	Si
SLV 13	-25376	0.25	210.96	3395.97	4695.56	4045.76	19.18	Si
SLV 14	-25398	0.25	210.96	3398.5	4698.99	4048.74	19.19	Si
SLV 1	-25945	0.25	210.96	3462.73	4786.21	4124.47	19.55	Si
SLV 2	-25967	0.25	210.96	3465.25	4789.64	4127.44	19.56	Si
SLV 15	-27276	0.25	210.96	3617.22	4998.23	4307.72	20.42	Si
SLV 16	-27298	0.25	210.96	3619.7	5001.65	4310.68	20.43	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-9449	-32236	148	1.934	1499.4	0.912	30.81493	3.62783	Si
SLV 15	-9434	-32351	148	1.936	1497.9	0.912	30.85264	3.62783	Si
SLV 14	-9326	-28770	-114	1.955	1487.1	0.912	31.16712	3.62783	Si
SLV 13	-9310	-28885	-114	1.957	1485.6	0.911	31.20552	3.62783	Si
SLV 4	-9152	-41568	121	1.981	1469.8	0.911	31.60491	3.62783	Si
SLV 3	-9137	-41683	121	1.983	1468.3	0.911	31.64452	3.62783	Si
SLV 2	-9028	-38102	-141	1.998	1457.5	0.91	31.90415	3.62783	Si
SLV 1	-9013	-38217	-141	2.001	1456	0.91	31.94442	3.62783	Si
SLV 12	-9487	-39564	444	1.905	1503.2	0.912	30.35401	2.98849	Si
SLV 11	-9477	-39642	444	1.907	1502.2	0.912	30.37893	2.98849	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.272	SLU 48	Si
V_SLU	4.458	SLU 77	Si
PF_SLV	2.012	SLV 11	Si
V_SLV	4.084	SLV 16	Si
PFFP_SLV	17.849	SLV 9	Si
R_SLV	8.494	SLV 16	Si

Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.768	6.576	-12.888	6.576	L2	L4	3.88	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	0.7	828.99	-44689	-0.0000421	0.0003743	0.0035	3.88	64901.26	70195.82	70195.82	84.68	No	Si
SLU 49	1.1	-2549.25	-45995	-0.0000459	0.0003743	0.0035	3.88	66142.76	76016.05	76016.05	29.82	No	Si
SLU 51	0.7	848.11	-44199	-0.0000416	0.0003743	0.0035	3.88	64426.44	69651.06	69651.06	82.12	No	Si
SLU 51	1.1	-2496.97	-45484	-0.0000453	0.0003743	0.0035	3.88	65660.92	75408.81	75408.81	30.2	No	Si
SLU 48	0.7	817.27	-45170	-0.0000425	0.0003743	0.0035	3.88	65363.13	70732.76	70732.76	86.55	No	Si
SLU 48	1.1	-2612.54	-46465	-0.0000465	0.0003743	0.0035	3.88	66580.11	76575.48	76575.48	29.31	No	Si
SLU 69	0.7	1148.15	-53237	-0.000051	0.0003743	0.0035	3.88	72349.22	79885.27	79885.27	69.58	No	Si
SLU 69	1.1	-2656.56	-54867	-0.000055	0.0003743	0.0035	3.88	73588.22	86061.16	86061.16	32.4	No	Si
SLU 50	0.7	836.39	-44681	-0.0000421	0.0003743	0.0035	3.88	64893.45	70186.8	70186.8	83.92	No	Si
SLU 50	1.1	-2560.26	-45953	-0.0000459	0.0003743	0.0035	3.88	66103.52	75966.24	75966.24	29.67	No	Si
SLU 47	0.7	872.66	-42986	-0.0000405	0.0003743	0.0035	3.88	63227.19	68306.31	68306.31	78.27	No	Si
SLU 47	1.1	-2347.76	-44241	-0.0000439	0.0003743	0.0035	3.88	64467.45	73928.83	73928.83	31.49	No	Si
SLU 46	0.7	845.73	-43797	-0.0000412	0.0003743	0.0035	3.88	64031.94	69203.88	69203.88	81.83	No	Si
SLU 46	1.1	-2442.23	-45066	-0.0000448	0.0003743	0.0035	3.88	65263.76	74915.24	74915.24	30.67	No	Si
SLU 43	0.7	869.86	-42896	-0.0000404	0.0003743	0.0035	3.88	63137.13	68207.06	68207.06	78.41	No	Si
SLU 43	1.1	-2346.23	-44095	-0.0000437	0.0003743	0.0035	3.88	64324.98	73750.08	73750.08	31.43	No	Si
SLU 45	0.7	834	-44278	-0.0000417	0.0003743	0.0035	3.88	64503.19	69738.63	69738.63	83.62	No	Si
SLU 45	1.1	-2505.53	-45536	-0.0000454	0.0003743	0.0035	3.88	65710.64	75471.04	75471.04	30.12	No	Si
SLU 6	0.7	703.8	-37399	-0.0000348	0.0003743	0.0035	3.88	57289.26	61305.64	61305.64	87.11	No	Si
SLU 6	1.1	-2082.71	-38505	-0.0000379	0.0003743	0.0035	3.88	58519.17	66633	66633	31.99	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	0.7	6748.16	-32403	-0.0000381	0.0005615	0.0035	3.88		57043.63	57043.63	8.45		Si
SLD 13	1.1	-349.61	-33520	-0.0000302	0.0005615	0.0035	3.88		62598.9	62598.9	179.05		Si
SLV 14	0.7	11278.31	-28309	-0.0000406	0.0005615	0.0035	3.88		51079.61	51079.61	4.53		Si
SLV 14	1.1	580.69	-29352	-0.0000267	0.0005615	0.0035	3.88		52706.09	52706.09	90.76		Si
SLV 10	0.7	4688.68	-9951	-0.0000149	0.0005615	0.0035	3.88		19440.11	19440.11	4.15		Si
SLV 10	1.1	2136.96	-11142	-0.0000126	0.0005615	0.0035	3.88		21607.72	21607.72	10.11		Si
SLV 13	0.7	9995.84	-28299	-0.0000388	0.0005615	0.0035	3.88		51062.94	51062.94	5.11		Si
SLV 13	1.1	474.83	-29380	-0.0000266	0.0005615	0.0035	3.88		52748.98	52748.98	111.09		Si
SLD 14	0.7	7566.73	-32409	-0.0000392	0.0005615	0.0035	3.88		57052.87	57052.87	7.54		Si
SLD 14	1.1	-282.05	-33502	-0.0000301	0.0005615	0.0035	3.88		62571.09	62571.09	221.85		Si
SLV 2	0.7	-7797.37	-32988	-0.0000401	0.0005615	0.0035	3.88		61780.2	61780.2	7.92		Si
SLV 2	1.1	-1904.68	-34320	-0.0000331	0.0005615	0.0035	3.88		63833.77	63833.77	33.51		Si
SLV 9	0.7	3825.23	-9944	-0.0000138	0.0005615	0.0035	3.88		19427.62	19427.62	5.08		Si
SLV 9	1.1	2065.69	-11161	-0.0000125	0.0005615	0.0035	3.88		21642.08	21642.08	10.48		Si
SLV 1	0.7	-9079.84	-32978	-0.0000419	0.0005615	0.0035	3.88		61764.47	61764.47	6.8		Si
SLV 1	1.1	-2010.54	-34348	-0.0000333	0.0005615	0.0035	3.88		63877.47	63877.47	31.77		Si
SLV 16	0.7	11024.27	-45447	-0.0000564	0.0005615	0.0035	3.88		75780.73	75780.73	6.87		Si
SLV 16	1.1	-1513.69	-46454	-0.0000438	0.0005615	0.0035	3.88		81922.39	81922.39	54.12		Si
SLV 15	0.7	9741.8	-45437	-0.0000546	0.0005615	0.0035	3.88		75765.84	75765.84	7.78		Si
SLV 15	1.1	-1619.55	-46482	-0.000044	0.0005615	0.0035	3.88		81961.71	81961.71	50.61		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	0.7	828.99	-44689	-39723	6705	3.88	3.88	-22751	9978	24294	30925	52283	9894	36441	Si	5.43	Si
SLU 49	1.1	-2549.25	-45995	-40885	6703	3.88	3.88	-23416	10067	24758	30925	52283	9894	37138	Si	5.54	Si
SLU 69	0.7	1148.15	-53237	-47322	7574	3.88	3.88	-27103	10558	27333	30925	52283	9894	41000	Si	5.41	Si
SLU 69	1.1	-2656.56	-54867	-48771	7571	3.88	3.88	-27933	10669	27913	30925	52283	9894	41869	Si	5.53	Si
SLU 66	0.7	1164.88	-52345	-46529	7369	3.88	3.88	-26649	10498	27016	30925	52283	9894	40524	Si	5.5	Si
SLU 66	1.1	-2549.54	-53938	-47945	7367	3.88	3.88	-27460	10606	27582	30925	52283	9894	41374	Si	5.62	Si
SLU 45	0.7	834	-44278	-39358	6636	3.88	3.88	-22542	9950	24148	30925	52283	9894	36222	Si	5.46	Si
SLU 45	1.1	-2505.53	-45536	-40477	6634	3.88	3.88	-23182	10035	24595	30925	52283	9894	36893	Si	5.56	Si
SLU 70	0.7	1159.87	-52756	-46894	7438	3.88	3.88	-26858	10526	27162	30925	52283	9894	40743	Si	5.48	Si
SLU 70	1.1	-2593.26	-54397	-48353	7436	3.88	3.88	-27694	10637	27746	30925	52283	9894	41618	Si	5.6	Si
SLU 48	0.7	817.27	-45170	-40151	6841	3.88	3.88	-22996	10011	24465	30925	52283	9894	36698	Si	5.36	Si
SLU 48	1.1	-2612.54	-46465	-41302	6839	3.88	3.88	-23655	10098	24925	30925	52283	9894	37388	Si	5.47	Si
SLU 51	0.7	848.11	-44199	-39288	6635	3.88	3.88	-22502	9945	24120	30925	52283	9894	36180	Si	5.45	Si
SLU 51	1.1	-2496.97	-45484	-40430	6633	3.88	3.88	-23156	10032	24577	30925	52283	9894	36865	Si	5.56	Si
SLU 71	0.7	1167.27	-52748	-46887	7503	3.88	3.88	-26854	10525	27159	30925	52283	9894	40739	Si	5.43	Si
SLU 71	1.1	-2604.27	-54355	-48316	7501	3.88	3.88	-27672	10634	27731	30925	52283	9894	41596	Si	5.55	Si
SLU 72	0.7	1178.99	-52266	-46459	7368	3.88	3.88	-26609	10492	26988	30925	52283	9894	40482	Si	5.49	Si
SLU 72	1.1	-2540.98	-53885	-47898	7365	3.88	3.88	-27433	10602	27564	30925	52283	9894	41346	Si	5.61	Si
SLU 50	0.7	836.39	-44681	-39716	6771	3.88	3.88	-22747	9977	24291	30925	52283	9894	36437	Si	5.38	Si
SLU 50	1.1	-2560.26	-45953	-40847	6769	3.88	3.88	-23395	10064	24744	30925	52283	9894	37115	Si	5.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	0.7	11278.31	-28309	-25164	25015	3.88	3.88	-14412	13299	23220	30925	78424	9894	54146		2.16	Si
SLV 14	1.1	580.69	-29352	-26090	25066	3.88	3.88	-14943	13405	23406	30925	78424	9894	54331		2.17	Si
SLV 1	0.7	-9079.84	-32978	-29314	-19659	3.88	3.88	-16789	13775	24333	30925	78424	9894	55258		2.81	Si
SLV 1	1.1	-2010.54	-34348	-30532	-19318	3.88	3.88	-17487	13914	24820	30925	78424	9894	55745		2.89	Si
SLV 13	0.7	9995.84	-28299	-25154	22051	3.88	3.88	-14407	13298	23218	30925	78424	9894	54144		2.46	Si
SLV 13	1.1	474.83	-29380	-26115	22103	3.88	3.88	-14957	13408	23411	30925	78424	9894	54336		2.46	Si
SLV 16	0.7	11024.27	-45447	-40397	30429	3.88	3.88	-23137	15044	28766	30925	78424	9894	59692		1.96	Si
SLV 16	1.1	-1513.69	-46454	-41292	30085	3.88	3.88	-23650	15147	29124	30925	78424	9894	60050		2	Si
SLV 12	0.7	3841.9	-67077	-59624	21662	3.88	3.88	-34149	16250	36457	30925	78424	9894	67382		3.11	Si
SLV 12	1.1	-4844.31	-68150	-60578	20959	3.88	3.88	-34695	16250	36838	30925	78424	9894	67763		3.23	Si
SLD 16	0.7	7429	-43006	-38228	21347	3.88	3.88	-21894	14796	27898	30925	78424	9894	58824		2.76	Si
SLD 16	1.1	-1555.53	-44078	-39180	21132	3.88	3.88	-22440	14905	28279	30925	78424	9894	59205		2.8	Si
SLD 15	0.7	6610.42	-43000	-38222	19455	3.88	3.88	-21891	14795	27896	30925	78424	9894	58821		3.02	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	1.1	-1623.1	-44096	-39197	19241	3.88	3.88	-22449	14907	28286	30925	78424	9894	59211		3.08	Si
SLV 15	0.7	9741.8	-45437	-40388	27465	3.88	3.88	-23132	15043	28762	30925	78424	9894	59688		2.17	Si
SLV 15	1.1	-1619.55	-46482	-41318	27122	3.88	3.88	-23664	15149	29134	30925	78424	9894	60060		2.21	Si
SLV 2	0.7	-7797.37	-32988	-29323	-16695	3.88	3.88	-16794	13776	24337	30925	78424	9894	55262		3.31	Si
SLV 2	1.1	-1904.68	-34320	-30506	-16355	3.88	3.88	-17472	13911	24810	30925	78424	9894	55735		3.41	Si
SLD 14	0.7	7566.73	-32409	-28808	18003	3.88	3.88	-16500	13717	24131	30925	78424	9894	55056		3.06	Si
SLD 14	1.1	-282.05	-33502	-29779	18035	3.88	3.88	-17056	13828	24519	30925	78424	9894	55445		3.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.25	4722	-8245	276.9	1797.78	6.49	Si
SLV 10	179667	0.25	4766	-8321	276.9	1813.89	6.55	Si
SLV 5	179667	0.25	5541	-9674	276.9	2097.64	7.58	Si
SLV 6	179667	0.25	5584	-9750	276.9	2113.57	7.63	Si
SLV 13	179667	0.25	14502	-25320	276.9	5155.98	18.62	Si
SLV 14	179667	0.25	14567	-25433	276.9	5176.64	18.7	Si
SLV 1	179667	0.25	17229	-30082	276.9	6004.89	21.69	Si
SLV 2	179667	0.25	17294	-30196	276.9	6024.64	21.76	Si
SLV 15	179667	0.25	23711	-41400	276.9	7868.7	28.42	Si
SLV 16	179667	0.25	23776	-41513	276.9	7886.28	28.48	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 7	-70534	-58819	-3146	0.331	7891.6	0.972	4.94664	2.77912	Si
SLV 8	-70449	-59006	-3137	0.331	7883	0.972	4.95282	2.77912	Si
SLV 11	-69092	-57324	-3048	0.337	7744.8	0.972	5.04311	2.77912	Si
SLV 12	-69007	-57511	-3039	0.338	7736.1	0.972	5.04952	2.77912	Si
SLV 3	-51928	-42699	-2578	0.424	5997.4	0.964	6.39622	3.14871	Si
SLV 4	-51802	-42977	-2565	0.425	5984.6	0.964	6.41186	3.14871	Si
SLV 15	-47122	-37716	-2252	0.463	5508.5	0.961	6.99808	3.14871	Si
SLV 16	-46996	-37994	-2239	0.464	5495.7	0.961	7.01673	3.14871	Si
SLV 1	-34520	-27426	-1991	0.594	4227.6	0.951	9.07422	3.14871	Si
SLV 2	-34395	-27704	-1978	0.596	4214.8	0.951	9.10609	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	29.311	SLU 48	Si
V_SLU	5.364	SLU 48	Si
PF_SLV	4.146	SLV 10	Si
V_SLV	1.962	SLV 16	Si
PFFP_SLV	6.493	SLV 9	Si
R_SLV	1.78	SLV 7	Si

Maschio 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.428	1.046	-11.238	1.046	L2	L4	3.81	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	-1.3	-29401.45	-113563	-0.000157	0.0004492	0.0035	3.81	99062.77	149398.98	148594.15	5.05	Si	Si
SLU 84	0.86	-12414.89	-101205	-0.0001137	0.0004492	0.0035	3.81	99655.88	140575.42	140575.42	11.32	No	Si
SLU 83	-1.3	-29374.14	-113845	-0.0001573	0.0004492	0.0035	3.81	99016.85	149600.17	148525.28	5.06	Si	Si
SLU 83	0.86	-12439.26	-101332	-0.0001139	0.0004492	0.0035	3.81	99663.88	140665.81	140665.81	11.31	No	Si
SLU 80	-1.3	-28543.25	-110245	-0.0001515	0.0004492	0.0035	3.81	99494.75	147030.08	147030.08	5.15	No	Si
SLU 80	0.86	-12124.84	-98035	-0.0001098	0.0004492	0.0035	3.81	99360.43	138312.17	138312.17	11.41	No	Si
SLU 76	-1.3	-28228.56	-108767	-0.0001492	0.0004492	0.0035	3.81	99622.73	145974.77	145974.77	5.17	No	Si
SLU 76	0.86	-11948.96	-96705	-0.0001081	0.0004492	0.0035	3.81	99181.98	137362.29	137362.29	11.5	No	Si
SLU 77	-1.3	-28657.48	-111191	-0.0001528	0.0004492	0.0035	3.81	99392.03	147705.22	147705.22	5.15	No	Si
SLU 77	0.86	-12217.27	-98789	-0.0001108	0.0004492	0.0035	3.81	99447.18	138849.95	138849.95	11.37	No	Si
SLU 79	-1.3	-28515.93	-110527	-0.0001518	0.0004492	0.0035	3.81	99465.84	147231.27	147231.27	5.16	No	Si
SLU 79	0.86	-12149.21	-98162	-0.00011	0.0004492	0.0035	3.81	99375.73	138402.57	138402.57	11.39	No	Si
SLU 81	-1.3	-29041.24	-112555	-0.0001552	0.0004492	0.0035	3.81	99215.23	148679	148679	5.12	No	Si
SLU 81	0.86	-12279.64	-100086	-0.0001123	0.0004492	0.0035	3.81	99572.42	139776.2	139776.2	11.38	No	Si
SLU 82	-1.3	-29068.56	-112273	-0.0001549	0.0004492	0.0035	3.81	99254.53	148477.8	148477.8	5.11	No	Si
SLU 82	0.86	-12255.26	-99959	-0.0001121	0.0004492	0.0035	3.81	99561.54	139685.8	139685.8	11.4	No	Si
SLU 75	-1.3	-28351.9	-109619	-0.0001504	0.0004492	0.0035	3.81	99553.83	146582.85	146582.85	5.17	No	Si
SLU 75	0.86	-12033.27	-97416	-0.000109	0.0004492	0.0035	3.81	99281.35	137869.94	137869.94	11.46	No	Si
SLU 78	-1.3	-28684.8	-110909	-0.0001525	0.0004492	0.0035	3.81	99424.34	147504.03	147504.03	5.14	No	Si
SLU 78	0.86	-12192.9	-98662	-0.0001106	0.0004492	0.0035	3.81	99433.32	138759.55	138759.55	11.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	-1.3	-27530.15	-60191	-0.0000913	0.0006738	0.0035	3.81		106843	106843	3.88		Si
SLV 10	0.86	-3356.79	-57784	-0.0000546	0.0006738	0.0035	3.81		103491.51	103491.51	30.83		Si
SLV 13	-1.3	-41470.11	-75447	-0.0001268	0.0006738	0.0035	3.81		127186.76	127186.76	3.07		Si
SLV 13	0.86	4350.21	-63628	-0.0000613	0.0006738	0.0035	3.81		103640.81	103640.81	23.82		Si
SLD 16	-1.3	-33103.38	-81545	-0.0001204	0.0006738	0.0035	3.81		134799.67	134799.67	4.07		Si
SLD 16	0.86	-554.63	-67604	-0.0000595	0.0006738	0.0035	3.81		117003.7	117003.7	210.96		Si
SLV 16	-1.3	-40742.85	-85350	-0.0001357	0.0006738	0.0035	3.81		139405.72	139405.72	3.42		Si
SLV 16	0.86	3776.63	-68633	-0.000065	0.0006738	0.0035	3.81		110593.89	110593.89	29.28		Si
SLD 15	-1.3	-32984.83	-81535	-0.0001202	0.0006738	0.0035	3.81		134787.57	134787.57	4.09		Si
SLD 15	0.86	-630.49	-67565	-0.0000596	0.0006738	0.0035	3.81		116949.97	116949.97	185.49		Si
SLV 15	-1.3	-40557.12	-85334	-0.0001354	0.0006738	0.0035	3.81		139386.77	139386.77	3.44		Si
SLV 15	0.86	3657.79	-68571	-0.0000648	0.0006738	0.0035	3.81		110508.56	110508.56	30.21		Si
SLV 9	-1.3	-27405.11	-60181	-0.0000912	0.0006738	0.0035	3.81		106828.56	106828.56	3.9		Si
SLV 9	0.86	-3436.8	-57742	-0.0000547	0.0006738	0.0035	3.81		103431.52	103431.52	30.1		Si
SLV 14	-1.3	-41655.83	-75462	-0.0001271	0.0006738	0.0035	3.81		127206.96	127206.96	3.05		Si
SLV 14	0.86	4469.06	-63689	-0.0000615	0.0006738	0.0035	3.81		103726.14	103726.14	23.21		Si
SLD 14	-1.3	-33668.26	-75435	-0.0001151	0.0006738	0.0035	3.81		127171.22	127171.22	3.78		Si
SLD 14	0.86	-121.87	-64551	-0.0000561	0.0006738	0.0035	3.81		112818.24	112818.24	925.72		Si
SLD 13	-1.3	-33549.71	-75425	-0.0001149	0.0006738	0.0035	3.81		127158.32	127158.32	3.79		Si
SLD 13	0.86	-197.73	-64511	-0.0000562	0.0006738	0.0035	3.81		112764.5	112764.5	570.3		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	-1.3	-26171.39	-99943	-79955	-5833	3.81	3.81	-46634	10833	41885	88358	61615	19431	62827	Si	10.77	Si
SLU 60	0.86	-10687.28	-87967	-70374	-5733	3.81	3.81	-41046	10833	38053	88358	61615	19431	57079	Si	9.96	Si
SLU 53	-1.3	-25454.73	-97289	-77831	-5634	3.81	3.81	-45396	10833	41036	88358	61615	19431	61553	Si	10.93	Si
SLU 53	0.86	-10465.28	-85424	-68339	-5572	3.81	3.81	-39860	10833	37239	88358	61615	19431	55858	Si	10.02	Si
SLU 62	-1.3	-26504.29	-101233	-80987	-5898	3.81	3.81	-47236	10833	42298	88358	61615	19431	63446	Si	10.76	Si
SLU 62	0.86	-10846.9	-89213	-71371	-5798	3.81	3.81	-41628	10833	38451	88358	61615	19431	57677	Si	9.95	Si
SLU 63	-1.3	-26531.6	-100952	-80761	-5768	3.81	3.81	-47105	10833	42207	88358	61615	19431	63311	Si	10.98	Si
SLU 63	0.86	-10822.53	-89087	-71269	-5645	3.81	3.81	-41569	10833	38411	88358	61615	19431	57616	Si	10.21	Si
SLU 61	-1.3	-26198.7	-99661	-79729	-5703	3.81	3.81	-46503	10833	41795	88358	61615	19431	62692	Si	10.99	Si
SLU 61	0.86	-10662.9	-87841	-70273	-5581	3.81	3.81	-40987	10833	38012	88358	61615	19431	57018	Si	10.22	Si
SLU 48	-1.3	-23008.39	-87827	-70262	-4997	3.81	3.81	-40981	10833	38008	88358	61615	19431	57012	Si	11.41	Si
SLU 48	0.86	-9575.66	-76367	-61093	-5032	3.81	3.81	-35633	10833	34341	88358	61615	19431	51511	Si	10.24	Si
SLU 56	-1.3	-25787.63	-98579	-78864	-5698	3.81	3.81	-45998	10833	41448	88358	61615	19431	62173	Si	10.91	Si
SLU 56	0.86	-10624.91	-86670	-69336	-5637	3.81	3.81	-40441	10833	37638	88358	61615	19431	56456	Si	10.02	Si
SLU 50	-1.3	-22866.84	-87164	-69731	-4961	3.81	3.81	-40671	10833	37796	88358	61615	19431	56693	Si	11.43	Si
SLU 50	0.86	-9507.6	-75740	-60592	-4998	3.81	3.81	-35341	10833	34140	88358	61615	19431	51210	Si	10.25	Si
SLU 58	-1.3	-25646.08	-97916	-78332	-5662	3.81	3.81	-45688	10833	41236	88358	61615	19431	61854	Si	10.92	Si
SLU 58	0.86	-10556.85	-86044	-68835	-5603	3.81	3.81	-40149	10833	37437	88358	61615	19431	56156	Si	10.02	Si
SLU 45	-1.3	-22675.49	-86537	-69230	-4933	3.81	3.81	-40379	10833	37595	88358	61615	19431	56393	Si	11.43	Si
SLU 45	0.86	-9416.03	-75121	-60097	-4967	3.81	3.81	-35052	10833	33942	88358	61615	19431	50913	Si	10.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	-1.3	-24361.82	-93140	-74512	-18173	3.81	3.81	-43460	16250	44660	88358	92422	19431	111853		6.15	Si
SLV 11	0.86	-5744.89	-74220	-59376	-16373	3.81	3.81	-34632	16250	38606	88358	92422	19431	111853		6.83	Si
SLD 15	-1.3	-32984.83	-81535	-65228	-20655	3.81	3.81	-38045	16250	40947	88358	92422	19431	111853		5.42	Si
SLD 15	0.86	-630.49	-67565	-54052	-14737	3.81	3.81	-31526	16250	36476	88358	92422	19431	111853		7.59	Si
SLD 16	-1.3	-33103.38	-81545	-65236	-20725	3.81	3.81	-38050	16250	40950	88358	92422	19431	111853		5.4	Si
SLD 16	0.86	-554.63	-67604	-54083	-14807	3.81	3.81	-31545	16250	36489	88358	92422	19431	111853		7.55	Si
SLV 12	-1.3	-24486.87	-93150	-74520	-18247	3.81	3.81	-43465	16250	44663	88358	92422	19431	111853		6.13	Si
SLV 12	0.86	-5664.88	-74262	-59409	-16446	3.81	3.81	-34651	16250	38619	88358	92422	19431	111853		6.8	Si
SLV 1	-1.3	1845.57	-64781	-51825	22116	3.81	3.81	-30227	16250	35586	88358	92422	19431	111853		5.06	Si
SLV 1	0.86	-20261.97	-63262	-50609	12890	3.81	3.81	-29518	16250	35099	88358	92422	19431	111853		8.68	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.3	-41470.11	-75447	-60357	-25885	3.81	3.81	-35204	16250	38998	88358	92422	19431	111853		4.32	Si
SLV 13	0.86	4350.21	-63628	-50902	-15991	3.81	3.81	-29689	16250	35216	88358	92422	19431	111853		6.99	Si
SLV 2	-1.3	1659.85	-64797	-51837	22006	3.81	3.81	-30235	16250	35591	88358	92422	19431	111853		5.08	Si
SLV 2	0.86	-20143.12	-63323	-50658	12781	3.81	3.81	-29547	16250	35119	88358	92422	19431	111853		8.75	Si
SLV 14	-1.3	-41655.83	-75462	-60370	-25995	3.81	3.81	-35211	16250	39003	88358	92422	19431	111853		4.3	Si
SLV 14	0.86	4469.06	-63689	-50951	-16101	3.81	3.81	-29718	16250	35236	88358	92422	19431	111853		6.95	Si
SLV 15	-1.3	-40557.12	-85334	-68267	-30072	3.81	3.81	-39818	16250	42162	88358	92422	19431	111853		3.72	Si
SLV 15	0.86	3657.79	-68571	-54857	-20825	3.81	3.81	-31996	16250	36798	88358	92422	19431	111853		5.37	Si
SLV 16	-1.3	-40742.85	-85350	-68280	-30181	3.81	3.81	-39825	16250	42167	88358	92422	19431	111853		3.71	Si
SLV 16	0.86	3776.63	-68633	-54906	-20934	3.81	3.81	-32025	16250	36818	88358	92422	19431	111853		5.34	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-60925	0.25	276.33	11050.31	14788.83	12919.57	46.75	Si
SLV 6	-60957	0.25	276.33	11054.74	14795.52	12925.13	46.77	Si
SLV 9	-61886	0.25	276.33	11182.08	14989.11	13085.6	47.35	Si
SLV 10	-61918	0.25	276.33	11186.46	14995.81	13091.13	47.37	Si
SLV 1	-67123	0.25	276.33	11876.6	16080.32	13978.46	50.59	Si
SLV 2	-67170	0.25	276.33	11882.75	16090.27	13986.51	50.62	Si
SLV 13	-70327	0.25	276.33	12282.22	16726.58	14504.4	52.49	Si
SLV 14	-70375	0.25	276.33	12288.15	16736.01	14512.08	52.52	Si
SLV 3	-73403	0.25	276.33	12657.78	17334.4	14996.09	54.27	Si
SLV 4	-73451	0.25	276.33	12663.5	17343.83	15003.67	54.3	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-68565	-74669	-529	0.368	7678.3	0.972	5.50803	3.14871	Si
SLV 4	-68563	-74685	-516	0.369	7678.1	0.972	5.51074	3.14871	Si
SLV 7	-74457	-89940	-692	0.345	8278.4	0.974	5.14265	2.77912	Si
SLV 8	-74456	-89950	-684	0.345	8278.2	0.974	5.14433	2.77912	Si
SLV 11	-72497	-93140	-640	0.352	8078.8	0.973	5.25737	2.77912	Si
SLV 12	-72496	-93150	-632	0.352	8078.7	0.973	5.25909	2.77912	Si
SLV 15	-62033	-85334	-355	0.4	7013.2	0.97	5.98897	3.14871	Si
SLV 16	-62031	-85350	-343	0.4	7013	0.97	5.99197	3.14871	Si
SLV 1	-61555	-64781	-335	0.402	6964.5	0.969	6.02977	3.14871	Si
SLV 2	-61553	-64797	-322	0.402	6964.3	0.969	6.03279	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.054	SLU 84	Si
V_SLU	9.948	SLU 62	Si
PF_SLV	3.054	SLV 14	Si
V_SLV	3.706	SLV 16	Si
PFFP_SLV	46.754	SLV 5	Si
R_SLV	1.749	SLV 3	Si

Maschio 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.784	-11.013	1.046	L2	L4	5.83	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 71	-1.3	6477.68	-104244	-0.0001108	0.0003743	0.0035	5.83	125979.66	178674.99	178674.99	27.58	No	Si
SLU 71	1.59	60.61	-97014	-0.0000949	0.0003743	0.0035	5.83	128724.38	175062.67	175062.67	2888.5	No	Si
SLU 29	-1.3	6040.16	-86501	-0.0000895	0.0003743	0.0035	5.83	129661.76	167338.98	167338.98	27.7	No	Si
SLU 29	1.59	432.51	-81117	-0.0000775	0.0003743	0.0035	5.83	128740.64	160520.62	160520.62	371.13	No	Si
SLU 27	-1.3	6189	-87075	-0.0000903	0.0003743	0.0035	5.83	129703.98	168078.7	168078.7	27.16	No	Si
SLU 27	1.59	452.71	-81809	-0.0000782	0.0003743	0.0035	5.83	128912.27	161385.51	161385.51	356.48	No	Si
SLU 69	-1.3	6626.51	-104818	-0.0001117	0.0003743	0.0035	5.83	125688.3	178967.54	178967.54	27.01	No	Si
SLU 69	1.59	80.81	-97706	-0.0000957	0.0003743	0.0035	5.83	128535.64	175438.17	175438.17	2171.09	No	Si
SLU 35	-1.3	6357.07	-98447	-0.0001037	0.0003743	0.0035	5.83	128316.25	175796.34	175796.34	27.65	No	Si
SLU 35	1.59	1069.42	-92958	-0.0000913	0.0003743	0.0035	5.83	129514.75	172627.84	172627.84	161.42	No	Si
SLU 79	-1.3	6645.75	-115616	-0.0001254	0.0003743	0.0035	5.83	118199.65	184324.27	177299.48	26.68	Si	Si
SLU 79	1.59	677.31	-108162	-0.0001089	0.0003743	0.0035	5.83	123776.93	180697.68	180697.68	266.79	No	Si
SLU 74	-1.3	6416.52	-115124	-0.0001245	0.0003743	0.0035	5.83	118623.89	184132.69	177935.83	27.73	Si	Si
SLU 74	1.59	516.12	-107586	-0.000108	0.0003743	0.0035	5.83	124132.62	180396.16	180396.16	349.52	No	Si
SLU 77	-1.3	6794.58	-116190	-0.0001264	0.0003743	0.0035	5.83	117694.5	184544.19	176541.75	25.98	Si	Si
SLU 77	1.59	697.51	-108855	-0.0001098	0.0003743	0.0035	5.83	123335.45	181061.48	181061.48	259.58	No	Si
SLU 83	-1.3	6339.71	-119423	-0.0001301	0.0003743	0.0035	5.83	114648.72	185708.78	171973.08	27.13	Si	Si
SLU 83	1.59	760.23	-111671	-0.0001133	0.0003743	0.0035	5.83	121377.77	182561.12	182066.66	239.49	Si	Si
SLU 37	-1.3	6208.23	-97873	-0.0001028	0.0003743	0.0035	5.83	128487.83	175518.6	175518.6	28.27	No	Si
SLU 37	1.59	1049.22	-92265	-0.0000905	0.0003743	0.0035	5.83	129595.85	172219.26	172219.26	164.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	-1.3	-38015.95	-112963	-0.0001463	0.0005615	0.0035	5.83		233922.73	233922.73	6.15		Si
SLV 6	1.59	-44677.45	-103329	-0.0001425	0.0005615	0.0035	5.83		222420.8	222420.8	4.98		Si
SLD 11	-1.3	30146.05	-58338	-0.0000804	0.0005615	0.0035	5.83		143569.8	143569.8	4.76		Si
SLD 11	1.59	27290.02	-54650	-0.0000741	0.0005615	0.0035	5.83		135505.65	135505.65	4.97		Si
SLV 8	-1.3	40936.92	-47639	-0.0000802	0.0005615	0.0035	5.83		119619.07	119619.07	2.92		Si
SLV 8	1.59	43919.81	-42313	-0.000078	0.0005615	0.0035	5.83		107764.88	107764.88	2.45		Si
SLV 7	-1.3	41723.58	-47214	-0.0000805	0.0005615	0.0035	5.83		118665.83	118665.83	2.84		Si
SLV 7	1.59	44008.67	-41913	-0.0000777	0.0005615	0.0035	5.83		106883.45	106883.45	2.43		Si
SLD 8	-1.3	26834.72	-59742	-0.0000786	0.0005615	0.0035	5.83		146049.35	146049.35	5.44		Si
SLD 8	1.59	27040.01	-54117	-0.0000733	0.0005615	0.0035	5.83		134286.66	134286.66	4.97		Si
SLV 5	-1.3	-37229.29	-112538	-0.000145	0.0005615	0.0035	5.83		233553.95	233553.95	6.27		Si
SLV 5	1.59	-44588.6	-102929	-0.0001419	0.0005615	0.0035	5.83		221885.56	221885.56	4.98		Si
SLD 12	-1.3	29653.61	-58604	-0.0000802	0.0005615	0.0035	5.83		144073.47	144073.47	4.86		Si
SLD 12	1.59	27234.39	-54900	-0.0000742	0.0005615	0.0035	5.83		136078.13	136078.13	5		Si
SLV 12	-1.3	45342.97	-45880	-0.0000827	0.0005615	0.0035	5.83		115684.67	115684.67	2.55		Si
SLV 12	1.59	44207.53	-43540	-0.0000794	0.0005615	0.0035	5.83		110478.9	110478.9	2.5		Si
SLD 7	-1.3	27327.16	-59476	-0.0000788	0.0005615	0.0035	5.83		145598.54	145598.54	5.33		Si
SLD 7	1.59	27095.63	-53867	-0.0000731	0.0005615	0.0035	5.83		133715.5	133715.5	4.93		Si
SLV 11	-1.3	46129.63	-45455	-0.0000831	0.0005615	0.0035	5.83		114736.08	114736.08	2.49		Si
SLV 11	1.59	44296.38	-43140	-0.0000791	0.0005615	0.0035	5.83		109594.18	109594.18	2.47		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	-1.3	4692.37	-92472	-77871	3695	5.83	5.83	-44523	10833	39567	30925	52373	14866	59350	Si	16.06	Si
SLU 50	1.59	-550.46	-85072	-71640	4030	5.83	5.83	-40961	10833	37074	30925	52373	14866	55612	Si	13.8	Si
SLU 45	-1.3	4463.14	-91980	-77457	3679	5.83	5.83	-44286	10833	39401	30925	52373	14866	59102	Si	16.06	Si
SLU 45	1.59	-771.65	-84496	-71154	4024	5.83	5.83	-40683	10833	36880	30925	52373	14866	55320	Si	13.75	Si
SLU 53	-1.3	4631.21	-103352	-87033	3704	5.83	5.83	-49762	10833	43231	30925	52373	14866	64847	Si	17.51	Si
SLU 53	1.59	-94.95	-95645	-80543	4247	5.83	5.83	-46051	10833	40635	30925	52373	14866	60953	Si	14.35	Si
SLU 64	-1.3	5721.55	-102111	-85988	3861	5.83	5.83	-49164	10833	42814	30925	52373	14866	64220	Si	16.63	Si
SLU 64	1.59	-302.17	-94476	-79558	4229	5.83	5.83	-45488	10833	40242	30925	52373	14866	60363	Si	14.27	Si
SLU 56	-1.3	5009.27	-104418	-87931	3761	5.83	5.83	-50275	10833	43591	30925	52373	14866	65386	Si	17.38	Si
SLU 56	1.59	86.44	-96914	-81611	4287	5.83	5.83	-46662	10833	41063	30925	52373	14866	61594	Si	14.37	Si
SLU 66	-1.3	6248.45	-103752	-87370	3960	5.83	5.83	-49954	10833	43366	30925	52373	14866	65049	Si	16.43	Si
SLU 66	1.59	-100.58	-96437	-81210	4304	5.83	5.83	-46432	10833	40902	30925	52373	14866	61354	Si	14.25	Si
SLU 69	-1.3	6626.51	-104818	-88268	4017	5.83	5.83	-50468	10833	43725	30925	52373	14866	65588	Si	16.33	Si
SLU 69	1.59	80.81	-97706	-82279	4344	5.83	5.83	-47043	10833	41330	30925	52373	14866	61995	Si	14.27	Si
SLU 43	-1.3	3936.24	-90340	-76075	3581	5.83	5.83	-43496	10833	38849	30925	52373	14866	58273	Si	16.27	Si
SLU 43	1.59	-913.24	-82534	-69503	3950	5.83	5.83	-39739	10833	36220	30925	52373	14866	54329	Si	13.76	Si
SLU 71	-1.3	6477.68	-104244	-87784	3975	5.83	5.83	-50191	10833	43532	30925	52373	14866	65298	Si	16.43	Si
SLU 71	1.59	60.61	-97014	-81696	4310	5.83	5.83	-46710	10833	41097	30925	52373	14866	61645	Si	14.3	Si
SLU 48	-1.3	4841.2	-93046	-78355	3736	5.83	5.83	-44800	10833	39760	30925	52373	14866	59640	Si	15.96	Si
SLU 48	1.59	-530.26	-85765	-72223	4064	5.83	5.83	-41294	10833	37308	30925	52373	14866	55962	Si	13.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	-1.3	30146.05	-58338	-49127	17223	5.83	5.83	-28088	16034	32279	30925	78559	14866	63205		3.67	Si
SLD 11	1.59	27290.02	-54650	-46021	17452	5.83	5.83	-26313	15679	31037	30925	78559	14866	61963		3.55	Si
SLV 8	-1.3	40936.92	-47639	-40117	22167	5.83	5.83	-22937	15004	28676	30925	78559	14866	59601		2.69	Si
SLV 8	1.59	43919.81	-42313	-35632	23081	5.83	5.6311	-20373	14491	26882	30925	78559	14866	57807		2.5	Si
SLD 7	-1.3	27327.16	-59476	-50085	15074	5.83	5.83	-28636	16144	32663	30925	78559	14866	63588		4.22	Si
SLD 7	1.59	27095.63	-53867	-45361	15682	5.83	5.83	-25936	15604	30773	30925	78559	14866	61699		3.93	Si
SLD 8	-1.3	26834.72	-59742	-50309	14797	5.83	5.83	-28764	16170	32752	30925	78559	14866	63678		4.3	Si
SLD 8	1.59	27040.01	-54117	-45572	15493	5.83	5.83	-26056	15628	30858	30925	78559	14866	61783		3.99	Si
SLV 12	-1.3	45342.97	-45880	-38636	25523	5.83	5.7801	-22090	14835	28083	30925	78559	14866	59009		2.31	Si
SLV 12	1.59	44207.53	-43540	-36665	25865	5.83	5.699	-20963	14609	27295	30925	78559	14866	58220		2.25	Si
SLV 7	-1.3	41723.58	-47214	-39759	22609	5.83	5.83	-22732	14963	28532	30925	78559	14866	59458		2.63	Si
SLV 7	1.59	44008.67	-41913	-35296	23383	5.83	5.595	-20180	14453	26747	30925	78559	14866	57673		2.47	Si
SLV 5	-1.3	37229.29	-112538	-94769	-19692	5.83	5.83	-54185	16250	50535	30925	78559	14866	81461		4.14	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	1.59	-44588.6	-102929	-86677	-19354	5.83	5.83	-49558	16250	47299	30925	78559	14866	78224		4.04	Si
SLD 12	-1.3	29653.61	-58604	-49351	16946	5.83	5.83	-28217	16060	32369	30925	78559	14866	63294		3.74	Si
SLD 12	1.59	27234.39	-54900	-46231	17263	5.83	5.83	-26433	15703	31121	30925	78559	14866	62047		3.59	Si
SLV 11	-1.3	46129.63	-45455	-38278	25965	5.83	5.7005	-21886	14794	27940	30925	78559	14866	58865		2.27	Si
SLV 11	1.59	44296.38	-43140	-36329	26167	5.83	5.6646	-20771	14571	27160	30925	78559	14866	58086		2.22	Si
SLV 6	-1.3	-38015.95	-112963	-95127	-20134	5.83	5.83	-54389	16250	50679	30925	78559	14866	81604		4.05	Si
SLV 6	1.59	-44677.45	-103329	-87014	-19656	5.83	5.83	-49750	16250	47433	30925	78559	14866	78359		3.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	22212	-38849	287.36	4979.77	17.33	Si
SLV 8	179667	0.25	22448	-39261	287.36	5023.53	17.48	Si
SLV 11	179667	0.25	22826	-39923	287.36	5093.36	17.72	Si
SLV 12	179667	0.25	23062	-40335	287.36	5136.62	17.88	Si
SLV 3	179667	0.25	34681	-60657	287.36	7032.33	24.47	Si
SLV 4	179667	0.25	35031	-61269	287.36	7082.25	24.65	Si
SLV 15	179667	0.25	36728	-64237	287.36	7318.22	25.47	Si
SLV 16	179667	0.25	37078	-64849	287.36	7365.68	25.63	Si
SLV 1	179667	0.25	46032	-80509	287.36	8436.35	29.36	Si
SLV 2	179667	0.25	46382	-81122	287.36	8472.62	29.48	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-84728	-86392	379	0.417	9338.6	0.976	6.20857	3.62783	Si
SLV 13	-84135	-85760	382	0.42	9278.1	0.976	6.24524	3.62783	Si
SLV 10	-104555	-111204	6	0.354	11358.6	0.98	5.24991	2.98849	Si
SLV 9	-104156	-110779	8	0.355	11317.9	0.98	5.2664	2.98849	Si
SLV 6	-103329	-112963	-237	0.355	11233.6	0.98	5.27027	2.98849	Si
SLV 5	-102929	-112538	-234	0.357	11192.9	0.98	5.28772	2.98849	Si
SLV 2	-80639	-92255	-430	0.434	8922	0.975	6.46738	3.62783	Si
SLV 1	-80045	-91623	-427	0.437	8861.6	0.975	6.50903	3.62783	Si
SLV 16	-66423	-66795	456	0.51	7474.3	0.971	7.6375	3.62783	Si
SLV 15	-65830	-66163	460	0.514	7413.9	0.971	7.6963	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.983	SLU 77	Si
V_SLU	13.747	SLU 45	Si
PF_SLV	2.429	SLV 7	Si
V_SLV	2.22	SLV 11	Si
PFFP_SLV	17.329	SLV 7	Si
R_SLV	1.711	SLV 14	Si

Maschio 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.888	6.576	-8.008	6.576	L2	L4	3.88	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	0.7	2337.94	-50848	-0.0000504	0.0003743	0.0035	3.88	70428.33	77143.65	77143.65	33	No	Si
SLU 50	1.1	5040.91	-56276	-0.0000601	0.0003743	0.0035	3.88	74612.58	83414.73	83414.73	16.55	No	Si
SLU 46	0.7	2275.65	-50059	-0.0000495	0.0003743	0.0035	3.88	69766.55	76244.6	76244.6	33.5	No	Si
SLU 46	1.1	4920.63	-55427	-0.000059	0.0003743	0.0035	3.88	74000.71	82424.36	82424.36	16.75	No	Si
SLU 45	0.7	2312.6	-50502	-0.00005	0.0003743	0.0035	3.88	70139.28	76748.29	76748.29	33.19	No	Si
SLU 45	1.1	4987.77	-55880	-0.0000596	0.0003743	0.0035	3.88	74329.31	82952.75	82952.75	16.63	No	Si
SLU 51	0.7	2300.99	-50406	-0.0000499	0.0003743	0.0035	3.88	70058.95	76639.16	76639.16	33.31	No	Si
SLU 51	1.1	4973.77	-55823	-0.0000595	0.0003743	0.0035	3.88	74287.89	82885.69	82885.69	16.66	No	Si
SLU 69	0.7	2625.48	-60583	-0.0000608	0.0003743	0.0035	3.88	77475.46	88478.05	88478.05	33.7	No	Si
SLU 69	1.1	5603.06	-67079	-0.0000723	0.0003743	0.0035	3.88	81026.97	93736.42	93736.42	16.73	No	Si
SLU 71	0.7	2562.74	-60001	-0.0000601	0.0003743	0.0035	3.88	77111.99	87787.73	87787.73	34.26	No	Si
SLU 71	1.1	5517.59	-66426	-0.0000715	0.0003743	0.0035	3.88	80711.79	93241.21	93241.21	16.9	No	Si
SLU 70	0.7	2588.53	-60141	-0.0000603	0.0003743	0.0035	3.88	77200.08	87953.59	87953.59	33.98	No	Si
SLU 70	1.1	5535.92	-66626	-0.0000718	0.0003743	0.0035	3.88	80809.11	93392.42	93392.42	16.87	No	Si
SLU 48	0.7	2400.67	-51431	-0.0000511	0.0003743	0.0035	3.88	70908.17	77809.41	77809.41	32.41	No	Si
SLU 48	1.1	5126.38	-56928	-0.0000609	0.0003743	0.0035	3.88	75072.33	84175.67	84175.67	16.42	No	Si
SLU 47	0.7	2188.28	-49182	-0.0000485	0.0003743	0.0035	3.88	69014.66	75248.57	75248.57	34.39	No	Si
SLU 47	1.1	4790.4	-54473	-0.0000578	0.0003743	0.0035	3.88	73293.71	81314.57	81314.57	16.97	No	Si
SLU 49	0.7	2363.72	-50988	-0.0000506	0.0003743	0.0035	3.88	70544.41	77303.61	77303.61	32.7	No	Si
SLU 49	1.1	5059.24	-56475	-0.0000603	0.0003743	0.0035	3.88	74754.1	83647.09	83647.09	16.53	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	0.7	-3573.35	-17475	-0.0000201	0.0005615	0.0035	3.88		36147.43	36147.43	10.12		Si
SLV 5	1.1	-353.28	-20812	-0.0000187	0.0005615	0.0035	3.88		41852.33	41852.33	118.47		Si
SLV 16	0.7	12058.52	-56488	-0.0000687	0.0005615	0.0035	3.88		92065.96	92065.96	7.63		Si
SLV 16	1.1	6216.38	-62038	-0.0000655	0.0005615	0.0035	3.88		98778.83	98778.83	15.89		Si
SLD 13	0.7	6770.63	-42396	-0.0000474	0.0005615	0.0035	3.88		71348.45	71348.45	10.54		Si
SLD 13	1.1	3871.08	-47130	-0.0000478	0.0005615	0.0035	3.88		78238.09	78238.09	20.21		Si
SLD 14	0.7	7526.94	-42435	-0.0000486	0.0005615	0.0035	3.88		71406.13	71406.13	9.49		Si
SLD 14	1.1	3922.16	-47218	-0.0000479	0.0005615	0.0035	3.88		78367.08	78367.08	19.98		Si
SLD 16	0.7	8354.3	-52118	-0.000059	0.0005615	0.0035	3.88		85573.05	85573.05	10.24		Si
SLD 16	1.1	5389.64	-57378	-0.0000598	0.0005615	0.0035	3.88		93386.42	93386.42	17.33		Si
SLV 1	0.7	-8496.49	-33039	-0.0000411	0.0005615	0.0035	3.88		61858.39	61858.39	7.28		Si
SLV 1	1.1	1704.67	-37015	-0.0000353	0.0005615	0.0035	3.88		63606.47	63606.47	37.31		Si
SLV 2	0.7	-7311.57	-33102	-0.0000395	0.0005615	0.0035	3.88		61954.51	61954.51	8.47		Si
SLV 2	1.1	1784.68	-37153	-0.0000355	0.0005615	0.0035	3.88		63804.16	63804.16	35.75		Si
SLV 13	0.7	9521.98	-40760	-0.0000498	0.0005615	0.0035	3.88		68985.28	68985.28	7.24		Si
SLV 13	1.1	3748.16	-45459	-0.000046	0.0005615	0.0035	3.88		75798.39	75798.39	20.22		Si
SLV 14	0.7	10706.9	-40822	-0.0000516	0.0005615	0.0035	3.88		69075.32	69075.32	6.45		Si
SLV 14	1.1	3828.17	-45597	-0.0000463	0.0005615	0.0035	3.88		75999.84	75999.84	19.85		Si
SLV 15	0.7	10873.6	-56426	-0.0000669	0.0005615	0.0035	3.88		91972.78	91972.78	8.46		Si
SLV 15	1.1	6136.37	-61900	-0.0000653	0.0005615	0.0035	3.88		98624.74	98624.74	16.07		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	0.7	2400.67	-51431	-45716	-2844	3.88	3.88	-26183	10436	26691	30925	52283	9894	40036	Si	14.08	Si
SLU 48	1.1	5126.38	-56928	-50603	-2843	3.88	3.88	-28982	10809	28646	30925	52283	9894	42968	Si	15.11	Si
SLU 44	0.7	2100.21	-48253	-42891	-2588	3.88	3.88	-24565	10220	25561	30925	52283	9894	38342	Si	14.82	Si
SLU 44	1.1	4651.79	-53424	-47488	-2587	3.88	3.88	-27198	10571	27400	30925	52283	9894	41100	Si	15.89	Si
SLU 45	0.7	2312.6	-50502	-44890	-2783	3.88	3.88	-25710	10372	26361	30925	52283	9894	39541	Si	14.21	Si
SLU 45	1.1	4987.77	-55880	-49671	-2782	3.88	3.88	-28449	10738	28273	30925	52283	9894	42409	Si	15.24	Si
SLU 51	0.7	2300.99	-50406	-44805	-2756	3.88	3.88	-25662	10366	26327	30925	52283	9894	39490	Si	14.33	Si
SLU 51	1.1	4973.77	-55823	-49620	-2755	3.88	3.88	-28419	10734	28253	30925	52283	9894	42379	Si	15.38	Si
SLU 46	0.7	2275.65	-50059	-44497	-2713	3.88	3.88	-25485	10342	26203	30925	52283	9894	39305	Si	14.49	Si
SLU 46	1.1	4920.63	-55427	-49269	-2713	3.88	3.88	-28218	10707	28112	30925	52283	9894	42168	Si	15.55	Si
SLU 71	0.7	2562.74	-60001	-53334	-2896	3.88	3.88	-30546	10833	29738	30925	52283	9894	44607	Si	15.4	Si
SLU 71	1.1	5517.59	-66426	-59045	-2896	3.88	3.88	-33818	10833	32022	30925	52283	9894	48034	Si	16.59	Si
SLU 47	0.7	2188.28	-49182	-43717	-2648	3.88	3.88	-25038	10283	25891	30925	52283	9894	38837	Si	14.66	Si
SLU 47	1.1	4790.4	-54473	-48420	-2648	3.88	3.88	-27732	10642	27772	30925	52283	9894	41659	Si	15.73	Si
SLU 43	0.7	2161.79	-48990	-43547	-2704	3.88	3.88	-24941	10270	25823	30925	52283	9894	38735	Si	14.33	Si
SLU 43	1.1	4763.69	-54180	-48160	-2703	3.88	3.88	-27583	10622	27668	30925	52283	9894	41502	Si	15.35	Si
SLU 50	0.7	2337.94	-50848	-45198	-2825	3.88	3.88	-25887	10396	26484	30925	52283	9894	39726	Si	14.06	Si
SLU 50	1.1	5040.91	-56276	-50023	-2825	3.88	3.88	-28650	10764	28414	30925	52283	9894	42620	Si	15.09	Si
SLU 49	0.7	2363.72	-50988	-45323	-2774	3.88	3.88	-25958	10406	26534	30925	52283	9894	39800	Si	14.35	Si
SLU 49	1.1	5059.24	-56475	-50200	-2773	3.88	3.88	-28752	10778	28485	30925	52283	9894	42727	Si	15.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	0.7	-3964.9	-47092	-41859	-16758	3.88	3.88	-23974	15212	29351	30925	78425	9894	60276		3.6	Si
SLD 3	1.1	3998.9	-51835	-46076	-16435	3.88	3.88	-26389	15695	31037	30925	78425	9894	61963		3.77	Si
SLV 4	0.7	-5959.94	-48767	-43349	-22252	3.88	3.88	-24827	15382	29947	30925	78425	9894	60872		2.74	Si
SLV 4	1.1	4172.89	-53594	-47639	-21734	3.88	3.88	-27285	15874	31663	30925	78425	9894	62588		2.88	Si
SLD 1	0.7	-4792.27	-37409	-33253	-15170	3.88	3.88	-19045	14226	25908	30925	78425	9894	56834		3.75	Si
SLD 1	1.1	2531.41	-41676	-37045	-15300	3.88	3.88	-21217	14660	27425	30925	78425	9894	58351		3.81	Si
SLV 1	0.7	-8496.49	-33039	-29368	-22483	3.88	3.88	-16820	13781	24355	30925	78425	9894	55280		2.46	Si
SLV 1	1.1	1704.67	-37015	-32902	-22690	3.88	3.88	-18844	14186	25768	30925	78425	9894	56694		2.5	Si
SLV 14	0.7	10706.9	-40822	-36287	-20865	3.88	3.88	-20783	14573	27122	30925	78425	9894	58047		2.78	Si
SLV 14	1.1	3828.17	-45597	-40531	-20348	3.88	3.88	-23214	15059	28820	30925	78425	9894	59745		2.94	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.7	-7311.57	-33102	-29424	-19679	3.88	3.88	-16852	13787	24377	30925	78425	9894	55302		2.81	Si
SLV 2	1.1	1784.68	-37153	-33025	-19886	3.88	3.88	-18915	14200	25817	30925	78425	9894	56743		2.85	Si
SLV 16	0.7	12058.52	-56488	-50212	18293	3.88	3.88	-28758	16168	32692	30925	78425	9894	63617		3.48	Si
SLV 16	1.1	6216.38	-62038	-55145	18500	3.88	3.88	-31584	16250	34665	30925	78425	9894	65590		3.55	Si
SLD 4	0.7	-3208.59	-47132	-41895	-14968	3.88	3.88	-23995	15216	29365	30925	78425	9894	60291		4.03	Si
SLD 4	1.1	4049.97	-51923	-46154	-14645	3.88	3.88	-26434	15703	31069	30925	78425	9894	61994		4.23	Si
SLV 3	0.7	-7144.86	-48705	-43293	-25056	3.88	3.88	-24796	15376	29924	30925	78425	9894	60850		2.43	Si
SLV 3	1.1	4092.88	-53456	-47517	-24538	3.88	3.88	-27215	15860	31614	30925	78425	9894	62539		2.55	Si
SLV 13	0.7	9521.98	-40760	-36231	18061	3.88	3.88	-20751	14567	27100	30925	78425	9894	58025		3.21	Si
SLV 13	1.1	3748.16	-45459	-40408	17544	3.88	3.88	-23143	15045	28770	30925	78425	9894	59696		3.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.25	8057	-14068	276.9	2998.21	10.83	Si
SLV 5	179667	0.25	8063	-14079	276.9	3000.47	10.84	Si
SLV 10	179667	0.25	9338	-16304	276.9	3444.08	12.44	Si
SLV 9	179667	0.25	9344	-16315	276.9	3446.3	12.45	Si
SLV 2	179667	0.25	16630	-29036	276.9	5821.65	21.02	Si
SLV 1	179667	0.25	16639	-29053	276.9	5824.59	21.04	Si
SLV 14	179667	0.25	20899	-36491	276.9	7086.76	25.59	Si
SLV 13	179667	0.25	20909	-36507	276.9	7089.49	25.6	Si
SLV 4	179667	0.25	25260	-44105	276.9	8282.11	29.91	Si
SLV 3	179667	0.25	25270	-44121	276.9	8284.62	29.92	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 12	-82059	-59864	-4934	0.277	9065.5	0.976	4.1201	2.77912	Si
SLV 11	-81886	-59937	-4917	0.277	9047.8	0.976	4.12923	2.77912	Si
SLV 8	-79290	-57517	-4776	0.285	8783.4	0.975	4.24922	2.77912	Si
SLV 7	-79116	-57590	-4759	0.286	8765.7	0.975	4.25893	2.77912	Si
SLV 16	-65558	-45251	-4094	0.335	7385	0.971	5.02214	3.14871	Si
SLV 15	-65301	-45360	-4068	0.337	7358.7	0.97	5.04242	3.14871	Si
SLV 4	-56325	-37427	-3567	0.383	6445	0.967	5.76032	3.14871	Si
SLV 3	-56068	-37535	-3541	0.385	6418.8	0.967	5.787	3.14871	Si
SLV 14	-48609	-30394	-3212	0.434	5659.7	0.962	6.55588	3.14871	Si
SLV 13	-48351	-30503	-3186	0.436	5633.5	0.962	6.59056	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.42	SLU 48	Si
V_SLU	14.061	SLU 50	Si
PF_SLV	6.451	SLV 14	Si
V_SLV	2.429	SLV 3	Si
PFFP_SLV	10.828	SLV 6	Si
R_SLV	1.483	SLV 12	Si

Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.008	6.576	-5.308	6.576	L2	L4	1.7	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	0.7	-4441.24	-12769	-0.0000604	0.0003743	0.0035	1.7	9074.51	10184.18	10184.18	2.29	No	Si
SLU 84	1.1	-1288.8	-12011	-0.000034	0.0003743	0.0035	1.7	8634.81	9698.42	9698.42	7.53	No	Si
SLU 82	0.7	-4365.24	-12583	-0.0000593	0.0003743	0.0035	1.7	8967.74	10064.77	10064.77	2.31	No	Si
SLU 82	1.1	-1272.77	-11825	-0.0000334	0.0003743	0.0035	1.7	8524.96	9578.25	9578.25	7.53	No	Si
SLU 78	0.7	-4380.65	-12557	-0.0000594	0.0003743	0.0035	1.7	8952.4	10047.72	10047.72	2.29	No	Si
SLU 78	1.1	-1261.44	-11798	-0.0000333	0.0003743	0.0035	1.7	8509.18	9561.02	9561.02	7.58	No	Si
SLU 75	0.7	-4304.65	-12370	-0.0000584	0.0003743	0.0035	1.7	8844.77	9928.71	9928.71	2.31	No	Si
SLU 75	1.1	-1245.41	-11612	-0.0000328	0.0003743	0.0035	1.7	8398.47	9438.84	9438.84	7.58	No	Si
SLU 74	0.7	-4355.56	-12472	-0.000059	0.0003743	0.0035	1.7	8903.78	9993.81	9993.81	2.29	No	Si
SLU 74	1.1	-1252.23	-11714	-0.000033	0.0003743	0.0035	1.7	8459.17	9506.43	9506.43	7.59	No	Si
SLU 80	0.7	-4347.18	-12451	-0.0000589	0.0003743	0.0035	1.7	8891.22	9979.92	9979.92	2.3	No	Si
SLU 80	1.1	-1248.02	-11692	-0.000033	0.0003743	0.0035	1.7	8446.25	9492.34	9492.34	7.61	No	Si
SLU 81	0.7	-4416.15	-12685	-0.00006	0.0003743	0.0035	1.7	9026.28	10130.09	10130.09	2.29	No	Si
SLU 81	1.1	-1279.59	-11927	-0.0000337	0.0003743	0.0035	1.7	8585.19	9644.09	9644.09	7.54	No	Si
SLU 83	0.7	-4492.15	-12871	-0.0000631	0.0003743	0.0035	1.7	9132.63	10249.68	10249.68	2.28	No	Si
SLU 83	1.1	-1295.62	-12113	-0.0000342	0.0003743	0.0035	1.7	8694.62	9764	9764	7.54	No	Si
SLU 77	0.7	-4431.57	-12659	-0.0000601	0.0003743	0.0035	1.7	9011	10113	10113	2.28	No	Si
SLU 77	1.1	-1268.26	-11900	-0.0000336	0.0003743	0.0035	1.7	8569.47	9626.89	9626.89	7.59	No	Si
SLU 79	0.7	-4398.09	-12553	-0.0000596	0.0003743	0.0035	1.7	8950.05	10045.1	10045.1	2.28	No	Si
SLU 79	1.1	-1254.83	-11794	-0.0000332	0.0003743	0.0035	1.7	8506.77	9558.37	9558.37	7.62	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	0.7	-6528.19	-13944	-0.0000866	0.0005615	0.0035	1.36		11407.4	11407.4	1.75		Si
SLV 7	1.1	-901.22	-12934	-0.0000326	0.0005615	0.0035	1.7		10701.86	10701.86	11.87		Si
SLD 3	0.7	-4708.08	-8414	-0.0000676	0.0005615	0.0035	1.36		7406.51	7406.51	1.57		Si
SLD 3	1.1	-480.53	-7755	-0.0000189	0.0005615	0.0035	1.7		6906.23	6906.23	14.37		Si
SLV 1	0.7	-3975.78	-4842	-0.0002299	0.0005615	0.0035	1.36		4653.64	4653.64	1.17		Si
SLV 1	1.1	-136.9	-4395	-0.0000097	0.0005615	0.0035	1.7		4300.97	4300.97	31.42		Si
SLV 8	0.7	-6280.48	-13928	-0.0000825	0.0005615	0.0035	1.7		11396.2	11396.2	1.81		Si
SLV 8	1.1	-948.06	-12918	-0.0000329	0.0005615	0.0035	1.7		10690.28	10690.28	11.28		Si
SLD 1	0.7	-3621.51	-6178	-0.000054	0.0005615	0.0035	1.36		5693.36	5693.36	1.57		Si
SLD 1	1.1	-386.89	-5679	-0.000014	0.0005615	0.0035	1.7		5306.97	5306.97	13.72		Si
SLV 2	0.7	-3607.86	-4817	-0.0001082	0.0005615	0.0035	1.36		4634.47	4634.47	1.28		Si
SLV 2	1.1	-206.47	-4371	-0.0000101	0.0005615	0.0035	1.7		4281.79	4281.79	20.74		Si
SLV 4	0.7	-5368.64	-8434	-0.0000938	0.0005615	0.0035	1.36		7421.61	7421.61	1.38		Si
SLV 4	1.1	-363.88	-7730	-0.000018	0.0005615	0.0035	1.7		6886.84	6886.84	18.93		Si
SLD 4	0.7	-4473.24	-8399	-0.0000615	0.0005615	0.0035	1.36		7394.78	7394.78	1.65		Si
SLD 4	1.1	-524.94	-7740	-0.0000192	0.0005615	0.0035	1.7		6894.45	6894.45	13.13		Si
SLD 2	0.7	-3386.67	-6163	-0.0000471	0.0005615	0.0035	1.36		5681.34	5681.34	1.68		Si
SLD 2	1.1	-431.3	-5664	-0.0000143	0.0005615	0.0035	1.7		5295	5295	12.28		Si
SLV 3	0.7	-5736.57	-8458	-0.0001184	0.0005615	0.0035	1.36		7439.98	7439.98	1.3		Si
SLV 3	1.1	-294.31	-7754	-0.0000175	0.0005615	0.0035	1.7		6905.3	6905.3	23.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.7	-4365.24	-12583	-11185	-7741	1.7	1.5093	-16641	9163	6223	30925	22907	4335	9335	Si	1.21	Si
SLU 82	1.1	-1272.77	-11825	-10591	-7741	1.7	1.7	-13740	8776	6714	30925	22907	4335	10071	Si	1.3	Si
SLU 75	0.7	-4304.65	-12370	-10916	-7658	1.7	1.5061	-16390	9130	6187	30925	22907	4335	9281	Si	1.21	Si
SLU 75	1.1	-1245.41	-11612	-10322	-7658	1.7	1.7	-13492	8743	6689	30925	22907	4335	10033	Si	1.31	Si
SLU 77	0.7	-4431.57	-12659	-11252	-7918	1.7	1.4997	-16844	9190	6202	30925	22907	4335	9304	Si	1.17	Si
SLU 77	1.1	-1268.26	-11900	-10578	-7918	1.7	1.7	-13827	8788	6723	30925	22907	4335	10084	Si	1.27	Si
SLU 81	0.7	-4416.15	-12685	-11276	-7851	1.7	1.5056	-16817	9187	6224	30925	22907	4335	9336	Si	1.19	Si
SLU 81	1.1	-1279.59	-11927	-10601	-7851	1.7	1.7	-13858	8792	6726	30925	22907	4335	10089	Si	1.29	Si
SLU 79	0.7	-4398.09	-12553	-11158	-7868	1.7	1.4989	-16711	9173	6187	30925	22907	4335	9280	Si	1.18	Si
SLU 79	1.1	-1254.83	-11794	-10483	-7868	1.7	1.7	-13704	8772	6710	30925	22907	4335	10065	Si	1.28	Si
SLU 78	0.7	-4380.65	-12557	-11161	-7808	1.7	1.5034	-16668	9167	6202	30925	22907	4335	9302	Si	1.19	Si
SLU 78	1.1	-1261.44	-11798	-10487	-7808	1.7	1.7	-13709	8772	6711	30925	22907	4335	10066	Si	1.29	Si
SLU 84	0.7	-4441.24	-12769	-11351	-7891	1.7	1.5066	-16919	9200	6238	30925	22907	4335	9356	Si	1.19	Si
SLU 84	1.1	-1288.8	-12011	-10676	-7891	1.7	1.7	-13956	8805	6736	30925	22907	4335	10104	Si	1.28	Si
SLU 80	0.7	-4347.18	-12451	-11067	-7758	1.7	1.5025	-16535	9149	6186	30925	22907	4335	9279	Si	1.2	Si
SLU 80	1.1	-1248.02	-11692	-10393	-7758	1.7	1.7	-13585	8756	6698	30925	22907	4335	10047	Si	1.3	Si
SLU 74	0.7	-4355.56	-12472	-11086	-7768	1.7	1.5023	-16566	9153	6188	30925	22907	4335	9282	Si	1.19	Si
SLU 74	1.1	-1252.23	-11714	-10412	-7768	1.7	1.7	-13611	8759	6701	30925	22907	4335	10051	Si	1.29	Si
SLU 83	0.7	-4492.15	-12871	-11441	-8001	1.7	1.503	-17096	9224	6239	30925	22907	4335	9358	Si	1.17	Si
SLU 83	1.1	-1295.62	-12113	-10767	-8001	1.7	1.7	-14074	8821	6748	30925	22907	4335	10122	Si	1.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	0.7	-5736.57	-8458	-7519	-13599	1.36	0.5154	0	0	0	30925	27489	3468	30925		2.27	Si
SLV 3	1.1	-294.31	-7754	-6893	-13547	1.7	1.7	-9010	12219	9347	30925	34361	4335	38696		2.86	Si
SLD 4	0.7	-4473.24	-8399	-7465	-9868	1.36	0.9522	0	0	0	30925	27489	3468	30925		3.13	Si
SLD 4	1.1	-524.94	-7740	-6880	-9835	1.7	1.7	-8993	12215	9345	30925	34361	4335	38696		3.93	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	0.7	-3607.86	-4817	-4282	-8581	1.36	0.3032	0	0	0	30925	27489	3468	30925		3.6	Si
SLV 2	1.1	-206.47	-4371	-3885	-8535	1.7	1.7	-5079	11432	8746	30925	34361	4335	38696		4.53	Si
SLV 4	0.7	-5368.64	-8434	-7497	-12505	1.36	0.6404	0	0	0	30925	27489	3468	30925		2.47	Si
SLV 4	1.1	-363.88	-7730	-6871	-12453	1.7	1.7	-8982	12213	9343	30925	34361	4335	38696		3.11	Si
SLV 7	0.7	-6528.19	-13944	-12395	-13942	1.36	1.1455	0	0	0	30925	27489	3468	30925		2.22	Si
SLV 7	1.1	-901.22	-12934	-11497	-13918	1.7	1.7	-15029	13422	10268	30925	34361	4335	38696		2.78	Si
SLV 8	0.7	-6280.48	-13928	-12380	-13205	1.7	1.1972	-23254	15068	8118	30925	34361	4335	38696		2.93	Si
SLV 8	1.1	-948.06	-12918	-11482	-13181	1.7	1.7	-15010	13419	10265	30925	34361	4335	38696		2.94	Si
SLD 7	0.7	-5170.72	-11835	-10520	-10680	1.7	1.2393	-19045	14226	7933	30925	34361	4335	38696		3.62	Si
SLD 7	1.1	-865.35	-10987	-9766	-10665	1.7	1.7	-12766	12970	9922	30925	34361	4335	38696		3.63	Si
SLV 11	0.7	-5497.46	-15032	-13362	-10465	1.7	1.4529	-20653	14547	9511	30925	34361	4335	38696		3.7	Si
SLV 11	1.1	-1254.27	-14018	-12461	-10470	1.7	1.7	-16289	13674	10461	30925	34361	4335	38696		3.7	Si
SLD 3	0.7	-4708.08	-8414	-7479	-10566	1.36	0.8714	0	0	0	30925	27489	3468	30925		2.93	Si
SLD 3	1.1	-480.53	-7755	-6894	-10533	1.7	1.7	-9011	12219	9347	30925	34361	4335	38696		3.67	Si
SLV 1	0.7	-3975.78	-4842	-4304	-9675	1.36	0.0864	0	0	0	30925	27489	3468	30925		3.2	Si
SLV 1	1.1	-136.9	-4395	-3907	-9629	1.7	1.7	-5107	11438	8750	30925	34361	4335	38696		4.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.25	0	-262	121.32	0	0	No, e>t/2
SLV 2	179667	0.25	979	-749	121.32	167.5	1.38	Si
SLV 3	179667	0.25	1863	-1425	121.32	316.76	2.61	Si
SLV 4	179667	0.25	2500	-1913	121.32	423.31	3.49	Si
SLV 5	179667	0.25	2607	-1994	121.32	441	3.63	Si
SLV 6	179667	0.25	3036	-2322	121.32	512.12	4.22	Si
SLV 9	179667	0.25	5979	-4574	121.32	988.86	8.15	Si
SLV 10	179667	0.25	6408	-4902	121.32	1056.71	8.71	Si
SLV 7	179667	0.25	7676	-5872	121.32	1254.82	10.34	Si
SLV 8	179667	0.25	8105	-6200	121.32	1321.03	10.89	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-14596	-6478	-437	0.637	1798.6	0.95	9.73969	2.77912	Si
SLV 7	-14428	-1235	-474	0.64	1781.6	0.949	9.79718	2.77912	Si
SLV 12	-14421	-7307	-427	0.643	1780.8	0.949	9.84521	2.77912	Si
SLV 8	-14253	-2063	-464	0.647	1763.8	0.949	9.90447	2.77912	Si
SLV 15	-9965	-13115	-189	0.874	1329.3	0.935	13.5793	3.14871	Si
SLV 16	-9705	-14346	-173	0.893	1303	0.934	13.89109	3.14871	Si
SLV 3	-9406	4362	-311	0.902	1272.8	0.933	14.05478	3.14871	Si, Trazione
SLV 4	-9146	3132	-296	0.923	1246.5	0.932	14.39428	3.14871	Si, Trazione
SLV 13	-5792	-13733	-10	1.323	909.5	0.913	21.06518	3.14871	Si
SLV 14	-5532	-14963	5	1.367	883.6	0.911	21.80493	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.282	SLU 83	Si
V_SLU	1.17	SLU 83	Si
PF_SLV	1.17	SLV 1	Si
V_SLV	2.218	SLV 7	Si
PFFP_SLV	0	SLV 1	No
R_SLV	3.505	SLV 11	Si

Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.728	2.071	-9.728	6.351	L2	L4	4.28	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 83	-1.3	30653.61	-68245	-0.0001348	0.0004492	0.0035	4.28	82516.48	111761.94	111761.94	3.65	No	Si
SLU 83	0.7	-16321.64	-43038	-0.0000755	0.0004492	0.0035	4.28	66835.59	87261.43	87261.43	5.35	No	Si
SLU 74	-1.3	29828.28	-65872	-0.0001299	0.0004492	0.0035	4.28	81779.4	108929.67	108929.67	3.65	No	Si
SLU 74	0.7	-15714.42	-41231	-0.0000722	0.0004492	0.0035	4.28	65045.52	84616.37	84616.37	5.38	No	Si
SLU 69	-1.3	27810.78	-60140	-0.0001181	0.0004492	0.0035	4.28	79365.55	102088.88	102088.88	3.67	No	Si
SLU 69	0.7	-14284.79	-36911	-0.0000645	0.0004492	0.0035	4.28	60405.26	77921.78	77921.78	5.45	No	Si
SLU 71	-1.3	27509.87	-59786	-0.0001171	0.0004492	0.0035	4.28	79186.59	101665.22	101665.22	3.7	No	Si
SLU 71	0.7	-14193.85	-36691	-0.0000641	0.0004492	0.0035	4.28	60155.63	77578.62	77578.62	5.47	No	Si
SLU 35	-1.3	26375.09	-56825	-0.0001111	0.0004492	0.0035	4.28	77559.82	98131.18	98131.18	3.72	No	Si
SLU 35	0.7	-13625.34	-36050	-0.0000624	0.0004492	0.0035	4.28	59420.56	76578.49	76578.49	5.62	No	Si
SLU 81	-1.3	30043.22	-67611	-0.0001328	0.0004492	0.0035	4.28	82334.68	111005.58	111005.58	3.69	No	Si
SLU 81	0.7	-16122.23	-42628	-0.0000747	0.0004492	0.0035	4.28	66437.91	86662.27	86662.27	5.38	No	Si
SLU 66	-1.3	27200.39	-59507	-0.0001161	0.0004492	0.0035	4.28	79043.64	101332.52	101332.52	3.73	No	Si
SLU 66	0.7	-14085.37	-36501	-0.0000637	0.0004492	0.0035	4.28	59939.15	77282.5	77282.5	5.49	No	Si
SLU 77	-1.3	30438.67	-66506	-0.0001319	0.0004492	0.0035	4.28	81991.28	109686.03	109686.03	3.6	No	Si
SLU 77	0.7	-15913.83	-41640	-0.0000731	0.0004492	0.0035	4.28	65458.82	85215.53	85215.53	5.35	No	Si
SLU 79	-1.3	30137.76	-66151	-0.0001309	0.0004492	0.0035	4.28	81873.95	109262.37	109262.37	3.63	No	Si
SLU 79	0.7	-15822.9	-41420	-0.0000726	0.0004492	0.0035	4.28	65237.53	84893.91	84893.91	5.37	No	Si
SLU 37	-1.3	26074.18	-56470	-0.00011	0.0004492	0.0035	4.28	77348.75	97707.52	97707.52	3.75	No	Si
SLU 37	0.7	-13534.41	-35831	-0.0000619	0.0004492	0.0035	4.28	59165.77	76235.34	76235.34	5.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	-1.3	89639.15	-56005	-0.0004102	0.0006738	0.0035	4.28		101768.89	101768.89	1.14		Si
SLV 7	0.7	-22263.02	-42049	-0.0000821	0.0006738	0.0035	4.28		89100.48	89100.48	4		Si
SLD 7	-1.3	63142.66	-51788	-0.0001919	0.0006738	0.0035	4.28		95181.71	95181.71	1.51		Si
SLD 7	0.7	-17880.55	-36573	-0.0000685	0.0006738	0.0035	4.28		79925.37	79925.37	4.47		Si
SLV 10	-1.3	-49473.3	-34262	-0.0001644	0.0006738	0.0035	3.424		75949.45	75949.45	1.54		Si
SLV 10	0.7	904.57	-13452	-0.0000159	0.0006738	0.0035	4.28		29359	29359	32.46		Si
SLV 9	-1.3	-48333.72	-34067	-0.0001571	0.0006738	0.0035	3.424		75615.06	75615.06	1.56		Si
SLV 9	0.7	650.28	-13545	-0.0000156	0.0006738	0.0035	4.28		29541.69	29541.69	45.43		Si
SLV 12	-1.3	86571.49	-62030	-0.0003063	0.0006738	0.0035	4.28		111179.52	111179.52	1.28		Si
SLV 12	0.7	-20737.43	-43444	-0.0000813	0.0006738	0.0035	4.28		91375.29	91375.29	4.41		Si
SLD 8	-1.3	62429.29	-51909	-0.0001885	0.0006738	0.0035	4.28		95371.79	95371.79	1.53		Si
SLD 8	0.7	-17721.37	-36515	-0.0000682	0.0006738	0.0035	4.28		79824.93	79824.93	4.5		Si
SLV 5	-1.3	-46405.64	-28237	-0.0001902	0.0006738	0.0035	3.424		65329.77	65329.77	1.41		Si
SLV 5	0.7	-621.02	-12057	-0.0000139	0.0006738	0.0035	4.28		34929.32	34929.32	56.25		Si
SLV 6	-1.3	-47545.22	-28431	-0.0002041	0.0006738	0.0035	3.424		65681.54	65681.54	1.38		Si
SLV 6	0.7	-366.73	-11964	-0.0000134	0.0006738	0.0035	4.28		34746.72	34746.72	94.75		Si
SLV 11	-1.3	87711.07	-61835	-0.0003173	0.0006738	0.0035	4.28		110875.89	110875.89	1.26		Si
SLV 11	0.7	-20991.72	-43537	-0.0000818	0.0006738	0.0035	4.28		91527.41	91527.41	4.36		Si
SLV 8	-1.3	88499.57	-56199	-0.0003861	0.0006738	0.0035	4.28		102072.52	102072.52	1.15		Si
SLV 8	0.7	-22008.73	-41955	-0.0000816	0.0006738	0.0035	4.28		88948.36	88948.36	4.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	-1.3	22788.22	-56757	-41278	-16159	4.28	4.28	-32148	10833	23928	88358	46144	21828	35892	Si	2.22	Si
SLU 52	0.7	-13267.01	-34723	-25253	-16141	4.28	4.28	-19668	10833	17518	88358	46144	21828	26277	Si	1.63	Si
SLU 55	-1.3	23398.61	-57390	-41738	-16274	4.28	4.28	-32507	10833	24112	88358	46144	21828	36168	Si	2.22	Si
SLU 55	0.7	-13466.42	-35132	-25551	-16254	4.28	4.28	-19899	10833	17637	88358	46144	21828	26456	Si	1.63	Si
SLU 73	-1.3	26838.98	-64488	-46900	-17656	4.28	4.28	-36527	10833	26177	88358	46144	21828	39265	Si	2.22	Si
SLU 73	0.7	-15076.85	-40160	-29207	-17626	4.28	4.28	-22747	10833	19100	88358	46144	21828	28650	Si	1.63	Si
SLU 47	-1.3	20770.72	-51025	-37109	-14997	4.28	4.28	-28901	10833	22260	88358	46144	21828	33391	Si	2.23	Si
SLU 47	0.7	-11837.38	-30403	-22111	-14986	4.28	4.28	-17221	10629	16262	88358	46144	21828	24392	Si	1.63	Si
SLU 78	-1.3	29191.88	-66268	-48195	-17550	4.28	4.28	-37535	10833	26695	88358	46144	21828	40042	Si	2.28	Si
SLU 78	0.7	-15705.5	-41375	-30091	-17515	4.28	4.28	-23435	10833	19453	88358	46144	21828	29180	Si	1.67	Si
SLU 75	-1.3	28581.48	-65635	-47734	-17435	4.28	4.28	-37176	10833	26510	88358	46144	21828	39765	Si	2.28	Si
SLU 75	0.7	-15506.09	-40966	-29793	-17402	4.28	4.28	-23203	10833	19334	88358	46144	21828	29001	Si	1.67	Si
SLU 76	-1.3	27449.37	-65122	-47361	-17770	4.28	4.28	-36886	10833	26361	88358	46144	21828	39542	Si	2.23	Si
SLU 76	0.7	-15276.27	-40569	-29505	-17739	4.28	4.28	-22979	10833	19219	88358	46144	21828	28828	Si	1.63	Si
SLU 65	-1.3	24211.09	-58123	-42271	-16380	4.28	4.28	-32921	10833	24325	88358	46144	21828	36488	Si	2.23	Si
SLU 65	0.7	-13447.81	-35431	-25768	-16359	4.28	4.28	-20068	10833	17724	88358	46144	21828	26586	Si	1.63	Si
SLU 44	-1.3	20160.33	-50392	-36648	-14883	4.28	4.28	-28542	10833	22076	88358	46144	21828	33114	Si	2.22	Si
SLU 44	0.7	-11637.96	-29994	-21814	-14873	4.28	4.28	-16989	10599	16142	88358	46144	21828	24214	Si	1.63	Si
SLU 68	-1.3	24821.49	-58757	-42732	-16494	4.28	4.28	-33280	10833	24509	88358	46144	21828	36764	Si	2.23	Si
SLU 68	0.7	-13647.22	-35840	-26066	-16471	4.28	4.28	-20300	10833	17843	88358	46144	21828	26765	Si	1.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	-1.3	-47545.22	-28431	-20677	-46485	3.424	1.4032	0	0	0	88358	55372	17462	72835		1.57	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0.7	-366.73	-11964	-8701	-46365	4.28	4.28	-6776	13855	17790	88358	69216	21828	91044		1.96	Si
SLV 7	-1.3	89639.15	-56005	-40731	23957	4.28	1.6183	-31722	16250	27418	88358	69216	21828	91044		3.8	Si
SLV 7	0.7	-22263.02	-42049	-30581	23794	4.28	4.28	-23817	16250	23358	88358	69216	21828	91044		3.83	Si
SLV 14	-1.3	-4383.57	-50830	-36967	-24618	4.28	4.28	-28791	16250	25912	88358	69216	21828	91044		3.7	Si
SLV 14	0.7	-5125.25	-25662	-18664	-24435	4.28	4.28	-14535	15407	19783	88358	69216	21828	91044		3.73	Si
SLD 10	-1.3	-22976.81	-38479	-27985	-33931	4.28	4.28	-21795	16250	22319	88358	69216	21828	91044		2.68	Si
SLD 10	0.7	-3477.9	-18927	-13765	-33810	4.28	4.28	-10721	14644	18803	88358	69216	21828	91044		2.69	Si
SLD 9	-1.3	-22263.45	-38357	-27896	-33405	4.28	4.28	-21726	16250	22284	88358	69216	21828	91044		2.73	Si
SLD 9	0.7	-3637.09	-18986	-13808	-33283	4.28	4.28	-10754	14651	18812	88358	69216	21828	91044		2.74	Si
SLV 9	-1.3	-48333.72	-34067	-24776	-46700	3.424	2.1637	0	0	0	88358	55372	17462	72835		1.56	Si
SLV 9	0.7	650.28	-13545	-9851	-46505	4.28	4.28	-7672	14034	18020	88358	69216	21828	91044		1.96	Si
SLD 5	-1.3	-21026.77	-34622	-25180	-32732	4.28	4.28	-19610	16250	21198	88358	69216	21828	91044		2.78	Si
SLD 5	0.7	-4447.7	-18034	-13116	-32654	4.28	4.28	-10215	14543	18673	88358	69216	21828	91044		2.79	Si
SLD 6	-1.3	-21740.14	-34744	-25268	-33259	4.28	4.28	-19679	16250	21233	88358	69216	21828	91044		2.74	Si
SLD 6	0.7	-4288.51	-17976	-13073	-33181	4.28	4.28	-10182	14536	18665	88358	69216	21828	91044		2.74	Si
SLV 10	-1.3	-49473.3	-34262	-24918	-47542	3.424	2.0881	0	0	0	88358	55372	17462	72835		1.53	Si
SLV 10	0.7	904.57	-13452	-9783	-47346	4.28	4.28	-7619	14024	18007	88358	69216	21828	91044		1.92	Si
SLV 5	-1.3	-46405.64	-28237	-20536	-45644	3.424	1.4897	0	0	0	88358	55372	17462	72835		1.6	Si
SLV 5	0.7	-621.02	-12057	-8769	-45523	4.28	4.28	-6829	13866	17804	88358	69216	21828	91044		2	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-16335	0.25	210.96	2280.14	3245.03	2762.59	13.1	Si
SLV 5	-16353	0.25	210.96	2282.53	3248.03	2765.28	13.11	Si
SLV 10	-18956	0.25	210.96	2614.42	3667.41	3140.92	14.89	Si
SLV 9	-18975	0.25	210.96	2616.75	3670.38	3143.56	14.9	Si
SLV 2	-23435	0.25	210.96	3165.19	4386.26	3775.73	17.9	Si
SLV 1	-23462	0.25	210.96	3168.49	4390.63	3779.56	17.92	Si
SLV 4	-32146	0.25	210.96	4163.29	5763.96	4963.62	23.53	Si
SLV 3	-32174	0.25	210.96	4166.28	5768.26	4967.27	23.55	Si
SLV 14	-32174	0.25	210.96	4166.29	5768.28	4967.29	23.55	Si
SLV 13	-32201	0.25	210.96	4169.28	5772.58	4970.93	23.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-4828	-50541	87	3.006	1046.5	0.892	48.96617	3.62783	Si
SLV 14	-4773	-50830	86	3.026	1041.3	0.892	49.30402	3.62783	Si
SLV 15	-4730	-58871	90	3.041	1037.2	0.892	49.5627	3.62783	Si
SLV 1	-4727	-31107	-77	3.044	1036.9	0.892	49.60743	3.62783	Si
SLV 16	-4675	-59160	88	3.062	1032.1	0.892	49.90837	3.62783	Si
SLV 2	-4672	-31395	-79	3.064	1031.8	0.892	49.94723	3.62783	Si
SLV 3	-4629	-39437	-75	3.081	1027.7	0.891	50.22862	3.62783	Si
SLV 4	-4575	-39726	-76	3.102	1022.5	0.891	50.57649	3.62783	Si
SLV 9	-4897	-34067	27	2.988	1053.2	0.892	48.66512	2.98849	Si
SLV 5	-4867	-28237	-23	3	1050.3	0.892	48.85481	2.98849	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.604	SLU 77	Si
V_SLU	1.625	SLU 68	Si
PF_SLV	1.135	SLV 7	Si
V_SLV	1.532	SLV 10	Si
PFFP_SLV	13.095	SLV 6	Si
R_SLV	13.497	SLV 13	Si

Maschio 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.723	-4.784	-11.013	-4.784	L2	L4	3.29	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 66	-1.3	8472.33	-20116	-0.0000377	0.0003743	0.0035	3.29	28674.38	29742.31	29742.31	3.51	No	Si
SLU 66	1.59	6500.78	-23921	-0.000038	0.0003743	0.0035	3.29	33105.66	34337.89	34337.89	5.28	No	Si
SLU 79	-1.3	9173.98	-22214	-0.0000414	0.0003743	0.0035	3.29	31156.84	32263.64	32263.64	3.52	No	Si
SLU 79	1.59	7744.97	-27071	-0.0000441	0.0003743	0.0035	3.29	36533.55	38218.7	38218.7	4.93	No	Si
SLU 64	-1.3	8380.88	-19895	-0.0000372	0.0003743	0.0035	3.29	28408.01	29479.32	29479.32	3.52	No	Si
SLU 64	1.59	6273.09	-23604	-0.0000372	0.0003743	0.0035	3.29	32747.96	33950.54	33950.54	5.41	No	Si
SLU 77	-1.3	9211.88	-22303	-0.0000416	0.0003743	0.0035	3.29	31259.65	32370.92	32370.92	3.51	No	Si
SLU 77	1.59	7829.56	-27192	-0.0000444	0.0003743	0.0035	3.29	36661.14	38369.39	38369.39	4.9	No	Si
SLU 69	-1.3	8525.89	-20248	-0.0000379	0.0003743	0.0035	3.29	28833.06	29899.66	29899.66	3.51	No	Si
SLU 69	1.59	6643.87	-24118	-0.0000386	0.0003743	0.0035	3.29	33325.77	34577.8	34577.8	5.2	No	Si
SLU 67	-1.3	8565.19	-20426	-0.0000382	0.0003743	0.0035	3.29	29047.14	30112.74	30112.74	3.52	No	Si
SLU 67	1.59	6680.12	-24154	-0.0000387	0.0003743	0.0035	3.29	33366.35	34622.17	34622.17	5.18	No	Si
SLU 71	-1.3	8487.99	-20159	-0.0000377	0.0003743	0.0035	3.29	28726.27	29793.72	29793.72	3.51	No	Si
SLU 71	1.59	6559.28	-23997	-0.0000382	0.0003743	0.0035	3.29	33190.05	34429.73	34429.73	5.25	No	Si
SLU 74	-1.3	9158.32	-22171	-0.0000413	0.0003743	0.0035	3.29	31106.87	32211.59	32211.59	3.52	No	Si
SLU 74	1.59	7686.47	-26995	-0.0000439	0.0003743	0.0035	3.29	36454.21	38125.22	38125.22	4.96	No	Si
SLU 70	-1.3	8618.74	-20557	-0.0000384	0.0003743	0.0035	3.29	29204.94	30270.39	30270.39	3.51	No	Si
SLU 70	1.59	6823.21	-24350	-0.0000392	0.0003743	0.0035	3.29	33585.46	34862.42	34862.42	5.11	No	Si
SLU 72	-1.3	8580.84	-20469	-0.0000383	0.0003743	0.0035	3.29	29098.75	30164.24	30164.24	3.52	No	Si
SLU 72	1.59	6738.62	-24229	-0.0000389	0.0003743	0.0035	3.29	33450.36	34714.14	34714.14	5.15	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	-1.3	8190.19	-11062	-0.0000277	0.0005615	0.0035	3.29		18004.32	18004.32	2.2		Si
SLD 3	1.59	401.97	-13546	-0.0000147	0.0005615	0.0035	3.29		21737.95	21737.95	54.08		Si
SLV 3	-1.3	9125.88	-8441	-0.0000341	0.0005615	0.0035	3.29		13992.53	13992.53	1.53		Si
SLV 3	1.59	-2270.5	-10697	-0.0000152	0.0005615	0.0035	3.29		19775.75	19775.75	8.71		Si
SLD 8	-1.3	3995.45	-4371	-0.0000134	0.0005615	0.0035	3.29		7610.81	7610.81	1.9		Si
SLD 8	1.59	-2187.61	-9165	-0.0000135	0.0005615	0.0035	3.29		17452.77	17452.77	7.98		Si
SLD 7	-1.3	3761.7	-4249	-0.0000125	0.0005615	0.0035	3.29		7415.7	7415.7	1.97		Si
SLD 7	1.59	-1826.75	-9442	-0.0000131	0.0005615	0.0035	3.29		17876.08	17876.08	9.79		Si
SLD 4	-1.3	8544.19	-11248	-0.0000288	0.0005615	0.0035	3.29		18287.06	18287.06	2.14		Si
SLD 4	1.59	-144.52	-13125	-0.0000138	0.0005615	0.0035	3.29		23392.47	23392.47	161.86		Si
SLV 11	-1.3	-717.81	1668	0.1273616	0.0005615	0.0035	2.632		0	0	0		No
SLV 11	1.59	-3142.67	-6338	-0.0000123	0.0005615	0.0035	3.29		13077.15	13077.15	4.16		Si
SLV 7	-1.3	2062.93	2636	0.1964224	0.0005615	0.0035	2.632		0	0	0		No
SLV 7	1.59	-5977.67	-3952	-0.0000586	0.0005615	0.0035	2.632		9333.46	9333.46	1.56		Si
SLV 8	-1.3	2436.34	2440	0.180752	0.0005615	0.0035	2.632		0	0	0		No
SLV 8	1.59	-6554.11	-3509	-0.0001895	0.0005615	0.0035	2.632		8630.51	8630.51	1.32		Si
SLV 12	-1.3	-344.4	1472	0.1120172	0.0005615	0.0035	2.632		0	0	0		No
SLV 12	1.59	-3719.12	-5895	-0.000013	0.0005615	0.0035	3.29		12385.44	12385.44	3.33		Si
SLV 4	-1.3	9680.5	-8732	-0.0000371	0.0005615	0.0035	3.29		14441.15	14441.15	1.49		Si
SLV 4	1.59	-3126.7	-10039	-0.0000162	0.0005615	0.0035	3.29		18783.58	18783.58	6.01		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	-1.3	9453.72	-23142	-20570	-445	3.29	3.29	-13894	8797	15355	30925	44333	8389	23032	Si	51.81	Si
SLU 82	1.59	8146.29	-28228	-25091	-4772	3.29	3.29	-16948	9204	17163	30925	44333	8389	25745	Si	5.39	Si
SLU 63	-1.3	8602.87	-21269	-18906	-529	3.29	3.29	-12770	8647	14689	30925	44333	8389	22034	Si	41.65	Si
SLU 63	1.59	7418.07	-25454	-22626	-4496	3.29	3.29	-15283	8982	16177	30925	44333	8389	24266	Si	5.4	Si
SLU 84	-1.3	9507.27	-23273	-20687	-509	3.29	3.29	-13973	8808	15402	30925	44333	8389	23103	Si	45.35	Si
SLU 84	1.59	8289.38	-28424	-25266	-4889	3.29	3.29	-17066	9220	17233	30925	44333	8389	25850	Si	5.29	Si
SLU 83	-1.3	9414.42	-22963	-20412	-491	3.29	3.29	-13787	8783	15291	30925	44333	8389	22937	Si	46.74	Si
SLU 83	1.59	8110.04	-28192	-25059	-4835	3.29	3.29	-16926	9201	17150	30925	44333	8389	25726	Si	5.32	Si
SLU 80	-1.3	9266.83	-22524	-20021	-454	3.29	3.29	-13523	8748	15135	30925	44333	8389	22703	Si	50.06	Si
SLU 80	1.59	7924.32	-27303	-24270	-4640	3.29	3.29	-16393	9130	16835	30925	44333	8389	25252	Si	5.44	Si
SLU 78	-1.3	9304.73	-22613	-20100	-486	3.29	3.29	-13577	8755	15167	30925	44333	8389	22750	Si	46.78	Si
SLU 78	1.59	8008.91	-27424	-24377	-4695	3.29	3.29	-16466	9140	16878	30925	44333	8389	25316	Si	5.39	Si
SLU 81	-1.3	9360.86	-22832	-20295	-426	3.29	3.29	-13708	8772	15245	30925	44333	8389	22867	Si	53.7	Si
SLU 81	1.59	7966.94	-27995	-24885	-4718	3.29	3.29	-16808	9186	17081	30925	44333	8389	25621	Si	5.43	Si
SLU 79	-1.3	9173.98	-22214	-19746	-435	3.29	3.29	-13337	8723	15025	30925	44333	8389	22538	Si	51.83	Si
SLU 79	1.59	7744.97	-27071	-24063	-4586	3.29	3.29	-16253	9112	16752	30925	44333	8389	25128	Si	5.48	Si
SLU 62	-1.3	8510.01	-20959	-18630	-510	3.29	3.29	-12584	8622	14579	30925	44333	8389	21868	Si	42.85	Si
SLU 62	1.59	7238.73	-25222	-22419	-4442	3.29	3.29	-15143	8964	16094	30925	44333	8389	24142	Si	5.44	Si
SLU 77	-1.3	9211.88	-22303	-19825	-468	3.29	3.29	-13391	8730	15057	30925	44333	8389	22585	Si	48.29	Si
SLU 77	1.59	7829.56	-27192	-24170	-4641	3.29	3.29	-16326	9121	16795	30925	44333	8389	25192	Si	5.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	-1.3	9680.5	-8732	-7762	9240	3.29	1.6093	-5243	11465	13795	30925	66499	8389	44721		4.84	Si
SLV 4	1.59	-3126.7	-10039	-8923	17450	3.29	3.29	-6027	11622	17207	30925	66499	8389	48132		2.76	Si
SLV 3	-1.3	9125.88	-8441	-7503	7662	3.29	1.6916	-5068	11430	13692	30925	66499	8389	44617		5.82	Si
SLV 3	1.59	-2270.5	-10697	-9508	14205	3.29	3.29	-6422	11701	17324	30925	66499	8389	48249		3.4	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-1.3	-143.26	-11667	-10370	-9517	3.29	3.29	-7005	11818	17496	30925	66499	8389	48421		5.09	Si
SLV 15	1.59	7179.48	-18651	-16578	-22415	3.29	3.29	-11198	12656	18738	30925	66499	8389	49663		2.22	Si
SLD 13	-1.3	4343.92	-19654	-17470	-6074	3.29	3.29	-11800	12777	18916	30925	66499	8389	49841		8.21	Si
SLD 13	1.59	10089.98	-23639	-21013	-15842	3.29	3.29	-14193	13255	19624	30925	66499	8389	50550		3.19	Si
SLV 2	-1.3	13031.37	-19235	-17098	9312	3.29	2.9026	-11549	12726	17530	30925	66499	8389	48455		5.2	Si
SLV 2	1.59	2765.98	-18114	-16101	16719	3.29	3.29	-10876	12592	18642	30925	66499	8389	49568		2.96	Si
SLV 16	-1.3	411.36	-11958	-10629	-7939	3.29	3.29	-7180	11853	17548	30925	66499	8389	48473		6.11	Si
SLV 16	1.59	6323.29	-17992	-15993	-19170	3.29	3.29	-10803	12577	18621	30925	66499	8389	49546		2.58	Si
SLV 14	-1.3	3762.23	-22461	-19965	-7867	3.29	3.29	-13485	13114	19415	30925	66499	8389	50340		6.4	Si
SLV 14	1.59	12215.97	-26068	-23171	-19901	3.29	3.29	-15651	13547	20056	30925	66499	8389	50982		2.56	Si
SLV 13	-1.3	3207.61	-22169	-19706	-9445	3.29	3.29	-13310	13079	19363	30925	66499	8389	50289		5.32	Si
SLV 13	1.59	13072.16	-26726	-23757	-23147	3.29	3.29	-16046	13626	20193	30925	66499	8389	51118		2.21	Si
SLD 14	-1.3	4697.92	-19840	-17635	-5067	3.29	3.29	-11912	12799	18949	30925	66499	8389	49874		9.84	Si
SLD 14	1.59	9543.49	-23219	-20639	-13771	3.29	3.29	-13941	13205	19550	30925	66499	8389	50475		3.67	Si
SLD 15	-1.3	2272	-13158	-11696	-6116	3.29	3.29	-7900	11997	17761	30925	66499	8389	48686		7.96	Si
SLD 15	1.59	6446	-18652	-16579	-15385	3.29	3.29	-11198	12656	18738	30925	66499	8389	49663		3.23	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	0	672	234.79	0	0	No, Trazione
SLV 8	179667	0.25	0	938	234.79	0	0	No, Trazione
SLV 12	179667	0.25	1059	-1568	234.79	350.34	1.49	Si
SLV 11	179667	0.25	1239	-1834	234.79	409.35	1.74	Si
SLV 4	179667	0.25	4920	-7284	234.79	1586.19	6.76	Si
SLV 3	179667	0.25	5187	-7680	234.79	1669.3	7.11	Si
SLV 16	179667	0.25	10563	-15638	234.79	3275.25	13.95	Si
SLV 15	179667	0.25	10830	-16034	234.79	3351.77	14.28	Si
SLV 2	179667	0.25	11411	-16894	234.79	3517.13	14.98	Si
SLV 1	179667	0.25	11678	-17290	234.79	3592.66	15.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-33256	-33341	-753	0.564	3989.6	0.956	8.57289	2.77912	Si
SLV 10	-32813	-33538	-753	0.57	3944.5	0.955	8.66628	2.77912	Si
SLV 5	-30870	-32374	-776	0.596	3747.1	0.953	9.09468	2.77912	Si
SLV 6	-30427	-32570	-776	0.603	3702.1	0.953	9.20177	2.77912	Si
SLV 13	-26726	-22169	-214	0.685	3326.4	0.948	10.50375	3.14871	Si
SLV 14	-26068	-22461	-214	0.698	3259.6	0.947	10.71902	3.14871	Si
SLV 1	-18772	-18944	-292	0.895	2520.7	0.934	13.92673	3.14871	Si
SLV 15	-18651	-11667	224	0.902	2508.4	0.934	14.04651	3.14871	Si
SLV 2	-18114	-19235	-292	0.92	2454.2	0.933	14.33005	3.14871	Si
SLV 16	-17992	-11958	224	0.927	2441.9	0.932	14.4561	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.507	SLU 69	Si
V_SLU	5.287	SLU 84	Si
PF_SLV	0	SLV 7	No
V_SLV	2.208	SLV 13	Si
PFFP_SLV	0	SLV 8	No
R_SLV	3.085	SLV 9	Si

Maschio 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	1.046	-6.268	-3.284	L2	L4	4.33	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 51	-1.3	1674.88	-91916	-0.0001119	0.0004492	0.0035	4.33	83757.77	137652.48	125636.66	75.01	Si	Si
SLU 51	1.59	2654.35	-55001	-0.0000662	0.0004492	0.0035	4.33	77813.66	97448.47	97448.47	36.71	No	Si
SLU 65	-1.3	1978.94	-101801	-0.0001261	0.0004492	0.0035	4.33	79039.18	145885.84	118558.77	59.91	Si	Si
SLU 65	1.59	2849.54	-61601	-0.0000747	0.0004492	0.0035	4.33	81605.66	105407.76	105407.76	36.99	No	Si
SLU 46	-1.3	1752.17	-91459	-0.0001114	0.0004492	0.0035	4.33	83911.47	137271.79	125867.21	71.83	Si	Si
SLU 46	1.59	2713.77	-54659	-0.0000659	0.0004492	0.0035	4.33	77584.82	97036.12	97036.12	35.76	No	Si
SLU 47	-1.3	2251.55	-91146	-0.0001119	0.0004492	0.0035	4.33	84013.61	137010.65	126020.42	55.97	Si	Si
SLU 47	1.59	2770.33	-54538	-0.0000659	0.0004492	0.0035	4.33	77503.13	96890.29	96890.29	34.97	No	Si
SLU 5	-1.3	1863.57	-73605	-0.0000881	0.0004492	0.0035	4.33	85456.21	119884.35	119884.35	64.33	No	Si
SLU 5	1.59	2185.12	-44389	-0.0000527	0.0004492	0.0035	4.33	69225.82	81322.33	81322.33	37.22	No	Si
SLU 44	-1.3	2372.13	-90093	-0.0001107	0.0004492	0.0035	4.33	84336.85	136134.09	126505.27	53.33	Si	Si
SLU 44	1.59	2801.78	-53752	-0.000065	0.0004492	0.0035	4.33	76962.98	95943.37	95943.37	34.24	No	Si
SLU 52	-1.3	2559.23	-100131	-0.0001249	0.0004492	0.0035	4.33	80023.65	144494.62	120035.48	46.9	Si	Si
SLU 52	1.59	2812	-60321	-0.000073	0.0004492	0.0035	4.33	80963.42	103864.8	103864.8	36.94	No	Si
SLU 43	-1.3	1231.9	-89389	-0.0001076	0.0004492	0.0035	4.33	84536.36	135547.27	126804.53	102.93	Si	Si
SLU 43	1.59	2590.47	-52947	-0.0000636	0.0004492	0.0035	4.33	76391.11	94699.68	94699.68	36.56	No	Si
SLU 49	-1.3	1631.59	-92512	-0.0001126	0.0004492	0.0035	4.33	83549.02	138148.35	125323.53	76.81	Si	Si
SLU 49	1.59	2682.31	-55444	-0.0000668	0.0004492	0.0035	4.33	78105.56	97983.03	97983.03	36.53	No	Si
SLU 2	-1.3	1984.15	-72553	-0.0000869	0.0004492	0.0035	4.33	85275.87	118615.25	118615.25	59.78	No	Si
SLU 2	1.59	2216.58	-43604	-0.0000519	0.0004492	0.0035	4.33	68468.27	80094.84	80094.84	36.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 5	-1.3	36029.03	-98901	-0.0001762	0.0006738	0.0035	4.33		160176.69	160176.69	4.45		Si
SLV 5	1.59	5760.26	-65928	-0.0000825	0.0006738	0.0035	4.33		118762.48	118762.48	20.62		Si
SLV 6	-1.3	37466.67	-99491	-0.0001796	0.0006738	0.0035	4.33		160900.34	160900.34	4.29		Si
SLV 6	1.59	5686.23	-66733	-0.0000833	0.0006738	0.0035	4.33		120034.15	120034.15	21.11		Si
SLD 8	-1.3	-22060.41	-60944	-0.0001031	0.0006738	0.0035	4.33		120421.13	120421.13	5.46		Si
SLD 8	1.59	787.05	-33125	-0.000037	0.0006738	0.0035	4.33		66801.21	66801.21	84.88		Si
SLV 11	-1.3	-35896.6	-56632	-0.0001205	0.0006738	0.0035	4.33		114071.62	114071.62	3.18		Si
SLV 11	1.59	-1642.56	-27101	-0.0000316	0.0006738	0.0035	4.33		64662.15	64662.15	39.37		Si
SLV 9	-1.3	37706.98	-105641	-0.0001886	0.0006738	0.0035	4.33		167350.5	167350.5	4.44		Si
SLV 9	1.59	4061.42	-69164	-0.0000835	0.0006738	0.0035	4.33		123706.25	123706.25	30.46		Si
SLV 8	-1.3	-36136.92	-50482	-0.0001132	0.0006738	0.0035	4.33		104550.13	104550.13	2.89		Si
SLV 8	1.59	-17.75	-24670	-0.0000265	0.0006738	0.0035	4.33		60226.06	60226.06	3392.25		Si
SLV 12	-1.3	-34458.96	-57222	-0.0001188	0.0006738	0.0035	4.33		114985.12	114985.12	3.34		Si
SLV 12	1.59	-1716.6	-27907	-0.0000326	0.0006738	0.0035	4.33		66131.07	66131.07	38.52		Si
SLV 7	-1.3	-37574.56	-49892	-0.000115	0.0006738	0.0035	4.33		103636.63	103636.63	2.76		Si
SLV 7	1.59	56.28	-23865	-0.0000257	0.0006738	0.0035	4.33		49824.17	49824.17	885.33		Si
SLD 7	-1.3	-22960.37	-60575	-0.0001041	0.0006738	0.0035	4.33		119883.3	119883.3	5.22		Si
SLD 7	1.59	833.39	-32621	-0.0000365	0.0006738	0.0035	4.33		65898.12	65898.12	79.07		Si
SLV 10	-1.3	39144.63	-106231	-0.0001192	0.0006738	0.0035	4.33		167858.47	167858.47	4.29		Si
SLV 10	1.59	3987.39	-69970	-0.0000844	0.0006738	0.0035	4.33		124693.71	124693.71	31.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	-1.3	1068.04	-91037	-66208	-6615	4.33	4.33	-50969	10833	33986	88358	46683	22083	50979	Si	7.71	Si
SLU 45	1.59	2586.98	-54175	-39400	-5828	4.33	4.33	-30331	10833	23263	88358	46683	22083	34895	Si	5.99	Si
SLU 48	-1.3	947.46	-92089	-66974	-6661	4.33	4.33	-51558	10833	34292	88358	46683	22083	51439	Si	7.72	Si
SLU 48	1.59	2555.53	-54960	-39971	-5863	4.33	4.33	-30771	10833	23492	88358	46683	22083	35238	Si	6.01	Si
SLU 43	-1.3	1231.9	-89389	-65010	-6517	4.33	4.33	-50046	10833	33507	88358	46683	22083	50260	Si	7.71	Si
SLU 43	1.59	2590.47	-52947	-38507	-5750	4.33	4.33	-29643	10833	22906	88358	46683	22083	34359	Si	5.98	Si
SLU 50	-1.3	990.74	-91494	-66541	-6609	4.33	4.33	-51225	10833	34119	88358	46683	22083	51179	Si	7.74	Si
SLU 50	1.59	2527.57	-54517	-39649	-5819	4.33	4.33	-30523	10833	23363	88358	46683	22083	35044	Si	6.02	Si
SLU 71	-1.3	597.55	-103201	-75056	-7217	4.33	4.33	-57780	10833	37525	88358	46683	22083	56288	Si	7.8	Si
SLU 71	1.59	2575.32	-62365	-45357	-6319	4.33	4.33	-34917	10833	25646	88358	46683	22083	38469	Si	6.09	Si
SLU 69	-1.3	554.26	-103797	-75489	-7269	4.33	4.33	-58113	10833	37698	88358	46683	22083	56547	Si	7.78	Si
SLU 69	1.59	2603.29	-62809	-45679	-6362	4.33	4.33	-35165	10833	25775	88358	46683	22083	38662	Si	6.08	Si
SLU 53	-1.3	1255.13	-101074	-73508	-7007	4.33	4.33	-56589	10833	36906	88358	46683	22083	55359	Si	7.9	Si
SLU 53	1.59	2597.2	-60744	-44177	-6133	4.33	4.33	-34009	10833	25174	88358	46683	22083	37761	Si	6.16	Si
SLU 64	-1.3	838.71	-101097	-73525	-7125	4.33	4.33	-56601	10833	36913	88358	46683	22083	55369	Si	7.77	Si
SLU 64	1.59	2638.23	-60795	-44214	-6250	4.33	4.33	-34037	10833	25189	88358	46683	22083	37784	Si	6.05	Si
SLU 56	-1.3	1134.55	-102127	-74274	-7053	4.33	4.33	-57178	10833	37212	88358	46683	22083	55819	Si	7.91	Si
SLU 56	1.59	2565.75	-61529	-44748	-6167	4.33	4.33	-34448	10833	25403	88358	46683	22083	38104	Si	6.18	Si
SLU 66	-1.3	674.84	-102744	-74723	-7223	4.33	4.33	-57524	10833	37392	88358	46683	22083	56088	Si	7.77	Si
SLU 66	1.59	2634.74	-62023	-45108	-6328	4.33	4.33	-34725	10833	25546	88358	46683	22083	38320	Si	6.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γ_M = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	-1.3	-36136.92	-50482	-36714	-31427	4.33	4.33	-28263	16250	25941	88358	70024	22083	92107		2.93	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	1.59	-17.75	-24670	-17942	-31036	4.33	4.33	-13812	15262	19826	88358	70024	22083	92107		2.97	Si
SLD 11	-1.3	-21872.63	-64889	-47192	-22521	4.33	4.33	-36330	16250	30132	88358	70024	22083	92107		4.09	Si
SLD 11	1.59	-255	-34696	-25233	-22027	4.33	4.33	-19425	16250	21349	88358	70024	22083	92107		4.18	Si
SLV 7	-1.3	-37574.56	-49892	-36285	-32917	4.33	4.2356	-28948	16250	25769	88358	70024	22083	92107		2.8	Si
SLV 7	1.59	56.28	-23865	-17356	-32550	4.33	4.33	-13361	15172	19709	88358	70024	22083	92107		2.83	Si
SLV 10	-1.3	39144.63	-106231	-77259	21999	4.33	4.33	-59476	16250	42158	88358	70024	22083	92107		4.19	Si
SLV 10	1.59	3987.39	-69970	-50887	22980	4.33	4.33	-39174	16250	31610	88358	70024	22083	92107		4.01	Si
SLD 7	-1.3	-22960.37	-60575	-44054	-22435	4.33	4.33	-33914	16250	28877	88358	70024	22083	92107		4.11	Si
SLD 7	1.59	833.39	-32621	-23724	-21956	4.33	4.33	-18263	16153	20982	88358	70024	22083	92107		4.2	Si
SLV 11	-1.3	-35896.6	-56632	-41187	-33052	4.33	4.33	-31707	16250	27730	88358	70024	22083	92107		2.79	Si
SLV 11	1.59	-1642.56	-27101	-19710	-32663	4.33	4.33	-15173	15535	20180	88358	70024	22083	92107		2.82	Si
SLV 5	-1.3	36029.03	-98901	-71928	20644	4.33	4.33	-55372	16250	40026	88358	70024	22083	92107		4.46	Si
SLV 5	1.59	5760.26	-65928	-47947	21579	4.33	4.33	-36911	16250	30434	88358	70024	22083	92107		4.27	Si
SLV 6	-1.3	37466.67	-99491	-72357	22134	4.33	4.33	-55702	16250	40198	88358	70024	22083	92107		4.16	Si
SLV 6	1.59	5686.23	-66733	-48533	23093	4.33	4.33	-37362	16250	30668	88358	70024	22083	92107		3.99	Si
SLD 12	-1.3	-20972.68	-65259	-47461	-21589	4.33	4.33	-36537	16250	30240	88358	70024	22083	92107		4.27	Si
SLD 12	1.59	-301.35	-35200	-25600	-21079	4.33	4.33	-19707	16250	21496	88358	70024	22083	92107		4.37	Si
SLV 12	-1.3	-34458.96	-57222	-41616	-31562	4.33	4.33	-32037	16250	27902	88358	70024	22083	92107		2.92	Si
SLV 12	1.59	-1716.6	-27907	-20296	-31149	4.33	4.33	-15624	15625	20297	88358	70024	22083	92107		2.96	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-36622	0.25	213.43	4648.32	6489.22	5568.77	26.09	Si
SLV 8	-37337	0.25	213.43	4722.22	6600.34	5661.28	26.53	Si
SLV 11	-41837	0.25	213.43	5172.82	7299.47	6236.14	29.22	Si
SLV 12	-42552	0.25	213.43	5242.01	7408.76	6325.39	29.64	Si
SLV 3	-46474	0.25	213.43	5610.37	8008.9	6809.64	31.91	Si
SLV 4	-47536	0.25	213.43	5706.72	8171.38	6939.05	32.51	Si
SLV 1	-60283	0.25	213.43	6752.9	10091.02	8421.96	39.46	Si
SLV 2	-61345	0.25	213.43	6830.78	10246.07	8538.42	40.01	Si
SLV 15	-63859	0.25	213.43	7009.58	10613.42	8811.5	41.29	Si
SLV 16	-64920	0.25	213.43	7082.67	10767.67	8925.17	41.82	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-59219	-97084	-301	0.438	6558	0.975	6.5347	3.62783	Si
SLV 13	-58023	-96208	-301	0.446	6436.2	0.975	6.64984	3.62783	Si
SLV 10	-69970	-106231	-68	0.385	7653.2	0.979	5.71759	2.98849	Si
SLV 9	-69164	-105641	-69	0.389	7571.1	0.978	5.77375	2.98849	Si
SLV 6	-66733	-99491	118	0.4	7323.4	0.978	5.94098	2.98849	Si
SLV 5	-65928	-98901	118	0.404	7241.4	0.977	6.00258	2.98849	Si
SLV 2	-48430	-74618	321	0.519	5459.2	0.97	7.76598	3.62783	Si
SLV 1	-47234	-73741	320	0.53	5337.5	0.97	7.93637	3.62783	Si
SLV 16	-46600	-82382	-313	0.536	5272.9	0.969	8.03205	3.62783	Si
SLV 15	-45404	-81505	-314	0.548	5151.2	0.969	8.21545	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	34.244	SLU 44	Si
V_SLU	5.975	SLU 43	Si
PF_SLV	2.758	SLV 7	Si
V_SLV	2.787	SLV 11	Si
PFFP_SLV	26.092	SLV 7	Si
R_SLV	1.801	SLV 14	Si

Maschio 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-8.253	-3.284	-7.463	-3.284	L2	L4	0.79	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	0.7	2095.25	-22485	-0.0001952	0.0003743	0.0035	0.79	3364.05	5744.97	5046.07	2.41	Si	Si
SLU 75	1.1	1085.98	-22094	-0.0001471	0.0003743	0.0035	0.79	3399.74	5688.63	5099.61	4.7	Si	Si
SLU 77	0.7	2103	-22493	-0.0001957	0.0003743	0.0035	0.79	3363.24	5746.18	5044.87	2.4	Si	Si
SLU 77	1.1	1077.7	-22103	-0.0001468	0.0003743	0.0035	0.79	3399.01	5689.84	5098.51	4.73	Si	Si
SLU 79	0.7	2091.67	-22380	-0.0001943	0.0003743	0.0035	0.79	3373.9	5729.93	5060.85	2.42	Si	Si
SLU 79	1.1	1067.94	-21990	-0.0001457	0.0003743	0.0035	0.79	3408.71	5673.59	5113.06	4.79	Si	Si
SLU 80	0.7	2103.12	-22555	-0.0001961	0.0003743	0.0035	0.79	3357.22	5755.19	5035.83	2.39	Si	Si
SLU 80	1.1	1090.32	-22165	-0.0001477	0.0003743	0.0035	0.79	3393.51	5698.85	5090.27	4.67	Si	Si
SLU 82	0.7	2143.76	-23241	-0.0002032	0.0003743	0.0035	0.79	3285.34	5841.77	4928.01	2.3	Si	Si
SLU 82	1.1	1081.35	-22851	-0.0001516	0.0003743	0.0035	0.79	3327.47	5797.93	4991.21	4.62	Si	Si
SLU 83	0.7	2151.51	-23250	-0.0002036	0.0003743	0.0035	0.79	3284.4	5842.41	4926.59	2.29	Si	Si
SLU 83	1.1	1073.07	-22860	-0.0001513	0.0003743	0.0035	0.79	3326.6	5799.14	4989.9	4.65	Si	Si
SLU 81	0.7	2132.31	-23066	-0.0002013	0.0003743	0.0035	0.79	3304.64	5828.41	4956.95	2.32	Si	Si
SLU 81	1.1	1058.97	-22676	-0.0001496	0.0003743	0.0035	0.79	3345.28	5772.67	5017.92	4.74	Si	Si
SLU 84	0.7	2162.96	-23424	-0.0002055	0.0003743	0.0035	0.79	3264.4	5855.76	4896.6	2.26	Si	Si
SLU 84	1.1	1095.45	-23034	-0.0001534	0.0003743	0.0035	0.79	3308.09	5824.4	4962.14	4.53	Si	Si
SLU 78	0.7	2114.45	-22668	-0.0001975	0.0003743	0.0035	0.79	3346.13	5771.44	5019.2	2.37	Si	Si
SLU 78	1.1	1100.08	-22278	-0.0001488	0.0003743	0.0035	0.79	3383.39	5715.1	5075.08	4.61	Si	Si
SLU 76	0.7	2091.56	-22489	-0.0001951	0.0003743	0.0035	0.79	3363.66	5745.56	5045.49	2.41	Si	Si
SLU 76	1.1	1091.14	-22099	-0.0001473	0.0003743	0.0035	0.79	3399.39	5689.22	5099.08	4.67	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.7	924.03	-16105	-0.0001008	0.0005615	0.0035	0.79		5153.41	5153.41	5.58		Si
SLV 2	1.1	2066.36	-15839	-0.0001403	0.0005615	0.0035	0.79		5096.29	5096.29	2.47		Si
SLV 14	0.7	2166.81	-19592	-0.0001639	0.0005615	0.0035	0.79		5904.51	5904.51	2.72		Si
SLV 14	1.1	279.41	-19205	-0.0000928	0.0005615	0.0035	0.79		5821.22	5821.22	20.83		Si
SLV 13	0.7	2230.1	-19406	-0.0001652	0.0005615	0.0035	0.79		5864.36	5864.36	2.63		Si
SLV 13	1.1	125.82	-19019	-0.0000864	0.0005615	0.0035	0.79		5781.06	5781.06	45.95		Si
SLV 1	0.7	987.33	-15918	-0.0001021	0.0005615	0.0035	0.79		5113.25	5113.25	5.18		Si
SLV 1	1.1	1912.77	-15653	-0.0001337	0.0005615	0.0035	0.79		5056.13	5056.13	2.64		Si
SLV 16	0.7	1894.56	-14454	-0.000127	0.0005615	0.0035	0.79		4724.6	4724.6	2.49		Si
SLV 16	1.1	-412.98	-14119	-0.0000737	0.0005615	0.0035	0.79		4861.58	4861.58	11.77		Si
SLV 11	0.7	1194.91	-7083	-0.0000696	0.0005615	0.0035	0.79		2619.1	2619.1	2.19		Si
SLV 11	1.1	-723.83	-6852	-0.0000515	0.0005615	0.0035	0.79		2728.41	2728.41	3.77		Si
SLD 15	0.7	1776.34	-14656	-0.0001238	0.0005615	0.0035	0.79		4781.02	4781.02	2.69		Si
SLD 15	1.1	-84.85	-14336	-0.0000635	0.0005615	0.0035	0.79		4919.09	4919.09	57.97		Si
SLV 15	0.7	1957.85	-14268	-0.0001285	0.0005615	0.0035	0.79		4672.49	4672.49	2.39		Si
SLV 15	1.1	-566.57	-13933	-0.0000781	0.0005615	0.0035	0.79		4812.13	4812.13	8.49		Si
SLV 4	0.7	651.78	-10967	-0.0000675	0.0005615	0.0035	0.79		3749.97	3749.97	5.75		Si
SLV 4	1.1	1373.98	-10753	-0.0000908	0.0005615	0.0035	0.79		3690.37	3690.37	2.69		Si
SLV 12	0.7	1152.29	-7209	-0.0000681	0.0005615	0.0035	0.79		2660.06	2660.06	2.31		Si
SLV 12	1.1	-620.42	-6977	-0.0000487	0.0005615	0.0035	0.79		2769.59	2769.59	4.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	0.7	2151.51	-23250	-18600	2728	0.79	0.79	-52320	10833	6101	88358	10645	4029	9151	Si	3.35	Si
SLU 83	1.1	1073.07	-22860	-18288	2728	0.79	0.79	-51442	10833	6017	88358	10645	4029	9026	Si	3.31	Si
SLU 81	0.7	2132.31	-23066	-18453	2715	0.79	0.79	-51907	10833	6062	88358	10645	4029	9092	Si	3.35	Si
SLU 81	1.1	1058.97	-22676	-18141	2715	0.79	0.79	-51030	10833	5978	88358	10645	4029	8967	Si	3.3	Si
SLU 58	0.7	1867.15	-19831	-15865	2351	0.79	0.79	-44626	10833	5371	88358	10645	4029	8057	Si	3.43	Si
SLU 58	1.1	939.6	-19441	-15553	2351	0.79	0.79	-43749	10833	5288	88358	10645	4029	7932	Si	3.37	Si
SLU 63	0.7	1938.43	-20875	-16700	2460	0.79	0.79	-46976	10833	5594	88358	10645	4029	8391	Si	3.41	Si
SLU 63	1.1	967.11	-20485	-16388	2460	0.79	0.79	-46098	10833	5511	88358	10645	4029	8266	Si	3.36	Si
SLU 62	0.7	1926.99	-20700	-16560	2488	0.79	0.79	-46582	10833	5557	88358	10645	4029	8335	Si	3.35	Si
SLU 62	1.1	944.73	-20310	-16248	2488	0.79	0.79	-45705	10833	5474	88358	10645	4029	8210	Si	3.3	Si
SLU 60	0.7	1907.79	-20517	-16413	2475	0.79	0.79	-46170	10833	5518	88358	10645	4029	8276	Si	3.34	Si
SLU 60	1.1	930.63	-20127	-16101	2475	0.79	0.79	-45292	10833	5434	88358	10645	4029	8152	Si	3.29	Si
SLU 79	0.7	2091.67	-22380	-17904	2591	0.79	0.79	-50364	10833	5915	88358	10645	4029	8873	Si	3.42	Si
SLU 79	1.1	1067.94	-21990	-17592	2591	0.79	0.79	-49486	10833	5832	88358	10645	4029	8748	Si	3.38	Si
SLU 61	0.7	1919.24	-20692	-16553	2447	0.79	0.79	-46563	10833	5555	88358	10645	4029	8332	Si	3.4	Si
SLU 61	1.1	953.01	-20302	-16241	2447	0.79	0.79	-45686	10833	5472	88358	10645	4029	8208	Si	3.35	Si
SLU 82	0.7	2143.76	-23241	-18593	2688	0.79	0.79	-52301	10833	6099	88358	10645	4029	9148	Si	3.4	Si
SLU 82	1.1	1081.35	-22851	-18281	2688	0.79	0.79	-51423	10833	6016	88358	10645	4029	9023	Si	3.36	Si
SLU 84	0.7	2162.96	-23424	-18740	2701	0.79	0.79	-52713	10833	6138	88358	10645	4029	9207	Si	3.41	Si
SLU 84	1.1	1095.45	-23034	-18427	2701	0.79	0.79	-51835	10833	6055	88358	10645	4029	9082	Si	3.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	0.7	1152.29	-7209	-5767	4535	0.79	0.7055	-16222	13661	4337	88358	15968	4029	19997		4.41	Si
SLV 12	1.1	-620.42	-6977	-5582	4526	0.79	0.79	-15701	13557	4819	88358	15968	4029	19997		4.42	Si
SLV 15	0.7	1957.85	-14268	-11414	6360	0.79	0.7733	-32107	16250	5655	88358	15968	4029	19997		3.14	Si
SLV 15	1.1	-566.57	-13933	-11146	6388	0.79	0.79	-31354	16250	5777	88358	15968	4029	19997		3.13	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.7	2230.1	-19406	-15525	5263	0.79	0.79	-43670	16250	5851	88358	15968	4029	19997		3.8	Si
SLV 13	1.1	125.82	-19019	-15215	5302	0.79	0.79	-42799	16250	5777	88358	15968	4029	19997		3.77	Si
SLD 15	0.7	1776.34	-14656	-11725	4693	0.79	0.79	-32981	16250	5777	88358	15968	4029	19997		4.26	Si
SLD 15	1.1	-84.85	-14336	-11469	4710	0.79	0.79	-32261	16250	5777	88358	15968	4029	19997		4.25	Si
SLV 11	0.7	1194.91	-7083	-5667	4900	0.79	0.6789	-15940	13605	4156	88358	15968	4029	19997		4.08	Si
SLV 11	1.1	-723.83	-6852	-5481	4891	0.79	0.79	-15418	13500	4799	88358	15968	4029	19997		4.09	Si
SLD 13	0.7	1944.15	-17831	-14265	4014	0.79	0.79	-40125	16250	5777	88358	15968	4029	19997		4.98	Si
SLD 13	1.1	342.93	-17479	-13983	4038	0.79	0.79	-39334	16250	5777	88358	15968	4029	19997		4.95	Si
SLD 11	0.7	1294.33	-10191	-8153	3726	0.79	0.79	-22933	15003	5334	88358	15968	4029	19997		5.37	Si
SLD 11	1.1	-166.99	-9933	-7946	3720	0.79	0.79	-22352	14887	5292	88358	15968	4029	19997		5.38	Si
SLV 16	0.7	1894.56	-14454	-11563	5818	0.79	0.79	-32527	16250	5777	88358	15968	4029	19997		3.44	Si
SLV 16	1.1	-412.98	-14119	-11295	5846	0.79	0.79	-31773	16250	5777	88358	15968	4029	19997		3.42	Si
SLD 16	0.7	1735.95	-14775	-11820	4347	0.79	0.79	-33249	16250	5777	88358	15968	4029	19997		4.6	Si
SLD 16	1.1	13.18	-14455	-11564	4364	0.79	0.79	-32529	16250	5777	88358	15968	4029	19997		4.58	Si
SLV 14	0.7	2166.81	-19592	-15674	4721	0.79	0.79	-44089	16250	5891	88358	15968	4029	19997		4.24	Si
SLV 14	1.1	279.41	-19205	-15364	4760	0.79	0.79	-43219	16250	5808	88358	15968	4029	19997		4.2	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-6631	0.25	56.38	1309.75	1696.23	1502.99	26.66	Si
SLV 8	-6654	0.25	56.38	1313.71	1701.63	1507.67	26.74	Si
SLV 11	-7670	0.25	56.38	1482.02	1937.24	1709.63	30.32	Si
SLV 12	-7694	0.25	56.38	1485.78	1942.64	1714.21	30.41	Si
SLV 3	-11172	0.25	56.38	1996.47	2732.19	2364.33	41.94	Si
SLV 4	-11207	0.25	56.38	2001.04	2739.96	2370.5	42.05	Si
SLV 15	-14637	0.25	56.38	2405.45	3456.1	2930.77	51.98	Si
SLV 16	-14672	0.25	56.38	2409.03	3463.02	2936.02	52.08	Si
SLV 1	-16109	0.25	56.38	2549.07	3736.65	3142.86	55.75	Si
SLV 2	-16144	0.25	56.38	2552.23	3743.19	3147.71	55.83	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-13951	-30265	790	0.328	1565.1	0.972	4.90376	2.77912	Si
SLV 9	-13824	-30047	780	0.331	1552.1	0.971	4.94764	2.77912	Si
SLV 6	-13520	-31484	772	0.337	1521.1	0.971	5.03809	2.77912	Si
SLV 5	-13393	-31267	762	0.34	1508.2	0.971	5.08455	2.77912	Si
SLV 14	-10861	-21249	557	0.413	1250.4	0.965	6.22289	3.14871	Si
SLV 13	-10672	-20927	541	0.42	1231.2	0.965	6.32847	3.14871	Si
SLV 2	-9423	-25314	497	0.466	1104.1	0.961	7.04301	3.14871	Si
SLV 1	-9234	-24991	481	0.474	1084.9	0.96	7.17974	3.14871	Si
SLV 16	-7754	-14696	336	0.559	934.4	0.955	8.50647	3.14871	Si
SLV 15	-7565	-14373	321	0.571	915.2	0.954	8.7048	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.264	SLU 84	Si
V_SLU	3.294	SLU 60	Si
PF_SLV	2.192	SLV 11	Si
V_SLV	3.13	SLV 15	Si
PFFP_SLV	26.659	SLV 7	Si
R_SLV	1.764	SLV 10	Si

Maschio 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	2.071	-5.158	6.101	L2	L4	4.03	0.3	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.3	-12474.97	-111925	-0.0001795	0.0004492	0.0035	4.03	54654.98	138613.49	81982.47	6.57	Si	Si
SLU 82	0.8	-7049.26	-93175	-0.0001357	0.0004492	0.0035	4.03	69328.82	129376.36	103993.23	14.75	Si	Si
SLU 84	-1.3	-12426.69	-113405	-0.000182	0.0004492	0.0035	4.03	53088.62	138980.3	79632.92	6.41	Si	Si
SLU 84	0.8	-7018.71	-94533	-0.0001378	0.0004492	0.0035	4.03	68588.16	130045.41	102882.25	14.66	Si	Si
SLU 81	-1.3	-11775.99	-112500	-0.0001788	0.0004492	0.0035	4.03	54052.98	138770.84	81079.47	6.89	Si	Si
SLU 81	0.8	-7077.77	-93802	-0.0001368	0.0004492	0.0035	4.03	68993.23	129685.15	103489.84	14.62	Si	Si
SLU 73	-1.3	-12609.1	-107191	-0.0001716	0.0004492	0.0035	4.03	59264.7	136281.4	88897.05	7.05	Si	Si
SLU 73	0.8	-6716.1	-88862	-0.0001283	0.0004492	0.0035	4.03	71347.49	126555.83	107021.23	15.94	Si	Si
SLU 78	-1.3	-12019.55	-111263	-0.0001773	0.0004492	0.0035	4.03	55335.79	138287.65	83003.69	6.91	Si	Si
SLU 78	0.8	-6670.64	-92631	-0.000134	0.0004492	0.0035	4.03	69611.37	129108.38	104417.06	15.65	Si	Si
SLU 75	-1.3	-12067.83	-109784	-0.0001748	0.0004492	0.0035	4.03	56815.72	137558.66	85223.58	7.06	Si	Si
SLU 75	0.8	-6701.2	-91273	-0.000132	0.0004492	0.0035	4.03	70281.56	128331.32	105422.34	15.73	Si	Si
SLU 80	-1.3	-12046.55	-110534	-0.000176	0.0004492	0.0035	4.03	56072.67	137928.36	84109	6.98	Si	Si
SLU 80	0.8	-6673.99	-91996	-0.0001331	0.0004492	0.0035	4.03	69931.13	128795.43	104896.69	15.72	Si	Si
SLU 76	-1.3	-12560.82	-108671	-0.0001741	0.0004492	0.0035	4.03	57889.43	137010.38	86834.14	6.91	Si	Si
SLU 76	0.8	-6685.54	-90220	-0.0001303	0.0004492	0.0035	4.03	70766.63	127555.84	106149.94	15.88	Si	Si
SLU 77	-1.3	-11320.56	-111839	-0.0001765	0.0004492	0.0035	4.03	54744.18	138571.12	82116.27	7.25	Si	Si
SLU 77	0.8	-6699.15	-93258	-0.0001351	0.0004492	0.0035	4.03	69285.08	129417.17	103927.62	15.51	Si	Si
SLU 83	-1.3	-11727.7	-113980	-0.0001813	0.0004492	0.0035	4.03	52463.39	139113.57	78695.09	6.71	Si	Si
SLU 83	0.8	-7047.22	-95160	-0.0001388	0.0004492	0.0035	4.03	68229.35	130354.2	102344.03	14.52	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	-1.3	-31255.81	-51013	-0.0001185	0.0006738	0.0035	4.03		96093.11	96093.11	3.07		Si
SLD 5	0.8	-4350.11	-37446	-0.0000515	0.0006738	0.0035	4.03		75801.49	75801.49	17.43		Si
SLD 10	-1.3	-32988.27	-57434	-0.0001305	0.0006738	0.0035	4.03		104998.48	104998.48	3.18		Si
SLD 10	0.8	-5315.53	-41127	-0.0000577	0.0006738	0.0035	4.03		81447.28	81447.28	15.32		Si
SLV 2	-1.3	-18925.96	-47565	-0.0000908	0.0006738	0.0035	4.03		91096.92	91096.92	4.81		Si
SLV 2	0.8	-1455.96	-38905	-0.0000481	0.0006738	0.0035	4.03		78039.26	78039.26	53.6		Si
SLD 9	-1.3	-32047.38	-57663	-0.000129	0.0006738	0.0035	4.03		105310.91	105310.91	3.29		Si
SLD 9	0.8	-5527.33	-41817	-0.000059	0.0006738	0.0035	4.03		82504.32	82504.32	14.93		Si
SLV 7	-1.3	31482.13	-104654	-0.0001957	0.0006738	0.0035	4.03		149969.48	149969.48	4.76		Si
SLV 7	0.8	-3729.27	-96448	-0.0001263	0.0006738	0.0035	4.03		148814.08	148814.08	39.9		Si
SLD 6	-1.3	-32196.7	-50784	-0.00012	0.0006738	0.0035	4.03		95761.33	95761.33	2.97		Si
SLD 6	0.8	-4138.31	-36757	-0.0000503	0.0006738	0.0035	4.03		74709.56	74709.56	18.05		Si
SLV 10	-1.3	-48150.68	-46152	-0.0001586	0.0006738	0.0035	4.03		89049.75	89049.75	1.85		Si
SLV 10	0.8	-5682.25	-27979	-0.0000424	0.0006738	0.0035	4.03		60387.61	60387.61	10.63		Si
SLV 6	-1.3	-46915.44	-35778	-0.0001706	0.0006738	0.0035	3.224		73126.11	73126.11	1.56		Si
SLV 6	0.8	-3842.49	-21161	-0.0000311	0.0006738	0.0035	4.03		48740.94	48740.94	12.68		Si
SLV 5	-1.3	-45412.41	-36144	-0.0001589	0.0006738	0.0035	3.224		73717.95	73717.95	1.62		Si
SLV 5	0.8	-4180.84	-22262	-0.000033	0.0006738	0.0035	4.03		50655.09	50655.09	12.12		Si
SLV 9	-1.3	-46647.64	-46518	-0.000153	0.0006738	0.0035	4.03		89579.76	89579.76	1.92		Si
SLV 9	0.8	-6020.59	-29080	-0.0000444	0.0006738	0.0035	4.03		62262.32	62262.32	10.34		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	-1.3	-12560.82	-108671	-79033	-16734	4.03	4.03	-65371	10833	38596	88358	43448	20553	57894	Si	3.46	Si
SLU 76	0.8	-6685.54	-90220	-65614	-12618	4.03	4.03	-54272	10833	33229	88358	43448	20553	49843	Si	3.95	Si
SLU 52	-1.3	-12179.15	-94080	-68422	-15081	4.03	4.03	-56594	10833	34352	88358	43448	20553	51528	Si	3.42	Si
SLU 52	0.8	-6067.32	-77256	-56186	-11655	4.03	4.03	-46474	10833	29458	88358	43448	20553	44187	Si	3.79	Si
SLU 54	-1.3	-11637.87	-96672	-70307	-15097	4.03	4.03	-58153	10833	35106	88358	43448	20553	52659	Si	3.49	Si
SLU 54	0.8	-6052.41	-79668	-57940	-11515	4.03	4.03	-47924	10833	30159	88358	43448	20553	45239	Si	3.93	Si
SLU 44	-1.3	-11404.81	-83929	-61040	-13797	4.03	4.03	-50488	10833	31399	88358	43448	20553	47098	Si	3.41	Si
SLU 44	0.8	-5334.29	-68167	-49576	-10826	4.03	4.03	-41006	10833	26814	88358	43448	20553	40221	Si	3.72	Si
SLU 55	-1.3	-12130.87	-95560	-69498	-15236	4.03	4.03	-57484	10833	34782	88358	43448	20553	52173	Si	3.42	Si
SLU 55	0.8	-6036.76	-78614	-57174	-11731	4.03	4.03	-47290	10833	29853	88358	43448	20553	44779	Si	3.82	Si
SLU 65	-1.3	-11834.77	-97041	-70575	-15294	4.03	4.03	-58375	10833	35213	88358	43448	20553	52819	Si	3.45	Si
SLU 65	0.8	-5983.07	-79773	-58017	-11713	4.03	4.03	-47987	10833	30190	88358	43448	20553	45285	Si	3.87	Si
SLU 68	-1.3	-11786.49	-98520	-71651	-15450	4.03	4.03	-59265	10833	35643	88358	43448	20553	53465	Si	3.46	Si
SLU 68	0.8	-5952.51	-81131	-59004	-11790	4.03	4.03	-48804	10833	30585	88358	43448	20553	45877	Si	3.89	Si
SLU 61	-1.3	-12045.02	-98814	-71864	-15394	4.03	4.03	-59441	10833	35729	88358	43448	20553	53593	Si	3.48	Si
SLU 61	0.8	-6400.48	-81570	-59323	-11732	4.03	4.03	-49068	10833	30712	88358	43448	20553	46069	Si	3.93	Si
SLU 47	-1.3	-11356.53	-85409	-62116	-13952	4.03	4.03	-51378	10833	31829	88358	43448	20553	47744	Si	3.42	Si
SLU 47	0.8	-5303.73	-69525	-50564	-10903	4.03	4.03	-41823	10833	27209	88358	43448	20553	40813	Si	3.74	Si
SLU 73	-1.3	-12609.1	-107191	-77957	-16579	4.03	4.03	-64481	10833	38166	88358	43448	20553	57249	Si	3.45	Si
SLU 73	0.8	-6716.1	-88862	-64627	-12542	4.03	4.03	-53455	10833	32834	88358	43448	20553	49251	Si	3.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	-1.3	-48150.68	-46152	-33565	-32059	4.03	2.9151	-39104	16250	23902	88358	65173	20553	85726		2.67	Si
SLV 10	0.8	-5682.25	-27979	-20348	-32686	4.03	4.03	-16831	15866	19182	88358	65173	20553	85726		2.62	Si
SLV 5	-1.3	-45412.41	-36144	-26286	-27776	3.224	2.2757	0	0	0	88358	52138	16442	68581		2.47	Si
SLV 5	0.8	-4180.84	-22262	-16191	-28039	4.03	4.03	-13392	15178	18351	88358	65173	20553	85726		3.06	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	-1.3	-20810.95	-82688	-60137	-20616	4.03	4.03	-49741	16250	34530	88358	65173	20553	85726		4.16	Si
SLV 13	0.8	-8091.03	-63266	-46012	-18939	4.03	4.03	-38058	16250	28880	88358	65173	20553	85726		4.53	Si
SLD 9	-1.3	-32047.38	-57663	-41937	-23295	4.03	4.03	-34687	16250	27250	88358	65173	20553	85726		3.68	Si
SLD 9	0.8	-5527.33	-41817	-30412	-22496	4.03	4.03	-25155	16250	22641	88358	65173	20553	85726		3.81	Si
SLV 14	-1.3	-23043.4	-82145	-59742	-22737	4.03	4.03	-49414	16250	34372	88358	65173	20553	85726		3.77	Si
SLV 14	0.8	-7588.49	-61631	-44822	-21330	4.03	4.03	-37074	16250	28404	88358	65173	20553	85726		4.02	Si
SLV 6	-1.3	-46915.44	-35778	-26020	-29203	3.224	2.1111	0	0	0	88358	52138	16442	68581		2.35	Si
SLV 6	0.8	-3842.49	-21161	-15390	-29648	4.03	4.03	-12730	15046	18191	88358	65173	20553	85726		2.89	Si
SLD 5	-1.3	-31255.81	-51013	-37100	-21465	4.03	4.03	-30687	16250	25316	88358	65173	20553	85726		3.99	Si
SLD 5	0.8	-4350.11	-37446	-27233	-20546	4.03	4.03	-22525	16250	21369	88358	65173	20553	85726		4.17	Si
SLD 10	-1.3	-32988.27	-57434	-41770	-24189	4.03	4.03	-34549	16250	27184	88358	65173	20553	85726		3.54	Si
SLD 10	0.8	-5315.53	-41127	-29911	-23503	4.03	4.03	-24740	16250	22440	88358	65173	20553	85726		3.65	Si
SLD 6	-1.3	-32196.7	-50784	-36934	-22359	4.03	4.03	-30549	16250	25249	88358	65173	20553	85726		3.83	Si
SLD 6	0.8	-4138.31	-36757	-26732	-21554	4.03	4.03	-22111	16250	21169	88358	65173	20553	85726		3.98	Si
SLV 9	-1.3	-46647.64	-46518	-33831	-30631	4.03	3.0366	-37815	16250	24008	88358	65173	20553	85726		2.8	Si
SLV 9	0.8	-6020.59	-29080	-21149	-31077	4.03	4.03	-17493	15999	19342	88358	65173	20553	85726		2.76	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.05 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-27675	0.25	198.64	3632.76	5027.2	4329.98	21.8	Si
SLV 5	-28496	0.25	198.64	3724.71	5155.75	4440.23	22.35	Si
SLV 10	-35912	0.25	198.64	4513.78	6314.31	5414.04	27.26	Si
SLV 9	-36733	0.25	198.64	4596.58	6442.11	5519.34	27.79	Si
SLV 2	-43294	0.25	198.64	5225.32	7450.95	6338.13	31.91	Si
SLV 1	-44514	0.25	198.64	5335.77	7637.68	6486.73	32.66	Si
SLV 4	-65091	0.25	198.64	6895.58	10657.15	8776.36	44.18	Si
SLV 3	-66311	0.25	198.64	6970.04	10825.05	8897.54	44.79	Si
SLV 14	-70752	0.25	198.64	7224.17	11406.75	9315.46	46.9	Si
SLV 13	-71972	0.25	198.64	7289.28	11565.94	9427.61	47.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.05 Ta = 0.0465

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-71194	-103241	276	0.355	7741.5	0.98	5.2622	3.62783	Si
SLV 16	-69792	-102698	276	0.361	7598.8	0.98	5.35057	3.62783	Si
SLV 11	-86289	-115028	102	0.306	9279.7	0.983	4.51823	2.98849	Si
SLV 12	-85345	-114662	101	0.308	9183.6	0.983	4.55906	2.98849	Si
SLV 7	-81067	-104654	-53	0.322	8747.6	0.982	4.76413	2.98849	Si
SLV 8	-80124	-104288	-53	0.325	8651.5	0.982	4.81027	2.98849	Si
SLV 3	-53788	-68661	-238	0.448	5968.3	0.975	6.68359	3.62783	Si
SLV 13	-52837	-82688	271	0.454	5871.5	0.974	6.77792	3.62783	Si
SLV 4	-52387	-68118	-239	0.458	5825.6	0.974	6.83671	3.62783	Si
SLV 14	-51435	-82145	271	0.465	5728.7	0.974	6.93651	3.62783	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.408	SLU 84	Si
V_SLU	3.414	SLU 44	Si
PF_SLV	1.559	SLV 6	Si
V_SLV	2.348	SLV 6	Si
PFFP_SLV	21.798	SLV 6	Si
R_SLV	1.451	SLV 15	Si

Maschio 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.988	1.046	-6.528	1.046	L2	L4	0.54	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	-1.3	-987.68	-15633	-0.0001885	0.0004492	0.0035	0.54	1998.54	2928.57	2928.57	2.97	No	Si
SLU 82	0.8	237.45	-21243	-0.00017	0.0004492	0.0035	0.54	1632.01	3271.72	2448.01	10.31	Si	Si
SLU 78	-1.3	-978.67	-15475	-0.0001862	0.0004492	0.0035	0.54	2000.58	2915.79	2915.79	2.98	No	Si
SLU 78	0.8	236.7	-20927	-0.000167	0.0004492	0.0035	0.54	1667.89	3252.98	2501.83	10.57	Si	Si
SLU 80	-1.3	-972.67	-15384	-0.0001848	0.0004492	0.0035	0.54	2001.55	2908.4	2908.4	2.99	No	Si
SLU 80	0.8	234.71	-20807	-0.0001658	0.0004492	0.0035	0.54	1681.02	3245.88	2521.53	10.74	Si	Si
SLU 81	-1.3	-996.02	-15686	-0.0001898	0.0004492	0.0035	0.54	1997.75	2932.88	2932.88	2.94	No	Si
SLU 81	0.8	246.56	-21171	-0.0001702	0.0004492	0.0035	0.54	1640.33	3267.46	2460.49	9.98	Si	Si
SLU 74	-1.3	-975.15	-15351	-0.0001847	0.0004492	0.0035	0.54	2001.86	2905.78	2905.78	2.98	No	Si
SLU 74	0.8	241.9	-20617	-0.0001648	0.0004492	0.0035	0.54	1701.29	3234.61	2551.94	10.55	Si	Si
SLU 83	-1.3	-1007.89	-15864	-0.0001925	0.0004492	0.0035	0.54	1994.76	2947.21	2947.21	2.92	No	Si
SLU 83	0.8	250.48	-21409	-0.0001727	0.0004492	0.0035	0.54	1612.43	3281.56	2418.64	9.66	Si	Si
SLU 84	-1.3	-999.54	-15810	-0.0001912	0.0004492	0.0035	0.54	1995.72	2942.89	2942.89	2.94	No	Si
SLU 84	0.8	241.36	-21481	-0.0001725	0.0004492	0.0035	0.54	1603.8	3285.82	2405.7	9.97	Si	Si
SLU 75	-1.3	-966.8	-15298	-0.0001835	0.0004492	0.0035	0.54	2002.32	2901.47	2901.47	3	No	Si
SLU 75	0.8	232.79	-20689	-0.0001645	0.0004492	0.0035	0.54	1693.7	3238.88	2540.55	10.91	Si	Si
SLU 77	-1.3	-987.02	-15528	-0.0001875	0.0004492	0.0035	0.54	1999.94	2920.1	2920.1	2.96	No	Si
SLU 77	0.8	245.82	-20855	-0.0001673	0.0004492	0.0035	0.54	1675.79	3248.72	2513.69	10.23	Si	Si
SLU 79	-1.3	-981.02	-15437	-0.0001861	0.0004492	0.0035	0.54	2001	2912.72	2912.72	2.97	No	Si
SLU 79	0.8	243.83	-20735	-0.000166	0.0004492	0.0035	0.54	1688.76	3241.62	2533.15	10.39	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	-1.3	-1607.12	-12416	-0.0002132	0.0006738	0.0035	0.54		2831.05	2831.05	1.76		Si
SLV 13	0.8	1049.58	-17816	-0.0001973	0.0006738	0.0035	0.54		3513.45	3513.45	3.35		Si
SLV 15	-1.3	-1871.68	-14128	-0.0002549	0.0006738	0.0035	0.54		3104.71	3104.71	1.66		Si
SLV 15	0.8	1338.31	-15659	-0.0002035	0.0006738	0.0035	0.54		3216.39	3216.39	2.4		Si
SLD 15	-1.3	-1435.63	-12824	-0.0001933	0.0006738	0.0035	0.54		2897.76	2897.76	2.02		Si
SLD 15	0.8	910.74	-15105	-0.0001651	0.0006738	0.0035	0.54		3130.12	3130.12	3.44		Si
SLV 11	-1.3	-1436.44	-14251	-0.0002017	0.0006738	0.0035	0.54		3123.34	3123.34	2.17		Si
SLV 11	0.8	958.91	-11188	-0.0001397	0.0006738	0.0035	0.54		2519.64	2519.64	2.63		Si
SLV 12	-1.3	-1420.65	-14126	-0.0001994	0.0006738	0.0035	0.54		3104.45	3104.45	2.19		Si
SLV 12	0.8	945.6	-11366	-0.00014	0.0006738	0.0035	0.54		2548.21	2548.21	2.69		Si
SLD 16	-1.3	-1420.66	-12706	-0.0001911	0.0006738	0.0035	0.54		2878.66	2878.66	2.03		Si
SLD 16	0.8	898.13	-15274	-0.0001653	0.0006738	0.0035	0.54		3156.48	3156.48	3.51		Si
SLV 16	-1.3	-1848.23	-13943	-0.000251	0.0006738	0.0035	0.54		3076.66	3076.66	1.66		Si
SLV 16	0.8	1318.55	-15924	-0.000204	0.0006738	0.0035	0.54		3257.69	3257.69	2.47		Si
SLD 14	-1.3	-1256.87	-11647	-0.0001685	0.0006738	0.0035	0.54		2698.87	2698.87	2.15		Si
SLD 14	0.8	719.4	-16608	-0.0001613	0.0006738	0.0035	0.54		3364.12	3364.12	4.68		Si
SLV 14	-1.3	-1583.67	-12231	-0.0002095	0.0006738	0.0035	0.54		2799.25	2799.25	1.77		Si
SLV 14	0.8	1029.81	-18081	-0.0001978	0.0006738	0.0035	0.54		3542.6	3542.6	3.44		Si
SLD 13	-1.3	-1271.84	-11765	-0.0001706	0.0006738	0.0035	0.54		2719.17	2719.17	2.14		Si
SLD 13	0.8	732.01	-16439	-0.000161	0.0006738	0.0035	0.54		3337.76	3337.76	4.56		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	-1.3	-975.15	-15351	-12281	-565	0.54	0.54	-50539	10833	4211	88358	8733	2754	6316	Si	11.19	Si
SLU 74	0.8	241.9	-20617	-16494	-560	0.54	0.54	-67875	10833	5334	88358	8733	2754	8001	Si	14.28	Si
SLU 83	-1.3	-1007.89	-15864	-12691	-583	0.54	0.54	-52226	10833	4320	88358	8733	2754	6480	Si	11.11	Si
SLU 83	0.8	250.48	-21409	-17127	-579	0.54	0.54	-70483	10833	5503	88358	8733	2754	8254	Si	14.26	Si
SLU 84	-1.3	-999.54	-15810	-12648	-575	0.54	0.54	-52050	10833	4309	88358	8733	2754	6463	Si	11.25	Si
SLU 84	0.8	241.36	-21481	-17185	-570	0.54	0.54	-70720	10833	5518	88358	8733	2754	8277	Si	14.52	Si
SLU 78	-1.3	-978.67	-15475	-12380	-563	0.54	0.54	-50947	10833	4237	88358	8733	2754	6356	Si	11.29	Si
SLU 78	0.8	236.7	-20927	-16742	-559	0.54	0.54	-68896	10833	5400	88358	8733	2754	8100	Si	14.5	Si
SLU 77	-1.3	-987.02	-15528	-12423	-572	0.54	0.54	-51122	10833	4248	88358	8733	2754	6373	Si	11.14	Si
SLU 77	0.8	245.82	-20855	-16684	-567	0.54	0.54	-68659	10833	5385	88358	8733	2754	8077	Si	14.23	Si
SLU 62	-1.3	-906.77	-14148	-11318	-528	0.54	0.54	-46578	10833	3954	88358	8733	2754	5931	Si	11.23	Si
SLU 62	0.8	231.55	-18954	-15163	-524	0.54	0.54	-62401	10833	4979	88358	8733	2754	7469	Si	14.25	Si
SLU 81	-1.3	-996.02	-15686	-12549	-576	0.54	0.54	-51642	10833	4282	88358	8733	2754	6423	Si	11.15	Si
SLU 81	0.8	246.56	-21171	-16937	-572	0.54	0.54	-69700	10833	5452	88358	8733	2754	8178	Si	14.31	Si
SLU 79	-1.3	-981.02	-15437	-12350	-568	0.54	0.54	-50822	10833	4229	88358	8733	2754	6343	Si	11.16	Si
SLU 79	0.8	243.83	-20735	-16588	-564	0.54	0.54	-68264	10833	5359	88358	8733	2754	8039	Si	14.26	Si
SLU 60	-1.3	-894.9	-13971	-11177	-521	0.54	0.54	-45995	10833	3916	88358	8733	2754	5874	Si	11.28	Si
SLU 60	0.8	227.63	-18716	-14973	-517	0.54	0.54	-61617	10833	4928	88358	8733	2754	7393	Si	14.3	Si
SLU 56	-1.3	-885.89	-13813	-11050	-517	0.54	0.54	-45475	10833	3882	88358	8733	2754	5824	Si	11.27	Si
SLU 56	0.8	226.89	-18400	-14720	-513	0.54	0.54	-60576	10833	4861	88358	8733	2754	7292	Si	14.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	-1.3	-1583.67	-12231	-9785	-1231	0.54	0.4216	-52970	16250	4013	88358	13099	2754	15853		12.88	Si
SLV 14	0.8	1029.81	-18081	-14465	-1202	0.54	0.54	-59526	16250	5261	88358	13099	2754	15853		13.19	Si
SLV 13	-1.3	-1607.12	-12416	-9933	-1253	0.54	0.4217	-53783	16250	4052	88358	13099	2754	15853		12.65	Si
SLV 13	0.8	1049.58	-17816	-14253	-1225	0.54	0.54	-58653	16250	5204	88358	13099	2754	15853		12.95	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	-1.3	-1871.68	-14128	-11302	-1532	0.54	0.4126	-62923	16250	4418	88358	13099	2754	15853		10.34	Si
SLV 15	0.8	1338.31	-15659	-12527	-1503	0.54	0.54	-51552	16250	4744	88358	13099	2754	15853		10.55	Si
SLD 14	-1.3	-1256.87	-11647	-9318	-930	0.54	0.4863	-38345	16250	3888	88358	13099	2754	15853		17.05	Si
SLD 14	0.8	719.4	-16608	-13286	-910	0.54	0.54	-54677	16250	4947	88358	13099	2754	15853		17.43	Si
SLD 13	-1.3	-1271.84	-11765	-9412	-944	0.54	0.4857	-38733	16250	3914	88358	13099	2754	15853		16.8	Si
SLD 13	0.8	732.01	-16439	-13151	-924	0.54	0.54	-54119	16250	4911	88358	13099	2754	15853		17.16	Si
SLV 12	-1.3	-1420.65	-14126	-11301	-1144	0.54	0.5083	-46506	16250	4417	88358	13099	2754	15853		13.85	Si
SLV 12	0.8	945.6	-11366	-9093	-1132	0.54	0.54	-37420	16250	3949	88358	13099	2754	15853		14.01	Si
SLV 16	-1.3	-1848.23	-13943	-11154	-1510	0.54	0.4123	-62099	16250	4378	88358	13099	2754	15853		10.5	Si
SLV 16	0.8	1318.55	-15924	-12739	-1481	0.54	0.54	-52426	16250	4801	88358	13099	2754	15853		10.71	Si
SLD 15	-1.3	-1435.63	-12824	-10260	-1117	0.54	0.4742	-49270	16250	4140	88358	13099	2754	15853		14.2	Si
SLD 15	0.8	910.74	-15105	-12084	-1096	0.54	0.54	-49728	16250	4626	88358	13099	2754	15853		14.46	Si
SLD 16	-1.3	-1420.66	-12706	-10165	-1102	0.54	0.4746	-48759	16250	4114	88358	13099	2754	15853		14.38	Si
SLD 16	0.8	898.13	-15274	-12219	-1082	0.54	0.54	-50285	16250	4662	88358	13099	2754	15853		14.65	Si
SLV 11	-1.3	-1436.44	-14251	-11401	-1159	0.54	0.5076	-46916	16250	4444	88358	13099	2754	15853		13.68	Si
SLV 11	0.8	958.91	-11188	-8950	-1147	0.54	0.54	-36832	16250	3949	88358	13099	2754	15853		13.83	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-9768	0.25	39.16	1715.76	2319.05	2017.4	51.51	Si
SLV 4	-9899	0.25	39.16	1732.23	2345.01	2038.62	52.05	Si
SLV 7	-10463	0.25	39.16	1801.06	2456.59	2128.82	54.36	Si
SLV 8	-10551	0.25	39.16	1811.55	2474.06	2142.81	54.71	Si
SLV 1	-10769	0.25	39.16	1837.13	2517.23	2177.18	55.59	Si
SLV 2	-10900	0.25	39.16	1852.27	2543.19	2197.73	56.11	Si
SLV 11	-12041	0.25	39.16	1976.73	2757.61	2367.17	60.44	Si
SLV 12	-12129	0.25	39.16	1985.81	2773.87	2379.84	60.76	Si
SLV 5	-13799	0.25	39.16	2142.84	3065.44	2604.14	66.49	Si
SLV 6	-13887	0.25	39.16	2150.35	3080.21	2615.28	66.78	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-9735	-12231	123	0.363	1090	0.972	5.43164	3.14871	Si
SLV 13	-9573	-12416	120	0.368	1073.5	0.972	5.50492	3.14871	Si
SLV 16	-8604	-13943	85	0.402	974.9	0.969	6.03454	3.14871	Si
SLV 10	-9958	-8419	121	0.358	1112.7	0.973	5.34159	2.77912	Si
SLV 9	-9849	-8543	119	0.361	1101.6	0.972	5.38864	2.77912	Si
SLV 15	-8443	-14128	82	0.408	958.4	0.969	6.1282	3.14871	Si
SLV 6	-9041	-6837	82	0.388	1019.4	0.97	5.81235	2.77912	Si
SLV 5	-8932	-6962	80	0.392	1008.3	0.97	5.86951	2.77912	Si
SLV 2	-6679	-6960	-8	0.498	779	0.962	7.52791	3.14871	Si
SLV 1	-6518	-7145	-11	0.507	762.5	0.961	7.67241	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.924	SLU 83	Si
V_SLU	11.107	SLU 83	Si
PF_SLV	1.659	SLV 15	Si
V_SLV	10.345	SLV 15	Si
PFFP_SLV	51.51	SLV 3	Si
R_SLV	1.725	SLV 14	Si

Maschio 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.046	-5.088	1.046	L2	L4	4.965	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	-1.3	-3937.69	-183130	-0.0001406	0.0004492	0.0035	4.965	149655.69	275252.75	224483.54	57.01	Si	Si
SLU 78	0.8	26644.73	-137063	-0.0001235	0.0004492	0.0035	4.965	169426.13	235861.66	235861.66	8.85	No	Si
SLU 75	-1.3	-3823.61	-181189	-0.0001387	0.0004492	0.0035	4.965	151267.21	274470.19	226900.82	59.34	Si	Si
SLU 75	0.8	26309.11	-135530	-0.0001219	0.0004492	0.0035	4.965	169420.49	234398.34	234398.34	8.91	No	Si
SLU 83	-1.3	-3800.32	-187180	-0.0001441	0.0004492	0.0035	4.965	146071.39	276390.86	219107.08	57.65	Si	Si
SLU 83	0.8	27409.16	-140749	-0.0001275	0.0004492	0.0035	4.965	169264.73	239380.65	239380.65	8.73	No	Si
SLU 74	-1.3	-3850.95	-181201	-0.0001387	0.0004492	0.0035	4.965	151257.17	274477.68	226885.75	58.92	Si	Si
SLU 74	0.8	26359.83	-135542	-0.000122	0.0004492	0.0035	4.965	169420.71	234410.43	234410.43	8.89	No	Si
SLU 80	-1.3	-3894.67	-182091	-0.0001396	0.0004492	0.0035	4.965	150526.44	274961.01	225789.66	57.97	Si	Si
SLU 80	0.8	26499.88	-136237	-0.0001227	0.0004492	0.0035	4.965	169428.4	235073.8	235073.8	8.87	No	Si
SLU 79	-1.3	-3922.01	-182104	-0.0001396	0.0004492	0.0035	4.965	150516.19	274964.48	225774.29	57.57	Si	Si
SLU 79	0.8	26550.6	-136250	-0.0001228	0.0004492	0.0035	4.965	169428.46	235085.89	235085.89	8.85	No	Si
SLU 77	-1.3	-3965.03	-183142	-0.0001406	0.0004492	0.0035	4.965	149645.22	275256.22	224467.82	56.61	Si	Si
SLU 77	0.8	26695.46	-137075	-0.0001236	0.0004492	0.0035	4.965	169426	235873.75	235873.75	8.84	No	Si
SLU 84	-1.3	-3772.98	-187168	-0.0001441	0.0004492	0.0035	4.965	146082.77	276387.39	219124.16	58.08	Si	Si
SLU 84	0.8	27358.44	-140737	-0.0001274	0.0004492	0.0035	4.965	169265.71	239368.56	239368.56	8.75	No	Si
SLU 82	-1.3	-3658.91	-185227	-0.0001422	0.0004492	0.0035	4.965	147836.81	275842.12	221755.21	60.61	Si	Si
SLU 82	0.8	27022.82	-139204	-0.0001258	0.0004492	0.0035	4.965	169362.49	237905.25	237905.25	8.8	No	Si
SLU 81	-1.3	-3686.25	-185240	-0.0001422	0.0004492	0.0035	4.965	147825.86	275845.59	221738.79	60.15	Si	Si
SLU 81	0.8	27073.54	-139216	-0.0001258	0.0004492	0.0035	4.965	169361.87	237917.34	237917.34	8.79	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	-1.3	-38992.14	-158445	-0.0001456	0.0006738	0.0035	4.965		301066.25	301066.25	7.72		Si
SLV 14	0.8	26050.87	-120787	-0.0001047	0.0006738	0.0035	4.965		238952.83	238952.83	9.17		Si
SLV 13	-1.3	-38948.55	-158540	-0.0001456	0.0006738	0.0035	4.965		301158.12	301158.12	7.73		Si
SLV 13	0.8	25899.98	-120858	-0.0001047	0.0006738	0.0035	4.965		239053.13	239053.13	9.23		Si
SLV 3	-1.3	33388.46	-91162	-0.0000892	0.0006738	0.0035	4.965		190943.2	190943.2	5.72		Si
SLV 3	0.8	9675.19	-63189	-0.0000495	0.0006738	0.0035	4.965		140162.67	140162.67	14.49		Si
SLV 2	-1.3	33969.39	-89767	-0.0000887	0.0006738	0.0035	4.965		188410.74	188410.74	5.55		Si
SLV 2	0.8	8153.98	-61663	-0.0000472	0.0006738	0.0035	4.965		137393.25	137393.25	16.85		Si
SLV 15	-1.3	-39573.07	-159840	-0.0001473	0.0006738	0.0035	4.965		302413.16	302413.16	7.64		Si
SLV 15	0.8	27572.09	-122313	-0.0001072	0.0006738	0.0035	4.965		241098.39	241098.39	8.74		Si
SLV 11	-1.3	-14772.26	-137304	-0.0001071	0.0006738	0.0035	4.965		274886.98	274886.98	18.61		Si
SLV 11	0.8	23283.61	-103304	-0.0000894	0.0006738	0.0035	4.965		212985.14	212985.14	9.15		Si
SLV 1	-1.3	34012.97	-89862	-0.0000888	0.0006738	0.0035	4.965		188583.49	188583.49	5.54		Si
SLV 1	0.8	8003.09	-61734	-0.0000472	0.0006738	0.0035	4.965		137522.7	137522.7	17.18		Si
SLV 4	-1.3	33344.87	-91067	-0.0000891	0.0006738	0.0035	4.965		190770.45	190770.45	5.72		Si
SLV 4	0.8	9826.08	-63117	-0.0000496	0.0006738	0.0035	4.965		140033.22	140033.22	14.25		Si
SLV 12	-1.3	-14801.61	-137240	-0.0001071	0.0006738	0.0035	4.965		274800.06	274800.06	18.57		Si
SLV 12	0.8	23385.2	-103256	-0.0000894	0.0006738	0.0035	4.965		212897.99	212897.99	9.1		Si
SLV 16	-1.3	-39616.66	-159745	-0.0001472	0.0006738	0.0035	4.965		302321.28	302321.28	7.63		Si
SLV 16	0.8	27722.97	-122241	-0.0001073	0.0006738	0.0035	4.965		240998.1	240998.1	8.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	-1.3	-3622.18	-144913	-115931	22594	4.965	4.965	-51888	10833	59277	88358	80293	25321	88916	Si	3.94	Si
SLU 46	0.8	20351.87	-104820	-83856	22972	4.965	4.965	-37532	10833	46448	88358	80293	25321	69672	Si	3.03	Si
SLU 44	-1.3	-3446.85	-141926	-113541	22194	4.965	4.965	-50818	10833	58321	88358	80293	25321	87482	Si	3.94	Si
SLU 44	0.8	19837.57	-102453	-81962	22565	4.965	4.965	-36685	10833	45690	88358	80293	25321	68536	Si	3.04	Si
SLU 45	-1.3	-3649.52	-144926	-115941	22557	4.965	4.965	-51892	10833	59281	88358	80293	25321	88922	Si	3.94	Si
SLU 45	0.8	20402.59	-104833	-83866	22934	4.965	4.965	-37537	10833	46452	88358	80293	25321	69678	Si	3.04	Si
SLU 49	-1.3	-3736.25	-146854	-117483	22858	4.965	4.965	-52583	10833	59898	88358	80293	25321	89847	Si	3.93	Si
SLU 49	0.8	20687.49	-106353	-85082	23241	4.965	4.965	-38081	10833	46938	88358	80293	25321	70407	Si	3.03	Si
SLU 47	-1.3	-3560.93	-143867	-115094	22459	4.965	4.965	-51513	10833	58942	88358	80293	25321	88413	Si	3.94	Si
SLU 47	0.8	20173.2	-103986	-83189	22834	4.965	4.965	-37233	10833	46181	88358	80293	25321	69271	Si	3.03	Si
SLU 43	-1.3	-3492.42	-141947	-113558	22132	4.965	4.965	-50826	10833	58328	88358	80293	25321	87492	Si	3.95	Si
SLU 43	0.8	19922.11	-102474	-81979	22502	4.965	4.965	-36692	10833	45697	88358	80293	25321	68546	Si	3.05	Si
SLU 50	-1.3	-3720.57	-145828	-116663	22660	4.965	4.965	-52216	10833	59570	88358	80293	25321	89355	Si	3.94	Si
SLU 50	0.8	20593.36	-105540	-84432	23040	4.965	4.965	-37790	10833	46678	88358	80293	25321	70017	Si	3.04	Si
SLU 51	-1.3	-3693.23	-145816	-116653	22698	4.965	4.965	-52211	10833	59566	88358	80293	25321	89349	Si	3.94	Si
SLU 51	0.8	20542.63	-105527	-84422	23078	4.965	4.965	-37785	10833	46674	88358	80293	25321	70011	Si	3.03	Si
SLU 70	-1.3	-3955.45	-166757	-133405	24801	4.965	4.965	-59709	10833	66267	88358	80293	25321	99400	Si	4.01	Si
SLU 70	0.8	23858.31	-122988	-98390	25231	4.965	4.965	-44037	10833	52261	88358	80293	25321	78392	Si	3.11	Si
SLU 48	-1.3	-3763.59	-146866	-117493	22821	4.965	4.965	-52587	10833	59902	88358	80293	25321	89853	Si	3.94	Si
SLU 48	0.8	20738.21	-106365	-85092	23203	4.965	4.965	-38085	10833	46942	88358	80293	25321	70413	Si	3.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	-1.3	20661.66	-102350	-81880	28624	4.965	4.965	-36648	16250	52111	88358	120440	25321	140469		4.91	Si
SLD 2	0.8	11646.81	-72624	-58099	28242	4.965	4.965	-26004	16250	42599	88358	120440	25321	130957		4.64	Si
SLV 3	-1.3	33388.46	-91162	-72390	33234	4.965	4.965	-32642	16250	48531	88358	120440	25321	136889		4.12	Si
SLV 3	0.8	9675.19	-63189	-50551	32381	4.965	4.965	-22625	16250	39580	88358	120440	25321	127938		3.95	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	-1.3	33969.39	-89767	-71814	34433	4.965	4.965	-32142	16250	48084	88358	120440	25321	136443		3.96	Si
SLV 2	0.8	8153.98	-61663	-49330	33529	4.965	4.965	-22079	16250	39091	88358	120440	25321	127450		3.8	Si
SLV 5	-1.3	9197.92	-112367	-89894	25330	4.965	4.965	-40234	16250	55316	88358	120440	25321	143675		5.67	Si
SLV 5	0.8	12340.86	-80719	-64575	25205	4.965	4.965	-28903	16250	45189	88358	120440	25321	133548		5.3	Si
SLV 4	-1.3	33344.87	-91067	-72853	33113	4.965	4.965	-32608	16250	48500	88358	120440	25321	136859		4.13	Si
SLV 4	0.8	9826.08	-63117	-50494	32260	4.965	4.965	-22600	16250	39557	88358	120440	25321	127915		3.97	Si
SLV 6	-1.3	9168.57	-112303	-89843	25249	4.965	4.965	-40212	16250	55296	88358	120440	25321	143654		5.69	Si
SLV 6	0.8	12442.45	-80671	-64537	25124	4.965	4.965	-28885	16250	45174	88358	120440	25321	133532		5.31	Si
SLD 1	-1.3	20689.48	-102411	-81929	28701	4.965	4.965	-36669	16250	52130	88358	120440	25321	140489		4.89	Si
SLD 1	0.8	11550.5	-72669	-58136	28319	4.965	4.965	-26020	16250	42613	88358	120440	25321	130972		4.62	Si
SLD 4	-1.3	20276.57	-103155	-82524	27812	4.965	4.965	-36936	16250	52368	88358	120440	25321	140727		5.06	Si
SLD 4	0.8	12681.24	-73522	-58818	27458	4.965	4.965	-26326	16250	42886	88358	120440	25321	131245		4.78	Si
SLV 1	-1.3	34012.97	-89862	-71890	34554	4.965	4.965	-32176	16250	48115	88358	120440	25321	136473		3.95	Si
SLV 1	0.8	8003.09	-61734	-49387	33650	4.965	4.965	-22105	16250	39114	88358	120440	25321	127473		3.79	Si
SLD 3	-1.3	20304.39	-103215	-82572	27889	4.965	4.965	-36957	16250	52388	88358	120440	25321	140746		5.05	Si
SLD 3	0.8	12584.93	-73568	-58854	27535	4.965	4.965	-26342	16250	42901	88358	120440	25321	131259		4.77	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-71058	0.25	360.1	13213.79	17455.34	15334.57	42.58	Si
SLV 1	-71138	0.25	360.1	13225.42	17472.85	15349.14	42.62	Si
SLV 4	-72453	0.25	360.1	13417.56	17763.52	15590.54	43.3	Si
SLV 3	-72532	0.25	360.1	13429.08	17781.03	15605.05	43.34	Si
SLV 6	-91239	0.25	360.1	15954.8	21721.39	18838.1	52.31	Si
SLV 5	-91292	0.25	360.1	15961.46	21731.94	18846.7	52.34	Si
SLV 8	-95887	0.25	360.1	16522.68	22638.05	19580.36	54.37	Si
SLV 7	-95940	0.25	360.1	16529.06	22648.54	19588.8	54.4	Si
SLV 10	-109920	0.25	360.1	18093.24	25300.27	21696.75	60.25	Si
SLV 9	-109973	0.25	360.1	18098.79	25310.24	21704.52	60.27	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-99388	-159840	175	0.346	11028.3	0.975	5.15363	3.14871	Si
SLV 16	-99345	-159745	177	0.346	11023.9	0.975	5.15505	3.14871	Si
SLV 13	-98891	-158540	62	0.348	10977.7	0.974	5.1893	3.14871	Si
SLV 14	-98848	-158445	64	0.348	10973.3	0.974	5.19075	3.14871	Si
SLV 11	-85390	-137304	229	0.386	9602.7	0.971	5.77854	2.77912	Si
SLV 12	-85361	-137240	231	0.386	9599.8	0.971	5.77985	2.77912	Si
SLV 9	-83733	-132971	-148	0.393	9434	0.971	5.88047	2.77912	Si
SLV 10	-83704	-132907	-147	0.393	9431	0.971	5.88223	2.77912	Si
SLV 7	-72900	-116700	162	0.436	8331.2	0.967	6.55091	2.77912	Si
SLV 8	-72872	-116636	164	0.436	8328.2	0.967	6.55273	2.77912	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.734	SLU 83	Si
V_SLU	3.029	SLU 49	Si
PF_SLV	5.544	SLV 1	Si
V_SLV	3.788	SLV 1	Si
PFFP_SLV	42.584	SLV 2	Si
R_SLV	1.637	SLV 15	Si

Maschio 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.463	-3.284	-3.233	-3.284	L2	L4	3.23	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	0.7	-19762.11	-42924	-0.0000916	0.0003743	0.0035	3.23	49214.37	57142.23	57142.23	2.89	No	Si
SLU 73	1.1	-15143.71	-41340	-0.000079	0.0003743	0.0035	3.23	48112.71	55695.93	55695.93	3.68	No	Si
SLU 44	0.7	-16182.42	-32980	-0.0000706	0.0003743	0.0035	3.23	41392.49	47178.77	47178.77	2.92	No	Si
SLU 44	1.1	-12405.2	-31407	-0.0000604	0.0003743	0.0035	3.23	39957.54	45461.73	45461.73	3.66	No	Si
SLU 65	0.7	-18164.5	-38189	-0.0000817	0.0003743	0.0035	3.23	45759.34	52585.08	52585.08	2.89	No	Si
SLU 65	1.1	-13905.64	-36605	-0.0000702	0.0003743	0.0035	3.23	44493.96	51010.93	51010.93	3.67	No	Si
SLU 70	0.7	-18338.22	-39126	-0.0000833	0.0003743	0.0035	3.23	46481.76	53514.74	53514.74	2.92	No	Si
SLU 70	1.1	-13956	-37542	-0.0000715	0.0003743	0.0035	3.23	45248.78	51946.76	51946.76	3.72	No	Si
SLU 68	0.7	-18349.57	-38554	-0.0000826	0.0003743	0.0035	3.23	46043.16	52946.53	52946.53	2.89	No	Si
SLU 68	1.1	-14069.98	-36970	-0.000071	0.0003743	0.0035	3.23	44790.41	51386.11	51386.11	3.65	No	Si
SLU 75	0.7	-19750.76	-43495	-0.0000924	0.0003743	0.0035	3.23	49598.45	57668.92	57668.92	2.92	No	Si
SLU 75	1.1	-15029.73	-41911	-0.0000795	0.0003743	0.0035	3.23	48516.55	56215.56	56215.56	3.74	No	Si
SLU 78	0.7	-19935.82	-43860	-0.0000933	0.0003743	0.0035	3.23	49840	58006.61	58006.61	2.91	No	Si
SLU 78	1.1	-15194.08	-42276	-0.0000804	0.0003743	0.0035	3.23	48770.73	56548.74	56548.74	3.72	No	Si
SLU 76	0.7	-19947.18	-43289	-0.0000925	0.0003743	0.0035	3.23	49460.48	57478.29	57478.29	2.88	No	Si
SLU 76	1.1	-15308.06	-41705	-0.0000799	0.0003743	0.0035	3.23	48371.43	56027.48	56027.48	3.66	No	Si
SLU 80	0.7	-19811.23	-43628	-0.0000927	0.0003743	0.0035	3.23	49686.52	57791.46	57791.46	2.92	No	Si
SLU 80	1.1	-15091.34	-42044	-0.0000798	0.0003743	0.0035	3.23	48609.21	56336.46	56336.46	3.73	No	Si
SLU 47	0.7	-16367.48	-33345	-0.0000714	0.0003743	0.0035	3.23	41717.83	47562.78	47562.78	2.91	No	Si
SLU 47	1.1	-12569.55	-31772	-0.0000612	0.0003743	0.0035	3.23	40295.41	45868.07	45868.07	3.65	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	0.7	-21953.31	-32217	-0.0000815	0.0005615	0.0035	3.23		48924.64	48924.64	2.23		Si
SLV 2	1.1	-12672.61	-30980	-0.0000589	0.0005615	0.0035	3.23		47354.14	47354.14	3.74		Si
SLV 6	0.7	-25735.45	-47872	-0.0001071	0.0005615	0.0035	3.23		67208.31	67208.31	2.61		Si
SLV 6	1.1	-19109.78	-46532	-0.000091	0.0005615	0.0035	3.23		65727.26	65727.26	3.44		Si
SLV 4	0.7	-15635.85	-20761	-0.0000557	0.0005615	0.0035	3.23		33845.21	33845.21	2.16		Si
SLV 4	1.1	-7236.65	-19601	-0.0000351	0.0005615	0.0035	3.23		32218.88	32218.88	4.45		Si
SLD 3	0.7	-14207.45	-23474	-0.0000537	0.0005615	0.0035	3.23		37504.82	37504.82	2.64		Si
SLD 3	1.1	-8061.97	-22292	-0.0000397	0.0005615	0.0035	3.23		35912.75	35912.75	4.45		Si
SLV 1	0.7	-20856.79	-31371	-0.0000776	0.0005615	0.0035	3.23		47852.66	47852.66	2.29		Si
SLV 1	1.1	-12286.78	-30133	-0.0000571	0.0005615	0.0035	3.23		46258.57	46258.57	3.76		Si
SLV 3	0.7	-14539.33	-19915	-0.0000519	0.0005615	0.0035	3.23		32663.36	32663.36	2.25		Si
SLV 3	1.1	-6850.82	-18755	-0.0000333	0.0005615	0.0035	3.23		31021.44	31021.44	4.53		Si
SLD 2	0.7	-18778.41	-31129	-0.0000721	0.0005615	0.0035	3.23		47543.97	47543.97	2.53		Si
SLD 2	1.1	-11631.31	-29897	-0.0000555	0.0005615	0.0035	3.23		45953.1	45953.1	3.95		Si
SLD 4	0.7	-14907.33	-24014	-0.0000559	0.0005615	0.0035	3.23		38234.88	38234.88	2.56		Si
SLD 4	1.1	-8308.24	-22832	-0.0000408	0.0005615	0.0035	3.23		36639.44	36639.44	4.41		Si
SLV 5	0.7	-24997.21	-47302	-0.0001047	0.0005615	0.0035	3.23		66577.15	66577.15	2.66		Si
SLV 5	1.1	-18850.01	-45962	-0.0000897	0.0005615	0.0035	3.23		65099.31	65099.31	3.45		Si
SLD 1	0.7	-18078.53	-30588	-0.0000699	0.0005615	0.0035	3.23		46848.17	46848.17	2.59		Si
SLD 1	1.1	-11385.04	-29357	-0.0000544	0.0005615	0.0035	3.23		45254.49	45254.49	3.97		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	0.7	-17671.63	-38722	-34420	-10650	3.23	3.23	-23681	10102	20764	30925	43524	8236	31147	Si	2.92	Si
SLU 66	1.1	-13220.06	-37138	-33012	-10650	3.23	3.23	-22712	9973	20201	30925	43524	8236	30302	Si	2.85	Si
SLU 64	0.7	-17361.96	-38125	-33889	-10544	3.23	3.23	-23315	10053	20552	30925	43524	8236	30828	Si	2.92	Si
SLU 64	1.1	-12952.97	-36540	-32480	-10544	3.23	3.23	-22346	9924	19989	30925	43524	8236	29983	Si	2.84	Si
SLU 81	0.7	-19644.26	-44888	-39900	-11828	3.23	3.23	-27451	10605	22957	30925	43524	8236	34435	Si	2.91	Si
SLU 81	1.1	-14721.65	-43304	-38492	-11828	3.23	3.23	-26482	10475	22393	30925	43524	8236	33590	Si	2.84	Si
SLU 69	0.7	-17856.69	-39087	-34744	-10702	3.23	3.23	-23904	10132	20894	30925	43524	8236	31341	Si	2.93	Si
SLU 69	1.1	-13384.4	-37503	-33336	-10702	3.23	3.23	-22935	10002	20331	30925	43524	8236	30496	Si	2.85	Si
SLU 77	0.7	-19454.3	-43822	-38953	-11601	3.23	3.23	-26799	10518	22578	30925	43524	8236	33866	Si	2.92	Si
SLU 77	1.1	-14622.48	-42237	-37544	-11601	3.23	3.23	-25830	10388	22014	30925	43524	8236	33021	Si	2.85	Si
SLU 74	0.7	-19269.23	-43457	-38628	-11549	3.23	3.23	-26576	10488	22448	30925	43524	8236	33672	Si	2.92	Si
SLU 74	1.1	-14458.13	-41872	-37220	-11549	3.23	3.23	-25607	10359	21884	30925	43524	8236	32827	Si	2.84	Si
SLU 82	0.7	-20125.78	-44927	-39935	-11603	3.23	3.23	-27475	10608	22970	30925	43524	8236	34456	Si	2.97	Si
SLU 82	1.1	-15293.25	-43343	-38527	-11603	3.23	3.23	-26506	10479	22407	30925	43524	8236	33611	Si	2.9	Si
SLU 83	0.7	-19829.33	-45253	-40225	-11880	3.23	3.23	-27675	10634	23086	30925	43524	8236	34630	Si	2.92	Si
SLU 83	1.1	-14886	-43669	-38817	-11880	3.23	3.23	-26706	10505	22523	30925	43524	8236	33785	Si	2.84	Si
SLU 79	0.7	-19329.74	-43589	-38746	-11546	3.23	3.23	-26657	10499	22495	30925	43524	8236	33742	Si	2.92	Si
SLU 79	1.1	-14519.74	-42005	-37338	-11546	3.23	3.23	-25688	10370	21932	30925	43524	8236	32897	Si	2.85	Si
SLU 71	0.7	-17732.1	-38855	-34538	-10647	3.23	3.23	-23762	10113	20812	30925	43524	8236	31217	Si	2.93	Si
SLU 71	1.1	-13281.66	-37271	-33129	-10647	3.23	3.23	-22793	9983	20248	30925	43524	8236	30372	Si	2.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	0.7	-25735.45	-47872	-42553	-16413	3.23	3.23	-29276	16250	27516	30925	65286	8236	58442		3.56	Si
SLV 6	1.1	-19109.78	-46532	-41362	-16250	3.23	3.23	-28457	16108	27040	30925	65286	8236	57965		3.57	Si
SLD 2	0.7	-18778.41	-31129	-27670	-17627	3.23	3.0352	-20458	14508	21563	30925	65286	8236	52489		2.98	Si
SLD 2	1.1	-11631.31	-29897	-26576	-17530	3.23	3.23	-18284	14073	21125	30925	65286	8236	52051		2.97	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	0.7	-24997.21	-47302	-42046	-15217	3.23	3.23	-28928	16202	27313	30925	65286	8236	58239		3.83	Si
SLV 5	1.1	-18850.01	-45962	-40856	-15054	3.23	3.23	-28108	16038	26837	30925	65286	8236	57763		3.84	Si
SLD 1	0.7	-18078.53	-30588	-27189	-16493	3.23	3.0719	-19859	14389	21371	30925	65286	8236	52296		3.17	Si
SLD 1	1.1	-11385.04	-29357	-26095	-16396	3.23	3.23	-17953	14007	20933	30925	65286	8236	51859		3.16	Si
SLV 4	0.7	-15635.85	-20761	-18455	-20730	3.23	2.5856	-15983	13613	17877	30925	65286	8236	48803		2.35	Si
SLV 4	1.1	-7236.65	-19601	-17423	-20653	3.23	3.23	-11987	12814	18625	30925	65286	8236	49551		2.4	Si
SLD 3	0.7	-14207.45	-23474	-20866	-15052	3.23	3.0293	-15417	13500	18842	30925	65286	8236	49767		3.31	Si
SLD 3	1.1	-8061.97	-22292	-19815	-15008	3.23	3.23	-13632	13143	19104	30925	65286	8236	50029		3.33	Si
SLV 1	0.7	-20856.79	-31371	-27885	-21261	3.23	2.8504	-21930	14803	21649	30925	65286	8236	52575		2.47	Si
SLV 1	1.1	-12286.78	-30133	-26785	-21107	3.23	3.23	-18428	14102	21209	30925	65286	8236	52135		2.47	Si
SLV 3	0.7	-14539.33	-19915	-17702	-18953	3.23	2.6548	-14926	13402	17576	30925	65286	8236	48502		2.56	Si
SLV 3	1.1	-6850.82	-18755	-16671	-18876	3.23	3.23	-11469	12711	18475	30925	65286	8236	49400		2.62	Si
SLD 4	0.7	-14907.33	-24014	-21346	-16186	3.23	2.9827	-16020	13621	19034	30925	65286	8236	49959		3.09	Si
SLD 4	1.1	-8308.24	-22832	-20295	-16142	3.23	3.23	-13963	13209	19200	30925	65286	8236	50125		3.11	Si
SLV 2	0.7	-21953.31	-32217	-28638	-23037	3.23	2.8008	-22992	15015	21950	30925	65286	8236	52876		2.3	Si
SLV 2	1.1	-12672.61	-30980	-27538	-22884	3.23	3.23	-18946	14206	21510	30925	65286	8236	52436		2.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	3786	-5503	230.51	1207.43	5.24	Si
SLV 8	179667	0.25	4072	-5919	230.51	1296.18	5.62	Si
SLV 11	179667	0.25	5645	-8205	230.51	1777.82	7.71	Si
SLV 12	179667	0.25	5931	-8621	230.51	1864.3	8.09	Si
SLV 3	179667	0.25	9106	-13236	230.51	2800.56	12.15	Si
SLV 4	179667	0.25	9531	-13854	230.51	2922.58	12.68	Si
SLV 15	179667	0.25	15303	-22243	230.51	4503.11	19.54	Si
SLV 1	179667	0.25	15585	-22653	230.51	4576.82	19.86	Si
SLV 16	179667	0.25	15728	-22860	230.51	4613.85	20.02	Si
SLV 2	179667	0.25	16010	-23271	230.51	4687.05	20.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-39600	-41871	1747	0.463	4623.5	0.962	6.99041	2.77912	Si
SLV 9	-39148	-41392	1732	0.467	4577.5	0.961	7.05944	2.77912	Si
SLV 6	-38249	-38503	1671	0.477	4486.1	0.961	7.21286	2.77912	Si
SLV 5	-37797	-38023	1656	0.481	4440.1	0.96	7.28669	2.77912	Si
SLV 14	-30139	-34225	1279	0.584	3661.7	0.953	8.9032	3.14871	Si
SLV 13	-29468	-33513	1257	0.595	3593.5	0.952	9.07667	3.14871	Si
SLV 2	-25636	-22996	1023	0.67	3204.5	0.947	10.28008	3.14871	Si
SLV 1	-24965	-22284	1001	0.684	3136.4	0.946	10.51511	3.14871	Si
SLV 16	-20585	-24203	798	0.802	2692.6	0.938	12.41659	3.14871	Si
SLV 15	-19914	-23490	776	0.823	2624.7	0.937	12.76666	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.882	SLU 76	Si
V_SLU	2.84	SLU 81	Si
PF_SLV	2.165	SLV 4	Si
V_SLV	2.291	SLV 2	Si
PFFP_SLV	5.238	SLV 7	Si
R_SLV	2.515	SLV 10	Si

Maschio 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.233	-3.284	-0.123	-3.284	L2	L4	2.11	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 2	0.7	425	-16613	-0.0000294	0.0003743	0.0035	2.11	14514.8	15139.21	15139.21	35.62	No	Si
SLU 2	1.1	1826.2	-14706	-0.0000328	0.0003743	0.0035	2.11	13154.29	13595.05	13595.05	7.44	No	Si
SLU 44	0.7	510.05	-20495	-0.0000366	0.0003743	0.0035	2.11	17037.92	18331.54	18331.54	35.94	No	Si
SLU 44	1.1	2228.93	-18100	-0.0000408	0.0003743	0.0035	2.11	15520.41	16361.82	16361.82	7.34	No	Si
SLU 5	0.7	441.09	-16832	-0.0000299	0.0003743	0.0035	2.11	14665.88	15318.19	15318.19	34.73	No	Si
SLU 5	1.1	1864.71	-14904	-0.0000334	0.0003743	0.0035	2.11	13299.26	13754.13	13754.13	7.38	No	Si
SLU 4	0.7	340.35	-16898	-0.0000295	0.0003743	0.0035	2.11	14711.13	15372.12	15372.12	45.17	No	Si
SLU 4	1.1	1725.56	-15006	-0.0000329	0.0003743	0.0035	2.11	13374.12	13836.76	13836.76	8.02	No	Si
SLU 9	0.7	348.03	-16972	-0.0000297	0.0003743	0.0035	2.11	14761.68	15432.53	15432.53	44.34	No	Si
SLU 9	1.1	1738.65	-15074	-0.0000331	0.0003743	0.0035	2.11	13422.94	13890.83	13890.83	7.99	No	Si
SLU 7	0.7	356.45	-17117	-0.00003	0.0003743	0.0035	2.11	14860.85	15551.57	15551.57	43.63	No	Si
SLU 7	1.1	1764.07	-15204	-0.0000334	0.0003743	0.0035	2.11	13517.79	13996.28	13996.28	7.93	No	Si
SLU 47	0.7	526.14	-20714	-0.0000371	0.0003743	0.0035	2.11	17170.44	18477.18	18477.18	35.12	No	Si
SLU 47	1.1	2267.44	-18298	-0.0000413	0.0003743	0.0035	2.11	15650.7	16525.81	16525.81	7.29	No	Si
SLU 46	0.7	425.4	-20780	-0.0000367	0.0003743	0.0035	2.11	17210.12	18520.06	18520.06	43.54	No	Si
SLU 46	1.1	2128.29	-18401	-0.0000408	0.0003743	0.0035	2.11	15717.95	16610.99	16610.99	7.8	No	Si
SLU 51	0.7	433.08	-20853	-0.0000369	0.0003743	0.0035	2.11	17254.42	18567.56	18567.56	42.87	No	Si
SLU 51	1.1	2141.38	-18468	-0.000041	0.0003743	0.0035	2.11	15761.79	16666.72	16666.72	7.78	No	Si
SLU 49	0.7	441.5	-20999	-0.0000372	0.0003743	0.0035	2.11	17341.28	18659.52	18659.52	42.26	No	Si
SLU 49	1.1	2166.8	-18599	-0.0000414	0.0003743	0.0035	2.11	15846.94	16775.42	16775.42	7.74	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	0.7	-1472.88	-2696	-0.0000119	0.0005615	0.0035	2.11		4068.41	4068.41	2.76		Si
SLV 7	1.1	-2052.2	-3150	-0.0000175	0.0005615	0.0035	1.688		4527.5	4527.5	2.21		Si
SLD 6	0.7	560.13	-25540	-0.0000448	0.0005615	0.0035	2.11		23110.97	23110.97	41.26		Si
SLD 6	1.1	3352.21	-22387	-0.0000528	0.0005615	0.0035	2.11		20554.88	20554.88	6.13		Si
SLV 11	0.7	-724.9	-5961	-0.0000128	0.0005615	0.0035	2.11		7326.07	7326.07	10.11		Si
SLV 11	1.1	-1694.68	-6229	-0.0000177	0.0005615	0.0035	2.11		7587.88	7587.88	4.48		Si
SLD 5	0.7	651.41	-25197	-0.0000447	0.0005615	0.0035	2.11		22831.19	22831.19	35.05		Si
SLD 5	1.1	3317.55	-22161	-0.0000522	0.0005615	0.0035	2.11		20373.19	20373.19	6.14		Si
SLV 12	0.7	-870.73	-6509	-0.0000144	0.0005615	0.0035	2.11		7861.42	7861.42	9.03		Si
SLV 12	1.1	-1639.32	-6589	-0.000018	0.0005615	0.0035	2.11		7939.29	7939.29	4.84		Si
SLV 5	0.7	1029.69	-29641	-0.0000542	0.0005615	0.0035	2.11		26474.15	26474.15	25.71		Si
SLV 5	1.1	4500.25	-25871	-0.0000645	0.0005615	0.0035	2.11		23381.12	23381.12	5.2		Si
SLV 8	0.7	-1618.7	-3244	-0.0000131	0.0005615	0.0035	2.11		4621.97	4621.97	2.86		Si
SLV 8	1.1	-1996.84	-3511	-0.0000162	0.0005615	0.0035	1.688		4890	4890	2.45		Si
SLV 10	0.7	1631.84	-33455	-0.000064	0.0005615	0.0035	2.11		28927.34	28927.34	17.73		Si
SLV 10	1.1	4913.14	-29310	-0.0000728	0.0005615	0.0035	2.11		26210.09	26210.09	5.33		Si
SLV 9	0.7	1777.67	-32906	-0.0000637	0.0005615	0.0035	2.11		28585.58	28585.58	16.08		Si
SLV 9	1.1	4857.77	-28950	-0.0000718	0.0005615	0.0035	2.11		25912.07	25912.07	5.33		Si
SLV 6	0.7	883.87	-30189	-0.0000545	0.0005615	0.0035	2.11		26897.71	26897.71	30.43		Si
SLV 6	1.1	4555.61	-26231	-0.0000654	0.0005615	0.0035	2.11		23675.72	23675.72	5.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	0.7	187.28	-26810	-23831	-9474	2.11	2.11	-25098	10291	10297	30925	28432	5380	15445	Si	1.63	Si
SLU 78	1.1	2221.7	-24181	-21495	-9445	2.11	2.11	-22638	9963	9614	30925	28432	5380	14421	Si	1.53	Si
SLU 65	0.7	395.09	-23536	-20921	-8874	2.11	2.11	-22034	9882	9447	30925	28432	5380	14170	Si	1.6	Si
SLU 65	1.1	2292.23	-21005	-18671	-8849	2.11	2.11	-19664	9566	9083	30925	28432	5380	13625	Si	1.54	Si
SLU 76	0.7	271.93	-26525	-23578	-9555	2.11	2.11	-24832	10255	10223	30925	28432	5380	15334	Si	1.6	Si
SLU 76	1.1	2322.34	-23881	-21227	-9527	2.11	2.11	-22356	9925	9536	30925	28432	5380	14304	Si	1.5	Si
SLU 73	0.7	255.83	-26306	-23383	-9444	2.11	2.11	-24627	10228	10166	30925	28432	5380	15249	Si	1.61	Si
SLU 73	1.1	2283.83	-23683	-21051	-9416	2.11	2.11	-22171	9901	9485	30925	28432	5380	14227	Si	1.51	Si
SLU 75	0.7	171.19	-26591	-23636	-9362	2.11	2.11	-24893	10264	10240	30925	28432	5380	15360	Si	1.64	Si
SLU 75	1.1	2183.19	-23983	-21319	-9334	2.11	2.11	-22452	9938	9563	30925	28432	5380	14344	Si	1.54	Si
SLU 84	0.7	103.09	-27633	-24562	-9526	2.11	2.11	-25869	10394	10510	30925	28432	5380	15765	Si	1.65	Si
SLU 84	1.1	2154.17	-25000	-22222	-9497	2.11	2.11	-23404	10065	9827	30925	28432	5380	14740	Si	1.55	Si
SLU 68	0.7	411.18	-23755	-21116	-8985	2.11	2.11	-22239	9910	9504	30925	28432	5380	14256	Si	1.59	Si
SLU 68	1.1	2330.74	-21203	-18847	-8960	2.11	2.11	-19849	9591	9107	30925	28432	5380	13660	Si	1.52	Si
SLU 70	0.7	326.54	-24040	-21369	-8904	2.11	2.11	-22506	9945	9578	30925	28432	5380	14366	Si	1.61	Si
SLU 70	1.1	2230.1	-21503	-19114	-8877	2.11	2.11	-20131	9629	9142	30925	28432	5380	13713	Si	1.54	Si
SLU 72	0.7	318.12	-23895	-21240	-8823	2.11	2.11	-22370	9927	9540	30925	28432	5380	14310	Si	1.62	Si
SLU 72	1.1	2204.68	-21373	-18998	-8797	2.11	2.11	-20008	9612	9127	30925	28432	5380	13690	Si	1.56	Si
SLU 80	0.7	178.87	-26665	-23702	-9393	2.11	2.11	-24963	10273	10259	30925	28432	5380	15388	Si	1.64	Si
SLU 80	1.1	2196.28	-24051	-21378	-9365	2.11	2.11	-22515	9946	9580	30925	28432	5380	14370	Si	1.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γ_M = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	0.7	1631.84	-33455	-29737	-16420	2.11	2.11	-31319	16250	15429	30925	42648	5380	46355		2.82	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	1.1	4913.14	-29310	-26053	-16566	2.11	2.11	-27439	15904	15101	30925	42648	5380	46027		2.78	Si
SLD 10	0.7	1036.72	-27611	-24543	-12530	2.11	2.11	-25848	15586	14799	30925	42648	5380	45725		3.65	Si
SLD 10	1.1	3576	-24349	-21643	-12618	2.11	2.11	-22794	14976	14219	30925	42648	5380	45145		3.58	Si
SLV 6	0.7	883.87	-30189	-26835	-17852	2.11	2.11	-28262	16069	15258	30925	42648	5380	46183		2.59	Si
SLV 6	1.1	4555.61	-26231	-23317	-18114	2.11	2.11	-24557	15328	14554	30925	42648	5380	45479		2.51	Si
SLV 5	0.7	1029.69	-29641	-26348	-16854	2.11	2.11	-27749	15966	15160	30925	42648	5380	46086		2.73	Si
SLV 5	1.1	4500.25	-25871	-22996	-17116	2.11	2.11	-24220	15261	14490	30925	42648	5380	45415		2.65	Si
SLV 9	0.7	1777.67	-32906	-29250	-15422	2.11	2.11	-30806	16250	15429	30925	42648	5380	46355		3.01	Si
SLV 9	1.1	4857.77	-28950	-25733	-15568	2.11	2.11	-27102	15837	15037	30925	42648	5380	45963		2.95	Si
SLV 2	0.7	-900.06	-17082	-15184	-12522	2.11	2.11	-15992	13615	12927	30925	42648	5380	43853		3.5	Si
SLV 2	1.1	1858.58	-14775	-13133	-12763	2.11	2.11	-13832	13183	12517	30925	42648	5380	43443		3.4	Si
SLV 1	0.7	-683.46	-16268	-14461	-11039	2.11	2.11	-15230	13463	12783	30925	42648	5380	43708		3.96	Si
SLV 1	1.1	1776.35	-14240	-12658	-11281	2.11	2.11	-13331	13083	12422	30925	42648	5380	43348		3.84	Si
SLD 5	0.7	651.41	-25197	-22397	-12826	2.11	2.11	-23589	15134	14370	30925	42648	5380	45296		3.53	Si
SLD 5	1.1	3317.55	-22161	-19699	-12987	2.11	2.11	-20746	14566	13830	30925	42648	5380	44756		3.45	Si
SLD 9	0.7	1128	-27267	-24238	-11905	2.11	2.11	-25527	15522	14738	30925	42648	5380	45664		3.84	Si
SLD 9	1.1	3541.34	-24123	-21443	-11993	2.11	2.11	-22583	14933	14179	30925	42648	5380	45105		3.76	Si
SLD 6	0.7	560.13	-25540	-22702	-13451	2.11	2.11	-23910	15199	14431	30925	42648	5380	45357		3.37	Si
SLD 6	1.1	3352.21	-22387	-19899	-13612	2.11	2.11	-20958	14608	13870	30925	42648	5380	44796		3.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.25	2739	-2600	150.58	574.62	3.82	Si
SLV 8	179667	0.25	3226	-3063	150.58	674.57	4.48	Si
SLV 11	179667	0.25	6293	-5975	150.58	1288.93	8.56	Si
SLV 12	179667	0.25	6779	-6437	150.58	1384.04	9.19	Si
SLV 3	179667	0.25	7888	-7490	150.58	1598.16	10.61	Si
SLV 4	179667	0.25	8611	-8176	150.58	1735.97	11.53	Si
SLV 1	179667	0.25	15957	-15151	150.58	3052.8	20.27	Si
SLV 2	179667	0.25	16680	-15838	150.58	3174.28	21.08	Si
SLV 15	179667	0.25	19734	-18737	150.58	3671.13	24.38	Si
SLV 16	179667	0.25	20457	-19424	150.58	3784.97	25.14	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-25498	-34636	982	0.473	2982.6	0.961	7.15692	2.77912	Si
SLV 9	-25229	-34170	970	0.478	2955.3	0.961	7.22404	2.77912	Si
SLV 14	-21212	-30230	778	0.554	2546.8	0.955	8.42098	3.14871	Si
SLV 13	-20813	-29537	760	0.563	2506.3	0.955	8.56264	3.14871	Si
SLV 6	-22955	-30288	872	0.517	2724	0.958	7.84764	2.77912	Si
SLV 5	-22686	-29821	860	0.522	2696.6	0.958	7.92938	2.77912	Si
SLV 16	-14939	-22008	491	0.741	1910.1	0.943	11.43195	3.14871	Si
SLV 15	-14540	-21314	473	0.758	1869.6	0.942	11.70151	3.14871	Si
SLV 2	-12735	-15735	411	0.843	1686.9	0.936	13.08434	3.14871	Si
SLV 1	-12336	-15042	393	0.865	1646.5	0.935	13.44192	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.288	SLU 47	Si
V_SLU	1.501	SLU 76	Si
PF_SLV	2.206	SLV 7	Si
V_SLV	2.511	SLV 6	Si
PFFP_SLV	3.816	SLV 7	Si
R_SLV	2.575	SLV 10	Si

Maschio 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.008	5.876	-3.013	5.876	L2	L4	1.995	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.7	-647.89	-22203	-0.000043	0.0003743	0.0035	1.995	16767.48	19163.17	19163.17	29.58	No	Si
SLU 74	1.1	3007.04	-21311	-0.0000545	0.0003743	0.0035	1.995	16301.22	17624.36	17624.36	5.86	No	Si
SLU 78	0.7	-650.21	-22342	-0.0000433	0.0003743	0.0035	1.995	16838.28	19251.07	19251.07	29.61	No	Si
SLU 78	1.1	3019.68	-21449	-0.0000548	0.0003743	0.0035	1.995	16374.72	17702.18	17702.18	5.86	No	Si
SLU 82	0.7	-574.55	-22711	-0.0000435	0.0003743	0.0035	1.995	17025	19483.75	19483.75	33.91	No	Si
SLU 82	1.1	3102.57	-21818	-0.000056	0.0003743	0.0035	1.995	16568.64	17910.18	17910.18	5.77	No	Si
SLU 39	0.7	-362.98	-19956	-0.0000372	0.0003743	0.0035	1.995	15560	17687.03	17687.03	48.73	No	Si
SLU 39	1.1	2763.45	-19265	-0.0000491	0.0003743	0.0035	1.995	15166.41	16229.16	16229.16	5.87	No	Si
SLU 83	0.7	-591.93	-23165	-0.0000445	0.0003743	0.0035	1.995	17250.61	19764.18	19764.18	33.39	No	Si
SLU 83	1.1	3165.56	-22273	-0.0000573	0.0003743	0.0035	1.995	16803.08	18166.97	18166.97	5.74	No	Si
SLU 80	0.7	-647.37	-22206	-0.000043	0.0003743	0.0035	1.995	16769.24	19165.35	19165.35	29.61	No	Si
SLU 80	1.1	3005.6	-21314	-0.0000545	0.0003743	0.0035	1.995	16303.05	17626.29	17626.29	5.86	No	Si
SLU 77	0.7	-657.74	-22499	-0.0000436	0.0003743	0.0035	1.995	16918.47	19350.84	19350.84	29.42	No	Si
SLU 77	1.1	3044.86	-21607	-0.0000553	0.0003743	0.0035	1.995	16457.98	17791.02	17791.02	5.84	No	Si
SLU 79	0.7	-654.89	-22364	-0.0000433	0.0003743	0.0035	1.995	16849.89	19265.51	19265.51	29.42	No	Si
SLU 79	1.1	3030.78	-21472	-0.0000549	0.0003743	0.0035	1.995	16386.78	17715.01	17715.01	5.85	No	Si
SLU 84	0.7	-584.41	-23007	-0.0000442	0.0003743	0.0035	1.995	17172.71	19667.22	19667.22	33.65	No	Si
SLU 84	1.1	3140.39	-22115	-0.0000568	0.0003743	0.0035	1.995	16722.11	18077.6	18077.6	5.76	No	Si
SLU 81	0.7	-582.08	-22868	-0.0000439	0.0003743	0.0035	1.995	17103.92	19582.33	19582.33	33.64	No	Si
SLU 81	1.1	3127.75	-21976	-0.0000565	0.0003743	0.0035	1.995	16650.63	17999.3	17999.3	5.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	0.7	-2485.59	-15028	-0.0000388	0.0005615	0.0035	1.995		14716.33	14716.33	5.92		Si
SLV 4	1.1	1937.3	-13839	-0.0000338	0.0005615	0.0035	1.995		12908.45	12908.45	6.66		Si
SLV 2	0.7	-2234.37	-9577	-0.0000278	0.0005615	0.0035	1.995		10042.12	10042.12	4.49		Si
SLV 2	1.1	1144.66	-8330	-0.00002	0.0005615	0.0035	1.995		8103.62	8103.62	7.08		Si
SLV 3	0.7	-2796.43	-15292	-0.000041	0.0005615	0.0035	1.995		14938.62	14938.62	5.34		Si
SLV 3	1.1	2046.66	-14103	-0.0000349	0.0005615	0.0035	1.995		13131.02	13131.02	6.42		Si
SLV 1	0.7	-2545.21	-9841	-0.0000299	0.0005615	0.0035	1.995		10275.77	10275.77	4.04		Si
SLV 1	1.1	1254.02	-8595	-0.000021	0.0005615	0.0035	1.995		8340.76	8340.76	6.65		Si
SLV 8	0.7	-1466.32	-23110	-0.0000481	0.0005615	0.0035	1.995		21054.22	21054.22	14.36		Si
SLV 8	1.1	3147.96	-22361	-0.0000558	0.0005615	0.0035	1.995		19289.16	19289.16	6.13		Si
SLD 7	0.7	-1251.94	-20074	-0.0000414	0.0005615	0.0035	1.995		18758.23	18758.23	14.98		Si
SLD 7	1.1	2754.77	-19350	-0.0000481	0.0005615	0.0035	1.995		17065.29	17065.29	6.19		Si
SLV 12	0.7	-297.91	-24550	-0.0000444	0.0005615	0.0035	1.995		22100.53	22100.53	74.19		Si
SLV 12	1.1	3377.73	-24121	-0.0000604	0.0005615	0.0035	1.995		20601.84	20601.84	6.1		Si
SLV 11	0.7	-507.18	-24728	-0.0000459	0.0005615	0.0035	1.995		22229.34	22229.34	43.83		Si
SLV 11	1.1	3451.36	-24299	-0.0000611	0.0005615	0.0035	1.995		20735.24	20735.24	6.01		Si
SLD 11	0.7	-503.19	-21004	-0.0000391	0.0005615	0.0035	1.995		19464.25	19464.25	38.68		Si
SLD 11	1.1	2903.59	-20476	-0.000051	0.0005615	0.0035	1.995		17892.99	17892.99	6.16		Si
SLV 7	0.7	-1675.6	-23289	-0.0000496	0.0005615	0.0035	1.995		21185.26	21185.26	12.64		Si
SLV 7	1.1	3221.6	-22539	-0.0000565	0.0005615	0.0035	1.995		19421.52	19421.52	6.03		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	0.7	-574.55	-22711	-20187	-9183	1.995	1.995	-22486	9943	8926	30925	26883	5087	13389	Si	1.46	Si
SLU 82	1.1	3102.57	-21818	-19394	-9183	1.995	1.995	-21603	9825	8820	30925	26883	5087	13230	Si	1.44	Si
SLU 75	0.7	-640.36	-22045	-19596	-9046	1.995	1.995	-21828	9855	8847	30925	26883	5087	13271	Si	1.47	Si
SLU 75	1.1	2981.87	-21153	-18803	-9046	1.995	1.995	-20944	9737	8741	30925	26883	5087	13112	Si	1.45	Si
SLU 78	0.7	-650.21	-22342	-19859	-9165	1.995	1.995	-22121	9894	8882	30925	26883	5087	13323	Si	1.45	Si
SLU 78	1.1	3019.68	-21449	-19066	-9165	1.995	1.995	-21238	9776	8777	30925	26883	5087	13165	Si	1.44	Si
SLU 84	0.7	-584.41	-23007	-20451	-9302	1.995	1.995	-22780	9982	8961	30925	26883	5087	13442	Si	1.45	Si
SLU 84	1.1	3140.39	-22115	-19658	-9302	1.995	1.995	-21896	9864	8855	30925	26883	5087	13283	Si	1.43	Si
SLU 83	0.7	-591.93	-23165	-20591	-9384	1.995	1.995	-22936	10003	8980	30925	26883	5087	13470	Si	1.44	Si
SLU 83	1.1	3165.56	-22273	-19798	-9384	1.995	1.995	-22053	9885	8874	30925	26883	5087	13311	Si	1.42	Si
SLU 79	0.7	-654.89	-22364	-19879	-9204	1.995	1.995	-22144	9897	8885	30925	26883	5087	13327	Si	1.45	Si
SLU 79	1.1	3030.78	-21472	-19086	-9204	1.995	1.995	-21260	9779	8779	30925	26883	5087	13169	Si	1.43	Si
SLU 74	0.7	-647.89	-22203	-19736	-9127	1.995	1.995	-21984	9876	8866	30925	26883	5087	13299	Si	1.46	Si
SLU 74	1.1	3007.04	-21311	-18943	-9127	1.995	1.995	-21101	9758	8760	30925	26883	5087	13140	Si	1.44	Si
SLU 81	0.7	-582.08	-22868	-20328	-9265	1.995	1.995	-22643	9963	8945	30925	26883	5087	13417	Si	1.45	Si
SLU 81	1.1	3127.75	-21976	-19535	-9265	1.995	1.995	-21759	9846	8839	30925	26883	5087	13258	Si	1.43	Si
SLU 77	0.7	-657.74	-22499	-19999	-9247	1.995	1.995	-22277	9915	8901	30925	26883	5087	13351	Si	1.44	Si
SLU 77	1.1	3044.86	-21607	-19206	-9247	1.995	1.995	-21394	9797	8795	30925	26883	5087	13193	Si	1.43	Si
SLU 80	0.7	-647.37	-22206	-19739	-9123	1.995	1.995	-21987	9876	8866	30925	26883	5087	13299	Si	1.46	Si
SLU 80	1.1	3005.6	-21314	-18946	-9123	1.995	1.995	-21104	9758	8761	30925	26883	5087	13141	Si	1.44	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	0.7	-1251.94	-20074	-17843	-10117	1.995	1.995	-19876	14392	12920	30925	40324	5087	43846		4.33	Si
SLD 7	1.1	2754.77	-19350	-17200	-10100	1.995	1.995	-19159	14249	12792	30925	40324	5087	43717		4.33	Si
SLD 8	0.7	-1120.93	-19962	-17744	-9674	1.995	1.995	-19765	14370	12900	30925	40324	5087	43826		4.53	Si
SLD 8	1.1	2708.67	-19239	-17101	-9657	1.995	1.995	-19049	14226	12772	30925	40324	5087	43697		4.53	Si
SLV 4	0.7	-2485.59	-15028	-13358	-10817	1.995	1.995	-14879	13393	12023	30925	40324	5087	42949		3.97	Si
SLV 4	1.1	1937.3	-13839	-12301	-10765	1.995	1.995	-13702	13157	11812	30925	40324	5087	42737		3.97	Si
SLV 11	0.7	-507.18	-24728	-21981	-10238	1.995	1.995	-24484	15314	13748	30925	40324	5087	44673		4.36	Si
SLV 11	1.1	3451.36	-24299	-21599	-10238	1.995	1.995	-24059	15229	13671	30925	40324	5087	44597		4.36	Si
SLV 8	0.7	-1466.32	-23110	-20543	-11691	1.995	1.995	-22882	14993	13460	30925	40324	5087	44386		3.8	Si
SLV 8	1.1	3147.96	-22361	-19877	-11663	1.995	1.995	-22141	14845	13327	30925	40324	5087	44252		3.79	Si
SLV 3	0.7	-2796.43	-15292	-13593	-11868	1.995	1.995	-15141	13445	12070	30925	40324	5087	42996		3.62	Si
SLV 3	1.1	2046.66	-14103	-12536	-11815	1.995	1.995	-13964	13209	11859	30925	40324	5087	42784		3.62	Si
SLV 7	0.7	-1675.6	-23289	-20701	-12399	1.995	1.995	-23059	15028	13492	30925	40324	5087	44417		3.58	Si
SLV 7	1.1	3221.6	-22539	-20035	-12370	1.995	1.995	-22317	14880	13359	30925	40324	5087	44284		3.58	Si
SLD 3	0.7	-1988.37	-15063	-13390	-9841	1.995	1.995	-14915	13400	12029	30925	40324	5087	42955		4.37	Si
SLD 3	1.1	2013.72	-14071	-12508	-9810	1.995	1.995	-13932	13203	11853	30925	40324	5087	42779		4.36	Si
SLV 12	0.7	-297.91	-24550	-21822	-9530	1.995	1.995	-24308	15278	13716	30925	40324	5087	44641		4.68	Si
SLV 12	1.1	3377.73	-24121	-21441	-9531	1.995	1.995	-23883	15193	13640	30925	40324	5087	44565		4.68	Si
SLV 1	0.7	-2545.21	-9841	-8748	-9105	1.995	1.995	-9744	12365	11101	30925	40324	5087	42027		4.62	Si
SLV 1	1.1	1254.02	-8595	-7640	-9061	1.995	1.995	-8510	12119	10880	30925	40324	5087	41805		4.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.25	6271	-5630	142.37	1214.7	8.53	Si
SLV 5	179667	0.25	6760	-6069	142.37	1305.04	9.17	Si
SLV 10	179667	0.25	7011	-6294	142.37	1351.07	9.49	Si
SLV 9	179667	0.25	7499	-6733	142.37	1440.45	10.12	Si
SLV 2	179667	0.25	12958	-11633	142.37	2395.28	16.82	Si
SLV 1	179667	0.25	13684	-12285	142.37	2516.38	17.67	Si
SLV 14	179667	0.25	15422	-13845	142.37	2800.63	19.67	Si
SLV 13	179667	0.25	16149	-14497	142.37	2916.99	20.49	Si
SLV 4	179667	0.25	19530	-17533	142.37	3440.45	24.16	Si
SLV 3	179667	0.25	20256	-18185	142.37	3548.92	24.93	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 12	-18986	-33499	-567	0.585	2299.3	0.954	8.92246	2.77912	Si
SLV 11	-18990	-34394	-562	0.586	2299.7	0.954	8.92462	2.77912	Si
SLV 16	-16175	-23513	-408	0.671	2013.9	0.948	10.28941	3.14871	Si
SLV 15	-16181	-24842	-401	0.671	2014.4	0.948	10.29272	3.14871	Si
SLV 8	-17116	-34010	-497	0.638	2109.4	0.95	9.75797	2.77912	Si
SLV 7	-17120	-34905	-492	0.638	2109.8	0.95	9.76019	2.77912	Si
SLV 14	-11897	-15649	-202	0.864	1580.4	0.936	13.41448	3.14871	Si
SLV 13	-11902	-16979	-195	0.864	1581	0.936	13.41761	3.14871	Si
SLV 4	-9942	-25215	-178	0.991	1383	0.928	15.51061	3.14871	Si
SLV 3	-9948	-26544	-170	0.991	1383.6	0.929	15.51332	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.739	SLU 83	Si
V_SLU	1.419	SLU 83	Si
PF_SLV	4.037	SLV 1	Si
V_SLV	3.58	SLV 7	Si
PFFP_SLV	8.532	SLV 6	Si
R_SLV	3.211	SLV 12	Si

Maschio 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.013	5.876	-0.123	5.876	L2	L4	1.89	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	0.7	-1960.6	-23020	-0.0000557	0.0003743	0.0035	1.89	15970.55	18315.05	18315.05	9.34	No	Si
SLU 74	1.1	600.25	-20267	-0.0000416	0.0003743	0.0035	1.89	14669.75	15842.41	15842.41	26.39	No	Si
SLU 76	0.7	-1932.91	-22463	-0.0000544	0.0003743	0.0035	1.89	15720.59	17987.87	17987.87	9.31	No	Si
SLU 76	1.1	533.13	-19800	-0.0000402	0.0003743	0.0035	1.89	14432.29	15591.31	15591.31	29.24	No	Si
SLU 81	0.7	-2060.25	-23566	-0.0000575	0.0003743	0.0035	1.89	16209.2	18619.47	18619.47	9.04	No	Si
SLU 81	1.1	498.76	-20831	-0.0000421	0.0003743	0.0035	1.89	14949.58	16146.52	16146.52	32.37	No	Si
SLU 73	0.7	-1922.78	-22098	-0.0000536	0.0003743	0.0035	1.89	15553.39	17768.41	17768.41	9.24	No	Si
SLU 73	1.1	491.6	-19481	-0.0000393	0.0003743	0.0035	1.89	14267.74	15420.84	15420.84	31.37	No	Si
SLU 39	0.7	-1806.8	-20513	-0.0000496	0.0003743	0.0035	1.89	14792.82	16822.55	16822.55	9.31	No	Si
SLU 39	1.1	348.89	-18259	-0.000036	0.0003743	0.0035	1.89	13616.55	14592.87	14592.87	41.83	No	Si
SLU 82	0.7	-2045.78	-23328	-0.0000569	0.0003743	0.0035	1.89	16106.01	18487.65	18487.65	9.04	No	Si
SLU 82	1.1	469.02	-20634	-0.0000415	0.0003743	0.0035	1.89	14852.48	16039.96	16039.96	34.2	No	Si
SLU 75	0.7	-1946.14	-22782	-0.0000551	0.0003743	0.0035	1.89	15864.51	18180.66	18180.66	9.34	No	Si
SLU 75	1.1	570.51	-20070	-0.000041	0.0003743	0.0035	1.89	14570.22	15736.42	15736.42	27.58	No	Si
SLU 84	0.7	-2055.91	-23693	-0.0000577	0.0003743	0.0035	1.89	16263.42	18689.26	18689.26	9.09	No	Si
SLU 84	1.1	510.55	-20952	-0.0000424	0.0003743	0.0035	1.89	15009.01	16212.31	16212.31	31.75	No	Si
SLU 40	0.7	-1792.33	-20275	-0.000049	0.0003743	0.0035	1.89	14673.75	16673.29	16673.29	9.3	No	Si
SLU 40	1.1	319.15	-18062	-0.0000355	0.0003743	0.0035	1.89	13508.38	14447.8	14447.8	45.27	No	Si
SLU 83	0.7	-2070.38	-23931	-0.0000583	0.0003743	0.0035	1.89	16364.72	18821.2	18821.2	9.09	No	Si
SLU 83	1.1	540.29	-21150	-0.000043	0.0003743	0.0035	1.89	15104.74	16319.19	16319.19	30.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	0.7	-1729.93	-10238	-0.0000284	0.0005615	0.0035	1.89		9914.98	9914.98	5.73		Si
SLD 1	1.1	42.96	-8584	-0.0000156	0.0005615	0.0035	1.89		7873.84	7873.84	183.3		Si
SLD 6	0.7	-1113.52	-6402	-0.0000178	0.0005615	0.0035	1.89		6663.16	6663.16	5.98		Si
SLD 6	1.1	-719.54	-5579	-0.000014	0.0005615	0.0035	1.89		5952.87	5952.87	8.27		Si
SLD 5	0.7	-1222.4	-6740	-0.000019	0.0005615	0.0035	1.89		6953.6	6953.6	5.69		Si
SLD 5	1.1	-672.26	-5796	-0.0000142	0.0005615	0.0035	1.89		6143.38	6143.38	9.14		Si
SLV 2	0.7	-1694.98	-6364	-0.000021	0.0005615	0.0035	1.89		6631.12	6631.12	3.91		Si
SLV 2	1.1	-328.95	-5191	-0.0000111	0.0005615	0.0035	1.89		5612.54	5612.54	17.06		Si
SLV 9	0.7	-765.92	-4283	-0.000012	0.0005615	0.0035	1.89		4807.92	4807.92	6.28		Si
SLV 9	1.1	-1283.91	-3915	-0.0000142	0.0005615	0.0035	1.89		4479.69	4479.69	3.49		Si
SLV 10	0.7	-591.99	-3744	-0.00001	0.0005615	0.0035	1.89		4325.54	4325.54	7.31		Si
SLV 10	1.1	-1359.45	-3568	-0.0000142	0.0005615	0.0035	1.89		4167.99	4167.99	3.07		Si
SLV 6	0.7	-979.28	-870	-0.0000999	0.0005615	0.0035	1.512		1715.7	1715.7	1.75		Si
SLV 6	1.1	-1470.59	-770	-0.0003098	0.0005615	0.0035	1.512		1623.51	1623.51	1.1		Si
SLV 1	0.7	-1953.32	-7166	-0.000024	0.0005615	0.0035	1.89		7321.07	7321.07	3.75		Si
SLV 1	1.1	-216.76	-5707	-0.0000114	0.0005615	0.0035	1.89		6064.82	6064.82	27.98		Si
SLV 5	0.7	-1153.22	-1410	-0.0000241	0.0005615	0.0035	1.512		2211.27	2211.27	1.92		Si
SLV 5	1.1	-1395.05	-1118	-0.0001794	0.0005615	0.0035	1.512		1943.04	1943.04	1.39		Si
SLD 2	0.7	-1565.04	-9726	-0.0000265	0.0005615	0.0035	1.89		9491.18	9491.18	6.06		Si
SLD 2	1.1	-28.66	-8254	-0.000015	0.0005615	0.0035	1.89		8254.89	8254.89	288.07		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.7	-2060.25	-23566	-20948	-10839	1.89	1.89	-24630	10228	8699	30925	25468	4819	13049	Si	1.2	Si
SLU 81	1.1	498.76	-20831	-18516	-10867	1.89	1.89	-21771	9847	8375	30925	25468	4819	12563	Si	1.16	Si
SLU 77	0.7	-1970.73	-23384	-20786	-11121	1.89	1.89	-24440	10203	8678	30925	25468	4819	13017	Si	1.17	Si
SLU 77	1.1	641.78	-20586	-18299	-11149	1.89	1.89	-21515	9813	8346	30925	25468	4819	12519	Si	1.12	Si
SLU 74	0.7	-1960.6	-23020	-20462	-10884	1.89	1.89	-24059	10152	8635	30925	25468	4819	12952	Si	1.19	Si
SLU 74	1.1	600.25	-20267	-18015	-10912	1.89	1.89	-21182	9769	8308	30925	25468	4819	12462	Si	1.14	Si
SLU 80	0.7	-1952.68	-22986	-20432	-10811	1.89	1.89	-24023	10148	8631	30925	25468	4819	12946	Si	1.2	Si
SLU 80	1.1	594.49	-20250	-18000	-10839	1.89	1.89	-21164	9766	8306	30925	25468	4819	12459	Si	1.15	Si
SLU 84	0.7	-2055.91	-23693	-21060	-10869	1.89	1.89	-24762	10246	8714	30925	25468	4819	13071	Si	1.2	Si
SLU 84	1.1	510.55	-20952	-18624	-10897	1.89	1.89	-21898	9864	8390	30925	25468	4819	12584	Si	1.15	Si
SLU 75	0.7	-1946.14	-22782	-20250	-10677	1.89	1.89	-23810	10119	8606	30925	25468	4819	12909	Si	1.21	Si
SLU 75	1.1	570.51	-20070	-17840	-10704	1.89	1.89	-20976	9741	8285	30925	25468	4819	12427	Si	1.16	Si
SLU 79	0.7	-1967.15	-23224	-20644	-11018	1.89	1.89	-24272	10181	8659	30925	25468	4819	12988	Si	1.18	Si
SLU 79	1.1	624.23	-20447	-18175	-11046	1.89	1.89	-21370	9794	8330	30925	25468	4819	12494	Si	1.13	Si
SLU 83	0.7	-2070.38	-23931	-21272	-11076	1.89	1.89	-25011	10279	8743	30925	25468	4819	13114	Si	1.18	Si
SLU 83	1.1	540.29	-21150	-18800	-11104	1.89	1.89	-22104	9892	8413	30925	25468	4819	12619	Si	1.14	Si
SLU 78	0.7	-1956.26	-23146	-20574	-10914	1.89	1.89	-24191	10170	8649	30925	25468	4819	12974	Si	1.19	Si
SLU 78	1.1	612.04	-20389	-18123	-10942	1.89	1.89	-21309	9786	8323	30925	25468	4819	12484	Si	1.14	Si
SLU 69	0.7	-1706.23	-20885	-18564	-10435	1.89	1.89	-21827	9855	8381	30925	25468	4819	12572	Si	1.2	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	1.1	740.74	-18203	-16180	-10460	1.89	1.89	-19024	9481	8064	30925	25468	4819	12095	Si	1.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	0.7	-924.65	-24438	-21723	-11268	1.89	1.89	-25541	15525	13204	30925	38202	4819	43021		3.82	Si
SLV 15	1.1	1259.13	-21692	-19281	-11463	1.89	1.89	-22671	14951	12716	30925	38202	4819	43021		3.75	Si
SLV 8	0.7	-1853.71	-26519	-23573	-19652	1.89	1.89	-27716	15960	13574	30925	38202	4819	43021		2.19	Si
SLV 8	1.1	2214.08	-22967	-20415	-19630	1.89	1.89	-24004	15217	12942	30925	38202	4819	43021		2.19	Si
SLV 11	0.7	-1640.34	-29932	-26607	-20260	1.89	1.89	-31283	16250	13821	30925	38202	4819	43021		2.12	Si
SLV 11	1.1	2400.77	-26112	-23211	-20342	1.89	1.89	-27291	15875	13502	30925	38202	4819	43021		2.11	Si
SLD 11	0.7	-1506.11	-24401	-21690	-15396	1.89	1.89	-25502	15517	13197	30925	38202	4819	43021		2.79	Si
SLD 11	1.1	1649.72	-21304	-18937	-15451	1.89	1.89	-22265	14870	12647	30925	38202	4819	43021		2.78	Si
SLD 7	0.7	-1756.81	-22575	-20066	-15695	1.89	1.89	-23594	15135	12873	30925	38202	4819	43021		2.74	Si
SLD 7	1.1	1577.43	-19526	-17356	-15691	1.89	1.89	-20407	14498	12331	30925	38202	4819	43021		2.74	Si
SLV 7	0.7	-2027.64	-27059	-24053	-20730	1.89	1.89	-28281	16073	13670	30925	38202	4819	43021		2.08	Si
SLV 7	1.1	2289.62	-23314	-20724	-20709	1.89	1.89	-24367	15290	13004	30925	38202	4819	43021		2.08	Si
SLV 12	0.7	-1466.41	-29393	-26127	-19182	1.89	1.89	-30719	16250	13821	30925	38202	4819	43021		2.24	Si
SLV 12	1.1	2325.23	-25765	-22902	-19263	1.89	1.89	-26928	15802	13440	30925	38202	4819	43021		2.23	Si
SLD 8	0.7	-1647.93	-22237	-19766	-15020	1.89	1.89	-23240	15065	12813	30925	38202	4819	43021		2.86	Si
SLD 8	1.1	1530.14	-19309	-17163	-15016	1.89	1.89	-20180	14453	12292	30925	38202	4819	43021		2.87	Si
SLV 3	0.7	-2215.64	-14861	-13210	-12835	1.89	1.89	-15532	13523	11501	30925	38202	4819	42427		3.31	Si
SLV 3	1.1	888.65	-12366	-10992	-12685	1.89	1.89	-12924	13001	11058	30925	38202	4819	41983		3.31	Si
SLD 12	0.7	-1397.23	-24063	-21389	-14721	1.89	1.89	-25149	15447	13137	30925	38202	4819	43021		2.92	Si
SLD 12	1.1	1602.43	-21086	-18743	-14776	1.89	1.89	-22038	14824	12608	30925	38202	4819	43021		2.91	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 0.145 Wa 0.08 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.25	0	-256	134.88	0	0	No, e>t/2
SLV 6	179667	0.25	0	105	134.88	0	0	No, Trazione
SLV 10	179667	0.25	3437	-2923	134.88	642.97	4.77	Si
SLV 9	179667	0.25	3861	-3284	134.88	720.22	5.34	Si
SLV 2	179667	0.25	5460	-4644	134.88	1007.44	7.47	Si
SLV 1	179667	0.25	6089	-5179	134.88	1118.83	8.29	Si
SLV 4	179667	0.25	13894	-11817	134.88	2416.9	17.92	Si
SLV 3	179667	0.25	14524	-12352	134.88	2514.97	18.65	Si
SLV 14	179667	0.25	17328	-14738	134.88	2939.76	21.8	Si
SLV 13	179667	0.25	17958	-15273	134.88	3032.42	22.48	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-21379	-33152	-861	0.499	2523.1	0.959	7.55504	2.77912	Si
SLV 12	-21066	-32802	-835	0.505	2491.2	0.959	7.66144	2.77912	Si
SLV 15	-18002	-29364	-618	0.581	2179.9	0.954	8.85505	3.14871	Si
SLV 16	-17537	-28843	-579	0.595	2132.6	0.953	9.07403	3.14871	Si
SLV 7	-19083	-28735	-817	0.546	2289.7	0.956	8.30634	2.77912	Si
SLV 8	-18770	-28384	-791	0.554	2257.9	0.955	8.43637	2.77912	Si
SLV 13	-12747	-21626	-359	0.775	1646.6	0.941	11.97329	3.14871	Si
SLV 14	-12282	-21106	-321	0.8	1599.5	0.939	12.37923	3.14871	Si
SLV 3	-10349	-14639	-469	0.899	1404.1	0.932	14.01888	3.14871	Si
SLV 4	-9884	-14118	-431	0.934	1357.1	0.93	14.59028	3.14871	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.037	SLU 82	Si
V_SLU	1.123	SLU 77	Si
PF_SLV	1.104	SLV 6	Si
V_SLV	2.075	SLV 7	Si
PFFP_SLV	0	SLV 6	No
R_SLV	2.718	SLV 11	Si

Maschio 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	6.101	-0.123	-3.284	L2	L4	9.385	0.45	2.89	2.89	2.89			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fν0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	-1.3	24714.53	-77179	-0.0000325	0.0004492	0.0035	9.385	307997.03	332868.26	332868.26	13.47	No	Si
SLU 44	1.59	22089.38	-98936	-0.0000398	0.0004492	0.0035	9.385	375246.41	407246.34	407246.34	18.44	No	Si
SLU 47	-1.3	24344.86	-78290	-0.0000328	0.0004492	0.0035	9.385	311638.72	336665.35	336665.35	13.83	No	Si
SLU 47	1.59	21045.13	-100917	-0.0000403	0.0004492	0.0035	9.385	380941.74	414018.31	414018.31	19.67	No	Si
SLU 13	-1.3	21698.66	-71425	-0.0000297	0.0004492	0.0035	9.385	288771.33	312478.45	312478.45	14.4	No	Si
SLU 13	1.59	18262.83	-94520	-0.0000373	0.0004492	0.0035	9.385	362293.73	392150.51	392150.51	21.47	No	Si
SLU 61	-1.3	26434.3	-88982	-0.0000372	0.0004492	0.0035	9.385	345548.75	373219.05	373219.05	14.12	No	Si
SLU 61	1.59	21890.22	-116340	-0.0000463	0.0004492	0.0035	9.385	422846.3	466747.06	466747.06	21.32	No	Si
SLU 10	-1.3	22068.34	-70314	-0.0000294	0.0004492	0.0035	9.385	284990.98	308158.79	308158.79	13.96	No	Si
SLU 10	1.59	19307.09	-92539	-0.0000369	0.0004492	0.0035	9.385	356367.96	385378.54	385378.54	19.96	No	Si
SLU 55	-1.3	26456.21	-86537	-0.0000363	0.0004492	0.0035	9.385	337976.66	364858.94	364858.94	13.79	No	Si
SLU 55	1.59	22406.69	-113170	-0.0000452	0.0004492	0.0035	9.385	414586.54	455909.26	455909.26	20.35	No	Si
SLU 5	-1.3	19587.31	-63178	-0.0000263	0.0004492	0.0035	9.385	260166.8	280189.46	280189.46	14.3	No	Si
SLU 5	1.59	16901.27	-82266	-0.0000326	0.0004492	0.0035	9.385	324492.6	350259.56	350259.56	20.72	No	Si
SLU 52	-1.3	26825.88	-85426	-0.000036	0.0004492	0.0035	9.385	334501.56	361061.85	361061.85	13.46	No	Si
SLU 52	1.59	23450.95	-111189	-0.0000447	0.0004492	0.0035	9.385	409332.67	449137.3	449137.3	19.15	No	Si
SLU 73	-1.3	27576.07	-95706	-0.0000399	0.0004492	0.0035	9.385	365808.66	396206.42	396206.42	14.37	No	Si
SLU 73	1.59	22376.46	-126823	-0.0000503	0.0004492	0.0035	9.385	448856.42	502583.05	502583.05	22.46	No	Si
SLU 2	-1.3	19956.98	-62067	-0.000026	0.0004492	0.0035	9.385	256219.85	275789.02	275789.02	13.82	No	Si
SLU 2	1.59	17945.52	-80286	-0.0000321	0.0004492	0.0035	9.385	318125.38	343487.59	343487.59	19.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 6	-1.3	84427.13	-59900	-0.0000394	0.0006738	0.0035	9.385		272941.23	272941.23	3.23		Si
SLD 6	1.59	102919.92	-77288	-0.0000499	0.0006738	0.0035	9.385		344293.72	344293.72	3.35		Si
SLV 10	-1.3	130809.4	-73534	-0.0000552	0.0006738	0.0035	9.385		329126.04	329126.04	2.52		Si
SLV 10	1.59	161369.69	-94217	-0.0000697	0.0006738	0.0035	9.385		411460.13	411460.13	2.55		Si
SLD 5	-1.3	81442.51	-60022	-0.0000388	0.0006738	0.0035	9.385		273450.21	273450.21	3.36		Si
SLD 5	1.59	102679.22	-77432	-0.0000499	0.0006738	0.0035	9.385		344874.96	344874.96	3.36		Si
SLV 9	-1.3	126041.58	-73729	-0.000054	0.0006738	0.0035	9.385		329913.24	329913.24	2.62		Si
SLV 9	1.59	160985.19	-94447	-0.0000697	0.0006738	0.0035	9.385		412358.1	412358.1	2.56		Si
SLD 10	-1.3	87615.33	-71406	-0.0000443	0.0006738	0.0035	9.385		320465.71	320465.71	3.66		Si
SLD 10	1.59	104462.66	-92091	-0.0000556	0.0006738	0.0035	9.385		403152.47	403152.47	3.86		Si
SLV 8	-1.3	-90974.71	-61102	-0.0000413	0.0006738	0.0035	9.385		319965.75	319965.75	3.52		Si
SLV 8	1.59	-135651.39	-81557	-0.000059	0.0006738	0.0035	9.385		402959.31	402959.31	2.97		Si
SLV 5	-1.3	121074.47	-55781	-0.0000481	0.0006738	0.0035	9.385		255750.02	255750.02	2.11		Si
SLV 5	1.59	158563.37	-71301	-0.0000634	0.0006738	0.0035	9.385		320032.54	320032.54	2.02		Si
SLV 7	-1.3	-95742.52	-61296	-0.0000425	0.0006738	0.0035	9.385		320775.08	320775.08	3.35		Si
SLV 7	1.59	-136035.89	-81787	-0.0000591	0.0006738	0.0035	9.385		403867.85	403867.85	2.97		Si
SLV 6	-1.3	125842.28	-55586	-0.0000499	0.0006738	0.0035	9.385		254935.89	254935.89	2.03		Si
SLV 6	1.59	158947.87	-71071	-0.0000636	0.0006738	0.0035	9.385		319088.77	319088.77	2.01		Si
SLV 11	-1.3	-90775.4	-79244	-0.0000478	0.0006738	0.0035	9.385		393814.46	393814.46	4.34		Si
SLV 11	1.59	-133614.07	-104934	-0.0000671	0.0006738	0.0035	9.385		493708.95	493708.95	3.7		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 10	-1.3	22068.34	-70314	-56252	1598	9.385	9.385	-13319	10109	46896	88358	151773	47864	70345	Si	44.02	Si
SLU 10	1.59	19307.09	-92539	-74031	1612	9.385	9.385	-17529	10671	54008	88358	151773	47864	81012	Si	50.26	Si
SLU 13	-1.3	21698.66	-71425	-57140	1643	9.385	9.385	-13530	10137	47252	88358	151773	47864	70878	Si	43.13	Si
SLU 13	1.59	18262.83	-94520	-75616	1652	9.385	9.385	-17905	10721	54642	88358	151773	47864	81963	Si	49.63	Si
SLU 5	-1.3	19587.31	-63178	-50542	1615	9.385	9.385	-11968	9929	44613	88358	151773	47864	66919	Si	41.44	Si
SLU 5	1.59	16901.27	-82266	-65813	1624	9.385	9.385	-15584	10411	50721	88358	151773	47864	76081	Si	46.85	Si
SLU 2	-1.3	19956.98	-62067	-49654	1570	9.385	9.385	-11757	9901	44258	88358	151773	47864	66386	Si	42.29	Si
SLU 2	1.59	17945.52	-80286	-64228	1584	9.385	9.385	-15208	10361	50087	88358	151773	47864	75131	Si	47.43	Si
SLU 44	-1.3	24714.53	-77179	-61743	1776	9.385	9.385	-14620	10283	49093	88358	151773	47864	73640	Si	41.46	Si
SLU 44	1.59	22089.38	-98936	-79149	1789	9.385	9.385	-18741	10832	56055	88358	151773	47864	84082	Si	47.01	Si
SLU 68	-1.3	25095.05	-88570	-70856	1715	9.385	9.385	-16778	10570	52738	88358	151773	47864	79107	Si	46.11	Si
SLU 68	1.59	19970.64	-116550	-93240	1711	9.385	9.385	-22078	10833	61691	88358	151773	47864	92537	Si	54.1	Si
SLU 55	-1.3	26456.21	-86537	-69230	1850	9.385	9.385	-16392	10519	52087	88358	151773	47864	78131	Si	42.24	Si
SLU 55	1.59	22406.69	-113170	-90536	1856	9.385	9.385	-21438	10833	60610	88358	151773	47864	90915	Si	48.98	Si
SLU 47	-1.3	24344.86	-78290	-62632	1821	9.385	9.385	-14830	10311	49449	88358	151773	47864	74173	Si	40.72	Si
SLU 47	1.59	21045.13	-100917	-80733	1828	9.385	9.385	-19116	10833	56689	88358	151773	47864	85033	Si	46.51	Si
SLU 52	-1.3	26825.88	-85426	-68341	1804	9.385	9.385	-16182	10491	51732	88358	151773	47864	77598	Si	43.01	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	1.59	23450.95	-111189	-88952	1816	9.385	9.385	-21062	10833	59976	88358	151773	47864	89964	Si	49.53	Si
SLU 65	-1.3	25464.72	-87459	-69968	1670	9.385	9.385	-16567	10542	52383	88358	151773	47864	78574	Si	47.05	Si
SLU 65	1.59	21014.89	-114569	-91655	1671	9.385	9.385	-21703	10833	61057	88358	151773	47864	91586	Si	54.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	-1.3	-86007.59	-79049	-63239	-25733	9.385	9.385	-14974	15495	65439	88358	227660	47864	153797		5.98	Si
SLV 12	1.59	-	-104704	-83763	-25213	9.385	9.385	-19834	16250	70099	88358	227660	47864	158457		6.28	Si
		133229.57															
SLV 11	-1.3	-90775.4	-79244	-63395	-30582	9.385	9.385	-15011	15502	65470	88358	227660	47864	153828		5.03	Si
SLV 11	1.59	-	-104934	-83947	-30088	9.385	9.385	-19877	16250	70172	88358	227660	47864	158531		5.27	Si
		133614.07															
SLV 10	-1.3	130809.4	-73534	-58827	30929	9.385	8.7408	-13929	15286	60125	88358	227660	47864	148483		4.8	Si
SLV 10	1.59	161369.69	-94217	-75374	30807	9.385	8.9393	-17847	16069	66743	88358	227660	47864	155102		5.03	Si
SLV 7	-1.3	-95742.52	-61296	-49037	-29840	9.385	9.385	-11611	14822	62598	88358	227660	47864	150956		5.06	Si
SLV 7	1.59	-	-81787	-65430	-29764	9.385	9.0876	-16111	15722	64294	88358	227660	47864	152653		5.13	Si
		136035.89															
SLD 6	-1.3	84427.13	-59900	-47920	19777	9.385	9.385	-11347	14769	62375	88358	227660	47864	150733		7.62	Si
SLD 6	1.59	102919.92	-77288	-61830	19436	9.385	9.385	-14640	15428	65157	88358	227660	47864	153515		7.9	Si
SLV 5	-1.3	121074.47	-55781	-44625	26823	9.385	7.5659	-10566	14613	54444	88358	227660	47864	142803		5.32	Si
SLV 5	1.59	158563.37	-71301	-57040	26256	9.385	7.4059	-13506	15201	59410	88358	227660	47864	147769		5.63	Si
SLD 10	-1.3	87615.33	-71406	-57125	19295	9.385	9.385	-13526	15205	64216	88358	227660	47864	152574		7.91	Si
SLD 10	1.59	104462.66	-92091	-73673	19223	9.385	9.385	-17445	15989	67525	88358	227660	47864	155884		8.11	Si
SLV 9	-1.3	126041.58	-73729	-58983	26080	9.385	8.9489	-13966	15293	61586	88358	227660	47864	149944		5.75	Si
SLV 9	1.59	160985.19	-94447	-75558	25931	9.385	8.964	-17891	16078	66817	88358	227660	47864	155175		5.98	Si
SLV 8	-1.3	-90974.71	-61102	-48881	-24990	9.385	9.385	-11574	14815	62567	88358	227660	47864	150925		6.04	Si
SLV 8	1.59	-	-81557	-65246	-24888	9.385	9.0877	-16065	15713	64258	88358	227660	47864	152616		6.13	Si
		135651.39															
SLV 6	-1.3	125842.28	-55586	-44469	31672	9.385	7.2858	-10530	14606	54382	88358	227660	47864	142740		4.51	Si
SLV 6	1.59	158947.87	-71071	-56857	31131	9.385	7.3681	-13463	15193	59337	88358	227660	47864	147695		4.74	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRDM D.M. 17-01-18 (N.T.C.)

quota 0.145 Ta 0.03 Wa 0.08 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-43256	0.25	669.77	9188.78	12140.95	10664.87	15.92	Si
SLV 1	-43603	0.25	669.77	9257.97	12221.95	10739.96	16.04	Si
SLV 4	-46061	0.25	669.77	9746.98	12796.85	11271.92	16.83	Si
SLV 3	-46407	0.25	669.77	9815.61	12877.88	11346.75	16.94	Si
SLV 6	-65479	0.25	669.77	13486.54	17316.64	15401.59	23	Si
SLV 5	-65713	0.25	669.77	13530.12	17370.47	15450.29	23.07	Si
SLV 8	-74828	0.25	669.77	15208.66	19468.56	17338.61	25.89	Si
SLV 7	-75061	0.25	669.77	15250.98	19522.13	17386.55	25.96	Si
SLV 10	-87284	0.25	669.77	17424.28	22332.88	19878.58	29.68	Si
SLV 9	-87517	0.25	669.77	17464.91	22386.57	19925.74	29.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 0.145 Wa = 0.08 Ta = 0.031

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-128323	-98300	-2874	0.442	14783.5	0.965	6.65363	3.14871	Si
SLV 16	-127982	-98011	-2878	0.443	14748.7	0.965	6.66719	3.14871	Si
SLV 13	-125177	-96645	-2956	0.45	14463.3	0.964	6.77621	3.14871	Si
SLV 14	-124836	-96356	-2960	0.45	14428.6	0.964	6.7904	3.14871	Si
SLV 11	-104934	-79244	-802	0.533	12404	0.959	8.07973	2.77912	Si
SLV 12	-104704	-79049	-805	0.534	12380.7	0.959	8.09367	2.77912	Si
SLV 9	-94447	-73729	-1075	0.576	11338	0.955	8.75831	2.77912	Si
SLV 10	-94217	-73534	-1078	0.577	11314.7	0.955	8.77522	2.77912	Si
SLV 7	-81787	-61296	893	0.646	10051.9	0.95	9.87365	2.77912	Si
SLV 8	-81557	-61102	890	0.647	10028.6	0.95	9.89671	2.77912	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.459	SLU 52	Si
V_SLU	40.722	SLU 47	Si
PF_SLV	2.008	SLV 6	Si
V_SLV	4.507	SLV 6	Si
PFFP_SLV	15.923	SLV 2	Si
R_SLV	2.113	SLV 15	Si

Maschio 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.678	-3.359	-24.678	5.951	L4	L5	9.311	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 55	1.59	-6704.88	-76522	-0.000049	0.0003743	0.0035	9.3107	253531.46	308514.1	308514.1	46.01	No	Si
SLU 55	5	-2771.73	-76000	-0.000047	0.0003743	0.0035	9.3107	252498.52	307056.19	307056.19	110.78	No	Si
SLU 13	1.59	-5569.11	-63653	-0.0000402	0.0003743	0.0035	9.3107	225261.33	270988.26	270988.26	48.66	No	Si
SLU 13	5	-2053.25	-63515	-0.0000387	0.0003743	0.0035	9.3107	224928.52	270563.47	270563.47	131.77	No	Si
SLU 61	1.59	-5555.03	-78532	-0.0000498	0.0003743	0.0035	9.3107	257422.29	314129.1	314129.1	56.55	No	Si
SLU 61	5	-2815.69	-77879	-0.0000483	0.0003743	0.0035	9.3107	256175.02	312307.15	312307.15	110.92	No	Si
SLU 5	1.59	-5543.6	-55892	-0.0000353	0.0003743	0.0035	9.3107	205405.47	246360.77	246360.77	44.44	No	Si
SLU 5	5	-1876.92	-55513	-0.0000336	0.0003743	0.0035	9.3107	204380.86	245115.51	245115.51	130.59	No	Si
SLU 65	1.59	-5541.01	-77623	-0.0000492	0.0003743	0.0035	9.3107	255680.73	311590.97	311590.97	56.23	No	Si
SLU 65	5	-1961.45	-77240	-0.0000475	0.0003743	0.0035	9.3107	254937.8	310520.63	310520.63	158.31	No	Si
SLU 2	1.59	-5982.3	-54711	-0.0000347	0.0003743	0.0035	9.3107	202196.57	242490.61	242490.61	40.53	No	Si
SLU 2	5	-2233.93	-53998	-0.0000328	0.0003743	0.0035	9.3107	200237.85	240170.42	240170.42	107.51	No	Si
SLU 47	1.59	-6679.38	-68761	-0.0000439	0.0003743	0.0035	9.3107	237178.92	286624.1	286624.1	42.91	No	Si
SLU 47	5	-2595.4	-67998	-0.0000418	0.0003743	0.0035	9.3107	235455.55	284290.99	284290.99	109.54	No	Si
SLU 52	1.59	-7143.59	-73340	-0.0000484	0.0003743	0.0035	9.3107	251177.73	305210.91	305210.91	42.73	No	Si
SLU 52	5	-3128.74	-74485	-0.0000462	0.0003743	0.0035	9.3107	249444.33	302820.23	302820.23	96.79	No	Si
SLU 10	1.59	-6007.81	-62471	-0.0000396	0.0003743	0.0035	9.3107	222374.14	267321.15	267321.15	44.5	No	Si
SLU 10	5	-2410.26	-62000	-0.0000379	0.0003743	0.0035	9.3107	221210.81	265854.88	265854.88	110.3	No	Si
SLU 44	1.59	-7118.08	-67580	-0.0000433	0.0003743	0.0035	9.3107	234503.49	283013.82	283013.82	39.76	No	Si
SLU 44	5	-2952.41	-66483	-0.0000409	0.0003743	0.0035	9.3107	231976.05	279662.43	279662.43	94.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	1.59	-103903.44	-48092	-0.0000707	0.0005615	0.0035	9.3107	228837.37	228837.37	228837.37	2.2		Si
SLV 9	5	-45213.27	-52648	-0.0000478	0.0005615	0.0035	9.3107	245807.91	245807.91	245807.91	5.44		Si
SLV 8	1.59	100822.92	-70832	-0.000081	0.0005615	0.0035	9.3107	284428.14	284428.14	284428.14	2.82		Si
SLV 8	5	43153.99	-65891	-0.0000552	0.0005615	0.0035	9.3107	266795.95	266795.95	266795.95	6.18		Si
SLV 11	1.59	97933.93	-49377	-0.0000677	0.0005615	0.0035	9.3107	209151.56	209151.56	209151.56	2.14		Si
SLV 11	5	48031.02	-53394	-0.0000493	0.0005615	0.0035	9.3107	222987.84	222987.84	222987.84	4.64		Si
SLV 6	1.59	-101014.44	-69546	-0.0000803	0.0005615	0.0035	9.3107	306939.38	306939.38	306939.38	3.04		Si
SLV 6	5	-50090.3	-65145	-0.0000574	0.0005615	0.0035	9.3107	291277.34	291277.34	291277.34	5.82		Si
SLD 11	1.59	59987.3	-53056	-0.0000537	0.0005615	0.0035	9.3107	221820.29	221820.29	221820.29	3.7		Si
SLD 11	5	29286.62	-55542	-0.0000435	0.0005615	0.0035	9.3107	230437.68	230437.68	230437.68	7.87		Si
SLV 12	1.59	99949.91	-49542	-0.0000688	0.0005615	0.0035	9.3107	209717.45	209717.45	209717.45	2.1		Si
SLV 12	5	46973.08	-53356	-0.0000489	0.0005615	0.0035	9.3107	222856.04	222856.04	222856.04	4.74		Si
SLV 10	1.59	-101887.45	-48257	-0.0000695	0.0005615	0.0035	9.3107	229476.86	229476.86	229476.86	2.25		Si
SLV 10	5	-46271.2	-52610	-0.0000482	0.0005615	0.0035	9.3107	245666.54	245666.54	245666.54	5.31		Si
SLV 5	1.59	-103030.43	-69381	-0.0000809	0.0005615	0.0035	9.3107	306358.83	306358.83	306358.83	2.97		Si
SLV 5	5	-49032.37	-65183	-0.0000571	0.0005615	0.0035	9.3107	291412.82	291412.82	291412.82	5.94		Si
SLV 7	1.59	98806.94	-70667	-0.0000801	0.0005615	0.0035	9.3107	283836.78	283836.78	283836.78	2.87		Si
SLV 7	5	44211.92	-65929	-0.0000557	0.0005615	0.0035	9.3107	266931.27	266931.27	266931.27	6.04		Si
SLD 12	1.59	61249.29	-53159	-0.0000542	0.0005615	0.0035	9.3107	222177.21	222177.21	222177.21	3.63		Si
SLD 12	5	28624.36	-55518	-0.0000432	0.0005615	0.0035	9.3107	230354.78	230354.78	230354.78	8.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	1.59	-7143.59	-75340	-62737	-1305	9.3107	9.3107	-24065	10153	37644	38062	78065	23742	56465	Si	43.28	Si
SLU 52	5	-3128.74	-74485	-62025	-1188	9.3107	9.3107	-23792	10117	37359	38062	78065	23742	56038	Si	47.16	Si
SLU 2	1.59	-5982.3	-54711	-45558	-1422	9.3107	9.3107	-17475	9274	30773	38062	78065	23742	46159	Si	32.47	Si
SLU 2	5	-2233.93	-53998	-44965	-1306	9.3107	9.3107	-17248	9244	30535	38062	78065	23742	45803	Si	35.06	Si
SLU 44	1.59	-7118.08	-67580	-56274	-1564	9.3107	9.3107	-21586	9823	35059	38062	78065	23742	52588	Si	33.63	Si
SLU 44	5	-2952.41	-66483	-55361	-1446	9.3107	9.3107	-21236	9776	34693	38062	78065	23742	52040	Si	35.99	Si
SLU 65	1.59	-5541.01	-77623	-64638	-1107	9.3107	9.3107	-24794	10250	38404	38062	78065	23742	57606	Si	52.05	Si
SLU 65	5	-1961.45	-77240	-64319	-996	9.3107	9.3107	-24672	10234	38276	38062	78065	23742	57415	Si	57.64	Si
SLU 5	1.59	-5543.6	-55892	-46542	-1374	9.3107	9.3107	-17853	9325	31166	38062	78065	23742	46749	Si	34.02	Si
SLU 5	5	-1876.92	-55513	-46226	-1260	9.3107	9.3107	-17732	9309	31040	38062	78065	23742	46560	Si	36.94	Si
SLU 10	1.59	-6007.81	-62471	-52020	-1163	9.3107	9.3107	-19954	9605	33357	38062	78065	23742	50036	Si	43.02	Si
SLU 10	5	-2410.26	-62000	-51629	-1049	9.3107	9.3107	-19804	9585	33201	38062	78065	23742	49801	Si	47.49	Si
SLU 55	1.59	-6704.88	-76522	-63721	-1257	9.3107	9.3107	-24442	10203	38037	38062	78065	23742	57056	Si	45.38	Si
SLU 55	5	-2771.73	-76000	-63286	-1142	9.3107	9.3107	-24276	10181	37864	38062	78065	23742	56795	Si	49.72	Si
SLU 23	1.59	-4405.23	-64754	-53922	-965	9.3107	9.3107	-20683	9702	34118	38062	78065	23742	51177	Si	53.04	Si
SLU 23	5	-1242.98	-64755	-53923	-856	9.3107	9.3107	-20684	9702	34118	38062	78065	23742	51177	Si	59.76	Si
SLU 47	1.59	-6679.38	-68761	-57258	-1516	9.3107	9.3107	-21963	9873	35452	38062	78065	23742	53179	Si	35.08	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	5	-2595.4	-67998	-56623	-1400	9.3107	9.3107	-21719	9840	35198	38062	78065	23742	52797	Si	37.71	Si
SLU 13	1.59	-5569.11	-63653	-53005	-1115	9.3107	9.3107	-20332	9655	33751	38062	78065	23742	50626	Si	45.39	Si
SLU 13	5	-2053.25	-63515	-52890	-1003	9.3107	9.3107	-20288	9649	33705	38062	78065	23742	50558	Si	50.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	1.59	99949.91	-49542	-41254	46700	9.3107	7.9136	-15825	13582	35326	38062	117097	23742	73388		1.57	Si
SLV 12	5	46973.08	-53356	-44430	44734	9.3107	9.3107	-17043	13825	36596	38062	117097	23742	74658		1.67	Si
SLD 9	1.59	-64917.59	-52200	-43468	-31285	9.3107	9.3107	-16673	13751	36211	38062	117097	23742	74273		2.37	Si
SLD 9	5	-28269.22	-55054	-45845	-29742	9.3107	9.3107	-17585	13934	37162	38062	117097	23742	75224		2.53	Si
SLV 6	1.59	-	-69546	-57912	-40922	9.3107	9.3107	-22214	14859	41989	38062	117097	23742	80051		1.96	Si
		101014.44															
SLV 6	5	-50090.3	-65145	-54247	-38969	9.3107	9.3107	-20808	14578	40523	38062	117097	23742	78585		2.02	Si
SLV 10	1.59	-	-48257	-40184	-45398	9.3107	7.632	-18979	14213	34898	38062	117097	23742	72960		1.61	Si
		101887.45															
SLV 10	5	-46271.2	-52610	-43809	-42887	9.3107	9.3107	-16804	13778	36348	38062	117097	23742	74410		1.74	Si
SLV 9	1.59	-	-48092	-40047	-50669	9.3107	7.4845	-19289	14275	34843	38062	117097	23742	72905		1.44	Si
		103903.44															
SLV 9	5	-45213.27	-52648	-43840	-48150	9.3107	9.3107	-16816	13780	36360	38062	117097	23742	74423		1.55	Si
SLV 8	1.59	100822.92	-70832	-58983	51177	9.3107	9.3107	-22625	14942	42417	38062	117097	23742	80479		1.57	Si
SLV 8	5	43153.99	-65891	-54869	48651	9.3107	9.3107	-21047	14626	40772	38062	117097	23742	78834		1.62	Si
SLV 7	1.59	98806.94	-70667	-58845	45906	9.3107	9.3107	-22572	14931	42362	38062	117097	23742	80424		1.75	Si
SLV 7	5	44211.92	-65929	-54900	43388	9.3107	9.3107	-21059	14628	40784	38062	117097	23742	78846		1.82	Si
SLV 11	1.59	97933.93	-49377	-41117	41430	9.3107	8.0159	-15772	13571	35271	38062	117097	23742	73333		1.77	Si
SLV 11	5	48031.02	-53394	-44462	39470	9.3107	9.3107	-17055	13828	36609	38062	117097	23742	74671		1.89	Si
SLD 8	1.59	61837.07	-66724	-55562	31793	9.3107	9.3107	-21313	14679	41049	38062	117097	23742	79111		2.49	Si
SLD 8	5	26209.93	-63485	-52864	30243	9.3107	9.3107	-20278	14472	39970	38062	117097	23742	78032		2.58	Si
SLV 5	1.59	-	-69381	-57775	-46192	9.3107	9.3107	-22161	14849	41934	38062	117097	23742	79996		1.73	Si
		103030.43															
SLV 5	5	-49032.37	-65183	-54279	-44233	9.3107	9.3107	-20821	14581	40536	38062	117097	23742	78598		1.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.31	13918	-36284	737.38	4616.78	6.26	Si
SLV 13	179667	0.31	13939	-36338	737.38	4623.03	6.27	Si
SLV 16	179667	0.31	13955	-36381	737.38	4627.97	6.28	Si
SLV 14	179667	0.31	13976	-36436	737.38	4634.22	6.28	Si
SLV 11	179667	0.31	20839	-54328	737.38	6568.02	8.91	Si
SLV 12	179667	0.31	20865	-54394	737.38	6574.72	8.92	Si
SLV 9	179667	0.31	20909	-54510	737.38	6586.54	8.93	Si
SLV 10	179667	0.31	20934	-54576	737.38	6593.23	8.94	Si
SLV 7	179667	0.31	26788	-69835	737.38	8061.98	10.93	Si
SLV 8	179667	0.31	26813	-69901	737.38	8067.96	10.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-80302	-95015	-2748	0.606	9428.5	0.96	9.16875	5.31498	Si
SLV 4	-80246	-95260	-2748	0.606	9422.7	0.96	9.17446	5.31498	Si
SLV 1	-80079	-94629	-2748	0.607	9405.7	0.96	9.19127	5.31498	Si
SLV 2	-80022	-94874	-2748	0.608	9400	0.96	9.19701	5.31498	Si
SLV 7	-65929	-70667	-855	0.741	7967.3	0.954	11.29402	3.92562	Si
SLV 8	-65891	-70832	-855	0.742	7963.5	0.954	11.29977	3.92562	Si
SLV 5	-65183	-69381	-855	0.748	7891.5	0.954	11.40733	3.92562	Si
SLV 6	-65145	-69546	-855	0.749	7887.7	0.954	11.4132	3.92562	Si
SLV 15	-38517	-24049	2661	1.115	5188	0.934	17.36142	5.31498	Si
SLV 16	-38460	-24294	2661	1.116	5182.3	0.933	17.38287	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	39.76	SLU 44	Si
V_SLU	32.465	SLU 2	Si
PF_SLV	2.098	SLV 12	Si
V_SLV	1.439	SLV 9	Si
PFFP_SLV	6.261	SLV 15	Si
R_SLV	1.725	SLV 3	Si

Maschio 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.763	5.951	-24.678	5.951	L4	L5	1.915	0.28	3.41	3.41	3.41			



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	2.49	-63.92	-16448	-0.0000491	0.0003743	0.0035	1.915	11003.77	13402.52	13402.52	209.68	No	Si
SLU 46	4.39	465.51	-14028	-0.0000453	0.0003743	0.0035	1.915	9980.29	10972.06	10972.06	23.57	No	Si
SLU 44	2.49	-61.54	-15733	-0.0000468	0.0003743	0.0035	1.915	10722.8	13002.82	13002.82	211.3	No	Si
SLU 44	4.39	446.46	-13414	-0.0000432	0.0003743	0.0035	1.915	9687.92	10634.96	10634.96	23.82	No	Si
SLU 1	2.49	-60.95	-13100	-0.0000386	0.0003743	0.0035	1.915	9533.19	11408.79	11408.79	187.17	No	Si
SLU 1	4.39	350.82	-11171	-0.0000354	0.0003743	0.0035	1.915	8507.72	9153.6	9153.6	26.09	No	Si
SLU 49	2.49	-52.52	-16814	-0.0000502	0.0003743	0.0035	1.915	11140.76	13610.64	13610.64	259.17	No	Si
SLU 49	4.39	465.4	-14390	-0.0000464	0.0003743	0.0035	1.915	10146.6	11172.94	11172.94	24.01	No	Si
SLU 47	2.49	-50.13	-16099	-0.0000479	0.0003743	0.0035	1.915	10868.97	13206.48	13206.48	263.43	No	Si
SLU 47	4.39	446.35	-13776	-0.0000443	0.0003743	0.0035	1.915	9862.03	10833.4	10833.4	24.27	No	Si
SLU 48	2.49	-77.77	-17033	-0.0000511	0.0003743	0.0035	1.915	11220.61	13736.47	13736.47	176.63	No	Si
SLU 48	4.39	491.88	-14476	-0.0000469	0.0003743	0.0035	1.915	10185.32	11220.75	11220.75	22.81	No	Si
SLU 51	2.49	-55.56	-16612	-0.0000496	0.0003743	0.0035	1.915	11065.65	13495.35	13495.35	242.88	No	Si
SLU 51	4.39	463.89	-14196	-0.0000458	0.0003743	0.0035	1.915	10057.89	11064.9	11064.9	23.85	No	Si
SLU 43	2.49	-103.62	-16099	-0.0000484	0.0003743	0.0035	1.915	10868.82	13206.26	13206.26	127.44	No	Si
SLU 43	4.39	490.6	-13557	-0.000044	0.0003743	0.0035	1.915	9757.2	10713.21	10713.21	21.84	No	Si
SLU 45	2.49	-89.17	-16667	-0.0000501	0.0003743	0.0035	1.915	11086.44	13526.98	13526.98	151.69	No	Si
SLU 45	4.39	491.99	-14114	-0.0000458	0.0003743	0.0035	1.915	10020.1	11019.5	11019.5	22.4	No	Si
SLU 50	2.49	-80.81	-16831	-0.0000505	0.0003743	0.0035	1.915	11147.06	13620.43	13620.43	168.54	No	Si
SLU 50	4.39	490.37	-14282	-0.0000463	0.0003743	0.0035	1.915	10097.19	11112.52	11112.52	22.66	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	2.49	166.4	-474	-0.0000027	0.0005615	0.0035	1.915		638.8	638.8	3.84		Si
SLV 10	4.39	-951.49	-4285	-0.0000201	0.0005615	0.0035	1.915		4946.67	4946.67	5.2		Si
SLV 5	2.49	2460.12	-1800	-0.005803	0.0005615	0.0035	1.915		1873.07	1873.07	0.76		No
SLV 5	4.39	-2331.53	-7687	-0.0000422	0.0005615	0.0035	1.915		7844.62	7844.62	3.36		Si
SLV 15	2.49	-2911.06	-14509	-0.0000682	0.0005615	0.0035	1.915		13061.52	13061.52	4.49		Si
SLV 15	4.39	2133.38	-9718	-0.0000464	0.0005615	0.0035	1.915		8585.62	8585.62	4.02		Si
SLD 5	2.49	1544.35	-6629	-0.0000321	0.0005615	0.0035	1.915		6132.73	6132.73	3.97		Si
SLD 5	4.39	-1342.12	-9597	-0.000039	0.0005615	0.0035	1.915		9383.35	9383.35	6.99		Si
SLV 16	2.49	-3731.79	-15549	-0.0000287	0.0005615	0.0035	1.915		13789.27	13789.27	3.7		Si
SLV 16	4.39	2768.05	-9210	-0.0000506	0.0005615	0.0035	1.915		8231.32	8231.32	2.97		Si
SLV 14	2.49	-2932.05	-7579	-0.0000479	0.0005615	0.0035	1.915		7753.93	7753.93	2.64		Si
SLV 14	4.39	1612.21	-5251	-0.0000287	0.0005615	0.0035	1.915		4956.03	4956.03	3.07		Si
SLV 6	2.49	1907.54	-2500	-0.0000463	0.0005615	0.0035	1.915		2514.48	2514.48	1.32		Si
SLV 6	4.39	-1904.23	-7345	-0.0000374	0.0005615	0.0035	1.915		7557.52	7557.52	3.97		Si
SLV 9	2.49	718.97	227	-0.0009698	0.0005615	0.0035	1.532		0	0	0		No
SLV 9	4.39	-1378.79	-4627	-0.0000248	0.0005615	0.0035	1.915		5242.96	5242.96	3.8		Si
SLV 1	2.49	3692.5	-13293	-0.0000716	0.0005615	0.0035	1.915		11108.86	11108.86	3.01		Si
SLV 1	4.39	-2198.26	-15959	-0.0000661	0.0005615	0.0035	1.915		14079.3	14079.3	6.4		Si
SLV 13	2.49	-2111.31	-6539	-0.0000368	0.0005615	0.0035	1.915		6880.34	6880.34	3.26		Si
SLV 13	4.39	977.54	-5759	-0.0000246	0.0005615	0.0035	1.915		5394.68	5394.68	5.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	2.49	-63.92	-16448	-13696	-256	1.915	1.915	-25543	10350	5550	38062	16056	4883	8325	Si	32.46	Si
SLU 46	4.39	465.51	-14028	-11681	-310	1.915	1.915	-21785	9849	5281	38062	16056	4883	7922	Si	25.52	Si
SLU 50	2.49	-80.81	-16831	-14015	-343	1.915	1.915	-26138	10430	5592	38062	16056	4883	8388	Si	24.45	Si
SLU 50	4.39	490.37	-14282	-11892	-398	1.915	1.915	-22179	9902	5309	38062	16056	4883	7964	Si	20.01	Si
SLU 48	2.49	-77.77	-17033	-14184	-346	1.915	1.915	-26453	10471	5615	38062	16056	4883	8422	Si	24.36	Si
SLU 48	4.39	491.88	-14476	-12054	-401	1.915	1.915	-22481	9942	5331	38062	16056	4883	7996	Si	19.92	Si
SLU 45	2.49	-89.17	-16667	-13879	-351	1.915	1.915	-25884	10396	5574	38062	16056	4883	8361	Si	23.85	Si
SLU 45	4.39	491.99	-14114	-11753	-405	1.915	1.915	-21919	9867	5291	38062	16056	4883	7936	Si	19.59	Si
SLU 43	2.49	-103.62	-16099	-13406	-353	1.915	1.915	-25001	10278	5511	38062	16056	4883	8267	Si	23.43	Si
SLU 43	4.39	490.6	-13557	-11289	-406	1.915	1.915	-21054	9752	5229	38062	16056	4883	7843	Si	19.34	Si
SLU 49	2.49	-52.52	-16814	-14001	-252	1.915	1.915	-26112	10426	5590	38062	16056	4883	8386	Si	33.33	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	4.39	465.4	-14390	-11983	-307	1.915	1.915	-22348	9924	5321	38062	16056	4883	7982	Si	26.03	Si
SLU 40	2.49	140.37	-18323	-15258	357	1.915	1.915	-28455	10738	5789	38062	16056	4883	8684	Si	24.3	Si
SLU 40	4.39	37.89	-16945	-14110	298	1.915	1.915	-26315	10453	5605	38062	16056	4883	8407	Si	28.25	Si
SLU 42	2.49	151.77	-18689	-15563	362	1.915	1.915	-29024	10814	5871	38062	16056	4883	8806	Si	24.31	Si
SLU 42	4.39	37.78	-17307	-14412	301	1.915	1.915	-26878	10528	5645	38062	16056	4883	8468	Si	28.1	Si
SLU 34	2.49	137.12	-17725	-14759	330	1.915	1.915	-27526	10615	5692	38062	16056	4883	8537	Si	25.89	Si
SLU 34	4.39	75.84	-16337	-13604	272	1.915	1.915	-25372	10327	5538	38062	16056	4883	8306	Si	30.56	Si
SLU 31	2.49	125.72	-17358	-14455	325	1.915	1.915	-26957	10539	5651	38062	16056	4883	8476	Si	26.1	Si
SLU 31	4.39	75.95	-15975	-13303	268	1.915	1.915	-24809	10252	5497	38062	16056	4883	8246	Si	30.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	2.49	1907.54	-2500	-2082	5370	1.915	0.5833	-12822	12981	3136	38062	24084	4883	28968		5.39	Si
SLV 6	4.39	-1904.23	-7345	-6116	5488	1.915	1.915	-11407	12698	6809	38062	24084	4883	28968		5.28	Si
SLV 15	2.49	-2911.06	-14509	-12082	-4320	1.915	1.915	-22533	14923	8002	38062	24084	4883	28968		6.71	Si
SLV 15	4.39	2133.38	-9718	-8093	-4085	1.915	1.915	-15092	13435	7204	38062	24084	4883	28968		7.09	Si
SLV 9	2.49	718.97	227	189	4315	1.532	0	0	0	0	38062	19267	3907	23174		5.37	Si
SLV 9	4.39	-1378.79	-4627	-3853	4652	1.915	1.915	-7186	11854	6356	38062	24084	4883	28968		6.23	Si
SLV 5	2.49	2460.12	-1800	-1499	6411	1.915	0	-110753	16250	2981	38062	24084	4883	28968		4.52	Si
SLV 5	4.39	-2331.53	-7687	-6401	6529	1.915	1.915	-11938	12804	6866	38062	24084	4883	28968		4.44	Si
SLV 8	2.49	-758.26	-29069	-24206	-4543	1.915	1.915	-45143	16250	9036	38062	24084	4883	28968		6.38	Si
SLV 8	4.39	1948.58	-20543	-17106	-4973	1.915	1.915	-31902	16250	8713	38062	24084	4883	28968		5.82	Si
SLD 12	2.49	-1583.64	-22213	-18497	-4179	1.915	1.915	-34497	16250	8713	38062	24084	4883	28968		6.93	Si
SLD 12	4.39	1911.91	-15573	-12968	-4326	1.915	1.915	-24184	15254	8179	38062	24084	4883	28968		6.7	Si
SLV 16	2.49	-3731.79	-15549	-12948	-5865	1.915	1.915	-24148	15246	8175	38062	24084	4883	28968		4.94	Si
SLV 16	4.39	2768.05	-9210	-7669	-5631	1.915	1.915	-14303	13277	7119	38062	24084	4883	28968		5.14	Si
SLV 12	2.49	-2499.4	-27042	-22519	-6638	1.915	1.915	-41997	16250	8713	38062	24084	4883	28968		4.36	Si
SLV 12	4.39	2901.32	-17482	-14558	-6850	1.915	1.915	-27150	15847	8497	38062	24084	4883	28968		4.23	Si
SLV 11	2.49	-1946.83	-26342	-21936	-5598	1.915	1.915	-40909	16250	8713	38062	24084	4883	28968		5.18	Si
SLV 11	4.39	2474.02	-17825	-14843	-5809	1.915	1.915	-27681	15953	8554	38062	24084	4883	28968		4.99	Si
SLV 1	2.49	3692.5	-13293	-11069	5638	1.915	1.915	-20644	14545	7799	38062	24084	4883	28968		5.14	Si
SLV 1	4.39	-2198.26	-15959	-13290	5310	1.915	1.915	-24785	15374	8243	38062	24084	4883	28968		5.46	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.31	2616	-1403	151.66	193.03	1.27	Si
SLV 10	179667	0.31	3151	-1689	151.66	231.64	1.53	Si
SLV 5	179667	0.31	7208	-3865	151.66	515.54	3.4	Si
SLV 6	179667	0.31	7742	-4151	151.66	551.74	3.64	Si
SLV 13	179667	0.31	11110	-5957	151.66	773.35	5.1	Si
SLV 14	179667	0.31	11904	-6383	151.66	823.97	5.43	Si
SLV 15	179667	0.31	23094	-12383	151.66	1471.44	9.7	Si
SLV 16	179667	0.31	23888	-12809	151.66	1512.71	9.97	Si
SLV 1	179667	0.31	26416	-14164	151.66	1639.98	10.81	Si
SLV 2	179667	0.31	27210	-14590	151.66	1678.65	11.07	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-16921	-22299	1	0.624	1980.4	0.961	9.43542	5.31498	Si
SLV 4	-16792	-22797	0	0.628	1967.3	0.961	9.49948	5.31498	Si
SLV 7	-19400	-26683	331	0.54	2232.6	0.965	8.12535	3.92562	Si
SLV 8	-19313	-27018	331	0.542	2223.8	0.965	8.15759	3.92562	Si
SLV 1	-12826	-15186	-215	0.774	1564.2	0.952	11.81712	5.31498	Si
SLV 2	-12698	-15685	-216	0.781	1551.1	0.952	11.92129	5.31498	Si
SLV 11	-17448	-23258	399	0.587	2034	0.962	8.86779	3.92562	Si
SLV 12	-17362	-23594	399	0.59	2025.2	0.962	8.90692	3.92562	Si
SLV 15	-10416	-10884	226	0.92	1319.6	0.944	14.1542	5.31498	Si
SLV 16	-10288	-11382	225	0.929	1306.5	0.944	14.30744	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	21.837	SLU 43	Si
V_SLU	19.339	SLU 43	Si
PF_SLV	0	SLV 9	No
V_SLV	4.229	SLV 12	Si
PFFP_SLV	1.273	SLV 9	Si
R_SLV	1.775	SLV 3	Si

Maschio 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.763	5.951	L4	L5	2.145	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / ε,CNR DT-200					connettori	tipo di muratura	CRM / Fibrenet?			
									αt	α	elim,conv	ε,fd	γF,d			CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	2.49	-7806.15	-26110	-0.0001382	0.0003743	0.0035	2.145	16045.69	20514.49	20514.49	2.63	No	Si
SLU 81	4.39	1834.84	-31090	-0.000103	0.0003743	0.0035	2.145	16390.56	21764.72	21764.72	11.86	No	Si
SLU 84	2.49	-7826.24	-26383	-0.0001394	0.0003743	0.0035	2.145	16087.26	20610.67	20610.67	2.63	No	Si
SLU 84	4.39	1819.21	-31362	-0.0001038	0.0003743	0.0035	2.145	16384.34	21826.67	21826.67	12	No	Si
SLU 80	2.49	-7697.94	-25768	-0.000136	0.0003743	0.0035	2.145	15990.11	20385.41	20385.41	2.65	No	Si
SLU 80	4.39	1758.79	-30618	-0.0001007	0.0003743	0.0035	2.145	16395.21	21639.84	21639.84	12.3	No	Si
SLU 74	2.49	-7742.72	-25744	-0.0001363	0.0003743	0.0035	2.145	15986.09	20376.11	20376.11	2.63	No	Si
SLU 74	4.39	1784.46	-30642	-0.000101	0.0003743	0.0035	2.145	16395.16	21646.74	21646.74	12.13	No	Si
SLU 83	2.49	-7924.04	-26583	-0.0001411	0.0003743	0.0035	2.145	16115.84	20673.71	20673.71	2.61	No	Si
SLU 83	4.39	1847.13	-31633	-0.000105	0.0003743	0.0035	2.145	16375.55	21885.86	21885.86	11.85	No	Si
SLU 75	2.49	-7644.91	-25545	-0.0001347	0.0003743	0.0035	2.145	15951.65	20296.72	20296.72	2.65	No	Si
SLU 75	4.39	1756.53	-30371	-0.0000999	0.0003743	0.0035	2.145	16394.52	21568.25	21568.25	12.28	No	Si
SLU 77	2.49	-7860.61	-26217	-0.0001391	0.0003743	0.0035	2.145	16062.31	20553.33	20553.33	2.61	No	Si
SLU 77	4.39	1796.75	-31185	-0.000103	0.0003743	0.0035	2.145	16388.68	21787.89	21787.89	12.13	No	Si
SLU 82	2.49	-7708.34	-25910	-0.0001366	0.0003743	0.0035	2.145	16013.8	20440.28	20440.28	2.65	No	Si
SLU 82	4.39	1806.92	-30819	-0.0001018	0.0003743	0.0035	2.145	16394.18	21695.08	21695.08	12.01	No	Si
SLU 79	2.49	-7795.74	-25967	-0.0001376	0.0003743	0.0035	2.145	16023	20461.64	20461.64	2.62	No	Si
SLU 79	4.39	1786.72	-30889	-0.0001019	0.0003743	0.0035	2.145	16393.5	21713.47	21713.47	12.15	No	Si
SLU 78	2.49	-7762.81	-26018	-0.0001375	0.0003743	0.0035	2.145	16031.17	20480.63	20480.63	2.64	No	Si
SLU 78	4.39	1768.83	-30914	-0.0001018	0.0003743	0.0035	2.145	16393.21	21720.11	21720.11	12.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	2.49	-9226.62	-15642	-0.000124	0.0005615	0.0035	1.716		15896.09	15896.09	1.72		Si
SLV 16	4.39	3567.18	-27007	-0.0000985	0.0005615	0.0035	2.145	22651.85	22651.85	22651.85	6.35		Si
SLV 14	2.49	-5436.05	-8342	-0.0000728	0.0005615	0.0035	1.716	9580.66	9580.66	9580.66	1.76		Si
SLV 14	4.39	2548.91	-16731	-0.0000614	0.0005615	0.0035	2.145	15464.43	15464.43	15464.43	6.07		Si
SLV 12	2.49	-12442.47	-27800	-0.000178	0.0005615	0.0035	2.145	24456.75	24456.75	24456.75	1.97		Si
SLV 12	4.39	3588.65	-38389	-0.0001341	0.0005615	0.0035	2.145	28633.2	28633.2	28633.2	7.98		Si
SLD 12	2.49	-9747.96	-23762	-0.000139	0.0005615	0.0035	2.145	21880.89	21880.89	21880.89	2.24		Si
SLD 12	4.39	2700.88	-31603	-0.0001055	0.0005615	0.0035	2.145	25555.63	25555.63	25555.63	9.46		Si
SLV 8	2.49	-11544.1	-30891	-0.0001767	0.0005615	0.0035	2.145	25984.29	25984.29	25984.29	2.25		Si
SLV 8	4.39	2676.61	-38096	-0.0001255	0.0005615	0.0035	2.145	28497.76	28497.76	28497.76	10.65		Si
SLV 13	2.49	-4466.63	-8557	-0.0000564	0.0005615	0.0035	2.145	9780.18	9780.18	9780.18	2.19		Si
SLV 13	4.39	1921.73	-15104	-0.0000523	0.0005615	0.0035	2.145	14111.46	14111.46	14111.46	7.34		Si
SLD 16	2.49	-7786.34	-16148	-0.000103	0.0005615	0.0035	2.145	16296.44	16296.44	16296.44	2.09		Si
SLD 16	4.39	2703.94	-24563	-0.0000846	0.0005615	0.0035	2.145	21048.66	21048.66	21048.66	7.78		Si
SLV 15	2.49	-8257.2	-15857	-0.0001086	0.0005615	0.0035	2.145	16068.08	16068.08	16068.08	1.95		Si
SLV 15	4.39	2939.99	-25380	-0.0000888	0.0005615	0.0035	2.145	21581.58	21581.58	21581.58	7.34		Si
SLD 15	2.49	-7167.58	-16285	-0.0000962	0.0005615	0.0035	2.145	16403.05	16403.05	16403.05	2.29		Si
SLD 15	4.39	2303.63	-23524	-0.0000786	0.0005615	0.0035	2.145	20376.52	20376.52	20376.52	8.85		Si
SLV 11	2.49	-11789.79	-27944	-0.0001708	0.0005615	0.0035	2.145	24546.7	24546.7	24546.7	2.08		Si
SLV 11	4.39	3166.39	-37293	-0.000127	0.0005615	0.0035	2.145	28128.31	28128.31	28128.31	8.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 74	2.49	-7742.72	-25744	-21437	-9284	2.145	2.145	-35693	10833	7644	38062	17985	5470	11466	Si	1.23	Si
SLU 74	4.39	1784.46	-30642	-25516	-9275	2.145	2.145	-42485	10833	8732	38062	17985	5470	13097	Si	1.41	Si
SLU 71	2.49	-7221.28	-23427	-19508	-8672	2.145	2.145	-32481	10833	7129	38062	17985	5470	10694	Si	1.23	Si
SLU 71	4.39	1617.06	-27884	-23220	-8664	2.145	2.145	-38661	10833	8119	38062	17985	5470	12179	Si	1.41	Si
SLU 81	2.49	-7806.15	-26110	-21742	-9391	2.145	2.145	-36200	10833	7725	38062	17985	5470	11588	Si	1.23	Si
SLU 81	4.39	1834.84	-31090	-25889	-9381	2.145	2.145	-43106	10833	8831	38062	17985	5470	13247	Si	1.41	Si
SLU 66	2.49	-7168.26	-23204	-19322	-8630	2.145	2.145	-32171	10833	7080	38062	17985	5470	10620	Si	1.23	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	4.39	1614.8	-27638	-23015	-8622	2.145	2.145	-38319	10833	8064	38062	17985	5470	12097	Si	1.4	Si
SLU 69	2.49	-7286.15	-23677	-19716	-8738	2.145	2.145	-32827	10833	7185	38062	17985	5470	10777	Si	1.23	Si
SLU 69	4.39	1627.09	-28181	-23467	-8730	2.145	2.145	-39072	10833	8185	38062	17985	5470	12278	Si	1.41	Si
SLU 83	2.49	-7924.04	-26583	-22136	-9499	2.145	2.145	-36856	10833	7830	38062	17985	5470	11745	Si	1.24	Si
SLU 83	4.39	1847.13	-31633	-26342	-9489	2.145	2.145	-43859	10833	8952	38062	17985	5470	13427	Si	1.42	Si
SLU 60	2.49	-6949.59	-22616	-18833	-8439	2.145	2.145	-31357	10833	6949	38062	17985	5470	10424	Si	1.24	Si
SLU 60	4.39	1611.59	-26972	-22460	-8431	2.145	2.145	-37396	10833	7917	38062	17985	5470	11875	Si	1.41	Si
SLU 64	2.49	-6985.49	-22481	-18720	-8456	2.145	2.145	-31169	10833	6919	38062	17985	5470	10379	Si	1.23	Si
SLU 64	4.39	1592.47	-26798	-22315	-8448	2.145	2.145	-37155	10833	7878	38062	17985	5470	11817	Si	1.4	Si
SLU 53	2.49	-6886.16	-22251	-18528	-8333	2.145	2.145	-30850	10833	6868	38062	17985	5470	10302	Si	1.24	Si
SLU 53	4.39	1561.21	-26524	-22087	-8325	2.145	2.145	-36775	10833	7817	38062	17985	5470	11726	Si	1.41	Si
SLU 48	2.49	-6429.59	-20183	-16807	-7786	2.145	2.145	-27984	10676	6412	38062	17985	5470	9618	Si	1.24	Si
SLU 48	4.39	1403.84	-24063	-20037	-7780	2.145	2.145	-33362	10833	7271	38062	17985	5470	10906	Si	1.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	2.49	-7786.34	-16148	-13446	-11657	2.145	1.7709	-27506	15918	7893	38062	26977	5470	32447		2.78	Si
SLD 16	4.39	2703.94	-24563	-20454	-11394	2.145	2.145	-34056	16250	9760	38062	26977	5470	32447		2.85	Si
SLV 15	2.49	-8257.2	-15857	-13204	-12786	2.145	1.6553	-28905	16198	7508	38062	26977	5470	32447		2.54	Si
SLV 15	4.39	2939.99	-25380	-21135	-12381	2.145	2.145	-35189	16250	9760	38062	26977	5470	32447		2.62	Si
SLV 8	2.49	-11544.1	-30891	-25723	-12935	2.145	2.0964	-44975	16250	9750	38062	26977	5470	32447		2.51	Si
SLV 8	4.39	2676.61	-38096	-31723	-12961	2.145	2.145	-52819	16250	11350	38062	26977	5470	32447		2.5	Si
SLV 7	2.49	-10891.42	-31035	-25843	-11669	2.145	2.145	-43029	16250	9783	38062	26977	5470	32447		2.78	Si
SLV 7	4.39	2254.35	-37000	-30811	-11696	2.145	2.145	-51300	16250	11107	38062	26977	5470	32447		2.77	Si
SLV 12	2.49	-12442.47	-27800	-23149	-15961	2.145	1.8748	-45264	16250	9064	38062	26977	5470	32447		2.03	Si
SLV 12	4.39	3588.65	-38389	-31967	-15762	2.145	2.145	-53225	16250	11415	38062	26977	5470	32447		2.06	Si
SLV 11	2.49	-11789.79	-27944	-23270	-14696	2.145	1.9518	-43656	16250	9096	38062	26977	5470	32447		2.21	Si
SLV 11	4.39	3166.39	-37293	-31055	-14497	2.145	2.145	-51706	16250	11172	38062	26977	5470	32447		2.24	Si
SLV 14	2.49	-5436.05	-8342	-6947	-10266	1.716	1.2627	0	0	0	38062	21582	4376	25957		2.53	Si
SLV 14	4.39	2548.91	-16731	-13932	-9909	2.145	2.145	-23197	15056	9043	38062	26977	5470	32447		3.27	Si
SLV 16	2.49	-9226.62	-15642	-13026	-14666	1.716	1.448	0	0	0	38062	21582	4376	25957		1.77	Si
SLV 16	4.39	3567.18	-27007	-22489	-14260	2.145	2.145	-37445	16250	9760	38062	26977	5470	32447		2.28	Si
SLD 11	2.49	-9339.39	-23852	-19862	-11597	2.145	2.0428	-35404	16250	9295	38062	26977	5470	32447		2.8	Si
SLD 11	4.39	2436.54	-30917	-25745	-11457	2.145	2.145	-42865	16250	9760	38062	26977	5470	32447		2.83	Si
SLD 12	2.49	-9747.96	-23762	-19787	-12389	2.145	1.9868	-36286	16250	9040	38062	26977	5470	32447		2.62	Si
SLD 12	4.39	2700.88	-31603	-26316	-12249	2.145	2.145	-43816	16250	9909	38062	26977	5470	32447		2.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.31	5517	-3314	169.88	447.17	2.63	Si
SLV 10	179667	0.31	6078	-3650	169.88	490.71	2.89	Si
SLV 5	179667	0.31	8631	-5184	169.88	684.71	4.03	Si
SLV 6	179667	0.31	9191	-5520	169.88	726.33	4.28	Si
SLV 13	179667	0.31	18685	-11222	169.88	1378.88	8.12	Si
SLV 14	179667	0.31	19517	-11722	169.88	1431.35	8.43	Si
SLV 1	179667	0.31	29063	-17455	169.88	1978.69	11.65	Si
SLV 2	179667	0.31	29896	-17955	169.88	2021.66	11.9	Si
SLV 15	179667	0.31	33201	-19941	169.88	2184.77	12.86	Si
SLV 16	179667	0.31	34034	-20441	169.88	2223.95	13.09	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 8	-31886	-25122	475	0.386	3534.8	0.975	5.76101	3.92562	Si
SLV 12	-31879	-22675	451	0.387	3534.1	0.975	5.77278	3.92562	Si
SLV 7	-31068	-25031	476	0.395	3451.6	0.974	5.89218	3.92562	Si
SLV 11	-31061	-22583	452	0.396	3450.8	0.974	5.90428	3.92562	Si
SLV 4	-22199	-20712	190	0.537	2548.5	0.966	8.08723	5.31498	Si
SLV 16	-22174	-12554	110	0.541	2546	0.966	8.14528	5.31498	Si
SLV 3	-20984	-20576	191	0.564	2424.9	0.964	8.49826	5.31498	Si
SLV 15	-20960	-12418	111	0.568	2422.3	0.964	8.55996	5.31498	Si
SLV 14	-13693	-6307	-158	0.811	1683.6	0.95	12.4061	5.31498	Si
SLV 2	-13718	-14465	-78	0.815	1686.2	0.95	12.46498	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.609	SLU 83	Si
V_SLU	1.227	SLU 64	Si
PF_SLV	1.723	SLV 16	Si
V_SLV	1.77	SLV 16	Si
PFFP_SLV	2.632	SLV 9	Si
R_SLV	1.468	SLV 8	Si



Maschio 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.543	-3.359	-24.678	-3.359	L4	L5	2.135	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε_fd	γ_F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 34	2.49	1259.2	-18159	-0.0000578	0.0003743	0.0035	2.135	13601.25	15233.58	15233.58	12.1	No	Si
SLU 34	4.39	-114.96	-17415	-0.0000468	0.0003743	0.0035	2.135	13270.96	16080.69	16080.69	139.88	No	Si
SLU 84	2.49	1375.15	-22254	-0.000071	0.0003743	0.0035	2.135	15069.75	17755.76	17755.76	12.91	No	Si
SLU 84	4.39	-136.61	-21152	-0.0000578	0.0003743	0.0035	2.135	14732.59	18045.04	18045.04	132.09	No	Si
SLU 82	2.49	1365.58	-21988	-0.0000701	0.0003743	0.0035	2.135	14992.36	17642.62	17642.62	12.92	No	Si
SLU 82	4.39	-135.92	-20868	-0.0000569	0.0003743	0.0035	2.135	14638.67	17914.54	17914.54	131.81	No	Si
SLU 42	2.49	1246.2	-18964	-0.0000601	0.0003743	0.0035	2.135	13936.11	15769.09	15769.09	12.65	No	Si
SLU 42	4.39	-237.86	-18384	-0.0000505	0.0003743	0.0035	2.135	13696.88	16686.83	16686.83	70.15	No	Si
SLU 40	2.49	1236.63	-18698	-0.0000592	0.0003743	0.0035	2.135	13828.08	15591.7	15591.7	12.61	No	Si
SLU 40	4.39	-237.17	-18099	-0.0000497	0.0003743	0.0035	2.135	13575.36	16507.65	16507.65	69.6	No	Si
SLU 13	2.49	1088.9	-15831	-0.0000497	0.0003743	0.0035	2.135	12503.92	13720.79	13720.79	12.6	No	Si
SLU 13	4.39	42.42	-14792	-0.0000388	0.0003743	0.0035	2.135	11952.6	13063.39	13063.39	307.97	No	Si
SLU 31	2.49	1249.63	-17894	-0.0000569	0.0003743	0.0035	2.135	13485.73	15057.87	15057.87	12.05	No	Si
SLU 31	4.39	-114.27	-17131	-0.0000459	0.0003743	0.0035	2.135	13139.78	15901.02	15901.02	139.15	No	Si
SLU 10	2.49	1079.33	-15566	-0.0000489	0.0003743	0.0035	2.135	12366.73	13551.85	13551.85	12.56	No	Si
SLU 10	4.39	43.11	-14508	-0.0000381	0.0003743	0.0035	2.135	11795.27	12885.81	12885.81	298.89	No	Si
SLU 73	2.49	1378.58	-21184	-0.0000678	0.0003743	0.0035	2.135	14742.82	17279.72	17279.72	12.53	No	Si
SLU 73	4.39	-13.01	-19899	-0.0000531	0.0003743	0.0035	2.135	14297.19	17479.68	17479.68	1343.11	No	Si
SLU 76	2.49	1388.15	-21449	-0.0000687	0.0003743	0.0035	2.135	14827.7	17408.68	17408.68	12.54	No	Si
SLU 76	4.39	-13.71	-20184	-0.0000539	0.0003743	0.0035	2.135	14400.77	17605.59	17605.59	1284.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	2.49	-2801.07	-14647	-0.0000579	0.0005615	0.0035	2.135		15000.25	15000.25	5.36		Si
SLV 14	4.39	2679.52	-8966	-0.0000417	0.0005615	0.0035	2.135		9094.15	9094.15	3.39		Si
SLV 13	2.49	-3793.63	-15559	-0.0000678	0.0005615	0.0035	2.135		15746.76	15746.76	4.15		Si
SLV 13	4.39	3481.75	-8271	-0.0000461	0.0005615	0.0035	2.135		8460.5	8460.5	2.43		Si
SLD 8	2.49	2117.77	-7408	-0.0000335	0.0005615	0.0035	2.135		7654.73	7654.73	3.61		Si
SLD 8	4.39	-1926.58	-11046	-0.0000418	0.0005615	0.0035	2.135		11963.8	11963.8	6.21		Si
SLV 4	2.49	5256.38	-14116	-0.0000748	0.0005615	0.0035	2.135		13228.24	13228.24	2.52		Si
SLV 4	4.39	-3372.73	-18979	-0.0000742	0.0005615	0.0035	2.135		18380.69	18380.69	5.45		Si
SLV 8	2.49	2890.85	-2831	-0.0002233	0.0005615	0.0035	2.135		3186.98	3186.98	1.1		Si
SLV 8	4.39	-3125.72	-9372	-0.000046	0.0005615	0.0035	2.135		10467.14	10467.14	3.35		Si
SLV 7	2.49	2222.59	-3445	-0.000029	0.0005615	0.0035	2.135		3806.31	3806.31	1.71		Si
SLV 7	4.39	-2585.61	-8904	-0.0000408	0.0005615	0.0035	2.135		10051.03	10051.03	3.89		Si
SLV 12	2.49	595.6	-692	-0.0000118	0.0005615	0.0035	2.135		982.59	982.59	1.65		Si
SLV 12	4.39	-1706.11	-5184	-0.0000249	0.0005615	0.0035	2.135		6538.83	6538.83	3.83		Si
SLV 16	2.49	-2394.44	-6986	-0.0000344	0.0005615	0.0035	2.135		8267.11	8267.11	3.45		Si
SLV 16	4.39	1359.3	-5018	-0.000022	0.0005615	0.0035	2.135		5364.12	5364.12	3.95		Si
SLV 15	2.49	-3387	-7897	-0.0000444	0.0005615	0.0035	2.135		9117.71	9117.71	2.69		Si
SLV 15	4.39	2161.53	-4323	-0.000027	0.0005615	0.0035	2.135		4682.48	4682.48	2.17		Si
SLV 3	2.49	4263.82	-15027	-0.0000698	0.0005615	0.0035	2.135		13974.77	13974.77	3.28		Si
SLV 3	4.39	-2570.51	-18284	-0.0000662	0.0005615	0.0035	2.135		17869.31	17869.31	6.95		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	2.49	1095.63	-18944	-15775	1658	2.135	2.135	-26389	10463	6255	38062	17901	5444	9382	Si	5.66	Si
SLU 41	4.39	-291.31	-18377	-15303	1602	2.135	2.135	-25599	10358	6192	38062	17901	5444	9288	Si	5.8	Si
SLU 39	2.49	1086.05	-18679	-15554	1641	2.135	2.135	-26019	10414	6225	38062	17901	5444	9338	Si	5.69	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	4.39	-290.62	-18093	-15066	1587	2.135	2.135	-25203	10305	6160	38062	17901	5444	9240	Si	5.82	Si
SLU 81	2.49	1215	-21969	-18294	1714	2.135	2.135	-30602	10833	6797	38062	17901	5444	10195	Si	5.95	Si
SLU 81	4.39	-189.37	-20862	-17372	1649	2.135	2.135	-29060	10819	6551	38062	17901	5444	9826	Si	5.96	Si
SLU 34	2.49	1259.2	-18159	-15122	1560	2.135	2.135	-25295	10317	6168	38062	17901	5444	9251	Si	5.93	Si
SLU 34	4.39	-114.96	-17415	-14501	1487	2.135	2.135	-24258	10179	6085	38062	17901	5444	9127	Si	6.14	Si
SLU 83	2.49	1224.58	-22234	-18515	1730	2.135	2.135	-30972	10833	6856	38062	17901	5444	10283	Si	5.94	Si
SLU 83	4.39	-190.06	-21146	-17609	1665	2.135	2.135	-29456	10833	6614	38062	17901	5444	9921	Si	5.96	Si
SLU 42	2.49	1246.2	-18964	-15791	1708	2.135	2.135	-26416	10467	6257	38062	17901	5444	9385	Si	5.5	Si
SLU 42	4.39	-237.86	-18384	-15308	1640	2.135	2.135	-25608	10359	6192	38062	17901	5444	9289	Si	5.66	Si
SLU 31	2.49	1249.63	-17894	-14900	1543	2.135	2.135	-24926	10268	6138	38062	17901	5444	9207	Si	5.97	Si
SLU 31	4.39	-114.27	-17131	-14265	1471	2.135	2.135	-23862	10126	6053	38062	17901	5444	9080	Si	6.17	Si
SLU 84	2.49	1375.15	-22254	-18531	1780	2.135	2.135	-30998	10833	6860	38062	17901	5444	10290	Si	5.78	Si
SLU 84	4.39	-136.61	-21152	-17614	1703	2.135	2.135	-29464	10833	6615	38062	17901	5444	9923	Si	5.83	Si
SLU 40	2.49	1236.63	-18698	-15570	1691	2.135	2.135	-26046	10417	6227	38062	17901	5444	9341	Si	5.52	Si
SLU 40	4.39	-237.17	-18099	-15072	1625	2.135	2.135	-25212	10306	6161	38062	17901	5444	9241	Si	5.69	Si
SLU 82	2.49	1365.58	-21988	-18310	1764	2.135	2.135	-30629	10833	6801	38062	17901	5444	10201	Si	5.78	Si
SLU 82	4.39	-135.92	-20868	-17377	1687	2.135	2.135	-29069	10820	6552	38062	17901	5444	9828	Si	5.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	2.49	2890.85	-2831	-2357	8032	2.135	0.1388	-55213	16250	3506	38062	26851	5444	32295		4.02	Si
SLV 8	4.39	-3125.72	-9372	-7804	8135	2.135	2.135	-13055	13028	7788	38062	26851	5444	32295		3.97	Si
SLV 14	2.49	-2801.07	-14647	-12197	-5213	2.135	2.135	-20403	14497	8666	38062	26851	5444	32295		6.2	Si
SLV 14	4.39	2679.52	-8966	-7466	-4925	2.135	2.135	-12490	12915	7720	38062	26851	5444	32295		6.56	Si
SLD 8	2.49	2117.77	-7408	-6169	5363	2.135	2.135	-10319	12481	7461	38062	26851	5444	32295		6.02	Si
SLD 8	4.39	-1926.58	-11046	-9198	5417	2.135	2.135	-15387	13494	8067	38062	26851	5444	32295		5.96	Si
SLV 3	2.49	4263.82	-15027	-12514	6999	2.135	2.135	-20933	14603	8730	38062	26851	5444	32295		4.61	Si
SLV 3	4.39	-2570.51	-18284	-15225	6624	2.135	2.135	-25469	15510	9272	38062	26851	5444	32295		4.88	Si
SLV 9	2.49	-1428.1	-26844	-22353	-6246	2.135	2.135	-37392	16250	9714	38062	26851	5444	32295		5.17	Si
SLV 9	4.39	3234.73	-17878	-14888	-6436	2.135	2.135	-24904	15397	9205	38062	26851	5444	32295		5.02	Si
SLV 2	2.49	4849.75	-21777	-18134	5939	2.135	2.135	-30335	16250	9714	38062	26851	5444	32295		5.44	Si
SLV 2	4.39	-2052.51	-22928	-19092	5403	2.135	2.135	-31937	16250	9714	38062	26851	5444	32295		5.98	Si
SLV 13	2.49	-3793.63	-15559	-12956	-7059	2.135	2.135	-21673	14751	8818	38062	26851	5444	32295		4.57	Si
SLV 13	4.39	3481.75	-8271	-6888	-6772	2.135	1.9397	-11522	12721	6909	38062	26851	5444	32295		4.77	Si
SLV 4	2.49	5256.38	-14116	-11754	8845	2.135	2.0854	-19663	14349	8379	38062	26851	5444	32295		3.65	Si
SLV 4	4.39	-3372.73	-18979	-15804	8471	2.135	2.135	-26437	15704	9388	38062	26851	5444	32295		3.81	Si
SLD 4	2.49	3620.22	-14448	-12031	5944	2.135	2.135	-20125	14442	8633	38062	26851	5444	32295		5.43	Si
SLD 4	4.39	-2129.32	-17063	-14209	5691	2.135	2.135	-23768	15170	9069	38062	26851	5444	32295		5.68	Si
SLV 7	2.49	2222.59	-3445	-2868	6789	2.135	1.2668	-4798	11376	4035	38062	26851	5444	32295		4.76	Si
SLV 7	4.39	-2585.61	-8904	-7415	6891	2.135	2.135	-12403	12897	7710	38062	26851	5444	32295		4.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.31	4083	-2441	169.09	332.57	1.97	Si
SLV 11	179667	0.31	4395	-2627	169.09	357.24	2.11	Si
SLV 8	179667	0.31	8765	-5240	169.09	691.46	4.09	Si
SLV 7	179667	0.31	9077	-5426	169.09	714.54	4.23	Si
SLV 16	179667	0.31	10607	-6341	169.09	826.05	4.89	Si
SLV 15	179667	0.31	11071	-6618	169.09	859.35	5.08	Si
SLV 14	179667	0.31	20946	-12521	169.09	1512.57	8.95	Si
SLV 13	179667	0.31	21410	-12799	169.09	1540.62	9.11	Si
SLV 4	179667	0.31	26214	-15671	169.09	1817.33	10.75	Si
SLV 3	179667	0.31	26678	-15948	169.09	1842.69	10.9	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 2	-19343	-22508	-87	0.607	2256.6	0.962	9.16735	5.31498	Si
SLV 1	-19069	-22989	-86	0.614	2228.7	0.962	9.28387	5.31498	Si
SLV 4	-15307	-15182	152	0.736	1846.2	0.954	11.21047	5.31498	Si
SLV 3	-15033	-15663	152	0.747	1818.3	0.954	11.38949	5.31498	Si
SLV 6	-20601	-27613	-394	0.561	2384.5	0.964	8.46498	3.92562	Si
SLV 5	-20417	-27937	-393	0.566	2365.8	0.964	8.53254	3.92562	Si
SLV 10	-17682	-24597	-418	0.638	2087.5	0.959	9.66661	3.92562	Si
SLV 9	-17497	-24921	-418	0.644	2068.8	0.959	9.75655	3.92562	Si
SLV 14	-9611	-12452	-168	1.081	1268.4	0.937	16.7631	5.31498	Si
SLV 13	-9337	-12933	-168	1.106	1240.7	0.936	17.18059	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.05	SLU 31	Si
V_SLU	5.496	SLU 42	Si
PF_SLV	1.102	SLV 8	Si
V_SLV	3.651	SLV 4	Si
PFFP_SLV	1.967	SLV 12	Si
R_SLV	1.725	SLV 2	Si



Maschio 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.368	-3.359	-21.543	-3.359	L4	L5	2.175	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 80	3.59	-6866.82	-27197	-0.0001307	0.0003743	0.0035	2.175	16603.18	21306.93	21306.93	3.1	No	Si
SLU 80	4.39	1458.59	-26085	-0.0000817	0.0003743	0.0035	2.175	16433.02	19963.15	19963.15	13.69	No	Si
SLU 82	3.59	-6940.18	-27652	-0.000133	0.0003743	0.0035	2.175	16660.3	21456.11	21456.11	3.09	No	Si
SLU 82	4.39	1424.96	-26540	-0.0000829	0.0003743	0.0035	2.175	16507.91	20170.39	20170.39	14.16	No	Si
SLU 84	3.59	-7025.12	-28020	-0.0001351	0.0003743	0.0035	2.175	16701.1	21578.37	21578.37	3.07	No	Si
SLU 84	4.39	1437.56	-26907	-0.0000842	0.0003743	0.0035	2.175	16563.05	20338.91	20338.91	14.15	No	Si
SLU 68	3.59	-6315.52	-24017	-0.0001148	0.0003743	0.0035	2.175	16001.51	19916.15	19916.15	3.15	No	Si
SLU 68	4.39	1483.14	-22905	-0.0000722	0.0003743	0.0035	2.175	15707.29	18535.99	18535.99	12.5	No	Si
SLU 76	3.59	-6883.1	-26794	-0.0001294	0.0003743	0.0035	2.175	16546.61	21175.05	21175.05	3.08	No	Si
SLU 76	4.39	1463.5	-25682	-0.0000805	0.0003743	0.0035	2.175	16360.74	19779.18	19779.18	13.51	No	Si
SLU 73	3.59	-6798.15	-26427	-0.0001274	0.0003743	0.0035	2.175	16490.01	21049.17	21049.17	3.1	No	Si
SLU 73	4.39	1450.89	-25315	-0.0000793	0.0003743	0.0035	2.175	16289.81	19611.01	19611.01	13.52	No	Si
SLU 83	3.59	-6873.29	-28072	-0.000134	0.0003743	0.0035	2.175	16706.57	21596.04	21596.04	3.14	No	Si
SLU 83	4.39	1411.29	-26960	-0.0000841	0.0003743	0.0035	2.175	16570.57	20363.18	20363.18	14.43	No	Si
SLU 75	3.59	-6830.34	-27043	-0.0001298	0.0003743	0.0035	2.175	16582.19	21256.23	21256.23	3.11	No	Si
SLU 75	4.39	1446.64	-25930	-0.0000812	0.0003743	0.0035	2.175	16406.01	19893.37	19893.37	13.75	No	Si
SLU 78	3.59	-6915.28	-27410	-0.0001319	0.0003743	0.0035	2.175	16630.85	21376.5	21376.5	3.09	No	Si
SLU 78	4.39	1459.24	-26298	-0.0000824	0.0003743	0.0035	2.175	16469.01	20060.03	20060.03	13.75	No	Si
SLU 77	3.59	-6763.45	-27463	-0.0001308	0.0003743	0.0035	2.175	16637.44	21393.78	21393.78	3.16	No	Si
SLU 77	4.39	1432.97	-26351	-0.0000824	0.0003743	0.0035	2.175	16477.66	20084.03	20084.03	14.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 16	3.59	-4853.71	-13495	-0.0000679	0.0005615	0.0035	2.175		14344.25	14344.25	2.96		Si
SLV 16	4.39	3771.72	-12902	-0.0000586	0.0005615	0.0035	2.175		12517.27	12517.27	3.32		Si
SLV 14	3.59	-6868.83	-20519	-0.0001025	0.0005615	0.0035	2.175		19943.89	19943.89	2.9		Si
SLV 14	4.39	5009.66	-19637	-0.0000862	0.0005615	0.0035	2.175		18188.85	18188.85	3.63		Si
SLD 15	3.59	-5134.18	-15780	-0.0000762	0.0005615	0.0035	2.175		16255.94	16255.94	3.17		Si
SLD 15	4.39	3557.04	-15088	-0.0000663	0.0005615	0.0035	2.175		14321.2	14321.2	4.03		Si
SLV 8	3.59	-590.96	-6619	-0.0000202	0.0005615	0.0035	2.175		8076.58	8076.58	13.67		Si
SLV 8	4.39	-2555.97	-6217	-0.0000328	0.0005615	0.0035	2.175		7683.85	7683.85	3.01		Si
SLV 15	3.59	-5407.04	-14283	-0.0000741	0.0005615	0.0035	2.175		15004.08	15004.08	2.77		Si
SLV 15	4.39	4952.04	-13691	-0.0000691	0.0005615	0.0035	2.175		13163.96	13163.96	2.66		Si
SLD 14	3.59	-6018	-19643	-0.0000936	0.0005615	0.0035	2.175		19280.63	19280.63	3.2		Si
SLD 14	4.39	3573.12	-18767	-0.0000732	0.0005615	0.0035	2.175		17437.34	17437.34	4.88		Si
SLV 13	3.59	-7422.16	-21308	-0.000109	0.0005615	0.0035	2.175		20517.52	20517.52	2.76		Si
SLV 13	4.39	6189.99	-20426	-0.0000972	0.0005615	0.0035	2.175		18745.76	18745.76	3.03		Si
SLV 9	3.59	-8604.65	-30015	-0.0001451	0.0005615	0.0035	2.175		26056.56	26056.56	3.03		Si
SLV 9	4.39	4708.06	-28715	-0.0001105	0.0005615	0.0035	2.175		24182.27	24182.27	5.14		Si
SLV 10	3.59	-8232.11	-29484	-0.0001405	0.0005615	0.0035	2.175		25806.44	25806.44	3.13		Si
SLV 10	4.39	3913.39	-28184	-0.0001028	0.0005615	0.0035	2.175		23824.2	23824.2	6.09		Si
SLD 13	3.59	-6371.18	-20147	-0.0000977	0.0005615	0.0035	2.175		19664.52	19664.52	3.09		Si
SLD 13	4.39	4326.5	-19270	-0.0000801	0.0005615	0.0035	2.175		17871.76	17871.76	4.13		Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	3.59	-6883.1	-26794	-22312	-10429	2.175	2.175	-36637	10833	7904	38062	18236	5546	11856	Si	1.14	Si
SLU 76	4.39	1463.5	-25682	-21386	-10429	2.175	2.175	-35116	10833	7657	38062	18236	5546	11486	Si	1.1	Si
SLU 65	3.59	-6230.57	-23650	-19694	-9622	2.175	2.175	-32338	10833	7206	38062	18236	5546	10809	Si	1.12	Si
SLU 65	4.39	1470.53	-22538	-18767	-9622	2.175	2.175	-30817	10833	6959	38062	18236	5546	10438	Si	1.08	Si
SLU 73	3.59	-6798.15	-26427	-22006	-10307	2.175	2.175	-36135	10833	7823	38062	18236	5546	11734	Si	1.14	Si
SLU 73	4.39	1450.89	-25315	-21080	-10307	2.175	2.175	-34614	10833	7576	38062	18236	5546	11363	Si	1.1	Si
SLU 52	3.59	-6058.98	-23077	-19217	-9290	2.175	2.175	-31555	10833	7079	38062	18236	5546	10618	Si	1.14	Si
SLU 52	4.39	1378.85	-21988	-18309	-9290	2.175	2.175	-30065	10833	6837	38062	18236	5546	10255	Si	1.1	Si
SLU 68	3.59	-6315.52	-24017	-20000	-9744	2.175	2.175	-32840	10833	7287	38062	18236	5546	10931	Si	1.12	Si
SLU 68	4.39	1483.14	-22905	-19073	-9744	2.175	2.175	-31319	10833	7040	38062	18236	5546	10561	Si	1.08	Si
SLU 70	3.59	-6347.7	-24633	-20512	-9779	2.175	2.175	-33682	10833	7424	38062	18236	5546	11136	Si	1.14	Si
SLU 70	4.39	1478.88	-23521	-19586	-9779	2.175	2.175	-32161	10833	7177	38062	18236	5546	10766	Si	1.1	Si
SLU 67	3.59	-6262.76	-24266	-20206	-9657	2.175	2.175	-33180	10833	7343	38062	18236	5546	11014	Si	1.14	Si
SLU 67	4.39	1466.28	-23153	-19280	-9657	2.175	2.175	-31659	10833	7096	38062	18236	5546	10643	Si	1.1	Si
SLU 47	3.59	-5576.34	-20668	-17210	-8727	2.175	2.175	-28260	10712	6544	38062	18236	5546	9816	Si	1.12	Si
SLU 47	4.39	1411.09	-19578	-16303	-8727	2.175	2.175	-26770	10514	6403	38062	18236	5546	9604	Si	1.1	Si
SLU 72	3.59	-6299.24	-24420	-20335	-9718	2.175	2.175	-33391	10833	7377	38062	18236	5546	11065	Si	1.14	Si
SLU 72	4.39	1478.23	-23308	-19409	-9718	2.175	2.175	-31870	10833	7130	38062	18236	5546	10695	Si	1.1	Si
SLU 55	3.59	-6143.92	-23445	-19523	-9412	2.175	2.175	-32057	10833	7160	38062	18236	5546	10741	Si	1.14	Si
SLU 55	4.39	1391.45	-22355	-18615	-9412	2.175	2.175	-30567	10833	6918	38062	18236	5546	10378	Si	1.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	3.59	-8604.65	-30015	-24994	-17139	2.175	2.175	-41041	16250	9896	38062	27354	5546	32901		1.92	Si
SLV 9	4.39	4708.06	-28715	-23912	-17114	2.175	2.175	-39264	16250	9896	38062	27354	5546	32901		1.92	Si
SLD 9	3.59	-7069.57	-25579	-21300	-13349	2.175	2.175	-34976	16250	9896	38062	27354	5546	32901		2.46	Si
SLD 9	4.39	3353.92	-24441	-20352	-13336	2.175	2.175	-33419	16250	9896	38062	27354	5546	32901		2.47	Si
SLD 10	3.59	-6836.36	-25247	-21023	-12436	2.175	2.175	-34521	16250	9896	38062	27354	5546	32901		2.65	Si
SLD 10	4.39	2856.46	-24108	-20075	-12423	2.175	2.175	-32965	16250	9896	38062	27354	5546	32901		2.65	Si
SLV 13	3.59	-7422.16	-21308	-17743	-17118	2.175	2.175	-29135	16244	9892	38062	27354	5546	32901		1.92	Si
SLV 13	4.39	6189.99	-20426	-17009	-17040	2.175	2.175	-27929	16002	9745	38062	27354	5546	32901		1.93	Si
SLV 10	3.59	-8232.11	-29484	-24552	-15680	2.175	2.175	-40315	16250	9896	38062	27354	5546	32901		2.1	Si
SLV 10	4.39	3913.39	-28184	-23470	-15655	2.175	2.175	-38538	16250	9896	38062	27354	5546	32901		2.1	Si
SLD 14	3.59	-6018	-19643	-16357	-12060	2.175	2.175	-26859	15788	9615	38062	27354	5546	32901		2.73	Si
SLD 14	4.39	3573.12	-18767	-15627	-12010	2.175	2.175	-25661	15549	9469	38062	27354	5546	32901		2.74	Si
SLV 5	3.59	-7680.57	-30565	-25452	-13083	2.175	2.175	-41793	16250	9896	38062	27354	5546	32901		2.51	Si
SLV 5	4.39	2365.17	-29197	-24313	-13106	2.175	2.175	-39922	16250	9896	38062	27354	5546	32901		2.51	Si
SLV 15	3.59	-5407.04	-14283	-11894	-12743	2.175	2.1268	-19530	14323	8529	38062	27354	5546	32901		2.58	Si
SLV 15	4.39	4952.04	-13691	-11401	-12665	2.175	2.175	-18720	14161	8624	38062	27354	5546	32901		2.6	Si
SLD 13	3.59	-6371.18	-20147	-16776	-13443	2.175	2.175	-27547	15926	9699	38062	27354	5546	32901		2.45	Si
SLD 13	4.39	4326.5	-19270	-16047	-13394	2.175	2.175	-26349	15686	9553	38062	27354	5546	32901		2.46	Si
SLV 14	3.59	-6868.83	-20519	-17086	-14951	2.175	2.175	-28056	16028	9761	38062	27354	5546	32901		2.2	Si
SLV 14	4.39	5009.66	-19637	-16352	-14873	2.175	2.175	-26850	15787	9614	38062	27354	5546	32901		2.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.31	8680	-5286	172.25	698	4.05	Si
SLV 11	179667	0.31	9093	-5538	172.25	729.11	4.23	Si
SLV 8	179667	0.31	10638	-6479	172.25	843.84	4.9	Si
SLV 7	179667	0.31	11051	-6730	172.25	874.05	5.07	Si
SLV 16	179667	0.31	17282	-10525	172.25	1306.75	7.59	Si
SLV 15	179667	0.31	17896	-10899	172.25	1347	7.82	Si
SLV 4	179667	0.31	23810	-14500	172.25	1713.54	9.95	Si
SLV 3	179667	0.31	24423	-14874	172.25	1749.32	10.16	Si
SLV 14	179667	0.31	26700	-16260	172.25	1878.45	10.91	Si
SLV 13	179667	0.31	27313	-16634	172.25	1912.25	11.1	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 1	-18844	-14844	-188	0.626	2211.2	0.961	9.46414	5.31498	Si
SLV 2	-18451	-14900	-187	0.637	2171.3	0.96	9.64174	5.31498	Si
SLV 5	-23349	-17050	-558	0.506	2669.5	0.967	7.61279	3.92562	Si
SLV 6	-23085	-17087	-558	0.511	2642.7	0.967	7.68948	3.92562	Si
SLV 9	-22314	-15050	-553	0.527	2564.2	0.966	7.92555	3.92562	Si
SLV 10	-22049	-15088	-553	0.532	2537.3	0.965	8.0092	3.92562	Si
SLV 13	-15393	-8179	-172	0.743	1860.4	0.954	11.32399	5.31498	Si
SLV 14	-15001	-8235	-171	0.76	1820.5	0.953	11.58398	5.31498	Si
SLV 3	-13892	-10961	134	0.813	1707.9	0.95	12.42583	5.31498	Si
SLV 4	-13500	-11017	135	0.832	1668.1	0.949	12.74048	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.072	SLU 84	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.084	SLU 68	Si
PF_SLV	2.658	SLV 15	Si
V_SLV	1.92	SLV 9	Si
PFFP_SLV	4.052	SLV 12	Si
R_SLV	1.781	SLV 1	Si

Maschio 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.046	-19.618	5.811	L4	L5	4.765	0.14	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	1.59	13251.47	-69311	-0.0001846	0.0004492	0.0035	4.7652	24721.67	113320.8	37082.51	2.8	Si	Si
SLU 81	5	-1764.97	-44591	-0.0000918	0.0004492	0.0035	4.7652	48123.58	95032.22	72185.36	40.9	Si	Si
SLU 83	1.59	13489.02	-70371	-0.0001882	0.0004492	0.0035	4.7652	22919.72	114298.59	34379.58	2.55	Si	Si
SLU 83	5	-1775.36	-45408	-0.0000936	0.0004492	0.0035	4.7652	47920.94	96169.02	71881.41	40.49	Si	Si
SLU 77	1.59	13361.52	-69500	-0.0001854	0.0004492	0.0035	4.7652	24404.46	113495.54	36606.69	2.74	Si	Si
SLU 77	5	-1648.08	-44955	-0.0000923	0.0004492	0.0035	4.7652	48038.08	95538.89	72057.12	43.72	Si	Si
SLU 80	1.59	13160.62	-68475	-0.0001821	0.0004492	0.0035	4.7652	26096.39	112549.71	39144.58	2.97	Si	Si
SLU 80	5	-1662.3	-44335	-0.000091	0.0004492	0.0035	4.7652	48179.01	94676.2	72268.52	43.48	Si	Si
SLU 75	1.59	13042.62	-67984	-0.0001804	0.0004492	0.0035	4.7652	26884.95	112096.72	40327.42	3.09	Si	Si
SLU 75	5	-1658.62	-43933	-0.0000901	0.0004492	0.0035	4.7652	48258.4	94116.72	72387.59	43.64	Si	Si
SLU 74	1.59	13123.97	-68441	-0.0001818	0.0004492	0.0035	4.7652	26152.48	112517.75	39228.73	2.99	Si	Si
SLU 74	5	-1637.69	-44138	-0.0000905	0.0004492	0.0035	4.7652	48219.09	94402.09	72328.63	44.17	Si	Si
SLU 79	1.59	13241.98	-68932	-0.0001835	0.0004492	0.0035	4.7652	25350.82	112970.74	38026.23	2.87	Si	Si
SLU 79	5	-1641.36	-44540	-0.0000913	0.0004492	0.0035	4.7652	48134.88	94961.56	72202.32	43.99	Si	Si
SLU 82	1.59	13170.11	-68855	-0.0001831	0.0004492	0.0035	4.7652	25477.36	112899.77	38216.04	2.9	Si	Si
SLU 82	5	-1785.9	-44386	-0.0000914	0.0004492	0.0035	4.7652	48168.32	94746.85	72252.47	40.46	Si	Si
SLU 78	1.59	13280.17	-69044	-0.000184	0.0004492	0.0035	4.7652	25165.2	113074.51	37747.79	2.84	Si	Si
SLU 78	5	-1669.02	-44750	-0.0000919	0.0004492	0.0035	4.7652	48087.19	95253.53	72130.78	43.22	Si	Si
SLU 84	1.59	13407.66	-69915	-0.0001867	0.0004492	0.0035	4.7652	23703.68	113877.56	35555.52	2.65	Si	Si
SLU 84	5	-1796.3	-45203	-0.0000932	0.0004492	0.0035	4.7652	47975.47	95883.66	71963.21	40.06	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	1.59	15104.38	-71122	-0.000182	0.0006738	0.0035	4.7652		125105.24	125105.24	8.28		Si
SLV 12	5	2634.8	-41344	-0.0000847	0.0006738	0.0035	4.7652		83119.04	83119.04	31.55		Si
SLV 13	1.59	7953.91	-25916	-0.0000672	0.0006738	0.0035	4.7652		56368.98	56368.98	7.09		Si
SLV 13	5	1048.59	-19779	-0.0000389	0.0006738	0.0035	4.7652		45140.8	45140.8	43.05		Si
SLD 15	1.59	10622.9	-43839	-0.0001101	0.0006738	0.0035	4.7652		87445.25	87445.25	8.23		Si
SLD 15	5	1301.52	-28340	-0.0000558	0.0006738	0.0035	4.7652		60572.84	60572.84	46.54		Si
SLV 16	1.59	11149.58	-43519	-0.0001108	0.0006738	0.0035	4.7652		86889.88	86889.88	7.79		Si
SLV 16	5	2929.86	-28167	-0.0000594	0.0006738	0.0035	4.7652		60272.41	60272.41	20.57		Si
SLV 14	1.59	7443.7	-26964	-0.0000681	0.0006738	0.0035	4.7652		58187.04	58187.04	7.82		Si
SLV 14	5	1334.65	-20356	-0.0000406	0.0006738	0.0035	4.7652		46292.17	46292.17	34.68		Si
SLD 16	1.59	10297.24	-44509	-0.0001106	0.0006738	0.0035	4.7652		88605.68	88605.68	8.6		Si
SLD 16	5	1484.1	-28708	-0.000057	0.0006738	0.0035	4.7652		61210.58	61210.58	41.24		Si
SLD 13	1.59	8342.1	-33604	-0.0000834	0.0006738	0.0035	4.7652		69699.19	69699.19	8.36		Si
SLD 13	5	324.39	-23510	-0.0000442	0.0006738	0.0035	4.7652		52197.33	52197.33	160.91		Si
SLV 11	1.59	15447.89	-70416	-0.0001814	0.0006738	0.0035	4.7652		124432.27	124432.27	8.05		Si
SLV 11	5	2442.2	-40956	-0.0000835	0.0006738	0.0035	4.7652		82446.34	82446.34	33.76		Si
SLV 15	1.59	11659.8	-42471	-0.0001099	0.0006738	0.0035	4.7652		85071.82	85071.82	7.3		Si
SLV 15	5	2643.8	-27591	-0.0000576	0.0006738	0.0035	4.7652		59273.24	59273.24	22.42		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 11	1.59	12938.87	-61317	-0.0001538	0.0006738	0.0035	4.7652		112199.55	112199.55	8.67		Si
SLD 11	5	1122.59	-36701	-0.0000717	0.0006738	0.0035	4.7652		75068.98	75068.98	66.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	1.59	11738.11	-61280	-33977	-7617	4.7652	4.7652	-50931	10833	17444	108749	23975	24302	26166	Si	3.44	Si
SLU 68	5	-1328.95	-39450	-21873	-5803	4.7652	4.7652	-32788	10833	12603	108749	23975	24302	18904	Si	3.26	Si
SLU 52	1.59	10956.68	-57994	-32155	-7498	4.7652	4.7652	-48200	10833	16715	108749	23975	24302	25073	Si	3.34	Si
SLU 52	5	-1384.85	-37145	-20595	-5773	4.7652	4.7652	-30872	10833	12092	108749	23975	24302	18137	Si	3.14	Si
SLU 65	1.59	11500.56	-60220	-33389	-7576	4.7652	4.7652	-50050	10833	17209	108749	23975	24302	25813	Si	3.41	Si
SLU 65	5	-1318.56	-38633	-21420	-5799	4.7652	4.7652	-32108	10833	12422	108749	23975	24302	18632	Si	3.21	Si
SLU 47	1.59	10063.51	-53222	-29509	-7229	4.7652	4.7652	-44234	10833	15657	108749	23975	24302	23486	Si	3.25	Si
SLU 47	5	-1058.33	-34030	-18868	-5678	4.7652	4.7652	-28283	10833	11401	108749	23975	24302	17101	Si	3.01	Si
SLU 49	1.59	10474.85	-55155	-30581	-7025	4.7652	4.7652	-45840	10833	16086	108749	23975	24302	24129	Si	3.43	Si
SLU 49	5	-1061.48	-35399	-19627	-5427	4.7652	4.7652	-29421	10833	11704	108749	23975	24302	17557	Si	3.24	Si
SLU 2	1.59	7968.79	-42075	-23328	-5792	4.7652	4.7652	-34969	10833	13185	108749	23975	24302	19777	Si	3.41	Si
SLU 2	5	-885.53	-26899	-14914	-4555	4.7652	4.7652	-22356	10833	9819	108749	23975	24302	14729	Si	3.23	Si
SLU 44	1.59	9825.96	-52162	-28922	-7188	4.7652	4.7652	-43353	10833	15422	108749	23975	24302	23133	Si	3.22	Si
SLU 44	5	-1047.93	-33213	-18415	-5674	4.7652	4.7652	-27604	10833	11220	108749	23975	24302	16829	Si	2.97	Si
SLU 51	1.59	10355.53	-54586	-30266	-6991	4.7652	4.7652	-45368	10833	15960	108749	23975	24302	23939	Si	3.42	Si
SLU 51	5	-1054.76	-34984	-19397	-5409	4.7652	4.7652	-29076	10833	11612	108749	23975	24302	17419	Si	3.22	Si
SLU 46	1.59	10237.29	-54095	-29993	-6985	4.7652	4.7652	-44960	10833	15851	108749	23975	24302	23776	Si	3.4	Si
SLU 46	5	-1051.09	-34582	-19174	-5423	4.7652	4.7652	-28742	10833	11523	108749	23975	24302	17285	Si	3.19	Si
SLU 55	1.59	11194.23	-59054	-32743	-7538	4.7652	4.7652	-49080	10833	16950	108749	23975	24302	25425	Si	3.37	Si
SLU 55	5	-1395.24	-37962	-21048	-5776	4.7652	4.7652	-31551	10833	12273	108749	23975	24302	18409	Si	3.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	1.59	5336.23	-27200	-15081	-19232	4.7652	4.7652	-22606	16250	11813	108749	35962	24302	60264		3.13	Si
SLD 9	5	-2134.51	-20599	-11421	-17263	4.7652	4.7652	-17120	15924	10623	108749	35962	24302	60264		3.49	Si
SLV 8	1.59	14716.88	-78373	-43455	-17235	4.7652	4.7652	-65137	16250	23162	108749	35962	24302	60264		3.5	Si
SLV 8	5	826.73	-44908	-24899	17607	4.7652	4.7652	-37324	16250	15740	108749	35962	24302	60264		3.42	Si
SLD 6	1.59	4872.94	-32290	-17903	-18644	4.7652	4.7652	-26836	16250	12942	108749	35962	24302	60264		3.23	Si
SLD 6	5	-3171.02	-23124	-12821	-16402	4.7652	4.7652	-19219	16250	10909	108749	35962	24302	60264		3.67	Si
SLV 6	1.59	2363.92	-23191	-12858	-26894	4.7652	4.7652	-19274	16250	10924	108749	35962	24302	60264		2.24	Si
SLV 6	5	-4490.64	-18869	-10462	-24123	4.7652	4.7652	-15682	15636	10431	108749	35962	24302	60264		2.5	Si
SLV 10	1.59	2751.43	-15939	-8838	-27046	4.7652	4.7652	-13248	15150	10107	108749	35962	24302	60264		2.23	Si
SLV 10	5	-2682.57	-15305	-8486	-24862	4.7652	4.7652	-12721	15044	10036	108749	35962	24302	60264		2.42	Si
SLD 10	1.59	5121.2	-27642	-15326	-18743	4.7652	4.7652	-22973	16250	11911	108749	35962	24302	60264		3.22	Si
SLD 10	5	-2013.94	-20842	-11556	-16875	4.7652	4.7652	-17322	15964	10650	108749	35962	24302	60264		3.57	Si
SLV 5	1.59	2707.43	-22485	-12467	-27675	4.7652	4.7652	-18688	16238	10832	108749	35962	24302	60264		2.18	Si
SLV 5	5	-4683.23	-18481	-10247	-24742	4.7652	4.7652	-15360	15572	10388	108749	35962	24302	60264		2.44	Si
SLD 5	1.59	5087.98	-31848	-17658	-19133	4.7652	4.7652	-26469	16250	12844	108749	35962	24302	60264		3.15	Si
SLD 5	5	-3291.58	-22881	-12687	-16789	4.7652	4.7652	-19017	16250	10855	108749	35962	24302	60264		3.59	Si
SLV 9	1.59	3094.94	-15233	-8446	-27827	4.7652	4.7652	-12661	15032	10028	108749	35962	24302	60264		2.17	Si
SLV 9	5	-2875.17	-14917	-8271	-25481	4.7652	4.7652	-12398	14980	9993	108749	35962	24302	60264		2.37	Si
SLV 12	1.59	15104.38	-71122	-39434	17083	4.7652	4.7652	-59110	16250	21554	108749	35962	24302	60264		3.53	Si
SLV 12	5	2634.8	-41344	-22924	16868	4.7652	4.7652	-34362	16250	14950	108749	35962	24302	60264		3.57	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.14 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-17275	0.31	205.35	1038.4	1780.57	1409.49	6.86	Si
SLV 10	-17787	0.31	205.35	1063.94	1822.8	1443.37	7.03	Si
SLV 5	-22527	0.31	205.35	1286.37	2210.16	1748.26	8.51	Si
SLV 6	-23039	0.31	205.35	1308.83	2251.11	1779.97	8.67	Si
SLV 13	-24779	0.31	205.35	1383.03	2390.61	1886.82	9.19	Si
SLV 14	-25539	0.31	205.35	1414.33	2451.55	1932.94	9.41	Si
SLV 15	-36570	0.31	205.35	1794.26	3322.06	2558.16	12.46	Si
SLV 16	-37330	0.31	205.35	1815.3	3380.07	2597.68	12.65	Si
SLV 1	-42286	0.31	205.35	1936.33	3759.1	2847.72	13.87	Si
SLV 2	-43046	0.31	205.35	1952.4	3817.3	2884.85	14.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.03 Ta = 0.1387

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 4	-40046	-67691	-446	0.647	4397.8	0.977	9.61756	10.56487	No
SLV 3	-39470	-66642	-446	0.655	4339.1	0.977	9.74974	10.56487	No
SLV 2	-32235	-51136	-437	0.79	3602.2	0.973	11.80031	10.56487	Si
SLV 1	-31658	-50088	-437	0.803	3543.5	0.972	12.00209	10.56487	Si
SLV 16	-28167	-43519	435	0.893	3188	0.969	13.39394	10.56487	Si
SLV 15	-27591	-42471	435	0.91	3129.3	0.969	13.65588	10.56487	Si
SLV 8	-44908	-78373	-149	0.588	4893.2	0.98	8.72798	5.61494	Si
SLV 7	-44520	-77667	-149	0.593	4853.6	0.979	8.7996	5.61494	Si
SLV 12	-41344	-71122	116	0.636	4530.1	0.978	9.44617	5.61494	Si
SLV 11	-40956	-70416	116	0.641	4490.6	0.978	9.53043	5.61494	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.549	SLU 83	Si
V_SLU	2.966	SLU 44	Si
PF_SLV	7.087	SLV 13	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	2.166	SLV 9	Si
PFFP_SLV	6.864	SLV 9	Si
R_SLV	0.91	SLV 4	No

Maschio 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.383	-3.359	-17.313	-3.359	L4	L5	0.93	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	2.49	1868.21	-18311	-0.0002327	0.0003743	0.0035	0.93	2633.78	4486.47	3950.67	2.11	Si	Si
SLU 84	4.39	1034.94	-14602	-0.000146	0.0003743	0.0035	0.93	3050.18	4191.29	4191.29	4.05	No	Si
SLU 75	2.49	1779.76	-17633	-0.0002188	0.0003743	0.0035	0.93	2745.99	4493.15	4118.99	2.31	Si	Si
SLU 75	4.39	1015.03	-14070	-0.0001402	0.0003743	0.0035	0.93	3070.36	4138.5	4138.5	4.08	No	Si
SLU 74	2.49	1790.94	-17497	-0.0002179	0.0003743	0.0035	0.93	2766.55	4490.91	4149.82	2.32	Si	Si
SLU 74	4.39	984.7	-13909	-0.0001373	0.0003743	0.0035	0.93	3074.5	4122.81	4122.81	4.19	No	Si
SLU 78	2.49	1792.54	-17827	-0.000222	0.0003743	0.0035	0.93	2715.42	4492.63	4073.13	2.27	Si	Si
SLU 78	4.39	1033.39	-14255	-0.0001428	0.0003743	0.0035	0.93	3064.45	4156.74	4156.74	4.02	No	Si
SLU 82	2.49	1855.43	-18116	-0.0002295	0.0003743	0.0035	0.93	2667.66	4489.7	4001.48	2.16	Si	Si
SLU 82	4.39	1016.58	-14417	-0.0001434	0.0003743	0.0035	0.93	3058.34	4172.73	4172.73	4.1	No	Si
SLU 80	2.49	1782.73	-17707	-0.0002199	0.0003743	0.0035	0.93	2734.45	4493.77	4101.67	2.3	Si	Si
SLU 80	4.39	1023.55	-14145	-0.0001413	0.0003743	0.0035	0.93	3068.1	4145.92	4145.92	4.05	No	Si
SLU 83	2.49	1879.39	-18175	-0.0002317	0.0003743	0.0035	0.93	2657.57	4488.72	3986.36	2.12	Si	Si
SLU 83	4.39	1004.61	-14441	-0.000143	0.0003743	0.0035	0.93	3057.33	4175.18	4175.18	4.16	No	Si
SLU 81	2.49	1866.61	-17980	-0.0002285	0.0003743	0.0035	0.93	2690.52	4491.18	4035.78	2.16	Si	Si
SLU 81	4.39	986.25	-14256	-0.0001404	0.0003743	0.0035	0.93	3064.44	4156.77	4156.77	4.21	No	Si
SLU 77	2.49	1803.71	-17691	-0.000221	0.0003743	0.0035	0.93	2736.91	4493.67	4105.36	2.28	Si	Si
SLU 77	4.39	1003.05	-14094	-0.0001398	0.0003743	0.0035	0.93	3069.64	4140.9	4140.9	4.13	No	Si
SLU 79	2.49	1793.91	-17571	-0.0002189	0.0003743	0.0035	0.93	2755.36	4492.32	4133.04	2.3	Si	Si
SLU 79	4.39	993.21	-13984	-0.0001384	0.0003743	0.0035	0.93	3072.67	4130.17	4130.17	4.16	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 11	2.49	949.67	-4094	-0.0000641	0.0005615	0.0035	0.93		1785.61	1785.61	1.88		Si
SLV 11	4.39	-371.31	-1971	-0.0000252	0.0005615	0.0035	0.93		1099.62	1099.62	2.96		Si
SLD 8	2.49	1972.11	-8948	-0.0001421	0.0005615	0.0035	0.93		3472.06	3472.06	1.76		Si
SLD 8	4.39	-399.76	-4526	-0.0000413	0.0005615	0.0035	0.93		2139.37	2139.37	5.35		Si
SLD 4	2.49	2703.42	-13737	-0.0002107	0.0005615	0.0035	0.93		4797.48	4797.48	1.77		Si
SLD 4	4.39	-209.03	-7699	-0.0000536	0.0005615	0.0035	0.93		3283.77	3283.77	15.71		Si
SLV 4	2.49	3547.09	-14703	-0.0002896	0.0005615	0.0035	0.93		4990.35	4990.35	1.41		Si
SLV 4	4.39	-720.76	-6681	-0.0000672	0.0005615	0.0035	0.93		2934.55	2934.55	4.07		Si
SLD 7	2.49	1803.35	-8772	-0.0001301	0.0005615	0.0035	0.93		3422.91	3422.91	1.9		Si
SLD 7	4.39	-294.5	-4739	-0.0000386	0.0005615	0.0035	0.93		2221.75	2221.75	7.54		Si
SLV 8	2.49	2415.82	-7074	-0.0002421	0.0005615	0.0035	0.93		2850.78	2850.78	1.18		Si
SLV 8	4.39	-1051.98	-1542	-0.0010546	0.0005615	0.0035	0.744		915.8	915.8	0.87		No
SLV 12	2.49	1219.24	-4375	-0.0000873	0.0005615	0.0035	0.93		1883.14	1883.14	1.54		Si
SLV 12	4.39	-539.44	-1629	-0.0000435	0.0005615	0.0035	0.744		953.56	953.56	1.77		Si
SLV 3	2.49	3146.69	-14286	-0.0002479	0.0005615	0.0035	0.93		4906.66	4906.66	1.56		Si
SLV 3	4.39	-471.02	-7188	-0.0000606	0.0005615	0.0035	0.93		3110.29	3110.29	6.6		Si
SLV 7	2.49	2146.24	-6793	-0.0001831	0.0005615	0.0035	0.93		2747.4	2747.4	1.28		Si
SLV 7	4.39	-883.84	-1883	-0.0002975	0.0005615	0.0035	0.744		1062.7	1062.7	1.2		Si
SLV 2	2.49	3264.11	-18486	-0.0002801	0.0005615	0.0035	0.93		5764.73	5764.73	1.77		Si
SLV 2	4.39	110.66	-11245	-0.0000724	0.0005615	0.0035	0.93		4128.79	4128.79	37.31		Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	2.49	1855.43	-18116	-15085	2549	0.93	0.93	-57932	10833	4858	38062	7798	2372	7288	Si	2.86	Si
SLU 82	4.39	1016.58	-14417	-12005	-631	0.93	0.93	-46102	10833	4037	38062	7798	2372	6055	Si	9.6	Si
SLU 74	2.49	1790.94	-17497	-14570	2442	0.93	0.93	-55951	10833	4721	38062	7798	2372	7081	Si	2.9	Si
SLU 74	4.39	984.7	-13909	-11582	-628	0.93	0.93	-44478	10833	3924	38062	7798	2372	5886	Si	9.37	Si
SLU 61	2.49	1681.1	-16172	-13467	2326	0.93	0.93	-51716	10833	4427	38062	7798	2372	6640	Si	2.85	Si
SLU 61	4.39	888.44	-12669	-10549	-561	0.93	0.93	-40512	10833	3649	38062	7798	2372	5473	Si	9.76	Si
SLU 53	2.49	1616.6	-15553	-12951	2218	0.93	0.93	-49735	10833	4289	38062	7798	2372	6434	Si	2.9	Si
SLU 53	4.39	856.55	-12161	-10126	-558	0.93	0.93	-38888	10833	3536	38062	7798	2372	5304	Si	9.5	Si
SLU 62	2.49	1705.05	-16231	-13516	2355	0.93	0.93	-51904	10833	4440	38062	7798	2372	6660	Si	2.83	Si
SLU 62	4.39	876.46	-12693	-10570	-538	0.93	0.93	-40590	10833	3654	38062	7798	2372	5481	Si	10.19	Si
SLU 63	2.49	1693.87	-16367	-13629	2340	0.93	0.93	-52339	10833	4470	38062	7798	2372	6705	Si	2.87	Si
SLU 63	4.39	906.8	-12854	-10704	-581	0.93	0.93	-41105	10833	3690	38062	7798	2372	5535	Si	9.53	Si
SLU 81	2.49	1866.61	-17980	-14972	2564	0.93	0.93	-57497	10833	4828	38062	7798	2372	7242	Si	2.82	Si
SLU 81	4.39	986.25	-14256	-11871	-588	0.93	0.93	-45587	10833	4001	38062	7798	2372	6002	Si	10.2	Si
SLU 83	2.49	1879.39	-18175	-15134	2578	0.93	0.93	-58120	10833	4871	38062	7798	2372	7307	Si	2.83	Si
SLU 83	4.39	1004.61	-14441	-12025	-608	0.93	0.93	-46180	10833	4042	38062	7798	2372	6063	Si	9.98	Si
SLU 60	2.49	1692.27	-16036	-13354	2340	0.93	0.93	-51281	10833	4397	38062	7798	2372	6595	Si	2.82	Si
SLU 60	4.39	858.11	-12508	-10415	-518	0.93	0.93	-39997	10833	3613	38062	7798	2372	5419	Si	10.46	Si
SLU 84	2.49	1868.21	-18311	-15248	2564	0.93	0.93	-58555	10833	4902	38062	7798	2372	7352	Si	2.87	Si
SLU 84	4.39	1034.94	-14602	-12159	-650	0.93	0.93	-46695	10833	4078	38062	7798	2372	6117	Si	9.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	2.49	2703.42	-13737	-11439	4254	0.93	0.8046	-43928	16250	4304	38062	11696	2372	14068		3.31	Si
SLD 4	4.39	-209.03	-7699	-6411	825	0.93	0.93	-24620	15341	3995	38062	11696	2372	14068		17.05	Si
SLV 1	2.49	2863.71	-18069	-15046	4654	0.93	0.9195	-57780	16250	5266	38062	11696	2372	14068		3.02	Si
SLV 1	4.39	360.39	-11752	-9786	38	0.93	0.93	-37582	16250	4232	38062	11696	2372	14068		366.07	Si
SLD 3	2.49	2447.85	-13470	-11217	3815	0.93	0.8498	-43076	16250	4245	38062	11696	2372	14068		3.69	Si
SLD 3	4.39	-49.63	-8022	-6680	589	0.93	0.93	-25654	15548	4049	38062	11696	2372	14068		23.9	Si
SLV 4	2.49	3547.09	-14703	-12244	5731	0.93	0.6713	-47019	16250	4518	38062	11696	2372	14068		2.45	Si
SLV 4	4.39	-720.76	-6681	-5564	1566	0.93	0.93	-21366	14690	3825	38062	11696	2372	14068		8.98	Si
SLD 2	2.49	2527.2	-16073	-13384	4013	0.93	0.9233	-51398	16250	4823	38062	11696	2372	14068		3.51	Si
SLD 2	4.39	305.36	-10521	-8761	109	0.93	0.93	-33643	16250	4232	38062	11696	2372	14068		128.84	Si
SLV 8	2.49	2415.82	-7074	-5890	3585	0.93	0.3705	-22621	14941	2824	38062	11696	2372	14068		3.92	Si
SLV 8	4.39	-1051.98	-1542	-1284	1974	0.744	0	0	0	0	38062	9357	1897	11254		5.7	Si
SLV 3	2.49	3146.69	-14286	-11896	5042	0.93	0.7342	-45684	16250	4426	38062	11696	2372	14068		2.79	Si
SLV 3	4.39	-471.02	-7188	-5986	1195	0.93	0.93	-22987	15014	3910	38062	11696	2372	14068		11.77	Si
SLV 7	2.49	2146.24	-6793	-5656	3121	0.93	0.4471	-21722	14761	2762	38062	11696	2372	14068		4.51	Si
SLV 7	4.39	-883.84	-1883	-1568	1725	0.744	0	0	0	0	38062	9357	1897	11254		6.53	Si
SLD 1	2.49	2271.63	-15806	-13162	3573	0.93	0.93	-50546	16250	4763	38062	11696	2372	14068		3.94	Si
SLD 1	4.39	464.76	-10844	-9030	-127	0.93	0.93	-34678	16250	4232	38062	11696	2372	14068		110.44	Si
SLV 2	2.49	3264.11	-18486	-15393	5343	0.93	0.8653	-59115	16250	5358	38062	11696	2372	14068		2.63	Si
SLV 2	4.39	110.66	-11245	-9364	409	0.93	0.93	-35961	16250	4232	38062	11696	2372	14068		34.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.31	13430	-3497	73.65	446.55	6.06	Si
SLV 12	179667	0.31	14391	-3747	73.65	475.19	6.45	Si
SLV 15	179667	0.31	20332	-5294	73.65	642.53	8.72	Si
SLV 16	179667	0.31	21758	-5666	73.65	680.21	9.24	Si
SLV 7	179667	0.31	23613	-6149	73.65	727.74	9.88	Si
SLV 8	179667	0.31	24574	-6399	73.65	751.71	10.21	Si
SLV 13	179667	0.31	36630	-9538	73.65	1015.09	13.78	Si
SLV 14	179667	0.31	38057	-9910	73.65	1041.66	14.14	Si
SLV 3	179667	0.31	54275	-14133	73.65	1275.45	17.32	Si
SLV 4	179667	0.31	55702	-14505	73.65	1290	17.51	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-10135	-8790	-15	0.52	1156.9	0.967	7.82051	5.31498	Si
SLV 14	-9683	-8544	-14	0.541	1110.8	0.966	8.1423	5.31498	Si
SLV 9	-13173	-12675	-49	0.414	1466.2	0.974	6.17604	3.92562	Si
SLV 10	-12869	-12509	-48	0.422	1435.2	0.973	6.30367	3.92562	Si
SLV 5	-12701	-12996	-48	0.427	1418.2	0.973	6.37652	3.92562	Si
SLV 6	-12397	-12831	-48	0.436	1387.2	0.972	6.51355	3.92562	Si
SLV 1	-8562	-9861	-13	0.601	996.8	0.962	9.07866	5.31498	Si
SLV 2	-8110	-9614	-12	0.63	950.8	0.961	9.5249	5.31498	Si
SLV 15	-6996	-5747	15	0.713	837.5	0.956	10.84643	5.31498	Si
SLV 16	-6544	-5500	15	0.755	791.6	0.954	11.50241	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.115	SLU 84	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	2.818	SLV 60	Si
PF_SLV	0.871	SLV 8	No
V_SLV	2.455	SLV 4	Si
PFFP_SLV	6.063	SLV 11	Si
R_SLV	1.471	SLV 13	Si

Maschio 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	-3.359	-18.448	1.046	L4	L5	4.406	0.14	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	1.59	-2584.38	-68913	-0.0001658	0.0004492	0.0035	4.4057	12995.8	105626.96	19493.7	7.54	Si	Si
SLU 81	5	3077.16	-41490	-0.0000974	0.0004492	0.0035	4.4057	41080.59	72630.82	61620.89	20.03	Si	Si
SLU 76	1.59	-3231.83	-67881	-0.0001653	0.0004492	0.0035	4.4057	14848.38	105104.19	22272.56	6.89	Si	Si
SLU 76	5	3015.35	-40698	-0.0000953	0.0004492	0.0035	4.4057	41238.43	71663.15	61857.65	20.51	Si	Si
SLU 73	1.59	-3222.9	-67095	-0.0001631	0.0004492	0.0035	4.4057	16217.66	104706.01	24326.49	7.55	Si	Si
SLU 73	5	2935.44	-40086	-0.0000936	0.0004492	0.0035	4.4057	41335.44	70914.37	62003.16	21.12	Si	Si
SLU 75	1.59	-2976.66	-67978	-0.0001646	0.0004492	0.0035	4.4057	14677.33	105153.2	22015.99	7.4	Si	Si
SLU 75	5	3046.95	-40935	-0.000096	0.0004492	0.0035	4.4057	41195.18	71951.8	61792.77	20.28	Si	Si
SLU 78	1.59	-2985.59	-68764	-0.0001668	0.0004492	0.0035	4.4057	13267.5	105551.37	19901.25	6.67	Si	Si
SLU 78	5	3126.85	-41547	-0.0000977	0.0004492	0.0035	4.4057	41067.8	72700.58	61601.7	19.7	Si	Si
SLU 83	1.59	-2593.31	-69699	-0.000168	0.0004492	0.0035	4.4057	11543.01	106025.13	17314.52	6.68	Si	Si
SLU 83	5	3157.06	-42102	-0.0000991	0.0004492	0.0035	4.4057	40933.34	73379.6	61400	19.45	Si	Si
SLU 82	1.59	-2993.6	-69448	-0.0001688	0.0004492	0.0035	4.4057	12011.46	105897.82	18017.19	6.02	Si	Si
SLU 82	5	3084.03	-41655	-0.0000978	0.0004492	0.0035	4.4057	41042.94	72833.27	61564.41	19.96	Si	Si
SLU 77	1.59	-2576.37	-68229	-0.0001638	0.0004492	0.0035	4.4057	14230.47	105280.51	21345.71	8.29	Si	Si
SLU 77	5	3119.98	-41381	-0.0000972	0.0004492	0.0035	4.4057	41104.4	72498.13	61656.61	19.76	Si	Si
SLU 80	1.59	-2967.95	-68311	-0.0001655	0.0004492	0.0035	4.4057	14084.81	105321.79	21127.22	7.12	Si	Si
SLU 80	5	3090.67	-41200	-0.0000967	0.0004492	0.0035	4.4057	41142.56	72276.96	61713.84	19.97	Si	Si
SLU 84	1.59	-3002.53	-70233	-0.000171	0.0004492	0.0035	4.4057	10534.11	106295.99	15801.17	5.26	Si	Si
SLU 84	5	3163.94	-42268	-0.0000995	0.0004492	0.0035	4.4057	40889.76	73582.05	61334.64	19.39	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	1.59	-16706.99	-70505	-0.0002068	0.0006738	0.0035	4.4057		117307.06	117307.06	7.02		Si
SLV 6	5	1066.28	-38058	-0.0000809	0.0006738	0.0035	4.4057		70752.39	70752.39	66.35		Si
SLD 12	1.59	7486.85	-30608	-0.0000835	0.0006738	0.0035	4.4057		58878.98	58878.98	7.86		Si
SLD 12	5	2439.48	-21052	-0.0000488	0.0006738	0.0035	4.4057		43632.4	43632.4	17.89		Si
SLV 5	1.59	-17083.33	-71339	-0.0002103	0.0006738	0.0035	4.4057		117975.25	117975.25	6.91		Si
SLV 5	5	1164.95	-38302	-0.0000817	0.0006738	0.0035	4.4057		71141.28	71141.28	61.07		Si
SLV 8	1.59	14171.29	-24418	-0.0000893	0.0006738	0.0035	4.4057		49013.22	49013.22	3.46		Si
SLV 8	5	2800.74	-19564	-0.0000468	0.0006738	0.0035	4.4057		40928.94	40928.94	14.61		Si
SLD 8	1.59	8037.01	-32764	-0.0000898	0.0006738	0.0035	4.4057		62315.27	62315.27	7.75		Si
SLD 8	5	2469.8	-22683	-0.0000523	0.0006738	0.0035	4.4057		46248.59	46248.59	18.73		Si
SLV 9	1.59	-17934.41	-67968	-0.0002043	0.0006738	0.0035	4.4057		115275.07	115275.07	6.43		Si
SLV 9	5	1118.46	-35755	-0.0000761	0.0006738	0.0035	4.4057		67081.9	67081.9	59.98		Si
SLV 12	1.59	13320.21	-21048	-0.0000795	0.0006738	0.0035	4.4057		43624.68	43624.68	3.28		Si
SLV 12	5	2754.25	-17017	-0.0000414	0.0006738	0.0035	4.4057		36221.06	36221.06	13.15		Si
SLV 7	1.59	13794.95	-25252	-0.00009	0.0006738	0.0035	4.4057		50342.54	50342.54	3.65		Si
SLV 7	5	2899.41	-19808	-0.0000476	0.0006738	0.0035	4.4057		41372.25	41372.25	14.27		Si
SLV 11	1.59	12943.88	-21882	-0.0000803	0.0006738	0.0035	4.4057		44970.74	44970.74	3.47		Si
SLV 11	5	2852.92	-17261	-0.0000422	0.0006738	0.0035	4.4057		36680.07	36680.07	12.86		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 10	1.59	-17558.07	-67134	-0.0002009	0.0006738	0.0035	4.4057		114606.88	114606.88	6.53		Si
SLV 10	5	1019.79	-35511	-0.0000753	0.0006738	0.0035	4.4057		66693.01	66693.01	65.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	1.59	-2348.62	-53824	-29843	6518	4.4057	4.4057	-48384	10833	15500	108749	22166	22469	23250	Si	3.57	Si
SLU 50	5	2194.9	-32253	-17883	6855	4.4057	4.4057	-28993	10833	10716	108749	22166	22469	16074	Si	2.34	Si
SLU 45	1.59	-2357.33	-53491	-29658	6471	4.4057	4.4057	-48085	10833	15426	108749	22166	22469	23139	Si	3.58	Si
SLU 45	5	2151.18	-31987	-17735	6806	4.4057	4.4057	-28754	10833	10657	108749	22166	22469	15985	Si	2.35	Si
SLU 43	1.59	-2330.76	-52252	-28971	6337	4.4057	4.4057	-46971	10833	15151	108749	22166	22469	22727	Si	3.59	Si
SLU 43	5	2035.09	-31028	-17204	6664	4.4057	4.4057	-27892	10833	10444	108749	22166	22469	15667	Si	2.35	Si
SLU 69	1.59	-2474.83	-61909	-34326	7197	4.4057	4.4057	-55652	10833	17293	108749	22166	22469	25939	Si	3.6	Si
SLU 69	5	2762.58	-37462	-20771	7582	4.4057	4.4057	-33676	10833	11871	108749	22166	22469	17807	Si	2.35	Si
SLU 58	1.59	-2450.15	-60144	-33347	6998	4.4057	4.4057	-54065	10833	16901	108749	22166	22469	25352	Si	3.62	Si
SLU 58	5	2552.29	-36172	-20056	7373	4.4057	4.4057	-32516	10833	11585	108749	22166	22469	17378	Si	2.36	Si
SLU 48	1.59	-2366.26	-54277	-30094	6561	4.4057	4.4057	-48791	10833	15600	108749	22166	22469	23400	Si	3.57	Si
SLU 48	5	2231.08	-32600	-18075	6902	4.4057	4.4057	-29305	10833	10793	108749	22166	22469	16189	Si	2.35	Si
SLU 64	1.59	-2439.34	-59884	-33203	6972	4.4057	4.4057	-53832	10833	16844	108749	22166	22469	25266	Si	3.62	Si
SLU 64	5	2566.59	-35891	-19900	7344	4.4057	4.4057	-32263	10833	11523	108749	22166	22469	17284	Si	2.35	Si
SLU 66	1.59	-2465.91	-61123	-33890	7106	4.4057	4.4057	-54945	10833	17119	108749	22166	22469	25678	Si	3.61	Si
SLU 66	5	2682.68	-36850	-20431	7486	4.4057	4.4057	-33125	10833	11735	108749	22166	22469	17603	Si	2.35	Si
SLU 56	1.59	-2467.79	-60597	-33598	7042	4.4057	4.4057	-54472	10833	17002	108749	22166	22469	25503	Si	3.62	Si
SLU 56	5	2588.48	-36519	-20248	7419	4.4057	4.4057	-32828	10833	11662	108749	22166	22469	17493	Si	2.36	Si
SLU 71	1.59	-2457.19	-61456	-34075	7153	4.4057	4.4057	-55244	10833	17192	108749	22166	22469	25789	Si	3.61	Si
SLU 71	5	2726.4	-37116	-20579	7536	4.4057	4.4057	-33364	10833	11794	108749	22166	22469	17692	Si	2.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	1.59	-17934.41	-67968	-37685	-11209	4.4057	4.4057	-61098	16250	20418	108749	33249	22469	55718		4.97	Si
SLV 9	5	1118.46	-35755	-19825	-9788	4.4057	4.4057	-32141	16250	13274	108749	33249	22469	55718		5.69	Si
SLV 12	1.59	13320.21	-21048	-11670	21714	4.4057	4.4057	-18920	16250	10023	108749	33249	22469	55718		2.57	Si
SLV 12	5	2754.25	-17017	-9435	20899	4.4057	4.4057	-15297	15559	9597	108749	33249	22469	55718		2.67	Si
SLD 7	1.59	7801.42	-33287	-18456	15440	4.4057	4.4057	-29922	16250	12727	108749	33249	22469	55718		3.61	Si
SLD 7	5	2531.56	-22836	-12662	15042	4.4057	4.4057	-20528	16250	10409	108749	33249	22469	55718		3.7	Si
SLD 12	1.59	7486.85	-30608	-16971	15466	4.4057	4.4057	-27515	16250	12133	108749	33249	22469	55718		3.6	Si
SLD 12	5	2439.48	-21052	-11672	15081	4.4057	4.4057	-18924	16250	10023	108749	33249	22469	55718		3.69	Si
SLV 11	1.59	12943.88	-21882	-12132	21453	4.4057	4.4057	-19670	16250	10197	108749	33249	22469	55718		2.6	Si
SLV 11	5	2852.92	-17261	-9570	20645	4.4057	4.4057	-15516	15603	9624	108749	33249	22469	55718		2.7	Si
SLV 5	1.59	-17083.33	-71339	-39554	-10992	4.4057	4.4057	-64128	16250	21166	108749	33249	22469	55718		5.07	Si
SLV 5	5	1164.95	-38302	-21237	-9603	4.4057	4.4057	-34431	16250	13839	108749	33249	22469	55718		5.8	Si
SLV 8	1.59	14171.29	-24418	-13539	21931	4.4057	4.4057	-21950	16250	10760	108749	33249	22469	55718		2.54	Si
SLV 8	5	2800.74	-19564	-10847	21084	4.4057	4.4057	-17586	16017	9879	108749	33249	22469	55718		2.64	Si
SLD 8	1.59	8037.01	-32764	-18166	15603	4.4057	4.4057	-29453	16250	12611	108749	33249	22469	55718		3.57	Si
SLD 8	5	2469.8	-22683	-12577	15201	4.4057	4.4057	-20391	16250	10375	108749	33249	22469	55718		3.67	Si
SLD 11	1.59	7251.26	-31130	-17260	15303	4.4057	4.4057	-27984	16250	12249	108749	33249	22469	55718		3.64	Si
SLD 11	5	2501.25	-21205	-11757	14922	4.4057	4.4057	-19061	16250	10047	108749	33249	22469	55718		3.73	Si
SLV 7	1.59	13794.95	-25252	-14001	21670	4.4057	4.4057	-22700	16250	10945	108749	33249	22469	55718		2.57	Si
SLV 7	5	2899.41	-19808	-10983	20830	4.4057	4.4057	-17806	16061	9906	108749	33249	22469	55718		2.67	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.14 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-19428	0.31	189.86	1126.25	1929.41	1527.83	8.05	Si
SLV 11	-19970	0.31	189.86	1150.94	1973.83	1562.39	8.23	Si
SLV 8	-22362	0.31	189.86	1255.68	2165.9	1710.79	9.01	Si
SLV 7	-22903	0.31	189.86	1278.41	2209.3	1743.86	9.18	Si
SLV 16	-27018	0.31	189.86	1439.25	2539.59	1989.42	10.48	Si
SLV 15	-27822	0.31	189.86	1468.24	2604.23	2036.23	10.72	Si
SLV 14	-36569	0.31	189.86	1731.77	3282.86	2507.32	13.21	Si
SLV 4	-36796	0.31	189.86	1737.33	3300.18	2518.76	13.27	Si
SLV 13	-37374	0.31	189.86	1751.25	3344.42	2547.83	13.42	Si
SLV 3	-37600	0.31	189.86	1756.58	3361.75	2559.17	13.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.03 Ta = 0.1387

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 1	-34860	-59343	-359	0.685	3845.5	0.976	10.20085	10.56487	No
SLV 2	-34498	-58104	-359	0.692	3808.6	0.976	10.3017	10.56487	No
SLV 3	-29312	-45517	-314	0.805	3280.4	0.972	12.02909	10.56487	Si
SLV 4	-28949	-44278	-314	0.814	3243.5	0.972	12.17052	10.56487	Si
SLV 13	-26370	-48108	312	0.886	2980.8	0.97	13.28575	10.56487	Si
SLV 14	-26007	-46869	312	0.898	2943.9	0.969	13.45926	10.56487	Si
SLV 15	-20821	-34282	357	1.096	2416.1	0.963	16.53716	10.56487	Si
SLV 16	-20459	-33043	357	1.113	2379.2	0.963	16.8094	10.56487	Si
SLV 5	-38302	-71339	-176	0.633	4196.2	0.978	9.40282	5.61494	Si
SLV 6	-38058	-70505	-176	0.637	4171.3	0.978	9.45958	5.61494	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.263	SLU 84	Si
V_SLU	2.345	SLU 50	Si
PF_SLV	3.275	SLV 12	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	2.541	SLV 8	Si
PFFP_SLV	8.047	SLV 12	Si
R_SLV	0.966	SLV 1	No

Maschio 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.359	-15.483	-3.359	L4	L5	1.73	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	1.59	-5068.65	-13004	-0.000108	0.0003743	0.0035	1.73	8282.5	9952.98	9952.98	1.96	No	Si
SLU 84	3.69	-164.24	-18855	-0.000065	0.0003743	0.0035	1.73	10074.04	12504.46	12504.46	76.13	No	Si
SLU 80	1.59	-4921.77	-12637	-0.0001044	0.0003743	0.0035	1.73	8130.06	9753.44	9753.44	1.98	No	Si
SLU 80	3.69	-171.32	-18322	-0.0000631	0.0003743	0.0035	1.73	9960.62	12290.32	12290.32	71.74	No	Si
SLU 77	1.59	-4918.48	-12629	-0.0001044	0.0003743	0.0035	1.73	8126.77	9749.23	9749.23	1.98	No	Si
SLU 77	3.69	-183.53	-18327	-0.0000633	0.0003743	0.0035	1.73	9961.77	12292.38	12292.38	66.98	No	Si
SLU 81	1.59	-4983.86	-12767	-0.0001059	0.0003743	0.0035	1.73	8184.63	9823.84	9823.84	1.97	No	Si
SLU 81	3.69	-180.77	-18491	-0.0000638	0.0003743	0.0035	1.73	9997.63	12357.66	12357.66	68.36	No	Si
SLU 83	1.59	-5036.68	-12910	-0.0001072	0.0003743	0.0035	1.73	8243.9	9901.54	9901.54	1.97	No	Si
SLU 83	3.69	-175.12	-18725	-0.0000646	0.0003743	0.0035	1.73	10047.37	12451.95	12451.95	71.11	No	Si
SLU 75	1.59	-4897.64	-12580	-0.0001039	0.0003743	0.0035	1.73	8106.08	9722.4	9722.4	1.99	No	Si
SLU 75	3.69	-178.31	-18222	-0.0000628	0.0003743	0.0035	1.73	9938.3	12250.78	12250.78	68.71	No	Si
SLU 76	1.59	-4890.26	-12557	-0.0001037	0.0003743	0.0035	1.73	8096.1	9709.45	9709.45	1.99	No	Si
SLU 76	3.69	-169.72	-18174	-0.0000625	0.0003743	0.0035	1.73	9927.34	12231.65	12231.65	72.07	No	Si
SLU 79	1.59	-4889.79	-12543	-0.0001036	0.0003743	0.0035	1.73	8090.25	9701.86	9701.86	1.98	No	Si
SLU 79	3.69	-182.2	-18193	-0.0000627	0.0003743	0.0035	1.73	9931.53	12238.95	12238.95	67.17	No	Si
SLU 82	1.59	-5015.83	-12861	-0.0001067	0.0003743	0.0035	1.73	8223.7	9874.91	9874.91	1.97	No	Si
SLU 82	3.69	-169.9	-18620	-0.0000642	0.0003743	0.0035	1.73	10025.36	12409.67	12409.67	73.04	No	Si
SLU 78	1.59	-4950.46	-12723	-0.0001052	0.0003743	0.0035	1.73	8166.29	9800.06	9800.06	1.98	No	Si
SLU 78	3.69	-172.65	-18457	-0.0000636	0.0003743	0.0035	1.73	9990.24	12344.04	12344.04	71.5	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	1.59	-2417.66	-2928	-0.0001635	0.0005615	0.0035	1.384		3276.91	3276.91	1.36		Si
SLV 11	3.69	531.4	-6644	-0.0000263	0.0005615	0.0035	1.73		5505.81	5505.81	10.36		Si
SLV 16	1.59	-5251.42	-6325	-0.0004245	0.0005615	0.0035	1.384		5920.16	5920.16	1.13		Si
SLV 16	3.69	2822.13	-14040	-0.0000765	0.0005615	0.0035	1.73		10415.45	10415.45	3.69		Si
SLD 13	1.59	-5576.21	-9181	-0.0001372	0.0005615	0.0035	1.384		8004.4	8004.4	1.44		Si
SLD 13	3.69	2396.61	-16764	-0.0000812	0.0005615	0.0035	1.73		12140.25	12140.25	5.07		Si
SLD 14	1.59	-5274.13	-9192	-0.0001201	0.0005615	0.0035	1.384		8011.52	8011.52	1.52		Si
SLD 14	3.69	1955.99	-16148	-0.000074	0.0005615	0.0035	1.73		11824.65	11824.65	6.05		Si
SLD 15	1.59	-4868.12	-7170	-0.0001478	0.0005615	0.0035	1.384		6554.66	6554.66	1.35		Si
SLD 15	3.69	2183.09	-14063	-0.0000693	0.0005615	0.0035	1.73		10430.94	10430.94	4.78		Si
SLD 16	1.59	-4566.03	-7180	-0.0001185	0.0005615	0.0035	1.384		6562.06	6562.06	1.44		Si
SLD 16	3.69	1742.47	-13447	-0.0000622	0.0005615	0.0035	1.73		10017.2	10017.2	5.75		Si
SLV 4	1.59	204.83	-7576	-0.0000257	0.0005615	0.0035	1.73		6198.09	6198.09	30.26		Si
SLV 4	3.69	-4230.13	-5160	-0.0002978	0.0005615	0.0035	1.384		5040.2	5040.2	1.19		Si
SLV 14	1.59	-6382.89	-9601	-0.0001914	0.0005615	0.0035	1.384		8296.17	8296.17	1.3		Si
SLV 14	3.69	3164.97	-18409	-0.0000962	0.0005615	0.0035	1.73		12974.83	12974.83	4.1		Si
SLV 13	1.59	-6856.18	-9585	-0.0002654	0.0005615	0.0035	1.384		8284.97	8284.97	1.21		Si
SLV 13	3.69	3855.28	-19375	-0.000108	0.0005615	0.0035	1.73		13471.65	13471.65	3.49		Si
SLV 15	1.59	-5724.71	-6309	-0.0007989	0.0005615	0.0035	1.384		5907.93	5907.93	1.03		Si
SLV 15	3.69	3512.45	-15006	-0.000088	0.0005615	0.0035	1.73		11068.91	11068.91	3.15		Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	1.59	-4950.46	-12723	-10595	-6075	1.73	1.4277	-27102	10558	4380	38062	14505	4411	6570	Si	1.08	Si
SLU 78	3.69	-172.65	-18457	-15369	-4508	1.73	1.73	-31728	10833	5653	38062	14505	4411	8479	Si	1.88	Si
SLU 83	1.59	-5036.68	-12910	-10750	-6153	1.73	1.4246	-27573	10621	4421	38062	14505	4411	6632	Si	1.08	Si
SLU 83	3.69	-175.12	-18725	-15593	-4509	1.73	1.73	-32190	10833	5712	38062	14505	4411	8569	Si	1.9	Si
SLU 77	1.59	-4918.48	-12629	-10517	-6040	1.73	1.4266	-26917	10534	4359	38062	14505	4411	6538	Si	1.08	Si
SLU 77	3.69	-183.53	-18327	-15261	-4465	1.73	1.73	-31506	10833	5624	38062	14505	4411	8436	Si	1.89	Si
SLU 75	1.59	-4897.64	-12580	-10476	-6005	1.73	1.4271	-26802	10518	4348	38062	14505	4411	6522	Si	1.09	Si
SLU 75	3.69	-178.31	-18222	-15174	-4448	1.73	1.73	-31326	10833	5601	38062	14505	4411	8401	Si	1.89	Si
SLU 79	1.59	-4889.79	-12543	-10445	-6005	1.73	1.4255	-26751	10511	4340	38062	14505	4411	6510	Si	1.08	Si
SLU 79	3.69	-182.2	-18193	-15149	-4434	1.73	1.73	-31274	10833	5594	38062	14505	4411	8391	Si	1.89	Si
SLU 84	1.59	-5068.65	-13004	-10829	-6188	1.73	1.4257	-27759	10646	4442	38062	14505	4411	6663	Si	1.08	Si
SLU 84	3.69	-164.24	-18855	-15701	-4552	1.73	1.73	-32412	10833	5741	38062	14505	4411	8612	Si	1.89	Si
SLU 82	1.59	-5015.83	-12861	-10710	-6118	1.73	1.425	-27458	10606	4410	38062	14505	4411	6616	Si	1.08	Si
SLU 82	3.69	-169.9	-18620	-15505	-4492	1.73	1.73	-32010	10833	5689	38062	14505	4411	8534	Si	1.9	Si
SLU 81	1.59	-4983.86	-12767	-10631	-6083	1.73	1.4239	-27273	10581	4390	38062	14505	4411	6584	Si	1.08	Si
SLU 81	3.69	-180.77	-18491	-15398	-4449	1.73	1.73	-31787	10833	5660	38062	14505	4411	8491	Si	1.91	Si
SLU 76	1.59	-4890.26	-12557	-10456	-5993	1.73	1.4266	-26759	10512	4343	38062	14505	4411	6514	Si	1.09	Si
SLU 76	3.69	-169.72	-18174	-15134	-4447	1.73	1.73	-31242	10833	5590	38062	14505	4411	8385	Si	1.89	Si
SLU 80	1.59	-4921.77	-12637	-10523	-6040	1.73	1.4266	-26936	10536	4361	38062	14505	4411	6541	Si	1.08	Si
SLU 80	3.69	-171.32	-18322	-15257	-4478	1.73	1.73	-31497	10833	5623	38062	14505	4411	8434	Si	1.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	1.59	-5576.21	-9181	-7646	-8265	1.384	0.773	0	0	0	38062	17406	3529	20935		2.53	Si
SLD 13	3.69	2396.61	-16764	-13960	-6517	1.73	1.73	-28819	16180	7838	38062	21758	4411	26169		4.02	Si
SLD 15	1.59	-4868.12	-7170	-5971	-7364	1.384	0.5582	0	0	0	38062	17406	3529	20935		2.84	Si
SLD 15	3.69	2183.09	-14063	-11711	-5625	1.73	1.73	-24176	15252	7388	38062	21758	4411	26169		4.65	Si
SLV 15	1.59	-5724.71	-6309	-5254	-9186	1.384	0	0	0	0	38062	17406	3529	20935		2.28	Si
SLV 15	3.69	3512.45	-15006	-12496	-7078	1.73	1.73	-25797	15576	7545	38062	21758	4411	26169		3.7	Si
SLD 14	1.59	-5274.13	-9192	-7654	-7649	1.384	0.8736	0	0	0	38062	17406	3529	20935		2.74	Si
SLD 14	3.69	1955.99	-16148	-13446	-5914	1.73	1.73	-27759	15968	7735	38062	21758	4411	26169		4.42	Si
SLV 13	1.59	-6856.18	-9585	-7982	-10643	1.384	0.4491	0	0	0	38062	17406	3529	20935		1.97	Si
SLV 13	3.69	3855.28	-19375	-16134	-8520	1.73	1.73	-33306	16250	7871	38062	21758	4411	26169		3.07	Si
SLD 16	1.59	-4566.03	-7180	-5979	-6747	1.384	0.6873	0	0	0	38062	17406	3529	20935		3.1	Si
SLD 16	3.69	1742.47	-13447	-11197	-5023	1.73	1.73	-23116	15040	7285	38062	21758	4411	26169		5.21	Si
SLV 16	1.59	-5251.42	-6325	-5267	-8220	1.384	0.1044	0	0	0	38062	17406	3529	20935		2.55	Si
SLV 16	3.69	2822.13	-14040	-11692	-6134	1.73	1.73	-24136	15244	7384	38062	21758	4411	26169		4.27	Si
SLV 9	1.59	-6189.21	-13848	-11531	-8445	1.73	1.2541	-33428	16250	5706	38062	21758	4411	26169		3.1	Si
SLV 9	3.69	1674.19	-21205	-17658	-7019	1.73	1.73	-36453	16250	7871	38062	21758	4411	26169		3.73	Si
SLV 10	1.59	-5870.57	-13858	-11540	-7795	1.73	1.3242	-31653	16250	6025	38062	21758	4411	26169		3.36	Si
SLV 10	3.69	1209.42	-20555	-17116	-6384	1.73	1.73	-35335	16250	7871	38062	21758	4411	26169		4.1	Si
SLV 14	1.59	-6382.89	-9601	-7995	-9677	1.384	0.6006	0	0	0	38062	17406	3529	20935		2.16	Si
SLV 14	3.69	3164.97	-18409	-15329	-7576	1.73	1.73	-31646	16250	7871	38062	21758	4411	26169		3.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.31	6715	-3253	137.01	435.34	3.18	Si
SLV 7	179667	0.31	7754	-3756	137.01	499.13	3.64	Si
SLD 12	179667	0.31	10898	-5279	137.01	686.33	5.01	Si
SLV 4	179667	0.31	11567	-5603	137.01	725.01	5.29	Si
SLV 11	179667	0.31	11937	-5782	137.01	746.26	5.45	Si
SLV 3	179667	0.31	13110	-6351	137.01	812.75	5.93	Si
SLV 2	179667	0.31	20126	-9749	137.01	1184.97	8.65	Si
SLV 1	179667	0.31	21669	-10496	137.01	1260.99	9.2	Si
SLV 16	179667	0.31	25512	-12358	137.01	1441.1	10.52	Si
SLV 15	179667	0.31	27055	-13106	137.01	1509.73	11.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	-14312	-10852	-94	0.654	1689.9	0.959	9.91116	5.31498	Si
SLV 1	-14223	-10836	-93	0.658	1680.9	0.959	9.96625	5.31498	Si
SLV 6	-17515	-14234	-209	0.545	2015.8	0.965	8.2011	3.92562	Si
SLV 5	-17455	-14223	-209	0.546	2009.7	0.965	8.22614	3.92562	Si
SLV 10	-16805	-13858	-189	0.565	1943.5	0.964	8.52273	3.92562	Si
SLV 9	-16745	-13848	-189	0.567	1937.4	0.964	8.54986	3.92562	Si
SLV 14	-11945	-9601	-26	0.767	1449.4	0.953	11.69823	5.31498	Si
SLV 13	-11856	-9585	-25	0.772	1440.3	0.953	11.77577	5.31498	Si
SLV 4	-10844	-7576	26	0.832	1337.5	0.95	12.73289	5.31498	Si
SLV 3	-10755	-7560	26	0.838	1328.5	0.949	12.82425	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.964	SLU 84	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.077	SLU 84	Si
PF_SLV	1.032	SLV 15	Si
V_SLV	1.967	SLV 13	Si
PFFP_SLV	3.177	SLV 8	Si
R_SLV	1.865	SLV 2	Si

Maschio 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.784	-13.753	-3.314	L4	Z medio 333 cm	1.47	0.28	1.74	1.74	1.74			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 84	1.59	166.22	-25554	-0.0001114	0.0003743	0.0035	1.47	7328.82	10853.84	10853.84	65.3	No	Si
SLU 84	3.33	832.41	-21279	-0.0001023	0.0003743	0.0035	1.47	7698.27	10241.39	10241.39	12.3	No	Si
SLU 40	1.59	102.91	-21636	-0.0000905	0.0003743	0.0035	1.47	7691.94	10320.41	10320.41	100.28	No	Si
SLU 40	3.33	784.62	-18112	-0.0000861	0.0003743	0.0035	1.47	7558.64	9272.94	9272.94	11.82	No	Si
SLU 21	1.59	102.8	-19320	-0.0000796	0.0003743	0.0035	1.47	7653.4	9632.84	9632.84	93.7	No	Si
SLU 21	3.33	686.16	-16148	-0.0000753	0.0003743	0.0035	1.47	7295.25	8703.54	8703.54	12.68	No	Si
SLU 41	1.59	140.17	-21634	-0.0000912	0.0003743	0.0035	1.47	7692	10320.12	10320.12	73.63	No	Si
SLU 41	3.33	791.33	-18156	-0.0000864	0.0003743	0.0035	1.47	7562.92	9285.85	9285.85	11.73	No	Si
SLU 20	1.59	134.67	-19072	-0.000079	0.0003743	0.0035	1.47	7638.08	9557.89	9557.89	70.97	No	Si
SLU 20	3.33	684.68	-15977	-0.0000745	0.0003743	0.0035	1.47	7265.9	8655.45	8655.45	12.64	No	Si
SLU 81	1.59	192.7	-25059	-0.0001094	0.0003743	0.0035	1.47	7404.38	10782.26	10782.26	55.95	No	Si
SLU 81	3.33	822.74	-20893	-0.0001002	0.0003743	0.0035	1.47	7700.07	10119.06	10119.06	12.3	No	Si
SLU 42	1.59	108.3	-21882	-0.0000918	0.0003743	0.0035	1.47	7684.98	10351.68	10351.68	95.58	No	Si
SLU 42	3.33	792.81	-18327	-0.0000873	0.0003743	0.0035	1.47	7579.19	9336.25	9336.25	11.78	No	Si
SLU 39	1.59	134.78	-21387	-0.0000899	0.0003743	0.0035	1.47	7696.81	10276.14	10276.14	76.24	No	Si
SLU 39	3.33	783.14	-17941	-0.0000853	0.0003743	0.0035	1.47	7541.08	9222.07	9222.07	11.78	No	Si
SLU 83	1.59	198.08	-25305	-0.0001108	0.0003743	0.0035	1.47	7367.85	10817.73	10817.73	54.61	No	Si
SLU 83	3.33	830.93	-21107	-0.0001014	0.0003743	0.0035	1.47	7699.71	10186.94	10186.94	12.26	No	Si
SLU 82	1.59	160.83	-25308	-0.00011	0.0003743	0.0035	1.47	7367.5	10818.06	10818.06	67.26	No	Si
SLU 82	3.33	824.22	-21064	-0.0001011	0.0003743	0.0035	1.47	7699.91	10173.21	10173.21	12.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	1.59	632.9	-13643	-0.0000612	0.0005615	0.0035	1.47		8468.8	8468.8	13.38		Si
SLV 15	3.33	779.55	-9461	-0.0000469	0.0005615	0.0035	1.47		6162.9	6162.9	7.91		Si
SLD 11	1.59	1172.49	-8453	-0.000049	0.0005615	0.0035	1.47		5626.74	5626.74	4.8		Si
SLD 11	3.33	423.84	-7284	-0.0000331	0.0005615	0.0035	1.47		5006.16	5006.16	11.81		Si
SLD 7	1.59	1193.99	-8056	-0.0000478	0.0005615	0.0035	1.47		5417.44	5417.44	4.54		Si
SLD 7	3.33	274.62	-7709	-0.0000324	0.0005615	0.0035	1.47		5235.53	5235.53	19.06		Si
SLV 16	1.59	585.08	-13521	-0.00006	0.0005615	0.0035	1.47		8399.5	8399.5	14.36		Si
SLV 16	3.33	701.44	-9669	-0.0000465	0.0005615	0.0035	1.47		6274.75	6274.75	8.95		Si
SLV 12	1.59	1748.44	-3294	-0.0000587	0.0005615	0.0035	1.47		2440.03	2440.03	1.4		Si
SLV 12	3.33	407.15	-3495	-0.0000186	0.0005615	0.0035	1.47		2576.01	2576.01	6.33		Si
SLD 12	1.59	1152.33	-8402	-0.0000485	0.0005615	0.0035	1.47		5599.49	5599.49	4.86		Si
SLD 12	3.33	390.92	-7371	-0.0000329	0.0005615	0.0035	1.47		5054.59	5054.59	12.93		Si
SLV 11	1.59	1780.64	-3376	-0.0000592	0.0005615	0.0035	1.47		2496.06	2496.06	1.4		Si
SLV 11	3.33	459.74	-3355	-0.0000189	0.0005615	0.0035	1.47		2481.36	2481.36	5.4		Si
SLV 8	1.59	1782.2	-2674	-0.0001507	0.0005615	0.0035	1.47		2017.82	2017.82	1.13		Si
SLV 8	3.33	174.9	-4160	-0.0000177	0.0005615	0.0035	1.47		3019.53	3019.53	17.26		Si
SLV 7	1.59	1814.4	-2756	-0.0001379	0.0005615	0.0035	1.47		2073.96	2073.96	1.14		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	3.33	227.49	-4020	-0.0000179	0.0005615	0.0035	1.47		2926.15	2926.15	12.86		Si
SLD 8	1.59	1173.83	-8005	-0.0000473	0.0005615	0.0035	1.47		5390.35	5390.35	4.59		Si
SLD 8	3.33	241.7	-7797	-0.0000323	0.0005615	0.0035	1.47		5281.49	5281.49	21.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	3.33	784.62	-18112	-15083	-1764	1.47	1.47	-36644	10833	6771	19031	12325	3749	10156	Si	5.76	Si
SLU 36	1.59	135.98	-21184	-17640	-3951	1.47	1.47	-42857	10833	7635	19031	12325	3749	11452	Si	2.9	Si
SLU 36	3.33	677.43	-17647	-14695	-1582	1.47	1.47	-35703	10833	6640	19031	12325	3749	9960	Si	6.3	Si
SLU 84	1.59	166.22	-25554	-21279	-4662	1.47	1.47	-51698	10833	8865	19031	12325	3749	13297	Si	2.85	Si
SLU 84	3.33	832.41	-21279	-17719	-1862	1.47	1.47	-43049	10833	7662	19031	12325	3749	11492	Si	6.17	Si
SLU 41	1.59	140.17	-21634	-18015	-4025	1.47	1.47	-43767	10833	7761	19031	12325	3749	11642	Si	2.89	Si
SLU 41	3.33	791.33	-18156	-15119	-1698	1.47	1.47	-36731	10833	6783	19031	12325	3749	10174	Si	5.99	Si
SLU 34	1.59	108.07	-20950	-17445	-3949	1.47	1.47	-42384	10833	7569	19031	12325	3749	11354	Si	2.88	Si
SLU 34	3.33	667.02	-17411	-14498	-1608	1.47	1.47	-35224	10833	6573	19031	12325	3749	9860	Si	6.13	Si
SLU 31	1.59	102.69	-20704	-17240	-3891	1.47	1.47	-41886	10833	7500	19031	12325	3749	11250	Si	2.89	Si
SLU 31	3.33	658.83	-17196	-14320	-1587	1.47	1.47	-34790	10833	6513	19031	12325	3749	9769	Si	6.15	Si
SLU 42	1.59	108.3	-21882	-18222	-4157	1.47	1.47	-44270	10833	7831	19031	12325	3749	11747	Si	2.83	Si
SLU 42	3.33	792.81	-18327	-15261	-1785	1.47	1.47	-37077	10833	6831	19031	12325	3749	10246	Si	5.74	Si
SLU 82	1.59	160.83	-25308	-21074	-4605	1.47	1.47	-51200	10833	8795	19031	12325	3749	13193	Si	2.87	Si
SLU 82	3.33	824.22	-21064	-17540	-1841	1.47	1.47	-42615	10833	7601	19031	12325	3749	11402	Si	6.19	Si
SLU 38	1.59	134.71	-21031	-17512	-3918	1.47	1.47	-42547	10833	7592	19031	12325	3749	11388	Si	2.91	Si
SLU 38	3.33	674.23	-17511	-14582	-1571	1.47	1.47	-35427	10833	6601	19031	12325	3749	9902	Si	6.3	Si
SLU 76	1.59	165.99	-24622	-20503	-4453	1.47	1.47	-49812	10833	8602	19031	12325	3749	12903	Si	2.9	Si
SLU 76	3.33	706.62	-20363	-16956	-1686	1.47	1.47	-41196	10833	7404	19031	12325	3749	11106	Si	6.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	1.59	-798.69	-24807	-20657	-6742	1.47	1.47	-50187	16250	9491	19031	18488	3749	22236		3.3	Si
SLD 6	3.33	313.91	-19993	-16648	-3659	1.47	1.47	-40448	16250	8137	19031	18488	3749	22236		6.08	Si
SLV 6	1.59	-1406.84	-29884	-24885	-9251	1.47	1.47	-60459	16250	10920	19031	18488	3749	22236		2.4	Si
SLV 6	3.33	278.01	-23922	-19920	-5446	1.47	1.47	-48396	16250	9242	19031	18488	3749	22236		4.08	Si
SLV 9	1.59	-1408.4	-30586	-25470	-11303	1.47	1.47	-61880	16250	11118	19031	18488	3749	22236		1.97	Si
SLV 9	3.33	562.85	-23116	-19249	-7620	1.47	1.47	-46766	16250	9016	19031	18488	3749	22236		2.92	Si
SLV 13	1.59	-323.81	-21806	-18158	-8205	1.47	1.47	-44116	16250	8647	19031	18488	3749	22236		2.71	Si
SLV 13	3.33	810.48	-15389	-12815	-5912	1.47	1.47	-31134	16250	6841	19031	18488	3749	22236		3.76	Si
SLD 10	1.59	-820.19	-25204	-20988	-7905	1.47	1.47	-50991	16250	9603	19031	18488	3749	22236		2.81	Si
SLD 10	3.33	463.13	-19567	-16294	-4873	1.47	1.47	-39586	16250	8017	19031	18488	3749	22236		4.56	Si
SLD 9	1.59	-800.04	-25256	-21031	-8053	1.47	1.47	-51095	16250	9618	19031	18488	3749	22236		2.76	Si
SLD 9	3.33	496.05	-19479	-16221	-5048	1.47	1.47	-39409	16250	7992	19031	18488	3749	22236		4.41	Si
SLD 5	1.59	-778.54	-24859	-20700	-6891	1.47	1.47	-50292	16250	9506	19031	18488	3749	22236		3.23	Si
SLD 5	3.33	346.83	-19905	-16575	-3834	1.47	1.47	-40270	16250	8112	19031	18488	3749	22236		5.8	Si
SLV 10	1.59	-1440.6	-30504	-25401	-11066	1.47	1.47	-61713	16250	11094	19031	18488	3749	22236		2.01	Si
SLV 10	3.33	510.26	-23256	-19366	-7340	1.47	1.47	-47050	16250	9055	19031	18488	3749	22236		3.03	Si
SLV 14	1.59	-371.63	-21684	-18056	-7853	1.47	1.47	-43869	16250	8612	19031	18488	3749	22236		2.83	Si
SLV 14	3.33	732.37	-15597	-12988	-5497	1.47	1.47	-31555	16250	6900	19031	18488	3749	22236		4.05	Si
SLV 5	1.59	-1374.65	-29967	-24954	-9488	1.47	1.47	-60626	16250	10943	19031	18488	3749	22236		2.34	Si
SLV 5	3.33	330.59	-23781	-19803	-5725	1.47	1.47	-48113	16250	9203	19031	18488	3749	22236		3.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.46 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	6879	-2831	28.64	378.54	13.22	Si
SLV 12	179667	0.3	7203	-2965	28.64	395.48	13.81	Si
SLV 7	179667	0.3	7959	-3276	28.64	434.73	15.18	Si
SLV 8	179667	0.3	8283	-3409	28.64	451.41	15.76	Si
SLV 15	179667	0.3	26139	-10759	28.64	1248.41	43.59	Si
SLV 16	179667	0.3	26620	-10957	28.64	1266.56	44.23	Si
SLV 3	179667	0.3	29739	-12241	28.64	1379.96	48.19	Si
SLV 4	179667	0.3	30220	-12439	28.64	1396.8	48.78	Si
SLV 13	179667	0.3	43794	-18026	28.64	1799.92	62.85	Si
SLV 14	179667	0.3	44276	-18224	28.64	1811.65	63.26	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzzeria = 2.46 Wa = 0.05 Ta = 0.0181

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-23922	-29884	173	0.412	2537.5	0.987	6.05903	2.95845	Si
SLV 5	-23781	-29967	170	0.414	2523.2	0.987	6.08888	2.95845	Si
SLV 10	-23256	-30504	151	0.422	2469.7	0.987	6.21056	2.95845	Si
SLV 9	-23116	-30586	148	0.424	2455.4	0.987	6.24216	2.95845	Si
SLV 2	-17816	-19618	157	0.522	1915.2	0.983	7.71465	3.17488	Si
SLV 1	-17607	-19740	154	0.527	1894	0.983	7.79341	3.17488	Si
SLV 14	-15597	-21684	83	0.587	1689.2	0.981	8.69206	3.17488	Si
SLV 13	-15389	-21806	80	0.594	1667.9	0.981	8.79482	3.17488	Si
SLV 4	-11887	-11454	121	0.734	1311.2	0.976	10.92453	3.17488	Si
SLV 3	-11679	-11577	118	0.745	1290	0.976	11.09745	3.17488	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita



dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.734	SLU 41	Si
V_SLU	2.826	SLU 42	Si
PF_SLV	1.132	SLV 8	Si
V_SLV	1.967	SLV 9	Si
PFFP_SLV	13.218	SLV 11	Si
R_SLV	2.048	SLV 6	Si

Maschio 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.784	-13.753	-3.314	Z medio 333 cm	L5	1.47	0.28	1.67	1.67	1.67			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 19	3.33	-525.58	-14264	-0.0000642	0.0003743	0.0035	1.47	6915.41	8331.8	8331.8	15.85	No	Si
SLU 19	5	-41.16	-12757	-0.0000497	0.0003743	0.0035	1.47	6521.87	7823.08	7823.08	190.05	No	Si
SLU 39	3.33	-558.44	-16072	-0.0000728	0.0003743	0.0035	1.47	7282.34	8991.21	8991.21	16.1	No	Si
SLU 39	5	-26.64	-14492	-0.0000568	0.0003743	0.0035	1.47	6968.11	8412.19	8412.19	315.83	No	Si
SLU 20	3.33	-496.88	-14313	-0.0000639	0.0003743	0.0035	1.47	6926.79	8348.86	8348.86	16.8	No	Si
SLU 20	5	-48.16	-12846	-0.0000502	0.0003743	0.0035	1.47	6547.46	7852.24	7852.24	163.04	No	Si
SLU 21	3.33	-521.99	-14476	-0.0000651	0.0003743	0.0035	1.47	6964.44	8406.48	8406.48	16.1	No	Si
SLU 21	5	-35.4	-12967	-0.0000505	0.0003743	0.0035	1.47	6581.5	7891.74	7891.74	222.93	No	Si
SLU 42	3.33	-579.96	-16448	-0.0000748	0.0003743	0.0035	1.47	7344.24	9132.35	9132.35	15.75	No	Si
SLU 42	5	-8.11	-14823	-0.0000579	0.0003743	0.0035	1.47	7041.12	8530.02	8530.02	1051.81	No	Si
SLU 18	3.33	-500.47	-14100	-0.0000631	0.0003743	0.0035	1.47	6876.53	8274.76	8274.76	16.53	No	Si
SLU 18	5	-53.93	-12636	-0.0000494	0.0003743	0.0035	1.47	6486.95	7783.99	7783.99	144.35	No	Si
SLU 41	3.33	-554.85	-16285	-0.0000737	0.0003743	0.0035	1.47	7317.91	9072.14	9072.14	16.35	No	Si
SLU 41	5	-20.87	-14702	-0.0000576	0.0003743	0.0035	1.47	7014.94	8486.85	8486.85	406.62	No	Si
SLU 82	3.33	-580.1	-19106	-0.0000871	0.0003743	0.0035	1.47	7640.32	9822.96	9822.96	16.93	No	Si
SLU 82	5	-46.39	-17068	-0.0000684	0.0003743	0.0035	1.47	7435.38	9325.7	9325.7	201.03	No	Si
SLU 84	3.33	-576.51	-19318	-0.0000881	0.0003743	0.0035	1.47	7653.28	9877.1	9877.1	17.13	No	Si
SLU 84	5	-40.63	-17278	-0.0000692	0.0003743	0.0035	1.47	7463.23	9374.67	9374.67	230.75	No	Si
SLU 40	3.33	-583.55	-16236	-0.0000739	0.0003743	0.0035	1.47	7309.9	9053.52	9053.52	15.51	No	Si
SLU 40	5	-13.87	-14613	-0.0000571	0.0003743	0.0035	1.47	6995.18	8454.95	8454.95	609.44	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 12	3.33	825.02	-2791	-0.0000225	0.0005615	0.0035	1.47		2097.8	2097.8	2.54		Si
SLV 12	5	-128.58	-3653	-0.0000151	0.0005615	0.0035	1.47		3061.28	3061.28	23.81		Si
SLD 8	3.33	648.84	-7167	-0.0000361	0.0005615	0.0035	1.47		4935.31	4935.31	7.61		Si
SLD 8	5	-445.25	-6723	-0.0000313	0.0005615	0.0035	1.47		5037.18	5037.18	11.31		Si
SLV 13	3.33	-1046.94	-14253	-0.0000703	0.0005615	0.0035	1.47		9223.24	9223.24	8.81		Si
SLV 13	5	989.62	-13173	-0.000065	0.0005615	0.0035	1.47		8203.42	8203.42	8.29		Si
SLV 3	3.33	676.46	-11173	-0.000052	0.0005615	0.0035	1.47		7091.39	7091.39	10.48		Si
SLV 3	5	-970.55	-9356	-0.0000495	0.0005615	0.0035	1.47		6605.97	6605.97	6.81		Si
SLD 7	3.33	627.95	-7060	-0.0000353	0.0005615	0.0035	1.47		4869.22	4869.22	7.75		Si
SLD 7	5	-382.64	-6693	-0.0000302	0.0005615	0.0035	1.47		5018.34	5018.34	13.12		Si
SLV 4	3.33	726.03	-11428	-0.0000538	0.0005615	0.0035	1.47		7231.32	7231.32	9.96		Si
SLV 4	5	-1119.11	-9428	-0.000052	0.0005615	0.0035	1.47		6647.39	6647.39	5.94		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 11	3.33	791.65	-2620	-0.0000214	0.0005615	0.0035	1.47		1981	1981	2.5		Si
SLV 11	5	-28.55	-3605	-0.0000135	0.0005615	0.0035	1.47		3028.69	3028.69	106.07		Si
SLV 15	3.33	-371.37	-8420	-0.0000366	0.0005615	0.0035	1.47		6066.65	6066.65	16.34		Si
SLV 15	5	820.16	-8635	-0.0000443	0.0005615	0.0035	1.47		5723.01	5723.01	6.98		Si
SLV 7	3.33	1105.99	-3446	-0.0000296	0.0005615	0.0035	1.47		2543.24	2543.24	2.3		Si
SLV 7	5	-565.77	-3821	-0.0000222	0.0005615	0.0035	1.47		3174.87	3174.87	5.61		Si
SLV 8	3.33	1139.37	-3617	-0.0000306	0.0005615	0.0035	1.47		2657.78	2657.78	2.33		Si
SLV 8	5	-665.79	-3869	-0.0000239	0.0005615	0.0035	1.47		3207.58	3207.58	4.82		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	3.33	-51.3	-14691	-12234	-146	1.47	1.47	-29722	10833	6051	16652	12325	3749	9077	Si	62.18	Si
SLU 43	5	-109.72	-12758	-10624	1598	1.47	1.47	-25811	10386	5485	16652	12325	3749	8227	Si	5.15	Si
SLU 49	3.33	-68.12	-15415	-12836	-308	1.47	1.47	-31186	10833	6264	16652	12325	3749	9395	Si	30.46	Si
SLU 49	5	-84.2	-13432	-11185	1553	1.47	1.47	-27174	10568	5682	16652	12325	3749	8523	Si	5.49	Si
SLU 45	3.33	-46.6	-15039	-12523	-170	1.47	1.47	-30425	10833	6153	16652	12325	3749	9230	Si	54.36	Si
SLU 45	5	-102.72	-13101	-10910	1625	1.47	1.47	-26505	10478	5585	16652	12325	3749	8378	Si	5.15	Si
SLU 66	3.33	-104.57	-17011	-14165	-371	1.47	1.47	-34415	10833	6731	16652	12325	3749	10097	Si	27.23	Si
SLU 66	5	-75.43	-14958	-12455	1740	1.47	1.47	-30261	10833	6129	16652	12325	3749	9194	Si	5.28	Si
SLU 46	3.33	-71.71	-15203	-12659	-292	1.47	1.47	-30757	10833	6201	16652	12325	3749	9302	Si	31.86	Si
SLU 46	5	-89.96	-13222	-11010	1538	1.47	1.47	-26749	10511	5621	16652	12325	3749	8431	Si	5.48	Si
SLU 50	3.33	-44.12	-15116	-12587	-179	1.47	1.47	-30581	10833	6176	16652	12325	3749	9264	Si	51.82	Si
SLU 50	5	-98.19	-13178	-10974	1629	1.47	1.47	-26661	10499	5608	16652	12325	3749	8412	Si	5.16	Si
SLU 71	3.33	-102.09	-17088	-14229	-380	1.47	1.47	-34571	10833	6754	16652	12325	3749	10131	Si	26.67	Si
SLU 71	5	-70.9	-15035	-12520	1743	1.47	1.47	-30417	10833	6152	16652	12325	3749	9228	Si	5.29	Si
SLU 64	3.33	-109.27	-16663	-13876	-347	1.47	1.47	-33711	10833	6629	16652	12325	3749	9944	Si	28.66	Si
SLU 64	5	-82.43	-14615	-12170	1713	1.47	1.47	-29567	10833	6029	16652	12325	3749	9043	Si	5.28	Si
SLU 48	3.33	-43.01	-15251	-12700	-186	1.47	1.47	-30855	10833	6216	16652	12325	3749	9323	Si	50.07	Si
SLU 48	5	-96.96	-13311	-11084	1641	1.47	1.47	-26930	10535	5647	16652	12325	3749	8470	Si	5.16	Si
SLU 69	3.33	-100.98	-17223	-14342	-387	1.47	1.47	-34845	10833	6794	16652	12325	3749	10191	Si	26.32	Si
SLU 69	5	-69.67	-15168	-12630	1755	1.47	1.47	-30686	10833	6191	16652	12325	3749	9287	Si	5.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	3.33	-1145.93	-22889	-19060	-4819	1.47	1.47	-46307	16250	9327	16652	18488	3749	22236		4.61	Si
SLV 5	5	-0.92	-18948	-15778	-1200	1.47	1.47	-38334	16250	8171	16652	18488	3749	22236		18.54	Si
SLV 13	3.33	-1046.94	-14253	-11869	-5228	1.47	1.47	-28835	16184	6795	16652	18488	3749	22236		4.25	Si
SLV 13	5	989.62	-13173	-10970	-3095	1.47	1.47	-26651	15747	6481	16652	18488	3749	22236		7.19	Si
SLV 7	3.33	1105.99	-3446	-2869	5673	1.47	1.2421	-6971	11811	4108	16652	18488	3749	20760		3.66	Si
SLV 7	5	-565.77	-3821	-3182	5363	1.47	1.47	-7730	11963	4924	16652	18488	3749	21576		4.02	Si
SLV 10	3.33	-1426.91	-22235	-18515	-6377	1.47	1.47	-44983	16250	9135	16652	18488	3749	22236		3.49	Si
SLV 10	5	436.27	-18780	-15638	-2791	1.47	1.47	-37994	16250	8122	16652	18488	3749	22236		7.97	Si
SLV 14	3.33	-997.37	-14507	-12081	-4793	1.47	1.47	-29350	16250	6870	16652	18488	3749	22236		4.64	Si
SLV 14	5	841.05	-13245	-11029	-2636	1.47	1.47	-26796	15776	6499	16652	18488	3749	22236		8.43	Si
SLV 8	3.33	1139.37	-3617	-3012	5966	1.47	1.2601	-7318	11880	4192	16652	18488	3749	20844		3.49	Si
SLV 8	5	-665.79	-3869	-3222	5672	1.47	1.47	-7828	11982	4932	16652	18488	3749	21584		3.81	Si
SLV 3	3.33	676.46	-11173	-9304	4089	1.47	1.47	-22604	14938	6148	16652	18488	3749	22236		5.44	Si
SLV 3	5	-970.55	-9356	-7791	5209	1.47	1.47	-18928	14202	5846	16652	18488	3749	22236		4.27	Si
SLV 6	3.33	-1112.56	-23060	-19203	-4526	1.47	1.47	-46654	16250	9377	16652	18488	3749	22236		4.91	Si
SLV 6	5	-100.94	-18996	-15818	-891	1.47	1.47	-38431	16250	8186	16652	18488	3749	22236		24.96	Si
SLV 4	3.33	726.03	-11428	-9516	4525	1.47	1.47	-23119	15041	6191	16652	18488	3749	22236		4.91	Si
SLV 4	5	-1119.11	-9428	-7850	5667	1.47	1.47	-19073	14231	5858	16652	18488	3749	22236		3.92	Si
SLV 9	3.33	-1460.28	-22063	-18372	-6670	1.47	1.47	-44636	16250	9085	16652	18488	3749	22236		3.33	Si
SLV 9	5	536.3	-18732	-15598	-3100	1.47	1.47	-37896	16250	8108	16652	18488	3749	22236		7.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.165 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.33	7346	-3024	29.53	402.97	13.65	Si
SLV 12	179667	0.33	7731	-3182	29.53	422.95	14.32	Si
SLV 7	179667	0.33	9071	-3734	29.53	491.66	16.65	Si
SLV 8	179667	0.33	9456	-3892	29.53	511.14	17.31	Si
SLV 15	179667	0.33	19831	-8162	29.53	994.34	33.67	Si
SLV 16	179667	0.33	20402	-8398	29.53	1018.59	34.49	Si
SLV 3	179667	0.33	25580	-10529	29.53	1227.11	41.56	Si
SLV 4	179667	0.33	26151	-10764	29.53	1248.89	42.29	Si
SLV 13	179667	0.33	32336	-13310	29.53	1468.8	49.74	Si
SLV 14	179667	0.33	32908	-13545	29.53	1487.66	50.38	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.165 Wa = 0.05 Ta = 0.0166

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 6	-18996	-23060	17	0.507	2031.5	0.985	7.47454	3.18768	Si
SLV 5	-18948	-22889	17	0.508	2026.6	0.985	7.49011	3.18768	Si
SLV 10	-18780	-22235	63	0.509	2009.5	0.985	7.51029	3.18768	Si
SLV 9	-18732	-22063	63	0.51	2004.5	0.985	7.52613	3.18768	Si
SLV 2	-13966	-17260	-63	0.649	1518.9	0.98	9.62752	3.40116	Si
SLV 1	-13894	-17006	-62	0.652	1511.6	0.98	9.67002	3.40116	Si
SLV 14	-13245	-14507	91	0.677	1445.5	0.979	10.04312	3.40116	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-13173	-14253	91	0.68	1438.2	0.979	10.08971	3.40116	Si
SLV 4	-9428	-11428	-85	0.902	1056.6	0.972	13.49464	3.40116	Si
SLV 3	-9356	-11173	-85	0.908	1049.3	0.972	13.58543	3.40116	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.515	SLU 40	Si
V_SLU	5.148	SLU 43	Si
PF_SLV	2.3	SLV 7	Si
V_SLV	3.334	SLV 9	Si
PFFP_SLV	13.646	SLV 11	Si
R_SLV	2.345	SLV 6	Si

Maschio 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.314	-13.753	-0.228	L4	L5	3.086	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 74	1.59	5629.65	-52553	-0.0001307	0.0003743	0.0035	3.0857	32640.33	47475.88	47475.88	8.43	No	Si
SLU 74	3.69	1098.37	-42924	-0.0000875	0.0003743	0.0035	3.0857	33909.16	44028.24	44028.24	40.09	No	Si
SLU 71	1.59	5262.42	-47618	-0.0001164	0.0003743	0.0035	3.0857	33696.91	45951.09	45951.09	8.73	No	Si
SLU 71	3.69	396.98	-38854	-0.0000756	0.0003743	0.0035	3.0857	33467.56	41368.34	41368.34	104.21	No	Si
SLU 58	1.59	5245.07	-47247	-0.0001154	0.0003743	0.0035	3.0857	33741.79	45841.44	45841.44	8.74	No	Si
SLU 58	3.69	650.23	-38267	-0.0000754	0.0003743	0.0035	3.0857	33355.85	40987.61	40987.61	63.04	No	Si
SLU 79	1.59	5680.05	-52827	-0.0001316	0.0003743	0.0035	3.0857	32556.55	47564.2	47564.2	8.37	No	Si
SLU 79	3.69	1128	-43187	-0.0000882	0.0003743	0.0035	3.0857	33917.71	44184.89	44184.89	39.17	No	Si
SLU 77	1.59	5715.47	-53177	-0.0001327	0.0003743	0.0035	3.0857	32445.93	47677.31	47677.31	8.34	No	Si
SLU 77	3.69	1146.52	-43525	-0.0000891	0.0003743	0.0035	3.0857	33925.14	44381.73	44381.73	38.71	No	Si
SLU 56	1.59	5280.49	-47597	-0.0001164	0.0003743	0.0035	3.0857	33699.6	45944.82	45944.82	8.7	No	Si
SLU 56	3.69	668.75	-38605	-0.0000762	0.0003743	0.0035	3.0857	33421.6	41206.31	41206.31	61.62	No	Si
SLU 81	1.59	5687.39	-53812	-0.0001343	0.0003743	0.0035	3.0857	32233.99	47884.36	47884.36	8.42	No	Si
SLU 81	3.69	1344.99	-43842	-0.0000906	0.0003743	0.0035	3.0857	33928.46	44561.89	44561.89	33.13	No	Si
SLU 62	1.59	5338.23	-48856	-0.0001198	0.0003743	0.0035	3.0857	33512.14	46322.16	46322.16	8.68	No	Si
SLU 62	3.69	915.37	-39522	-0.0000792	0.0003743	0.0035	3.0857	33579.98	41805.15	41805.15	45.67	No	Si
SLU 83	1.59	5773.21	-54436	-0.0001364	0.0003743	0.0035	3.0857	32012.03	48089.71	48018.05	8.32	Si	Si
SLU 83	3.69	1393.14	-44443	-0.0000922	0.0003743	0.0035	3.0857	33925.08	44892.09	44892.09	32.22	No	Si
SLU 69	1.59	5297.84	-47968	-0.0001174	0.0003743	0.0035	3.0857	33650.18	46055.11	46055.11	8.69	No	Si
SLU 69	3.69	415.5	-39192	-0.0000764	0.0003743	0.0035	3.0857	33526.35	41588.68	41588.68	100.09	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	1.59	21344.77	-33496	-0.0001439	0.0005615	0.0035	3.0857		41920.38	41920.38	1.96		Si
SLV 11	3.69	-2137.98	-18460	-0.0000398	0.0005615	0.0035	3.0857		27994.89	27994.89	13.09		Si
SLV 10	1.59	-15981.79	-37626	-0.0001288	0.0005615	0.0035	3.0857		48418.99	48418.99	3.03		Si
SLV 10	3.69	3679.63	-39744	-0.0000864	0.0005615	0.0035	3.0857		47675.23	47675.23	12.96		Si
SLV 9	1.59	-16126.38	-37872	-0.0001299	0.0005615	0.0035	3.0857		48637.99	48637.99	3.02		Si
SLV 9	3.69	3773.46	-39887	-0.0000871	0.0005615	0.0035	3.0857		47808.68	47808.68	12.67		Si
SLD 12	1.59	14751.4	-34257	-0.0001168	0.0005615	0.0035	3.0857		42611.38	42611.38	2.89		Si
SLD 12	3.69	-1253.66	-22437	-0.0000441	0.0005615	0.0035	3.0857		32735.86	32735.86	26.11		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	1.59	23861.19	-34238	-0.0001595	0.0005615	0.0035	3.0857		42593.48	42593.48	1.79		Si
SLV 7	3.69	-3009.34	-18495	-0.0000429	0.0005615	0.0035	3.0857		28038.09	28038.09	9.32		Si
SLD 8	1.59	16363.63	-34733	-0.000124	0.0005615	0.0035	3.0857		43045.18	43045.18	2.63		Si
SLD 8	3.69	-1812.41	-22462	-0.0000461	0.0005615	0.0035	3.0857		32763.91	32763.91	18.08		Si
SLV 12	1.59	21489.36	-33250	-0.0001443	0.0005615	0.0035	3.0857		41697.59	41697.59	1.94		Si
SLV 12	3.69	-2231.81	-18318	-0.0000399	0.0005615	0.0035	3.0857		27815.8	27815.8	12.46		Si
SLD 7	1.59	16273.11	-34887	-0.000124	0.0005615	0.0035	3.0857		43185.81	43185.81	2.65		Si
SLD 7	3.69	-1753.67	-22551	-0.000046	0.0005615	0.0035	3.0857		32865.21	32865.21	18.74		Si
SLV 8	1.59	24005.78	-33991	-0.0001602	0.0005615	0.0035	3.0857		42369.74	42369.74	1.76		Si
SLV 8	3.69	-3103.17	-18352	-0.000043	0.0005615	0.0035	3.0857		27859.36	27859.36	8.98		Si
SLD 11	1.59	14660.89	-34411	-0.0001168	0.0005615	0.0035	3.0857		42751.62	42751.62	2.92		Si
SLD 11	3.69	-1194.92	-22527	-0.000044	0.0005615	0.0035	3.0857		32838.08	32838.08	27.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	1.59	4777.04	-41764	-34777	6486	3.0857	3.0857	-40252	10833	16351	38062	25872	7869	24527	Si	3.78	Si
SLU 45	3.69	-110.43	-33670	-28038	4528	3.0857	3.0857	-32451	10833	13912	38062	25872	7869	20868	Si	4.61	Si
SLU 48	1.59	4862.86	-42388	-35297	6544	3.0857	3.0857	-40853	10833	16539	38062	25872	7869	24809	Si	3.79	Si
SLU 48	3.69	-62.27	-34272	-28538	4551	3.0857	3.0857	-33031	10833	14093	38062	25872	7869	21139	Si	4.64	Si
SLU 58	1.59	5245.07	-47247	-39344	7147	3.0857	3.0857	-45537	10833	18004	38062	25872	7869	27006	Si	3.78	Si
SLU 58	3.69	650.23	-38267	-31865	4937	3.0857	3.0857	-36881	10833	15297	38062	25872	7869	22946	Si	4.65	Si
SLU 53	1.59	5194.67	-46973	-39115	7120	3.0857	3.0857	-45273	10833	17921	38062	25872	7869	26882	Si	3.78	Si
SLU 53	3.69	620.59	-38003	-31646	4924	3.0857	3.0857	-36628	10833	15218	38062	25872	7869	22827	Si	4.64	Si
SLU 60	1.59	5252.4	-48232	-40164	7303	3.0857	3.0857	-46486	10833	18301	38062	25872	7869	27451	Si	3.76	Si
SLU 60	3.69	867.21	-38921	-32410	5060	3.0857	3.0857	-37512	10833	15494	38062	25872	7869	23242	Si	4.59	Si
SLU 56	1.59	5280.49	-47597	-39635	7178	3.0857	3.0857	-45874	10833	18109	38062	25872	7869	27164	Si	3.78	Si
SLU 56	3.69	668.75	-38605	-32147	4947	3.0857	3.0857	-37207	10833	15399	38062	25872	7869	23098	Si	4.67	Si
SLU 62	1.59	5338.23	-48856	-40683	7361	3.0857	3.0857	-47087	10833	18489	38062	25872	7869	27733	Si	3.77	Si
SLU 62	3.69	915.37	-39522	-32911	5083	3.0857	3.0857	-38092	10833	15676	38062	25872	7869	23513	Si	4.63	Si
SLU 50	1.59	4827.44	-42038	-35006	6514	3.0857	3.0857	-40516	10833	16434	38062	25872	7869	24651	Si	3.78	Si
SLU 50	3.69	-80.79	-33934	-28257	4542	3.0857	3.0857	-32705	10833	13991	38062	25872	7869	20987	Si	4.62	Si
SLU 43	1.59	4655.79	-40790	-33967	6397	3.0857	3.0857	-39314	10833	16058	38062	25872	7869	24087	Si	3.77	Si
SLU 43	3.69	-177.1	-32731	-27256	4496	3.0857	3.0857	-31546	10833	13629	38062	25872	7869	20443	Si	4.55	Si
SLU 81	1.59	5687.39	-53812	-44810	7878	3.0857	3.0857	-51864	10833	19982	38062	25872	7869	29974	Si	3.8	Si
SLU 81	3.69	1344.99	-43842	-36508	5324	3.0857	3.0857	-42255	10833	16977	38062	25872	7869	25466	Si	4.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	1.59	14660.89	-34411	-28655	14540	3.0857	3.0857	-33165	16250	16017	38062	38808	7869	46676		3.21	Si
SLD 11	3.69	-1194.92	-22527	-18758	14011	3.0857	3.0857	-21711	14759	12752	38062	38808	7869	46676		3.33	Si
SLD 7	1.59	16273.11	-34887	-29051	15682	3.0857	3.0857	-33624	16250	16160	38062	38808	7869	46676		2.98	Si
SLD 7	3.69	-1753.67	-22551	-18778	15055	3.0857	3.0857	-21734	14764	12756	38062	38808	7869	46676		3.1	Si
SLV 7	1.59	23861.19	-34238	-28510	22002	3.0857	2.5377	-32998	16250	15965	38062	38808	7869	46676		2.12	Si
SLV 7	3.69	-3009.34	-18495	-15401	22038	3.0857	3.0857	-17825	13982	12080	38062	38808	7869	46676		2.12	Si
SLV 12	1.59	21489.36	-33250	-27688	20278	3.0857	2.6897	-32047	16250	15667	38062	38808	7869	46676		2.3	Si
SLV 12	3.69	-2231.81	-18318	-15254	20426	3.0857	3.0857	-17655	13948	12051	38062	38808	7869	46676		2.29	Si
SLV 9	1.59	-16126.38	-37872	-31536	-11226	3.0857	3.0857	-36500	16250	17060	38062	38808	7869	46676		4.16	Si
SLV 9	3.69	3773.46	-39887	-33214	-14625	3.0857	3.0857	-38443	16250	17667	38062	38808	7869	46676		3.19	Si
SLD 8	1.59	16363.63	-34733	-28923	15720	3.0857	3.0857	-33476	16250	16114	38062	38808	7869	46676		2.97	Si
SLD 8	3.69	-1812.41	-22462	-18704	15067	3.0857	3.0857	-21648	14746	12741	38062	38808	7869	46676		3.1	Si
SLV 10	1.59	-15981.79	-37626	-31331	-11166	3.0857	3.0857	-36263	16250	16986	38062	38808	7869	46676		4.18	Si
SLV 10	3.69	3679.63	-39744	-33095	-14607	3.0857	3.0857	-38305	16250	17624	38062	38808	7869	46676		3.2	Si
SLV 11	1.59	21344.77	-33496	-27893	20218	3.0857	2.7169	-32284	16250	15741	38062	38808	7869	46676		2.31	Si
SLV 11	3.69	-2137.98	-18460	-15372	20408	3.0857	3.0857	-17792	13975	12074	38062	38808	7869	46676		2.29	Si
SLD 12	1.59	14751.4	-34257	-28526	14578	3.0857	3.0857	-33017	16250	15970	38062	38808	7869	46676		3.2	Si
SLD 12	3.69	-1253.66	-22437	-18684	14022	3.0857	3.0857	-21625	14742	12737	38062	38808	7869	46676		3.33	Si
SLV 8	1.59	24005.78	-33991	-28305	22062	3.0857	2.5099	-32761	16250	15890	38062	38808	7869	46676		2.12	Si
SLV 8	3.69	-3103.17	-18352	-15282	22056	3.0857	3.0857	-17688	13954	12056	38062	38808	7869	46676		2.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.31	25972	-22440	250.68	2607.27	10.4	Si
SLV 11	179667	0.31	26147	-22590	250.68	2621.19	10.46	Si
SLV 8	179667	0.31	26195	-22632	250.68	2625.04	10.47	Si
SLV 7	179667	0.31	26370	-22783	250.68	2638.89	10.53	Si
SLV 16	179667	0.31	32643	-28204	250.68	3104.5	12.38	Si
SLV 15	179667	0.31	32903	-28428	250.68	3122.41	12.46	Si
SLV 4	179667	0.31	33387	-28846	250.68	3155.57	12.59	Si
SLV 3	179667	0.31	33646	-29070	250.68	3173.17	12.66	Si
SLV 14	179667	0.31	38621	-33368	250.68	3490.15	13.92	Si
SLV 13	179667	0.31	38880	-33592	250.68	3505.61	13.98	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 1	-28781	-38006	-628	0.576	3345.3	0.963	8.6939	5.31498	Si
SLV 2	-28570	-37640	-628	0.58	3323.7	0.963	8.7504	5.31498	Si
SLV 3	-26598	-36693	-592	0.617	3123.2	0.96	9.33827	5.31498	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-26386	-36328	-592	0.621	3101.6	0.96	9.40399	5.31498	Si
SLV 13	-25798	-35535	809	0.626	3041.8	0.959	9.47745	5.31498	Si
SLV 14	-25586	-35170	809	0.63	3020.3	0.959	9.54668	5.31498	Si
SLV 15	-23614	-34223	845	0.673	2819.8	0.957	10.22356	5.31498	Si
SLV 16	-23403	-33857	844	0.678	2798.3	0.956	10.30503	5.31498	Si
SLV 5	-30250	-38613	-166	0.566	3494.7	0.964	8.53223	3.92562	Si
SLV 6	-30107	-38367	-167	0.568	3480.2	0.964	8.56772	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.317	SLU 83	Si
V_SLU	3.759	SLU 60	Si
PF_SLV	1.765	SLV 8	Si
V_SLV	2.116	SLV 8	Si
PFFP_SLV	10.401	SLV 12	Si
R_SLV	1.636	SLV 1	Si

Maschio 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-20.668	1.046	-24.678	1.046	L4	L5	4.01	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 83	1.59	-3239.37	-107574	-0.000162	0.0004492	0.0035	4.01	46564.15	131952.09	69846.23	21.56	Si	Si
SLU 83	3.69	-10833.7	-83541	-0.0001396	0.0004492	0.0035	4.01	65503.54	119456.71	98255.31	9.07	Si	Si
SLU 82	1.59	-3243.69	-106341	-0.0001598	0.0004492	0.0035	4.01	47946.19	131506.81	71919.29	22.17	Si	Si
SLU 82	3.69	-10680.52	-82529	-0.0001375	0.0004492	0.0035	4.01	65930.44	118722.01	98895.67	9.26	Si	Si
SLU 74	1.59	-3248.49	-104466	-0.0001565	0.0004492	0.0035	4.01	49963.39	130596.22	74945.09	23.07	Si	Si
SLU 74	3.69	-10311.44	-80700	-0.0001336	0.0004492	0.0035	4.01	66626.58	117393.22	99939.87	9.69	Si	Si
SLU 75	1.59	-3227.18	-104543	-0.0001566	0.0004492	0.0035	4.01	49882.75	130633.53	74824.12	23.19	Si	Si
SLU 75	3.69	-10307.28	-80751	-0.0001337	0.0004492	0.0035	4.01	66608.24	117430.8	99912.35	9.69	Si	Si
SLU 79	1.59	-3229.39	-104972	-0.0001574	0.0004492	0.0035	4.01	49428.97	130842.03	74143.45	22.96	Si	Si
SLU 79	3.69	-10378.35	-81093	-0.0001344	0.0004492	0.0035	4.01	66485.29	117678.66	99727.94	9.61	Si	Si
SLU 77	1.59	-3222.86	-105776	-0.0001588	0.0004492	0.0035	4.01	48565.49	131232.13	72848.23	22.6	Si	Si
SLU 77	3.69	-10460.46	-81763	-0.0001357	0.0004492	0.0035	4.01	66233.89	118165.51	99350.84	9.5	Si	Si
SLU 84	1.59	-3218.06	-107651	-0.0001621	0.0004492	0.0035	4.01	46476.53	131969.54	69714.79	21.66	Si	Si
SLU 84	3.69	-10829.54	-83592	-0.0001396	0.0004492	0.0035	4.01	65480.9	119494.3	98221.35	9.07	Si	Si
SLU 78	1.59	-3201.56	-105853	-0.0001589	0.0004492	0.0035	4.01	48481.9	131269.45	72722.85	22.71	Si	Si
SLU 78	3.69	-10456.29	-81815	-0.0001358	0.0004492	0.0035	4.01	66213.94	118203.1	99320.91	9.5	Si	Si
SLU 81	1.59	-3264.99	-106264	-0.0001597	0.0004492	0.0035	4.01	48030.87	131469.49	72046.31	22.07	Si	Si
SLU 81	3.69	-10684.69	-82477	-0.0001374	0.0004492	0.0035	4.01	65951.48	118684.42	98927.22	9.26	Si	Si
SLU 80	1.59	-3208.09	-105049	-0.0001575	0.0004492	0.0035	4.01	49347.19	130879.35	74020.78	23.07	Si	Si
SLU 80	3.69	-10374.18	-81144	-0.0001345	0.0004492	0.0035	4.01	66466.35	117716.25	99699.53	9.61	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 2	1.59	13174.68	-94642	-0.0001538	0.0006738	0.0035	4.01		137793.37	137793.37	10.46		Si
SLV 2	3.69	-14049.61	-74896	-0.0001263	0.0006738	0.0035	4.01		124606.77	124606.77	8.87		Si
SLD 14	1.59	-12397.9	-57610	-0.0000983	0.0006738	0.0035	4.01		103713.3	103713.3	8.37		Si
SLD 14	3.69	-2125.57	-41870	-0.0000566	0.0006738	0.0035	4.01		81649.72	81649.72	38.41		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 13	1.59	-12621.85	-57662	-0.0000988	0.0006738	0.0035	4.01		103780.33	103780.33	8.22		Si
SLD 13	3.69	-2073.23	-41856	-0.0000565	0.0006738	0.0035	4.01		81628.39	81628.39	39.37		Si
SLD 16	1.59	-12320.58	-57017	-0.0000973	0.0006738	0.0035	4.01		102929.75	102929.75	8.35		Si
SLD 16	3.69	-2083.54	-41540	-0.0000561	0.0006738	0.0035	4.01		81147.53	81147.53	38.95		Si
SLV 15	1.59	-18233.34	-48787	-0.0000978	0.0006738	0.0035	4.01		91671.34	91671.34	5.03		Si
SLV 15	3.69	600.03	-34161	-0.0000436	0.0006738	0.0035	4.01		61853.21	61853.21	103.08		Si
SLD 15	1.59	-12544.52	-57069	-0.0000978	0.0006738	0.0035	4.01		103001.22	103001.22	8.21		Si
SLD 15	3.69	-2031.21	-41526	-0.000056	0.0006738	0.0035	4.01		81126.2	81126.2	39.94		Si
SLV 13	1.59	-18364.3	-49746	-0.0000994	0.0006738	0.0035	4.01		93053.09	93053.09	5.07		Si
SLV 13	3.69	532.84	-34695	-0.0000442	0.0006738	0.0035	4.01		62640.22	62640.22	117.56		Si
SLV 16	1.59	-17882.48	-48704	-0.000097	0.0006738	0.0035	4.01		91552.4	91552.4	5.12		Si
SLV 16	3.69	518.04	-34183	-0.0000435	0.0006738	0.0035	4.01		61885.5	61885.5	119.46		Si
SLV 14	1.59	-18013.44	-49664	-0.0000986	0.0006738	0.0035	4.01		92934.15	92934.15	5.16		Si
SLV 14	3.69	450.85	-34717	-0.0000441	0.0006738	0.0035	4.01		62672.51	62672.51	139.01		Si
SLV 4	1.59	13305.65	-93683	-0.0001526	0.0006738	0.0035	4.01		137018.63	137018.63	10.3		Si
SLV 4	3.69	-13982.42	-74362	-0.0001254	0.0006738	0.0035	4.01		124017.48	124017.48	8.87		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	1.59	-3183.92	-84866	-60542	-12700	4.01	4.01	-53920	10833	30702	108749	40351	20451	46053	Si	3.63	Si
SLU 49	3.69	-7465.22	-63370	-45206	-13116	4.01	4.01	-40262	10833	24568	108749	40351	20451	36852	Si	2.81	Si
SLU 68	1.59	-3256.02	-94666	-67532	-13081	4.01	4.01	-60146	10833	33498	108749	40351	20451	50247	Si	3.84	Si
SLU 68	3.69	-8812.19	-71923	-51308	-13546	4.01	4.01	-45696	10833	27008	108749	40351	20451	40513	Si	2.99	Si
SLU 43	1.59	-3263.01	-81368	-58046	-12309	4.01	4.01	-51697	10833	29703	108749	40351	20451	44555	Si	3.62	Si
SLU 43	3.69	-7089.24	-60521	-43174	-12706	4.01	4.01	-38452	10833	23755	108749	40351	20451	35633	Si	2.8	Si
SLU 51	1.59	-3190.46	-84063	-59969	-12619	4.01	4.01	-53410	10833	30473	108749	40351	20451	45709	Si	3.62	Si
SLU 51	3.69	-7383.11	-62699	-44728	-13030	4.01	4.01	-39836	10833	24377	108749	40351	20451	36565	Si	2.81	Si
SLU 47	1.59	-3201.88	-82805	-59071	-12482	4.01	4.01	-52610	10833	30114	108749	40351	20451	45170	Si	3.62	Si
SLU 47	3.69	-7231.31	-61670	-43994	-12887	4.01	4.01	-39183	10833	24083	108749	40351	20451	36125	Si	2.8	Si
SLU 46	1.59	-3209.55	-83557	-59608	-12553	4.01	4.01	-53088	10833	30328	108749	40351	20451	45492	Si	3.62	Si
SLU 46	3.69	-7316.2	-62306	-44448	-12962	4.01	4.01	-39587	10833	24265	108749	40351	20451	36397	Si	2.81	Si
SLU 50	1.59	-3211.76	-83986	-59914	-12603	4.01	4.01	-53361	10833	30451	108749	40351	20451	45676	Si	3.62	Si
SLU 50	3.69	-7387.27	-62648	-44691	-13014	4.01	4.01	-39803	10833	24362	108749	40351	20451	36543	Si	2.81	Si
SLU 48	1.59	-3205.23	-84790	-60487	-12685	4.01	4.01	-53871	10833	30680	108749	40351	20451	46020	Si	3.63	Si
SLU 48	3.69	-7469.38	-63318	-45169	-13100	4.01	4.01	-40229	10833	24553	108749	40351	20451	36830	Si	2.81	Si
SLU 44	1.59	-3227.5	-81496	-58137	-12335	4.01	4.01	-51779	10833	29740	108749	40351	20451	44610	Si	3.62	Si
SLU 44	3.69	-7082.3	-60607	-43236	-12733	4.01	4.01	-38507	10833	23780	108749	40351	20451	35670	Si	2.8	Si
SLU 45	1.59	-3230.85	-83480	-59553	-12538	4.01	4.01	-53039	10833	30306	108749	40351	20451	45459	Si	3.63	Si
SLU 45	3.69	-7320.37	-62255	-44411	-12946	4.01	4.01	-39554	10833	24250	108749	40351	20451	36375	Si	2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	1.59	-18233.34	-48787	-34803	-18626	4.01	4.01	-30997	16250	23650	108749	60526	20451	80977		4.35	Si
SLV 15	3.69	600.03	-34161	-24370	-18587	4.01	4.01	-21704	16250	19477	108749	60526	20451	80977		4.36	Si
SLV 13	1.59	-18364.3	-49746	-35488	-19154	4.01	4.01	-31606	16250	23924	108749	60526	20451	80977		4.23	Si
SLV 13	3.69	532.84	-34695	-24751	-19061	4.01	4.01	-22044	16250	19629	108749	60526	20451	80977		4.25	Si
SLD 15	1.59	-12544.52	-57069	-40712	-15472	4.01	4.01	-36259	16250	26013	108749	60526	20451	80977		5.23	Si
SLD 15	3.69	-2031.21	-41526	-29624	-15533	4.01	4.01	-26384	16250	21578	108749	60526	20451	80977		5.21	Si
SLV 16	1.59	-17882.48	-48704	-34744	-18320	4.01	4.01	-30944	16250	23626	108749	60526	20451	80977		4.42	Si
SLV 16	3.69	518.04	-34183	-24385	-18282	4.01	4.01	-21718	16250	19483	108749	60526	20451	80977		4.43	Si
SLV 10	1.59	-7307.7	-66539	-47467	-13290	4.01	4.01	-42276	16250	28715	108749	60526	20451	80977		6.09	Si
SLV 10	3.69	-4689.31	-49400	-35240	-13427	4.01	4.01	-31386	16250	23825	108749	60526	20451	80977		6.03	Si
SLV 14	1.59	-18013.44	-49664	-35429	-18848	4.01	4.01	-31554	16250	23900	108749	60526	20451	80977		4.3	Si
SLV 14	3.69	450.85	-34717	-24766	-18756	4.01	4.01	-22058	16250	19635	108749	60526	20451	80977		4.32	Si
SLD 16	1.59	-12320.58	-57017	-40674	-15277	4.01	4.01	-36226	16250	25998	108749	60526	20451	80977		5.3	Si
SLD 16	3.69	-2083.54	-41540	-29634	-15338	4.01	4.01	-26393	16250	21582	108749	60526	20451	80977		5.28	Si
SLD 13	1.59	-12621.85	-57662	-41135	-15798	4.01	4.01	-36636	16250	26183	108749	60526	20451	80977		5.13	Si
SLD 13	3.69	-2073.23	-41856	-29859	-15826	4.01	4.01	-26593	16250	21672	108749	60526	20451	80977		5.12	Si
SLD 14	1.59	-12397.9	-57610	-41097	-15603	4.01	4.01	-36603	16250	26167	108749	60526	20451	80977		5.19	Si
SLD 14	3.69	-2125.57	-41870	-29869	-15631	4.01	4.01	-26602	16250	21676	108749	60526	20451	80977		5.18	Si
SLV 9	1.59	-7543.92	-66595	-47507	-13497	4.01	4.01	-42311	16250	28731	108749	60526	20451	80977		6	Si
SLV 9	3.69	-4634.1	-49385	-35230	-13632	4.01	4.01	-31377	16250	23821	108749	60526	20451	80977		5.94	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-36716	0.31	325.77	4223.1	6039.69	5131.39	15.75	Si
SLV 15	-36718	0.31	325.77	4223.29	6039.99	5131.64	15.75	Si
SLV 14	-37333	0.31	325.77	4278.48	6128.44	5203.46	15.97	Si
SLV 13	-37336	0.31	325.77	4278.66	6128.74	5203.7	15.97	Si
SLV 12	-50224	0.31	325.77	5315.31	7978.77	6647.04	20.4	Si
SLV 11	-50225	0.31	325.77	5315.42	7978.96	6647.19	20.4	Si
SLV 10	-52284	0.31	325.77	5460.03	8262.29	6861.16	21.06	Si
SLV 9	-52285	0.31	325.77	5460.12	8262.48	6861.3	21.06	Si
SLV 8	-62420	0.31	325.77	6088.15	9626.84	7857.49	24.12	Si
SLV 7	-62422	0.31	325.77	6088.23	9627.02	7857.62	24.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 1	-60013	-94725	-293	0.394	6649.3	0.975	5.86743	5.31498	Si
SLV 2	-59999	-94642	-293	0.394	6647.9	0.975	5.86845	5.31498	Si
SLV 3	-59825	-93766	96	0.398	6630.2	0.975	5.92969	5.31498	Si
SLV 4	-59811	-93683	96	0.398	6628.8	0.975	5.93104	5.31498	Si
SLV 5	-52157	-80088	-677	0.437	5849.2	0.972	6.5284	3.92562	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-52147	-80033	-678	0.437	5848.3	0.972	6.5293	3.92562	Si
SLV 7	-51529	-76890	619	0.442	5785.3	0.971	6.61364	3.92562	Si
SLV 8	-51520	-76835	619	0.442	5784.4	0.971	6.61481	3.92562	Si
SLV 15	-36757	-48787	294	0.598	4281.7	0.962	9.02419	5.31498	Si
SLV 16	-36743	-48704	293	0.598	4280.3	0.962	9.02743	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.069	SLU 83	Si
V_SLU	2.801	SLU 44	Si
PF_SLV	5.028	SLV 15	Si
V_SLV	4.228	SLV 13	Si
PFFP_SLV	15.751	SLV 16	Si
R_SLV	1.104	SLV 1	Si

Maschio 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.283	1.046	-19.868	1.046	L4	L5	7.585	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α	α	elim,conv	ϵ_{fd}	γ_{fd}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	1.59	28603.25	-179202	-0.0001516	0.0004492	0.0035	7.585	210302.25	441090.91	315453.38	11.03	Si	Si
SLU 79	4.09	13644.11	-162797	-0.0001269	0.0004492	0.0035	7.585	230079.96	417403.3	345119.94	25.29	Si	Si
SLU 83	1.59	29311.91	-184131	-0.0001567	0.0004492	0.0035	7.585	202821.95	445104.2	304232.93	10.38	Si	Si
SLU 83	4.09	13845.86	-167816	-0.0001314	0.0004492	0.0035	7.585	224864.83	424799.66	337297.25	24.36	Si	Si
SLU 84	1.59	29539.23	-184316	-0.000157	0.0004492	0.0035	7.585	202527.26	445254.89	303790.89	10.28	Si	Si
SLU 84	4.09	14161.02	-167825	-0.0001316	0.0004492	0.0035	7.585	224854.56	424813.26	337281.84	23.82	Si	Si
SLU 75	1.59	28693.31	-178299	-0.0001509	0.0004492	0.0035	7.585	211595.56	440250.73	317393.34	11.06	Si	Si
SLU 75	4.09	13954.99	-161692	-0.0001262	0.0004492	0.0035	7.585	231129.68	415774.26	346694.52	24.84	Si	Si
SLU 77	1.59	28784.11	-180518	-0.000153	0.0004492	0.0035	7.585	208374.75	442162.33	312562.12	10.86	Si	Si
SLU 77	4.09	13712.73	-164120	-0.0001281	0.0004492	0.0035	7.585	228776.87	419352.72	343165.3	25.03	Si	Si
SLU 82	1.59	29221.11	-181912	-0.0001546	0.0004492	0.0035	7.585	206277.14	443297.6	309415.71	10.59	Si	Si
SLU 82	4.09	14088.12	-165388	-0.0001294	0.0004492	0.0035	7.585	227479.89	421221.19	341219.84	24.22	Si	Si
SLU 78	1.59	29011.44	-180703	-0.0001533	0.0004492	0.0035	7.585	208099.6	442313.02	312149.4	10.76	Si	Si
SLU 78	4.09	14027.89	-164129	-0.0001283	0.0004492	0.0035	7.585	228767.59	419366.32	343151.39	24.46	Si	Si
SLU 76	1.59	28664	-177106	-0.0001498	0.0004492	0.0035	7.585	213267.13	438492.86	319900.7	11.16	Si	Si
SLU 76	4.09	14096.48	-160376	-0.0001252	0.0004492	0.0035	7.585	232333.41	413833.91	348500.11	24.72	Si	Si
SLU 81	1.59	28993.78	-181727	-0.0001542	0.0004492	0.0035	7.585	206558.83	443146.92	309838.25	10.69	Si	Si
SLU 81	4.09	13772.96	-165379	-0.0001292	0.0004492	0.0035	7.585	227489.5	421207.59	341234.26	24.78	Si	Si
SLU 80	1.59	28830.58	-179387	-0.000152	0.0004492	0.0035	7.585	210034.23	441241.6	315051.34	10.93	Si	Si
SLU 80	4.09	13959.27	-162807	-0.0001271	0.0004492	0.0035	7.585	230071.04	417416.9	345106.56	24.72	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	1.59	91729.8	-128093	-0.0001402	0.0006738	0.0035	7.585		388641.37	388641.37	4.24		Si
SLV 4	4.09	17.23	-121815	-0.0000824	0.0006738	0.0035	7.585		375053.62	375053.62	21766.2		Si
SLV 2	1.59	98832.08	-132596	-0.000148	0.0006738	0.0035	7.585		398388.74	398388.74	4.03		Si
SLV 2	4.09	10502.42	-120363	-0.0000873	0.0006738	0.0035	7.585		371910.45	371910.45	35.41		Si
SLV 3	1.59	92200.71	-129237	-0.0001414	0.0006738	0.0035	7.585		391119.22	391119.22	4.24		Si
SLV 3	4.09	904.27	-122241	-0.0000832	0.0006738	0.0035	7.585		375975.97	375975.97	415.78		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	1.59	-59355.27	-109908	-0.0001075	0.0006738	0.0035	7.585		374457.98	374457.98	6.31		Si
SLV 15	4.09	8863.63	-96520	-0.0000694	0.0006738	0.0035	7.585		310044.51	310044.51	34.98		Si
SLD 3	1.59	66252.71	-126426	-0.000124	0.0006738	0.0035	7.585		385034.3	385034.3	5.81		Si
SLD 3	4.09	4205.51	-117277	-0.0000815	0.0006738	0.0035	7.585		365230.21	365230.21	86.85		Si
SLD 1	1.59	70640.89	-129214	-0.0001287	0.0006738	0.0035	7.585		391068	391068	5.54		Si
SLD 1	4.09	10681.37	-116382	-0.0000846	0.0006738	0.0035	7.585		363292.41	363292.41	34.01		Si
SLV 1	1.59	99302.98	-133740	-0.0001492	0.0006738	0.0035	7.585		400866.58	400866.58	4.04		Si
SLV 1	4.09	11389.46	-120789	-0.0000882	0.0006738	0.0035	7.585		372832.8	372832.8	32.73		Si
SLV 16	1.59	-59826.17	-108763	-0.0001069	0.0006738	0.0035	7.585		371542.85	371542.85	6.21		Si
SLV 16	4.09	7976.6	-96093	-0.0000686	0.0006738	0.0035	7.585		308858.91	308858.91	38.72		Si
SLD 4	1.59	65952.14	-125696	-0.0001233	0.0006738	0.0035	7.585		383452.75	383452.75	5.81		Si
SLD 4	4.09	3639.33	-117005	-0.000081	0.0006738	0.0035	7.585		364641.49	364641.49	100.19		Si
SLD 2	1.59	70340.33	-128483	-0.000128	0.0006738	0.0035	7.585		389486.45	389486.45	5.54		Si
SLD 2	4.09	10115.2	-116110	-0.000084	0.0006738	0.0035	7.585		362703.69	362703.69	35.86		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 20	1.59	21993.5	-137203	-97877	-303	7.585	7.585	-46086	10833	51418	108749	76324	38684	77127	Si	254.46	Si
SLU 20	4.09	9980.73	-124744	-88989	3544	7.585	7.585	-41901	10833	47863	108749	76324	38684	71794	Si	20.26	Si
SLU 41	1.59	24797.43	-158237	-112882	-615	7.585	7.585	-53151	10833	57420	108749	76324	38684	86130	Si	140.09	Si
SLU 41	4.09	11757.24	-145797	-104008	3826	7.585	7.585	-48973	10833	53870	108749	76324	38684	80805	Si	21.12	Si
SLU 81	1.59	28993.78	-181727	-129640	-883	7.585	7.585	-61041	10833	64122	108749	76324	38684	96184	Si	108.89	Si
SLU 81	4.09	13772.96	-165379	-117977	4244	7.585	7.585	-55550	10833	59458	108749	76324	38684	89186	Si	21.02	Si
SLU 39	1.59	24479.3	-155833	-111167	-637	7.585	7.585	-52344	10833	56734	108749	76324	38684	85101	Si	133.54	Si
SLU 39	4.09	11684.34	-143360	-102270	3751	7.585	7.585	-48154	10833	53175	108749	76324	38684	79762	Si	21.26	Si
SLU 18	1.59	21675.37	-134799	-96162	-326	7.585	7.585	-45278	10833	50732	108749	76324	38684	76098	Si	233.76	Si
SLU 18	4.09	9907.84	-122307	-87251	3469	7.585	7.585	-41082	10833	47168	108749	76324	38684	70751	Si	20.4	Si
SLU 60	1.59	26189.85	-160693	-114634	-572	7.585	7.585	-53976	10833	58121	108749	76324	38684	87181	Si	152.52	Si
SLU 60	4.09	11996.46	-144325	-102958	3961	7.585	7.585	-48478	10833	53450	108749	76324	38684	80175	Si	20.24	Si
SLU 62	1.59	26507.98	-163097	-116350	-549	7.585	7.585	-54784	10833	58807	108749	76324	38684	88210	Si	160.62	Si
SLU 62	4.09	12069.35	-146762	-104697	4036	7.585	7.585	-49297	10833	54146	108749	76324	38684	81219	Si	20.12	Si
SLU 83	1.59	29311.91	-184131	-131355	-861	7.585	7.585	-61849	10833	64058	108749	76324	38684	97213	Si	112.92	Si
SLU 83	4.09	13845.86	-167816	-119716	4319	7.585	7.585	-56369	10833	60153	108749	76324	38684	90229	Si	20.89	Si
SLU 58	1.59	25799.32	-158168	-112833	-782	7.585	7.585	-53128	10833	57400	108749	76324	38684	86100	Si	110.1	Si
SLU 58	4.09	11867.61	-141744	-101117	3660	7.585	7.585	-47611	10833	52714	108749	76324	38684	79071	Si	21.6	Si
SLU 56	1.59	25980.18	-159484	-113772	-786	7.585	7.585	-53570	10833	57776	108749	76324	38684	86663	Si	110.3	Si
SLU 56	4.09	11936.22	-143067	-102060	3693	7.585	7.585	-48056	10833	53091	108749	76324	38684	79637	Si	21.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	1.59	-52252.99	-114411	-81618	-48997	7.585	7.585	-38430	16250	51049	108749	114486	38684	153170		3.13	Si
SLV 13	4.09	19348.83	-95067	-67819	-42575	7.585	7.585	-31933	16250	45529	108749	114486	38684	153170		3.6	Si
SLV 14	1.59	-52723.9	-113266	-80802	-47981	7.585	7.585	-38046	16250	50722	108749	114486	38684	153170		3.19	Si
SLV 14	4.09	18461.79	-94641	-67515	-41602	7.585	7.585	-31790	16250	45408	108749	114486	38684	153170		3.68	Si
SLD 14	1.59	-26775.9	-116078	-82807	-30999	7.585	7.585	-38990	16250	51524	108749	114486	38684	153170		4.94	Si
SLD 14	4.09	15160.55	-99606	-71056	-25677	7.585	7.585	-33457	16250	46824	108749	114486	38684	153170		5.97	Si
SLV 15	1.59	-59355.27	-109908	-78406	-39117	7.585	7.585	-36918	16250	49764	108749	114486	38684	153170		3.92	Si
SLV 15	4.09	8863.63	-96520	-68855	-32804	7.585	7.585	-32421	16250	45944	108749	114486	38684	153170		4.67	Si
SLV 4	1.59	91729.8	-128093	-91378	46807	7.585	7.585	-43026	16250	54953	108749	114486	38684	153170		3.27	Si
SLV 4	4.09	17.23	-121815	-86900	47267	7.585	7.585	-40917	16250	53162	108749	114486	38684	153170		3.24	Si
SLV 1	1.59	99302.98	-133740	-95407	35911	7.585	7.585	-44923	16250	56564	108749	114486	38684	153170		4.27	Si
SLV 1	4.09	11389.46	-120789	-86168	36522	7.585	7.585	-40573	16250	52869	108749	114486	38684	153170		4.19	Si
SLV 3	1.59	92200.71	-129237	-92195	45791	7.585	7.585	-43410	16250	55279	108749	114486	38684	153170		3.35	Si
SLV 3	4.09	904.27	-122241	-87204	46294	7.585	7.585	-41060	16250	53283	108749	114486	38684	153170		3.31	Si
SLD 13	1.59	-26475.33	-116808	-83328	-31647	7.585	7.585	-39235	16250	51733	108749	114486	38684	153170		4.84	Si
SLD 13	4.09	15726.72	-99878	-71250	-26298	7.585	7.585	-33548	16250	46902	108749	114486	38684	153170		5.82	Si
SLV 2	1.59	98832.08	-132596	-94591	36927	7.585	7.585	-44538	16250	56238	108749	114486	38684	153170		4.15	Si
SLV 2	4.09	10502.42	-120363	-85864	37496	7.585	7.585	-40430	16250	52747	108749	114486	38684	153170		4.08	Si
SLV 16	1.59	-59826.17	-108763	-77589	-38101	7.585	7.585	-36533	16250	49437	108749	114486	38684	153170		4.02	Si
SLV 16	4.09	7976.6	-96093	-68551	-31830	7.585	7.585	-32277	16250	45822	108749	114486	38684	153170		4.81	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-103541	0.31	616.21	10639.86	16230.97	13435.42	21.8	Si
SLV 16	-103804	0.31	616.21	10657.11	16267.28	13462.2	21.85	Si
SLV 13	-104145	0.31	616.21	10679.34	16314.24	13496.79	21.9	Si
SLV 15	-104409	0.31	616.21	10696.47	16350.56	13523.51	21.95	Si
SLV 10	-110210	0.31	616.21	11060.85	17150.17	14105.51	22.89	Si
SLV 9	-110617	0.31	616.21	11085.51	17203.36	14144.43	22.95	Si
SLV 12	-111089	0.31	616.21	11113.93	17264.66	14189.29	23.03	Si
SLV 11	-111496	0.31	616.21	11138.32	17317.55	14227.94	23.09	Si
SLV 6	-116106	0.31	616.21	11406.35	17916.81	14661.58	23.79	Si
SLV 5	-116513	0.31	616.21	11429.28	17969.72	14699.5	23.85	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 1	-109892	-133740	-180	0.408	12208.2	0.974	6.08337	5.31498	Si
SLV 2	-109504	-132596	-181	0.409	12168.7	0.974	6.10194	5.31498	Si
SLV 3	-109513	-129237	47	0.41	12169.6	0.974	6.11875	5.31498	Si
SLV 4	-109125	-128093	45	0.411	12130.1	0.974	6.13795	5.31498	Si
SLV 13	-94125	-114411	-45	0.467	10602.5	0.971	6.98656	5.31498	Si
SLV 15	-93745	-109908	182	0.467	10563.9	0.971	6.991	5.31498	Si
SLV 14	-93736	-113266	-47	0.468	10563	0.971	7.01172	5.31498	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-93357	-108763	180	0.469	10524.4	0.97	7.01679	5.31498	Si
SLV 5	-104752	-132042	-397	0.423	11684.8	0.973	6.31392	3.92562	Si
SLV 6	-104491	-131271	-398	0.424	11658.1	0.973	6.32756	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.284	SLU 84	Si
V_SLU	20.121	SLU 62	Si
PF_SLV	4.031	SLV 2	Si
V_SLV	3.126	SLV 13	Si
PFFP_SLV	21.803	SLV 14	Si
R_SLV	1.145	SLV 1	Si

Maschio 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.968	1.046	-11.163	1.046	L4	L5	6.195	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α t	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	1.59	25036.89	-140544	-0.0001513	0.0004492	0.0035	6.195	146660.07	287421.38	219990.1	8.79	Si	Si
SLU 77	4.09	8137.27	-116968	-0.0001096	0.0004492	0.0035	6.195	162359.21	259334.47	243538.82	29.93	Si	Si
SLU 83	1.59	25869.06	-143347	-0.0001554	0.0004492	0.0035	6.195	143712.03	290761.79	215568.05	8.33	Si	Si
SLU 83	4.09	8618.42	-119793	-0.0001129	0.0004492	0.0035	6.195	161334.73	262699.96	242002.1	28.08	Si	Si
SLU 81	1.59	25604.07	-141332	-0.0001528	0.0004492	0.0035	6.195	145854.32	288360.68	218781.48	8.54	Si	Si
SLU 81	4.09	8486.74	-117968	-0.0001109	0.0004492	0.0035	6.195	162023.32	260525.52	243034.98	28.64	Si	Si
SLU 82	1.59	24921.33	-141235	-0.000152	0.0004492	0.0035	6.195	145954.46	288245.09	218931.69	8.78	Si	Si
SLU 82	4.09	8349.98	-117940	-0.0001108	0.0004492	0.0035	6.195	162033.02	260492.5	243049.53	29.11	Si	Si
SLU 79	1.59	24863.2	-139548	-0.00015	0.0004492	0.0035	6.195	147652.03	286234.72	221478.04	8.91	Si	Si
SLU 79	4.09	8073.31	-116069	-0.0001086	0.0004492	0.0035	6.195	162636.55	258262.49	243954.83	30.22	Si	Si
SLU 78	1.59	24354.15	-140447	-0.0001505	0.0004492	0.0035	6.195	146757.97	287305.79	220136.95	9.04	Si	Si
SLU 78	4.09	8000.51	-116941	-0.0001094	0.0004492	0.0035	6.195	162368.11	259301.45	243552.16	30.44	Si	Si
SLU 80	1.59	24180.46	-139450	-0.0001492	0.0004492	0.0035	6.195	147747.1	286119.13	221620.65	9.17	Si	Si
SLU 80	4.09	7936.55	-116041	-0.0001085	0.0004492	0.0035	6.195	162644.72	258229.47	243967.08	30.74	Si	Si
SLU 74	1.59	24771.89	-138528	-0.0001488	0.0004492	0.0035	6.195	148637.19	285020.27	222955.79	9	Si	Si
SLU 74	4.09	8005.58	-115143	-0.0001077	0.0004492	0.0035	6.195	162897.1	257160.02	244345.64	30.52	Si	Si
SLU 75	1.59	24089.16	-138431	-0.000148	0.0004492	0.0035	6.195	148729.37	284904.68	223094.06	9.26	Si	Si
SLU 75	4.09	7868.82	-115116	-0.0001075	0.0004492	0.0035	6.195	162904.51	257127.01	244356.77	31.05	Si	Si
SLU 84	1.59	25186.32	-143250	-0.0001545	0.0004492	0.0035	6.195	143817.88	290646.2	215726.82	8.57	Si	Si
SLU 84	4.09	8481.66	-119766	-0.0001128	0.0004492	0.0035	6.195	161345.92	262666.95	242018.88	28.53	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	1.59	49627.47	-91614	-0.0001178	0.0006738	0.0035	6.195		235583.06	235583.06	4.75		Si
SLD 4	4.09	-7789.38	-72447	-0.0000654	0.0006738	0.0035	6.195		212805.35	212805.35	27.32		Si
SLV 7	1.59	66985.86	-99910	-0.0001408	0.0006738	0.0035	6.195		251173.16	251173.16	3.75		Si
SLV 7	4.09	7175.92	-78828	-0.0000704	0.0006738	0.0035	6.195		206709.23	206709.23	28.81		Si
SLV 1	1.59	46892	-85053	-0.0001094	0.0006738	0.0035	6.195		220765.91	220765.91	4.71		Si
SLV 1	4.09	-19495.76	-67304	-0.0000707	0.0006738	0.0035	6.195		201413.02	201413.02	10.33		Si
SLD 7	1.59	47987.66	-97617	-0.000122	0.0006738	0.0035	6.195		247152.18	247152.18	5.15		Si
SLD 7	4.09	6200.27	-77985	-0.0000689	0.0006738	0.0035	6.195		204806.12	204806.12	33.03		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 2	1.59	45948.75	-85579	-0.0001091	0.0006738	0.0035	6.195		221953.33	221953.33	4.83		Si
SLV 2	4.09	-20068.98	-67367	-0.0000712	0.0006738	0.0035	6.195		201552.87	201552.87	10.04		Si
SLV 4	1.59	68603.02	-90356	-0.0001331	0.0006738	0.0035	6.195		232742.94	232742.94	3.39		Si
SLV 4	4.09	-14890.52	-70066	-0.0000693	0.0006738	0.0035	6.195		207532.27	207532.27	13.94		Si
SLD 8	1.59	47590.11	-97839	-0.0001219	0.0006738	0.0035	6.195		247540.92	247540.92	5.2		Si
SLD 8	4.09	5958.67	-78012	-0.0000687	0.0006738	0.0035	6.195		204866.2	204866.2	34.38		Si
SLV 3	1.59	69546.26	-89831	-0.0001334	0.0006738	0.0035	6.195		231555.52	231555.52	3.33		Si
SLV 3	4.09	-14317.29	-70003	-0.0000687	0.0006738	0.0035	6.195		207392.42	207392.42	14.49		Si
SLD 3	1.59	50229.52	-91278	-0.000118	0.0006738	0.0035	6.195		234825.16	234825.16	4.68		Si
SLD 3	4.09	-7423.5	-72406	-0.0000651	0.0006738	0.0035	6.195		212716.09	212716.09	28.65		Si
SLV 8	1.59	66350.8	-100264	-0.0001406	0.0006738	0.0035	6.195		251794.17	251794.17	3.79		Si
SLV 8	4.09	6789.99	-78871	-0.0000701	0.0006738	0.0035	6.195		206805.21	206805.21	30.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	1.59	20495	-123801	-88317	8502	6.195	6.195	-50915	10833	45346	108749	62337	31594	68019	Si	8	Si
SLU 68	4.09	6134.49	-101248	-72228	3935	6.195	6.195	-41639	10833	38910	108749	62337	31594	58365	Si	14.83	Si
SLU 72	1.59	21215.15	-125882	-89801	8351	6.195	6.195	-51770	10833	45939	108749	62337	31594	68909	Si	8.25	Si
SLU 72	4.09	6357.35	-103091	-73543	3739	6.195	6.195	-42398	10833	39436	108749	62337	31594	59155	Si	15.82	Si
SLU 65	1.59	20230.01	-121786	-86879	8435	6.195	6.195	-50086	10833	44771	108749	62337	31594	67156	Si	7.96	Si
SLU 65	4.09	6002.81	-99423	-70926	3916	6.195	6.195	-40889	10833	38389	108749	62337	31594	57584	Si	14.7	Si
SLU 67	1.59	21123.84	-124862	-89074	8331	6.195	6.195	-51351	10833	45648	108749	62337	31594	68473	Si	8.22	Si
SLU 67	4.09	6289.62	-102166	-72883	3730	6.195	6.195	-42017	10833	39172	108749	62337	31594	58758	Si	15.75	Si
SLU 70	1.59	21388.83	-126878	-90511	8398	6.195	6.195	-52180	10833	46223	108749	62337	31594	69335	Si	8.26	Si
SLU 70	4.09	6421.31	-103991	-74185	3748	6.195	6.195	-42768	10833	39693	108749	62337	31594	59540	Si	15.89	Si
SLU 47	1.59	17167.71	-107124	-76420	7224	6.195	6.195	-44056	10833	40587	108749	62337	31594	60880	Si	8.43	Si
SLU 47	4.09	5089.71	-85617	-61077	3279	6.195	6.195	-35211	10833	34450	108749	62337	31594	51675	Si	15.76	Si
SLU 23	1.59	16944.31	-101891	-72687	7245	6.195	6.195	-41904	10833	39094	108749	62337	31594	58641	Si	8.09	Si
SLU 23	4.09	5081.59	-84198	-60065	3460	6.195	6.195	-34627	10833	34045	108749	62337	31594	51068	Si	14.76	Si
SLU 44	1.59	16902.72	-105109	-74982	7158	6.195	6.195	-43227	10833	40012	108749	62337	31594	60018	Si	8.39	Si
SLU 44	4.09	4958.03	-83792	-59775	3260	6.195	6.195	-34460	10833	33929	108749	62337	31594	50894	Si	15.61	Si
SLU 25	1.59	17838.15	-104968	-74881	7142	6.195	6.195	-43169	10833	39972	108749	62337	31594	59958	Si	8.4	Si
SLU 25	4.09	5368.41	-86941	-62022	3274	6.195	6.195	-35756	10833	34828	108749	62337	31594	52242	Si	15.96	Si
SLU 26	1.59	17209.31	-103907	-74125	7312	6.195	6.195	-42733	10833	39669	108749	62337	31594	59504	Si	8.14	Si
SLU 26	4.09	5213.28	-86023	-61367	3479	6.195	6.195	-35378	10833	34566	108749	62337	31594	51849	Si	14.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	1.59	-13786.37	-102982	-73465	-39511	6.195	6.195	-42353	16250	44415	108749	93506	31594	125100		3.17	Si
SLV 16	4.09	29524.67	-86254	-61531	-38691	6.195	6.195	-35473	16250	39642	108749	93506	31594	125100		3.23	Si
SLV 3	1.59	69546.26	-89831	-64083	40874	6.195	6.195	-36944	16250	40663	108749	93506	31594	125100		3.06	Si
SLV 3	4.09	-14317.29	-70003	-49939	33213	6.195	6.195	-28790	16250	35005	108749	93506	31594	125100		3.77	Si
SLV 6	1.59	-9163.42	-84338	-60164	35576	6.195	6.195	-34685	16250	39095	108749	93506	31594	125100		3.52	Si
SLV 6	4.09	-10471.56	-69874	-49846	30650	6.195	6.195	-28736	16250	34968	108749	93506	31594	125100		4.08	Si
SLV 1	1.59	46892	-85053	-60675	51188	6.195	6.195	-34979	16250	39299	108749	93506	31594	125100		2.44	Si
SLV 1	4.09	-19495.76	-67304	-48013	43425	6.195	6.195	-27680	16250	34235	108749	93506	31594	125100		2.88	Si
SLD 2	1.59	35634.04	-88659	-63247	35408	6.195	6.195	-36462	16250	40328	108749	93506	31594	125100		3.53	Si
SLD 2	4.09	-10988.03	-70782	-50494	29168	6.195	6.195	-29110	16250	35227	108749	93506	31594	125100		4.29	Si
SLD 1	1.59	36236.09	-88323	-63008	34763	6.195	6.195	-36324	16250	40233	108749	93506	31594	125100		3.6	Si
SLD 1	4.09	-10622.15	-70741	-50465	28540	6.195	6.195	-29093	16250	35216	108749	93506	31594	125100		4.38	Si
SLV 15	1.59	-12843.13	-102456	-73090	-40521	6.195	6.195	-42136	16250	44265	108749	93506	31594	125100		3.09	Si
SLV 15	4.09	30097.89	-86191	-61486	-39674	6.195	6.195	-35447	16250	39624	108749	93506	31594	125100		3.15	Si
SLV 2	1.59	45948.75	-85579	-61050	52198	6.195	6.195	-35195	16250	39449	108749	93506	31594	125100		2.4	Si
SLV 2	4.09	-20068.98	-67367	-48058	44408	6.195	6.195	-27706	16250	34253	108749	93506	31594	125100		2.82	Si
SLV 5	1.59	-8528.36	-83984	-59912	34896	6.195	6.195	-34539	16250	38994	108749	93506	31594	125100		3.58	Si
SLV 5	4.09	-10085.63	-69831	-49816	29988	6.195	6.195	-28719	16250	34956	108749	93506	31594	125100		4.17	Si
SLV 4	1.59	68603.02	-90356	-64458	41884	6.195	6.195	-37160	16250	40813	108749	93506	31594	125100		2.99	Si
SLV 4	4.09	-14890.52	-70066	-49984	34196	6.195	6.195	-28816	16250	35023	108749	93506	31594	125100		3.66	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-78380	0.31	503.28	8267.83	12416.79	10342.31	20.55	Si
SLV 5	-78399	0.31	503.28	8269.21	12419.45	10344.33	20.55	Si
SLV 6	-78587	0.31	503.28	8282.53	12445.34	10363.94	20.59	Si
SLV 2	-78659	0.31	503.28	8287.62	12455.24	10371.43	20.61	Si
SLV 9	-81162	0.31	503.28	8461.88	12799.88	10630.88	21.12	Si
SLV 3	-81165	0.31	503.28	8462.09	12800.32	10631.21	21.12	Si
SLV 10	-81350	0.31	503.28	8474.75	12825.78	10650.26	21.16	Si
SLV 4	-81444	0.31	503.28	8481.2	12838.79	10659.99	21.18	Si
SLV 13	-87589	0.31	503.28	8884.07	13685.47	11284.77	22.42	Si
SLV 7	-87684	0.31	503.28	8890.01	13698.49	11294.25	22.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 16	-72047	-102982	411	0.488	8167.9	0.969	7.32426	5.31498	Si
SLV 15	-71951	-102456	409	0.489	8158.1	0.969	7.33325	5.31498	Si
SLV 14	-70487	-98204	220	0.5	8009.1	0.968	7.50448	5.31498	Si
SLV 13	-70391	-97678	218	0.501	7999.3	0.968	7.5139	5.31498	Si
SLV 4	-63752	-90356	-192	0.545	7323.5	0.966	8.20546	5.31498	Si
SLV 3	-63655	-89831	-194	0.546	7313.7	0.966	8.21596	5.31498	Si
SLV 2	-62191	-85579	-382	0.554	7164.7	0.965	8.34437	5.31498	Si
SLV 1	-62095	-85053	-384	0.555	7154.9	0.965	8.35532	5.31498	Si
SLV 12	-70948	-104051	422	0.495	8056	0.969	7.42177	3.92562	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-70884	-103697	421	0.495	8049.5	0.969	7.42799	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.333	SLU 83	Si
V_SLU	7.962	SLU 65	Si
PF_SLV	3.33	SLV 3	Si
V_SLV	2.397	SLV 2	Si
PFFP_SLV	20.55	SLV 1	Si
R_SLV	1.378	SLV 16	Si

Maschio 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.046	-4.168	1.046	L4	L5	4.045	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 78	1.59	21396.54	-87198	-0.0001695	0.0004492	0.0035	4.045	65236.67	119011.17	97855	4.57	Si	Si
SLU 78	3.69	13545.39	-75815	-0.0001316	0.0004492	0.0035	4.045	69332.66	110049.3	103999	7.68	Si	Si
SLU 79	1.59	21237.97	-86535	-0.0001679	0.0004492	0.0035	4.045	65579.06	118489.25	98368.59	4.63	Si	Si
SLU 79	3.69	13425.02	-75209	-0.0001303	0.0004492	0.0035	4.045	69444.68	109571.66	104167.01	7.76	Si	Si
SLU 77	1.59	21380.37	-87192	-0.0001695	0.0004492	0.0035	4.045	65239.74	119006.57	97859.61	4.58	Si	Si
SLU 77	3.69	13514.27	-75828	-0.0001315	0.0004492	0.0035	4.045	69330.18	110059.38	103995.28	7.7	Si	Si
SLU 84	1.59	21715.32	-88567	-0.0001728	0.0004492	0.0035	4.045	64488.42	120089.73	96732.62	4.45	Si	Si
SLU 84	3.69	13842.38	-77422	-0.0001349	0.0004492	0.0035	4.045	68983.91	111314.71	103475.87	7.48	Si	Si
SLU 82	1.59	21485.15	-87396	-0.0001701	0.0004492	0.0035	4.045	65131.42	119167.79	97697.13	4.55	Si	Si
SLU 82	3.69	13617.91	-76329	-0.0001326	0.0004492	0.0035	4.045	69229.4	110453.77	103844.1	7.63	Si	Si
SLU 80	1.59	21254.13	-86540	-0.000168	0.0004492	0.0035	4.045	65576.1	118493.85	98364.14	4.63	Si	Si
SLU 80	3.69	13456.14	-75196	-0.0001304	0.0004492	0.0035	4.045	69446.92	109561.58	104170.39	7.74	Si	Si
SLU 74	1.59	21150.21	-86021	-0.0001668	0.0004492	0.0035	4.045	65835.66	118084.63	98753.49	4.67	Si	Si
SLU 74	3.69	13289.8	-74735	-0.0001292	0.0004492	0.0035	4.045	69524.71	109198.44	104287.07	7.85	Si	Si
SLU 83	1.59	21699.16	-88562	-0.0001727	0.0004492	0.0035	4.045	64491.72	120085.13	96737.59	4.46	Si	Si
SLU 83	3.69	13811.26	-77435	-0.0001348	0.0004492	0.0035	4.045	68980.83	111324.79	103471.24	7.49	Si	Si
SLU 75	1.59	21166.37	-86027	-0.0001669	0.0004492	0.0035	4.045	65832.78	118089.23	98749.18	4.67	Si	Si
SLU 75	3.69	13320.91	-74722	-0.0001293	0.0004492	0.0035	4.045	69526.79	109188.36	104290.18	7.83	Si	Si
SLU 81	1.59	21468.99	-87391	-0.00017	0.0004492	0.0035	4.045	65134.52	119163.19	97701.79	4.55	Si	Si
SLU 81	3.69	13586.79	-76342	-0.0001325	0.0004492	0.0035	4.045	69226.73	110463.85	103840.09	7.64	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 1	1.59	19976.16	-49298	-0.0001007	0.0006738	0.0035	4.045		84986.49	84986.49	4.25		Si
SLD 1	3.69	4253.43	-38083	-0.0000552	0.0006738	0.0035	4.045		68341.54	68341.54	16.07		Si
SLV 5	1.59	17978.43	-53414	-0.0001025	0.0006738	0.0035	4.045		91094.12	91094.12	5.07		Si
SLV 5	3.69	8175.65	-42437	-0.0000684	0.0006738	0.0035	4.045		74804.28	74804.28	9.15		Si
SLV 4	1.59	22760.44	-44502	-0.0000996	0.0006738	0.0035	4.045		77868.32	77868.32	3.42		Si
SLV 4	3.69	908.34	-32257	-0.0000414	0.0006738	0.0035	4.045		59695.4	59695.4	65.72		Si
SLV 2	1.59	23307.65	-43789	-0.0000997	0.0006738	0.0035	4.045		76810.57	76810.57	3.3		Si
SLV 2	3.69	1878.73	-30826	-0.0000414	0.0006738	0.0035	4.045		57571.35	57571.35	30.64		Si
SLV 3	1.59	22450.64	-44594	-0.0000991	0.0006738	0.0035	4.045		78005.42	78005.42	3.47		Si
SLV 3	3.69	705.32	-32568	-0.0000414	0.0006738	0.0035	4.045		60156.67	60156.67	85.29		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 2	1.59	20173.9	-49239	-0.000101	0.0006738	0.0035	4.045		84898.98	84898.98	4.21		Si
SLD 2	3.69	4383.01	-37884	-0.0000552	0.0006738	0.0035	4.045		68047.13	68047.13	15.53		Si
SLD 3	1.59	19637.64	-49739	-0.0001007	0.0006738	0.0035	4.045		85641.37	85641.37	4.36		Si
SLD 3	3.69	3653.2	-38967	-0.0000552	0.0006738	0.0035	4.045		69654.6	69654.6	19.07		Si
SLD 4	1.59	19835.38	-49680	-0.000101	0.0006738	0.0035	4.045		85553.86	85553.86	4.31		Si
SLD 4	3.69	3782.78	-38769	-0.0000552	0.0006738	0.0035	4.045		69360.19	69360.19	18.34		Si
SLV 6	1.59	18187	-53351	-0.0001028	0.0006738	0.0035	4.045		91001.81	91001.81	5		Si
SLV 6	3.69	8312.34	-42228	-0.0000684	0.0006738	0.0035	4.045		74493.72	74493.72	8.96		Si
SLV 1	1.59	22997.85	-43882	-0.0000992	0.0006738	0.0035	4.045		76947.68	76947.68	3.35		Si
SLV 1	3.69	1675.7	-31136	-0.0000414	0.0006738	0.0035	4.045		58032.62	58032.62	34.63		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	1.59	17589.59	-70004	-49939	9193	4.045	4.045	-44093	10833	26518	108749	40703	20630	39777	Si	4.33	Si
SLU 48	3.69	10362.04	-58407	-41666	9155	4.045	4.045	-36788	10833	23209	108749	40703	20630	34813	Si	3.8	Si
SLU 44	1.59	17013.79	-67015	-47807	8994	4.045	4.045	-42210	10833	25665	108749	40703	20630	38497	Si	4.28	Si
SLU 44	3.69	9875.72	-55580	-39649	8958	4.045	4.045	-35007	10833	22402	108749	40703	20630	33603	Si	3.75	Si
SLU 43	1.59	16986.85	-67005	-47800	8976	4.045	4.045	-42204	10833	25662	108749	40703	20630	38493	Si	4.29	Si
SLU 43	3.69	9823.85	-55601	-39664	8940	4.045	4.045	-35021	10833	22408	108749	40703	20630	33612	Si	3.76	Si
SLU 51	1.59	17463.34	-69353	-49475	9142	4.045	4.045	-43682	10833	26332	108749	40703	20630	39498	Si	4.32	Si
SLU 51	3.69	10303.91	-57775	-41215	9105	4.045	4.045	-36390	10833	23028	108749	40703	20630	34542	Si	3.79	Si
SLU 45	1.59	17359.42	-68833	-49104	9115	4.045	4.045	-43355	10833	26184	108749	40703	20630	39275	Si	4.31	Si
SLU 45	3.69	10137.57	-57314	-40886	9078	4.045	4.045	-36100	10833	22897	108749	40703	20630	34345	Si	3.78	Si
SLU 50	1.59	17447.18	-69347	-49471	9131	4.045	4.045	-43679	10833	26330	108749	40703	20630	39495	Si	4.33	Si
SLU 50	3.69	10272.8	-57788	-41224	9094	4.045	4.045	-36398	10833	23032	108749	40703	20630	34548	Si	3.8	Si
SLU 65	1.59	19191.42	-76741	-54745	9091	4.045	4.045	-48336	10833	28440	108749	40703	20630	42660	Si	4.69	Si
SLU 65	3.69	11602.94	-65253	-46550	9049	4.045	4.045	-41100	10833	25162	108749	40703	20630	37743	Si	4.17	Si
SLU 46	1.59	17375.59	-68839	-49108	9126	4.045	4.045	-43359	10833	26185	108749	40703	20630	39278	Si	4.3	Si
SLU 46	3.69	10168.69	-57301	-40877	9089	4.045	4.045	-36091	10833	22893	108749	40703	20630	34339	Si	3.78	Si
SLU 47	1.59	17243.95	-68186	-48642	9071	4.045	4.045	-42947	10833	25999	108749	40703	20630	38998	Si	4.3	Si
SLU 47	3.69	10100.19	-56673	-40429	9035	4.045	4.045	-35696	10833	22714	108749	40703	20630	34071	Si	3.77	Si
SLU 49	1.59	17605.75	-70010	-49943	9204	4.045	4.045	-44096	10833	26519	108749	40703	20630	39779	Si	4.32	Si
SLU 49	3.69	10393.16	-58394	-41657	9166	4.045	4.045	-36780	10833	23205	108749	40703	20630	34807	Si	3.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	1.59	19835.38	-49680	-35441	13449	4.045	4.045	-31292	16250	23990	108749	61054	20630	81684		6.07	Si
SLD 4	3.69	3782.78	-38769	-27657	12975	4.045	4.045	-24419	16250	20876	108749	61054	20630	81684		6.3	Si
SLD 3	1.59	19637.64	-49739	-35483	13282	4.045	4.045	-31329	16250	24007	108749	61054	20630	81684		6.15	Si
SLD 3	3.69	3653.2	-38967	-27798	12808	4.045	4.045	-24544	16250	20933	108749	61054	20630	81684		6.38	Si
SLV 1	1.59	22997.85	-43882	-31304	17321	4.045	4.045	-27639	16250	22335	108749	61054	20630	81684		4.72	Si
SLV 1	3.69	1675.7	-31136	-22212	16610	4.045	4.045	-19611	16250	18699	108749	61054	20630	81684		4.92	Si
SLV 2	1.59	23307.65	-43789	-31238	17582	4.045	4.045	-27581	16250	22309	108749	61054	20630	81684		4.65	Si
SLV 2	3.69	1878.73	-30826	-21990	16871	4.045	4.045	-19416	16250	18610	108749	61054	20630	81684		4.84	Si
SLD 1	1.59	19976.16	-49298	-35168	13540	4.045	4.045	-31051	16250	23881	108749	61054	20630	81684		6.03	Si
SLD 1	3.69	4253.43	-38083	-27167	13067	4.045	4.045	-23987	16250	20681	108749	61054	20630	81684		6.25	Si
SLV 4	1.59	22760.44	-44502	-31747	17164	4.045	4.045	-28030	16250	22512	108749	61054	20630	81684		4.76	Si
SLV 4	3.69	908.34	-32257	-23011	16452	4.045	4.045	-20317	16250	19018	108749	61054	20630	81684		4.96	Si
SLV 6	1.59	18187	-53351	-38060	10790	4.045	4.045	-33604	16250	25037	108749	61054	20630	81684		7.57	Si
SLV 6	3.69	8312.34	-42228	-30124	10556	4.045	4.045	-26598	16250	21863	108749	61054	20630	81684		7.74	Si
SLV 5	1.59	17978.43	-53414	-38104	10615	4.045	4.045	-33643	16250	25055	108749	61054	20630	81684		7.7	Si
SLV 5	3.69	8175.65	-42437	-30274	10380	4.045	4.045	-26729	16250	21923	108749	61054	20630	81684		7.87	Si
SLV 3	1.59	22450.64	-44594	-31812	16903	4.045	4.045	-28088	16250	22539	108749	61054	20630	81684		4.83	Si
SLV 3	3.69	705.32	-32568	-23233	16191	4.045	4.045	-20513	16250	19107	108749	61054	20630	81684		5.05	Si
SLD 2	1.59	20173.9	-49239	-35126	13707	4.045	4.045	-31014	16250	23864	108749	61054	20630	81684		5.96	Si
SLD 2	3.69	4383.01	-37884	-27026	13234	4.045	4.045	-23862	16250	20624	108749	61054	20630	81684		6.17	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-33311	0.31	328.62	3915.17	5545.55	4730.36	14.39	Si
SLV 1	-33573	0.31	328.62	3940.04	5583.85	4761.95	14.49	Si
SLV 4	-34565	0.31	328.62	4033.36	5728.85	4881.1	14.85	Si
SLV 3	-34827	0.31	328.62	4057.79	5767.16	4912.48	14.95	Si
SLV 6	-44345	0.31	328.62	4882.1	7139.61	6010.85	18.29	Si
SLV 5	-44522	0.31	328.62	4896.23	7165	6030.62	18.35	Si
SLV 8	-48527	0.31	328.62	5205.59	7741.37	6473.48	19.7	Si
SLV 7	-48703	0.31	328.62	5218.73	7766.78	6492.75	19.76	Si
SLV 10	-55021	0.31	328.62	5661.28	8645.25	7153.26	21.77	Si
SLV 9	-55198	0.31	328.62	5672.87	8669.56	7171.21	21.82	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 15	-56744	-74247	117	0.419	6321.1	0.974	6.25164	5.31498	Si
SLV 16	-56356	-74155	118	0.421	6281.6	0.973	6.28902	5.31498	Si
SLV 13	-54963	-73535	-278	0.428	6139.6	0.973	6.38744	5.31498	Si
SLV 14	-54575	-73442	-277	0.43	6100.1	0.973	6.42733	5.31498	Si
SLV 11	-50721	-64685	634	0.451	5707.7	0.971	6.75463	3.92562	Si
SLV 12	-50459	-64623	634	0.453	5681.1	0.971	6.78511	3.92562	Si
SLV 3	-33776	-44594	275	0.647	3983.2	0.959	9.80729	5.31498	Si
SLV 4	-33388	-44502	276	0.654	3943.7	0.959	9.90744	5.31498	Si
SLV 9	-44782	-62309	-683	0.501	5103	0.968	7.51971	3.92562	Si
SLV 10	-44520	-62247	-683	0.503	5076.4	0.968	7.55867	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita



dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.455	SLU 84	Si
V_SLU	3.751	SLU 44	Si
PF_SLV	3.296	SLV 2	Si
V_SLV	4.646	SLV 2	Si
PFFP_SLV	14.395	SLV 2	Si
R_SLV	1.176	SLV 15	Si

Maschio 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	6.661	-17.768	6.661	L4	L5	1.85	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	2.49	-927.85	-22892	-0.0000829	0.0003743	0.0035	1.85	11983.64	15263.81	15263.81	16.45	No	Si
SLU 83	4.39	-53.05	-28339	-0.0000935	0.0003743	0.0035	1.85	12127.63	16909.27	16909.27	318.74	No	Si
SLU 82	2.49	-909.03	-22304	-0.0000806	0.0003743	0.0035	1.85	11905.91	15093.76	15093.76	16.6	No	Si
SLU 82	4.39	-21.18	-27741	-0.0000909	0.0003743	0.0035	1.85	12162.67	16780.29	16780.29	792.09	No	Si
SLU 78	2.49	-913.21	-22357	-0.0000808	0.0003743	0.0035	1.85	11913.33	15108.88	15108.88	16.54	No	Si
SLU 78	4.39	-93.29	-27712	-0.0000916	0.0003743	0.0035	1.85	12164.04	16772.18	16772.18	179.78	No	Si
SLU 79	2.49	-899.71	-22328	-0.0000805	0.0003743	0.0035	1.85	11909.22	15100.47	15100.47	16.78	No	Si
SLU 79	4.39	-119.81	-27489	-0.000091	0.0003743	0.0035	1.85	12173.69	16708.16	16708.16	139.46	No	Si
SLU 81	2.49	-909.38	-22484	-0.0000812	0.0003743	0.0035	1.85	11930.95	15145.67	15145.67	16.65	No	Si
SLU 81	4.39	-45.6	-27801	-0.0000914	0.0003743	0.0035	1.85	12159.75	16796.8	16796.8	368.34	No	Si
SLU 74	2.49	-895.07	-22128	-0.0000798	0.0003743	0.0035	1.85	11880.26	15042.5	15042.5	16.81	No	Si
SLU 74	4.39	-110.26	-27233	-0.0000899	0.0003743	0.0035	1.85	12182.59	16631.67	16631.67	150.84	No	Si
SLU 75	2.49	-894.73	-21949	-0.0000791	0.0003743	0.0035	1.85	11852.99	14985.92	14985.92	16.75	No	Si
SLU 75	4.39	-85.84	-27174	-0.0000894	0.0003743	0.0035	1.85	12184.33	16613.48	16613.48	193.53	No	Si
SLU 77	2.49	-913.55	-22536	-0.0000815	0.0003743	0.0035	1.85	11938.04	15160.9	15160.9	16.6	No	Si
SLU 77	4.39	-117.71	-27772	-0.0000921	0.0003743	0.0035	1.85	12161.19	16788.77	16788.77	142.63	No	Si
SLU 84	2.49	-927.51	-22712	-0.0000823	0.0003743	0.0035	1.85	11961.17	15211.71	15211.71	16.4	No	Si
SLU 84	4.39	-28.63	-28280	-0.000093	0.0003743	0.0035	1.85	12131.67	16901.02	16901.02	590.23	No	Si
SLU 80	2.49	-899.37	-22148	-0.0000799	0.0003743	0.0035	1.85	11883.19	15048.56	15048.56	16.73	No	Si
SLU 80	4.39	-95.39	-27430	-0.0000905	0.0003743	0.0035	1.85	12175.96	16690.73	16690.73	174.97	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	2.49	-2148.87	-3442	-0.000041	0.0005615	0.0035	1.48		3934.65	3934.65	1.83		Si
SLV 5	4.39	2869.58	-17177	-0.0000801	0.0005615	0.0035	1.85		13457.84	13457.84	4.69		Si
SLV 6	2.49	-1628.54	-3794	-0.0000272	0.0005615	0.0035	1.85		4233.59	4233.59	2.6		Si
SLV 6	4.39	2374.8	-15830	-0.0000706	0.0005615	0.0035	1.85		12488.37	12488.37	5.26		Si
SLV 15	2.49	3056.06	-17949	-0.0000845	0.0005615	0.0035	1.85		13922.2	13922.2	4.56		Si
SLV 15	4.39	-3365.06	-10081	-0.0000622	0.0005615	0.0035	1.85		9274.52	9274.52	2.76		Si
SLV 14	2.49	3760.93	-11793	-0.0000714	0.0005615	0.0035	1.85		9647.29	9647.29	2.57		Si
SLV 14	4.39	-2962.7	-5468	-0.0000516	0.0005615	0.0035	1.48		5643.35	5643.35	1.9		Si
SLD 1	2.49	-3395.36	-12500	-0.00007	0.0005615	0.0035	1.85		11045.49	11045.49	3.25		Si
SLD 1	4.39	2329.36	-24116	-0.000098	0.0005615	0.0035	1.85		17300.39	17300.39	7.43		Si
SLV 2	2.49	-4214.32	-11607	-0.0000761	0.0005615	0.0035	1.85		10402.54	10402.54	2.47		Si
SLV 2	4.39	3022.91	-25598	-0.0001105	0.0005615	0.0035	1.85		18139.52	18139.52	6		Si
SLV 16	2.49	3828.9	-18472	-0.0000942	0.0005615	0.0035	1.85		14201.83	14201.83	3.71		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 16	4.39	-4099.96	-8081	-0.000071	0.0005615	0.0035	1.85		7739.71	7739.71	1.89		Si
SLV 1	2.49	-4987.16	-11084	-0.0000867	0.0005615	0.0035	1.85		10026.85	10026.85	2.01		Si
SLV 1	4.39	3757.81	-27598	-0.0001257	0.0005615	0.0035	1.85		19189.65	19189.65	5.11		Si
SLV 13	2.49	2988.08	-11269	-0.0000621	0.0005615	0.0035	1.85		9287.95	9287.95	3.11		Si
SLV 13	4.39	-2227.81	-7468	-0.0000428	0.0005615	0.0035	1.85		7261.49	7261.49	3.26		Si
SLV 3	2.49	-4919.19	-17764	-0.0001031	0.0005615	0.0035	1.85		14557.75	14557.75	2.96		Si
SLV 3	4.39	2620.56	-30212	-0.0001228	0.0005615	0.0035	1.85		20177.91	20177.91	7.7		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 31	2.49	-760.05	-18284	-15225	-3640	1.85	1.85	-29392	10833	5722	38062	15511	4718	8583	Si	2.36	Si
SLU 31	4.39	44.73	-23017	-19167	-3631	1.85	1.85	-37002	10833	6773	38062	15511	4718	10160	Si	2.8	Si
SLU 73	2.49	-862.19	-21212	-17664	-4075	1.85	1.85	-34100	10833	6373	38062	15511	4718	9559	Si	2.35	Si
SLU 73	4.39	-64.21	-26314	-21912	-4065	1.85	1.85	-42301	10833	7505	38062	15511	4718	11258	Si	2.77	Si
SLU 76	2.49	-880.66	-21620	-18004	-4144	1.85	1.85	-34756	10833	6463	38062	15511	4718	9695	Si	2.34	Si
SLU 76	4.39	-71.66	-26852	-22360	-4134	1.85	1.85	-43166	10833	7625	38062	15511	4718	11437	Si	2.77	Si
SLU 84	2.49	-927.51	-22712	-18913	-4355	1.85	1.85	-36511	10833	6706	38062	15511	4718	10058	Si	2.31	Si
SLU 84	4.39	-28.63	-28280	-23549	-4344	1.85	1.85	-45461	10833	7942	38062	15511	4718	11913	Si	2.74	Si
SLU 83	2.49	-927.85	-22892	-19062	-4284	1.85	1.85	-36800	10833	6746	38062	15511	4718	10118	Si	2.36	Si
SLU 83	4.39	-53.05	-28339	-23598	-4273	1.85	1.85	-45557	10833	7955	38062	15511	4718	11933	Si	2.79	Si
SLU 42	2.49	-825.37	-19784	-16474	-3920	1.85	1.85	-31804	10833	6055	38062	15511	4718	9083	Si	2.32	Si
SLU 42	4.39	80.31	-24983	-20804	-3911	1.85	1.85	-40162	10833	7210	38062	15511	4718	10815	Si	2.77	Si
SLU 78	2.49	-913.21	-22357	-18617	-4210	1.85	1.85	-35940	10833	6627	38062	15511	4718	9940	Si	2.36	Si
SLU 78	4.39	-93.29	-27712	-23077	-4200	1.85	1.85	-44549	10833	7816	38062	15511	4718	11724	Si	2.79	Si
SLU 34	2.49	-778.53	-18692	-15565	-3709	1.85	1.85	-30048	10833	5813	38062	15511	4718	8719	Si	2.35	Si
SLU 34	4.39	37.28	-23556	-19615	-3701	1.85	1.85	-37867	10833	6893	38062	15511	4718	10339	Si	2.79	Si
SLU 40	2.49	-806.89	-19376	-16135	-3851	1.85	1.85	-31148	10833	5965	38062	15511	4718	8947	Si	2.32	Si
SLU 40	4.39	87.76	-24445	-20356	-3842	1.85	1.85	-39296	10833	7090	38062	15511	4718	10636	Si	2.77	Si
SLU 82	2.49	-909.03	-22304	-18573	-4286	1.85	1.85	-35855	10833	6615	38062	15511	4718	9923	Si	2.32	Si
SLU 82	4.39	-21.18	-27741	-23101	-4275	1.85	1.85	-44596	10833	7822	38062	15511	4718	11734	Si	2.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	2.49	-1628.54	-3794	-3159	-8798	1.85	1.4872	-7611	11939	4972	38062	23267	4718	27984		3.18	Si
SLV 6	4.39	2374.8	-15830	-13182	-8813	1.85	1.85	-25447	15506	8032	38062	23267	4718	27984		3.18	Si
SLV 1	2.49	-4987.16	-11084	-9230	-13389	1.85	1.4252	-23393	15095	6024	38062	23267	4718	27984		2.09	Si
SLV 1	4.39	3757.81	-27598	-22981	-13205	1.85	1.85	-44366	16250	8622	38062	23267	4718	27984		2.12	Si
SLV 4	2.49	-4146.34	-18287	-15228	-8765	1.85	1.85	-29398	16250	8418	38062	23267	4718	27984		3.19	Si
SLV 4	4.39	1885.66	-28212	-23492	-8533	1.85	1.85	-45352	16250	8758	38062	23267	4718	27984		3.28	Si
SLV 16	2.49	3828.9	-18472	-15382	8187	1.85	1.85	-29695	16250	8418	38062	23267	4718	27984		3.42	Si
SLV 16	4.39	-4099.96	-8081	-6729	8016	1.85	1.253	-19361	14289	5013	38062	23267	4718	27984		3.49	Si
SLV 2	2.49	-4214.32	-11607	-9666	-11367	1.85	1.6858	-20665	14550	6868	38062	23267	4718	27984		2.46	Si
SLV 2	4.39	3022.91	-25598	-21316	-11183	1.85	1.85	-41150	16250	8418	38062	23267	4718	27984		2.5	Si
SLV 5	2.49	-2148.87	-3442	-2866	-10160	1.48	0.9018	0	0	0	38062	18613	3774	22387		2.2	Si
SLV 5	4.39	2869.58	-17177	-14303	-10174	1.85	1.85	-27612	15939	8256	38062	23267	4718	27984		2.75	Si
SLD 3	2.49	-3356.73	-16620	-13840	-7871	1.85	1.85	-26718	15760	8164	38062	23267	4718	27984		3.56	Si
SLD 3	4.39	1627.77	-25716	-21414	-7715	1.85	1.85	-41340	16250	8418	38062	23267	4718	27984		3.63	Si
SLD 2	2.49	-2902.07	-12833	-10687	-8185	1.85	1.85	-20631	14543	7533	38062	23267	4718	27984		3.42	Si
SLD 2	4.39	1860.29	-22839	-19019	-8066	1.85	1.85	-36716	16250	8418	38062	23267	4718	27984		3.47	Si
SLD 1	2.49	-3395.36	-12500	-10409	-9475	1.85	1.85	-20094	14435	7478	38062	23267	4718	27984		2.95	Si
SLD 1	4.39	2329.36	-24116	-20082	-9356	1.85	1.85	-38768	16250	8418	38062	23267	4718	27984		2.99	Si
SLV 3	2.49	-4919.19	-17764	-14792	-10787	1.85	1.85	-28557	16128	8354	38062	23267	4718	27984		2.59	Si
SLV 3	4.39	2620.56	-30212	-25158	-10554	1.85	1.85	-48567	16250	9202	38062	23267	4718	27984		2.65	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.31	11542	-5979	146.51	773.8	5.28	Si
SLV 9	179667	0.31	12034	-6234	146.51	803.93	5.49	Si
SLV 6	179667	0.31	15787	-8178	146.51	1026.52	7.01	Si
SLV 5	179667	0.31	16278	-8432	146.51	1054.67	7.2	Si
SLV 4	179667	0.31	18629	-9650	146.51	1186.19	8.1	Si
SLV 13	179667	0.31	19359	-10028	146.51	1225.95	8.37	Si
SLV 16	179667	0.31	29050	-15048	146.51	1705.98	11.64	Si
SLV 15	179667	0.31	29780	-15426	146.51	1738.51	11.87	Si
SLV 2	179667	0.31	32777	-16979	146.51	1866.84	12.74	Si
SLV 1	179667	0.31	33507	-17357	146.51	1896.8	12.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-27261	-13334	-271	0.394	3024.2	0.975	5.87704	5.31498	Si
SLV 1	-25657	-8278	195	0.418	2860.9	0.973	6.23709	5.31498	Si
SLV 4	-25364	-13570	-269	0.419	2831.1	0.973	6.25858	5.31498	Si
SLV 2	-23761	-8514	196	0.446	2667.8	0.971	6.6695	5.31498	Si
SLV 7	-22646	-18657	-790	0.44	2554.3	0.97	6.58942	3.92562	Si
SLV 8	-21370	-18815	-789	0.462	2424.3	0.969	6.93278	3.92562	Si
SLV 11	-17353	-18130	-770	0.552	2015.6	0.963	8.33721	3.92562	Si
SLV 5	-17302	-1805	761	0.554	2010.3	0.963	8.36598	3.92562	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-16076	-18289	-769	0.589	1885.7	0.961	8.91713	3.92562	Si
SLV 6	-16025	-1964	762	0.591	1880.4	0.961	8.94839	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.401	SLU 84	Si
V_SLU	2.31	SLU 84	Si
PF_SLV	1.831	SLV 5	Si
V_SLV	2.09	SLV 1	Si
PFFP_SLV	5.281	SLV 10	Si
R_SLV	1.106	SLV 3	Si

Maschio 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.768	6.661	-12.888	6.661	L4	L5	3.88	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_{+}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 40	2.49	-3524.92	-47010	-0.0000798	0.0003743	0.0035	3.88	52438.05	66963.65	66963.65	19	No	Si
SLU 40	4.39	-1703.34	-58698	-0.0000961	0.0003743	0.0035	3.88	53442.58	74160.46	74160.46	43.54	No	Si
SLU 83	2.49	-3882.05	-55192	-0.0000954	0.0003743	0.0035	3.88	53644.46	71962.83	71962.83	18.54	No	Si
SLU 83	4.39	-2221.5	-68456	-0.0001165	0.0003743	0.0035	3.88	50610.83	77296.11	75916.25	34.17	Si	Si
SLU 73	2.49	-3678.45	-51256	-0.0000877	0.0003743	0.0035	3.88	53357.27	69459.08	69459.08	18.88	No	Si
SLU 73	4.39	-2016.89	-63607	-0.0001063	0.0003743	0.0035	3.88	52435.52	75835.74	75835.74	37.6	No	Si
SLU 82	2.49	-3898.47	-53922	-0.0000931	0.0003743	0.0035	3.88	53611.19	71134.2	71134.2	18.25	No	Si
SLU 82	4.39	-2078.35	-66999	-0.0001131	0.0003743	0.0035	3.88	51245.55	76836.15	76836.15	36.97	No	Si
SLU 75	2.49	-3723.51	-52936	-0.0000908	0.0003743	0.0035	3.88	53546.37	70504.78	70504.78	18.94	No	Si
SLU 75	4.39	-2132.14	-65634	-0.0001106	0.0003743	0.0035	3.88	51772.96	76421.62	76421.62	35.84	No	Si
SLU 42	2.49	-3560.55	-47955	-0.0000815	0.0003743	0.0035	3.88	52697.52	67506.55	67506.55	18.96	No	Si
SLU 42	4.39	-1793.81	-59873	-0.0000985	0.0003743	0.0035	3.88	53278.56	74823.71	74823.71	41.71	No	Si
SLU 84	2.49	-3934.1	-54868	-0.0000949	0.0003743	0.0035	3.88	53641.34	71749.38	71749.38	18.24	No	Si
SLU 84	4.39	-2168.82	-68174	-0.0001157	0.0003743	0.0035	3.88	50739.6	77205.58	76109.4	35.09	Si	Si
SLU 81	2.49	-3846.42	-54246	-0.0000935	0.0003743	0.0035	3.88	53625.06	71343.88	71343.88	18.55	No	Si
SLU 81	4.39	-2131.03	-67281	-0.0001138	0.0003743	0.0035	3.88	51128.41	76923.82	76692.61	35.99	Si	Si
SLU 78	2.49	-3759.13	-53882	-0.0000927	0.0003743	0.0035	3.88	53609.23	71108.51	71108.51	18.92	No	Si
SLU 78	4.39	-2222.61	-66808	-0.0001132	0.0003743	0.0035	3.88	51323.24	76777.21	76777.21	34.54	No	Si
SLU 76	2.49	-3714.07	-52201	-0.0000895	0.0003743	0.0035	3.88	53475.88	70043.26	70043.26	18.86	No	Si
SLU 76	4.39	-2107.36	-64781	-0.0001088	0.0003743	0.0035	3.88	52069.31	76170.77	76170.77	36.15	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_{+}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	2.49	-19467.61	-43723	-0.0001087	0.0005615	0.0035	3.88		72434.37	72434.37	3.72		Si
SLV 3	4.39	9554	-52419	-0.0000993	0.0005615	0.0035	3.88		78231.58	78231.58	8.19		Si
SLV 13	2.49	11405.51	-27506	-0.0000641	0.0005615	0.0035	3.88		46437.2	46437.2	4.07		Si
SLV 13	4.39	-10379.89	-35147	-0.0000735	0.0005615	0.0035	3.88		61525.9	61525.9	5.93		Si
SLV 14	2.49	14799.49	-27127	-0.0000711	0.0005615	0.0035	3.88		45885.39	45885.39	3.1		Si
SLV 14	4.39	-12646.75	-34699	-0.000078	0.0005615	0.0035	3.88		60922.02	60922.02	4.82		Si
SLV 5	2.49	-12054.57	-16668	-0.0000494	0.0005615	0.0035	3.88		33910.82	33910.82	2.81		Si
SLV 5	4.39	6392.76	-26645	-0.0000515	0.0005615	0.0035	3.88		45184.31	45184.31	7.07		Si
SLV 6	2.49	-9769.52	-16413	-0.0000438	0.0005615	0.0035	3.88		33498.23	33498.23	3.43		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	4.39	4866.56	-26344	-0.0000477	0.0005615	0.0035	3.88		44747.1	44747.1	9.19		Si
SLV 1	2.49	-21640.28	-31989	-0.0000947	0.0005615	0.0035	3.88		57238.45	57238.45	2.64		Si
SLV 1	4.39	11858.19	-41599	-0.0000872	0.0005615	0.0035	3.88		65727.87	65727.87	5.54		Si
SLD 1	2.49	-14677.99	-33368	-0.0000806	0.0005615	0.0035	3.88		59137	59137	4.03		Si
SLD 1	4.39	6979.31	-42445	-0.0000771	0.0005615	0.0035	3.88		66686.13	66686.13	9.55		Si
SLV 2	2.49	-18246.31	-31611	-0.000086	0.0005615	0.0035	3.88		56694.64	56694.64	3.11		Si
SLV 2	4.39	9591.33	-41152	-0.0000811	0.0005615	0.0035	3.88		65222.44	65222.44	6.8		Si
SLV 4	2.49	-16073.64	-43345	-0.0001	0.0005615	0.0035	3.88		71982.95	71982.95	4.48		Si
SLV 4	4.39	7287.13	-51971	-0.0000932	0.0005615	0.0035	3.88		77704.5	77704.5	10.66		Si
SLV 16	2.49	16972.15	-38861	-0.0000947	0.0005615	0.0035	3.88		62651.75	62651.75	3.69		Si
SLV 16	4.39	-14950.95	-45519	-0.0001009	0.0005615	0.0035	3.88		74591.17	74591.17	4.99		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	2.49	-3714.07	-52201	-43469	-2953	3.88	3.88	-40012	10833	22617	38062	32532	9894	33925	Si	11.49	Si
SLU 76	4.39	-2107.36	-64781	-53944	-2953	3.88	3.88	-49654	10833	26807	38062	32532	9894	40210	Si	13.62	Si
SLU 42	2.49	-3560.55	-47955	-39933	-2828	3.88	3.88	-36757	10833	21202	38062	32532	9894	31804	Si	11.25	Si
SLU 42	4.39	-1793.81	-59873	-49857	-2828	3.88	3.88	-45892	10833	25172	38062	32532	9894	37758	Si	13.35	Si
SLU 84	2.49	-3934.1	-54868	-45689	-3125	3.88	3.88	-42055	10833	23505	38062	32532	9894	35257	Si	11.28	Si
SLU 84	4.39	-2168.82	-68174	-56769	-3124	3.88	3.88	-52254	10833	27937	38062	32532	9894	41905	Si	13.41	Si
SLU 31	2.49	-3304.9	-44343	-36925	-2658	3.88	3.88	-33989	10833	19999	38062	32532	9894	29999	Si	11.29	Si
SLU 31	4.39	-1641.88	-55306	-46054	-2657	3.88	3.88	-42391	10833	23651	38062	32532	9894	35476	Si	13.35	Si
SLU 34	2.49	-3340.52	-45289	-37713	-2657	3.88	3.88	-34714	10833	20314	38062	32532	9894	30472	Si	11.47	Si
SLU 34	4.39	-1732.35	-56480	-47032	-2656	3.88	3.88	-43291	10833	24042	38062	32532	9894	36063	Si	13.58	Si
SLU 73	2.49	-3678.45	-51256	-42681	-2954	3.88	3.88	-39287	10833	22302	38062	32532	9894	33453	Si	11.32	Si
SLU 73	4.39	-2016.89	-63607	-52966	-2954	3.88	3.88	-48754	10833	26416	38062	32532	9894	39623	Si	13.41	Si
SLU 81	2.49	-3846.42	-54246	-45172	-3066	3.88	3.88	-41579	10833	23298	38062	32532	9894	34947	Si	11.4	Si
SLU 81	4.39	-2131.03	-67281	-56026	-3065	3.88	3.88	-51570	10833	27639	38062	32532	9894	41459	Si	13.53	Si
SLU 82	2.49	-3898.47	-53922	-44902	-3126	3.88	3.88	-41331	10833	23190	38062	32532	9894	34785	Si	11.13	Si
SLU 82	4.39	-2078.35	-66999	-55791	-3125	3.88	3.88	-51354	10833	27545	38062	32532	9894	41318	Si	13.22	Si
SLU 40	2.49	-3524.92	-47010	-39145	-2829	3.88	3.88	-36032	10833	20887	38062	32532	9894	31331	Si	11.07	Si
SLU 40	4.39	-1703.34	-58698	-48879	-2829	3.88	3.88	-44992	10833	24781	38062	32532	9894	37171	Si	13.14	Si
SLU 39	2.49	-3472.87	-47334	-39415	-2769	3.88	3.88	-36281	10833	20995	38062	32532	9894	31493	Si	11.37	Si
SLU 39	4.39	-1756.02	-58980	-49114	-2769	3.88	3.88	-45208	10833	24875	38062	32532	9894	37312	Si	13.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	2.49	-12054.57	-16668	-13880	-11556	3.88	3.6504	-13664	13149	13440	38062	48797	9894	51502		4.46	Si
SLV 5	4.39	6392.76	-26645	-22188	-11150	3.88	3.88	-20423	14501	16720	38062	48797	9894	54782		4.91	Si
SLV 4	2.49	-16073.64	-43345	-36094	-13967	3.88	3.88	-33223	16250	22282	38062	48797	9894	58691		4.2	Si
SLV 4	4.39	7287.13	-51971	-43277	-13559	3.88	3.88	-39835	16250	25155	38062	48797	9894	58691		4.33	Si
SLV 16	2.49	16972.15	-38861	-32360	15804	3.88	3.88	-29787	16250	20788	38062	48797	9894	58691		3.71	Si
SLV 16	4.39	-14950.95	-45519	-37904	15242	3.88	3.88	-34890	16250	23006	38062	48797	9894	58691		3.85	Si
SLV 2	2.49	-18246.31	-31611	-26323	-16510	3.88	3.88	-24229	15263	18373	38062	48797	9894	56436		3.42	Si
SLV 2	4.39	9591.33	-41152	-34267	-15946	3.88	3.88	-31542	16250	21551	38062	48797	9894	58691		3.68	Si
SLV 3	2.49	-19467.61	-43723	-36409	-16954	3.88	3.88	-33514	16250	22408	38062	48797	9894	58691		3.46	Si
SLV 3	4.39	9554	-52419	-43650	-16547	3.88	3.88	-40178	16250	25304	38062	48797	9894	58691		3.55	Si
SLV 1	2.49	-21640.28	-31989	-26638	-19497	3.88	3.7905	-25432	15503	18500	38062	48797	9894	56562		2.9	Si
SLV 1	4.39	11858.19	-41599	-34640	-18934	3.88	3.88	-31885	16250	21700	38062	48797	9894	58691		3.1	Si
SLD 1	2.49	-14677.99	-33368	-27786	-13108	3.88	3.88	-25577	15532	18959	38062	48797	9894	57021		4.35	Si
SLD 1	4.39	6979.31	-42445	-35344	-12746	3.88	3.88	-32534	16250	21982	38062	48797	9894	58691		4.6	Si
SLV 14	2.49	14799.49	-27127	-22589	13261	3.88	3.88	-20793	14575	16880	38062	48797	9894	54942		4.14	Si
SLV 14	4.39	-12646.75	-34699	-28895	12855	3.88	3.88	-26597	15736	19422	38062	48797	9894	57464		4.47	Si
SLV 15	2.49	13578.18	-39240	-32676	12817	3.88	3.88	-30077	16250	20915	38062	48797	9894	58691		4.58	Si
SLV 15	4.39	-12684.08	-45966	-38277	12254	3.88	3.88	-35233	16250	23155	38062	48797	9894	58691		4.79	Si
SLD 2	2.49	-12511.69	-33127	-27585	-11201	3.88	3.88	-25391	15495	18878	38062	48797	9894	56941		5.08	Si
SLD 2	4.39	5532.42	-42159	-35107	-10839	3.88	3.88	-32315	16250	21887	38062	48797	9894	58691		5.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.31	17004	-18473	307.28	2298.22	7.48	Si
SLV 9	179667	0.31	17257	-18748	307.28	2328.09	7.58	Si
SLV 6	179667	0.31	18545	-20147	307.28	2478.08	8.06	Si
SLV 5	179667	0.31	18798	-20422	307.28	2507.18	8.16	Si
SLV 14	179667	0.31	27547	-29927	307.28	3434.01	11.18	Si
SLV 13	179667	0.31	27923	-30335	307.28	3470.44	11.29	Si
SLV 2	179667	0.31	32684	-35508	307.28	3907.24	12.72	Si
SLV 1	179667	0.31	33061	-35917	307.28	3939.82	12.82	Si
SLV 16	179667	0.31	38178	-41476	307.28	4355.07	14.17	Si
SLV 15	179667	0.31	38554	-41885	307.28	4383.53	14.27	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-46478	-39063	-210	0.477	5253.5	0.97	7.15038	5.31498	Si
SLV 4	-46057	-38795	-210	0.481	5210.6	0.969	7.20789	5.31498	Si
SLV 15	-40359	-34118	-188	0.539	4630.7	0.966	8.10475	5.31498	Si
SLV 16	-39938	-33851	-188	0.544	4587.8	0.966	8.18017	5.31498	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-54590	-51148	-622	0.409	6079.6	0.974	6.10426	3.92562	Si
SLV 8	-54307	-50968	-622	0.411	6050.7	0.973	6.13205	3.92562	Si
SLV 11	-52755	-49665	-615	0.421	5892.7	0.973	6.29087	3.92562	Si
SLV 12	-52471	-49485	-615	0.423	5863.8	0.973	6.32057	3.92562	Si
SLV 1	-37630	-27183	149	0.573	4352.9	0.964	8.63558	5.31498	Si
SLV 2	-37209	-26915	149	0.578	4310	0.964	8.72187	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.238	SLU 84	Si
V_SLU	11.073	SLU 40	Si
PF_SLV	2.645	SLV 1	Si
V_SLV	2.901	SLV 1	Si
PFFP_SLV	7.479	SLV 10	Si
R_SLV	1.345	SLV 3	Si

Maschio 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.888	6.661	-8.008	6.661	L4	L5	3.88	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato _Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	2.49	3303.91	-69661	-0.000122	0.0003743	0.0035	3.88	50029.03	76277.88	75043.55	22.71	Si	Si
SLU 75	4.39	5086.07	-64522	-0.0001166	0.0003743	0.0035	3.88	52154.38	74309.8	74309.8	14.61	No	Si
SLU 83	2.49	3451.42	-72521	-0.0001284	0.0003743	0.0035	3.88	48445.45	77429.94	72668.18	21.05	Si	Si
SLU 83	4.39	5319.73	-67381	-0.0001231	0.0003743	0.0035	3.88	51086.37	75388.41	75388.41	14.17	No	Si
SLU 80	2.49	3263.4	-69977	-0.0001226	0.0003743	0.0035	3.88	49868.39	76402.98	74802.58	22.92	Si	Si
SLU 80	4.39	5065.21	-64837	-0.0001172	0.0003743	0.0035	3.88	52050.62	74426.8	74426.8	14.69	No	Si
SLU 78	2.49	3310.75	-70696	-0.0001242	0.0003743	0.0035	3.88	49489.48	76689.77	74234.22	22.42	Si	Si
SLU 78	4.39	5121.91	-65556	-0.0001188	0.0003743	0.0035	3.88	51801.27	74695.14	74695.14	14.58	No	Si
SLU 82	2.49	3485.95	-71164	-0.0001257	0.0003743	0.0035	3.88	49232.74	76878.1	73849.11	21.18	Si	Si
SLU 82	4.39	5220.7	-66024	-0.00012	0.0003743	0.0035	3.88	51628.98	74871.44	74871.44	14.34	No	Si
SLU 84	2.49	3492.78	-72198	-0.0001279	0.0003743	0.0035	3.88	48638.69	77297.76	72958.04	20.89	Si	Si
SLU 84	4.39	5256.54	-67058	-0.0001223	0.0003743	0.0035	3.88	51221.37	75264.53	75264.53	14.32	No	Si
SLU 77	2.49	3269.38	-71019	-0.0001247	0.0003743	0.0035	3.88	49313.26	76819.52	73969.89	22.63	Si	Si
SLU 77	4.39	5185.1	-65879	-0.0001197	0.0003743	0.0035	3.88	51683.29	74816.59	74816.59	14.43	No	Si
SLU 79	2.49	3222.03	-70300	-0.0001231	0.0003743	0.0035	3.88	49700.31	76531.57	74550.47	23.14	Si	Si
SLU 79	4.39	5128.4	-65160	-0.000118	0.0003743	0.0035	3.88	51940.78	74547.1	74547.1	14.54	No	Si
SLU 74	2.49	3262.55	-69984	-0.0001226	0.0003743	0.0035	3.88	49864.53	76405.96	74796.8	22.93	Si	Si
SLU 74	4.39	5149.26	-64845	-0.0001175	0.0003743	0.0035	3.88	52048.12	74429.59	74429.59	14.45	No	Si
SLU 81	2.49	3444.59	-71487	-0.0001262	0.0003743	0.0035	3.88	49051.22	77008.61	73576.83	21.36	Si	Si
SLU 81	4.39	5283.89	-66347	-0.0001209	0.0003743	0.0035	3.88	51505.69	74993.65	74993.65	14.19	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	2.49	18222.77	-44708	-0.0001073	0.0005615	0.0035	3.88		69263.1	69263.1	3.8		Si
SLV 13	4.39	-7970.4	-41172	-0.0000774	0.0005615	0.0035	3.88		69356.39	69356.39	8.7		Si
SLV 10	2.49	10826.11	-28560	-0.0000644	0.0005615	0.0035	3.88		47979.98	47979.98	4.43		Si
SLV 10	4.39	-4045.87	-25158	-0.0000441	0.0005615	0.0035	3.88		47298.64	47298.64	11.69		Si
SLD 14	2.49	14578.16	-45880	-0.0001006	0.0005615	0.0035	3.88		70606.9	70606.9	4.84		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 14	4.39	-5407.52	-42187	-0.0000731	0.0005615	0.0035	3.88		70609.03	70609.03	13.06		Si
SLV 16	2.49	20154.76	-56930	-0.0001331	0.0005615	0.0035	3.88		83512.38	83512.38	4.14		Si
SLV 16	4.39	-8549.96	-53123	-0.0000981	0.0005615	0.0035	3.88		82636.02	82636.02	9.67		Si
SLV 14	2.49	21638.03	-45218	-0.0001164	0.0005615	0.0035	3.88		69846.89	69846.89	3.23		Si
SLV 14	4.39	-10454.01	-41682	-0.000084	0.0005615	0.0035	3.88		70001.54	70001.54	6.7		Si
SLV 4	2.49	-14086.56	-48619	-0.0001039	0.0005615	0.0035	3.88		78115.54	78115.54	5.55		Si
SLV 4	4.39	14946.61	-44287	-0.0000988	0.0005615	0.0035	3.88		68782.78	68782.78	4.6		Si
SLV 2	2.49	-12603.29	-36906	-0.0000814	0.0005615	0.0035	3.88		63917.88	63917.88	5.07		Si
SLV 2	4.39	13042.55	-32846	-0.000076	0.0005615	0.0035	3.88		54331.5	54331.5	4.17		Si
SLV 1	2.49	-16018.55	-36396	-0.0000885	0.0005615	0.0035	3.88		63221.45	63221.45	3.95		Si
SLV 1	4.39	15526.17	-32336	-0.0000809	0.0005615	0.0035	3.88		53568.75	53568.75	3.45		Si
SLV 3	2.49	-17501.82	-48109	-0.0001113	0.0005615	0.0035	3.88		77547.93	77547.93	4.43		Si
SLV 3	4.39	17430.23	-43777	-0.0001039	0.0005615	0.0035	3.88		68201.47	68201.47	3.91		Si
SLV 15	2.49	16739.5	-56420	-0.0001237	0.0005615	0.0035	3.88		82990.87	82990.87	4.96		Si
SLV 15	4.39	-6066.34	-52613	-0.0000913	0.0005615	0.0035	3.88		82210.84	82210.84	13.55		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	2.49	2119.33	-50313	-41896	-805	3.88	3.88	-38564	10833	21988	38062	32532	9894	32982	Si	40.96	Si
SLU 44	4.39	3759.86	-45265	-37693	-805	3.88	3.88	-34695	10833	20306	38062	32532	9894	30460	Si	37.82	Si
SLU 51	2.49	2105.42	-52596	-43798	-873	3.88	3.88	-40315	10833	22748	38062	32532	9894	34122	Si	39.11	Si
SLU 51	4.39	3873.67	-47548	-39594	-873	3.88	3.88	-36445	10833	21067	38062	32532	9894	31600	Si	36.22	Si
SLU 47	2.49	2126.16	-51347	-42757	-821	3.88	3.88	-39357	10833	22332	38062	32532	9894	33498	Si	40.82	Si
SLU 47	4.39	3795.7	-46299	-38554	-821	3.88	3.88	-35488	10833	20651	38062	32532	9894	30976	Si	37.75	Si
SLU 50	2.49	2064.06	-52919	-44067	-928	3.88	3.88	-40562	10833	22856	38062	32532	9894	34284	Si	36.96	Si
SLU 50	4.39	3936.86	-47871	-39863	-928	3.88	3.88	-36693	10833	21174	38062	32532	9894	31762	Si	34.24	Si
SLU 45	2.49	2104.57	-52604	-43804	-917	3.88	3.88	-40320	10833	22751	38062	32532	9894	34126	Si	37.21	Si
SLU 45	4.39	3957.72	-47556	-39600	-917	3.88	3.88	-36451	10833	21069	38062	32532	9894	31604	Si	34.46	Si
SLU 43	2.49	2050.39	-50851	-42345	-897	3.88	3.88	-38977	10833	22167	38062	32532	9894	33251	Si	37.07	Si
SLU 43	4.39	3865.18	-45803	-38141	-897	3.88	3.88	-35108	10833	20486	38062	32532	9894	30728	Si	34.26	Si
SLU 8	2.49	1750.92	-43765	-36444	-728	3.88	3.88	-33546	10833	19807	38062	32532	9894	29710	Si	40.8	Si
SLU 8	4.39	3219.35	-39858	-33190	-728	3.88	3.88	-30551	10833	18505	38062	32532	9894	27758	Si	38.12	Si
SLU 46	2.49	2145.94	-52281	-43535	-862	3.88	3.88	-40073	10833	22643	38062	32532	9894	33965	Si	39.39	Si
SLU 46	4.39	3894.53	-47233	-39331	-862	3.88	3.88	-36203	10833	20962	38062	32532	9894	31443	Si	36.47	Si
SLU 49	2.49	2152.77	-53315	-44396	-877	3.88	3.88	-40865	10833	22988	38062	32532	9894	34481	Si	39.3	Si
SLU 49	4.39	3930.37	-48267	-40192	-877	3.88	3.88	-36996	10833	21306	38062	32532	9894	31959	Si	36.42	Si
SLU 48	2.49	2111.41	-53638	-44665	-932	3.88	3.88	-41113	10833	23095	38062	32532	9894	34643	Si	37.15	Si
SLU 48	4.39	3993.56	-48590	-40461	-932	3.88	3.88	-37244	10833	21414	38062	32532	9894	32121	Si	34.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	2.49	-9518.62	-40205	-33479	-11135	3.88	3.88	-30817	16250	21236	38062	48797	9894	58691		5.27	Si
SLD 1	4.39	11212.16	-36199	-30144	-10921	3.88	3.88	-27746	15966	19902	38062	48797	9894	57964		5.31	Si
SLV 16	2.49	20154.76	-56930	-47407	15580	3.88	3.88	-43636	16250	26807	38062	48797	9894	58691		3.77	Si
SLV 16	4.39	-8549.96	-53123	-44236	15251	3.88	3.88	-40718	16250	25539	38062	48797	9894	58691		3.85	Si
SLV 2	2.49	-12603.29	-36906	-30732	-13880	3.88	3.88	-28288	16074	20137	38062	48797	9894	58199		4.19	Si
SLV 2	4.39	13042.55	-32846	-27351	-13552	3.88	3.88	-25176	15452	18785	38062	48797	9894	56847		4.19	Si
SLV 14	2.49	21638.03	-45218	-37653	17236	3.88	3.88	-34659	16250	22906	38062	48797	9894	58691		3.41	Si
SLV 14	4.39	-10454.01	-41682	-34709	16876	3.88	3.88	-31949	16250	21728	38062	48797	9894	58691		3.48	Si
SLV 4	2.49	-14086.56	-48619	-40485	-15537	3.88	3.88	-37266	16250	24038	38062	48797	9894	58691		3.78	Si
SLV 4	4.39	14946.61	-44287	-36878	-15177	3.88	3.88	-33946	16250	22596	38062	48797	9894	58691		3.87	Si
SLV 13	2.49	18222.77	-44708	-37229	14131	3.88	3.88	-34268	16250	22736	38062	48797	9894	58691		4.15	Si
SLV 13	4.39	-7970.4	-41172	-34284	13771	3.88	3.88	-31558	16250	21558	38062	48797	9894	58691		4.26	Si
SLV 1	2.49	-16018.55	-36396	-30307	-16985	3.88	3.88	-27897	15996	19967	38062	48797	9894	58029		3.42	Si
SLV 1	4.39	15526.17	-32336	-26926	-16656	3.88	3.88	-24785	15374	18615	38062	48797	9894	56677		3.4	Si
SLV 15	2.49	16739.5	-56420	-46982	12475	3.88	3.88	-43246	16250	26637	38062	48797	9894	58691		4.7	Si
SLV 15	4.39	-6066.34	-52613	-43812	12146	3.88	3.88	-40327	16250	25369	38062	48797	9894	58691		4.83	Si
SLD 3	2.49	-10441.94	-47446	-39509	-12155	3.88	3.88	-36367	16250	23648	38062	48797	9894	58691		4.83	Si
SLD 3	4.39	12388.73	-43272	-36033	-11922	3.88	3.88	-33167	16250	22257	38062	48797	9894	58691		4.92	Si
SLV 3	2.49	-17501.82	-48109	-40061	-18641	3.88	3.88	-36875	16250	23868	38062	48797	9894	58691		3.15	Si
SLV 3	4.39	17430.23	-43777	-36454	-18281	3.88	3.88	-33555	16250	22426	38062	48797	9894	58691		3.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLD 5	179667	0.31	22351	-24283	307.28	2902.01	9.44	Si
SLV 6	179667	0.31	22668	-24626	307.28	2935.91	9.55	Si
SLV 9	179667	0.31	24661	-26792	307.28	3145.14	10.24	Si
SLV 10	179667	0.31	24977	-27135	307.28	3177.59	10.34	Si
SLV 1	179667	0.31	31935	-34694	307.28	3841.48	12.5	Si
SLV 2	179667	0.31	32404	-35204	307.28	3882.8	12.64	Si
SLV 13	179667	0.31	39633	-43058	307.28	4463.65	14.53	Si
SLV 14	179667	0.31	40103	-43568	307.28	4497.77	14.64	Si
SLV 3	179667	0.31	42525	-46199	307.28	4666.82	15.19	Si
SLV 4	179667	0.31	42994	-46709	307.28	4698.24	15.29	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 3.295 Wa = 0.05 Ta = 0.0694



Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-45205	-56884	-368	0.485	5123.9	0.969	7.27857	5.31498	Si
SLV 15	-44711	-56575	-368	0.49	5073.6	0.969	7.34925	5.31498	Si
SLV 12	-52993	-70309	-1030	0.412	5917	0.973	6.15622	3.92562	Si
SLV 11	-52661	-70101	-1030	0.414	5883.1	0.973	6.19008	3.92562	Si
SLV 4	-37603	-48491	-316	0.569	4350.2	0.964	8.57949	5.31498	Si
SLV 8	-50713	-67791	-1014	0.428	5684.7	0.972	6.4012	3.92562	Si
SLV 3	-37109	-48183	-316	0.575	4299.9	0.964	8.6802	5.31498	Si
SLV 7	-50380	-67583	-1014	0.43	5650.8	0.972	6.43809	3.92562	Si
SLV 14	-36180	-42816	215	0.591	4205.3	0.963	8.91534	5.31498	Si
SLV 13	-35686	-42507	215	0.598	4155.1	0.962	9.02414	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.171	SLU 83	Si
V_SLU	34.242	SLU 50	Si
PF_SLV	3.228	SLV 14	Si
V_SLV	3.148	SLV 3	Si
PFFP_SLV	9.444	SLV 5	Si
R_SLV	1.369	SLV 16	Si

Maschio 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.008	6.661	-5.158	6.661	L4	L5	1.85	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	2.49	-30.4	-18926	-0.000059	0.0003743	0.0035	1.85	11224.1	13691.44	13691.44	450.39	No	Si
SLU 31	4.39	-465.16	-24001	-0.0000818	0.0003743	0.0035	1.85	12097.32	15594.28	15594.28	33.52	No	Si
SLU 82	2.49	-71.1	-23065	-0.000074	0.0003743	0.0035	1.85	12004.26	15314.49	15314.49	215.4	No	Si
SLU 82	4.39	-449.64	-28928	-0.0001006	0.0003743	0.0035	1.85	12080.83	16992.93	16992.93	37.79	No	Si
SLU 19	2.49	-28.27	-16900	-0.0000521	0.0003743	0.0035	1.85	10622.91	12838.66	12838.66	454.14	No	Si
SLU 19	4.39	-350.8	-21225	-0.0000705	0.0003743	0.0035	1.85	11731.62	14731.34	14731.34	41.99	No	Si
SLU 34	2.49	-51.77	-19298	-0.0000605	0.0003743	0.0035	1.85	11318.73	13855.16	13855.16	267.62	No	Si
SLU 34	4.39	-399.94	-24346	-0.0000824	0.0003743	0.0035	1.85	12123.91	15700.24	15700.24	39.26	No	Si
SLU 33	2.49	-77.37	-19636	-0.000062	0.0003743	0.0035	1.85	11400.66	14006.21	14006.21	181.03	No	Si
SLU 33	4.39	-376.76	-24717	-0.0000835	0.0003743	0.0035	1.85	12147.84	15815.85	15815.85	41.98	No	Si
SLU 42	2.49	-85.06	-20427	-0.0000648	0.0003743	0.0035	1.85	11576.41	14366.38	14366.38	168.89	No	Si
SLU 42	4.39	-459.48	-25836	-0.0000887	0.0003743	0.0035	1.85	12190.71	16174.2	16174.2	35.2	No	Si
SLU 40	2.49	-63.69	-20055	-0.0000633	0.0003743	0.0035	1.85	11496.5	14195.75	14195.75	222.88	No	Si
SLU 40	4.39	-524.7	-25490	-0.0000881	0.0003743	0.0035	1.85	12182.15	16061.94	16061.94	30.61	No	Si
SLU 39	2.49	-109.58	-20212	-0.0000643	0.0003743	0.0035	1.85	11530.69	14267.21	14267.21	130.2	No	Si
SLU 39	4.39	-461.45	-25513	-0.0000875	0.0003743	0.0035	1.85	12182.85	16069.35	16069.35	34.82	No	Si
SLU 73	2.49	-37.81	-21936	-0.0000696	0.0003743	0.0035	1.85	11851.06	14981.91	14981.91	396.29	No	Si
SLU 73	4.39	-390.11	-27439	-0.000094	0.0003743	0.0035	1.85	12175.64	16693.26	16693.26	42.79	No	Si
SLU 41	2.49	-130.95	-20583	-0.0000658	0.0003743	0.0035	1.85	11608.56	14438.78	14438.78	110.26	No	Si
SLU 41	4.39	-396.23	-25858	-0.000088	0.0003743	0.0035	1.85	12191.13	16181.71	16181.71	40.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	2.49	4648.05	-12968	-0.0000849	0.0005615	0.0035	1.85		10462.21	10462.21	2.25		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 13	4.39	-5326.78	-27394	-0.0001422	0.0005615	0.0035	1.85		19532.95	19532.95	3.67		Si
SLV 4	2.49	-4802.22	-17481	-0.0001009	0.0005615	0.0035	1.85		14384.36	14384.36	3		Si
SLV 4	4.39	5194.71	-9677	-0.0000931	0.0005615	0.0035	1.85		8206.62	8206.62	1.58		Si
SLV 9	2.49	3177.47	-6357	-0.0000542	0.0005615	0.0035	1.85		5700.64	5700.64	1.79		Si
SLV 9	4.39	-4720.34	-18659	-0.0001041	0.0005615	0.0035	1.85		15111.14	15111.14	3.2		Si
SLV 1	2.49	-4435.45	-12378	-0.0000807	0.0005615	0.0035	1.85		10957.65	10957.65	2.47		Si
SLV 1	4.39	4164.58	-6222	-0.0000907	0.0005615	0.0035	1.85		5590.97	5590.97	1.34		Si
SLV 2	2.49	-3472.51	-12039	-0.0000693	0.0005615	0.0035	1.85		10712.28	10712.28	3.08		Si
SLV 2	4.39	3026.48	-8257	-0.0000535	0.0005615	0.0035	1.85		7216.69	7216.69	2.38		Si
SLV 14	2.49	5610.99	-12629	-0.0000985	0.0005615	0.0035	1.85		10225.73	10225.73	1.82		Si
SLV 14	4.39	-6464.89	-29428	-0.0001629	0.0005615	0.0035	1.85		20432.18	20432.18	3.16		Si
SLV 7	2.49	-3979.96	-24321	-0.0001163	0.0005615	0.0035	1.85		18233.17	18233.17	4.58		Si
SLV 7	4.39	5354.51	-17042	-0.0001052	0.0005615	0.0035	1.85		13364.3	13364.3	2.5		Si
SLD 3	2.49	-3702.06	-16821	-0.0000874	0.0005615	0.0035	1.85		13965.28	13965.28	3.77		Si
SLD 3	4.39	4001.98	-11548	-0.0000734	0.0005615	0.0035	1.85		9478.97	9478.97	2.37		Si
SLV 10	2.49	3825.78	-6128	-0.000075	0.0005615	0.0035	1.85		5513.63	5513.63	1.44		Si
SLV 10	4.39	-5486.59	-20029	-0.000117	0.0005615	0.0035	1.85		15928.18	15928.18	2.9		Si
SLV 3	2.49	-5765.16	-17821	-0.0001124	0.0005615	0.0035	1.85		14592.65	14592.65	2.53		Si
SLV 3	4.39	6332.81	-7642	-0.0003751	0.0005615	0.0035	1.85		6733.68	6733.68	1.06		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	2.49	-85.06	-20427	-17010	3753	1.85	1.85	-32838	10833	6198	38062	15511	4717	9297	Si	2.48	Si
SLU 42	4.39	-459.48	-25836	-21514	3720	1.85	1.85	-41532	10833	7399	38062	15511	4717	11099	Si	2.98	Si
SLU 40	2.49	-63.69	-20055	-16700	3811	1.85	1.85	-32240	10833	6116	38062	15511	4717	9173	Si	2.41	Si
SLU 40	4.39	-524.7	-25490	-21226	3778	1.85	1.85	-40977	10833	7322	38062	15511	4717	10984	Si	2.91	Si
SLU 76	2.49	-59.18	-22308	-18576	3987	1.85	1.85	-35861	10833	6616	38062	15511	4717	9924	Si	2.49	Si
SLU 76	4.39	-324.89	-27784	-23136	3950	1.85	1.85	-44664	10833	7832	38062	15511	4717	11748	Si	2.97	Si
SLU 39	2.49	-109.58	-20212	-16830	3689	1.85	1.85	-32491	10833	6150	38062	15511	4717	9226	Si	2.5	Si
SLU 39	4.39	-461.45	-25513	-21245	3656	1.85	1.85	-41014	10833	7328	38062	15511	4717	10991	Si	3.01	Si
SLU 82	2.49	-71.1	-23065	-19207	4236	1.85	1.85	-37079	10833	6784	38062	15511	4717	10176	Si	2.4	Si
SLU 82	4.39	-449.64	-28928	-24089	4198	1.85	1.85	-46504	10833	8086	38062	15511	4717	12129	Si	2.89	Si
SLU 81	2.49	-116.99	-23222	-19337	4114	1.85	1.85	-37330	10833	6819	38062	15511	4717	10228	Si	2.49	Si
SLU 81	4.39	-386.39	-28951	-24108	4075	1.85	1.85	-46540	10833	8091	38062	15511	4717	12136	Si	2.98	Si
SLU 73	2.49	-37.81	-21936	-18267	4045	1.85	1.85	-35264	10833	6533	38062	15511	4717	9800	Si	2.42	Si
SLU 73	4.39	-390.11	-27439	-22849	4009	1.85	1.85	-44109	10833	7755	38062	15511	4717	11633	Si	2.9	Si
SLU 31	2.49	-30.4	-18926	-15760	3621	1.85	1.85	-30425	10833	5865	38062	15511	4717	8797	Si	2.43	Si
SLU 31	4.39	-465.16	-24001	-19986	3589	1.85	1.85	-38583	10833	6992	38062	15511	4717	10488	Si	2.92	Si
SLU 34	2.49	-51.77	-19298	-16070	3562	1.85	1.85	-31023	10833	5948	38062	15511	4717	8921	Si	2.5	Si
SLU 34	4.39	-399.94	-24346	-20273	3531	1.85	1.85	-39137	10833	7068	38062	15511	4717	10603	Si	3	Si
SLU 84	2.49	-92.47	-23437	-19516	4178	1.85	1.85	-37676	10833	6867	38062	15511	4717	10300	Si	2.47	Si
SLU 84	4.39	-384.42	-29273	-24376	4139	1.85	1.85	-47059	10833	8163	38062	15511	4717	12244	Si	2.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	2.49	3825.78	-6128	-5103	12512	1.85	0.9021	-9851	12387	3854	38062	23267	4717	27984		2.24	Si
SLV 10	4.39	-5486.59	-20029	-16679	12399	1.85	1.85	-32198	16250	8417	38062	23267	4717	27984		2.26	Si
SLV 13	2.49	4648.05	-12968	-10799	13169	1.85	1.6998	-20847	14586	6942	38062	23267	4717	27984		2.13	Si
SLV 13	4.39	-5326.78	-27394	-22811	12962	1.85	1.85	-44037	16250	8576	38062	23267	4717	27984		2.16	Si
SLD 13	2.49	2933.26	-13845	-11529	9294	1.85	1.85	-22257	14868	7702	38062	23267	4717	27984		3.01	Si
SLD 13	4.39	-3407.62	-24224	-20172	9150	1.85	1.85	-38942	16250	8417	38062	23267	4717	27984		3.06	Si
SLV 9	2.49	3177.47	-6357	-5293	10991	1.85	1.2754	-10219	12460	4450	38062	23267	4717	27984		2.55	Si
SLV 9	4.39	-4720.34	-18659	-15538	10876	1.85	1.85	-29996	16250	8417	38062	23267	4717	27984		2.57	Si
SLD 10	2.49	2363.53	-9612	-8004	8751	1.85	1.85	-15452	13507	6997	38062	23267	4717	27984		3.2	Si
SLD 10	4.39	-3442.63	-19529	-16262	8669	1.85	1.85	-31394	16250	8417	38062	23267	4717	27984		3.23	Si
SLV 14	2.49	5610.99	-12629	-10516	15428	1.85	1.4421	-20301	14477	5846	38062	23267	4717	27984		1.81	Si
SLV 14	4.39	-6464.89	-29428	-24505	15224	1.85	1.85	-47308	16250	9028	38062	23267	4717	27984		1.84	Si
SLV 16	2.49	4281.27	-18071	-15048	11665	1.85	1.85	-29050	16227	8405	38062	23267	4717	27984		2.4	Si
SLV 16	4.39	-4296.65	-30848	-25688	11484	1.85	1.85	-49591	16250	9343	38062	23267	4717	27984		2.44	Si
SLV 3	2.49	-5765.16	-17821	-14840	-10412	1.85	1.8045	-28648	16146	8158	38062	23267	4717	27984		2.69	Si
SLV 3	4.39	6332.81	-7642	-6364	-10259	1.85	0.2891	-82893	16250	4191	38062	23267	4717	27984		2.73	Si
SLD 14	2.49	3547.88	-13629	-11349	10736	1.85	1.85	-21909	14798	7666	38062	23267	4717	27984		2.61	Si
SLD 14	4.39	-4134.05	-25523	-21253	10594	1.85	1.85	-41029	16250	8417	38062	23267	4717	27984		2.64	Si
SLV 15	2.49	3318.33	-18411	-15331	9406	1.85	1.85	-29596	16250	8417	38062	23267	4717	27984		2.98	Si
SLV 15	4.39	-3158.55	-28814	-23994	9222	1.85	1.85	-46320	16250	8892	38062	23267	4717	27984		3.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.31	18702	-9688	146.51	1190.19	8.12	Si
SLV 5	179667	0.31	19078	-9882	146.51	1210.7	8.26	Si
SLV 6	179667	0.31	20274	-10502	146.51	1275.11	8.7	Si
SLV 2	179667	0.31	20479	-10608	146.51	1286	8.78	Si
SLV 3	179667	0.31	25492	-13205	146.51	1540.09	10.51	Si
SLV 9	179667	0.31	25941	-13437	146.51	1561.68	10.66	Si
SLV 10	179667	0.31	27137	-14057	146.51	1618.29	11.05	Si
SLV 4	179667	0.31	27269	-14125	146.51	1624.44	11.09	Si
SLV 13	179667	0.31	41579	-21538	146.51	2194.34	14.98	Si
SLV 7	179667	0.31	41710	-21606	146.51	2198.68	15.01	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-27841	-13675	-93	0.393	3083.4	0.975	5.86065	5.31498	Si
SLV 14	-27322	-9039	32	0.402	3030.5	0.975	5.98867	5.31498	Si
SLV 15	-25865	-13847	-92	0.419	2882.1	0.973	6.24946	5.31498	Si
SLV 13	-25346	-9212	33	0.428	2829.2	0.973	6.39365	5.31498	Si
SLV 12	-21297	-18551	-218	0.488	2417	0.969	7.32755	3.92562	Si
SLV 11	-19967	-18667	-218	0.516	2281.5	0.967	7.75599	3.92562	Si
SLV 10	-19567	-3100	197	0.526	2240.8	0.966	7.91028	3.92562	Si
SLV 9	-18236	-3216	197	0.559	2105.4	0.964	8.4164	3.92562	Si
SLV 8	-15446	-18071	-202	0.643	1821.6	0.959	9.74082	3.92562	Si
SLV 7	-14116	-18188	-201	0.694	1686.3	0.956	10.54602	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	30.612	SLU 40	Si
V_SLU	2.402	SLU 82	Si
PF_SLV	1.063	SLV 3	Si
V_SLV	1.814	SLV 14	Si
PFFP_SLV	8.123	SLV 1	Si
R_SLV	1.103	SLV 16	Si

Maschio 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-11.013	-4.784	-11.013	-3.359	L4	Z medio 333 cm	1.425	0.28	1.74	1.74	1.74			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 81	1.59	-224.22	-26203	-0.0001208	0.0003743	0.0035	1.425	6627.07	10577.92	9940.6	44.33	Si	Si
SLU 81	3.33	599.57	-21013	-0.0001007	0.0003743	0.0035	1.425	7227.27	9695.08	9695.08	16.17	No	Si
SLU 84	1.59	-265.26	-26773	-0.0001249	0.0003743	0.0035	1.425	6503.62	10647.68	9755.43	36.78	Si	Si
SLU 84	3.33	611.64	-21435	-0.0001031	0.0003743	0.0035	1.425	7213.76	9753.98	9753.98	15.95	No	Si
SLU 21	1.59	-244.99	-20252	-0.0000899	0.0003743	0.0035	1.425	7235.84	9679.01	9679.01	39.51	No	Si
SLU 21	3.33	519.08	-16269	-0.0000759	0.0003743	0.0035	1.425	6949.35	8345.94	8345.94	16.08	No	Si
SLU 82	1.59	-263.47	-26502	-0.0001233	0.0003743	0.0035	1.425	6563.62	10616.65	9845.43	37.37	Si	Si
SLU 82	3.33	604.77	-21212	-0.0001018	0.0003743	0.0035	1.425	7221.67	9724.44	9724.44	16.08	No	Si
SLU 41	1.59	-229.43	-22653	-0.0001017	0.0003743	0.0035	1.425	7139.71	10110.99	10110.99	44.07	No	Si
SLU 41	3.33	600.73	-18267	-0.0000869	0.0003743	0.0035	1.425	7162.6	8918.93	8918.93	14.85	No	Si
SLU 42	1.59	-268.68	-22953	-0.0001041	0.0003743	0.0035	1.425	7113.55	10146.18	10146.18	37.76	No	Si
SLU 42	3.33	605.92	-18466	-0.000088	0.0003743	0.0035	1.425	7176.19	8976.85	8976.85	14.82	No	Si
SLU 39	1.59	-227.64	-22383	-0.0001003	0.0003743	0.0035	1.425	7160.64	10079.86	10079.86	44.28	No	Si
SLU 39	3.33	593.85	-18044	-0.0000857	0.0003743	0.0035	1.425	7145.76	8853.88	8853.88	14.91	No	Si
SLU 83	1.59	-226.02	-26473	-0.0001223	0.0003743	0.0035	1.425	6569.91	10613.14	9854.86	43.6	Si	Si
SLU 83	3.33	606.44	-21236	-0.0001019	0.0003743	0.0035	1.425	7220.92	9727.55	9727.55	16.04	No	Si
SLU 40	1.59	-266.88	-22682	-0.0001026	0.0003743	0.0035	1.425	7137.31	10114.36	10114.36	37.9	No	Si
SLU 40	3.33	599.05	-18243	-0.0000868	0.0003743	0.0035	1.425	7160.9	8912.1	8912.1	14.88	No	Si
SLU 20	1.59	-205.74	-19952	-0.0000876	0.0003743	0.0035	1.425	7233.65	9601.65	9601.65	46.67	No	Si
SLU 20	3.33	513.88	-16070	-0.0000748	0.0003743	0.0035	1.425	6920.41	8290.57	8290.57	16.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 8	1.59	1461.16	-7085	-0.0000504	0.0005615	0.0035	1.425		4708.44	4708.44	3.22		Si
SLD 8	3.33	-21.48	-6815	-0.0000261	0.0005615	0.0035	1.425		4930.59	4930.59	229.57		Si
SLV 12	1.59	2129.19	-1171	-0.0162203	0.0005615	0.0035	1.14	-1171	931.9	931.9	0.44		No
SLV 12	3.33	-133.48	-2594	-0.0000117	0.0005615	0.0035	1.425		2277.79	2277.79	17.06		Si
SLV 11	1.59	2048.68	-1181	-0.0151364	0.0005615	0.0035	1.14	-1181	938.74	938.74	0.46		No
SLV 11	3.33	-132.32	-2516	-0.0000114	0.0005615	0.0035	1.425		2226.18	2226.18	16.82		Si
SLD 7	1.59	1410.77	-7092	-0.0000496	0.0005615	0.0035	1.425		4711.8	4711.8	3.34		Si
SLD 7	3.33	-20.75	-6766	-0.0000259	0.0005615	0.0035	1.425		4901.22	4901.22	236.2		Si
SLV 8	1.59	2399.79	-741	-0.0233991	0.0005615	0.0035	1.14	-741	635.03	635.03	0.26		No
SLV 8	3.33	-166.87	-2533	-0.000012	0.0005615	0.0035	1.425		2237.56	2237.56	13.41		Si
SLV 10	1.59	-2439.49	-33978	-0.0001956	0.0005615	0.0035	1.425		14666.09	14666.09	6.01		Si
SLV 10	3.33	607.43	-24991	-0.0001133	0.0005615	0.0035	1.425		12483.89	12483.89	20.55		Si
SLD 11	1.59	1237.81	-7366	-0.0000479	0.0005615	0.0035	1.425		4856.47	4856.47	3.92		Si
SLD 11	3.33	0.48	-6805	-0.0000257	0.0005615	0.0035	1.425		4550.92	4550.92	9529.78		Si
SLD 12	1.59	1288.21	-7359	-0.0000487	0.0005615	0.0035	1.425		4853.23	4853.23	3.77		Si
SLD 12	3.33	-0.25	-6854	-0.0000259	0.0005615	0.0035	1.425		4953.98	4953.98	19829.37		Si
SLV 7	1.59	2319.28	-751	-0.022283	0.0005615	0.0035	1.14	-751	641.98	641.98	0.28		No
SLV 7	3.33	-165.71	-2455	-0.0000117	0.0005615	0.0035	1.425		2185.92	2185.92	13.19		Si
SLV 9	1.59	-2520	-33988	-0.0001974	0.0005615	0.0035	1.425		14667.42	14667.42	5.82		Si
SLV 9	3.33	608.6	-24912	-0.0001129	0.0005615	0.0035	1.425		12461.05	12461.05	20.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	1.59	-265.26	-26773	-22294	-3366	1.425	1.425	-55875	10833	8876	19031	11948	3634	13314	Si	3.96	Si
SLU 84	3.33	611.64	-21435	-17849	288	1.425	1.425	-44735	10833	7420	19031	11948	3634	11130	Si	38.68	Si
SLU 82	1.59	-263.47	-26502	-22069	-3327	1.425	1.425	-55311	10833	8802	19031	11948	3634	13203	Si	3.97	Si
SLU 82	3.33	604.77	-21212	-17664	283	1.425	1.425	-44270	10833	7359	19031	11948	3634	11039	Si	38.96	Si
SLU 42	1.59	-268.68	-22953	-19113	-3017	1.425	1.425	-47902	10833	7834	19031	11948	3634	11751	Si	3.9	Si
SLU 42	3.33	605.92	-18466	-15377	81	1.425	1.425	-38539	10833	6610	19031	11948	3634	9915	Si	122.22	Si
SLU 40	1.59	-266.88	-22682	-18888	-2977	1.425	1.425	-47338	10833	7760	19031	11948	3634	11640	Si	3.91	Si
SLU 40	3.33	599.05	-18243	-15192	77	1.425	1.425	-38074	10833	6549	19031	11948	3634	9824	Si	128.1	Si
SLU 39	1.59	-227.64	-22383	-18638	-2871	1.425	1.425	-46713	10833	7679	19031	11948	3634	11518	Si	4.01	Si
SLU 39	3.33	593.85	-18044	-15026	155	1.425	1.425	-37658	10833	6495	19031	11948	3634	9743	Si	62.71	Si
SLU 34	1.59	-238.36	-21994	-18315	-2853	1.425	1.425	-45901	10833	7572	19031	11948	3634	11359	Si	3.98	Si
SLU 34	3.33	492.78	-17567	-14628	158	1.425	1.425	-36662	10833	6365	19031	11948	3634	9547	Si	60.61	Si
SLU 36	1.59	-215.34	-22227	-18509	-2846	1.425	1.425	-46388	10833	7636	19031	11948	3634	11454	Si	4.02	Si
SLU 36	3.33	498.3	-17792	-14815	215	1.425	1.425	-37131	10833	6426	19031	11948	3634	9639	Si	44.85	Si
SLU 76	1.59	-234.94	-25814	-21496	-3203	1.425	1.425	-53874	10833	8614	19031	11948	3634	12922	Si	4.03	Si
SLU 76	3.33	498.5	-20536	-17100	364	1.425	1.425	-42858	10833	7175	19031	11948	3634	10762	Si	29.55	Si
SLU 41	1.59	-229.43	-22653	-18864	-2910	1.425	1.425	-47277	10833	7752	19031	11948	3634	11628	Si	4	Si
SLU 41	3.33	600.73	-18267	-15211	160	1.425	1.425	-38123	10833	6556	19031	11948	3634	9834	Si	61.54	Si
SLU 31	1.59	-236.57	-21723	-18089	-2814	1.425	1.425	-45337	10833	7499	19031	11948	3634	11248	Si	4	Si
SLU 31	3.33	485.9	-17344	-14443	153	1.425	1.425	-36197	10833	6304	19031	11948	3634	9456	Si	61.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	1.59	-234.62	-21562	-17955	-7175	1.425	1.425	-45001	16250	8241	19031	17922	3634	21555		3	Si
SLV 2	3.33	275.47	-17039	-14188	-4160	1.425	1.425	-35560	16250	7007	19031	17922	3634	21555		5.18	Si
SLV 10	1.59	-2439.49	-33978	-28294	-7622	1.425	1.425	-70912	16250	11628	19031	17922	3634	21555		2.83	Si
SLV 10	3.33	607.43	-24991	-20810	-3383	1.425	1.425	-52155	16250	9176	19031	17922	3634	21555		6.37	Si
SLV 11	1.59	2048.68	-1181	-983	5572	1.14	0	0	0	0	19031	14337	2907	17244		3.09	Si
SLV 11	3.33	-132.32	-2516	-2095	6275	1.425	1.425	-5250	11467	4575	19031	17922	3634	21555		3.44	Si
SLD 5	1.59	-1408.42	-27370	-22791	-6368	1.425	1.425	-57121	16250	9825	19031	17922	3634	21555		3.38	Si
SLD 5	3.33	441.97	-20591	-17147	-2819	1.425	1.425	-42974	16250	7976	19031	17922	3634	21555		7.65	Si
SLV 5	1.59	-2249.4	-33558	-27945	-9082	1.425	1.425	-70037	16250	11513	19031	17922	3634	21555		2.37	Si
SLV 5	3.33	575.2	-24851	-20694	-4866	1.425	1.425	-51865	16250	9138	19031	17922	3634	21555		4.43	Si
SLV 9	1.59	-2520	-33988	-28302	-7257	1.425	1.425	-70933	16250	11631	19031	17922	3634	21555		2.97	Si
SLV 9	3.33	608.6	-24912	-20745	-3040	1.425	1.425	-51992	16250	9155	19031	17922	3634	21555		7.09	Si
SLV 6	1.59	-2168.89	-33548	-27936	-9447	1.425	1.425	-70016	16250	11511	19031	17922	3634	21555		2.28	Si
SLV 6	3.33	574.04	-24930	-20759	-5208	1.425	1.425	-52028	16250	9160	19031	17922	3634	21555		4.14	Si
SLV 12	1.59	2129.19	-1171	-975	5207	1.14	0	0	0	0	19031	14337	2907	17244		3.31	Si
SLV 12	3.33	-133.48	-2594	-2160	5933	1.425	1.425	-5413	11499	4588	19031	17922	3634	21555		3.63	Si
SLV 1	1.59	-354.2	-21577	-17968	-6633	1.425	1.425	-45032	16250	8245	19031	17922	3634	21555		3.25	Si
SLV 1	3.33	277.2	-16922	-14092	-3652	1.425	1.425	-35317	16250	6976	19031	17922	3634	21555		5.9	Si
SLD 6	1.59	-1358.02	-27363	-22786	-6597	1.425	1.425	-57108	16250	9824	19031	17922	3634	21555		3.27	Si
SLD 6	3.33	441.24	-20640	-17187	-3033	1.425	1.425	-43076	16250	7990	19031	17922	3634	21555		7.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.46 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.3	3428	-1368	27.76	187.21	6.74	Si
SLV 12	179667	0.3	3750	-1496	27.76	204.33	7.36	Si
SLV 7	179667	0.3	4067	-1623	27.76	221.14	7.97	Si
SLV 8	179667	0.3	4389	-1751	27.76	238.11	8.58	Si
SLV 15	179667	0.3	26762	-10678	27.76	1232.97	44.41	Si
SLV 16	179667	0.3	27240	-10869	27.76	1250.22	45.04	Si
SLV 3	179667	0.3	28891	-11528	27.76	1308.56	47.14	Si
SLV 4	179667	0.3	29369	-11718	27.76	1325.06	47.73	Si
SLV 13	179667	0.3	47469	-18940	27.76	1827.4	65.83	Si
SLV 14	179667	0.3	47946	-19131	27.76	1837.42	66.19	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.



- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.46 Wa = 0.05 Ta = 0.0181

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-24991	-33978	-97	0.391	2643.4	0.988	5.75173	2.95845	Si
SLV 9	-24912	-33988	-97	0.392	2635.4	0.988	5.76586	2.95845	Si
SLV 6	-24930	-33548	-56	0.393	2637.2	0.988	5.78637	2.95845	Si
SLV 5	-24851	-33558	-56	0.394	2629.2	0.988	5.80064	2.95845	Si
SLV 14	-17242	-22994	-99	0.526	1853.7	0.983	7.76928	3.17488	Si
SLV 13	-17126	-23009	-99	0.529	1841.8	0.983	7.81302	3.17488	Si
SLV 2	-17039	-21562	37	0.534	1833	0.983	7.89837	3.17488	Si
SLV 1	-16922	-21577	37	0.537	1821.1	0.983	7.94374	3.17488	Si
SLV 16	-10523	-13152	-60	0.798	1169.1	0.974	11.89822	3.17488	Si
SLV 15	-10407	-13167	-60	0.805	1157.3	0.974	12.01369	3.17488	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.815	SLU 42	Si
V_SLU	3.896	SLU 42	Si
PF_SLV	0.265	SLV 8	No
V_SLV	2.282	SLV 6	Si
PFFP_SLV	6.744	SLV 11	Si
R_SLV	1.944	SLV 10	Si

Maschio 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.359	-11.013	-0.737	Z medio 406 cm	L5	2.622	0.28	0.941	1.67	0.213			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 77	4.79	1207.94	-35791	-0.0000881	0.0003743	0.0035	2.622	24454.48	31390.41	31390.41	25.99	No	Si
SLU 77	5	-116.99	-35586	-0.0000813	0.0003743	0.0035	2.622	24442.36	32097.03	32097.03	274.35	No	Si
SLU 83	4.79	1243.12	-36404	-0.0000899	0.0003743	0.0035	2.622	24481.88	31735.09	31735.09	25.53	No	Si
SLU 83	5	-116.4	-36206	-0.000083	0.0003743	0.0035	2.622	24474.47	32363.75	32363.75	278.03	No	Si
SLU 39	4.79	1061.2	-30656	-0.0000739	0.0003743	0.0035	2.622	23706.87	28606.85	28606.85	26.96	No	Si
SLU 39	5	-66.79	-30532	-0.0000682	0.0003743	0.0035	2.622	23677.43	29912.8	29912.8	447.88	No	Si
SLU 79	4.79	1196.77	-35505	-0.0000872	0.0003743	0.0035	2.622	24437.16	31230.41	31230.41	26.1	No	Si
SLU 79	5	-123.17	-35297	-0.0000806	0.0003743	0.0035	2.622	24422.77	31974.26	31974.26	259.59	No	Si
SLU 84	4.79	1182.21	-36549	-0.00009	0.0003743	0.0035	2.622	24486.45	31817.24	31817.24	26.91	No	Si
SLU 84	5	-105.76	-36355	-0.0000833	0.0003743	0.0035	2.622	24480.19	32428.72	32428.72	306.63	No	Si
SLU 35	4.79	1059.62	-30578	-0.0000737	0.0003743	0.0035	2.622	23688.49	28565.71	28565.71	26.96	No	Si
SLU 35	5	-40.9	-30453	-0.0000678	0.0003743	0.0035	2.622	23658.38	29870.37	29870.37	730.25	No	Si
SLU 62	4.79	1102.99	-32437	-0.0000787	0.0003743	0.0035	2.622	24071	29558	29558	26.8	No	Si
SLU 62	5	-151.89	-32197	-0.0000728	0.0003743	0.0035	2.622	24028.51	30713.18	30713.18	202.21	No	Si
SLU 74	4.79	1174.33	-35256	-0.0000865	0.0003743	0.0035	2.622	24419.78	31091.94	31091.94	26.48	No	Si
SLU 74	5	-143.47	-35045	-0.0000801	0.0003743	0.0035	2.622	24403.32	31868.13	31868.13	222.13	No	Si
SLU 41	4.79	1094.81	-31190	-0.0000754	0.0003743	0.0035	2.622	23827.9	28891.88	28891.88	26.39	No	Si
SLU 41	5	-40.32	-31073	-0.0000694	0.0003743	0.0035	2.622	23802.08	30193.14	30193.14	748.92	No	Si
SLU 81	4.79	1209.51	-35869	-0.0000883	0.0003743	0.0035	2.622	24458.67	31433.89	31433.89	25.99	No	Si
SLU 81	5	-142.88	-35665	-0.0000817	0.0003743	0.0035	2.622	24447.19	32130.73	32130.73	224.88	No	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	4.79	4451.13	-16966	-0.0000567	0.00005615	0.0035	2.622		19626.96	19626.96	4.41		Si
SLV 11	5	83.34	-16612	-0.0000348	0.00005615	0.0035	2.622		19282.76	19282.76	231.37		Si
SLD 7	4.79	2587.2	-18930	-0.000052	0.00005615	0.0035	2.622		21549.66	21549.66	8.33		Si
SLD 7	5	-372.24	-18648	-0.0000406	0.00005615	0.0035	2.622		23237.44	23237.44	62.43		Si
SLD 8	4.79	2540.47	-19008	-0.0000519	0.00005615	0.0035	2.622		21626.48	21626.48	8.51		Si
SLD 8	5	-413.32	-18726	-0.0000409	0.00005615	0.0035	2.622		23315.61	23315.61	56.41		Si
SLV 15	4.79	2976.25	-23544	-0.0000642	0.00005615	0.0035	2.622		26178.29	26178.29	8.8		Si
SLV 15	5	787.78	-23265	-0.0000527	0.00005615	0.0035	2.622		25894.26	25894.26	32.87		Si
SLD 12	4.79	2995.06	-19736	-0.0000558	0.00005615	0.0035	2.622		22346.93	22346.93	7.46		Si
SLD 12	5	-55.57	-19442	-0.0000408	0.00005615	0.0035	2.622		24016.31	24016.31	432.15		Si
SLV 8	4.79	3668.9	-15951	-0.0000507	0.00005615	0.0035	2.622		18644.33	18644.33	5.08		Si
SLV 8	5	-543	-15620	-0.0000349	0.00005615	0.0035	2.622		20157.17	20157.17	37.12		Si
SLV 12	4.79	4376.48	-17091	-0.0000566	0.00005615	0.0035	2.622		19747.92	19747.92	4.51		Si
SLV 12	5	17.72	-16737	-0.0000347	0.00005615	0.0035	2.622		19404.31	19404.31	1094.82		Si
SLV 7	4.79	3743.56	-15827	-0.0000507	0.00005615	0.0035	2.622		18524.43	18524.43	4.95		Si
SLV 7	5	-477.38	-15495	-0.0000343	0.00005615	0.0035	2.622		20024.42	20024.42	41.95		Si
SLV 16	4.79	2865.37	-23729	-0.0000641	0.00005615	0.0035	2.622		26366.84	26366.84	9.2		Si
SLV 16	5	690.32	-23451	-0.0000527	0.00005615	0.0035	2.622		26083.86	26083.86	37.79		Si
SLD 11	4.79	3041.79	-19658	-0.0000558	0.00005615	0.0035	2.622		22269.69	22269.69	7.32		Si
SLD 11	5	-14.5	-19364	-0.0000404	0.00005615	0.0035	2.622		23941.56	23941.56	1651.39		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 56	4.79	1067.81	-31825	-26501	8312	2.622	2.622	-36096	10833	14134	9516	21984	6686	21201	Si	2.55	Si
SLU 56	5	-152.48	-31578	-26295	8213	2.622	2.622	-35816	10833	14052	9516	21984	6686	21078	Si	2.57	Si
SLU 83	4.79	1243.12	-36404	-30314	9371	2.622	2.622	-41290	10833	15659	9516	21984	6686	23489	Si	2.51	Si
SLU 83	5	-116.4	-36206	-30149	9248	2.622	2.622	-41066	10833	15593	9516	21984	6686	23390	Si	2.53	Si
SLU 58	4.79	1056.64	-31538	-26262	8265	2.622	2.622	-35772	10833	14039	9516	21984	6686	21058	Si	2.55	Si
SLU 58	5	-158.66	-31289	-26055	8167	2.622	2.622	-35489	10833	13956	9516	21984	6686	20933	Si	2.56	Si
SLU 53	4.79	1034.2	-31290	-26055	8229	2.622	2.622	-35490	10833	13956	9516	21984	6686	20934	Si	2.54	Si
SLU 53	5	-178.95	-31037	-25845	8133	2.622	2.622	-35203	10833	13872	9516	21984	6686	20808	Si	2.56	Si
SLU 79	4.79	1196.77	-35505	-29566	9101	2.622	2.622	-40271	10833	15360	9516	21984	6686	23040	Si	2.53	Si
SLU 79	5	-123.17	-35297	-29392	8988	2.622	2.622	-40035	10833	15291	9516	21984	6686	22936	Si	2.55	Si
SLU 81	4.79	1209.51	-35869	-29868	9289	2.622	2.622	-40683	10833	15481	9516	21984	6686	23222	Si	2.5	Si
SLU 81	5	-142.88	-35665	-29699	9167	2.622	2.622	-40452	10833	15413	9516	21984	6686	23120	Si	2.52	Si
SLU 60	4.79	1069.38	-31902	-26565	8453	2.622	2.622	-36184	10833	14160	9516	21984	6686	21240	Si	2.51	Si
SLU 60	5	-178.36	-31657	-26361	8346	2.622	2.622	-35906	10833	14078	9516	21984	6686	21117	Si	2.53	Si
SLU 62	4.79	1102.99	-32437	-27011	8535	2.622	2.622	-36791	10833	14338	9516	21984	6686	21507	Si	2.52	Si
SLU 62	5	-151.89	-32197	-26811	8427	2.622	2.622	-36519	10833	14258	9516	21984	6686	21387	Si	2.54	Si
SLU 74	4.79	1174.33	-35256	-29358	9066	2.622	2.622	-39989	10833	15277	9516	21984	6686	22916	Si	2.53	Si
SLU 74	5	-143.47	-35045	-29183	8954	2.622	2.622	-39749	10833	15207	9516	21984	6686	22810	Si	2.55	Si
SLU 77	4.79	1207.94	-35791	-29804	9148	2.622	2.622	-40595	10833	15455	9516	21984	6686	23183	Si	2.53	Si
SLU 77	5	-116.99	-35586	-29633	9034	2.622	2.622	-40363	10833	15387	9516	21984	6686	23080	Si	2.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	4.79	2540.47	-19008	-15828	14610	2.622	2.622	-21559	14729	11632	9516	32976	6686	21148		1.45	Si
SLD 8	5	-413.32	-18726	-15594	14627	2.622	2.622	-21240	14665	11539	9516	32976	6686	21054		1.44	Si
SLV 16	4.79	2865.37	-23729	-19759	12244	2.622	2.622	-26914	15799	13205	9516	32976	6686	22720		1.86	Si
SLV 16	5	690.32	-23451	-19528	12210	2.622	2.622	-26599	15736	13112	9516	32976	6686	22628		1.85	Si
SLV 12	4.79	4376.48	-17091	-14232	20831	2.622	2.622	-19385	14294	10994	9516	32976	6686	20509		0.98	No
SLV 12	5	17.72	-16737	-13937	20896	2.622	2.622	-18983	14213	10876	9516	32976	6686	20392		0.98	No
SLV 15	4.79	2976.25	-23544	-19605	12296	2.622	2.622	-26704	15757	13143	9516	32976	6686	22659		1.84	Si
SLV 15	5	787.78	-23265	-19373	12263	2.622	2.622	-26388	15694	13050	9516	32976	6686	22566		1.84	Si
SLD 7	4.79	2587.2	-18930	-15763	14632	2.622	2.622	-21471	14711	11606	9516	32976	6686	21122		1.44	Si
SLD 7	5	-372.24	-18648	-15528	14649	2.622	2.622	-21151	14647	11512	9516	32976	6686	21028		1.44	Si
SLV 7	4.79	3743.56	-15827	-13179	19804	2.622	2.622	-17951	14007	10573	9516	32976	6686	20088		1.01	Si
SLV 7	5	-477.38	-15495	-12903	19874	2.622	2.622	-17575	13932	10462	9516	32976	6686	19978		1.01	Si
SLV 11	4.79	4451.13	-16966	-14128	20866	2.622	2.622	-19244	14265	10952	9516	32976	6686	20468		0.98	No
SLV 11	5	83.34	-16612	-13833	20932	2.622	2.622	-18841	14185	10834	9516	32976	6686	20350		0.97	No
SLV 8	4.79	3668.9	-15951	-13283	19769	2.622	2.622	-18092	14035	10614	9516	32976	6686	20130		1.02	Si
SLV 8	5	-543	-15620	-13007	19838	2.622	2.622	-17717	13960	10504	9516	32976	6686	20020		1.01	Si
SLD 12	4.79	2995.06	-19736	-16434	15289	2.622	2.622	-22385	14894	11875	9516	32976	6686	21390		1.4	Si
SLD 12	5	-55.57	-19442	-16190	15304	2.622	2.622	-22052	14827	11777	9516	32976	6686	21293		1.39	Si
SLD 11	4.79	3041.79	-19658	-16369	15312	2.622	2.622	-22297	14876	11849	9516	32976	6686	21364		1.4	Si
SLD 11	5	-14.5	-19364	-16125	15327	2.622	2.622	-21963	14809	11751	9516	32976	6686	21267		1.39	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 4.894 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.35	21663	-15904	17.95	1910.75	106.43	Si
SLV 8	179667	0.35	21833	-16029	17.95	1923.24	107.13	Si
SLV 11	179667	0.35	23227	-17052	17.95	2024.23	112.75	Si
SLV 12	179667	0.35	23397	-17177	17.95	2036.36	113.43	Si
SLV 3	179667	0.35	26969	-19800	17.95	2282.45	127.14	Si
SLV 4	179667	0.35	27222	-19985	17.95	2299.2	128.07	Si
SLV 15	179667	0.35	32181	-23627	17.95	2610.69	145.42	Si
SLV 16	179667	0.35	32434	-23812	17.95	2625.66	146.26	Si
SLV 1	179667	0.35	33116	-24313	17.95	2665.69	148.49	Si
SLV 2	179667	0.35	33369	-24498	17.95	2680.35	149.3	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:



- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 4.894 Wa = 0.05 Ta = 0.0053

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 10	-32112	-32172	166	0.596	3368.8	0.991	8.74853	3.13052	Si
SLV 9	-31986	-32048	166	0.598	3356	0.991	8.77378	3.13052	Si
SLV 6	-30995	-31033	-324	0.607	3255	0.99	8.90969	3.13052	Si
SLV 5	-30870	-30909	-324	0.609	3242.2	0.99	8.93711	3.13052	Si
SLV 14	-28064	-28253	807	0.637	2956.2	0.99	9.35945	3.19395	Si
SLV 13	-27877	-28068	808	0.64	2937.2	0.989	9.40644	3.19395	Si
SLV 2	-24342	-24455	-827	0.709	2576.8	0.988	10.43299	3.19395	Si
SLV 1	-24156	-24271	-826	0.714	2557.9	0.988	10.49644	3.19395	Si
SLV 16	-23451	-23729	866	0.728	2486.1	0.988	10.719	3.19395	Si
SLV 15	-23265	-23544	867	0.733	2467.1	0.987	10.78589	3.19395	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	25.529	SLV 83	Si
V_SLV	2.5	SLV 81	Si
PF_SLV	4.409	SLV 11	Si
V_SLV	0.972	SLV 11	No
PFFP_SLV	106.433	SLV 7	Si
R_SLV	2.795	SLV 10	Si

Maschio 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.359	-11.013	-0.354	L4	Z medio 416 cm	3.005	0.28	2.575	1.74	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

f _b	f _k	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 60	1.59	-200.47	-51424	-0.0001071	0.0003743	0.0035	3.005	30882.6	46043.98	46043.98	229.68	No	Si
SLU 60	3.33	-1410.58	-46227	-0.0000997	0.0003743	0.0035	3.005	31975.2	44756.95	44756.95	31.73	No	Si
SLU 61	1.59	-374.32	-51711	-0.0001086	0.0003743	0.0035	3.005	30794.66	46114.5	46114.5	123.2	No	Si
SLU 61	3.33	-1433.17	-46438	-0.0001003	0.0003743	0.0035	3.005	31949.28	44840.34	44840.34	31.29	No	Si
SLU 81	1.59	-187.43	-57574	-0.000123	0.0003743	0.0035	3.005	28365.47	47557.59	42548.21	227.01	Si	Si
SLU 81	3.33	-1405.94	-51920	-0.000114	0.0003743	0.0035	3.005	30728.82	46166.29	46093.23	32.78	Si	Si
SLU 21	1.59	-290.85	-44013	-0.0000894	0.0003743	0.0035	3.005	32152.92	43801.2	43801.2	150.59	No	Si
SLU 21	3.33	-1317.84	-39825	-0.0000841	0.0003743	0.0035	3.005	32018.84	41745.97	41745.97	31.68	No	Si
SLU 20	1.59	-117.01	-43726	-0.000088	0.0003743	0.0035	3.005	32163.37	43666.45	43666.45	373.2	No	Si
SLU 20	3.33	-1295.25	-39614	-0.0000836	0.0003743	0.0035	3.005	31995.8	41646.17	41646.17	32.15	No	Si
SLU 18	1.59	-141.04	-43053	-0.0000865	0.0003743	0.0035	3.005	32176.54	43329.53	43329.53	307.23	No	Si
SLU 18	3.33	-1344.22	-38944	-0.0000822	0.0003743	0.0035	3.005	31912.31	41333.01	41333.01	30.75	No	Si
SLU 19	1.59	-314.88	-43340	-0.0000879	0.0003743	0.0035	3.005	32172.87	43474.09	43474.09	138.06	No	Si
SLU 19	3.33	-1366.81	-39155	-0.0000828	0.0003743	0.0035	3.005	31940.31	41431.07	41431.07	30.31	No	Si
SLU 40	1.59	-301.85	-49490	-0.0001027	0.0003743	0.0035	3.005	31399.89	45587.3	45587.3	151.03	No	Si
SLU 40	3.33	-1362.18	-44848	-0.0000961	0.0003743	0.0035	3.005	32106.1	44178.97	44178.97	32.43	No	Si
SLU 63	1.59	-350.29	-52384	-0.0001102	0.0003743	0.0035	3.005	30576.91	46282.82	45865.36	130.94	Si	Si
SLU 63	3.33	-1384.2	-47108	-0.0001017	0.0003743	0.0035	3.005	31856.66	45069.33	45069.33	32.56	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 82	1.59	-361.28	-57861	-0.0001247	0.0003743	0.0035	3.005	28215.6	47610.59	42323.41	117.15	Si	Si
SLU 82	3.33	-1428.54	-52131	-0.0001146	0.0003743	0.0035	3.005	30660.76	46218.99	45991.14	32.19	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 11	1.59	10343.2	-22777	-0.0000802	0.0005615	0.0035	3.005		29539.33	29539.33	2.86		Si
SLV 11	3.33	1734.73	-22977	-0.0000482	0.0005615	0.0035	3.005		29769.15	29769.15	17.16		Si
SLV 6	1.59	-10685.3	-53851	-0.0001499	0.0005615	0.0035	3.005		58009.54	58009.54	5.43		Si
SLV 6	3.33	-2615.22	-45105	-0.0000964	0.0005615	0.0035	3.005		52210.51	52210.51	19.96		Si
SLV 8	1.59	9002.36	-22362	-0.0000743	0.0005615	0.0035	3.005		29062.42	29062.42	3.23		Si
SLV 8	3.33	1654.93	-21232	-0.0000446	0.0005615	0.0035	3.005		27769.75	27769.75	16.78		Si
SLV 5	1.59	-10497.08	-53562	-0.0001484	0.0005615	0.0035	3.005		57873.35	57873.35	5.51		Si
SLV 5	3.33	-2650.82	-45024	-0.0000964	0.0005615	0.0035	3.005		52156.02	52156.02	19.68		Si
SLD 12	1.59	6211.17	-28901	-0.0000769	0.0005615	0.0035	3.005		36477.02	36477.02	5.87		Si
SLD 12	3.33	911.64	-27274	-0.0000535	0.0005615	0.0035	3.005		34789.78	34789.78	38.16		Si
SLV 7	1.59	9190.58	-22073	-0.0000744	0.0005615	0.0035	3.005		28730.99	28730.99	3.13		Si
SLV 7	3.33	1619.33	-21151	-0.0000443	0.0005615	0.0035	3.005		27677.72	27677.72	17.09		Si
SLV 12	1.59	10154.98	-23066	-0.0000801	0.0005615	0.0035	3.005		29872.3	29872.3	2.94		Si
SLV 12	3.33	1770.33	-23057	-0.0000485	0.0005615	0.0035	3.005		29862.29	29862.29	16.87		Si
SLD 11	1.59	6328.99	-28720	-0.000077	0.0005615	0.0035	3.005		36319.97	36319.97	5.74		Si
SLD 11	3.33	889.35	-27223	-0.0000533	0.0005615	0.0035	3.005		34729.92	34729.92	39.05		Si
SLV 9	1.59	-9344.46	-54266	-0.0001451	0.0005615	0.0035	3.005		58200.87	58200.87	6.23		Si
SLV 9	3.33	-2535.43	-46850	-0.0000998	0.0005615	0.0035	3.005		53399.11	53399.11	21.06		Si
SLV 10	1.59	-9532.68	-54555	-0.0001466	0.0005615	0.0035	3.005		58333.8	58333.8	6.12		Si
SLV 10	3.33	-2499.82	-46931	-0.0000998	0.0005615	0.0035	3.005		53454.64	53454.64	21.38		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	1.59	-152.03	-56485	-47036	8766	3.005	3.005	-55902	10833	22864	28547	25195	7663	32858	No	3.75	Si
SLU 79	3.33	-969.51	-50811	-42311	9311	3.005	3.005	-50286	10833	20974	28547	25195	7663	31461	Si	3.38	Si
SLU 62	1.59	-176.44	-52097	-43382	8378	3.005	3.005	-51560	10833	21403	28547	25195	7663	32104	Si	3.83	Si
SLU 62	3.33	-1361.61	-46897	-39052	8899	3.005	3.005	-46413	10833	19671	28547	25195	7663	29506	Si	3.32	Si
SLU 56	1.59	-166.92	-50698	-42217	8126	3.005	3.005	-50175	10833	20937	28547	25195	7663	31405	Si	3.86	Si
SLU 56	3.33	-959.81	-45475	-37867	8583	3.005	3.005	-45005	10833	19197	28547	25195	7663	28795	Si	3.35	Si
SLU 83	1.59	-163.4	-58248	-48504	9057	3.005	3.005	-57646	10833	23451	28547	25195	7663	32858	No	3.63	Si
SLU 83	3.33	-1356.98	-52590	-43792	9667	3.005	3.005	-52047	10833	21567	28547	25195	7663	32350	Si	3.35	Si
SLU 58	1.59	-165.06	-50335	-41915	8087	3.005	3.005	-49816	10833	20816	28547	25195	7663	31224	Si	3.86	Si
SLU 58	3.33	-974.15	-45118	-37571	8542	3.005	3.005	-44652	10833	19078	28547	25195	7663	28617	Si	3.35	Si
SLU 53	1.59	-190.95	-50025	-41656	8068	3.005	3.005	-49509	10833	20712	28547	25195	7663	31069	Si	3.85	Si
SLU 53	3.33	-1008.77	-44805	-37310	8518	3.005	3.005	-44342	10833	18974	28547	25195	7663	28461	Si	3.34	Si
SLU 74	1.59	-177.91	-56175	-46778	8747	3.005	3.005	-55595	10833	22761	28547	25195	7663	32858	No	3.76	Si
SLU 74	3.33	-1004.14	-50497	-42050	9286	3.005	3.005	-49976	10833	20870	28547	25195	7663	31305	Si	3.37	Si
SLU 81	1.59	-187.43	-57574	-47943	8999	3.005	3.005	-56980	10833	23227	28547	25195	7663	32858	No	3.65	Si
SLU 81	3.33	-1405.94	-51920	-43234	9602	3.005	3.005	-51384	10833	21343	28547	25195	7663	32015	Si	3.33	Si
SLU 60	1.59	-200.47	-51424	-42821	8321	3.005	3.005	-50893	10833	21178	28547	25195	7663	31767	Si	3.82	Si
SLU 60	3.33	-1410.58	-46227	-38494	8833	3.005	3.005	-45750	10833	19447	28547	25195	7663	29171	Si	3.3	Si
SLU 43	1.59	-242.64	-43304	-36060	7159	3.005	3.005	-42857	10833	18474	28547	25195	7663	27711	Si	3.87	Si
SLU 43	3.33	-282.27	-38065	-31697	7426	3.005	3.005	-37672	10833	16729	28547	25195	7663	25093	Si	3.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	1.59	4842.91	-34549	-28770	11874	3.005	3.005	-34193	16250	17583	28547	37793	7663	45456		3.83	Si
SLV 15	3.33	366.16	-33442	-27848	12661	3.005	3.005	-33097	16250	17214	28547	37793	7663	45456		3.59	Si
SLV 8	1.59	9002.36	-22362	-18621	21734	3.005	3.005	-22131	14843	13524	28547	37793	7663	42070		1.94	Si
SLV 8	3.33	1654.93	-21232	-17680	23173	3.005	3.005	-21013	14619	13147	28547	37793	7663	41694		1.8	Si
SLD 7	1.59	5591.22	-28269	-23540	15762	3.005	3.005	-27977	16012	15491	28547	37793	7663	44038		2.79	Si
SLD 7	3.33	814.3	-26055	-21697	16780	3.005	3.005	-25786	15574	14754	28547	37793	7663	43301		2.58	Si
SLD 8	1.59	5473.39	-28450	-23691	15752	3.005	3.005	-28156	16048	15552	28547	37793	7663	44098		2.8	Si
SLD 8	3.33	836.59	-26106	-21739	16758	3.005	3.005	-25837	15584	14771	28547	37793	7663	43317		2.58	Si
SLV 16	1.59	4563.35	-34979	-29127	11851	3.005	3.005	-34618	16250	17726	28547	37793	7663	45456		3.84	Si
SLV 16	3.33	419.04	-33562	-27948	12609	3.005	3.005	-33216	16250	17254	28547	37793	7663	45456		3.6	Si
SLV 12	1.59	10154.98	-23066	-19207	22318	3.005	3.005	-22828	14982	13758	28547	37793	7663	42305		1.9	Si
SLV 12	3.33	1770.33	-23057	-19200	23826	3.005	3.005	-22819	14981	13755	28547	37793	7663	42302		1.78	Si
SLV 11	1.59	10343.2	-22777	-18967	22334	3.005	3.005	-22542	14925	13662	28547	37793	7663	42209		1.89	Si
SLV 11	3.33	1734.73	-22977	-19133	23861	3.005	3.005	-22739	14965	13729	28547	37793	7663	42275		1.77	Si
SLV 7	1.59	9190.58	-22073	-18381	21750	3.005	3.005	-21845	14786	13428	28547	37793	7663	41974		1.93	Si
SLV 7	3.33	1619.33	-21151	-17613	23208	3.005	3.005	-20933	14603	13121	28547	37793	7663	41667		1.8	Si
SLD 12	1.59	6211.17	-28901	-24067	16125	3.005	3.005	-28603	16137	15702	28547	37793	7663	44248		2.74	Si
SLD 12	3.33	911.64	-27274	-22711	17178	3.005	3.005	-26992	15815	15160	28547	37793	7663	43706		2.54	Si
SLD 11	1.59	6328.99	-28720	-23916	16135	3.005	3.005	-28424	16101	15642	28547	37793	7663	44188		2.74	Si
SLD 11	3.33	889.35	-27223	-22669	17199	3.005	3.005	-26942	15805	15143	28547	37793	7663	43690		2.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 2.46 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	o0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.3	25508	-21462	131.52	2502.84	19.03	Si
SLV 8	179667	0.3	25711	-21634	131.52	2518.79	19.15	Si
SLV 11	179667	0.3	27154	-22848	131.52	2629.92	20	Si
SLV 12	179667	0.3	27358	-23019	131.52	2645.35	20.11	Si
SLV 3	179667	0.3	34784	-29267	131.52	3164.14	24.06	Si
SLV 4	179667	0.3	35086	-29522	131.52	3183.48	24.21	Si
SLV 15	179667	0.3	40273	-33885	131.52	3492.93	26.56	Si
SLV 16	179667	0.3	40575	-34140	131.52	3509.7	26.69	Si



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.3	44424	-37378	131.52	3710.72	28.21	Si
SLV 2	179667	0.3	44726	-37633	131.52	3725.56	28.33	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 2.46 Wa = 0.05 Ta = 0.0395

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-40724	-44425	-65	0.451	4451.8	0.979	6.69525	3.8427	Si
SLV 13	-40604	-43996	-66	0.452	4439.6	0.979	6.7121	3.8427	Si
SLV 10	-46931	-54555	32	0.401	5084.1	0.981	5.94228	3.26668	Si
SLV 9	-46850	-54266	32	0.402	5075.9	0.981	5.95104	3.26668	Si
SLV 6	-45105	-53851	75	0.414	4898.1	0.981	6.13228	3.26668	Si
SLV 5	-45024	-53562	75	0.414	4889.9	0.98	6.14172	3.26668	Si
SLV 2	-34639	-42079	78	0.516	3831.9	0.975	7.69496	3.8427	Si
SLV 1	-34519	-41650	78	0.518	3819.7	0.975	7.71836	3.8427	Si
SLV 16	-33562	-34979	-106	0.53	3722.2	0.975	7.89753	3.8427	Si
SLV 15	-33442	-34549	-107	0.531	3710	0.975	7.92203	3.8427	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	30.312	SLU 19	Si
V_SLU	3.302	SLU 60	Si
PF_SLV	2.856	SLV 11	Si
V_SLV	1.772	SLV 11	Si
PFFP_SLV	19.031	SLV 7	Si
R_SLV	1.742	SLV 14	Si

Maschio 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-0.354	-11.013	1.046	L4	L5	1.4	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{f,d}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	1.59	2514.24	-26115	-0.0001766	0.0003743	0.0035	1.4	6318.65	10092.03	9477.98	3.77	Si	Si
SLU 80	5	163.92	-23143	-0.0001052	0.0003743	0.0035	1.4	6806.05	9680.17	9680.17	59.05	No	Si
SLU 74	1.59	2545.48	-25984	-0.0001765	0.0003743	0.0035	1.4	6346.66	10074.33	9519.99	3.74	Si	Si
SLU 74	5	133.72	-22938	-0.0001035	0.0003743	0.0035	1.4	6828.19	9653.21	9653.21	72.19	No	Si
SLU 77	1.59	2578.62	-26343	-0.0001798	0.0003743	0.0035	1.4	6268.54	10123	9402.81	3.65	Si	Si
SLU 77	5	144.63	-23331	-0.0001058	0.0003743	0.0035	1.4	6784.45	9705.1	9705.1	67.1	No	Si
SLU 82	1.59	2573.67	-26460	-0.0001805	0.0003743	0.0035	1.4	6242.19	10138.95	9363.29	3.64	Si	Si
SLU 82	5	91.9	-23464	-0.0001054	0.0003743	0.0035	1.4	6768.31	9722.96	9722.96	105.8	No	Si
SLU 78	1.59	2531.38	-26298	-0.0001783	0.0003743	0.0035	1.4	6278.71	10116.79	9418.06	3.72	Si	Si
SLU 78	5	168.15	-23335	-0.0001064	0.0003743	0.0035	1.4	6783.94	9705.68	9705.68	57.72	No	Si
SLU 83	1.59	2654.07	-26864	-0.0001853	0.0003743	0.0035	1.4	6147.1	10191.09	9220.65	3.47	Si	Si
SLU 83	5	79.27	-23852	-0.0001072	0.0003743	0.0035	1.4	6717.92	9775.29	9775.29	123.31	No	Si
SLU 79	1.59	2561.48	-26161	-0.0001781	0.0003743	0.0035	1.4	6308.78	10098.2	9463.17	3.69	Si	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 79	5	140.39	-23139	-0.0001047	0.0003743	0.0035	1.4	6806.54	9679.6	9679.6	68.95	No	Si
SLU 75	1.59	2498.23	-25939	-0.000175	0.0003743	0.0035	1.4	6356.25	10068.2	9534.38	3.82	Si	Si
SLU 75	5	157.25	-22943	-0.000104	0.0003743	0.0035	1.4	6827.74	9653.78	9653.78	61.39	No	Si
SLU 81	1.59	2620.92	-26505	-0.0001819	0.0003743	0.0035	1.4	6231.77	10145.2	9347.65	3.57	Si	Si
SLU 81	5	68.37	-23460	-0.0001049	0.0003743	0.0035	1.4	6768.84	9722.38	9722.38	142.2	No	Si
SLU 84	1.59	2606.82	-26818	-0.0001838	0.0003743	0.0035	1.4	6158.1	10186.27	9237.15	3.54	Si	Si
SLU 84	5	102.8	-23856	-0.0001078	0.0003743	0.0035	1.4	6717.33	9775.88	9775.88	95.1	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	1.59	2609.7	-17991	-0.0001205	0.0005615	0.0035	1.4		9793.18	9793.18	3.75		Si
SLV 3	5	-170.08	-12734	-0.0000531	0.0005615	0.0035	1.4		7995.43	7995.43	47.01		Si
SLD 12	1.59	3325.94	-19567	-0.0001418	0.0005615	0.0035	1.4		10457	10457	3.14		Si
SLD 12	5	-491.26	-16365	-0.0000742	0.0005615	0.0035	1.4		9643.54	9643.54	19.63		Si
SLV 11	1.59	4321.22	-20670	-0.0001668	0.0005615	0.0035	1.4		10925.82	10925.82	2.53		Si
SLV 11	5	-878.91	-16971	-0.0000839	0.0005615	0.0035	1.4		9893.37	9893.37	11.26		Si
SLV 12	1.59	4318.53	-20707	-0.000167	0.0005615	0.0035	1.4		10939.23	10939.23	2.53		Si
SLV 12	5	-877.26	-16959	-0.0000838	0.0005615	0.0035	1.4		9888.5	9888.5	11.27		Si
SLD 11	1.59	3327.63	-19544	-0.0001417	0.0005615	0.0035	1.4		10447.13	10447.13	3.14		Si
SLD 11	5	-492.3	-16372	-0.0000743	0.0005615	0.0035	1.4		9646.56	9646.56	19.6		Si
SLD 8	1.59	3364.88	-19361	-0.0001415	0.0005615	0.0035	1.4		10369.45	10369.45	3.08		Si
SLD 8	5	-490.07	-15268	-0.0000695	0.0005615	0.0035	1.4		9164.1	9164.1	18.7		Si
SLD 7	1.59	3366.56	-19337	-0.0001414	0.0005615	0.0035	1.4		10359.61	10359.61	3.08		Si
SLD 7	5	-491.1	-15276	-0.0000695	0.0005615	0.0035	1.4		9167.35	9167.35	18.67		Si
SLV 4	1.59	2605.69	-18046	-0.0001207	0.0005615	0.0035	1.4		9816.23	9816.23	3.77		Si
SLV 4	5	-167.62	-12716	-0.000053	0.0005615	0.0035	1.4		7986.68	7986.68	47.65		Si
SLV 7	1.59	4379.1	-20346	-0.0001663	0.0005615	0.0035	1.4		10788.98	10788.98	2.46		Si
SLV 7	5	-877.15	-15260	-0.0000763	0.0005615	0.0035	1.4		9160.52	9160.52	10.44		Si
SLV 8	1.59	4376.4	-20383	-0.0001664	0.0005615	0.0035	1.4		10804.91	10804.91	2.47		Si
SLV 8	5	-875.5	-15249	-0.0000762	0.0005615	0.0035	1.4		9155.32	9155.32	10.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 58	1.59	2316.63	-23164	-19289	7113	1.4	1.4	-49207	10833	6402	38062	11738	3570	9602	Si	1.35	Si
SLU 58	5	61.49	-20408	-16994	485	1.4	1.4	-43351	10833	5790	38062	11738	3570	8684	Si	17.9	Si
SLU 62	1.59	2409.21	-23867	-19874	7326	1.4	1.4	-50700	10833	6558	38062	11738	3570	9836	Si	1.34	Si
SLU 62	5	0.37	-21121	-17588	526	1.4	1.4	-44867	10833	5948	38062	11738	3570	8922	Si	16.95	Si
SLU 81	1.59	2620.92	-26505	-22071	7860	1.4	1.4	-56304	10833	7143	38062	11738	3570	10715	Si	1.36	Si
SLU 81	5	68.37	-23460	-19535	279	1.4	1.4	-49835	10833	6467	38062	11738	3570	9701	Si	34.72	Si
SLU 53	1.59	2300.62	-22988	-19142	7068	1.4	1.4	-48832	10833	6362	38062	11738	3570	9544	Si	1.35	Si
SLU 53	5	54.82	-20207	-16827	490	1.4	1.4	-42926	10833	5745	38062	11738	3570	8618	Si	17.59	Si
SLU 77	1.59	2578.62	-26343	-21936	7797	1.4	1.4	-55960	10833	7107	38062	11738	3570	10661	Si	1.37	Si
SLU 77	5	144.63	-23331	-19428	226	1.4	1.4	-49560	10833	6439	38062	11738	3570	9658	Si	42.71	Si
SLU 79	1.59	2561.48	-26161	-21785	7744	1.4	1.4	-55573	10833	7067	38062	11738	3570	10601	Si	1.37	Si
SLU 79	5	140.39	-23139	-19268	230	1.4	1.4	-49152	10833	6396	38062	11738	3570	9594	Si	41.78	Si
SLU 56	1.59	2333.77	-23346	-19441	7166	1.4	1.4	-49593	10833	6442	38062	11738	3570	9663	Si	1.35	Si
SLU 56	5	65.72	-20600	-17154	482	1.4	1.4	-43759	10833	5832	38062	11738	3570	8748	Si	18.17	Si
SLU 74	1.59	2545.48	-25984	-21638	7699	1.4	1.4	-55198	10833	7028	38062	11738	3570	10542	Si	1.37	Si
SLU 74	5	133.72	-22938	-19101	235	1.4	1.4	-48727	10833	6351	38062	11738	3570	9527	Si	40.61	Si
SLU 83	1.59	2654.07	-26864	-22370	7957	1.4	1.4	-57066	10833	7223	38062	11738	3570	10835	Si	1.36	Si
SLU 83	5	79.27	-23852	-19862	271	1.4	1.4	-50668	10833	6554	38062	11738	3570	9832	Si	36.28	Si
SLU 60	1.59	2376.06	-23508	-19576	7229	1.4	1.4	-49938	10833	6478	38062	11738	3570	9717	Si	1.34	Si
SLU 60	5	-10.53	-20729	-17261	535	1.4	1.4	-44034	10833	5861	38062	11738	3570	8791	Si	16.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	1.59	2416.79	-19072	-15881	9928	1.4	1.4	-40514	16250	6370	38062	17607	3570	21177		2.13	Si
SLV 15	5	-175.95	-18437	-15352	3145	1.4	1.4	-39164	16250	6370	38062	17607	3570	21177		6.73	Si
SLV 11	1.59	4321.22	-20670	-17212	14706	1.4	1.4	-43909	16250	6477	38062	17607	3570	21177		1.44	Si
SLV 11	5	-878.91	-16971	-14132	8820	1.4	1.4	-36051	16250	6370	38062	17607	3570	21177		2.4	Si
SLV 7	1.59	4379.1	-20346	-16942	13542	1.4	1.4	-43220	16250	6405	38062	17607	3570	21177		1.56	Si
SLV 7	5	-877.15	-15260	-12708	8602	1.4	1.4	-32417	16250	6370	38062	17607	3570	21177		2.46	Si
SLD 7	1.59	3366.56	-19337	-16102	10388	1.4	1.4	-41078	16250	6370	38062	17607	3570	21177		2.04	Si
SLD 7	5	-491.1	-15276	-12720	5396	1.4	1.4	-32455	16250	6370	38062	17607	3570	21177		3.92	Si
SLV 16	1.59	2412.79	-19127	-15927	9858	1.4	1.4	-40631	16250	6370	38062	17607	3570	21177		2.15	Si
SLV 16	5	-173.49	-18419	-15338	3086	1.4	1.4	-39127	16250	6370	38062	17607	3570	21177		6.86	Si
SLV 8	1.59	4376.4	-20383	-16973	13495	1.4	1.4	-43299	16250	6413	38062	17607	3570	21177		1.57	Si
SLV 8	5	-875.5	-15249	-12698	8563	1.4	1.4	-32392	16250	6370	38062	17607	3570	21177		2.47	Si
SLD 11	1.59	3327.63	-19544	-16274	11133	1.4	1.4	-41516	16250	6370	38062	17607	3570	21177		1.9	Si
SLD 11	5	-492.3	-16372	-13633	5536	1.4	1.4	-34778	16250	6370	38062	17607	3570	21177		3.83	Si
SLD 12	1.59	3325.94	-19567	-16294	11104	1.4	1.4	-41566	16250	6370	38062	17607	3570	21177		1.91	Si
SLD 12	5	-491.26	-16365	-13627	5511	1.4	1.4	-34763	16250	6370	38062	17607	3570	21177		3.84	Si
SLV 12	1.59	4318.53	-20707	-17243	14659	1.4	1.4	-43988	16250	6485	38062	17607	3570	21177		1.44	Si
SLV 12	5	-877.26	-16959	-14122	8780	1.4	1.4	-36026	16250	6370	38062	17607	3570	21177		2.41	Si
SLD 8	1.59	3364.88	-19361	-16122	10359	1.4	1.4	-41127	16250	6370	38062	17607	3570	21177		2.04	Si
SLD 8	5	-490.07	-15268	-12714	5372	1.4	1.4	-32434	16250	6370	38062	17607	3570	21177		3.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.31	32514	-12745	113.74	1404.46	12.35	Si
SLV 1	179667	0.31	32557	-12762	113.74	1405.82	12.36	Si
SLV 6	179667	0.31	35717	-14001	113.74	1501.71	13.2	Si



Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.31	35746	-14012	113.74	1502.55	13.21	Si
SLV 4	179667	0.31	35984	-14106	113.74	1509.49	13.27	Si
SLV 3	179667	0.31	36027	-14123	113.74	1510.74	13.28	Si
SLV 10	179667	0.31	41926	-16435	113.74	1669.23	14.68	Si
SLV 9	179667	0.31	41955	-16446	113.74	1669.95	14.68	Si
SLV 8	179667	0.31	47284	-18535	113.74	1791.51	15.75	Si
SLV 7	179667	0.31	47313	-18547	113.74	1792.11	15.76	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-18437	-19072	225	0.433	2065.2	0.972	6.46707	5.31498	Si
SLV 16	-18419	-19127	225	0.433	2063.5	0.972	6.47233	5.31498	Si
SLV 13	-17979	-17385	279	0.439	2018.7	0.971	6.56813	5.31498	Si
SLV 14	-17962	-17441	279	0.439	2016.9	0.971	6.57361	5.31498	Si
SLV 3	-12734	-17991	-348	0.584	1484.7	0.962	8.82054	5.31498	Si
SLV 4	-12716	-18046	-348	0.585	1483	0.962	8.83137	5.31498	Si
SLV 1	-12276	-16304	-293	0.606	1438.2	0.961	9.17068	5.31498	Si
SLV 2	-12259	-16360	-293	0.607	1436.4	0.961	9.18236	5.31498	Si
SLV 11	-16971	-20670	-40	0.474	1916	0.97	7.10601	3.92562	Si
SLV 12	-16959	-20707	-39	0.475	1914.8	0.97	7.11042	3.92562	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.474	SLU 83	Si
V_SLU	1.343	SLU 62	Si
PF_SLV	2.464	SLV 7	Si
V_SLV	1.44	SLV 11	Si
PFFP_SLV	12.348	SLV 2	Si
R_SLV	1.217	SLV 15	Si

Maschio 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	-3.359	-6.268	1.046	L4	L5	4.405	0.14	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	1.59	-4902.23	-64549	-0.0001623	0.0004492	0.0035	4.405	20383.83	102771.27	30575.75	6.24	Si	Si
SLU 80	5	3705.74	-39863	-0.0000955	0.0004492	0.0035	4.405	41351.56	70626.55	62027.33	16.74	Si	Si
SLU 78	1.59	-4943.27	-64976	-0.0001636	0.0004492	0.0035	4.405	19707.17	103093.44	29560.76	5.98	Si	Si
SLU 78	5	3739.29	-40200	-0.0000964	0.0004492	0.0035	4.405	41305.11	71039.04	61957.66	16.57	Si	Si
SLU 84	1.59	-5029.06	-66359	-0.0001678	0.0004492	0.0035	4.405	17444.81	104135.74	26167.21	5.2	Si	Si
SLU 84	5	3727.38	-40834	-0.0000979	0.0004492	0.0035	4.405	41199.88	71813.83	61799.82	16.58	Si	Si
SLU 73	1.59	-5135.61	-63370	-0.0001599	0.0004492	0.0035	4.405	22195.86	101882.19	33293.78	6.48	Si	Si
SLU 73	5	3482.38	-38749	-0.0000922	0.0004492	0.0035	4.405	41457.64	69264.99	62186.45	17.86	Si	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 83	1.59	-4657.3	-65872	-0.000165	0.0004492	0.0035	4.405	18255.14	103768.28	27382.72	5.88	Si	Si
SLU 83	5	3722.6	-40665	-0.0000975	0.0004492	0.0035	4.405	41230.23	71607.23	61845.35	16.61	Si	Si
SLU 82	1.59	-5021.83	-65607	-0.0001656	0.0004492	0.0035	4.405	18689.43	103568.71	28034.14	5.58	Si	Si
SLU 82	5	3614.1	-40221	-0.0000961	0.0004492	0.0035	4.405	41302.06	71064.19	61953.09	17.14	Si	Si
SLU 75	1.59	-4936.03	-64224	-0.0001615	0.0004492	0.0035	4.405	20891	102526.41	31336.5	6.35	Si	Si
SLU 75	5	3626.02	-39587	-0.0000946	0.0004492	0.0035	4.405	41384.58	70289.39	62076.87	17.12	Si	Si
SLU 81	1.59	-4650.06	-65119	-0.0001629	0.0004492	0.0035	4.405	19478.33	103201.25	29217.5	6.28	Si	Si
SLU 81	5	3609.33	-40052	-0.0000957	0.0004492	0.0035	4.405	41326.36	70857.58	61989.54	17.17	Si	Si
SLU 76	1.59	-5142.84	-64122	-0.000162	0.0004492	0.0035	4.405	21049.6	102449.22	31574.4	6.14	Si	Si
SLU 76	5	3595.66	-39362	-0.000094	0.0004492	0.0035	4.405	41408.2	70014.64	62112.3	17.27	Si	Si
SLU 77	1.59	-4571.5	-64489	-0.0001609	0.0004492	0.0035	4.405	20478.11	102725.98	30717.17	6.72	Si	Si
SLU 77	5	3734.52	-40031	-0.000096	0.0004492	0.0035	4.405	41329.2	70832.43	61993.81	16.6	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 5	1.59	-11675.28	-55184	-0.0001521	0.0006738	0.0035	4.405		102854.61	102854.61	8.81		Si
SLD 5	5	2187.87	-32105	-0.0000714	0.0006738	0.0035	4.405		61253.42	61253.42	28		Si
SLV 9	1.59	-15658.51	-64964	-0.0001891	0.0006738	0.0035	4.405		112843.55	112843.55	7.21		Si
SLV 9	5	700.22	-36247	-0.0000759	0.0006738	0.0035	4.405		67854.06	67854.06	96.9		Si
SLV 11	1.59	10834.14	-24103	-0.0000791	0.0006738	0.0035	4.405		48501.25	48501.25	4.48		Si
SLV 11	5	2739.36	-17843	-0.0000431	0.0006738	0.0035	4.405		37750.91	37750.91	13.78		Si
SLV 10	1.59	-16088.82	-65755	-0.0001925	0.0006738	0.0035	4.405		113477.3	113477.3	7.05		Si
SLV 10	5	735.45	-36509	-0.0000766	0.0006738	0.0035	4.405		68270.43	68270.43	92.83		Si
SLV 12	1.59	10403.83	-24894	-0.0000795	0.0006738	0.0035	4.405		49762.24	49762.24	4.78		Si
SLV 12	5	2774.6	-18104	-0.0000437	0.0006738	0.0035	4.405		38233.94	38233.94	13.78		Si
SLV 7	1.59	9602.49	-21524	-0.00007	0.0006738	0.0035	4.405		44392.43	44392.43	4.62		Si
SLV 7	5	4056.34	-17026	-0.0000451	0.0006738	0.0035	4.405		36232.47	36232.47	8.93		Si
SLV 8	1.59	9172.18	-22316	-0.0000705	0.0006738	0.0035	4.405		45653.42	45653.42	4.98		Si
SLV 8	5	4091.58	-17288	-0.0000457	0.0006738	0.0035	4.405		36723.9	36723.9	8.98		Si
SLV 5	1.59	-16890.15	-62385	-0.0001866	0.0006738	0.0035	4.405		110778.51	110778.51	6.56		Si
SLV 5	5	2017.2	-35431	-0.000078	0.0006738	0.0035	4.405		66553.13	66553.13	32.99		Si
SLD 6	1.59	-11944.65	-55680	-0.0001542	0.0006738	0.0035	4.405		103451.5	103451.5	8.66		Si
SLD 6	5	2209.93	-32269	-0.0000718	0.0006738	0.0035	4.405		61514.07	61514.07	27.84		Si
SLV 6	1.59	-17320.46	-63177	-0.00019	0.0006738	0.0035	4.405		111412.27	111412.27	6.43		Si
SLV 6	5	2052.44	-35692	-0.0000787	0.0006738	0.0035	4.405		66969.5	66969.5	32.63		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	1.59	-3890	-50521	-28012	5413	4.405	4.405	-45422	10833	14767	108749	22163	22466	22150	Si	4.09	Si
SLU 45	5	2739.84	-31010	-17194	5807	4.405	4.405	-27880	10833	10440	108749	22163	22466	15660	Si	2.7	Si
SLU 53	1.59	-4202.8	-56499	-31326	5752	4.405	4.405	-50797	10833	16093	108749	22163	22466	24139	Si	4.2	Si
SLU 53	5	3054.62	-34707	-19243	6190	4.405	4.405	-31204	10833	11260	108749	22163	22466	16889	Si	2.73	Si
SLU 48	1.59	-3897.23	-51273	-28429	5465	4.405	4.405	-46098	10833	14934	108749	22163	22466	22400	Si	4.1	Si
SLU 48	5	2853.12	-31623	-17534	5865	4.405	4.405	-28431	10833	10576	108749	22163	22466	15864	Si	2.7	Si
SLU 50	1.59	-3856.2	-50846	-28192	5418	4.405	4.405	-45714	10833	14839	108749	22163	22466	22258	Si	4.11	Si
SLU 50	5	2819.57	-31286	-17347	5815	4.405	4.405	-28128	10833	10501	108749	22163	22466	15751	Si	2.71	Si
SLU 71	1.59	-4217.67	-58083	-32205	5902	4.405	4.405	-52221	10833	16444	108749	22163	22466	24666	Si	4.18	Si
SLU 71	5	3386.19	-35997	-19959	6352	4.405	4.405	-32364	10833	11546	108749	22163	22466	17319	Si	2.73	Si
SLU 69	1.59	-4258.7	-58511	-32442	5949	4.405	4.405	-52605	10833	16539	108749	22163	22466	24808	Si	4.17	Si
SLU 69	5	3419.74	-36335	-20146	6402	4.405	4.405	-32667	10833	11621	108749	22163	22466	17431	Si	2.72	Si
SLU 56	1.59	-4210.04	-57251	-31743	5804	4.405	4.405	-51473	10833	16259	108749	22163	22466	24389	Si	4.2	Si
SLU 56	5	3167.9	-35320	-19583	6248	4.405	4.405	-31755	10833	11396	108749	22163	22466	17093	Si	2.74	Si
SLU 64	1.59	-4203.2	-56579	-31371	5797	4.405	4.405	-50869	10833	16110	108749	22163	22466	24165	Si	4.17	Si
SLU 64	5	3159.64	-34771	-19279	6236	4.405	4.405	-31261	10833	11274	108749	22163	22466	16911	Si	2.71	Si
SLU 43	1.59	-3841.74	-49342	-27358	5314	4.405	4.405	-44361	10833	14505	108749	22163	22466	21758	Si	4.09	Si
SLU 43	5	2593.02	-30059	-16667	5699	4.405	4.405	-27025	10833	10229	108749	22163	22466	15343	Si	2.69	Si
SLU 66	1.59	-4251.47	-57759	-32025	5896	4.405	4.405	-51929	10833	16372	108749	22163	22466	24558	Si	4.16	Si
SLU 66	5	3306.46	-35721	-19806	6344	4.405	4.405	-32116	10833	11485	108749	22163	22466	17227	Si	2.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	1.59	5188.95	-32095	-17795	13241	4.405	4.405	-28856	16250	12462	108749	33244	22466	55709		4.21	Si
SLD 12	5	2603.92	-21430	-11882	12923	4.405	4.405	-19267	16250	10096	108749	33244	22466	55709		4.31	Si
SLV 12	1.59	10403.83	-24894	-13803	18682	4.405	4.405	-22382	16250	10865	108749	33244	22466	55709		2.98	Si
SLV 12	5	2774.6	-18104	-10038	17929	4.405	4.405	-16277	15755	9716	108749	33244	22466	55709		3.11	Si
SLV 10	1.59	-16088.82	-65755	-36458	-9869	4.405	4.405	-59118	16250	19927	108749	33244	22466	55709		5.64	Si
SLV 10	5	735.45	-36509	-20242	-8457	4.405	4.405	-32824	16250	13440	108749	33244	22466	55709		6.59	Si
SLV 6	1.59	-17320.46	-63177	-35029	-10083	4.405	4.405	-56800	16250	19355	108749	33244	22466	55709		5.53	Si
SLV 6	5	2052.44	-35692	-19790	-8646	4.405	4.405	-32090	16250	13259	108749	33244	22466	55709		6.44	Si
SLD 7	1.59	4667.74	-29948	-16605	13293	4.405	4.405	-26925	16250	11985	108749	33244	22466	55709		4.19	Si
SLD 7	5	3422.48	-20744	-11501	12987	4.405	4.405	-18650	16230	10009	108749	33244	22466	55709		4.29	Si
SLD 8	1.59	4398.37	-30443	-16879	13105	4.405	4.405	-27370	16250	12095	108749	33244	22466	55709		4.25	Si
SLD 8	5	3444.54	-20907	-11592	12804	4.405	4.405	-18797	16250	10021	108749	33244	22466	55709		4.35	Si
SLV 11	1.59	10834.14	-24103	-13364	18983	4.405	4.405	-21670	16250	10689	108749	33244	22466	55709		2.93	Si
SLV 11	5	2739.36	-17843	-9893	18222	4.405	4.405	-16042	15708	9687	108749	33244	22466	55709		3.06	Si
SLV 7	1.59	9602.49	-21524	-11934	18769	4.405	4.405	-19352	16250	10117	108749	33244	22466	55709		2.97	Si
SLV 7	5	4056.34	-17026	-9440	18033	4.405	4.405	-15308	15562	9597	108749	33244	22466	55709		3.09	Si
SLD 11	1.59	5458.32	-31600	-17521	13429	4.405	4.405	-28410	16250	12352	108749	33244	22466	55709		4.15	Si
SLD 11	5	2581.86	-21266	-11791	13106	4.405	4.405	-19120	16250	10060	108749	33244	22466	55709		4.25	Si
SLV 8	1.59	9172.18	-22316	-12373	18469	4.405	4.405	-20063	16250	10293	108749	33244	22466	55709		3.02	Si
SLV 8	5	4091.58	-17288	-9585	17740	4.405	4.405	-15543	15609	9626	108749	33244	22466	55709		3.14	Si



Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.14 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-19634	0.31	189.83	1135.64	1946.27	1540.96	8.12	Si
SLV 8	-20123	0.31	189.83	1157.84	1986.42	1572.13	8.28	Si
SLV 11	-21334	0.31	189.83	1211.53	2083.6	1647.56	8.68	Si
SLV 12	-21824	0.31	189.83	1232.7	2122.79	1677.74	8.84	Si
SLV 3	-27193	0.31	189.83	1445.55	2553.63	1999.59	10.53	Si
SLV 4	-27920	0.31	189.83	1471.62	2612.05	2041.84	10.76	Si
SLV 15	-32861	0.31	189.83	1631.51	2999.4	2315.46	12.2	Si
SLV 16	-33588	0.31	189.83	1652.48	3054.89	2353.69	12.4	Si
SLV 1	-35474	0.31	189.83	1703.85	3199.05	2451.45	12.91	Si
SLV 2	-36201	0.31	189.83	1722.46	3254.64	2488.55	13.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 3.295 Wa = 0.03 Ta = 0.1387

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-31083	-54654	356	0.761	3460.7	0.974	11.3629	10.56487	Si
SLV 13	-30695	-53479	356	0.77	3421.2	0.973	11.49796	10.56487	Si
SLV 2	-28362	-46059	-318	0.829	3183.6	0.972	12.40363	10.56487	Si
SLV 1	-27974	-44884	-318	0.84	3144.1	0.971	12.56514	10.56487	Si
SLV 16	-25561	-42396	319	0.912	2898.5	0.969	13.6733	10.56487	Si
SLV 15	-25173	-41220	319	0.924	2859	0.969	13.87066	10.56487	Si
SLV 4	-22840	-33801	-354	1.008	2621.5	0.966	15.16997	10.56487	Si
SLV 3	-22452	-32626	-354	1.024	2582	0.965	15.41455	10.56487	Si
SLV 10	-36509	-65755	163	0.662	4013.4	0.977	9.84081	5.61494	Si
SLV 9	-36247	-64964	163	0.666	3986.8	0.977	9.90761	5.61494	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.203	SLU 84	Si
V_SLU	2.692	SLU 43	Si
PF_SLV	4.477	SLV 11	Si
V_SLV	2.935	SLV 11	Si
PFFP_SLV	8.117	SLV 7	Si
R_SLV	1.076	SLV 14	Si

Maschio 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.463	-3.359	-8.548	-3.359	L4	L5	1.085	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	2.49	-2418.91	-17523	-0.0001893	0.0003743	0.0035	1.085	4120.66	5858.41	5858.41	2.42	No	Si
SLU 81	4.39	-734.48	-14062	-0.0001008	0.0003743	0.0035	1.085	4160.38	5323.47	5323.47	7.25	No	Si
SLU 74	2.49	-2337.12	-17069	-0.000182	0.0003743	0.0035	1.085	4149.77	5810.25	5810.25	2.49	No	Si
SLU 74	4.39	-744.72	-13744	-0.000099	0.0003743	0.0035	1.085	4142.93	5260.06	5260.06	7.06	No	Si
SLU 79	2.49	-2353.25	-17158	-0.0001834	0.0003743	0.0035	1.085	4144.62	5819.58	5819.58	2.47	No	Si
SLU 79	4.39	-746.47	-13810	-0.0000995	0.0003743	0.0035	1.085	4146.85	5273.14	5273.14	7.06	No	Si
SLU 83	2.49	-2447.69	-17732	-0.0001924	0.0003743	0.0035	1.085	4104.79	5881.25	5881.25	2.4	No	Si
SLU 83	4.39	-746.22	-14243	-0.0001024	0.0003743	0.0035	1.085	4168.71	5360.03	5360.03	7.18	No	Si
SLU 78	2.49	-2361.6	-17428	-0.0001861	0.0003743	0.0035	1.085	4127.36	5848.17	5848.17	2.48	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 78	4.39	-788.77	-14083	-0.0001028	0.0003743	0.0035	1.085	4161.41	5327.73	5327.73	6.75	No	Si
SLU 82	2.49	-2414.62	-17671	-0.0001905	0.0003743	0.0035	1.085	4109.53	5874.61	5874.61	2.43	No	Si
SLU 82	4.39	-766.81	-14221	-0.0001029	0.0003743	0.0035	1.085	4167.75	5355.53	5355.53	6.98	No	Si
SLU 84	2.49	-2443.4	-17881	-0.0001936	0.0003743	0.0035	1.085	4092.56	5897.71	5897.71	2.41	No	Si
SLU 84	4.39	-778.54	-14402	-0.0001046	0.0003743	0.0035	1.085	4175.07	5392.44	5392.44	6.93	No	Si
SLU 77	2.49	-2365.89	-17279	-0.000185	0.0003743	0.0035	1.085	4137.22	5832.28	5832.28	2.47	No	Si
SLU 77	4.39	-756.45	-13924	-0.0001006	0.0003743	0.0035	1.085	4153.28	5295.93	5295.93	7	No	Si
SLU 80	2.49	-2348.96	-17307	-0.0001846	0.0003743	0.0035	1.085	4135.39	5835.31	5835.31	2.48	No	Si
SLU 80	4.39	-778.79	-13969	-0.0001017	0.0003743	0.0035	1.085	4155.63	5304.72	5304.72	6.81	No	Si
SLU 75	2.49	-2332.82	-17218	-0.0001831	0.0003743	0.0035	1.085	4141	5825.87	5825.87	2.5	No	Si
SLU 75	4.39	-777.04	-13902	-0.0001012	0.0003743	0.0035	1.085	4152.08	5291.51	5291.51	6.81	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	2.49	-802.14	-2868	-0.0000391	0.0005615	0.0035	1.085		1724.68	1724.68	2.15		Si
SLV 7	4.39	621.23	-1999	-0.0000307	0.0005615	0.0035	1.085		1123.66	1123.66	1.81		Si
SLD 15	2.49	-3290.8	-13633	-0.0001817	0.0005615	0.0035	1.085		6017.26	6017.26	1.83		Si
SLD 15	4.39	375.41	-7219	-0.0000468	0.0005615	0.0035	1.085		3445.49	3445.49	9.18		Si
SLV 12	2.49	-2000.49	-5625	-0.0001142	0.0005615	0.0035	0.868		3015.81	3015.81	1.51		Si
SLV 12	4.39	982.02	-1923	-0.0002358	0.0005615	0.0035	0.868		1085.51	1085.51	1.11		Si
SLV 11	2.49	-2305.14	-5933	-0.0001501	0.0005615	0.0035	0.868		3153.66	3153.66	1.37		Si
SLV 11	4.39	1155.75	-1527	-0.0075455	0.0005615	0.0035	0.868		883.46	883.46	0.76		No
SLV 4	2.49	1209.08	-4036	-0.0000605	0.0005615	0.0035	1.085		2120.29	2120.29	1.75		Si
SLV 4	4.39	-1145.03	-8153	-0.0000739	0.0005615	0.0035	1.085		4091.51	4091.51	3.57		Si
SLV 16	2.49	-3800.9	-14252	-0.0002129	0.0005615	0.0035	1.085		6180.43	6180.43	1.63		Si
SLV 16	4.39	636.73	-6580	-0.0000508	0.0005615	0.0035	1.085		3183.79	3183.79	5		Si
SLD 16	2.49	-3001.98	-13341	-0.0001665	0.0005615	0.0035	1.085		5941.27	5941.27	1.98		Si
SLD 16	4.39	210.71	-7595	-0.0000441	0.0005615	0.0035	1.085		3600.78	3600.78	17.09		Si
SLV 14	2.49	-3904.48	-18645	-0.0002351	0.0005615	0.0035	1.085		7309.36	7309.36	1.87		Si
SLV 14	4.39	-157.63	-10961	-0.0000606	0.0005615	0.0035	1.085		5159.8	5159.8	32.73		Si
SLV 13	2.49	-4356.97	-19103	-0.000261	0.0005615	0.0035	1.085		7397.95	7397.95	1.7		Si
SLV 13	4.39	100.41	-10372	-0.0000558	0.0005615	0.0035	1.085		4726.96	4726.96	47.08		Si
SLV 15	2.49	-4253.4	-14709	-0.0002462	0.0005615	0.0035	0.868		6302.85	6302.85	1.48		Si
SLV 15	4.39	894.77	-5991	-0.0000549	0.0005615	0.0035	1.085		2945.45	2945.45	3.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	2.49	-2173.62	-15741	-13108	-1938	1.085	1.085	-43147	10833	4470	38062	9097	2767	6705	Si	3.46	Si
SLU 61	4.39	-671.73	-12447	-10365	1051	1.085	1.085	-34118	10833	3739	38062	9097	2767	5608	Si	5.34	Si
SLU 79	2.49	-2353.25	-17158	-14288	-2055	1.085	1.085	-47031	10833	4785	38062	9097	2767	7177	Si	3.49	Si
SLU 79	4.39	-746.47	-13810	-11500	1179	1.085	1.085	-37853	10833	4041	38062	9097	2767	6062	Si	5.14	Si
SLU 83	2.49	-2447.69	-17732	-14766	-2163	1.085	1.085	-48603	10833	4912	38062	9097	2767	7368	Si	3.41	Si
SLU 83	4.39	-746.22	-14243	-11860	1151	1.085	1.085	-39040	10833	4138	38062	9097	2767	6206	Si	5.39	Si
SLU 82	2.49	-2414.62	-17671	-14715	-2120	1.085	1.085	-48437	10833	4899	38062	9097	2767	7348	Si	3.47	Si
SLU 82	4.39	-766.81	-14221	-11842	1183	1.085	1.085	-38979	10833	4133	38062	9097	2767	6199	Si	5.24	Si
SLU 58	2.49	-2112.25	-15228	-12681	-1873	1.085	1.085	-41741	10833	4356	38062	9097	2767	6535	Si	3.49	Si
SLU 58	4.39	-651.39	-12036	-10023	1047	1.085	1.085	-32992	10833	3648	38062	9097	2767	5471	Si	5.22	Si
SLU 60	2.49	-2177.91	-15592	-12984	-1951	1.085	1.085	-42739	10833	4437	38062	9097	2767	6656	Si	3.41	Si
SLU 60	4.39	-639.41	-12289	-10233	1001	1.085	1.085	-33683	10833	3704	38062	9097	2767	5555	Si	5.55	Si
SLU 63	2.49	-2202.39	-15951	-13282	-1967	1.085	1.085	-43721	10833	4517	38062	9097	2767	6775	Si	3.44	Si
SLU 63	4.39	-683.46	-12628	-10516	1069	1.085	1.085	-34614	10833	3779	38062	9097	2767	5669	Si	5.3	Si
SLU 81	2.49	-2418.91	-17523	-14591	-2134	1.085	1.085	-48029	10833	4866	38062	9097	2767	7299	Si	3.42	Si
SLU 81	4.39	-734.48	-14062	-11710	1132	1.085	1.085	-38544	10833	4097	38062	9097	2767	6146	Si	5.43	Si
SLU 84	2.49	-2443.4	-17881	-14890	-2149	1.085	1.085	-49011	10833	4945	38062	9097	2767	7418	Si	3.45	Si
SLU 84	4.39	-778.54	-14402	-11992	1201	1.085	1.085	-39474	10833	4173	38062	9097	2767	6259	Si	5.21	Si
SLU 62	2.49	-2206.69	-15802	-13158	-1981	1.085	1.085	-43313	10833	4484	38062	9097	2767	6726	Si	3.4	Si
SLU 62	4.39	-651.14	-12469	-10383	1019	1.085	1.085	-34179	10833	3744	38062	9097	2767	5616	Si	5.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	2.49	-3353.25	-16344	-13610	-4615	1.085	1.012	-44798	16250	5092	38062	13646	2767	16412		3.56	Si
SLD 13	4.39	-114.95	-9925	-8265	-187	1.085	1.085	-27204	15857	4817	38062	13646	2767	16412		87.96	Si
SLD 14	2.49	-3064.43	-16052	-13367	-4064	1.085	1.0548	-43998	16250	5027	38062	13646	2767	16412		4.04	Si
SLD 14	4.39	-279.65	-10301	-8578	140	1.085	1.085	-28234	16064	4880	38062	13646	2767	16412		117.42	Si
SLV 14	2.49	-3904.48	-18645	-15526	-5586	1.085	0.9993	-51107	16250	5603	38062	13646	2767	16412		2.94	Si
SLV 14	4.39	-157.63	-10961	-9127	-242	1.085	1.085	-30044	16250	4937	38062	13646	2767	16412		67.84	Si
SLV 11	2.49	-2305.14	-5933	-4940	-3355	0.868	0.4618	0	0	0	38062	10917	2213	13130		3.91	Si
SLV 11	4.39	1155.75	-1527	-1271	-2047	0.868	0	0	0	0	38062	10917	2213	13130		6.41	Si
SLV 2	2.49	1105.51	-8430	-7019	3944	1.085	1.085	-23105	15038	4568	38062	13646	2767	16412		4.16	Si
SLV 2	4.39	-1939.38	-12534	-10437	3756	1.085	1.085	-34355	16250	4937	38062	13646	2767	16412		4.37	Si
SLV 13	2.49	-4356.97	-19103	-15907	-6449	1.085	0.9433	-62681	16250	5704	38062	13646	2767	16412		2.54	Si
SLV 13	4.39	100.41	-10372	-8637	-753	1.085	1.085	-28430	16103	4892	38062	13646	2767	16412		21.79	Si
SLD 15	2.49	-3290.8	-13633	-11352	-4720	1.085	0.9033	-46088	16250	4490	38062	13646	2767	16412		3.48	Si
SLD 15	4.39	375.41	-7219	-6012	-977	1.085	1.085	-19788	14374	4367	38062	13646	2767	16412		16.79	Si
SLV 15	2.49	-4253.4	-14709	-12248	-6626	0.868	0.76	0	0	0	38062	10917	2213	13130		1.98	Si
SLV 15	4.39	894.77	-5991	-4989	-2035	1.085	1.085	-16422	13701	4162	38062	13646	2767	16412		8.07	Si
SLD 16	2.49	-3001.98	-13341	-11109	-4169	1.085	0.9524	-42680	16250	4425	38062	13646	2767	16412		3.94	Si
SLD 16	4.39	210.71	-7595	-6325	-651	1.085	1.085	-20819	14580	4430	38062	13646	2767	16412		25.21	Si
SLV 16	2.49	-3800.9	-14252	-11867	-5763	1.085	0.8274	-52883	16250	4627	38062	13646	2767	16412		2.85	Si
SLV 16	4.39	636.73	-6580	-5479	-1523	1.085	1.085	-18036	14024	4260	38062	13646	2767	16412		10.77	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma M = 2$



Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.31	6583	-2000	85.93	267.93	3.12	Si
SLV 7	179667	0.31	7652	-2325	85.93	309.14	3.6	Si
SLV 4	179667	0.31	11076	-3365	85.93	436.9	5.08	Si
SLV 3	179667	0.31	12663	-3847	85.93	493.91	5.75	Si
SLV 12	179667	0.31	17045	-5178	85.93	644.04	7.5	Si
SLV 11	179667	0.31	18113	-5503	85.93	679.02	7.9	Si
SLV 2	179667	0.31	25610	-7780	85.93	906.58	10.55	Si
SLV 1	179667	0.31	27197	-8262	85.93	950.73	11.06	Si
SLV 16	179667	0.31	45947	-13959	85.93	1366.26	15.9	Si
SLV 15	179667	0.31	47534	-14441	85.93	1392.45	16.2	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 $W_a = 0.05$ $T_a = 0.0694$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	-11343	-9180	-17	0.539	1300.7	0.966	8.11175	5.31498	Si
SLV 1	-10844	-8879	-17	0.56	1250	0.965	8.44079	5.31498	Si
SLV 6	-14085	-13066	-72	0.445	1579.9	0.972	6.65037	3.92562	Si
SLV 5	-13750	-12864	-71	0.454	1545.7	0.971	6.79286	3.92562	Si
SLV 10	-13371	-13249	-74	0.465	1507.2	0.97	6.95796	3.92562	Si
SLV 9	-13036	-13047	-74	0.475	1473	0.97	7.11549	3.92562	Si
SLV 14	-8963	-9791	-27	0.658	1058.6	0.959	9.97277	5.31498	Si
SLV 13	-8465	-9490	-26	0.691	1007.9	0.957	10.49004	5.31498	Si
SLV 4	-8209	-5990	26	0.709	981.9	0.956	10.77701	5.31498	Si
SLV 3	-7710	-5690	27	0.748	931.2	0.954	11.38705	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.403	SLU 83	Si
V_SLU	3.396	SLU 62	Si
PF_SLV	0.764	SLV 11	No
V_SLV	1.982	SLV 15	Si
PFFP_SLV	3.118	SLV 8	Si
R_SLV	1.526	SLV 2	Si

Maschio 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.046	-5.158	5.811	L4	L5	4.765	0.14	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e_cNCR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e_fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	1.59	12347.77	-63739	-0.0001671	0.0004492	0.0035	4.765	33109.73	108175.53	49664.59	4.02	Si	Si
SLU 75	5	-537.85	-41609	-0.0000821	0.0004492	0.0035	4.765	48528.87	90879.63	72793.31	135.34	Si	Si
SLU 82	1.59	12420.4	-64420	-0.0001691	0.0004492	0.0035	4.765	32181.77	108803.4	48272.66	3.89	Si	Si
SLU 82	5	-735.44	-41816	-0.0000831	0.0004492	0.0035	4.765	48517.31	91167.42	72775.96	98.96	Si	Si
SLU 78	1.59	12625.36	-64888	-0.0001709	0.0004492	0.0035	4.765	31527.77	109235.28	47291.65	3.75	Si	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 78	5	-442.89	-42587	-0.0000839	0.0004492	0.0035	4.765	48452.14	92240.23	72678.21	164.1	Si	Si
SLU 79	1.59	12596.9	-64912	-0.0001709	0.0004492	0.0035	4.765	31493.61	109257.6	47240.41	3.75	Si	Si
SLU 79	5	-406.14	-42444	-0.0000835	0.0004492	0.0035	4.765	48466.86	92041.14	72700.29	179	Si	Si
SLU 74	1.59	12412.33	-64278	-0.0001687	0.0004492	0.0035	4.765	32377.07	108672.77	48565.61	3.91	Si	Si
SLU 74	5	-517.3	-41829	-0.0000825	0.0004492	0.0035	4.765	48516.5	91185.39	72774.75	140.68	Si	Si
SLU 77	1.59	12689.92	-65427	-0.0001725	0.0004492	0.0035	4.765	30758.92	109732.51	46138.38	3.64	Si	Si
SLU 77	5	-422.33	-42807	-0.0000844	0.0004492	0.0035	4.765	48427.2	92545.99	72640.8	172	Si	Si
SLU 83	1.59	12762.55	-66108	-0.0001745	0.0004492	0.0035	4.765	29763.82	110360.38	44645.73	3.5	Si	Si
SLU 83	5	-619.92	-43013	-0.0000853	0.0004492	0.0035	4.765	48401.15	92833.78	72601.73	117.11	Si	Si
SLU 81	1.59	12484.97	-64959	-0.0001707	0.0004492	0.0035	4.765	31427.67	109300.64	47141.51	3.78	Si	Si
SLU 81	5	-714.88	-42036	-0.0000835	0.0004492	0.0035	4.765	48502.27	91473.18	72753.41	101.77	Si	Si
SLU 84	1.59	12697.99	-65569	-0.0001729	0.0004492	0.0035	4.765	30554.11	109863.14	45831.17	3.61	Si	Si
SLU 84	5	-640.48	-42794	-0.0000849	0.0004492	0.0035	4.765	48428.75	92528.02	72643.12	113.42	Si	Si
SLU 80	1.59	12532.34	-64373	-0.0001693	0.0004492	0.0035	4.765	32246.24	108760.37	48369.36	3.86	Si	Si
SLU 80	5	-426.7	-42224	-0.0000831	0.0004492	0.0035	4.765	48487.14	91735.38	72730.7	170.45	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	1.59	4245.16	-9231	-0.0000266	0.0006738	0.0035	4.765		23107.1	23107.1	5.44		Si
SLV 6	5	-2021.79	-13144	-0.0000287	0.0006738	0.0035	4.765		42305.61	42305.61	20.92		Si
SLV 5	1.59	4175.68	-10422	-0.0000286	0.0006738	0.0035	4.765		25692.89	25692.89	6.15		Si
SLV 5	5	-1864.01	-13673	-0.0000293	0.0006738	0.0035	4.765		43419.77	43419.77	23.29		Si
SLD 4	1.59	11111.9	-43251	-0.0001101	0.0006738	0.0035	4.765		86422.07	86422.07	7.78		Si
SLD 4	5	1419.77	-27899	-0.0000553	0.0006738	0.0035	4.765		59805.67	59805.67	42.12		Si
SLV 2	1.59	9666.9	-24476	-0.0000686	0.0006738	0.0035	4.765		53871.03	53871.03	5.57		Si
SLV 2	5	1035.12	-19662	-0.0000386	0.0006738	0.0035	4.765		44903.85	44903.85	43.38		Si
SLV 3	1.59	12576.29	-45018	-0.0001176	0.0006738	0.0035	4.765		89485.36	89485.36	7.12		Si
SLV 3	5	2644.18	-28623	-0.0000596	0.0006738	0.0035	4.765		61059.81	61059.81	23.09		Si
SLD 3	1.59	11046.03	-44380	-0.0001123	0.0006738	0.0035	4.765		88379.84	88379.84	8		Si
SLD 3	5	1569.35	-28401	-0.0000566	0.0006738	0.0035	4.765		60675.24	60675.24	38.66		Si
SLV 4	1.59	12679.48	-43249	-0.0001141	0.0006738	0.0035	4.765		86418.09	86418.09	6.82		Si
SLV 4	5	2409.83	-27837	-0.0000575	0.0006738	0.0035	4.765		59697.45	59697.45	24.77		Si
SLD 1	1.59	9189.55	-32776	-0.0000839	0.0006738	0.0035	4.765		68261.43	68261.43	7.43		Si
SLD 1	5	730.38	-23354	-0.0000449	0.0006738	0.0035	4.765		51924.87	51924.87	71.09		Si
SLV 1	1.59	9563.71	-26246	-0.0000718	0.0006738	0.0035	4.765		56938.3	56938.3	5.95		Si
SLV 1	5	1269.47	-20448	-0.0000406	0.0006738	0.0035	4.765		46473.06	46473.06	36.61		Si
SLD 2	1.59	9255.41	-31647	-0.0000818	0.0006738	0.0035	4.765		66303.66	66303.66	7.16		Si
SLD 2	5	580.8	-22852	-0.0000436	0.0006738	0.0035	4.765		51055.31	51055.31	87.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	1.59	10899.93	-56247	-31187	-8169	4.765	4.765	-46749	10833	16328	108749	23974	24301	24492	Si	3	Si
SLU 65	5	-353.1	-36510	-20243	-6185	4.765	4.765	-30345	10833	11951	108749	23974	24301	17926	Si	2.9	Si
SLU 55	1.59	10657.77	-55227	-30621	-8124	4.765	4.765	-45901	10833	16101	108749	23974	24301	24152	Si	2.97	Si
SLU 55	5	-382.53	-35975	-19946	-6178	4.765	4.765	-29900	10833	11832	108749	23974	24301	17748	Si	2.87	Si
SLU 52	1.59	10380.18	-54078	-29984	-8026	4.765	4.765	-44947	10833	15847	108749	23974	24301	23770	Si	2.96	Si
SLU 52	5	-477.49	-34997	-19404	-6107	4.765	4.765	-29087	10833	11615	108749	23974	24301	17423	Si	2.85	Si
SLU 2	1.59	7574.22	-39198	-21734	-6141	4.765	4.765	-32580	10833	12547	108749	23974	24301	18820	Si	3.06	Si
SLU 2	5	-202.26	-25410	-14089	-4770	4.765	4.765	-21119	10833	9489	108749	23974	24301	14233	Si	2.98	Si
SLU 49	1.59	10037.2	-51780	-28710	-7582	4.765	4.765	-43037	10833	15337	108749	23974	24301	23006	Si	3.03	Si
SLU 49	5	-12.82	-33851	-18769	-5814	4.765	4.765	-28135	10833	11361	108749	23974	24301	17041	Si	2.93	Si
SLU 46	1.59	9759.62	-50631	-28073	-7484	4.765	4.765	-42082	10833	15082	108749	23974	24301	22624	Si	3.02	Si
SLU 46	5	-107.78	-32873	-18227	-5743	4.765	4.765	-27322	10833	11144	108749	23974	24301	16716	Si	2.91	Si
SLU 68	1.59	11177.51	-57396	-31823	-8267	4.765	4.765	-47704	10833	16583	108749	23974	24301	24874	Si	3.01	Si
SLU 68	5	-258.13	-37488	-20786	-6256	4.765	4.765	-31158	10833	12168	108749	23974	24301	18251	Si	2.92	Si
SLU 44	1.59	9345.98	-48609	-26951	-7594	4.765	4.765	-40401	10833	14634	108749	23974	24301	21951	Si	2.89	Si
SLU 44	5	-200.26	-31386	-17402	-5911	4.765	4.765	-26086	10833	10814	108749	23974	24301	16221	Si	2.74	Si
SLU 47	1.59	9623.56	-49757	-27588	-7692	4.765	4.765	-41355	10833	14889	108749	23974	24301	22333	Si	2.9	Si
SLU 47	5	-105.29	-32364	-17944	-5982	4.765	4.765	-26899	10833	11031	108749	23974	24301	16547	Si	2.77	Si
SLU 51	1.59	9944.19	-51265	-28424	-7533	4.765	4.765	-42609	10833	15223	108749	23974	24301	22834	Si	3.03	Si
SLU 51	5	3.37	-33488	-18568	-5791	4.765	4.765	-27833	10833	11280	108749	23974	24301	16921	Si	2.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	1.59	5867.72	-22381	-12409	-18242	4.765	4.765	-18602	16220	10821	108749	35961	24301	60262		3.3	Si
SLD 6	5	-1328.76	-18901	-10480	-16685	4.765	4.765	-15710	15642	10435	108749	35961	24301	60262		3.61	Si
SLV 10	1.59	2624.98	-14687	-8144	-25958	4.765	4.765	-12207	14941	9967	108749	35961	24301	60262		2.32	Si
SLV 10	5	-3300.1	-15622	-8662	-23921	4.765	4.765	-12984	15097	10071	108749	35961	24301	60262		2.52	Si
SLV 6	1.59	4245.16	-9231	-5118	-25934	4.765	4.765	-7672	14034	9362	108749	35961	24301	60262		2.32	Si
SLV 6	5	-2021.79	-13144	-7288	-24353	4.765	4.765	-10925	14685	9796	108749	35961	24301	60262		2.47	Si
SLV 7	1.59	14217.61	-72996	-40473	14381	4.765	4.765	-60670	16250	21969	108749	35961	24301	60262		4.19	Si
SLV 7	5	2718.35	-40922	-22690	15420	4.765	4.765	-34012	16250	14856	108749	35961	24301	60262		3.91	Si
SLD 5	1.59	5824.23	-23127	-12823	-17859	4.765	4.765	-19221	16250	10909	108749	35961	24301	60262		3.37	Si
SLD 5	5	-1229.99	-19232	-10664	-16351	4.765	4.765	-15985	15697	10471	108749	35961	24301	60262		3.69	Si
SLV 5	1.59	4175.68	-10422	-5778	-25322	4.765	4.765	-8662	14232	9494	108749	35961	24301	60262		2.38	Si
SLV 5	5	-1864.01	-13673	-7581	-23819	4.765	4.765	-11364	14773	9855	108749	35961	24301	60262		2.53	Si
SLV 11	1.59	12597.43	-78453	-43499	14358	4.765	4.765	-65206	16250	23179	108749	35961	24301	60262		4.2	Si
SLV 11	5	1440.04	-43400	-24063	15852	4.765	4.765	-36072	16250	15406	108749	35961	24301	60262		3.8	Si
SLD 10	1.59	4830.06	-25878	-14348	-18258	4.765	4.765	-21508	16250	11520	108749	35961	24301	60262		3.3	Si
SLD 10	5	-2148.33	-20489	-11360	-16408	4.765	4.765	-17029	15906	10611	108749	35961	24301	60262		3.67	Si
SLD 9	1.59	4786.57	-26623	-14762	-17875	4.765	4.765	-22128	16250	11685	108749	35961	24301	60262		3.37	Si
SLD 9	5	-2049.56	-20820	-11544	-16073	4.765	4.765	-17304	15961	10647	108749	35961	24301	60262		3.75	Si
SLV 9	1.59	2555.5	-15879	-8804	-25345	4.765	4.765	-13197	15139	10100	108749	35961	24301	60262		2.38	Si
SLV 9	5	-3142.33	-16151	-8955	-23386	4.765	4.765	-13424	15185	10130	108749	35961	24301	60262		2.58	Si



Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.14 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-12542	0.31	205.35	787.87	1388.45	1088.16	5.3	Si
SLV 5	-13332	0.31	205.35	831.49	1455.22	1143.36	5.57	Si
SLV 10	-16280	0.31	205.35	987.87	1698.57	1343.22	6.54	Si
SLV 9	-17071	0.31	205.35	1028.12	1763.72	1395.92	6.8	Si
SLV 2	-23383	0.31	205.35	1323.8	2278.74	1801.27	8.77	Si
SLV 1	-24558	0.31	205.35	1373.76	2372.84	1873.3	9.12	Si
SLV 14	-35845	0.31	205.35	1773.55	3266.74	2520.14	12.27	Si
SLV 4	-36579	0.31	205.35	1794.5	3322.76	2558.63	12.46	Si
SLV 13	-37019	0.31	205.35	1806.76	3356.36	2581.56	12.57	Si
SLV 3	-37754	0.31	205.35	1826.72	3412.43	2619.57	12.76	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 3.295 Wa = 0.03 Ta = 0.1387

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-36882	-63208	434	0.698	4075.5	0.976	10.39667	10.56487	No
SLV 16	-36096	-61438	434	0.712	3995.5	0.975	10.60956	10.56487	Si
SLV 13	-28707	-44435	438	0.878	3243	0.97	13.15573	10.56487	Si
SLV 3	-28623	-45018	434	0.88	3234.4	0.97	13.19393	10.56487	Si
SLV 14	-27922	-42666	438	0.9	3163	0.969	13.50248	10.56487	Si
SLV 4	-27837	-43249	434	0.903	3154.4	0.969	13.54273	10.56487	Si
SLV 11	-43400	-78453	126	0.608	4739.5	0.979	9.02036	5.61494	Si
SLV 12	-42871	-77262	126	0.615	4685.6	0.979	9.12516	5.61494	Si
SLV 7	-40922	-72996	134	0.641	4487.1	0.978	9.53108	5.61494	Si
SLV 1	-20448	-26246	431	1.193	2402.4	0.96	18.05624	10.56487	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.498	SLU 83	Si
V_SLU	2.744	SLU 44	Si
PF_SLV	5.443	SLV 6	Si
V_SLV	2.322	SLV 10	Si
PFFP_SLV	5.299	SLV 6	Si
R_SLV	0.984	SLV 15	No

Maschio 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.233	-3.359	-5.508	-3.359	L4	L5	2.275	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	3.59	7275.16	-27853	-0.0001268	0.0003743	0.0035	2.275	18075.78	22109.84	22109.84	3.04	No	Si
SLU 78	4.39	-746.15	-26563	-0.0000734	0.0003743	0.0035	2.275	17839.68	22529.79	22529.79	30.19	No	Si
SLU 82	3.59	7326.36	-28166	-0.0001283	0.0003743	0.0035	2.275	18124.4	22259.83	22259.83	3.04	No	Si
SLU 82	4.39	-761.56	-26877	-0.0000744	0.0003743	0.0035	2.275	17902.49	22657.03	22657.03	29.75	No	Si
SLU 65	3.59	6574	-24050	-0.0001088	0.0003743	0.0035	2.275	17212.09	20339.79	20339.79	3.09	No	Si
SLU 65	4.39	-851.43	-22761	-0.0000633	0.0003743	0.0035	2.275	16803.97	20459.17	20459.17	24.03	No	Si
SLU 75	3.59	7198.1	-27512	-0.000125	0.0003743	0.0035	2.275	18019.1	21947.97	21947.97	3.05	No	Si
SLU 75	4.39	-768.36	-26222	-0.0000726	0.0003743	0.0035	2.275	17767.59	22367.52	22367.52	29.11	No	Si
SLU 76	3.59	7256.08	-27247	-0.0001246	0.0003743	0.0035	2.275	17972.1	21822.46	21822.46	3.01	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 76	4.39	-772.64	-25957	-0.0000718	0.0003743	0.0035	2.275	17708.57	22214.24	22214.24	28.75	No	Si
SLU 68	3.59	6651.06	-24391	-0.0001105	0.0003743	0.0035	2.275	17310.13	20495.02	20495.02	3.08	No	Si
SLU 68	4.39	-829.22	-23101	-0.0000641	0.0003743	0.0035	2.275	16917.42	20638.16	20638.16	24.89	No	Si
SLU 73	3.59	7179.03	-26906	-0.0001228	0.0003743	0.0035	2.275	17908.17	21662.3	21662.3	3.02	No	Si
SLU 73	4.39	-794.85	-25616	-0.000071	0.0003743	0.0035	2.275	17629.24	22019.28	22019.28	27.7	No	Si
SLU 84	3.59	7403.42	-28507	-0.0001301	0.0003743	0.0035	2.275	18173.27	22423.56	22423.56	3.03	No	Si
SLU 84	4.39	-739.35	-27217	-0.0000753	0.0003743	0.0035	2.275	17966.76	22786.68	22786.68	30.82	No	Si
SLU 83	3.59	7235.48	-28562	-0.0001289	0.0003743	0.0035	2.275	18180.75	22449.98	22449.98	3.1	No	Si
SLU 83	4.39	-725.77	-27272	-0.0000753	0.0003743	0.0035	2.275	17976.72	22805.73	22805.73	31.42	No	Si
SLU 80	3.59	7221.18	-27624	-0.0001256	0.0003743	0.0035	2.275	18038.12	22000.91	22000.91	3.05	No	Si
SLU 80	4.39	-741.38	-26334	-0.0000727	0.0003743	0.0035	2.275	17791.66	22432.21	22432.21	30.26	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	3.59	8675.82	-30000	-0.0001355	0.0005615	0.0035	2.275		26420.6	26420.6	3.05		Si
SLV 6	4.39	-3715.83	-28792	-0.0000969	0.0005615	0.0035	2.275		26975.47	26975.47	7.26		Si
SLV 11	3.59	1009.54	-7268	-0.0000233	0.0005615	0.0035	2.275		8074.22	8074.22	8		Si
SLV 11	4.39	2474.14	-6502	-0.0000306	0.0005615	0.0035	2.275		7297.76	7297.76	2.95		Si
SLV 3	3.59	5507.68	-14425	-0.00007	0.0005615	0.0035	2.275		14508.29	14508.29	2.63		Si
SLV 3	4.39	-4346.8	-13526	-0.0000601	0.0005615	0.0035	2.275		15091.24	15091.24	3.47		Si
SLD 2	3.59	6788.84	-20709	-0.0000955	0.0005615	0.0035	2.275		20028.22	20028.22	2.95		Si
SLD 2	4.39	-4297.15	-19689	-0.0000759	0.0005615	0.0035	2.275		20340.62	20340.62	4.73		Si
SLV 15	3.59	1751.63	-15276	-0.0000478	0.0005615	0.0035	2.275		15238.95	15238.95	8.7		Si
SLV 15	4.39	5150.24	-14337	-0.0000674	0.0005615	0.0035	2.275		14433.29	14433.29	2.8		Si
SLD 3	3.59	5290.73	-16000	-0.0000727	0.0005615	0.0035	2.275		15865.08	15865.08	3		Si
SLD 3	4.39	-3008.45	-15073	-0.0000554	0.0005615	0.0035	2.275		16459.65	16459.65	5.47		Si
SLV 2	3.59	7933.73	-21992	-0.0001069	0.0005615	0.0035	2.275		20956	20956	2.64		Si
SLV 2	4.39	-6391.94	-20957	-0.0000935	0.0005615	0.0035	2.275		21356.26	21356.26	3.34		Si
SLV 4	3.59	6089.38	-15265	-0.0000762	0.0005615	0.0035	2.275		15229.84	15229.84	2.5		Si
SLV 4	4.39	-5653.64	-14367	-0.0000709	0.0005615	0.0035	2.275		15836.42	15836.42	2.8		Si
SLV 1	3.59	7352.03	-21151	-0.0001006	0.0005615	0.0035	2.275		20384.61	20384.61	2.77		Si
SLV 1	4.39	-5085.1	-20116	-0.0000824	0.0005615	0.0035	2.275		20682.74	20682.74	4.07		Si
SLD 4	3.59	5662.02	-16537	-0.0000766	0.0005615	0.0035	2.275		16331.34	16331.34	2.88		Si
SLD 4	4.39	-3842.58	-15610	-0.0000622	0.0005615	0.0035	2.275		16936.23	16936.23	4.41		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	3.59	6616.16	-24768	-20625	9400	2.275	2.275	-32378	10833	7550	38062	19075	5801	11324	Si	1.2	Si
SLU 72	4.39	-797.96	-23478	-19551	9400	2.275	2.275	-30692	10833	7263	38062	19075	5801	10894	Si	1.16	Si
SLU 73	3.59	7179.03	-26906	-22405	10100	2.275	2.275	-35173	10833	8025	38062	19075	5801	12037	Si	1.19	Si
SLU 73	4.39	-794.85	-25616	-21331	10100	2.275	2.275	-33487	10833	7738	38062	19075	5801	11607	Si	1.15	Si
SLU 70	3.59	6670.13	-24997	-20815	9473	2.275	2.275	-32677	10833	7600	38062	19075	5801	11401	Si	1.2	Si
SLU 70	4.39	-802.73	-23707	-19741	9473	2.275	2.275	-30991	10833	7314	38062	19075	5801	10971	Si	1.16	Si
SLU 47	3.59	5869.34	-20966	-17459	8503	2.275	2.275	-27408	10599	6751	38062	19075	5801	10127	Si	1.19	Si
SLU 47	4.39	-826.81	-19701	-16405	8503	2.275	2.275	-25753	10378	6611	38062	19075	5801	9916	Si	1.17	Si
SLU 67	3.59	6593.08	-24656	-20532	9405	2.275	2.275	-32232	10833	7525	38062	19075	5801	11287	Si	1.2	Si
SLU 67	4.39	-824.94	-23367	-19458	9405	2.275	2.275	-30546	10833	7238	38062	19075	5801	10857	Si	1.15	Si
SLU 68	3.59	6651.06	-24391	-20311	9483	2.275	2.275	-31885	10833	7466	38062	19075	5801	11199	Si	1.18	Si
SLU 68	4.39	-829.22	-23101	-19237	9483	2.275	2.275	-30199	10833	7179	38062	19075	5801	10769	Si	1.14	Si
SLU 52	3.59	6397.3	-23481	-19553	9120	2.275	2.275	-30695	10833	7264	38062	19075	5801	10895	Si	1.19	Si
SLU 52	4.39	-792.44	-22216	-18499	9120	2.275	2.275	-29041	10817	6982	38062	19075	5801	10474	Si	1.15	Si
SLU 76	3.59	7256.08	-27247	-22689	10168	2.275	2.275	-35618	10833	8100	38062	19075	5801	12150	Si	1.19	Si
SLU 76	4.39	-772.64	-25957	-21615	10168	2.275	2.275	-33932	10833	7814	38062	19075	5801	11721	Si	1.15	Si
SLU 65	3.59	6574	-24050	-20027	9414	2.275	2.275	-31440	10833	7390	38062	19075	5801	11085	Si	1.18	Si
SLU 65	4.39	-851.43	-22761	-18953	9414	2.275	2.275	-29754	10833	7104	38062	19075	5801	10655	Si	1.13	Si
SLU 55	3.59	6474.36	-23822	-19837	9188	2.275	2.275	-31141	10833	7339	38062	19075	5801	11009	Si	1.2	Si
SLU 55	4.39	-770.23	-22556	-18783	9188	2.275	2.275	-29487	10833	7058	38062	19075	5801	10587	Si	1.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	3.59	7202.43	-25681	-21385	12852	2.275	2.275	-33572	16250	10351	38062	28612	5801	34413		2.68	Si
SLD 6	4.39	-2563.45	-24543	-20437	12793	2.275	2.275	-32084	16250	10351	38062	28612	5801	34413		2.69	Si
SLV 1	3.59	7352.03	-21151	-17613	15835	2.275	2.275	-27650	15947	10158	38062	28612	5801	34413		2.17	Si
SLV 1	4.39	-5085.1	-20116	-16751	15693	2.275	2.275	-26297	15676	9986	38062	28612	5801	34413		2.19	Si
SLD 2	3.59	6788.84	-20709	-17245	14083	2.275	2.275	-27072	15831	10084	38062	28612	5801	34413		2.44	Si
SLD 2	4.39	-4297.15	-19689	-16395	13994	2.275	2.275	-25738	15564	9914	38062	28612	5801	34413		2.46	Si
SLV 4	3.59	6089.38	-15265	-12712	14448	2.275	2.2158	-19955	14408	8939	38062	28612	5801	34413		2.38	Si
SLV 4	4.39	-5653.64	-14367	-11963	14342	2.275	2.2319	-18781	14173	8857	38062	28612	5801	34413		2.4	Si
SLD 5	3.59	6957.27	-25327	-21090	11857	2.275	2.275	-33109	16250	10351	38062	28612	5801	34413		2.9	Si
SLD 5	4.39	-2012.67	-24189	-20142	11798	2.275	2.275	-31621	16250	10351	38062	28612	5801	34413		2.92	Si
SLV 6	3.59	8675.82	-30000	-24981	16436	2.275	2.275	-39217	16250	10351	38062	28612	5801	34413		2.09	Si
SLV 6	4.39	-3715.83	-28792	-23975	16338	2.275	2.275	-37638	16250	10351	38062	28612	5801	34413		2.11	Si
SLV 5	3.59	8284.18	-29434	-24510	14846	2.275	2.275	-38477	16250	10351	38062	28612	5801	34413		2.32	Si
SLV 5	4.39	-2835.98	-28226	-23504	14749	2.275	2.275	-36898	16250	10351	38062	28612	5801	34413		2.33	Si
SLV 3	3.59	5507.68	-14425	-12012	12087	2.275	2.267	-18857	14188	9006	38062	28612	5801	34413		2.85	Si
SLV 3	4.39	-4346.8	-13526	-11264	11981	2.275	2.275	-17682	13953	8888	38062	28612	5801	34413		2.87	Si
SLV 2	3.59	7933.73	-21992	-18313	18196	2.275	2.275	-28748	16166	10298	38062	28612	5801	34413		1.89	Si
SLV 2	4.39	-6391.94	-20957	-17451	18054	2.275	2.275	-27396	15896	10126	38062	28612	5801	34413		1.91	Si
SLD 1	3.59	6417.56	-20173	-16798	12576	2.275	2.275	-26371	15691	9995	38062	28612	5801	34413		2.74	Si
SLD 1	4.39	-3463.03	-19153	-15949	12487	2.275	2.275	-25037	15424	9825	38062	28612	5801	34413		2.76	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 $\gamma M = 2$



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.31	8854	-5640	180.17	743.82	4.13	Si
SLV 8	179667	0.31	9128	-5814	180.17	765.34	4.25	Si
SLV 11	179667	0.31	10932	-6964	180.17	905.17	5.02	Si
SLV 12	179667	0.31	11206	-7138	180.17	926.02	5.14	Si
SLV 3	179667	0.31	15686	-9992	180.17	1255.19	6.97	Si
SLV 4	179667	0.31	16092	-10251	180.17	1283.88	7.13	Si
SLV 15	179667	0.31	22614	-14405	180.17	1718.1	9.54	Si
SLV 16	179667	0.31	23020	-14664	180.17	1743.5	9.68	Si
SLV 1	179667	0.31	23677	-15082	180.17	1784.16	9.9	Si
SLV 2	179667	0.31	24084	-15341	180.17	1809.06	10.04	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-20654	-12491	-287	0.597	2408.8	0.962	9.02092	5.31498	Si
SLV 13	-20259	-12504	-287	0.607	2368.7	0.961	9.17598	5.31498	Si
SLV 10	-25648	-15197	-512	0.488	2917.1	0.968	7.33106	3.92562	Si
SLV 9	-25383	-15206	-511	0.493	2890.1	0.968	7.39857	3.92562	Si
SLV 6	-24693	-13879	-433	0.507	2819.8	0.967	7.6244	3.92562	Si
SLV 5	-24427	-13888	-432	0.512	2792.8	0.967	7.69746	3.92562	Si
SLV 2	-17468	-8098	-24	0.702	2084.8	0.957	10.66242	5.31498	Si
SLV 1	-17074	-8111	-23	0.716	2044.7	0.956	10.87952	5.31498	Si
SLV 16	-15361	-8856	-15	0.783	1870.8	0.952	11.94567	5.31498	Si
SLV 15	-14967	-8869	-15	0.8	1830.7	0.951	12.22173	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.007	SLU 76	Si
V_SLU	1.132	SLU 65	Si
PF_SLV	2.501	SLV 4	Si
V_SLV	1.891	SLV 2	Si
PFFP_SLV	4.128	SLV 7	Si
R_SLV	1.697	SLV 14	Si

Maschio 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.359	-2.233	-3.359	L4	L5	2.11	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	2.49	-965.21	-14647	-0.0000461	0.0003743	0.0035	2.11	11689.94	14019	14019	14.52	No	Si
SLU 38	4.39	-58.37	-17730	-0.0000478	0.0003743	0.0035	2.11	13191.45	16043.35	16043.35	274.85	No	Si
SLU 31	2.49	-1020.93	-14265	-0.0000454	0.0003743	0.0035	2.11	11480.58	13746.62	13746.62	13.46	No	Si
SLU 31	4.39	-125.58	-17232	-0.0000469	0.0003743	0.0035	2.11	12971.4	15737.08	15737.08	125.32	No	Si
SLU 10	2.49	-883.68	-12418	-0.0000392	0.0003743	0.0035	2.11	10396.14	12405.25	12405.25	14.04	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 10	4.39	-261.28	-14578	-0.0000404	0.0003743	0.0035	2.11	11652.4	13969.46	13969.46	53.46	No	Si
SLU 13	2.49	-906.75	-12602	-0.0000398	0.0003743	0.0035	2.11	10509.56	12543.87	12543.87	13.83	No	Si
SLU 13	4.39	-247.5	-14832	-0.000041	0.0003743	0.0035	2.11	11789.32	14151.69	14151.69	57.18	No	Si
SLU 76	2.49	-1136.07	-17092	-0.0000545	0.0003743	0.0035	2.11	12907.99	15649.71	15649.71	13.78	No	Si
SLU 76	4.39	-255.68	-20247	-0.0000568	0.0003743	0.0035	2.11	14170.36	17357.75	17357.75	67.89	No	Si
SLU 34	2.49	-1044.01	-14449	-0.0000461	0.0003743	0.0035	2.11	11582.08	13877.49	13877.49	13.29	No	Si
SLU 34	4.39	-111.8	-17486	-0.0000475	0.0003743	0.0035	2.11	13084.68	15893.89	15893.89	142.17	No	Si
SLU 55	2.49	-998.81	-15244	-0.0000481	0.0003743	0.0035	2.11	12006.72	14435.56	14435.56	14.45	No	Si
SLU 55	4.39	-391.39	-17593	-0.0000501	0.0003743	0.0035	2.11	13132.02	15959.72	15959.72	40.78	No	Si
SLU 40	2.49	-989.89	-14936	-0.0000471	0.0003743	0.0035	2.11	11844.86	14226.84	14226.84	14.37	No	Si
SLU 40	4.39	-16.35	-18215	-0.0000489	0.0003743	0.0035	2.11	13397.41	16343.13	16343.13	999.46	No	Si
SLU 73	2.49	-1112.99	-16908	-0.0000538	0.0003743	0.0035	2.11	12823.56	15533.81	15533.81	13.96	No	Si
SLU 73	4.39	-269.46	-19993	-0.0000561	0.0003743	0.0035	2.11	14081.68	17246.46	17246.46	64	No	Si
SLU 42	2.49	-1012.96	-15120	-0.0000478	0.0003743	0.0035	2.11	11942.03	14352.95	14352.95	14.17	No	Si
SLU 42	4.39	-2.57	-18469	-0.0000495	0.0003743	0.0035	2.11	13501.93	16499.82	16499.82	6417.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	2.49	-5126.28	-9127	-0.0000677	0.0005615	0.0035	2.11		10123.62	10123.62	1.97		Si
SLV 15	4.39	3387.53	-18272	-0.0000736	0.0005615	0.0035	2.11		16476.4	16476.4	4.86		Si
SLV 12	2.49	-1653.27	-1799	-0.0000439	0.0005615	0.0035	1.688		3142.39	3142.39	1.9		Si
SLV 12	4.39	1980.44	-8608	-0.0000363	0.0005615	0.0035	2.11		8654.48	8654.48	4.37		Si
SLV 2	2.49	4025.97	-14643	-0.0000681	0.0005615	0.0035	2.11		13479.12	13479.12	3.35		Si
SLV 2	4.39	-3866.27	-9042	-0.0000521	0.0005615	0.0035	2.11		10048.63	10048.63	2.6		Si
SLV 8	2.49	753.5	-1211	-0.0000098	0.0005615	0.0035	2.11		1501.04	1501.04	1.99		Si
SLV 8	4.39	354.29	-4841	-0.0000147	0.0005615	0.0035	2.11		5122.86	5122.86	14.46		Si
SLV 3	2.49	2896.31	-7168	-0.0000395	0.0005615	0.0035	2.11		7331.95	7331.95	2.53		Si
SLV 3	4.39	-2032.96	-5713	-0.000029	0.0005615	0.0035	2.11		6971.68	6971.68	3.43		Si
SLV 4	2.49	3886.2	-8206	-0.000051	0.0005615	0.0035	2.11		8289.06	8289.06	2.13		Si
SLV 4	4.39	-2855.99	-5022	-0.0000369	0.0005615	0.0035	1.688		6309.08	6309.08	2.21		Si
SLV 11	2.49	-2319.73	-1100	-0.0004376	0.0005615	0.0035	1.688		2434.38	2434.38	1.05		Si
SLV 11	4.39	2534.55	-9074	-0.0000416	0.0005615	0.0035	2.11		9063.08	9063.08	3.58		Si
SLV 13	2.49	-4986.51	-15565	-0.0000781	0.0005615	0.0035	2.11		15547.01	15547.01	3.12		Si
SLV 13	4.39	2377.25	-22292	-0.0000773	0.0005615	0.0035	2.11		19174.65	19174.65	8.07		Si
SLD 15	2.49	-3474.79	-10187	-0.0000516	0.0005615	0.0035	2.11		11061.63	11061.63	3.18		Si
SLD 15	4.39	2059.4	-16665	-0.0000588	0.0005615	0.0035	2.11		15137.03	15137.03	7.35		Si
SLV 16	2.49	-4136.39	-10165	-0.0000569	0.0005615	0.0035	2.11		11041.84	11041.84	2.67		Si
SLV 16	4.39	2564.5	-17581	-0.0000653	0.0005615	0.0035	2.11		15897.86	15897.86	6.2		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	2.49	-1136.07	-17092	-14232	-3869	2.11	2.11	-24090	10156	6000	38062	17691	5381	9001	Si	2.33	Si
SLU 76	4.39	-255.68	-20247	-16860	-3844	2.11	2.11	-28537	10749	6392	38062	17691	5381	9588	Si	2.49	Si
SLU 73	2.49	-1112.99	-16908	-14079	-3811	2.11	2.11	-23831	10122	5980	38062	17691	5381	8970	Si	2.35	Si
SLU 73	4.39	-269.46	-19993	-16648	-3786	2.11	2.11	-28179	10702	6335	38062	17691	5381	9503	Si	2.51	Si
SLU 42	2.49	-1012.96	-15120	-12591	-3676	2.11	2.11	-21312	9786	5782	38062	17691	5381	8672	Si	2.36	Si
SLU 42	4.39	-2.57	-18469	-15379	-3660	2.11	2.11	-26031	10415	6153	38062	17691	5381	9230	Si	2.52	Si
SLU 78	2.49	-1061.8	-17427	-14512	-3901	2.11	2.11	-24563	10219	6038	38062	17691	5381	9056	Si	2.32	Si
SLU 78	4.39	-205.38	-20668	-17211	-3884	2.11	2.11	-29132	10829	6485	38062	17691	5381	9728	Si	2.5	Si
SLU 80	2.49	-1057.27	-17290	-14397	-3877	2.11	2.11	-24369	10194	6022	38062	17691	5381	9034	Si	2.33	Si
SLU 80	4.39	-202.26	-20491	-17063	-3861	2.11	2.11	-28881	10795	6446	38062	17691	5381	9669	Si	2.5	Si
SLU 81	2.49	-929.13	-17600	-14655	-3947	2.11	2.11	-24806	10252	6057	38062	17691	5381	9085	Si	2.3	Si
SLU 81	4.39	-100.77	-20961	-17455	-3942	2.11	2.11	-29544	10833	6550	38062	17691	5381	9826	Si	2.49	Si
SLU 84	2.49	-1105.02	-17763	-14791	-4080	2.11	2.11	-25036	10283	6075	38062	17691	5381	9112	Si	2.23	Si
SLU 84	4.39	-146.46	-21230	-17679	-4063	2.11	2.11	-29923	10833	6610	38062	17691	5381	9915	Si	2.44	Si
SLU 83	2.49	-952.21	-17784	-14809	-4005	2.11	2.11	-25066	10287	6077	38062	17691	5381	9116	Si	2.28	Si
SLU 83	4.39	-86.99	-21215	-17666	-4000	2.11	2.11	-29902	10833	6607	38062	17691	5381	9910	Si	2.48	Si
SLU 75	2.49	-1038.73	-17243	-14358	-3842	2.11	2.11	-24303	10185	6017	38062	17691	5381	9026	Si	2.35	Si
SLU 75	4.39	-219.16	-20415	-16999	-3826	2.11	2.11	-28774	10781	6429	38062	17691	5381	9644	Si	2.52	Si
SLU 82	2.49	-1081.94	-17579	-14638	-4021	2.11	2.11	-24777	10248	6055	38062	17691	5381	9082	Si	2.26	Si
SLU 82	4.39	-160.24	-20976	-17467	-4004	2.11	2.11	-29565	10833	6554	38062	17691	5381	9831	Si	2.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	2.49	-2319.73	-1100	-916	-8589	1.688	0	0	0	0	38062	21229	4304	25534		2.97	Si
SLV 11	4.39	2534.55	-9074	-7556	-8398	2.11	2.11	-12789	12974	7665	38062	26537	5381	31917		3.8	Si
SLV 2	2.49	4025.97	-14643	-12194	-6427	2.11	2.11	-20639	14545	8593	38062	26537	5381	31917		4.97	Si
SLV 2	4.39	-3866.27	-9042	-7529	-5882	2.11	1.8822	-14363	13289	7004	38062	26537	5381	31917		5.43	Si
SLD 16	2.49	-2842.97	-10849	-9034	-6812	2.11	2.11	-15292	13475	7961	38062	26537	5381	31917		4.69	Si
SLD 16	4.39	1534.08	-16224	-13510	-6458	2.11	2.11	-22867	14990	8856	38062	26537	5381	31917		4.94	Si
SLV 12	2.49	-1653.27	-1799	-1498	-7301	1.688	0.4075	0	0	0	38062	21229	4304	25534		3.5	Si
SLV 12	4.39	1980.44	-8608	-7168	-7110	2.11	2.11	-12133	12843	7588	38062	26537	5381	31917		4.49	Si
SLV 14	2.49	-3996.62	-16603	-13825	-7231	2.11	2.11	-23401	15097	8919	38062	26537	5381	31917		4.41	Si
SLV 14	4.39	1554.22	-21600	-17987	-6693	2.11	2.11	-30445	16250	9601	38062	26537	5381	31917		4.77	Si
SLV 15	2.49	-5126.28	-9127	-7600	-11238	2.11	1.48	-18503	14118	5851	38062	26537	5381	31917		2.84	Si
SLV 15	4.39	3387.53	-18272	-15215	-10686	2.11	2.11	-25753	15567	9197	38062	26537	5381	31917		2.99	Si
SLD 15	2.49	-3474.79	-10187	-8483	-8033	2.11	2.11	-14358	13288	7851	38062	26537	5381	31917		3.97	Si
SLD 15	4.39	2059.4	-16665	-13877	-7680	2.11	2.11	-23489	15114	8930	38062	26537	5381	31917		4.16	Si
SLV 13	2.49	-4986.51	-15565	-12961	-9144	2.11	2.11	-21938	14804	8746	38062	26537	5381	31917		3.49	Si
SLV 13	4.39	2377.25	-22292	-18562	-8606	2.11	2.11	-31419	16250	9601	38062	26537	5381	31917		3.71	Si
SLD 13	2.49	-3377.66	-14175	-11803	-6732	2.11	2.11	-19979	14412	8515	38062	26537	5381	31917		4.74	Si
SLD 13	4.39	1441.45	-19144	-15941	-6385	2.11	2.11	-26983	15813	9342	38062	26537	5381	31917		5	Si
SLV 16	2.49	-4136.39	-10165	-8464	-9325	2.11	1.9442	-15656	13548	7375	38062	26537	5381	31917		3.42	Si
SLV 16	4.39	2564.5	-17581	-14640	-8772	2.11	2.11	-24779	15373	9082	38062	26537	5381	31917		3.64	Si



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.31	4816	-2845	167.11	385.74	2.31	Si
SLV 8	179667	0.31	5017	-2964	167.11	401.36	2.4	Si
SLV 11	179667	0.31	8682	-5129	167.11	677.26	4.05	Si
SLV 12	179667	0.31	8884	-5248	167.11	692.04	4.14	Si
SLV 3	179667	0.31	11044	-6525	167.11	847.44	5.07	Si
SLV 4	179667	0.31	11344	-6702	167.11	868.6	5.2	Si
SLV 1	179667	0.31	20292	-11988	167.11	1455.35	8.71	Si
SLV 2	179667	0.31	20591	-12165	167.11	1473.52	8.82	Si
SLV 15	179667	0.31	23932	-14139	167.11	1669.25	9.99	Si
SLV 16	179667	0.31	24232	-14316	167.11	1686.24	10.09	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-19044	-14521	-50	0.61	2222.7	0.962	9.22427	5.31498	Si
SLV 14	-18868	-14877	-50	0.615	2204.9	0.962	9.30018	5.31498	Si
SLV 9	-20904	-18533	-332	0.551	2412	0.965	8.30874	3.92562	Si
SLV 10	-20786	-18772	-331	0.554	2399.9	0.964	8.35048	3.92562	Si
SLV 15	-14814	-9449	153	0.749	1792.6	0.954	11.41691	5.31498	Si
SLV 16	-14638	-9805	153	0.757	1774.8	0.953	11.53654	5.31498	Si
SLV 5	-18293	-16850	-370	0.616	2146.3	0.961	9.31705	3.92562	Si
SLV 6	-18175	-17090	-370	0.619	2134.3	0.96	9.37055	3.92562	Si
SLV 1	-10340	-8913	-179	1.008	1338.7	0.94	15.57443	5.31498	Si
SLV 2	-10165	-9269	-178	1.022	1321	0.94	15.80488	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.292	SLU 34	Si
V_SLU	2.234	SLU 84	Si
PF_SLV	1.049	SLV 11	Si
V_SLV	2.84	SLV 15	Si
PFFP_SLV	2.308	SLV 7	Si
R_SLV	1.736	SLV 13	Si

Maschio 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.013	5.951	-5.158	5.951	L4	L5	2.145	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	2.49	3541.22	-16011	-0.0000688	0.0003743	0.0035	2.145	12675.28	13918	13918	3.93	No	Si
SLU 43	4.39	-291.93	-21608	-0.00006	0.0003743	0.0035	2.145	14985.16	18370.92	18370.92	62.93	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 46	2.49	3571.95	-16556	-0.0000707	0.0003743	0.0035	2.145	12948.47	14268.42	14268.42	3.99	No	Si
SLU 46	4.39	-240.06	-22354	-0.0000618	0.0003743	0.0035	2.145	15210.17	18727.49	18727.49	78.01	No	Si
SLU 45	2.49	3633.86	-16720	-0.0000717	0.0003743	0.0035	2.145	13029.11	14375.18	14375.18	3.96	No	Si
SLU 45	4.39	-269.96	-22603	-0.0000628	0.0003743	0.0035	2.145	15280.78	18848.3	18848.3	69.82	No	Si
SLU 48	2.49	3699.06	-17228	-0.0000737	0.0003743	0.0035	2.145	13271.46	14705.96	14705.96	3.98	No	Si
SLU 48	4.39	-262.85	-23349	-0.000065	0.0003743	0.0035	2.145	15479.66	19216.97	19216.97	73.11	No	Si
SLU 64	2.49	3874.89	-18992	-0.0000806	0.0003743	0.0035	2.145	14042.54	15875.98	15875.98	4.1	No	Si
SLU 64	4.39	-221.73	-25540	-0.0000713	0.0003743	0.0035	2.145	15950.85	20294.89	20294.89	91.53	No	Si
SLU 49	2.49	3637.16	-17064	-0.0000728	0.0003743	0.0035	2.145	13193.76	14598.23	14598.23	4.01	No	Si
SLU 49	4.39	-232.96	-23100	-0.000064	0.0003743	0.0035	2.145	15415.56	19093.08	19093.08	81.96	No	Si
SLU 50	2.49	3671.63	-17027	-0.0000729	0.0003743	0.0035	2.145	13176.22	14574.13	14574.13	3.97	No	Si
SLU 50	4.39	-277.73	-23100	-0.0000644	0.0003743	0.0035	2.145	15415.48	19092.93	19092.93	68.75	No	Si
SLU 51	2.49	3609.73	-16862	-0.0000719	0.0003743	0.0035	2.145	13097.35	14466.78	14466.78	4.01	No	Si
SLU 51	4.39	-247.83	-22851	-0.0000634	0.0003743	0.0035	2.145	15349.2	18970.09	18970.09	76.55	No	Si
SLU 47	2.49	3503.25	-16244	-0.0000692	0.0003743	0.0035	2.145	12793.4	14067.45	14067.45	4.02	No	Si
SLU 47	4.39	-235	-21939	-0.0000605	0.0003743	0.0035	2.145	15087.57	18528.26	18528.26	78.84	No	Si
SLU 44	2.49	3438.05	-15736	-0.0000672	0.0003743	0.0035	2.145	12533.5	13742.48	13742.48	4	No	Si
SLU 44	4.39	-242.1	-21193	-0.0000584	0.0003743	0.0035	2.145	14518.8	18176.92	18176.92	75.08	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	2.49	6896.95	-12777	-0.0000893	0.0005615	0.0035	2.145		12210.81	12210.81	1.77		Si
SLV 3	4.39	-4389.08	-24919	-0.0000987	0.0005615	0.0035	2.145		22644.25	22644.25	5.16		Si
SLV 7	2.49	7650.21	-23210	-0.0001191	0.0005615	0.0035	2.145		20174.02	20174.02	2.64		Si
SLV 7	4.39	-2839.36	-35104	-0.0001174	0.0005615	0.0035	2.145		28036.48	28036.48	9.87		Si
SLD 3	2.49	5446.1	-13351	-0.0000739	0.0005615	0.0035	2.145		12676.35	12676.35	2.33		Si
SLD 3	4.39	-2853.81	-22885	-0.000081	0.0005615	0.0035	2.145		21292.82	21292.82	7.46		Si
SLV 1	2.49	4692.77	-6689	-0.0000659	0.0005615	0.0035	2.145		7012.64	7012.64	1.49		Si
SLV 1	4.39	-3583.57	-15901	-0.0000667	0.0005615	0.0035	2.145		16103.05	16103.05	4.49		Si
SLD 2	2.49	3524.84	-9746	-0.0000495	0.0005615	0.0035	2.145		9796.05	9796.05	2.78		Si
SLD 2	4.39	-1740.42	-16486	-0.0000547	0.0005615	0.0035	2.145		16559.98	16559.98	9.51		Si
SLD 1	2.49	4089.82	-9579	-0.0000537	0.0005615	0.0035	2.145		9664.91	9664.91	2.36		Si
SLD 1	4.39	-2358.39	-17320	-0.0000616	0.0005615	0.0035	2.145		17215.64	17215.64	7.3		Si
SLD 4	2.49	4881.13	-13518	-0.0000697	0.0005615	0.0035	2.145		12812.16	12812.16	2.62		Si
SLD 4	4.39	-2235.84	-22051	-0.0000739	0.0005615	0.0035	2.145		20704.71	20704.71	9.26		Si
SLV 2	2.49	3807.62	-6951	-0.0000478	0.0005615	0.0035	2.145		7261.86	7261.86	1.91		Si
SLV 2	4.39	-2615.38	-14594	-0.000056	0.0005615	0.0035	2.145		15033.65	15033.65	5.75		Si
SLV 4	2.49	6011.79	-13038	-0.0000788	0.0005615	0.0035	2.145		12422.53	12422.53	2.07		Si
SLV 4	4.39	-3420.89	-23612	-0.0000874	0.0005615	0.0035	2.145		21783.26	21783.26	6.37		Si
SLV 10	2.49	-1727.57	-5911	-0.0000267	0.0005615	0.0035	2.145		7279.69	7279.69	4.21		Si
SLV 10	4.39	2495.77	-4058	-0.0000316	0.0005615	0.0035	2.145		4441.68	4441.68	1.78		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	2.49	3967.53	-19702	-16406	7576	2.145	2.145	-27316	10587	6358	38062	17985	5470	9537	Si	1.26	Si
SLU 66	4.39	-199.76	-26535	-22096	7533	2.145	2.145	-36791	10833	7820	38062	17985	5470	11729	Si	1.56	Si
SLU 80	2.49	4132.29	-21965	-18291	8069	2.145	2.145	-30454	10833	6805	38062	17985	5470	10207	Si	1.26	Si
SLU 80	4.39	-127.96	-29579	-24631	8021	2.145	2.145	-41010	10833	8495	38062	17985	5470	12743	Si	1.59	Si
SLU 56	2.49	3887.96	-19350	-16113	7487	2.145	2.145	-26829	10522	6319	38062	17985	5470	9479	Si	1.27	Si
SLU 56	4.39	-213.18	-26144	-21770	7444	2.145	2.145	-36247	10833	7733	38062	17985	5470	11599	Si	1.56	Si
SLU 79	2.49	4194.2	-22130	-18428	8165	2.145	2.145	-30682	10833	6841	38062	17985	5470	10262	Si	1.26	Si
SLU 79	4.39	-157.85	-29828	-24838	8116	2.145	2.145	-41355	10833	8551	38062	17985	5470	12826	Si	1.58	Si
SLU 74	2.49	4156.43	-21824	-18173	8033	2.145	2.145	-30258	10833	6773	38062	17985	5470	10160	Si	1.26	Si
SLU 74	4.39	-150.09	-29330	-24424	7985	2.145	2.145	-40666	10833	8440	38062	17985	5470	12660	Si	1.59	Si
SLU 72	2.49	3943.39	-19843	-16524	7613	2.145	2.145	-27512	10613	6374	38062	17985	5470	9561	Si	1.26	Si
SLU 72	4.39	-177.63	-26784	-22303	7569	2.145	2.145	-37135	10833	7875	38062	17985	5470	11812	Si	1.56	Si
SLU 70	2.49	3970.83	-20045	-16692	7646	2.145	2.145	-27792	10650	6396	38062	17985	5470	9595	Si	1.25	Si
SLU 70	4.39	-162.76	-27033	-22511	7602	2.145	2.145	-37480	10833	7930	38062	17985	5470	11895	Si	1.56	Si
SLU 69	2.49	4032.73	-20210	-16829	7742	2.145	2.145	-28021	10681	6415	38062	17985	5470	9623	Si	1.24	Si
SLU 69	4.39	-192.66	-27282	-22718	7698	2.145	2.145	-37825	10833	7985	38062	17985	5470	11978	Si	1.56	Si
SLU 77	2.49	4221.63	-22332	-18596	8199	2.145	2.145	-30962	10833	6886	38062	17985	5470	10329	Si	1.26	Si
SLU 77	4.39	-142.98	-30076	-25045	8149	2.145	2.145	-41700	10833	8606	38062	17985	5470	12909	Si	1.58	Si
SLU 71	2.49	4005.3	-20008	-16661	7708	2.145	2.145	-27741	10643	6392	38062	17985	5470	9588	Si	1.24	Si
SLU 71	4.39	-207.53	-27033	-22510	7665	2.145	2.145	-37480	10833	7930	38062	17985	5470	11895	Si	1.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	2.49	6215.63	-26028	-21674	10294	2.145	2.145	-36087	16250	9760	38062	26977	5470	32447		3.15	Si
SLV 11	4.39	-841.1	-34998	-29143	10334	2.145	2.145	-48524	16250	10663	38062	26977	5470	32447		3.14	Si
SLD 7	2.49	5865.57	-19889	-16562	10714	2.145	2.145	-27575	15932	9569	38062	26977	5470	32447		3.03	Si
SLD 7	4.39	-1839.12	-29163	-24284	10594	2.145	2.145	-40433	16250	9760	38062	26977	5470	32447		3.06	Si
SLV 1	2.49	4692.77	-6689	-5570	10677	2.145	1.1127	-9274	12271	4377	38062	26977	5470	32447		3.04	Si
SLV 1	4.39	-3583.57	-15901	-13241	10311	2.145	2.145	-22046	14826	8904	38062	26977	5470	32447		3.15	Si
SLV 4	2.49	6011.79	-13038	-10857	12274	2.145	1.8343	-18077	14032	7207	38062	26977	5470	32447		2.64	Si
SLV 4	4.39	-3420.89	-23612	-19662	11893	2.145	2.145	-32738	16250	9760	38062	26977	5470	32447		2.73	Si
SLD 3	2.49	5446.1	-13351	-11118	11032	2.145	1.9938	-18511	14119	7882	38062	26977	5470	32447		2.94	Si
SLD 3	4.39	-2853.81	-22885	-19057	10775	2.145	2.145	-31729	16250	9760	38062	26977	5470	32447		3.01	Si
SLV 3	2.49	6896.95	-12777	-10639	14136	2.145	1.5981	-17715	13960	6246	38062	26977	5470	32447		2.3	Si
SLV 3	4.39	-4389.08	-24919	-20750	13753	2.145	2.145	-34549	16250	9760	38062	26977	5470	32447		2.36	Si
SLV 8	2.49	7054.26	-23386	-19474	12536	2.145	2.145	-32424	16250	9760	38062	26977	5470	32447		2.59	Si
SLV 8	4.39	-2187.52	-34224	-28499	12373	2.145	2.145	-47450	16250	10491	38062	26977	5470	32447		2.62	Si
SLV 7	2.49	7650.21	-23210	-19327	13789	2.145	2.145	-32180	16250	9760	38062	26977	5470	32447		2.35	Si
SLV 7	4.39	-2839.36	-35104	-29231	13625	2.145	2.145	-48670	16250	10686	38062	26977	5470	32447		2.38	Si
SLD 4	2.49	4881.13	-13518	-11257	9844	2.145	2.1343	-18743	14165	8465	38062	26977	5470	32447		3.3	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 4	4.39	-2235.84	-22051	-18362	9588	2.145	2.145	-30573	16250	9760	38062	26977	5470	32447		3.38	Si
SLD 8	2.49	5492.51	-19999	-16654	9930	2.145	2.145	-27728	15962	9587	38062	26977	5470	32447		3.27	Si
SLD 8	4.39	-1431.07	-28612	-23826	9810	2.145	2.145	-39670	16250	9760	38062	26977	5470	32447		3.31	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.31	4851	-2913	169.88	394.91	2.32	Si
SLV 10	179667	0.31	5618	-3374	169.88	454.99	2.68	Si
SLV 5	179667	0.31	5920	-3555	169.88	478.45	2.82	Si
SLV 9	179667	0.31	6687	-4016	169.88	537.63	3.16	Si
SLV 2	179667	0.31	20488	-12305	169.88	1491.58	8.78	Si
SLV 1	179667	0.31	22075	-13258	169.88	1587.87	9.35	Si
SLV 14	179667	0.31	23045	-13841	169.88	1645.3	9.69	Si
SLV 13	179667	0.31	24632	-14794	169.88	1737.12	10.23	Si
SLV 4	179667	0.31	34880	-20949	169.88	2263.01	13.32	Si
SLV 3	179667	0.31	36468	-21903	169.88	2334.13	13.74	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 11	-28768	-20031	536	0.42	3217.3	0.972	6.27103	3.92562	Si
SLV 7	-28638	-18080	507	0.422	3204	0.972	6.30981	3.92562	Si
SLV 15	-20767	-16246	220	0.568	2402.8	0.964	8.55683	5.31498	Si
SLV 12	-28115	-20078	535	0.428	3150.8	0.972	6.3983	3.92562	Si
SLV 8	-27985	-18127	507	0.431	3137.5	0.972	6.43852	3.92562	Si
SLV 3	-20334	-9742	125	0.582	2358.7	0.963	8.7821	5.31498	Si
SLV 16	-19797	-16315	219	0.591	2304.1	0.963	8.92649	5.31498	Si
SLV 4	-19364	-9812	125	0.607	2260	0.962	9.17017	5.31498	Si
SLV 13	-13644	-11059	-79	0.819	1678.6	0.95	12.52457	5.31498	Si
SLV 1	-13210	-4556	-173	0.835	1634.6	0.949	12.7864	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.93	SLU 43	Si
V_SLU	1.243	SLU 69	Si
PF_SLV	1.494	SLV 1	Si
V_SLV	2.295	SLV 3	Si
PFFP_SLV	2.325	SLV 6	Si
R_SLV	1.597	SLV 11	Si

Maschio 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-2.013	5.951	L4	L5	1.89	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 36	2.49	-1221.7	-15124	-0.000057	0.0003743	0.0035	1.89	10280.08	12321.77	12321.77	10.09	No	Si
SLU 36	4.39	229.74	-17684	-0.0000555	0.0003743	0.0035	1.89	11226.27	12865.71	12865.71	56	No	Si
SLU 84	2.49	-1367.37	-17604	-0.0000668	0.0003743	0.0035	1.89	11200.4	13505.06	13505.06	9.88	No	Si
SLU 84	4.39	190.72	-20349	-0.0000641	0.0003743	0.0035	1.89	11967.13	14201.74	14201.74	74.46	No	Si
SLU 34	2.49	-1175.51	-14403	-0.0000542	0.0003743	0.0035	1.89	9972.29	11907.51	11907.51	10.13	No	Si
SLU 34	4.39	238.35	-16915	-0.0000531	0.0003743	0.0035	1.89	10966.17	12416.82	12416.82	52.09	No	Si
SLU 41	2.49	-1258.94	-15439	-0.0000584	0.0003743	0.0035	1.89	10409.04	12503.06	12503.06	9.93	No	Si
SLU 41	4.39	263.51	-18058	-0.0000571	0.0003743	0.0035	1.89	11345.23	13086.47	13086.47	49.66	No	Si
SLU 42	2.49	-1264.43	-15215	-0.0000577	0.0003743	0.0035	1.89	10317.77	12374.08	12374.08	9.79	No	Si
SLU 42	4.39	291.58	-17940	-0.000057	0.0003743	0.0035	1.89	11308.46	13017.08	13017.08	44.64	No	Si
SLU 39	2.49	-1227.3	-15031	-0.0000567	0.0003743	0.0035	1.89	10241.55	12268.86	12268.86	10	No	Si
SLU 39	4.39	254.95	-17559	-0.0000554	0.0003743	0.0035	1.89	11185.42	12792.29	12792.29	50.18	No	Si
SLU 40	2.49	-1232.79	-14807	-0.0000561	0.0003743	0.0035	1.89	10147.07	12141.21	12141.21	9.85	No	Si
SLU 40	4.39	283.02	-17441	-0.0000553	0.0003743	0.0035	1.89	11146.6	12723.59	12723.59	44.96	No	Si
SLU 82	2.49	-1335.72	-17196	-0.0000651	0.0003743	0.0035	1.89	11063.89	13332.76	13332.76	9.98	No	Si
SLU 82	4.39	182.16	-19851	-0.0000623	0.0003743	0.0035	1.89	11847.43	14016.94	14016.94	76.95	No	Si
SLU 81	2.49	-1330.23	-17420	-0.0000658	0.0003743	0.0035	1.89	11139.59	13427.06	13427.06	10.09	No	Si
SLU 81	4.39	154.09	-19968	-0.0000624	0.0003743	0.0035	1.89	11876.35	14060.18	14060.18	91.25	No	Si
SLU 83	2.49	-1361.87	-17828	-0.0000675	0.0003743	0.0035	1.89	11272.89	13600.85	13600.85	9.99	No	Si
SLU 83	4.39	162.65	-20467	-0.0000642	0.0003743	0.0035	1.89	11993.99	14245.46	14245.46	87.58	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 9	2.49	-1279.86	472	0.0452258	0.0005615	0.0035	1.512		0	0	0		No
SLV 9	4.39	1780.6	-5636	-0.0000319	0.0005615	0.0035	1.89		5232.23	5232.23	2.94		Si
SLV 1	2.49	2773.72	-6730	-0.0000455	0.0005615	0.0035	1.89		6147.72	6147.72	2.22		Si
SLV 1	4.39	-1725.22	-4767	-0.0000291	0.0005615	0.0035	1.89		5161.44	5161.44	2.99		Si
SLV 13	2.49	-3487.86	-9852	-0.0000607	0.0005615	0.0035	1.89		9312.97	9312.97	2.67		Si
SLV 13	4.39	1884.87	-15369	-0.0000624	0.0005615	0.0035	1.89		12445.8	12445.8	6.6		Si
SLD 14	2.49	-2989.75	-9911	-0.0000559	0.0005615	0.0035	1.89		9358.21	9358.21	3.13		Si
SLD 14	4.39	1586.11	-14827	-0.0000579	0.0005615	0.0035	1.89		12052.9	12052.9	7.6		Si
SLD 10	2.49	-1429.49	-3722	-0.0000235	0.0005615	0.0035	1.89		4261.45	4261.45	2.98		Si
SLD 10	4.39	1358.7	-8659	-0.000037	0.0005615	0.0035	1.89		7710.74	7710.74	5.68		Si
SLV 2	2.49	2029.12	-5674	-0.0000345	0.0005615	0.0035	1.89		5263.62	5263.62	2.59		Si
SLV 2	4.39	-1088.4	-5222	-0.0000245	0.0005615	0.0035	1.89		5555.48	5555.48	5.1		Si
SLV 14	2.49	-4232.46	-8795	-0.0000695	0.0005615	0.0035	1.89		8489.06	8489.06	2.01		Si
SLV 14	4.39	2521.69	-15824	-0.00007	0.0005615	0.0035	1.89		12776.7	12776.7	5.07		Si
SLV 6	2.49	97.29	2120	0	0.0005615	0.0035	1.512		0	0	0		No
SLV 6	4.39	1126.32	-2762	-0.0000181	0.0005615	0.0035	1.89		2731.88	2731.88	2.43		Si
SLV 10	2.49	-1781.18	1184	0.1113313	0.0005615	0.0035	1.512		0	0	0		No
SLV 10	4.39	2209.35	-5942	-0.0000371	0.0005615	0.0035	1.89		5489.77	5489.77	2.48		Si
SLV 5	2.49	598.61	1409	0.1233934	0.0005615	0.0035	1.512		0	0	0		No
SLV 5	4.39	697.57	-2456	-0.000013	0.0005615	0.0035	1.89		2457.9	2457.9	3.52		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	2.49	-1232.79	-14807	-12330	-3028	1.89	1.89	-23299	10051	5319	38062	15847	4819	7978	Si	2.63	Si
SLU 40	4.39	283.02	-17441	-14524	-3025	1.89	1.89	-27445	10604	5612	38062	15847	4819	8417	Si	2.78	Si
SLU 76	2.49	-1278.45	-16792	-13983	-3185	1.89	1.89	-26423	10468	5539	38062	15847	4819	8309	Si	2.61	Si
SLU 76	4.39	137.5	-19324	-16091	-3181	1.89	1.89	-30406	10833	5989	38062	15847	4819	8984	Si	2.82	Si
SLU 83	2.49	-1361.87	-17828	-14846	-3295	1.89	1.89	-28054	10685	5657	38062	15847	4819	8486	Si	2.58	Si
SLU 83	4.39	162.65	-20467	-17043	-3291	1.89	1.89	-32205	10833	6243	38062	15847	4819	9364	Si	2.85	Si
SLU 73	2.49	-1246.8	-16385	-13644	-3118	1.89	1.89	-25782	10382	5494	38062	15847	4819	8241	Si	2.64	Si
SLU 73	4.39	128.89	-18825	-15676	-3114	1.89	1.89	-29621	10833	5878	38062	15847	4819	8818	Si	2.83	Si
SLU 80	2.49	-1306.43	-17350	-14447	-3204	1.89	1.89	-27300	10585	5601	38062	15847	4819	8402	Si	2.62	Si
SLU 80	4.39	127.35	-19901	-16572	-3200	1.89	1.89	-31314	10833	6117	38062	15847	4819	9176	Si	2.87	Si
SLU 42	2.49	-1264.43	-15215	-12670	-3095	1.89	1.89	-23941	10137	5364	38062	15847	4819	8046	Si	2.6	Si
SLU 42	4.39	291.58	-17940	-14939	-3091	1.89	1.89	-28230	10708	5682	38062	15847	4819	8523	Si	2.76	Si
SLU 78	2.49	-1324.63	-17513	-14583	-3229	1.89	1.89	-27557	10619	5619	38062	15847	4819	8429	Si	2.61	Si
SLU 78	4.39	128.89	-20093	-16732	-3224	1.89	1.89	-31617	10833	6160	38062	15847	4819	9240	Si	2.87	Si
SLU 84	2.49	-1367.37	-17604	-14659	-3366	1.89	1.89	-27701	10638	5630	38062	15847	4819	8444	Si	2.51	Si
SLU 84	4.39	190.72	-20349	-16945	-3362	1.89	1.89	-32021	10833	6217	38062	15847	4819	9325	Si	2.77	Si
SLU 81	2.49	-1330.23	-17420	-14506	-3229	1.89	1.89	-27412	10599	5609	38062	15847	4819	8414	Si	2.61	Si
SLU 81	4.39	154.09	-19968	-16627	-3225	1.89	1.89	-31420	10833	6132	38062	15847	4819	9198	Si	2.85	Si
SLU 82	2.49	-1335.72	-17196	-14320	-3300	1.89	1.89	-27059	10552	5584	38062	15847	4819	8376	Si	2.54	Si
SLU 82	4.39	182.16	-19851	-16530	-3295	1.89	1.89	-31235	10833	6106	38062	15847	4819	9159	Si	2.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	2.49	-2514.49	-10585	-8815	-4889	1.89	1.89	-16656	13748	7275	38062	23770	4819	28589		5.85	Si
SLD 13	4.39	1179.64	-14536	-12105	-4653	1.89	1.89	-22874	14991	7933	38062	23770	4819	28589		6.14	Si
SLV 9	2.49	-1279.86	472	393	-5651	1.512	0	0	0	0	38062	19016	3856	22872		4.05	Si
SLV 9	4.39	1780.6	-5636	-4693	-5812	1.89	1.8872	-8869	12190	6442	38062	23770	4819	28589		4.92	Si
SLV 6	2.49	97.29	2120	1765	-3910	1.512	1.89	0	0	0	38062	19016	3856	22872		5.85	Si
SLV 6	4.39	1126.32	-2762	-2300	-4344	1.89	1.6115	-4346	11286	5092	38062	23770	4819	28589		6.58	Si
SLD 10	2.49	-1429.49	-3722	-3099	-4871	1.89	1.6827	-6589	11734	5529	38062	23770	4819	28589		5.87	Si
SLD 10	4.39	1358.7	-8659	-7210	-4973	1.89	1.89	-13625	13142	6955	38062	23770	4819	28589		5.75	Si
SLD 14	2.49	-2989.75	-9911	-8253	-5833	1.89	1.89	-15595	13536	7163	38062	23770	4819	28589		4.9	Si
SLD 14	4.39	1586.11	-14827	-12346	-5597	1.89	1.89	-23330	15083	7982	38062	23770	4819	28589		5.11	Si
SLV 15	2.49	-3606.22	-17617	-14670	-4881	1.89	1.89	-27720	15961	8446	38062	23770	4819	28589		5.86	Si
SLV 15	4.39	980.39	-20595	-17150	-4332	1.89	1.89	-32407	16250	8599	38062	23770	4819	28589		6.6	Si
SLV 14	2.49	-4232.46	-8795	-7324	-8077	1.89	1.3913	-18976	14212	5537	38062	23770	4819	28589		3.54	Si
SLV 14	4.39	2521.69	-15824	-13177	-7709	1.89	1.89	-24900	15397	8148	38062	23770	4819	28589		3.71	Si
SLV 16	2.49	-4350.82	-16560	-13790	-6360	1.89	1.89	-26057	15628	8270	38062	23770	4819	28589		4.5	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	4.39	1617.21	-21050	-17528	-5811	1.89	1.89	-33122	16250	8599	38062	23770	4819	28589		4.92	Si
SLV 10	2.49	-1781.18	1184	986	-6647	1.512	0	0	0	0	38062	19016	3856	22872		3.44	Si
SLV 10	4.39	2209.35	-5942	-4948	-6808	1.89	1.7196	-9351	12287	5916	38062	23770	4819	28589		4.2	Si
SLV 13	2.49	-3487.86	-9852	-8204	-6599	1.89	1.7729	-15502	13517	6710	38062	23770	4819	28589		4.33	Si
SLV 13	4.39	1884.87	-15369	-12798	-6230	1.89	1.89	-24184	15254	8072	38062	23770	4819	28589		4.59	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 3.295 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.31	0	40	149.68	0	0	No, Trazione
SLV 5	179667	0.31	0	-264	149.68	0	0	No, e>t/2
SLV 10	179667	0.31	3047	-1613	149.68	221.28	1.48	Si
SLV 9	179667	0.31	3621	-1916	149.68	261.94	1.75	Si
SLV 2	179667	0.31	11094	-5871	149.68	762.22	5.09	Si
SLV 1	179667	0.31	11946	-6322	149.68	815.85	5.45	Si
SLV 14	179667	0.31	21502	-11379	149.68	1368.72	9.14	Si
SLV 13	179667	0.31	22354	-11830	149.68	1413.75	9.44	Si
SLV 4	179667	0.31	23909	-12653	149.68	1494.04	9.98	Si
SLV 3	179667	0.31	24761	-13104	149.68	1537.07	10.27	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-17920	-15696	56	0.585	2078.7	0.963	8.82246	5.31498	Si
SLV 15	-17845	-16346	56	0.587	2071	0.963	8.85553	5.31498	Si
SLV 12	-21125	-21645	381	0.494	2404.8	0.968	7.41613	3.92562	Si
SLV 11	-21075	-22083	380	0.495	2399.7	0.968	7.43194	3.92562	Si
SLV 8	-18958	-19820	424	0.54	2184.2	0.965	8.12597	3.92562	Si
SLV 7	-18907	-20258	423	0.541	2179.1	0.965	8.14528	3.92562	Si
SLV 14	-12995	-8862	-179	0.76	1577.9	0.953	11.58357	5.31498	Si
SLV 13	-12920	-9512	-179	0.763	1570.3	0.953	11.64241	5.31498	Si
SLV 4	-10695	-9612	199	0.892	1344.4	0.946	13.7061	5.31498	Si
SLV 3	-10620	-10261	199	0.897	1336.8	0.946	13.79071	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.786	SLU 42	Si
V_SLU	2.509	SLU 84	Si
PF_SLV	0	SLV 5	No
V_SLV	3.441	SLV 10	Si
PFFP_SLV	0	SLV 6	No
R_SLV	1.66	SLV 16	Si

Maschio 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.359	-0.123	5.951	L4	L5	9.31	0.28	3.41	3.41	3.41			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	1.59	-22927.41	-118380	-0.0000748	0.0004492	0.0035	9.31	346253.25	486602.78	486602.78	21.22	No	Si
SLU 61	5	-3511.55	-88499	-0.0000497	0.0004492	0.0035	9.31	297499.92	396812.19	396812.19	113	No	Si
SLU 13	1.59	-19300.97	-96165	-0.0000601	0.0004492	0.0035	9.31	312497.17	420896.41	420896.41	21.81	No	Si
SLU 13	5	-1943.12	-72265	-0.0000398	0.0004492	0.0035	9.31	260072.7	342615.62	342615.62	176.32	No	Si
SLU 5	1.59	-18117.68	-84057	-0.0000525	0.0004492	0.0035	9.31	288026.18	382245.83	382245.83	21.1	No	Si
SLU 5	5	-1461.38	-63016	-0.0000345	0.0004492	0.0035	9.31	235305.87	309553	309553	211.82	No	Si
SLU 47	1.59	-22534.58	-103243	-0.0000655	0.0004492	0.0035	9.31	324817.42	442784.4	442784.4	19.65	No	Si
SLU 47	5	-2249.59	-77163	-0.0000427	0.0004492	0.0035	9.31	272177.11	359076.58	359076.58	159.62	No	Si
SLU 2	1.59	-19116.34	-82054	-0.0000518	0.0004492	0.0035	9.31	283562.64	375511.35	375511.35	19.64	No	Si
SLU 2	5	-2550.25	-61164	-0.0000338	0.0004492	0.0035	9.31	230044.83	302922.13	302922.13	118.78	No	Si
SLU 44	1.59	-23533.25	-101239	-0.0000647	0.0004492	0.0035	9.31	321477.63	436835.24	436835.24	18.56	No	Si
SLU 44	5	-3338.46	-75311	-0.0000421	0.0004492	0.0035	9.31	267682.01	352851.5	352851.5	105.69	No	Si
SLU 52	1.59	-24716.54	-113346	-0.0000725	0.0004492	0.0035	9.31	339868.31	472311.62	472311.62	19.11	No	Si
SLU 52	5	-3820.2	-84559	-0.0000475	0.0004492	0.0035	9.31	289125.36	383931.97	383931.97	100.5	No	Si
SLU 65	1.59	-22354.33	-116739	-0.0000736	0.0004492	0.0035	9.31	344253.53	482167.46	482167.46	21.57	No	Si
SLU 65	5	-2144.17	-87515	-0.0000486	0.0004492	0.0035	9.31	295451.08	393721.66	393721.66	183.62	No	Si
SLU 55	1.59	-23717.88	-115350	-0.0000733	0.0004492	0.0035	9.31	342498.92	478168.05	478168.05	20.16	No	Si
SLU 55	5	-2731.33	-86412	-0.0000482	0.0004492	0.0035	9.31	293119.71	390157.05	390157.05	142.85	No	Si
SLU 10	1.59	-20299.64	-94161	-0.0000593	0.0004492	0.0035	9.31	308742.82	414600.94	414600.94	20.42	No	Si
SLU 10	5	-3031.99	-70412	-0.0000392	0.0004492	0.0035	9.31	255312.4	336028.63	336028.63	110.83	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	1.59	141020.31	-79958	-0.0000943	0.0006738	0.0035	9.31		335461.64	335461.64	2.38		Si
SLV 7	5	56256.05	-62183	-0.000053	0.0006738	0.0035	9.31		272540.92	272540.92	4.84		Si
SLD 6	1.59	-107917.2	-81149	-0.0000823	0.0006738	0.0035	9.31		385504.28	385504.28	3.57		Si
SLD 6	5	-34342.01	-61625	-0.0000449	0.0006738	0.0035	9.31		312128.44	312128.44	9.09		Si
SLV 8	1.59	139600.81	-79883	-0.0000937	0.0006738	0.0035	9.31		335205.35	335205.35	2.4		Si
SLV 8	5	57834.54	-62426	-0.0000536	0.0006738	0.0035	9.31		273481.88	273481.88	4.73		Si
SLV 9	1.59	-166354.69	-99224	-0.0001151	0.0006738	0.0035	9.31		449478.93	449478.93	2.7		Si
SLV 9	5	-59952.3	-72040	-0.0000598	0.0006738	0.0035	9.31		351659.06	351659.06	5.87		Si
SLV 5	1.59	-165052.04	-76449	-0.0001051	0.0006738	0.0035	9.31		368041.74	368041.74	2.23		Si
SLV 5	5	-56769.7	-58121	-0.0000509	0.0006738	0.0035	9.31		298410.96	298410.96	5.26		Si
SLV 6	1.59	-166471.54	-76374	-0.0001059	0.0006738	0.0035	9.31		367763.08	367763.08	2.21		Si
SLV 6	5	-55191.21	-58364	-0.0000504	0.0006738	0.0035	9.31		299361.38	299361.38	5.42		Si
SLD 5	1.59	-107028.6	-81196	-0.000082	0.0006738	0.0035	9.31		385678.71	385678.71	3.6		Si
SLD 5	5	-35330.13	-61473	-0.0000452	0.0006738	0.0035	9.31		311533.48	311533.48	8.82		Si
SLV 11	1.59	139717.66	-102733	-0.0001069	0.0006738	0.0035	9.31		413287.24	413287.24	2.96		Si
SLV 11	5	53073.45	-76102	-0.0000597	0.0006738	0.0035	9.31		322284.33	322284.33	6.07		Si
SLV 10	1.59	-167774.19	-99149	-0.0001156	0.0006738	0.0035	9.31		449215.27	449215.27	2.68		Si
SLV 10	5	-58373.81	-72282	-0.0000594	0.0006738	0.0035	9.31		352560.98	352560.98	6.04		Si
SLV 12	1.59	138298.16	-102658	-0.0001063	0.0006738	0.0035	9.31		413030.95	413030.95	2.99		Si
SLV 12	5	54651.94	-76345	-0.0000604	0.0006738	0.0035	9.31		323113.87	323113.87	5.91		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 2	1.59	-19116.34	-82054	-58535	-3827	9.31	9.31	-22455	10833	38472	108749	93682	47481	57708	Si	15.08	Si
SLU 2	5	-2550.25	-61164	-43633	-3707	9.31	9.31	-16738	10565	32511	108749	93682	47481	48767	Si	13.16	Si
SLU 55	1.59	-23717.88	-115350	-82288	-4651	9.31	9.31	-31567	10833	47973	108749	93682	47481	71959	Si	15.47	Si
SLU 55	5	-2731.33	-86412	-61644	-4527	9.31	9.31	-23647	10833	39715	108749	93682	47481	59573	Si	13.16	Si
SLU 65	1.59	-22354.33	-116739	-83279	-4405	9.31	9.31	-31947	10833	48369	108749	93682	47481	72554	Si	16.47	Si
SLU 65	5	-2144.17	-87515	-62431	-4283	9.31	9.31	-23949	10833	40030	108749	93682	47481	60045	Si	14.02	Si
SLU 5	1.59	-18117.68	-84057	-59965	-3920	9.31	9.31	-23003	10833	39044	108749	93682	47481	58566	Si	14.94	Si
SLU 5	5	-1461.38	-63016	-44954	-3802	9.31	9.31	-17245	10633	33040	108749	93682	47481	49560	Si	13.04	Si
SLU 51	1.59	-19239.66	-105091	-74970	-4104	9.31	9.31	-28759	10833	45046	108749	93682	47481	67568	Si	16.47	Si
SLU 51	5	-645.6	-78991	-56350	-4028	9.31	9.31	-21617	10833	37598	108749	93682	47481	56397	Si	14	Si
SLU 44	1.59	-23533.25	-101239	-72221	-4551	9.31	9.31	-27705	10833	43946	108749	93682	47481	65919	Si	14.48	Si
SLU 44	5	-3338.46	-75311	-53725	-4427	9.31	9.31	-20609	10833	36548	108749	93682	47481	54822	Si	12.38	Si
SLU 47	1.59	-22534.58	-103243	-73651	-4644	9.31	9.31	-28253	10833	44518	108749	93682	47481	66777	Si	14.38	Si
SLU 47	5	-2249.59	-77163	-55046	-4522	9.31	9.31	-21116	10833	37076	108749	93682	47481	55615	Si	12.3	Si
SLU 52	1.59	-24716.54	-113346	-80858	-4558	9.31	9.31	-31018	10833	47401	108749	93682	47481	71101	Si	15.6	Si
SLU 52	5	-3820.2	-84559	-60322	-4433	9.31	9.31	-23140	10833	39187	108749	93682	47481	58780	Si	13.26	Si
SLU 68	1.59	-21355.67	-118743	-84709	-4498	9.31	9.31	-32495	10833	48941	108749	93682	47481	73411	Si	16.32	Si
SLU 68	5	-1055.3	-89367	-63752	-4378	9.31	9.31	-24456	10833	40559	108749	93682	47481	60838	Si	13.9	Si
SLU 13	1.59	-19300.97	-96165	-68602	-3928	9.31	9.31	-26316	10833	42498	108749	93682	47481	63748	Si	16.23	Si
SLU 13	5	-1943.12	-72265	-51552	-3807	9.31	9.31	-19776	10833	35679	108749	93682	47481	53518	Si	14.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	1.59	139717.66	-102733	-73287	48450	9.31	9.31	-28114	16250	51902	108749	140523	47481	160651		3.32	Si
SLV 11	5	53073.45	-76102	-54289	46574	9.31	9.31	-20826	16250	44303	108749	140523	47481	153052		3.29	Si
SLD 6	1.59	-107917.2	-81149	-57890	-33528	9.31	9.31	-22207	16250	45743	108749	140523	47481	154492		4.61	Si
SLD 6	5	-34342.01	-61625	-43961	-32364	9.31	9.31	-16864	15873	41377	108749	140523	47481	150126		4.64	Si
SLV 7	1.59	141020.31	-79958	-57040	45570	9.31	8.674	-21881	16250	45403	108749	140523	47481	154152		3.38	Si
SLV 7	5	56256.05	-62183	-44360	43599	9.31	9.31	-17017	15903	41457	108749	140523	47481	150206		3.45	Si
SLV 5	1.59	-	-76449	-54537	-47544	9.31	7.4881	-26323	16250	44402	108749	140523	47481	153151		3.22	Si
SLV 5	5	165052.04	-	-	-	9.31	-	-	-	-	-	-	-	-		-	-
SLV 5	5	-56769.7	-58121	-41462	-45656	9.31	9.31	-15905	15681	40877	108749	140523	47481	149626		3.28	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	1.59	-166354.69	-99224	-70784	-44664	9.31	8.9353	-28679	16250	50901	108749	140523	47481	159650		3.57	Si
SLV 9	5	-59952.3	-72040	-51391	-42681	9.31	9.31	-19714	16250	43144	108749	140523	47481	151893		3.56	Si
SLV 8	1.59	139600.81	-79883	-56987	40253	9.31	8.7223	-21861	16250	45382	108749	140523	47481	154131		3.83	Si
SLV 8	5	57834.54	-62426	-44533	38288	9.31	9.31	-17083	15917	41492	108749	140523	47481	150240		3.92	Si
SLV 6	1.59	-166471.54	-76374	-54483	-52861	9.31	7.4259	-26518	16250	44381	108749	140523	47481	153130		2.9	Si
SLV 6	5	-55191.21	-58364	-41635	-50966	9.31	9.31	-15972	15694	40912	108749	140523	47481	149661		2.94	Si
SLD 10	1.59	-108736.89	-95713	-68280	-31680	9.31	9.31	-26193	16250	49899	108749	140523	47481	158648		5.01	Si
SLD 10	5	-36352.36	-70482	-50280	-30453	9.31	9.31	-19288	16250	42699	108749	140523	47481	151448		4.97	Si
SLV 10	1.59	-167774.19	-99149	-70731	-49981	9.31	8.8886	-28810	16250	50879	108749	140523	47481	159628		3.19	Si
SLV 10	5	-58373.81	-72282	-51565	-47991	9.31	9.31	-19781	16250	43213	108749	140523	47481	151962		3.17	Si
SLV 12	1.59	138298.16	-102658	-73234	43133	9.31	9.31	-28093	16250	51881	108749	140523	47481	160629		3.72	Si
SLV 12	5	54651.94	-76345	-54462	41263	9.31	9.31	-20892	16250	44372	108749	140523	47481	153121		3.71	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 3.295 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-47398	0.31	737.32	5977.39	8411.99	7194.69	9.76	Si
SLV 2	-47595	0.31	737.32	5999.49	8441.18	7220.33	9.79	Si
SLV 3	-48736	0.31	737.32	6127.09	8610.37	7368.73	9.99	Si
SLV 4	-48933	0.31	737.32	6149.03	8639.58	7394.31	10.03	Si
SLV 5	-66409	0.31	737.32	8004.97	11226.15	9615.56	13.04	Si
SLV 6	-66542	0.31	737.32	8018.37	11245.74	9632.06	13.06	Si
SLV 7	-70871	0.31	737.32	8450.15	11884.82	10167.49	13.79	Si
SLV 8	-71003	0.31	737.32	8463.21	11904.2	10183.7	13.81	Si
SLV 9	-84015	0.31	737.32	9693.8	13807.19	11750.5	15.94	Si
SLV 10	-84148	0.31	737.32	9705.84	13826.26	11766.05	15.96	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 3.295 Wa = 0.05 Ta = 0.0694

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-91220	-127982	2275	0.548	10539.1	0.964	8.26681	5.31498	Si
SLV 15	-90860	-128094	2275	0.55	10502.4	0.964	8.29575	5.31498	Si
SLV 14	-90002	-126930	2309	0.554	10415.1	0.964	8.36013	5.31498	Si
SLV 13	-89641	-127041	2308	0.556	10378.4	0.964	8.3898	5.31498	Si
SLV 12	-76345	-102658	636	0.657	9025.9	0.959	9.96465	3.92562	Si
SLV 11	-76102	-102733	635	0.659	9001.2	0.959	9.99273	3.92562	Si
SLV 10	-72282	-99149	747	0.687	8612.9	0.957	10.43554	3.92562	Si
SLV 9	-72040	-99224	747	0.689	8588.2	0.957	10.46656	3.92562	Si
SLV 4	-44824	-52066	-2297	0.994	5825.9	0.94	15.37057	5.31498	Si
SLV 3	-44464	-52178	-2297	1	5789.4	0.939	15.47699	5.31498	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.562	SLU 44	Si
V_SLU	12.3	SLU 47	Si
PF_SLV	2.209	SLV 6	Si
V_SLV	2.897	SLV 6	Si
PFFP_SLV	9.758	SLV 1	Si
R_SLV	1.555	SLV 16	Si

Maschio 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-24.678	-3.359	-24.678	5.951	L5	L6	9.311	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _f ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 28	5	130.81	-68820	-0.0000413	0.0003743	0.0035	9.3107	237309.45	260469.88	260469.88	1991.18	No	Si
SLU 28	8.55	3355.08	-51604	-0.0000317	0.0003743	0.0035	9.3107	193528.61	206697.25	206697.25	61.61	No	Si
SLU 38	5	-99.34	-75588	-0.0000457	0.0003743	0.0035	9.3107	251675.98	305904.56	305904.56	3079.35	No	Si
SLU 38	8.55	3268.84	-56123	-0.0000345	0.0003743	0.0035	9.3107	206027.04	223428.75	223428.75	68.35	No	Si
SLU 30	5	-27.45	-67930	-0.0000407	0.0003743	0.0035	9.3107	235301.02	284083.13	284083.13	10350.08	No	Si
SLU 30	8.55	3210.5	-50711	-0.0000311	0.0003743	0.0035	9.3107	190973.57	203422.99	203422.99	63.36	No	Si
SLU 26	5	-866.61	-66426	-0.0000401	0.0003743	0.0035	9.3107	231845.2	279490.43	279490.43	322.51	No	Si
SLU 26	8.55	2921.05	-49150	-0.00003	0.0003743	0.0035	9.3107	186439.62	197725.69	197725.69	67.69	No	Si
SLU 25	5	-238.64	-67288	-0.0000404	0.0003743	0.0035	9.3107	233835.12	282122.09	282122.09	1182.21	No	Si
SLU 25	8.55	2991.51	-50044	-0.0000306	0.0003743	0.0035	9.3107	189046.35	200983.92	200983.92	67.18	No	Si
SLU 27	5	835.38	-68777	-0.0000416	0.0003743	0.0035	9.3107	237213.53	260352.81	260352.81	311.66	No	Si
SLU 27	8.55	3243.91	-51606	-0.0000317	0.0003743	0.0035	9.3107	193532.7	206702.53	206702.53	63.72	No	Si
SLU 35	5	763.49	-76435	-0.0000465	0.0003743	0.0035	9.3107	253360.9	281648.05	281648.05	368.9	No	Si
SLU 35	8.55	3302.25	-57018	-0.0000351	0.0003743	0.0035	9.3107	208416.34	226674.22	226674.22	68.64	No	Si
SLU 29	5	677.12	-67887	-0.0000409	0.0003743	0.0035	9.3107	235203.75	257922.82	257922.82	380.91	No	Si
SLU 29	8.55	3099.33	-50713	-0.0000311	0.0003743	0.0035	9.3107	190977.7	203428.24	203428.24	65.64	No	Si
SLU 36	5	58.92	-76478	-0.0000462	0.0003743	0.0035	9.3107	253445.33	281768.95	281768.95	4782.33	No	Si
SLU 36	8.55	3413.42	-57016	-0.0000351	0.0003743	0.0035	9.3107	208412.53	226669.17	226669.17	66.41	No	Si
SLU 24	5	465.93	-67245	-0.0000404	0.0003743	0.0035	9.3107	233736.89	256175.86	256175.86	549.82	No	Si
SLU 24	8.55	2880.34	-50045	-0.0000306	0.0003743	0.0035	9.3107	189050.52	200989.16	200989.16	69.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	5	33598.88	-55968	-0.0000454	0.0005615	0.0035	9.3107		231920.11	231920.11	6.9		Si
SLD 12	8.55	7836.59	-42040	-0.0000272	0.0005615	0.0035	9.3107		184035.48	184035.48	23.48		Si
SLV 7	5	51929.85	-65793	-0.0000586	0.0005615	0.0035	9.3107		266447.77	266447.77	5.13		Si
SLV 7	8.55	10892.61	-46848	-0.0000312	0.0005615	0.0035	9.3107		200496.49	200496.49	18.41		Si
SLV 6	5	-56233.57	-65175	-0.0000599	0.0005615	0.0035	9.3107		291384.04	291384.04	5.18		Si
SLV 6	8.55	-10370.21	-45542	-0.0000302	0.0005615	0.0035	9.3107		218840.34	218840.34	21.1		Si
SLV 11	5	54465.37	-53959	-0.0000521	0.0005615	0.0035	9.3107		224945.58	224945.58	4.13		Si
SLV 11	8.55	13681.08	-41349	-0.0000229	0.0005615	0.0035	9.3107		181458.1	181458.1	13.26		Si
SLV 8	5	52340.07	-65727	-0.0000587	0.0005615	0.0035	9.3107		266211.07	266211.07	5.09		Si
SLV 8	8.55	8866.38	-46717	-0.0000304	0.0005615	0.0035	9.3107		200051.08	200051.08	22.56		Si
SLV 10	5	-53698.04	-53341	-0.0000515	0.0005615	0.0035	9.3107		248384.22	248384.22	4.63		Si
SLV 10	8.55	-7581.75	-40044	-0.0000259	0.0005615	0.0035	9.3107		197499.35	197499.35	26.05		Si
SLV 12	5	54875.6	-53893	-0.0000523	0.0005615	0.0035	9.3107		224714.68	224714.68	4.09		Si
SLV 12	8.55	11654.85	-41219	-0.0000281	0.0005615	0.0035	9.3107		180938.59	180938.59	15.52		Si
SLD 11	5	33342.08	-56010	-0.0000453	0.0005615	0.0035	9.3107		232065.3	232065.3	6.96		Si
SLD 11	8.55	9104.99	-42122	-0.0000277	0.0005615	0.0035	9.3107		184333.89	184333.89	20.25		Si
SLV 5	5	-56643.79	-65242	-0.0000601	0.0005615	0.0035	9.3107		291621.12	291621.12	5.15		Si
SLV 5	8.55	-8343.98	-45673	-0.0000295	0.0005615	0.0035	9.3107		219351.55	219351.55	26.29		Si
SLV 9	5	-54108.26	-53408	-0.0000517	0.0005615	0.0035	9.3107		248632.11	248632.11	4.6		Si
SLV 9	8.55	-5555.52	-40174	-0.0000252	0.0005615	0.0035	9.3107		198001.86	198001.86	35.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	5	-2729.22	-68752	-57251	-1616	9.3107	9.3107	-21960	9872	35449	40441	78065	23742	53174	Si	32.91	Si
SLU 47	8.55	1945.83	-50335	-41914	-1504	9.3107	9.3107	-16078	9088	29315	40441	78065	23742	43973	Si	29.24	Si
SLU 52	5	-3170.57	-74879	-62352	-1498	9.3107	9.3107	-23917	10133	37490	40441	78065	23742	56235	Si	37.53	Si
SLU 52	8.55	1640.6	-54186	-45121	-1386	9.3107	9.3107	-17308	9252	30598	40441	78065	23742	45897	Si	33.1	Si
SLU 2	5	-2358.54	-54473	-45360	-1431	9.3107	9.3107	-17399	9264	30693	40441	78065	23742	46040	Si	32.17	Si
SLU 2	8.55	1530.68	-39620	-32992	-1319	9.3107	9.3107	-12655	8632	25746	40441	78065	23742	38619	Si	29.29	Si
SLU 55	5	-2801.11	-76410	-63628	-1463	9.3107	9.3107	-24407	10199	38000	40441	78065	23742	57000	Si	38.95	Si
SLU 55	8.55	2004.17	-55746	-46421	-1352	9.3107	9.3107	-17806	9319	31118	40441	78065	23742	46676	Si	34.53	Si
SLU 10	5	-2430.44	-62131	-51738	-1279	9.3107	9.3107	-19846	9591	33244	40441	78065	23742	49866	Si	39	Si
SLU 10	8.55	1589.02	-45032	-37499	-1167	9.3107	9.3107	-14384	8862	27549	40441	78065	23742	41323	Si	35.42	Si
SLU 13	5	-2060.98	-63663	-53013	-1244	9.3107	9.3107	-20335	9656	33754	40441	78065	23742	50632	Si	40.7	Si
SLU 13	8.55	1952.59	-46592	-38798	-1132	9.3107	9.3107	-14882	8929	28069	40441	78065	23742	42103	Si	37.2	Si
SLU 68	5	-1606.74	-79174	-65929	-1327	9.3107	9.3107	-25289	10316	38920	40441	78065	23742	58381	Si	44	Si
SLU 68	8.55	2972.62	-58304	-48551	-1214	9.3107	9.3107	-18623	9428	31969	40441	78065	23742	47954	Si	39.48	Si
SLU 5	5	-1989.09	-56005	-46636	-1396	9.3107	9.3107	-17889	9330	31204	40441	78065	23742	46805	Si	33.52	Si
SLU 5	8.55	1894.25	-41180	-34291	-1284	9.3107	9.3107	-13154	8698	26266	40441	78065	23742	39399	Si	30.69	Si
SLU 65	5	-1976.19	-77642	-64653	-1361	9.3107	9.3107	-24800	10251	38410	40441	78065	23742	57615	Si	42.32	Si
SLU 65	8.55	2609.05	-56744	-47251	-1249	9.3107	9.3107	-18125	9361	31450	40441	78065	23742	47175	Si	37.76	Si
SLU 44	5	-3098.67	-67220	-55975	-1650	9.3107	9.3107	-21471	9807	34939	40441	78065	23742	52409	Si	31.75	Si
SLU 44	8.55	1582.26	-48774	-40615	-1539	9.3107	9.3107	-15579	9022	28795	40441	78065	23742	43193	Si	28.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5	-56233.57	-65175	-54272	-36293	9.3107	9.3107	-20818	14580	40533	40441	117097	23742	80974		2.23	Si
SLV 6	8.55	-10370.21	-45542	-37923	-33487	9.3107	9.3107	-14547	13326	34741	40441	117097	23742	75182		2.25	Si
SLV 9	5	-54108.26	-53408	-44473	-42056	9.3107	9.3107	-17059	13829	36614	40441	117097	23742	77055		1.83	Si
SLV 9	8.55	-5555.52	-40174	-33454	-39368	9.3107	9.3107	-12832	12983	33847	40441	117097	23742	74288		1.89	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	5	51929.85	-65793	-54787	36929	9.3107	9.3107	-21015	14620	40739	40441	117097	23742	81180		2.2	Si
SLV 7	8.55	10892.61	-46848	-39011	34240	9.3107	9.3107	-14964	13409	34958	40441	117097	23742	75399		2.2	Si
SLV 8	5	52340.07	-65727	-54731	41505	9.3107	9.3107	-20994	14615	40717	40441	117097	23742	81158		1.96	Si
SLV 8	8.55	8866.38	-46717	-38902	38816	9.3107	9.3107	-14922	13401	34937	40441	117097	23742	75378		1.94	Si
SLV 12	5	54875.6	-53893	-44877	40319	9.3107	9.3107	-17214	13859	36775	40441	117097	23742	77216		1.92	Si
SLV 12	8.55	11654.85	-41219	-34323	37511	9.3107	9.3107	-13166	13050	34021	40441	117097	23742	74462		1.99	Si
SLV 5	5	-56643.79	-65242	-54328	-40869	9.3107	9.3107	-20839	14585	40555	40441	117097	23742	80996		1.98	Si
SLV 5	8.55	-8343.98	-45673	-38032	-38063	9.3107	9.3107	-14589	13334	34763	40441	117097	23742	75204		1.98	Si
SLD 9	5	-33748.91	-55640	-46332	-26182	9.3107	9.3107	-17772	13971	37357	40441	117097	23742	77798		2.97	Si
SLD 9	8.55	-2735.6	-41377	-34455	-24514	9.3107	9.3107	-13217	13060	34047	40441	117097	23742	74488		3.04	Si
SLV 10	5	-53698.04	-53341	-44418	-37479	9.3107	9.3107	-17038	13824	36591	40441	117097	23742	77032		2.06	Si
SLV 10	8.55	-7581.75	-40044	-33345	-34792	9.3107	9.3107	-12791	12975	33825	40441	117097	23742	74266		2.13	Si
SLD 12	5	33598.88	-55968	-46606	24870	9.3107	9.3107	-17877	13992	37467	40441	117097	23742	77907		3.13	Si
SLD 12	8.55	7836.59	-42040	-35007	23126	9.3107	9.3107	-13428	13102	34158	40441	117097	23742	74599		3.23	Si
SLV 11	5	54465.37	-53959	-44933	35742	9.3107	9.3107	-17235	13864	36797	40441	117097	23742	77238		2.16	Si
SLV 11	8.55	13681.08	-41349	-34432	32935	9.3107	9.3107	-13208	13058	34043	40441	117097	23742	74484		2.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.775 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.38	14378	-37484	983.17	4753.66	4.84	Si
SLV 13	179667	0.38	14443	-37652	983.17	4772.79	4.85	Si
SLV 16	179667	0.38	14470	-37723	983.17	4780.82	4.86	Si
SLV 15	179667	0.38	14534	-37891	983.17	4799.92	4.88	Si
SLV 10	179667	0.38	17932	-46748	983.17	5776.2	5.88	Si
SLV 9	179667	0.38	17975	-46861	983.17	5788.34	5.89	Si
SLV 12	179667	0.38	18237	-47545	983.17	5861.37	5.96	Si
SLV 11	179667	0.38	18281	-47658	983.17	5873.45	5.97	Si
SLV 6	179667	0.38	21060	-54903	983.17	6626.49	6.74	Si
SLV 5	179667	0.38	21104	-55017	983.17	6637.98	6.75	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-52883	-79423	-2373	0.86	6695.3	0.944	13.23959	6.56194	Si
SLV 4	-52689	-79324	-2373	0.863	6675.6	0.944	13.28176	6.56194	Si
SLV 1	-52530	-79257	-2389	0.865	6659.5	0.944	13.31247	6.56194	Si
SLV 2	-52336	-79158	-2388	0.868	6639.9	0.944	13.35514	6.56194	Si
SLV 15	-34555	-39976	2360	1.212	4841.7	0.927	18.98637	6.56194	Si
SLV 16	-34361	-39877	2360	1.217	4822.1	0.927	19.0745	6.56194	Si
SLV 13	-34202	-39811	2344	1.222	4806.2	0.927	19.15298	6.56194	Si
SLV 14	-34008	-39712	2344	1.227	4786.6	0.927	19.24266	6.56194	Si
SLV 7	-46848	-65793	-699	0.981	6083.7	0.94	15.16394	4.70862	Si
SLV 8	-46717	-65727	-699	0.983	6070.5	0.94	15.20028	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	61.607	SLU 28	Si
V_SLU	28.074	SLU 44	Si
PF_SLV	4.095	SLV 12	Si
V_SLV	1.832	SLV 9	Si
PFFP_SLV	4.835	SLV 14	Si
R_SLV	2.018	SLV 3	Si

Maschio 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.713	5.951	-24.678	5.951	L5	L6	1.965	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$y_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 64	5.9	-1711.18	-14929	-0.0000529	0.0003743	0.0035	1.965	10758.63	14602.99	14602.99	8.53	No	Si
SLU 64	7.7	-385.5	-13134	-0.0000369	0.0003743	0.0035	1.965	9878.34	13305.6	13305.6	34.52	No	Si
SLU 46	5.9	-1598.38	-13454	-0.0000478	0.0003743	0.0035	1.965	10043.84	13537.29	13537.29	8.47	No	Si
SLU 46	7.7	-241	-11517	-0.0000314	0.0003743	0.0035	1.965	8989.08	12076.61	12076.61	50.11	No	Si
SLU 48	5.9	-1668.33	-13951	-0.0000498	0.0003743	0.0035	1.965	10293.1	13896.21	13896.21	8.33	No	Si
SLU 48	7.7	-229.58	-11929	-0.0000324	0.0003743	0.0035	1.965	9224.5	12393.31	12393.31	53.98	No	Si
SLU 50	5.9	-1645.91	-13733	-0.000049	0.0003743	0.0035	1.965	10185.05	13739.09	13739.09	8.35	No	Si
SLU 50	7.7	-216.93	-11715	-0.0000317	0.0003743	0.0035	1.965	9102.86	12228.67	12228.67	56.37	No	Si
SLU 49	5.9	-1621.24	-13843	-0.0000491	0.0003743	0.0035	1.965	10239.85	13818.49	13818.49	8.52	No	Si
SLU 49	7.7	-254.61	-11920	-0.0000326	0.0003743	0.0035	1.965	9219.15	12386.02	12386.02	48.65	No	Si
SLU 43	5.9	-1600.18	-12955	-0.0000464	0.0003743	0.0035	1.965	9784.71	13176.7	13176.7	8.23	No	Si
SLU 43	7.7	-189.71	-10910	-0.0000294	0.0003743	0.0035	1.965	8631.25	11609.84	11609.84	61.2	No	Si
SLU 51	5.9	-1598.83	-13626	-0.0000483	0.0003743	0.0035	1.965	10130.98	13661.37	13661.37	8.54	No	Si
SLU 51	7.7	-241.96	-11706	-0.0000319	0.0003743	0.0035	1.965	9097.44	12221.39	12221.39	50.51	No	Si
SLU 45	5.9	-1645.46	-13562	-0.0000485	0.0003743	0.0035	1.965	10098.55	13615.02	13615.02	8.27	No	Si
SLU 45	7.7	-215.97	-11527	-0.0000312	0.0003743	0.0035	1.965	8994.56	12083.89	12083.89	55.95	No	Si
SLU 44	5.9	-1521.71	-12776	-0.0000453	0.0003743	0.0035	1.965	9689.48	13043.98	13043.98	8.57	No	Si
SLU 44	7.7	-231.43	-10894	-0.0000296	0.0003743	0.0035	1.965	8621.77	11597.7	11597.7	50.11	No	Si
SLU 66	5.9	-1756.46	-15536	-0.000055	0.0003743	0.0035	1.965	11030.48	15041.31	15041.31	8.56	No	Si
SLU 66	7.7	-411.76	-13750	-0.0000388	0.0003743	0.0035	1.965	10193.53	13751.34	13751.34	33.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 16	5.9	-4152.25	-13818	-0.0000685	0.0005615	0.0035	1.965		14209.62	14209.62	3.42		Si
SLV 16	7.7	2549.39	-7753	-0.0000393	0.0005615	0.0035	1.965		7531.6	7531.6	2.95		Si
SLV 10	5.9	742.64	-2842	-0.0000127	0.0005615	0.0035	1.965		3109.29	3109.29	4.19		Si
SLV 10	7.7	-1257.57	-7021	-0.0000273	0.0005615	0.0035	1.965		8577.08	8577.08	6.82		Si
SLV 12	5.9	-4849.89	-20077	-0.000092	0.0005615	0.0035	1.965		18862.16	18862.16	3.89		Si
SLV 12	7.7	2289.27	-11073	-0.0000461	0.0005615	0.0035	1.965		10349.65	10349.65	4.52		Si
SLV 11	5.9	-4314.71	-19674	-0.0000863	0.0005615	0.0035	1.965		18574.48	18574.48	4.3		Si
SLV 11	7.7	1839.18	-11558	-0.0000438	0.0005615	0.0035	1.965		10748.55	10748.55	5.84		Si
SLV 5	5.9	2246.29	-2717	-0.0000586	0.0005615	0.0035	1.965		2993.35	2993.35	1.33		Si
SLV 5	7.7	-2901.07	-9036	-0.0000455	0.0005615	0.0035	1.965		10301.82	10301.82	3.55		Si
SLV 14	5.9	-2474.49	-8648	-0.0000411	0.0005615	0.0035	1.965		9974.72	9974.72	4.03		Si
SLV 14	7.7	1485.34	-6537	-0.0000279	0.0005615	0.0035	1.965		6465.44	6465.44	4.35		Si
SLV 9	5.9	1277.82	-2439	-0.0000174	0.0005615	0.0035	1.965		2735.3	2735.3	2.14		Si
SLV 9	7.7	-1707.66	-7506	-0.0000321	0.0005615	0.0035	1.965		9006.7	9006.7	5.27		Si
SLV 1	5.9	1548.65	-8975	-0.0000347	0.0005615	0.0035	1.965		8585.21	8585.21	5.54		Si
SLV 1	7.7	-3161.19	-12356	-0.0000565	0.0005615	0.0035	1.965		13039.96	13039.96	4.13		Si
SLV 15	5.9	-3357.35	-13220	-0.0000604	0.0005615	0.0035	1.965		13731.42	13731.42	4.09		Si
SLV 15	7.7	1880.88	-8474	-0.000036	0.0005615	0.0035	1.965		8157.26	8157.26	4.34		Si
SLV 6	5.9	1711.11	-3119	-0.0000236	0.0005615	0.0035	1.965		3367.34	3367.34	1.97		Si
SLV 6	7.7	-2450.98	-8550	-0.0000407	0.0005615	0.0035	1.965		9892.87	9892.87	4.04		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	5.9	-1598.38	-13454	-9598	-557	1.965	1.965	-17444	9270	5101	115546	16475	10021	7651	Si	13.74	Si
SLU 46	7.7	-241	-11517	-8216	-551	1.965	1.965	-14933	8935	4916	115546	16475	10021	7374	Si	13.39	Si
SLU 43	5.9	-1600.18	-12955	-9242	-645	1.965	1.965	-16797	9184	5053	115546	16475	10021	7580	Si	11.75	Si
SLU 43	7.7	-189.71	-10910	-7783	-639	1.965	1.965	-14145	8830	4859	115546	16475	10021	7288	Si	11.4	Si
SLU 44	5.9	-1521.71	-12776	-9114	-489	1.965	1.965	-16565	9153	5036	115546	16475	10021	7554	Si	15.44	Si
SLU 44	7.7	-231.43	-10894	-7772	-483	1.965	1.965	-14125	8828	4857	115546	16475	10021	7286	Si	15.07	Si
SLU 48	5.9	-1668.33	-13951	-9952	-648	1.965	1.965	-18088	9356	5148	115546	16475	10021	7722	Si	11.91	Si
SLU 48	7.7	-229.58	-11929	-8510	-642	1.965	1.965	-15467	9007	4956	115546	16475	10021	7433	Si	11.58	Si
SLU 49	5.9	-1621.24	-13843	-9876	-555	1.965	1.965	-17949	9338	5138	115546	16475	10021	7706	Si	13.89	Si
SLU 49	7.7	-254.61	-11920	-8503	-548	1.965	1.965	-15455	9005	4955	115546	16475	10021	7432	Si	13.55	Si
SLU 45	5.9	-1645.46	-13562	-9675	-650	1.965	1.965	-17584	9289	5111	115546	16475	10021	7666	Si	11.79	Si
SLU 45	7.7	-215.97	-11527	-8223	-644	1.965	1.965	-14945	8937	4917	115546	16475	10021	7376	Si	11.45	Si
SLU 51	5.9	-1598.83	-13626	-9720	-547	1.965	1.965	-17667	9300	5117	115546	16475	10021	7675	Si	14.02	Si
SLU 51	7.7	-241.96	-11706	-8350	-541	1.965	1.965	-15177	8968	4934	115546	16475	10021	7401	Si	13.67	Si
SLU 47	5.9	-1544.57	-13165	-9392	-487	1.965	1.965	-17070	9220	5073	115546	16475	10021	7610	Si	15.62	Si
SLU 47	7.7	-245.04	-11297	-8059	-481	1.965	1.965	-14647	8897	4895	115546	16475	10021	7343	Si	15.26	Si
SLU 50	5.9	-1645.91	-13733	-9797	-641	1.965	1.965	-17806	9319	5127	115546	16475	10021	7691	Si	12	Si
SLU 50	7.7	-216.93	-11715	-8357	-635	1.965	1.965	-15189	8970	4935	115546	16475	10021	7403	Si	11.66	Si
SLU 1	5.9	-1260.18	-10486	-7481	-442	1.965	1.965	-13596	8757	4818	115546	16475	10021	7227	Si	16.37	Si
SLU 1	7.7	-197.57	-8979	-6405	-437	1.965	1.965	-11641	8497	4675	115546	16475	10021	7012	Si	16.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	5.9	-3346.24	-19952	-14233	-4496	1.965	1.965	-25869	15591	8578	115546	24713	10021	34735		7.73	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	7.7	645.77	-13088	-9336	-4661	1.965	1.965	-16969	13810	7599	115546	24713	10021	34735		7.45	Si
SLV 11	5.9	-4314.71	-19674	-14035	-6510	1.965	1.965	-25509	15519	8538	115546	24713	10021	34735		5.34	Si
SLV 12	7.7	1839.18	-11558	-8245	-6387	1.965	1.965	-14986	13414	7380	115546	24713	10021	34735		5.44	Si
SLD 12	5.9	-3510.38	-16745	-11945	-4810	1.965	1.965	-21711	14759	8120	115546	24713	10021	34735		7.22	Si
SLD 12	7.7	1309	-10673	-7614	-4731	1.965	1.965	-13838	13184	7254	115546	24713	10021	34735		7.34	Si
SLV 6	5.9	1711.11	-3119	-2225	5894	1.965	1.3018	-4044	11226	4092	115546	24713	10021	34735		5.89	Si
SLV 6	7.7	-2450.98	-8550	-6100	5782	1.965	1.965	-11086	12634	6951	115546	24713	10021	34735		6.01	Si
SLV 16	5.9	-4152.25	-13818	-9858	-6143	1.965	1.965	-17916	14000	7703	115546	24713	10021	34735		5.65	Si
SLV 16	7.7	2549.39	-7753	-5531	-5666	1.965	1.961	-10052	12427	6823	115546	24713	10021	34735		6.13	Si
SLV 9	5.9	1277.82	-2439	-1740	4912	1.965	1.3759	-3163	11049	4257	115546	24713	10021	34735		7.07	Si
SLV 9	7.7	-1707.66	-7506	-5355	5088	1.965	1.965	-9733	12363	6802	115546	24713	10021	34735		6.83	Si
SLV 1	5.9	1548.65	-8975	-6403	5528	1.965	1.965	-11637	12744	7012	115546	24713	10021	34735		6.28	Si
SLV 1	7.7	-3161.19	-12356	-8814	5061	1.965	1.965	-16021	13621	7494	115546	24713	10021	34735		6.86	Si
SLV 8	5.9	-3881.42	-20354	-14520	-5528	1.965	1.965	-26391	15695	8635	115546	24713	10021	34735		6.28	Si
SLV 8	7.7	1095.87	-12602	-8990	-5692	1.965	1.965	-16340	13685	7529	115546	24713	10021	34735		6.1	Si
SLV 12	5.9	-4849.89	-20077	-14322	-7541	1.965	1.965	-26031	15623	8596	115546	24713	10021	34735		4.61	Si
SLV 12	7.7	2289.27	-11073	-7899	-7418	1.965	1.965	-14357	13288	7311	115546	24713	10021	34735		4.68	Si
SLV 5	5.9	2246.29	-2717	-1938	6926	1.965	0.4671	-14924	13402	3165	115546	24713	10021	34735		5.02	Si
SLV 5	7.7	-2901.07	-9036	-6446	6813	1.965	1.965	-11716	12760	7020	115546	24713	10021	34735		5.1	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-5681	0.38	207.5	741.59	1123.38	932.48	4.49	Si
SLV 9	-5808	0.38	207.5	756.97	1143.04	950	4.58	Si
SLV 6	-6728	0.38	207.5	866.46	1283.89	1075.18	5.18	Si
SLV 5	-6855	0.38	207.5	881.4	1303.38	1092.39	5.26	Si
SLV 14	-7603	0.38	207.5	968.11	1417.94	1193.02	5.75	Si
SLV 13	-7792	0.38	207.5	989.73	1446.9	1218.31	5.87	Si
SLV 16	-10323	0.38	207.5	1267.71	1831.03	1549.37	7.47	Si
SLV 15	-10512	0.38	207.5	1287.61	1859.45	1573.53	7.58	Si
SLV 2	-11091	0.38	207.5	1347.83	1946.49	1647.16	7.94	Si
SLV 1	-11281	0.38	207.5	1367.25	1974.91	1671.08	8.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-10817	-14468	-81	0.916	1378.2	0.943	14.11644	6.56194	Si
SLV 4	-10506	-14387	-82	0.938	1346.6	0.942	14.47582	6.56194	Si
SLV 1	-9139	-10633	-314	1.03	1208.2	0.937	15.98087	6.56194	Si
SLV 2	-8828	-10552	-314	1.059	1176.8	0.935	16.45638	6.56194	Si
SLV 15	-8727	-9131	320	1.068	1166.6	0.935	16.60761	6.56194	Si
SLV 16	-8416	-9050	320	1.1	1135.1	0.933	17.12507	6.56194	Si
SLV 7	-11992	-17062	330	0.823	1497.4	0.947	12.63022	4.70862	Si
SLV 8	-11783	-17007	330	0.835	1476.1	0.947	12.82577	4.70862	Si
SLV 11	-11365	-15461	451	0.851	1433.8	0.945	13.09175	4.70862	Si
SLV 12	-11156	-15406	450	0.865	1412.5	0.944	13.30489	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.235	SLU 43	Si
V_SLU	11.399	SLU 43	Si
PF_SLV	1.333	SLV 5	Si
V_SLV	4.606	SLV 12	Si
PFFP_SLV	4.494	SLV 10	Si
R_SLV	2.151	SLV 3	Si

Maschio 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.813	5.951	L5	L6	2.195	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 60	5.9	-1031.11	-20399	-0.0000548	0.0003743	0.0035	2.195	15089.52	21068.62	21068.62	20.43	No	Si
SLU 60	7.7	1976.36	-21474	-0.0000641	0.0003743	0.0035	2.195	15479.81	19716.69	19716.69	9.98	No	Si
SLU 52	5.9	-942.02	-19313	-0.0000514	0.0003743	0.0035	2.195	14653.99	20246.56	20246.56	21.49	No	Si
SLU 52	7.7	1851.11	-20251	-0.00006	0.0003743	0.0035	2.195	15032.61	18741.35	18741.35	10.12	No	Si
SLU 81	5.9	-1080.77	-23251	-0.0000624	0.0003743	0.0035	2.195	16035.89	23087.62	23087.62	21.36	No	Si
SLU 81	7.7	2184.65	-24626	-0.0000739	0.0003743	0.0035	2.195	16390.37	21932.37	21932.37	10.04	No	Si
SLU 43	5.9	-980.16	-17800	-0.0000479	0.0003743	0.0035	2.195	13978.42	19101.59	19101.59	19.49	No	Si
SLU 43	7.7	1744.26	-18380	-0.0000545	0.0003743	0.0035	2.195	14246.84	17249.08	17249.08	9.89	No	Si
SLU 62	5.9	-1031.06	-20930	-0.0000561	0.0003743	0.0035	2.195	15287.26	21449.97	21449.97	20.8	No	Si
SLU 62	7.7	1966.66	-21947	-0.0000652	0.0003743	0.0035	2.195	15638.45	20093.3	20093.3	10.22	No	Si
SLU 64	5.9	-1029.82	-20652	-0.0000554	0.0003743	0.0035	2.195	15184.75	21253.5	21253.5	20.64	No	Si
SLU 64	7.7	1952.55	-21532	-0.0000641	0.0003743	0.0035	2.195	15499.48	19762.38	19762.38	10.12	No	Si
SLU 45	5.9	-975.96	-18629	-0.0000499	0.0003743	0.0035	2.195	14358.34	19728.64	19728.64	20.21	No	Si
SLU 45	7.7	1754.88	-19182	-0.0000566	0.0003743	0.0035	2.195	14598.47	17888.3	17888.3	10.19	No	Si
SLU 61	5.9	-986.83	-20215	-0.000054	0.0003743	0.0035	2.195	15018.7	20929.45	20929.45	21.21	No	Si
SLU 61	7.7	1942.99	-21298	-0.0000634	0.0003743	0.0035	2.195	15418.39	19575.66	19575.66	10.08	No	Si
SLU 44	5.9	-906.35	-17494	-0.0000466	0.0003743	0.0035	2.195	13831.77	18869.63	18869.63	20.82	No	Si
SLU 44	7.7	1688.64	-18085	-0.0000534	0.0003743	0.0035	2.195	14111.88	17014.02	17014.02	10.08	No	Si
SLU 82	5.9	-1036.49	-23067	-0.0000617	0.0003743	0.0035	2.195	15983.46	22957.85	22957.85	22.15	No	Si
SLU 82	7.7	2151.28	-24449	-0.0000731	0.0003743	0.0035	2.195	16348.5	21823.15	21823.15	10.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5.9	2836.79	-13399	-0.0000484	0.0005615	0.0035	2.195		13887.84	13887.84	4.9		Si
SLV 1	7.7	-1725.87	-9858	-0.000033	0.0005615	0.0035	2.195		12622.43	12622.43	7.31		Si
SLV 10	5.9	1000.01	-3343	-0.0000135	0.0005615	0.0035	2.195		4092.9	4092.9	4.09		Si
SLV 10	7.7	279.59	-5485	-0.0000139	0.0005615	0.0035	2.195		6285.04	6285.04	22.48		Si
SLV 14	5.9	-2744	-10859	-0.0000418	0.0005615	0.0035	2.195		13565.38	13565.38	4.94		Si
SLV 14	7.7	3436.13	-15780	-0.000058	0.0005615	0.0035	2.195		15811.2	15811.2	4.6		Si
SLV 16	5.9	-4419.68	-18159	-0.0000703	0.0005615	0.0035	2.195		20049.94	20049.94	4.54		Si
SLV 16	7.7	4731.07	-23120	-0.0000848	0.0005615	0.0035	2.195		21721.86	21721.86	4.59		Si
SLV 5	5.9	3002.68	-3880	-0.0000398	0.0005615	0.0035	2.195		4647.16	4647.16	1.55		Si
SLV 5	7.7	-1590.86	-3023	-0.0000173	0.0005615	0.0035	2.195		5862.22	5862.22	3.68		Si
SLV 15	5.9	-3539.8	-17556	-0.000063	0.0005615	0.0035	2.195		19538.97	19538.97	5.52		Si
SLV 15	7.7	3868.83	-21285	-0.0000744	0.0005615	0.0035	2.195		20244.28	20244.28	5.23		Si
SLD 16	5.9	-3093.14	-17220	-0.0000593	0.0005615	0.0035	2.195		19254.39	19254.39	6.22		Si
SLD 16	7.7	3554.92	-20647	-0.0000708	0.0005615	0.0035	2.195		19730.29	19730.29	5.55		Si
SLV 6	5.9	2410.28	-4286	-0.0000263	0.0005615	0.0035	2.195		5064.61	5064.61	2.1		Si
SLV 6	7.7	-1010.34	-4259	-0.0000157	0.0005615	0.0035	2.195		7130.26	7130.26	7.06		Si
SLV 13	5.9	-1864.13	-10256	-0.0000348	0.0005615	0.0035	2.195		12997.15	12997.15	6.97		Si
SLV 13	7.7	2573.88	-13945	-0.000048	0.0005615	0.0035	2.195		14333.63	14333.63	5.57		Si
SLV 9	5.9	1592.4	-2937	-0.0000173	0.0005615	0.0035	2.195		3669.08	3669.08	2.3		Si
SLV 9	7.7	-300.93	-4250	-0.0000113	0.0005615	0.0035	2.195		7120.67	7120.67	23.66		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	5.9	-1080.77	-23251	-16587	-4259	2.195	2.195	-26987	10543	6480	115546	18404	11195	9719	Si	2.28	Si
SLU 81	7.7	2184.65	-24626	-17568	-4259	2.195	2.195	-28584	10756	6657	115546	18404	11195	9985	Si	2.34	Si
SLU 82	5.9	-1036.49	-23067	-16455	-4220	2.195	2.195	-26774	10514	6462	115546	18404	11195	9693	Si	2.3	Si
SLU 82	7.7	2151.28	-24449	-17441	-4221	2.195	2.195	-28378	10728	6623	115546	18404	11195	9935	Si	2.35	Si
SLU 75	5.9	-1017.01	-23116	-16490	-4069	2.195	2.195	-26831	10522	6467	115546	18404	11195	9700	Si	2.38	Si
SLU 75	7.7	2092.27	-24322	-17351	-4070	2.195	2.195	-28231	10709	6599	115546	18404	11195	9899	Si	2.43	Si
SLU 84	5.9	-1036.44	-23598	-16834	-4179	2.195	2.195	-27390	10596	6513	115546	18404	11195	9769	Si	2.34	Si
SLU 84	7.7	2141.58	-24921	-17778	-4180	2.195	2.195	-28927	10801	6713	115546	18404	11195	10070	Si	2.41	Si
SLU 61	5.9	-986.83	-20215	-14421	-3861	2.195	2.195	-23464	10073	6191	115546	18404	11195	9286	Si	2.4	Si
SLU 61	7.7	1942.99	-21298	-15193	-3862	2.195	2.195	-24720	10240	6294	115546	18404	11195	9441	Si	2.44	Si
SLU 73	5.9	-991.68	-22165	-15812	-4056	2.195	2.195	-25727	10375	6376	115546	18404	11195	9564	Si	2.36	Si
SLU 73	7.7	2059.4	-23403	-16695	-4057	2.195	2.195	-27164	10566	6494	115546	18404	11195	9741	Si	2.4	Si
SLU 76	5.9	-991.62	-22695	-16190	-4015	2.195	2.195	-26343	10457	6427	115546	18404	11195	9640	Si	2.4	Si
SLU 76	7.7	2049.7	-23875	-17032	-4016	2.195	2.195	-27712	10639	6539	115546	18404	11195	9808	Si	2.44	Si
SLU 60	5.9	-1031.11	-20399	-14552	-3900	2.195	2.195	-23678	10101	6208	115546	18404	11195	9313	Si	2.39	Si
SLU 60	7.7	1976.36	-21474	-15319	-3901	2.195	2.195	-24926	10268	6311	115546	18404	11195	9466	Si	2.43	Si
SLU 74	5.9	-1061.29	-23300	-16621	-4108	2.195	2.195	-27044	10550	6484	115546	18404	11195	9726	Si	2.37	Si
SLU 74	7.7	2125.65	-24499	-17477	-4109	2.195	2.195	-28437	10736	6633	115546	18404	11195	9949	Si	2.42	Si
SLU 83	5.9	-1080.72	-23781	-16965	-4218	2.195	2.195	-27603	10625	6530	115546	18404	11195	9795	Si	2.32	Si
SLU 83	7.7	2174.95	-25098	-17904	-4218	2.195	2.195	-29132	10829	6747	115546	18404	11195	10120	Si	2.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	5.9	-2056.07	-12706	-9064	-6154	2.195	2.195	-14748	13366	8215	115546	27606	11195	38800		6.3	Si
SLD 14	7.7	2752.28	-16105	-11489	-5864	2.195	2.195	-18693	14155	8700	115546	27606	11195	38800		6.62	Si
SLV 15	5.9	-3539.8	-17556	-12524	-7907	2.195	2.195	-20377	14492	8907	115546	27606	11195	38800		4.91	Si
SLV 15	7.7	3868.83	-21285	-15184	-7399	2.195	2.195	-24706	15358	9439	115546	27606	11195	38800		5.24	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	5.9	-1864.13	-10256	-7316	-6230	2.195	2.195	-11904	12797	7865	115546	27606	11195	38800		6.23	Si
SLV 13	7.7	2573.88	-13945	-9948	-5780	2.195	2.195	-16186	13654	8392	115546	27606	11195	38800		6.71	Si
SLV 16	5.9	-4419.68	-18159	-12954	-9625	2.195	2.195	-21078	14632	8993	115546	27606	11195	38800		4.03	Si
SLV 16	7.7	4731.07	-23120	-16494	-9118	2.195	2.195	-26836	15784	9701	115546	27606	11195	38800		4.26	Si
SLV 12	5.9	-4585.56	-27678	-19745	-7806	2.195	2.195	-32126	16250	9987	115546	27606	11195	38800		4.97	Si
SLV 12	7.7	4596.06	-29955	-21369	-7568	2.195	2.195	-34769	16250	9987	115546	27606	11195	38800		5.13	Si
SLV 14	5.9	-2744	-10859	-7747	-7948	2.195	2.195	-12604	12938	7951	115546	27606	11195	38800		4.88	Si
SLV 14	7.7	3436.13	-15780	-11257	-7498	2.195	2.195	-18316	14080	8653	115546	27606	11195	38800		5.17	Si
SLD 16	5.9	-3093.14	-17220	-12284	-7194	2.195	2.195	-19987	14414	8859	115546	27606	11195	38800		5.39	Si
SLD 16	7.7	3554.92	-20647	-14729	-6871	2.195	2.195	-23965	15210	9348	115546	27606	11195	38800		5.65	Si
SLV 11	5.9	-3993.17	-27272	-19455	-6649	2.195	2.195	-31655	16250	9987	115546	27606	11195	38800		5.84	Si
SLV 11	7.7	4015.54	-28719	-20487	-6411	2.195	2.195	-33335	16250	9987	115546	27606	11195	38800		6.05	Si
SLD 12	5.9	-3156.03	-23127	-16498	-5988	2.195	2.195	-26844	15785	9702	115546	27606	11195	38800		6.48	Si
SLD 12	7.7	3434.78	-24836	-17718	-5842	2.195	2.195	-28828	16182	9946	115546	27606	11195	38800		6.64	Si
SLD 15	5.9	-2531.53	-16835	-12009	-6097	2.195	2.195	-19540	14325	8804	115546	27606	11195	38800		6.36	Si
SLD 15	7.7	3004.57	-19476	-13893	-5774	2.195	2.195	-22606	14938	9181	115546	27606	11195	38800		6.72	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-3586	0.38	231.78	482.86	826.14	654.5	2.82	Si
SLV 9	-3916	0.38	231.78	525.42	877.6	701.51	3.03	Si
SLV 6	-4463	0.38	231.78	595.11	962.62	778.86	3.36	Si
SLV 10	-4793	0.38	231.78	636.8	1013.65	825.22	3.56	Si
SLV 1	-11589	0.38	231.78	1422.08	2052.07	1737.08	7.49	Si
SLV 13	-12690	0.38	231.78	1536.39	2217.65	1877.02	8.1	Si
SLV 2	-12891	0.38	231.78	1556.88	2247.87	1902.38	8.21	Si
SLV 14	-13992	0.38	231.78	1666.9	2413.24	2040.07	8.8	Si
SLV 3	-18961	0.38	231.78	2118.26	3143.77	2631.01	11.35	Si
SLV 15	-20062	0.38	231.78	2208.34	3303.6	2755.97	11.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-18996	-20016	140	0.625	2241.6	0.959	9.46407	6.56194	Si
SLV 15	-17423	-18820	139	0.672	2081.6	0.956	10.21476	6.56194	Si
SLV 12	-23323	-29447	769	0.5	2681.7	0.965	7.52225	4.70862	Si
SLV 8	-22280	-29440	831	0.517	2575.6	0.964	7.79227	4.70862	Si
SLV 11	-22264	-28642	767	0.52	2574	0.964	7.83664	4.70862	Si
SLV 4	-15520	-19994	347	0.729	1888.2	0.953	11.12591	6.56194	Si
SLV 7	-21221	-28635	830	0.539	2467.8	0.963	8.13391	4.70862	Si
SLV 14	-14024	-11758	-336	0.794	1736.4	0.949	12.1674	6.56194	Si
SLV 3	-13947	-18799	346	0.797	1728.5	0.949	12.2173	6.56194	Si
SLV 13	-12451	-10562	-338	0.877	1576.8	0.944	13.49088	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.889	SLU 43	Si
V_SLU	2.282	SLU 81	Si
PF_SLV	1.548	SLV 5	Si
V_SLV	4.031	SLV 16	Si
PFFP_SLV	2.824	SLV 5	Si
R_SLV	1.442	SLV 16	Si

Maschio 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.493	-3.359	-24.678	-3.359	L5	L6	2.185	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	5.9	-1324.94	-13670	-0.0000402	0.0003743	0.0035	2.185	11657.1	15674.95	15674.95	11.83	No	Si
SLU 47	7.7	-306.38	-11619	-0.0000286	0.0003743	0.0035	2.185	10326.23	13922.2	13922.2	45.44	No	Si
SLU 48	5.9	-1322.43	-14114	-0.0000413	0.0003743	0.0035	2.185	11925.84	16054.48	16054.48	12.14	No	Si
SLU 48	7.7	-392.47	-12203	-0.0000306	0.0003743	0.0035	2.185	10719.9	14420.87	14420.87	36.74	No	Si
SLU 43	5.9	-1258.35	-13300	-0.0000389	0.0003743	0.0035	2.185	11427.85	15358.66	15358.66	12.21	No	Si
SLU 43	7.7	-323.97	-11317	-0.000028	0.0003743	0.0035	2.185	10117.63	13663.89	13663.89	42.18	No	Si
SLU 68	5.9	-1356.41	-15346	-0.0000446	0.0003743	0.0035	2.185	12634.95	17052.4	17052.4	12.57	No	Si
SLU 68	7.7	-552.24	-13634	-0.000035	0.0003743	0.0035	2.185	11634.61	15643.62	15643.62	28.33	No	Si
SLU 51	5.9	-1334.26	-13973	-0.0000411	0.0003743	0.0035	2.185	11841.05	15933.67	15933.67	11.94	No	Si
SLU 51	7.7	-349.12	-11993	-0.0000298	0.0003743	0.0035	2.185	10579.71	14241.55	14241.55	40.79	No	Si
SLU 45	5.9	-1296.75	-13792	-0.0000404	0.0003743	0.0035	2.185	11731.69	15779.31	15779.31	12.17	No	Si
SLU 45	7.7	-366.97	-11850	-0.0000295	0.0003743	0.0035	2.185	10482.99	14118.96	14118.96	38.47	No	Si
SLU 50	5.9	-1309.71	-13944	-0.0000408	0.0003743	0.0035	2.185	11823.65	15908.99	15908.99	12.15	No	Si
SLU 50	7.7	-374.97	-12024	-0.00003	0.0003743	0.0035	2.185	10600.26	14267.72	14267.72	38.05	No	Si
SLU 44	5.9	-1299.26	-13348	-0.0000393	0.0003743	0.0035	2.185	11457.93	15399.78	15399.78	11.85	No	Si
SLU 44	7.7	-280.88	-11266	-0.0000276	0.0003743	0.0035	2.185	10082.09	13620.28	13620.28	48.49	No	Si
SLU 46	5.9	-1321.3	-13821	-0.0000406	0.0003743	0.0035	2.185	11749.24	15803.98	15803.98	11.96	No	Si
SLU 46	7.7	-341.13	-11819	-0.0000293	0.0003743	0.0035	2.185	10462.25	14092.79	14092.79	41.31	No	Si
SLU 49	5.9	-1346.98	-14143	-0.0000416	0.0003743	0.0035	2.185	11943.08	16079.15	16079.15	11.94	No	Si
SLU 49	7.7	-366.62	-12172	-0.0000303	0.0003743	0.0035	2.185	10699.54	14394.71	14394.71	39.26	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	5.9	2113.29	-4350	-0.0000235	0.0005615	0.0035	2.185		5102.47	5102.47	2.41		Si
SLV 8	7.7	-3457.66	-9965	-0.0000445	0.0005615	0.0035	2.185		12665.59	12665.59	3.66		Si
SLV 15	5.9	-3211.45	-7266	-0.000037	0.0005615	0.0035	2.185		10077.76	10077.76	3.14		Si
SLV 15	7.7	2353.14	-4228	-0.0000259	0.0005615	0.0035	2.185		4977.68	4977.68	2.12		Si
SLV 14	5.9	-3659.57	-11472	-0.0000494	0.0005615	0.0035	2.185		14077.62	14077.62	3.85		Si
SLV 14	7.7	2557.01	-6426	-0.0000305	0.0005615	0.0035	2.185		7191.98	7191.98	2.81		Si
SLV 16	5.9	-2411.33	-6877	-0.0000306	0.0005615	0.0035	2.185		9694.65	9694.65	4.02		Si
SLV 16	7.7	1460.75	-5163	-0.0000206	0.0005615	0.0035	2.185		5926.9	5926.9	4.06		Si
SLV 9	5.9	-4062.7	-18651	-0.0000696	0.0005615	0.0035	2.185		20365.34	20365.34	5.01		Si
SLV 9	7.7	2544.4	-10579	-0.0000401	0.0005615	0.0035	2.185		11210.36	11210.36	4.41		Si
SLV 4	5.9	2510.28	-11140	-0.0000412	0.0005615	0.0035	2.185		11736.63	11736.63	4.68		Si
SLV 4	7.7	-4362.67	-15053	-0.0000627	0.0005615	0.0035	2.185		17296.67	17296.67	3.96		Si
SLV 7	5.9	1574.6	-4612	-0.0000201	0.0005615	0.0035	2.185		5370.53	5370.53	3.41		Si
SLV 7	7.7	-2856.85	-9336	-0.0000392	0.0005615	0.0035	2.185		12076.1	12076.1	4.23		Si
SLV 13	5.9	-4459.69	-11862	-0.0000555	0.0005615	0.0035	2.185		14442.31	14442.31	3.24		Si
SLV 13	7.7	3449.4	-5491	-0.0000392	0.0005615	0.0035	2.185		6257.81	6257.81	1.81		Si
SLD 13	5.9	-3187.62	-11689	-0.0000469	0.0005615	0.0035	2.185		14280.07	14280.07	4.48		Si
SLD 13	7.7	2032.22	-7206	-0.0000289	0.0005615	0.0035	2.185		7965.86	7965.86	3.92		Si
SLV 3	5.9	1710.16	-11529	-0.000037	0.0005615	0.0035	2.185		12098.41	12098.41	7.07		Si
SLV 3	7.7	-3470.28	-14119	-0.0000546	0.0005615	0.0035	2.185		16465.33	16465.33	4.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	5.9	-1262.77	-17044	-12159	835	2.185	2.185	-19874	9594	5870	115546	18320	11143	8805	Si	10.54	Si
SLU 83	7.7	-957.02	-15984	-11403	843	2.185	2.185	-18638	9430	5769	115546	18320	11143	8654	Si	10.27	Si
SLU 39	5.9	-955	-14095	-10055	935	2.185	2.185	-16435	9136	5589	115546	18320	11143	8384	Si	8.97	Si
SLU 39	7.7	-921.6	-13551	-9667	941	2.185	2.185	-15801	9051	5538	115546	18320	11143	8306	Si	8.83	Si
SLU 35	5.9	-1034.9	-14385	-10262	811	2.185	2.185	-16773	9181	5617	115546	18320	11143	8425	Si	10.39	Si
SLU 35	7.7	-881.6	-13747	-9806	817	2.185	2.185	-16029	9082	5556	115546	18320	11143	8334	Si	10.2	Si
SLU 36	5.9	-1059.45	-14414	-10282	753	2.185	2.185	-16807	9185	5620	115546	18320	11143	8429	Si	11.2	Si
SLU 36	7.7	-855.75	-13716	-9785	747	2.185	2.185	-15993	9077	5553	115546	18320	11143	8330	Si	11.14	Si
SLU 37	5.9	-1022.18	-14215	-10140	803	2.185	2.185	-16575	9154	5601	115546	18320	11143	8401	Si	10.46	Si
SLU 37	7.7	-864.09	-13567	-9679	809	2.185	2.185	-15820	9054	5539	115546	18320	11143	8309	Si	10.27	Si
SLU 42	5.9	-1005.23	-14445	-10305	895	2.185	2.185	-16844	9190	5623	115546	18320	11143	8434	Si	9.42	Si
SLU 42	7.7	-921.25	-13873	-9897	890	2.185	2.185	-16177	9101	5568	115546	18320	11143	8352	Si	9.38	Si
SLU 41	5.9	-980.68	-14417	-10284	954	2.185	2.185	-16810	9186	5620	115546	18320	11143	8430	Si	8.84	Si
SLU 41	7.7	-947.1	-13904	-9919	960	2.185	2.185	-16212	9106	5571	115546	18320	11143	8357	Si	8.71	Si
SLU 81	5.9	-1237.09	-16722	-11929	816	2.185	2.185	-19498	9544	5839	115546	18320	11143	8759	Si	10.73	Si
SLU 81	7.7	-931.52	-15631	-11151	824	2.185	2.185	-18226	9375	5735	115546	18320	11143	8603	Si	10.45	Si
SLU 40	5.9	-979.55	-14123	-10075	877	2.185	2.185	-16468	9140	5592	115546	18320	11143	8388	Si	9.57	Si
SLU 40	7.7	-895.75	-13520	-9645	871	2.185	2.185	-15765	9046	5535	115546	18320	11143	8302	Si	9.53	Si
SLU 32	5.9	-1009.22	-14063	-10032	792	2.185	2.185	-16398	9131	5586	115546	18320	11143	8379	Si	10.58	Si
SLU 32	7.7	-856.1	-13393	-9554	798	2.185	2.185	-15617	9027	5523	115546	18320	11143	8284	Si	10.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	5.9	-4459.69	-11862	-8462	-7254	2.185	2.1496	-13831	13183	7935	115546	27480	11143	38624		5.32	Si
SLV 13	7.7	3449.4	-5491	-3917	-6769	2.185	1.393	-6403	11697	4563	115546	27480	11143	38624		5.71	Si
SLV 10	5.9	-3524.01	-18389	-13118	-6252	2.185	2.185	-21442	14705	8997	115546	27480	11143	38624		6.18	Si
SLV 10	7.7	1943.58	-11208	-7996	-6151	2.185	2.185	-13069	13030	7972	115546	27480	11143	38624		6.28	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	5.9	-4062.7	-18651	-13305	-7426	2.185	2.185	-21748	14766	9034	115546	27480	11143	38624		5.2	Si
SLV 9	7.7	2544.4	-10579	-7547	-7324	2.185	2.185	-12335	12884	7882	115546	27480	11143	38624		5.27	Si
SLV 12	5.9	636.81	-3072	-2191	4921	2.185	2.185	-3581	11133	6811	115546	27480	11143	38624		7.85	Si
SLV 12	7.7	-1710.64	-6998	-4992	5126	2.185	2.185	-8160	12049	7371	115546	27480	11143	38624		7.53	Si
SLD 8	5.9	963.98	-7102	-5066	5007	2.185	2.185	-8281	12073	7386	115546	27480	11143	38624		7.71	Si
SLD 8	7.7	-2334.78	-10124	-7222	4949	2.185	2.185	-11805	12778	7817	115546	27480	11143	38624		7.8	Si
SLV 4	5.9	2510.28	-11140	-7947	7709	2.185	2.185	-12990	13015	7962	115546	27480	11143	38624		5.01	Si
SLV 4	7.7	-4362.67	-15053	-10739	7234	2.185	2.185	-17552	13927	8521	115546	27480	11143	38624		5.34	Si
SLV 8	5.9	2113.29	-4350	-3103	7882	2.185	1.8202	-5073	11431	5826	115546	27480	11143	38624		4.9	Si
SLV 8	7.7	-3457.66	-9965	-7109	7790	2.185	2.185	-11620	12741	7795	115546	27480	11143	38624		4.96	Si
SLV 7	5.9	1574.6	-4612	-3290	6708	2.185	2.185	-5378	11492	7031	115546	27480	11143	38624		5.76	Si
SLV 7	7.7	-2856.85	-9336	-6660	6616	2.185	2.185	-10886	12594	7705	115546	27480	11143	38624		5.84	Si
SLV 3	5.9	1710.16	-11529	-8225	5966	2.185	2.185	-13443	13105	8018	115546	27480	11143	38624		6.47	Si
SLV 3	7.7	-3470.28	-14119	-10072	5491	2.185	2.185	-16463	13709	8387	115546	27480	11143	38624		7.03	Si
SLV 14	5.9	-3659.57	-11472	-8184	-5510	2.185	2.185	-13377	13092	8010	115546	27480	11143	38624		7.01	Si
SLV 14	7.7	2557.01	-6426	-4584	-5026	2.185	2.0837	-7493	11915	6952	115546	27480	11143	38624		7.68	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-5879	0.38	230.73	771.26	1181.22	976.24	4.23	Si
SLV 15	-5942	0.38	230.73	779.02	1191.02	985.02	4.27	Si
SLV 12	-6152	0.38	230.73	804.54	1223.35	1013.94	4.39	Si
SLV 16	-6348	0.38	230.73	828.29	1253.54	1040.92	4.51	Si
SLV 7	-8075	0.38	230.73	1032.76	1518.19	1275.48	5.53	Si
SLV 13	-8249	0.38	230.73	1052.93	1544.9	1298.92	5.63	Si
SLV 8	-8347	0.38	230.73	1064.24	1559.91	1312.07	5.69	Si
SLV 14	-8654	0.38	230.73	1099.4	1606.87	1353.13	5.86	Si
SLV 3	-13262	0.38	230.73	1593.1	2303.24	1948.17	8.44	Si
SLV 9	-13569	0.38	230.73	1623.74	2349.36	1986.55	8.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-13212	-16890	86	0.848	1652.5	0.947	13.01717	6.56194	Si
SLV 1	-12710	-16670	87	0.876	1601.6	0.945	13.4619	6.56194	Si
SLV 4	-11989	-13083	319	0.902	1528.5	0.943	13.9031	6.56194	Si
SLV 3	-11487	-12863	320	0.934	1477.7	0.941	14.42406	6.56194	Si
SLV 6	-12362	-18319	-329	0.879	1566.4	0.944	13.52874	4.70862	Si
SLV 5	-12024	-18171	-329	0.899	1532.1	0.943	13.85721	4.70862	Si
SLV 10	-10482	-15768	-452	0.996	1375.9	0.938	15.43538	4.70862	Si
SLV 14	-6944	-8386	-325	1.391	1019	0.921	21.9456	6.56194	Si
SLV 9	-10144	-15619	-452	1.023	1341.7	0.937	15.87223	4.70862	Si
SLV 13	-6442	-8166	-324	1.472	968.7	0.918	23.29827	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.831	SLU 47	Si
V_SLU	8.706	SLU 41	Si
PF_SLV	1.814	SLV 13	Si
V_SLV	4.901	SLV 8	Si
PFFP_SLV	4.231	SLV 11	Si
R_SLV	1.984	SLV 2	Si

Maschio 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.368	-3.359	-21.593	-3.359	L5	L6	2.225	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	7	-2798.7	-24114	-0.0000754	0.0003743	0.0035	2.225	16627.98	24063.75	24063.75	8.6	No	Si
SLU 83	7.8	-1147.12	-20965	-0.0000561	0.0003743	0.0035	2.225	15614.37	21817.71	21817.71	19.02	No	Si
SLU 80	7	-2770.34	-23725	-0.0000742	0.0003743	0.0035	2.225	16521.56	23799.38	23799.38	8.59	No	Si
SLU 80	7.8	-1078.1	-20576	-0.0000547	0.0003743	0.0035	2.225	15465.03	21532.65	21532.65	19.97	No	Si
SLU 78	7	-2798.43	-23995	-0.0000751	0.0003743	0.0035	2.225	16595.95	23984.29	23984.29	8.57	No	Si
SLU 78	7.8	-1102.63	-20831	-0.0000555	0.0003743	0.0035	2.225	15563.54	21721.53	21721.53	19.7	No	Si
SLU 76	7	-2744.36	-23280	-0.0000729	0.0003743	0.0035	2.225	16393.26	23479.62	23479.62	8.56	No	Si
SLU 76	7.8	-1035.22	-20151	-0.0000533	0.0003743	0.0035	2.225	15295.76	21205.57	21205.57	20.48	No	Si
SLU 73	7	-2699.91	-22811	-0.0000713	0.0003743	0.0035	2.225	16250.68	23143	23143	8.57	No	Si
SLU 73	7.8	-1002.77	-19712	-0.000052	0.0003743	0.0035	2.225	15114.56	20868.25	20868.25	20.81	No	Si
SLU 84	7	-2826.4	-24150	-0.0000757	0.0003743	0.0035	2.225	16637.36	24087.23	24087.23	8.52	No	Si
SLU 84	7.8	-1131.47	-20985	-0.000056	0.0003743	0.0035	2.225	15621.88	21832.03	21832.03	19.3	No	Si
SLU 82	7	-2781.95	-23681	-0.0000742	0.0003743	0.0035	2.225	16509.08	23767.5	23767.5	8.54	No	Si
SLU 82	7.8	-1099.02	-20546	-0.0000547	0.0003743	0.0035	2.225	15453.51	21509.99	21509.99	19.57	No	Si
SLU 75	7	-2753.98	-23526	-0.0000736	0.0003743	0.0035	2.225	16465.13	23656.61	23656.61	8.59	No	Si
SLU 75	7.8	-1070.18	-20393	-0.0000541	0.0003743	0.0035	2.225	15392.8	21391.57	21391.57	19.99	No	Si
SLU 77	7	-2770.73	-23960	-0.0000748	0.0003743	0.0035	2.225	16586.39	23960.81	23960.81	8.65	No	Si
SLU 77	7.8	-1118.28	-20811	-0.0000555	0.0003743	0.0035	2.225	15555.92	21707.22	21707.22	19.41	No	Si
SLU 81	7	-2754.25	-23646	-0.0000739	0.0003743	0.0035	2.225	16499.13	23742.2	23742.2	8.62	No	Si
SLU 81	7.8	-1114.67	-20526	-0.0000548	0.0003743	0.0035	2.225	15445.69	21494.65	21494.65	19.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	7	-655.5	-7105	-0.0000196	0.0005615	0.0035	2.225		10094.83	10094.83	15.4		Si
SLV 8	7.8	-2200.99	-6891	-0.0000285	0.0005615	0.0035	2.225		9879.68	9879.68	4.49		Si
SLV 4	7	-534.87	-13158	-0.0000326	0.0005615	0.0035	2.225		15909.49	15909.49	29.74		Si
SLV 4	7.8	-4013.85	-12846	-0.0000535	0.0005615	0.0035	2.225		15626.29	15626.29	3.89		Si
SLV 16	7	-2412.11	-12712	-0.0000432	0.0005615	0.0035	2.225		15504.71	15504.71	6.43		Si
SLV 16	7.8	1702.47	-9850	-0.0000322	0.0005615	0.0035	2.225		10742.81	10742.81	6.31		Si
SLV 1	7	-1296.03	-19053	-0.0000512	0.0005615	0.0035	2.225		21115.76	21115.76	16.29		Si
SLV 1	7.8	-3003.32	-17376	-0.000058	0.0005615	0.0035	2.225		19673.54	19673.54	6.55		Si
SLV 7	7	-833.49	-7602	-0.0000218	0.0005615	0.0035	2.225		10593.09	10593.09	12.71		Si
SLV 7	7.8	-1699.29	-7083	-0.0000259	0.0005615	0.0035	2.225		10071.93	10071.93	5.93		Si
SLV 15	7	-2676.48	-13450	-0.0000466	0.0005615	0.0035	2.225		16174.29	16174.29	6.04		Si
SLV 15	7.8	2447.64	-10135	-0.0000375	0.0005615	0.0035	2.225		11017.73	11017.73	4.5		Si
SLV 3	7	-799.24	-13896	-0.000036	0.0005615	0.0035	2.225		16579.07	16579.07	20.74		Si
SLV 3	7.8	-3268.68	-13131	-0.0000495	0.0005615	0.0035	2.225		15884.64	15884.64	4.86		Si
SLV 13	7	-3173.28	-18607	-0.000062	0.0005615	0.0035	2.225		20732.29	20732.29	6.53		Si
SLV 13	7.8	2713	-14380	-0.000049	0.0005615	0.0035	2.225		14943.3	14943.3	5.51		Si
SLV 2	7	-1031.66	-18316	-0.0000478	0.0005615	0.0035	2.225		20481.42	20481.42	19.85		Si
SLV 2	7.8	-3748.49	-17092	-0.000062	0.0005615	0.0035	2.225		19428.79	19428.79	5.18		Si
SLD 4	7	-1017.85	-14197	-0.000038	0.0005615	0.0035	2.225		16852.48	16852.48	16.56		Si
SLD 4	7.8	-2802.91	-13168	-0.0000467	0.0005615	0.0035	2.225		15918.55	15918.55	5.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 73	7	-2699.91	-22811	-16273	-4772	2.225	2.225	-26120	10427	6496	115546	18655	11347	9744	Si	2.04	Si
SLU 73	7.8	-1002.77	-19712	-14062	-3537	2.225	2.225	-22572	9954	6201	115546	18655	11347	9302	Si	2.63	Si
SLU 78	7	-2798.43	-23995	-17118	-4867	2.225	2.225	-27476	10608	6609	115546	18655	11347	9913	Si	2.04	Si
SLU 78	7.8	-1102.63	-20831	-14860	-3598	2.225	2.225	-23853	10125	6308	115546	18655	11347	9462	Si	2.63	Si
SLU 80	7	-2770.34	-23725	-14925	-4840	2.225	2.225	-27167	10567	6583	115546	18655	11347	9875	Si	2.04	Si
SLU 80	7.8	-1078.1	-20576	-14678	-3580	2.225	2.225	-23561	10086	6283	115546	18655	11347	9425	Si	2.63	Si
SLU 84	7	-2826.4	-24150	-17228	-4865	2.225	2.225	-27653	10631	6623	115546	18655	11347	9935	Si	2.04	Si
SLU 84	7.8	-1131.47	-20985	-14970	-3605	2.225	2.225	-24029	10148	6322	115546	18655	11347	9484	Si	2.63	Si
SLU 70	7	-2563.9	-21911	-15631	-4668	2.225	2.225	-25089	10290	6410	115546	18655	11347	9616	Si	2.06	Si
SLU 70	7.8	-902.39	-18854	-13450	-3442	2.225	2.225	-21589	9823	6120	115546	18655	11347	9180	Si	2.67	Si
SLU 68	7	-2509.82	-21195	-15120	-4634	2.225	2.225	-24270	10180	6342	115546	18655	11347	9514	Si	2.05	Si
SLU 68	7.8	-834.97	-18174	-12965	-3423	2.225	2.225	-20810	9719	6055	115546	18655	11347	9083	Si	2.65	Si
SLU 72	7	-2535.8	-21641	-15438	-4642	2.225	2.225	-24780	10248	6385	115546	18655	11347	9577	Si	2.06	Si
SLU 72	7.8	-877.86	-18599	-13268	-3424	2.225	2.225	-21297	9784	6095	115546	18655	11347	9143	Si	2.67	Si
SLU 82	7	-2781.95	-23681	-16893	-4805	2.225	2.225	-27116	10560	6579	115546	18655	11347	9868	Si	2.05	Si
SLU 82	7.8	-1099.02	-20546	-14657	-3563	2.225	2.225	-23527	10081	6281	115546	18655	11347	9421	Si	2.64	Si
SLU 75	7	-2753.98	-23526	-16783	-4807	2.225	2.225	-26939	10536	6564	115546	18655	11347	9846	Si	2.05	Si
SLU 75	7.8	-1070.18	-20393	-14548	-3556	2.225	2.225	-23351	10058	6266	115546	18655	11347	9399	Si	2.64	Si
SLU 76	7	-2744.36	-23280	-16607	-4832	2.225	2.225	-26657	10499	6541	115546	18655	11347	9811	Si	2.03	Si
SLU 76	7.8	-1035.22	-20151	-14375	-3578	2.225	2.225	-23074	10021	6243	115546	18655	11347	9365	Si	2.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	7	-2874.66	-24164	-17238	-8660	2.225	2.225	-27669	15950	9937	115546	27983	11347	39331		4.54	Si
SLV 10	7.8	398.44	-20144	-14370	-6102	2.225	2.225	-23066	15030	9364	115546	27983	11347	39331		6.45	Si
SLD 15	7	-2383.31	-14381	-10259	-7601	2.225	2.225	-16467	13710	8541	115546	27983	11347	39331		5.17	Si
SLD 15	7.8	1334.43	-11436	-8158	-5859	2.225	2.225	-13094	13036	8121	115546	27983	11347	39331		6.71	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	7	-3173.28	-18607	-13274	-12289	2.225	2.225	-21307	14678	9144	115546	27983	11347	39331		3.2	Si
SLV 13	7.8	2713	-14380	-10259	-9247	2.225	2.225	-16466	13710	8541	115546	27983	11347	39331		4.25	Si
SLV 15	7	-2676.48	-13450	-9595	-9943	2.225	2.225	-15401	13497	8409	115546	27983	11347	39331		3.96	Si
SLV 15	7.8	2447.64	-10135	-7230	-7732	2.225	2.225	-11605	12738	7936	115546	27983	11347	39331		5.09	Si
SLD 14	7	-2521.56	-17098	-12197	-7807	2.225	2.225	-19578	14332	8929	115546	27983	11347	39331		5.04	Si
SLD 14	7.8	1026.43	-13877	-9899	-5858	2.225	2.225	-15890	13595	8469	115546	27983	11347	39331		6.71	Si
SLD 9	7	-2600.95	-21309	-15201	-7516	2.225	2.225	-24400	15297	9530	115546	27983	11347	39331		5.23	Si
SLD 9	7.8	335.25	-17758	-12668	-5381	2.225	2.225	-20334	14483	9023	115546	27983	11347	39331		7.31	Si
SLD 13	7	-2690.3	-17569	-12533	-9056	2.225	2.225	-20117	14440	8996	115546	27983	11347	39331		4.34	Si
SLD 13	7.8	1502.06	-14058	-10029	-6798	2.225	2.225	-16098	13636	8495	115546	27983	11347	39331		5.79	Si
SLV 16	7	-2412.11	-12712	-9069	-7988	2.225	2.225	-14556	13328	8303	115546	27983	11347	39331		4.92	Si
SLV 16	7.8	1702.47	-9850	-7027	-6259	2.225	2.225	-11279	12672	7895	115546	27983	11347	39331		6.28	Si
SLV 14	7	-2908.91	-17870	-12748	-10333	2.225	2.225	-20462	14509	9039	115546	27983	11347	39331		3.81	Si
SLV 14	7.8	1967.83	-14096	-10056	-7774	2.225	2.225	-16141	13645	8501	115546	27983	11347	39331		5.06	Si
SLV 9	7	-3052.65	-24660	-17592	-9977	2.225	2.225	-28238	16064	10008	115546	27983	11347	39331		3.94	Si
SLV 9	7.8	900.14	-20336	-14507	-7094	2.225	2.225	-23286	15074	9391	115546	27983	11347	39331		5.54	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-6401	0.38	234.95	835.82	1262.13	1048.97	4.46	Si
SLV 11	-6704	0.38	234.95	872.37	1308.71	1090.54	4.64	Si
SLV 8	-7058	0.38	234.95	914.85	1363.04	1138.95	4.85	Si
SLV 7	-7361	0.38	234.95	950.83	1409.43	1180.13	5.02	Si
SLV 16	-10824	0.38	234.95	1342.99	1937.11	1640.05	6.98	Si
SLV 15	-11274	0.38	234.95	1391.34	2005.33	1698.34	7.23	Si
SLV 4	-13016	0.38	234.95	1572.96	2267.51	1920.24	8.17	Si
SLV 3	-13466	0.38	234.95	1618.41	2335.09	1976.75	8.41	Si
SLV 14	-15336	0.38	234.95	1801	2614.3	2207.65	9.4	Si
SLV 13	-15786	0.38	234.95	1843.37	2681.15	2262.26	9.63	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-13866	-17436	-231	0.818	1724.6	0.948	12.54035	6.56194	Si
SLV 2	-13677	-17199	-231	0.827	1705.4	0.947	12.69131	6.56194	Si
SLV 5	-16496	-20982	-622	0.686	1991.7	0.954	10.45051	4.70862	Si
SLV 6	-16368	-20822	-622	0.691	1978.7	0.954	10.52179	4.70862	Si
SLV 13	-11391	-12804	-128	0.97	1473.6	0.94	14.98577	6.56194	Si
SLV 9	-15753	-19592	-591	0.715	1916.2	0.953	10.90768	4.70862	Si
SLV 14	-11201	-12567	-128	0.983	1454.5	0.94	15.20268	6.56194	Si
SLV 10	-15626	-19433	-591	0.72	1903.3	0.952	10.98549	4.70862	Si
SLV 3	-10843	-12973	134	1.009	1418.2	0.939	15.62415	6.56194	Si
SLV 4	-10654	-12737	134	1.023	1399	0.938	15.86101	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.522	SLU 84	Si
V_SLU	2.03	SLU 76	Si
PF_SLV	3.893	SLV 4	Si
V_SLV	3.201	SLV 13	Si
PFFP_SLV	4.465	SLV 12	Si
R_SLV	1.911	SLV 1	Si

Maschio 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.263	-3.359	-18.868	-3.359	L5	L6	0.605	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	7	17.1	-8371	-0.0000751	0.0003743	0.0035	0.605	1303.17	1936.43	1936.43	113.26	No	Si
SLU 78	7.8	546.7	-8288	-0.0001267	0.0003743	0.0035	0.605	1302.32	1922.52	1922.52	3.52	No	Si
SLU 69	7	4	-7542	-0.0000659	0.0003743	0.0035	0.605	1283.78	1797.56	1797.56	449.25	No	Si
SLU 69	7.8	509.37	-7467	-0.0001139	0.0003743	0.0035	0.605	1280.84	1785	1785	3.5	No	Si
SLU 76	7	9.47	-8129	-0.000072	0.0003743	0.0035	0.605	1300	1895.85	1895.85	200.27	No	Si
SLU 76	7.8	536.52	-8060	-0.0001231	0.0003743	0.0035	0.605	1298.71	1884.26	1884.26	3.51	No	Si
SLU 68	7	-8.85	-7296	-0.000064	0.0003743	0.0035	0.605	1273.36	1873.69	1873.69	211.62	No	Si
SLU 68	7.8	507.16	-7243	-0.0001112	0.0003743	0.0035	0.605	1270.85	1747.4	1747.4	3.45	No	Si
SLU 80	7	15.24	-8280	-0.0000741	0.0003743	0.0035	0.605	1302.23	1921.25	1921.25	126.1	No	Si
SLU 80	7.8	541.27	-8202	-0.0001252	0.0003743	0.0035	0.605	1301.17	1908.06	1908.06	3.53	No	Si
SLU 65	7	-11.14	-7147	-0.0000628	0.0003743	0.0035	0.605	1266.05	1847.58	1847.58	165.85	No	Si
SLU 65	7.8	497.09	-7098	-0.0001087	0.0003743	0.0035	0.605	1263.48	1723.17	1723.17	3.47	No	Si
SLU 67	7	-3.51	-7389	-0.0000644	0.0003743	0.0035	0.605	1277.56	1889.79	1889.79	538.48	No	Si
SLU 67	7.8	507.27	-7326	-0.0001122	0.0003743	0.0035	0.605	1274.78	1761.42	1761.42	3.47	No	Si
SLU 71	7	2.14	-7451	-0.0000649	0.0003743	0.0035	0.605	1280.2	1782.38	1782.38	833.07	No	Si
SLU 71	7.8	503.95	-7381	-0.0001124	0.0003743	0.0035	0.605	1277.2	1770.54	1770.54	3.51	No	Si
SLU 72	7	-3.08	-7447	-0.0000649	0.0003743	0.0035	0.605	1280.02	1899.82	1899.82	615.85	No	Si
SLU 72	7.8	511.92	-7385	-0.0001132	0.0003743	0.0035	0.605	1277.38	1771.19	1771.19	3.46	No	Si
SLU 70	7	-1.22	-7538	-0.0000656	0.0003743	0.0035	0.605	1283.62	1915.44	1915.44	1565.88	No	Si
SLU 70	7.8	517.34	-7471	-0.0001147	0.0003743	0.0035	0.605	1280.99	1785.65	1785.65	3.45	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	7	-406.99	-3329	-0.0000622	0.0005615	0.0035	0.605		1065.76	1065.76	2.62		Si
SLD 15	7.8	725.11	-4556	-0.0001109	0.0005615	0.0035	0.605		1255.82	1255.82	1.73		Si
SLV 15	7	-637.65	-2074	-0.0004789	0.0005615	0.0035	0.484		736.82	736.82	1.16		Si
SLV 15	7.8	924.13	-4030	-0.0002063	0.0005615	0.0035	0.605		1140.72	1140.72	1.23		Si
SLD 13	7	-417.87	-3936	-0.0000678	0.0005615	0.0035	0.605		1219.03	1219.03	2.92		Si
SLD 13	7.8	852.85	-4937	-0.0001351	0.0005615	0.0035	0.605		1339.22	1339.22	1.57		Si
SLD 14	7	-332.31	-4205	-0.0000628	0.0005615	0.0035	0.605		1284.45	1284.45	3.87		Si
SLD 14	7.8	754.71	-4965	-0.0001155	0.0005615	0.0035	0.605		1345.29	1345.29	1.78		Si
SLD 16	7	-321.43	-3598	-0.0000565	0.0005615	0.0035	0.605		1134.25	1134.25	3.53		Si
SLD 16	7.8	626.98	-4584	-0.0000954	0.0005615	0.0035	0.605		1261.89	1261.89	2.01		Si
SLV 16	7	-503.6	-2497	-0.0000847	0.0005615	0.0035	0.484		848.99	848.99	1.69		Si
SLV 16	7.8	770.38	-4073	-0.0001268	0.0005615	0.0035	0.605		1150.23	1150.23	1.49		Si
SLV 9	7	-245.83	-6210	-0.0000733	0.0005615	0.0035	0.605		1747.29	1747.29	7.11		Si
SLV 9	7.8	937.52	-6156	-0.0001468	0.0005615	0.0035	0.605		1605.98	1605.98	1.71		Si
SLV 14	7	-520.61	-3486	-0.0000775	0.0005615	0.0035	0.605		1105.6	1105.6	2.12		Si
SLV 14	7.8	976.76	-4692	-0.0001831	0.0005615	0.0035	0.605		1285.63	1285.63	1.32		Si
SLV 10	7	-155.58	-6494	-0.000068	0.0005615	0.0035	0.605		1809.74	1809.74	11.63		Si
SLV 10	7.8	834	-6185	-0.0001306	0.0005615	0.0035	0.605		1612.39	1612.39	1.93		Si
SLV 13	7	-654.65	-3063	-0.0001208	0.0005615	0.0035	0.484		998.31	998.31	1.52		Si
SLV 13	7.8	1130.51	-4649	-0.000322	0.0005615	0.0035	0.605		1276.12	1276.12	1.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	7	14.81	-8222	-5865	-302	0.605	0.605	-34625	10833	2108	115546	5073	3085	3162	Si	10.47	Si
SLU 75	7.8	536.63	-8143	-5809	-1037	0.605	0.605	-34293	10833	2093	115546	5073	3085	3139	Si	3.03	Si
SLU 78	7	17.1	-8371	-5972	-306	0.605	0.605	-35252	10833	2136	115546	5073	3085	3204	Si	10.48	Si
SLU 78	7.8	546.7	-8288	-5912	-1049	0.605	0.605	-34902	10833	2120	115546	5073	3085	3180	Si	3.03	Si
SLU 76	7	9.47	-8129	-5799	-317	0.605	0.605	-34232	10833	2090	115546	5073	3085	3135	Si	9.87	Si
SLU 76	7.8	536.52	-8060	-5750	-1034	0.605	0.605	-33940	10833	2077	115546	5073	3085	3115	Si	3.01	Si
SLU 81	7	23.74	-8344	-5952	-255	0.605	0.605	-35139	10833	2131	115546	5073	3085	3196	Si	12.55	Si
SLU 81	7.8	525.75	-8259	-5891	-1054	0.605	0.605	-34778	10833	2115	115546	5073	3085	3172	Si	3.01	Si
SLU 83	7	26.03	-8493	-6059	-258	0.605	0.605	-35765	10833	2159	115546	5073	3085	3239	Si	12.53	Si
SLU 83	7.8	535.82	-8403	-5995	-1065	0.605	0.605	-35387	10833	2142	115546	5073	3085	3213	Si	3.02	Si
SLU 73	7	7.18	-7980	-5693	-314	0.605	0.605	-33605	10833	2062	115546	5073	3085	3092	Si	9.86	Si
SLU 73	7.8	526.45	-7915	-5646	-1023	0.605	0.605	-33331	10833	2049	115546	5073	3085	3074	Si	3.01	Si
SLU 82	7	18.51	-8340	-5949	-279	0.605	0.605	-35121	10833	2130	115546	5073	3085	3195	Si	11.47	Si
SLU 82	7.8	533.72	-8262	-5894	-1058	0.605	0.605	-34795	10833	2115	115546	5073	3085	3173	Si	3	Si
SLU 65	7	-11.14	-7147	-5098	-358	0.605	0.605	-30096	10833	1903	115546	5073	3085	2855	Si	7.96	Si
SLU 65	7.8	497.09	-7098	-5064	-937	0.605	0.605	-29891	10833	1894	115546	5073	3085	2841	Si	3.03	Si
SLU 84	7	20.8	-8489	-6056	-282	0.605	0.605	-35747	10833	2158	115546	5073	3085	3238	Si	11.47	Si
SLU 84	7.8	543.79	-8407	-5997	-1069	0.605	0.605	-35404	10833	2143	115546	5073	3085	3214	Si	3.01	Si
SLU 80	7	15.24	-8280	-5907	-305	0.605	0.605	-34870	10833	2119	115546	5073	3085	3178	Si	10.41	Si
SLU 80	7.8	541.27	-8202	-5851	-1043	0.605	0.605	-34539	10833	2104	115546	5073	3085	3156	Si	3.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	7	-417.87	-3936	-2808	-1921	0.605	0.589	-16575	13732	2265	115546	7609	3085	10694		5.57	Si
SLD 13	7.8	852.85	-4937	-3522	-1142	0.605	0.3893	-20791	14575	1755	115546	7609	3085	10694		9.36	Si
SLV 13	7	-654.65	-3063	-2185	-2881	0.484	0.2664	0	0	0	115546	6087	2468	8556		2.97	Si
SLV 13	7.8	1130.51	-4649	-3316	-1380	0.605	0.1779	-70000	16250	1700	115546	7609	3085	10694		7.75	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	7	-245.83	-6210	-4430	-1729	0.605	0.605	-26151	15647	2651	115546	7609	3085	10694		6.18	Si
SLV 9	7.8	937.52	-6156	-4392	-693	0.605	0.4506	-25924	15602	1987	115546	7609	3085	10694		15.43	Si
SLV 16	7	-503.6	-2497	-1781	-1955	0.484	0.3023	0	0	0	115546	6087	2468	8556		4.38	Si
SLV 16	7.8	770.38	-4073	-2906	-1366	0.605	0.3401	-17154	13847	1590	115546	7609	3085	10694		7.83	Si
SLV 4	7	658.58	-7993	-5702	2429	0.605	0.605	-33660	16250	2753	115546	7609	3085	10694		4.4	Si
SLV 4	7.8	-397.22	-6297	-4492	-56	0.605	0.605	-26520	15721	2663	115546	7609	3085	10694		190.39	Si
SLV 2	7	641.57	-8982	-6407	2028	0.605	0.605	-37824	16250	2753	115546	7609	3085	10694		5.27	Si
SLV 2	7.8	-190.84	-6916	-4934	114	0.605	0.605	-29125	16242	2751	115546	7609	3085	10694		93.7	Si
SLD 15	7	-406.99	-3329	-2375	-1671	0.605	0.5407	-14018	13220	2002	115546	7609	3085	10694		6.4	Si
SLD 15	7.8	725.11	-4556	-3250	-1247	0.605	0.43	-19186	14254	1716	115546	7609	3085	10694		8.57	Si
SLV 15	7	-637.65	-2074	-1480	-2479	0.484	0	0	0	0	115546	6087	2468	8556		3.45	Si
SLV 15	7.8	924.13	-4030	-2875	-1550	0.605	0.2196	-16971	13811	1582	115546	7609	3085	10694		6.9	Si
SLV 3	7	524.53	-7571	-5401	1906	0.605	0.605	-31882	16250	2753	115546	7609	3085	10694		5.61	Si
SLV 3	7.8	-243.47	-6254	-4461	-241	0.605	0.605	-26337	15684	2657	115546	7609	3085	10694		44.42	Si
SLV 14	7	-520.61	-3486	-2486	-2357	0.605	0.4594	-19538	14324	1843	115546	7609	3085	10694		4.54	Si
SLV 14	7.8	976.76	-4692	-3347	-1196	0.605	0.283	-19759	14369	1708	115546	7609	3085	10694		8.95	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-1846	0.38	63.89	240.05	341.78	290.91	4.55	Si
SLV 12	-1953	0.38	63.89	252.77	358.11	305.44	4.78	Si
SLV 15	-2128	0.38	63.89	273.4	384.94	329.17	5.15	Si
SLV 16	-2286	0.38	63.89	291.76	409.18	350.47	5.49	Si
SLV 7	-2743	0.38	63.89	343.35	479.04	411.2	6.44	Si
SLV 8	-2850	0.38	63.89	355.03	495.22	425.13	6.65	Si
SLV 13	-3288	0.38	63.89	401.84	561.72	481.78	7.54	Si
SLV 14	-3446	0.38	63.89	418.21	585.54	501.88	7.86	Si
SLV 3	-5118	0.38	63.89	574.75	833.9	704.32	11.02	Si
SLV 4	-5276	0.38	63.89	587.99	856.93	722.46	11.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-4232	-5435	-4	0.755	515.9	0.952	11.5236	6.56194	Si
SLV 1	-4181	-5570	-4	0.763	510.6	0.952	11.64841	6.56194	Si
SLV 4	-3782	-3885	-15	0.827	470.1	0.948	12.67587	6.56194	Si
SLV 3	-3731	-4020	-15	0.836	464.9	0.948	12.82865	6.56194	Si
SLV 6	-4257	-7018	9	0.75	518.4	0.952	11.44852	4.70862	Si
SLV 5	-4223	-7109	9	0.755	514.9	0.952	11.52993	4.70862	Si
SLV 14	-2825	-4730	-5	1.054	373.2	0.937	16.34961	6.56194	Si
SLV 13	-2774	-4865	-4	1.07	368	0.936	16.60744	6.56194	Si
SLV 10	-3835	-6806	9	0.819	475.5	0.949	12.54495	4.70862	Si
SLV 9	-3800	-6897	9	0.825	472	0.948	12.64359	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.445	SLU 68	Si
V_SLU	3	SLU 82	Si
PF_SLV	1.129	SLV 13	Si
V_SLV	2.97	SLV 13	Si
PFFP_SLV	4.554	SLV 11	Si
R_SLV	1.756	SLV 2	Si

Maschio 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.046	-19.618	5.811	L5	L6	4.765	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yf,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 76	5	-4642.03	-41320	-0.0000924	0.0004492	0.0035	4.7652	48543.96	90481.68	72815.94	15.69	Si	Si
SLU 76	8.55	-2583.87	-26292	-0.0000559	0.0004492	0.0035	4.7652	42437.36	66635.32	63656.05	24.64	Si	Si
SLU 73	5	-4609.3	-40514	-0.0000906	0.0004492	0.0035	4.7652	48551.52	89359.68	72827.28	15.8	Si	Si
SLU 73	8.55	-2678.69	-25444	-0.0000544	0.0004492	0.0035	4.7652	41699.09	65172.92	62548.63	23.35	Si	Si
SLU 81	5	-4537.09	-42361	-0.0000944	0.0004492	0.0035	4.7652	48478.06	91929.15	72717.09	16.03	Si	Si
SLU 81	8.55	-2873.78	-26513	-0.0000571	0.0004492	0.0035	4.7652	42623.03	67016.79	63934.55	22.25	Si	Si
SLU 77	5	-4450.22	-42840	-0.0000952	0.0004492	0.0035	4.7652	48426.47	92595.28	72639.71	16.32	Si	Si
SLU 77	8.55	-2535.95	-27633	-0.0000585	0.0004492	0.0035	4.7652	43519.11	68948.14	65278.67	25.74	Si	Si
SLU 80	5	-4575.07	-42250	-0.0000943	0.0004492	0.0035	4.7652	48488.05	91775.57	72732.08	15.9	Si	Si
SLU 80	8.55	-2484.61	-27209	-0.0000575	0.0004492	0.0035	4.7652	43188.71	68217.42	64783.06	26.07	Si	Si
SLU 78	5	-4599.74	-42654	-0.0000952	0.0004492	0.0035	4.7652	48448.03	92337.44	72672.04	15.8	Si	Si
SLU 78	8.55	-2542.61	-27529	-0.0000583	0.0004492	0.0035	4.7652	43438.9	68768.58	65158.35	25.63	Si	Si
SLU 82	5	-4686.6	-42175	-0.0000944	0.0004492	0.0035	4.7652	48494.43	91671.31	72741.64	15.52	Si	Si
SLU 82	8.55	-2880.45	-26409	-0.0000569	0.0004492	0.0035	4.7652	42536	66837.24	63804	22.15	Si	Si
SLU 83	5	-4569.81	-43167	-0.0000963	0.0004492	0.0035	4.7652	48383.45	93051.15	72575.17	15.88	Si	Si
SLU 83	8.55	-2778.96	-27361	-0.0000585	0.0004492	0.0035	4.7652	43308.28	68479.19	64962.42	23.38	Si	Si
SLU 75	5	-4567.02	-41848	-0.0000934	0.0004492	0.0035	4.7652	48518.46	91215.44	72777.69	15.94	Si	Si
SLU 75	8.55	-2637.43	-26681	-0.0000568	0.0004492	0.0035	4.7652	42761.97	67306.19	64142.96	24.32	Si	Si
SLU 84	5	-4719.33	-42982	-0.0000963	0.0004492	0.0035	4.7652	48408.55	92793.31	72612.83	15.39	Si	Si
SLU 84	8.55	-2785.63	-27257	-0.0000583	0.0004492	0.0035	4.7652	43226.41	68299.64	64839.62	23.28	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 2	5	-8364.63	-30840	-0.000078	0.0006738	0.0035	4.7652		76488.23	76488.23	9.14		Si
SLV 2	8.55	-2601.04	-19631	-0.0000423	0.0006738	0.0035	4.7652		55484.55	55484.55	21.33		Si
SLD 10	5	-8145.07	-20309	-0.0000568	0.0006738	0.0035	4.7652		56844.9	56844.9	6.98		Si
SLD 10	8.55	-2406.99	-12891	-0.0000291	0.0006738	0.0035	4.7652		41774.54	41774.54	17.36		Si
SLD 6	5	-9214.28	-22445	-0.0000635	0.0006738	0.0035	4.7652		60946.92	60946.92	6.61		Si
SLD 6	8.55	-2546.38	-14358	-0.0000322	0.0006738	0.0035	4.7652		44862.92	44862.92	17.62		Si
SLD 9	5	-8369.54	-20090	-0.0000569	0.0006738	0.0035	4.7652		56406.04	56406.04	6.74		Si
SLD 9	8.55	-2260.8	-12955	-0.0000289	0.0006738	0.0035	4.7652		41907.48	41907.48	18.54		Si
SLV 9	5	-11674.5	-14930	-0.0000548	0.0006738	0.0035	4.7652		46059.66	46059.66	3.95		Si
SLV 9	8.55	-2606.21	-9887	-0.000024	0.0006738	0.0035	4.7652		35447.7	35447.7	13.6		Si
SLD 5	5	-9438.76	-22226	-0.0000636	0.0006738	0.0035	4.7652		60530.2	60530.2	6.41		Si
SLD 5	8.55	-2400.19	-14421	-0.000032	0.0006738	0.0035	4.7652		44995.86	44995.86	18.75		Si
SLV 1	5	-8897.25	-30321	-0.0000782	0.0006738	0.0035	4.7652		75552.01	75552.01	8.49		Si
SLV 1	8.55	-2254.17	-19780	-0.0000417	0.0006738	0.0035	4.7652		55784.83	55784.83	24.75		Si
SLV 10	5	-11315.9	-15279	-0.0000546	0.0006738	0.0035	4.7652		46760.73	46760.73	4.13		Si
SLV 10	8.55	-2839.74	-9786	-0.0000244	0.0006738	0.0035	4.7652		35235.33	35235.33	12.41		Si
SLV 6	5	-12987.33	-18613	-0.0000651	0.0006738	0.0035	4.7652		53443.32	53443.32	4.12		Si
SLV 6	8.55	-3060.43	-12082	-0.0000291	0.0006738	0.0035	4.7652		40069.52	40069.52	13.09		Si
SLV 5	5	-13345.93	-18263	-0.0000653	0.0006738	0.0035	4.7652		52742.26	52742.26	3.95		Si
SLV 5	8.55	-2826.89	-12183	-0.0000288	0.0006738	0.0035	4.7652		40281.89	40281.89	14.25		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	5	-4238.79	-36296	-20125	-5518	4.7652	4.7652	-30166	10833	11903	115546	23975	24302	17855	Si	3.24	Si
SLU 55	8.55	-2169.57	-23030	-12769	-3547	4.7652	4.7652	-19141	10833	8961	115546	23975	24302	13442	Si	3.79	Si
SLU 44	5	-3793.12	-31901	-17688	-5494	4.7652	4.7652	-26514	10833	10929	115546	23975	24302	16393	Si	2.98	Si
SLU 44	8.55	-1783.24	-20092	-11140	-3788	4.7652	4.7652	-16698	10560	8310	115546	23975	24302	12464	Si	3.29	Si
SLU 46	5	-3750.84	-33235	-18427	-5345	4.7652	4.7652	-27622	10833	11224	115546	23975	24302	16837	Si	3.15	Si
SLU 46	8.55	-1741.99	-21329	-11826	-3536	4.7652	4.7652	-17727	10697	8584	115546	23975	24302	12876	Si	3.64	Si
SLU 49	5	-3783.56	-34042	-18875	-5367	4.7652	4.7652	-28293	10833	11403	115546	23975	24302	17105	Si	3.19	Si
SLU 49	8.55	-1647.17	-22177	-12296	-3484	4.7652	4.7652	-18432	10791	8772	115546	23975	24302	13158	Si	3.78	Si
SLU 68	5	-4229.08	-37732	-20921	-5612	4.7652	4.7652	-31360	10833	12222	115546	23975	24302	18333	Si	3.27	Si
SLU 68	8.55	-2102.72	-24201	-13419	-3538	4.7652	4.7652	-20114	10833	9221	115546	23975	24302	13832	Si	3.91	Si
SLU 51	5	-3758.89	-33638	-18651	-5348	4.7652	4.7652	-27957	10833	11314	115546	23975	24302	16971	Si	3.17	Si
SLU 51	8.55	-1589.16	-21857	-12119	-3487	4.7652	4.7652	-18166	10755	8701	115546	23975	24302	13052	Si	3.74	Si
SLU 47	5	-3825.84	-32708	-18135	-5517	4.7652	4.7652	-27184	10833	11108	115546	23975	24302	16661	Si	3.02	Si
SLU 47	8.55	-1688.43	-20940	-11610	-3736	4.7652	4.7652	-17403	10654	8498	115546	23975	24302	12747	Si	3.41	Si
SLU 52	5	-4206.07	-35490	-19677	-5496	4.7652	4.7652	-29496	10833	11724	115546	23975	24302	17587	Si	3.2	Si
SLU 52	8.55	-2264.39	-22182	-12299	-3600	4.7652	4.7652	-18436	10791	8773	115546	23975	24302	13160	Si	3.66	Si
SLU 43	5	-3543.93	-32210	-17859	-5015	4.7652	4.7652	-26770	10833	10997	115546	23975	24302	16496	Si	3.29	Si
SLU 43	8.55	-1772.13	-20265	-11236	-3297	4.7652	4.7652	-16843	10579	8348	115546	23975	24302	12522	Si	3.8	Si
SLU 65	5	-4196.36	-36926	-20474	-5589	4.7652	4.7652	-30690	10833	12043	115546	23975	24302	18064	Si	3.23	Si
SLU 65	8.55	-2197.54	-23353	-12948	-3590	4.7652	4.7652	-19409	10833	9033	115546	23975	24302	13549	Si	3.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	5	-13345.93	-18263	-10126	-20117	4.7652	4.7652	-15179	15536	10364	115546	35962	24302	60264		3	Si
SLV 5	8.55	-2826.89	-12183	-6755	-18148	4.7652	4.7652	-10125	14525	9690	115546	35962	24302	60264		3.32	Si
SLV 10	5	-11315.9	-15279	-8472	-20972	4.7652	4.7652	-12699	15040	10033	115546	35962	24302	60264		2.87	Si
SLV 10	8.55	-2839.74	-9786	-5426	-19313	4.7652	4.7652	-8134	14127	9424	115546	35962	24302	60264		3.12	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	5	-9438.76	-22226	-12323	-13924	4.7652	4.7652	-18472	16194	10804	115546	35962	24302	60264		4.33	Si
SLD 5	8.55	-2400.19	-14421	-7996	-12114	4.7652	4.7652	-11985	14897	9938	115546	35962	24302	60264		4.97	Si
SLV 7	5	5184.62	-41846	-23202	13151	4.7652	4.7652	-34779	16250	15061	115546	35962	24302	60264		4.58	Si
SLV 7	8.55	-616.82	-26169	-14510	14567	4.7652	4.7652	-21750	16250	11584	115546	35962	24302	60264		4.14	Si
SLD 9	5	-8369.54	-20090	-11139	-14601	4.7652	4.7652	-16697	15839	10567	115546	35962	24302	60264		4.13	Si
SLD 9	8.55	-2260.8	-12955	-7183	-12944	4.7652	4.7652	-10767	14653	9776	115546	35962	24302	60264		4.66	Si
SLV 6	5	-12987.33	-18613	-10320	-19908	4.7652	4.7652	-15469	15594	10403	115546	35962	24302	60264		3.03	Si
SLV 6	8.55	-3060.43	-12082	-6699	-18010	4.7652	4.7652	-10041	14508	9679	115546	35962	24302	60264		3.35	Si
SLD 10	5	-8145.07	-20309	-11261	-14470	4.7652	4.7652	-16879	15876	10591	115546	35962	24302	60264		4.16	Si
SLD 10	8.55	-2406.99	-12891	-7148	-12858	4.7652	4.7652	-10714	14643	9769	115546	35962	24302	60264		4.69	Si
SLV 8	5	5543.22	-42196	-23396	13361	4.7652	4.7652	-35070	16250	15139	115546	35962	24302	60264		4.51	Si
SLV 8	8.55	-850.36	-26069	-14454	14704	4.7652	4.7652	-21666	16250	11562	115546	35962	24302	60264		4.1	Si
SLD 6	5	-9214.28	-22445	-12445	-13793	4.7652	4.7652	-18654	16231	10828	115546	35962	24302	60264		4.37	Si
SLD 6	8.55	-2546.38	-14358	-7961	-12028	4.7652	4.7652	-11933	14887	9931	115546	35962	24302	60264		5.01	Si
SLV 9	5	-11674.5	-14930	-8278	-21182	4.7652	4.7652	-12408	14982	9995	115546	35962	24302	60264		2.85	Si
SLV 9	8.55	-2606.21	-9887	-5482	-19451	4.7652	4.7652	-8218	14144	9435	115546	35962	24302	60264		3.1	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-13435	0.38	273.81	837.12	1463.91	1150.51	4.2	Si
SLV 10	-13619	0.38	273.81	847.14	1479.34	1163.24	4.25	Si
SLV 5	-15637	0.38	273.81	954.63	1645.68	1300.15	4.75	Si
SLV 6	-15821	0.38	273.81	964.19	1660.8	1312.5	4.79	Si
SLV 13	-17312	0.38	273.81	1040.25	1783.6	1411.92	5.16	Si
SLV 14	-17585	0.38	273.81	1053.91	1806.14	1430.02	5.22	Si
SLV 15	-22875	0.38	273.81	1301.69	2238.04	1769.87	6.46	Si
SLV 16	-23148	0.38	273.81	1313.62	2259.92	1786.77	6.53	Si
SLV 1	-24653	0.38	273.81	1377.77	2380.5	1879.14	6.86	Si
SLV 2	-24926	0.38	273.81	1389.14	2402.4	1895.77	6.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-23976	-37396	-391	1.032	2774.6	0.964	15.55411	13.57575	Si
SLV 4	-23827	-37915	-391	1.037	2759.4	0.964	15.64517	13.57575	Si
SLV 1	-19780	-30321	-409	1.225	2347.8	0.958	18.57765	13.57575	Si
SLV 2	-19631	-30840	-408	1.233	2332.6	0.958	18.70835	13.57575	Si
SLV 15	-16325	-26286	409	1.45	1996.7	0.951	22.15056	13.57575	Si
SLV 16	-16175	-26805	409	1.462	1981.5	0.951	22.33692	13.57575	Si
SLV 7	-26169	-41846	-90	0.964	2997.8	0.966	14.49469	6.96855	Si
SLV 8	-26069	-42196	-90	0.967	2987.5	0.966	14.54711	6.96855	Si
SLV 13	-12129	-19211	391	1.872	1571.1	0.94	28.93835	13.57575	Si
SLV 14	-11979	-19730	391	1.892	1555.9	0.94	29.25739	13.57575	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.386	SLU 84	Si
V_SLU	2.984	SLU 44	Si
PF_SLV	3.945	SLV 9	Si
V_SLV	2.845	SLV 9	Si
PFFP_SLV	4.202	SLV 9	Si
R_SLV	1.146	SLV 3	Si

Maschio 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.333	-3.359	-17.363	-3.359	L5	L6	1.03	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	5.9	291.38	-10494	-0.0000618	0.0003743	0.0035	1.03	3472.86	4509.55	4509.55	15.48	No	Si
SLU 47	7.7	735.68	-7957	-0.0000617	0.0003743	0.0035	1.03	2987.32	3557.97	3557.97	4.84	No	Si
SLU 30	5.9	233.75	-10010	-0.0000574	0.0003743	0.0035	1.03	3397.63	4327.95	4327.95	18.52	No	Si
SLU 30	7.7	740.35	-8003	-0.0000621	0.0003743	0.0035	1.03	2998.21	3575.36	3575.36	4.83	No	Si
SLU 67	5.9	316.05	-11921	-0.0000706	0.0003743	0.0035	1.03	3646.8	4932.75	4932.75	15.61	No	Si
SLU 67	7.7	851.69	-9319	-0.000073	0.0003743	0.0035	1.03	3276.08	4068.88	4068.88	4.78	No	Si
SLU 69	5.9	343.15	-12062	-0.0000723	0.0003743	0.0035	1.03	3660.11	4973.97	4973.97	14.5	No	Si
SLU 69	7.7	849.08	-9422	-0.0000735	0.0003743	0.0035	1.03	3295.35	4107.68	4107.68	4.84	No	Si
SLU 70	5.9	312.23	-12128	-0.0000716	0.0003743	0.0035	1.03	3666.09	4993.24	4993.24	15.99	No	Si
SLU 70	7.7	875.97	-9528	-0.0000749	0.0003743	0.0035	1.03	3314.63	4147.28	4147.28	4.73	No	Si
SLU 65	5.9	299.63	-11633	-0.0000684	0.0003743	0.0035	1.03	3617.44	4848.53	4848.53	16.18	No	Si
SLU 65	7.7	831.8	-9057	-0.0000709	0.0003743	0.0035	1.03	3225.69	3970.8	3970.8	4.77	No	Si
SLU 68	5.9	295.81	-11840	-0.0000695	0.0003743	0.0035	1.03	3638.82	4909.01	4909.01	16.6	No	Si
SLU 68	7.7	856.07	-9266	-0.0000728	0.0003743	0.0035	1.03	3266.16	4049.2	4049.2	4.73	No	Si
SLU 28	5.9	233.38	-10135	-0.000058	0.0003743	0.0035	1.03	3417.88	4374.92	4374.92	18.75	No	Si
SLU 28	7.7	753.89	-8126	-0.0000632	0.0003743	0.0035	1.03	3026.73	3621.44	3621.44	4.8	No	Si
SLU 72	5.9	312.6	-12003	-0.000071	0.0003743	0.0035	1.03	3654.61	4956.65	4956.65	15.86	No	Si
SLU 72	7.7	862.43	-9405	-0.0000738	0.0003743	0.0035	1.03	3292.16	4101.2	4101.2	4.76	No	Si
SLU 26	5.9	216.96	-9847	-0.000056	0.0003743	0.0035	1.03	3370.45	4266.8	4266.8	19.67	No	Si
SLU 26	7.7	734	-7865	-0.0000612	0.0003743	0.0035	1.03	2965.4	3523.36	3523.36	4.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	5.9	1039.05	-4076	-0.0000525	0.0005615	0.0035	1.03		2104.24	2104.24	2.03		Si
SLV 12	7.7	-573.72	-1158	-0.000093	0.0005615	0.0035	0.824		1066.71	1066.71	1.86		Si
SLV 15	5.9	-2020.71	-4193	-0.0003358	0.0005615	0.0035	0.824		2493.89	2493.89	1.23		Si
SLV 15	7.7	1461.22	-6631	-0.0000766	0.0005615	0.0035	1.03		3195.09	3195.09	2.19		Si
SLV 16	5.9	-1487.11	-4587	-0.0000821	0.0005615	0.0035	0.824		2670.38	2670.38	1.8		Si
SLV 16	7.7	1158.51	-6034	-0.000063	0.0005615	0.0035	1.03		2968.8	2968.8	2.56		Si
SLV 3	5.9	2864.7	-10847	-0.0001559	0.0005615	0.0035	1.03		4793.3	4793.3	1.67		Si
SLV 3	7.7	-821.17	-4096	-0.0000433	0.0005615	0.0035	1.03		2450.77	2450.77	2.98		Si
SLV 13	5.9	-2795.08	-6572	-0.000278	0.0005615	0.0035	0.824		3533.2	3533.2	1.26		Si
SLV 13	7.7	2303.66	-10133	-0.0001241	0.0005615	0.0035	1.03		4522.6	4522.6	1.96		Si
SLV 8	5.9	2504.67	-6072	-0.0002251	0.0005615	0.0035	1.03		2983.24	2983.24	1.19		Si
SLV 8	7.7	-1258.44	-398	-0.0008123	0.0005615	0.0035	0.824		691.65	691.65	0.55		No
SLV 7	5.9	2145.41	-5806	-0.0001425	0.0005615	0.0035	1.03		2872.66	2872.66	1.34		Si
SLV 7	7.7	-1054.63	-800	-0.0005631	0.0005615	0.0035	0.824		890.62	890.62	0.84		No
SLV 14	5.9	-2261.48	-6967	-0.0001292	0.0005615	0.0035	0.824		3701.52	3701.52	1.64		Si
SLV 14	7.7	2000.95	-9536	-0.0001089	0.0005615	0.0035	1.03		4296.31	4296.31	2.15		Si
SLV 4	5.9	3398.31	-11242	-0.0001965	0.0005615	0.0035	1.03		4942.88	4942.88	1.45		Si
SLV 4	7.7	-1123.88	-3499	-0.0000607	0.0005615	0.0035	0.824		2178.35	2178.35	1.94		Si
SLD 8	5.9	1682.63	-7180	-0.0000878	0.0005615	0.0035	1.03		3403.14	3403.14	2.02		Si
SLD 8	7.7	-562.07	-2838	-0.0000295	0.0005615	0.0035	1.03		1868.95	1868.95	3.33		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	5.9	478.12	-11938	-8516	724	1.03	1.03	-29529	10833	3196	115546	8636	5253	4795	Si	6.63	Si
SLU 61	7.7	748.34	-9038	-6447	-422	1.03	1.03	-22356	9925	2862	115546	8636	5253	4294	Si	10.17	Si
SLU 70	5.9	312.23	-12128	-8652	422	1.03	1.03	-30000	10833	3233	115546	8636	5253	4849	Si	11.49	Si
SLU 70	7.7	875.97	-9528	-6797	-687	1.03	1.03	-23568	10087	2909	115546	8636	5253	4364	Si	6.35	Si
SLU 62	5.9	505.22	-12079	-8617	755	1.03	1.03	-29878	10833	3223	115546	8636	5253	4835	Si	6.4	Si
SLU 62	7.7	745.74	-9141	-6521	-408	1.03	1.03	-22612	9959	2872	115546	8636	5253	4308	Si	10.55	Si
SLU 65	5.9	299.63	-11633	-8299	413	1.03	1.03	-28775	10781	3138	115546	8636	5253	4708	Si	11.39	Si
SLU 65	7.7	831.8	-9057	-6461	-644	1.03	1.03	-22404	9932	2864	115546	8636	5253	4296	Si	6.67	Si
SLU 72	5.9	312.6	-12003	-8563	424	1.03	1.03	-29690	10833	3209	115546	8636	5253	4813	Si	11.36	Si
SLU 72	7.7	862.43	-9405	-6709	-672	1.03	1.03	-23264	10046	2897	115546	8636	5253	4346	Si	6.47	Si
SLU 68	5.9	295.81	-11840	-8446	405	1.03	1.03	-29287	10833	3178	115546	8636	5253	4767	Si	11.77	Si
SLU 68	7.7	856.07	-9266	-6610	-672	1.03	1.03	-22921	10001	2884	115546	8636	5253	4326	Si	6.44	Si
SLU 69	5.9	343.15	-12062	-8605	462	1.03	1.03	-29837	10833	3220	115546	8636	5253	4830	Si	10.45	Si
SLU 69	7.7	849.08	-9422	-6722	-645	1.03	1.03	-23307	10052	2899	115546	8636	5253	4349	Si	6.74	Si
SLU 67	5.9	316.05	-11921	-8504	430	1.03	1.03	-29488	10833	3193	115546	8636	5253	4790	Si	11.13	Si
SLU 67	7.7	851.69	-9319	-6648	-659	1.03	1.03	-23051	10018	2889	115546	8636	5253	4334	Si	6.58	Si
SLU 60	5.9	509.04	-11872	-8469	764	1.03	1.03	-29366	10833	3184	115546	8636	5253	4776	Si	6.25	Si
SLU 60	7.7	721.46	-8932	-6372	-380	1.03	1.03	-22095	9890	2852	115546	8636	5253	4279	Si	11.25	Si
SLU 63	5.9	474.3	-12145	-8664	715	1.03	1.03	-30041	10833	3236	115546	8636	5253	4854	Si	6.78	Si
SLU 63	7.7	772.62	-9247	-6597	-450	1.03	1.03	-22873	9994	2882	115546	8636	5253	4323	Si	9.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	5.9	-2020.71	-4193	-2991	-3637	0.824	0.0991	0	0	0	115546	10363	4202	14566		4	Si
SLV 15	7.7	1461.22	-6631	-4730	-2161	1.03	0.8839	-16402	13697	3390	115546	12954	5253	18207		8.42	Si
SLD 4	5.9	2276	-10430	-7440	3711	1.03	0.8903	-25799	15576	3883	115546	12954	5253	18207		4.91	Si
SLD 4	7.7	-497.83	-4732	-3376	1559	1.03	1.03	-11705	12758	3679	115546	12954	5253	18207		11.68	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5.9	-1487.11	-4587	-3272	-2764	0.824	0.5724	0	0	0	115546	10363	4202	14566		5.27	Si
SLV 16	7.7	1158.51	-6034	-4305	-1606	1.03	0.969	-14925	13402	3636	115546	12954	5253	18207		11.34	Si
SLV 8	5.9	2504.67	-6072	-4332	3778	1.03	0.3075	-52026	16250	2543	115546	12954	5253	18207		4.82	Si
SLV 8	7.7	-1258.44	-398	-284	2639	0.824	0	0	0	0	115546	10363	4202	14566		5.52	Si
SLV 14	5.9	-2261.48	-6967	-4970	-3848	0.824	0.5712	0	0	0	115546	10363	4202	14566		3.78	Si
SLV 14	7.7	2000.95	-9536	-6803	-2932	1.03	0.9155	-23588	15134	3880	115546	12954	5253	18207		6.21	Si
SLV 2	5.9	2623.94	-13622	-9717	4489	1.03	0.9671	-33694	16250	4400	115546	12954	5253	18207		4.06	Si
SLV 2	7.7	-281.44	-7001	-4995	1358	1.03	1.03	-17318	13880	4003	115546	12954	5253	18207		13.41	Si
SLV 4	5.9	3398.31	-11242	-8020	5574	1.03	0.6381	-27808	15978	3527	115546	12954	5253	18207		3.27	Si
SLV 4	7.7	-1123.88	-3499	-2496	2684	0.824	0.5814	0	0	0	115546	10363	4202	14566		5.43	Si
SLV 1	5.9	2090.33	-13227	-9436	3616	1.03	1.03	-32718	16250	4687	115546	12954	5253	18207		5.03	Si
SLV 1	7.7	21.27	-7598	-5420	802	1.03	1.03	-18795	14176	4088	115546	12954	5253	18207		22.69	Si
SLV 13	5.9	-2795.08	-6572	-4688	-4721	0.824	0.2691	0	0	0	115546	10363	4202	14566		3.08	Si
SLV 13	7.7	2303.66	-10133	-7229	-3487	1.03	0.863	-25065	15430	3728	115546	12954	5253	18207		5.22	Si
SLV 3	5.9	2864.7	-10847	-7738	4701	1.03	0.7527	-26832	15783	3452	115546	12954	5253	18207		3.87	Si
SLV 3	7.7	-821.17	-4096	-2922	2129	1.03	0.9436	-10132	12443	3288	115546	12954	5253	18207		8.55	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-2963	0.38	108.76	386.94	569.32	478.13	4.4	Si
SLV 12	-3207	0.38	108.76	416.31	606.88	511.59	4.7	Si
SLV 15	-3710	0.38	108.76	475.67	683.99	579.83	5.33	Si
SLV 16	-4073	0.38	108.76	517.44	739.54	628.49	5.78	Si
SLV 7	-4959	0.38	108.76	616.12	874.46	745.29	6.85	Si
SLV 8	-5203	0.38	108.76	642.39	911.54	776.97	7.14	Si
SLV 13	-6397	0.38	108.76	765.53	1091.58	928.55	8.54	Si
SLV 14	-6760	0.38	108.76	801.11	1145.9	973.5	8.95	Si
SLV 3	-10364	0.38	108.76	1109.51	1674.14	1391.83	12.8	Si
SLV 4	-10726	0.38	108.76	1135.95	1726.83	1431.39	13.16	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-7559	-10805	-32	0.722	914.2	0.954	11.0031	6.56194	Si
SLV 14	-7180	-10281	-31	0.754	875.6	0.952	11.51374	6.56194	Si
SLV 9	-8700	-13478	-78	0.636	1030.1	0.958	9.65039	4.70862	Si
SLV 15	-5856	-7738	12	0.897	741.3	0.945	13.79767	6.56194	Si
SLV 10	-8444	-13125	-77	0.653	1004.1	0.958	9.90827	4.70862	Si
SLV 5	-8028	-12776	-73	0.682	961.8	0.956	10.36686	4.70862	Si
SLV 16	-5476	-7214	12	0.947	702.8	0.942	14.61873	6.56194	Si
SLV 6	-7772	-12424	-72	0.701	935.8	0.955	10.66713	4.70862	Si
SLV 1	-5319	-8466	-16	0.97	686.8	0.941	14.98097	6.56194	Si
SLV 2	-4939	-7942	-16	1.03	648.4	0.938	15.96384	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.73	SLU 68	Si
V_SLU	6.255	SLU 60	Si
PF_SLV	0.55	SLV 8	No
V_SLV	3.085	SLV 13	Si
PFFP_SLV	4.396	SLV 11	Si
R_SLV	1.677	SLV 13	Si

Maschio 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	-3.359	-18.448	1.046	L5	L6	4.406	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yf,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	5	5538.35	-39135	-0.0000996	0.0004492	0.0035	4.4057	41442.64	69751.41	62163.96	11.22	Si	Si
SLU 80	8.55	2934.68	-25258	-0.0000601	0.0004492	0.0035	4.4057	36992.25	48688.13	48688.13	16.59	No	Si
SLU 82	5	5519.1	-39458	-0.0001003	0.0004492	0.0035	4.4057	41412.17	70146.26	62118.26	11.26	Si	Si
SLU 82	8.55	2829.81	-25039	-0.0000593	0.0004492	0.0035	4.4057	36831.87	48342.88	48342.88	17.08	No	Si
SLU 74	5	5561.11	-38723	-0.0000987	0.0004492	0.0035	4.4057	41472.65	69247.92	62208.97	11.19	Si	Si
SLU 74	8.55	2835.4	-24966	-0.0000592	0.0004492	0.0035	4.4057	36778.04	48228.34	48228.34	17.01	No	Si
SLU 81	5	5600.76	-39310	-0.0001002	0.0004492	0.0035	4.4057	41426.9	69965.19	62140.35	11.09	Si	Si
SLU 81	8.55	2790.63	-25006	-0.0000591	0.0004492	0.0035	4.4057	36807.48	48290.91	48290.91	17.3	No	Si
SLU 78	5	5589.44	-39476	-0.0001005	0.0004492	0.0035	4.4057	41410.26	70168.62	62115.4	11.11	Si	Si
SLU 78	8.55	2980.22	-25575	-0.0000609	0.0004492	0.0035	4.4057	37219.69	49188.41	49188.41	16.5	No	Si
SLU 84	5	5629.1	-40063	-0.0001021	0.0004492	0.0035	4.4057	41338.7	70885.88	62008.04	11.02	Si	Si
SLU 84	8.55	2935.45	-25615	-0.0000609	0.0004492	0.0035	4.4057	37247.72	49250.98	49250.98	16.78	No	Si
SLU 83	5	5710.76	-39915	-0.000102	0.0004492	0.0035	4.4057	41358.66	70704.8	62037.99	10.86	Si	Si
SLU 83	8.55	2896.27	-25582	-0.0000607	0.0004492	0.0035	4.4057	37224.45	49199.01	49199.01	16.99	No	Si
SLU 75	5	5479.45	-38871	-0.0000988	0.0004492	0.0035	4.4057	41463	69429	62194.5	11.35	Si	Si
SLU 75	8.55	2874.58	-24999	-0.0000594	0.0004492	0.0035	4.4057	36802.5	48280.31	48280.31	16.8	No	Si
SLU 77	5	5671.1	-39328	-0.0001004	0.0004492	0.0035	4.4057	41425.15	69987.54	62137.73	10.96	Si	Si
SLU 77	8.55	2941.04	-25542	-0.0000607	0.0004492	0.0035	4.4057	37196.34	49136.44	49136.44	16.71	No	Si
SLU 79	5	5620.01	-38987	-0.0000995	0.0004492	0.0035	4.4057	41454.57	69570.33	62181.86	11.06	Si	Si
SLU 79	8.55	2895.5	-25225	-0.0000599	0.0004492	0.0035	4.4057	36968.29	48636.16	48636.16	16.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 11	5	7387.68	-20529	-0.0000617	0.0006738	0.0035	4.4057		42681.99	42681.99	5.78		Si
SLD 11	8.55	1159.79	-14165	-0.0000312	0.0006738	0.0035	4.4057		30816.12	30816.12	26.57		Si
SLD 7	5	7523.41	-22007	-0.0000652	0.0006738	0.0035	4.4057		45170.01	45170.01	6		Si
SLD 7	8.55	1062.28	-15255	-0.0000331	0.0006738	0.0035	4.4057		32901.27	32901.27	30.97		Si
SLV 15	5	5183.6	-20181	-0.0000547	0.0006738	0.0035	4.4057		42050.21	42050.21	8.11		Si
SLV 15	8.55	1818	-12969	-0.0000306	0.0006738	0.0035	4.4057		28510.06	28510.06	15.68		Si
SLV 12	5	9645.75	-16750	-0.00006	0.0006738	0.0035	4.4057		35720.19	35720.19	3.7		Si
SLV 12	8.55	613.15	-12532	-0.0000264	0.0006738	0.0035	4.4057		27660.4	27660.4	45.11		Si
SLD 8	5	7548.99	-21854	-0.0000649	0.0006738	0.0035	4.4057		44926.51	44926.51	5.95		Si
SLD 8	8.55	985.33	-15237	-0.0000329	0.0006738	0.0035	4.4057		32867.41	32867.41	33.36		Si
SLV 11	5	9604.88	-16994	-0.0000604	0.0006738	0.0035	4.4057		36179.29	36179.29	3.77		Si
SLV 11	8.55	736.07	-12560	-0.0000268	0.0006738	0.0035	4.4057		27715.39	27715.39	37.65		Si
SLV 7	5	9815.77	-19302	-0.0000659	0.0006738	0.0035	4.4057		40452.83	40452.83	4.12		Si
SLV 7	8.55	584.48	-14263	-0.0000298	0.0006738	0.0035	4.4057		31003.26	31003.26	53.04		Si
SLV 16	5	5244.3	-19818	-0.0000541	0.0006738	0.0035	4.4057		41391.62	41391.62	7.89		Si
SLV 16	8.55	1635.43	-12927	-0.00003	0.0006738	0.0035	4.4057		28428.39	28428.39	17.38		Si
SLD 12	5	7413.26	-20376	-0.0000614	0.0006738	0.0035	4.4057		42404.43	42404.43	5.72		Si
SLD 12	8.55	1082.85	-14147	-0.000031	0.0006738	0.0035	4.4057		30782.26	30782.26	28.43		Si
SLV 8	5	9856.63	-19058	-0.0000655	0.0006738	0.0035	4.4057		40004.19	40004.19	4.06		Si
SLV 8	8.55	461.57	-14234	-0.0000294	0.0006738	0.0035	4.4057		30949.18	30949.18	67.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	5	4262.37	-29690	-16462	4148	4.4057	4.4057	-26689	10833	10148	115546	22166	22469	15221	Si	3.67	Si
SLU 43	8.55	2001.13	-18906	-10483	4142	4.4057	4.4057	-16995	10599	7756	115546	22166	22469	11634	Si	2.81	Si
SLU 50	5	4482.37	-30900	-17133	4243	4.4057	4.4057	-27777	10833	10416	115546	22166	22469	15624	Si	3.68	Si
SLU 50	8.55	2212.41	-20057	-11121	4237	4.4057	4.4057	-18030	10737	8011	115546	22166	22469	12017	Si	2.84	Si
SLU 58	5	4950.79	-34476	-19115	4442	4.4057	4.4057	-30991	10833	11209	115546	22166	22469	16813	Si	3.79	Si
SLU 58	8.55	2460.7	-22234	-12328	4435	4.4057	4.4057	-19986	10833	8494	115546	22166	22469	12741	Si	2.87	Si
SLU 56	5	5001.88	-34817	-19305	4463	4.4057	4.4057	-31298	10833	11285	115546	22166	22469	16927	Si	3.79	Si
SLU 56	8.55	2506.23	-22551	-12503	4456	4.4057	4.4057	-20272	10833	8564	115546	22166	22469	12846	Si	2.88	Si
SLU 62	5	5041.54	-35404	-19630	4480	4.4057	4.4057	-31825	10833	11415	115546	22166	22469	17122	Si	3.82	Si
SLU 62	8.55	2461.47	-22590	-12525	4473	4.4057	4.4057	-20307	10833	8573	115546	22166	22469	12860	Si	2.88	Si
SLU 45	5	4423.47	-30636	-16986	4216	4.4057	4.4057	-27540	10833	10357	115546	22166	22469	15536	Si	3.68	Si
SLU 45	8.55	2152.31	-19799	-10978	4210	4.4057	4.4057	-17798	10706	7954	115546	22166	22469	11931	Si	2.83	Si
SLU 64	5	4931.59	-34201	-18963	4412	4.4057	4.4057	-30744	10833	11148	115546	22166	22469	16722	Si	3.79	Si
SLU 64	8.55	2435.94	-21897	-12141	4405	4.4057	4.4057	-19684	10833	8419	115546	22166	22469	12629	Si	2.87	Si
SLU 53	5	4891.89	-34212	-18969	4415	4.4057	4.4057	-30754	10833	11150	115546	22166	22469	16726	Si	3.79	Si
SLU 53	8.55	2400.59	-21975	-12184	4408	4.4057	4.4057	-19754	10833	8437	115546	22166	22469	12655	Si	2.87	Si
SLU 48	5	4533.46	-31241	-17322	4264	4.4057	4.4057	-28083	10833	10492	115546	22166	22469	15737	Si	3.69	Si
SLU 48	8.55	2257.95	-20375	-11297	4258	4.4057	4.4057	-18315	10775	8082	115546	22166	22469	12122	Si	2.85	Si
SLU 60	5	4931.54	-34799	-19294	4432	4.4057	4.4057	-31282	10833	11281	115546	22166	22469	16921	Si	3.82	Si
SLU 60	8.55	2355.83	-22015	-12206	4425	4.4057	4.4057	-19790	10833	8445	115546	22166	22469	12668	Si	2.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	5	9856.63	-19058	-10567	17286	4.4057	4.4057	-17131	15926	9823	115546	33249	22469	55718		3.22	Si
SLV 8	8.55	461.57	-14234	-7892	16054	4.4057	4.4057	-12796	15059	9288	115546	33249	22469	55718		3.47	Si
SLV 6	5	-2044.31	-35683	-19785	-10909	4.4057	4.4057	-32076	16250	13258	115546	33249	22469	55718		5.11	Si
SLV 6	8.55	2962.28	-21057	-11675	-9707	4.4057	4.4057	-18928	16250	10023	115546	33249	22469	55718		5.74	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	5	9645.75	-16750	-9287	17824	4.4057	4.4057	-15057	15511	9567	115546	33249	22469	55718		3.13	Si
SLV 12	8.55	613.15	-12532	-6948	16612	4.4057	4.4057	-11265	14753	9100	115546	33249	22469	55718		3.35	Si
SLD 11	5	7387.68	-20529	-11382	12249	4.4057	4.4057	-18454	16191	9986	115546	33249	22469	55718		4.55	Si
SLD 11	8.55	1159.79	-14165	-7854	11489	4.4057	4.4057	-12733	15047	9281	115546	33249	22469	55718		4.85	Si
SLV 11	5	9604.88	-16994	-9423	17694	4.4057	4.4057	-15277	15555	9594	115546	33249	22469	55718		3.15	Si
SLV 11	8.55	736.07	-12560	-6964	16482	4.4057	4.4057	-11291	14758	9103	115546	33249	22469	55718		3.38	Si
SLV 5	5	-2085.17	-35927	-19920	-11039	4.4057	4.4057	-32296	16250	13312	115546	33249	22469	55718		5.05	Si
SLV 5	8.55	3085.2	-21085	-11691	-9837	4.4057	4.4057	-18954	16250	10023	115546	33249	22469	55718		5.66	Si
SLD 8	5	7548.99	-21854	-12117	11989	4.4057	4.4057	-19645	16250	10191	115546	33249	22469	55718		4.65	Si
SLD 8	8.55	985.33	-15237	-8448	11215	4.4057	4.4057	-13697	15239	9400	115546	33249	22469	55718		4.97	Si
SLV 7	5	9815.77	-19302	-10702	17156	4.4057	4.4057	-17351	15970	9850	115546	33249	22469	55718		3.25	Si
SLV 7	8.55	584.48	-14263	-7908	15925	4.4057	4.4057	-12821	15064	9292	115546	33249	22469	55718		3.5	Si
SLD 12	5	7413.26	-20376	-11298	12331	4.4057	4.4057	-18316	16163	9969	115546	33249	22469	55718		4.52	Si
SLD 12	8.55	1082.85	-14147	-7844	11570	4.4057	4.4057	-12717	15043	9279	115546	33249	22469	55718		4.82	Si
SLD 7	5	7523.41	-22007	-12202	11908	4.4057	4.4057	-19782	16250	10225	115546	33249	22469	55718		4.68	Si
SLD 7	8.55	1062.28	-15255	-8458	11133	4.4057	4.4057	-13713	15243	9402	115546	33249	22469	55718		5	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-15917	0.38	253.15	957.32	1641.31	1299.32	5.13	Si
SLV 11	-16043	0.38	253.15	963.65	1651.7	1307.67	5.17	Si
SLV 16	-17228	0.38	253.15	1022.2	1749.24	1385.72	5.47	Si
SLV 15	-17416	0.38	253.15	1031.28	1764.54	1397.91	5.52	Si
SLV 8	-18032	0.38	253.15	1060.89	1814.98	1437.94	5.68	Si
SLV 7	-18158	0.38	253.15	1066.89	1825.29	1446.09	5.71	Si
SLV 14	-20493	0.38	253.15	1174.47	2016.28	1595.38	6.3	Si
SLV 13	-20680	0.38	253.15	1182.8	2031.25	1607.03	6.35	Si
SLV 4	-24277	0.38	253.15	1334.45	2319.51	1826.98	7.22	Si
SLV 3	-24464	0.38	253.15	1341.9	2334.52	1838.21	7.26	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-20690	-32859	-289	1.101	2415	0.962	16.63225	13.57575	Si
SLV 2	-20648	-32497	-289	1.103	2410.7	0.962	16.66361	13.57575	Si
SLV 3	-18643	-27872	-261	1.209	2206.8	0.959	18.33682	13.57575	Si
SLV 4	-18601	-27509	-261	1.212	2202.5	0.958	18.37499	13.57575	Si
SLV 13	-15015	-25169	261	1.463	1838.1	0.951	22.36018	13.57575	Si
SLV 14	-14973	-24806	261	1.467	1833.9	0.951	22.41723	13.57575	Si
SLV 15	-12969	-20181	290	1.659	1630.4	0.946	25.49733	13.57575	Si
SLV 16	-12927	-19818	290	1.664	1626.2	0.946	25.57168	13.57575	Si
SLV 5	-21085	-35927	-130	1.089	2455.1	0.962	16.44745	6.96855	Si
SLV 6	-21057	-35683	-130	1.09	2452.3	0.962	16.46794	6.96855	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.863	SLU 83	Si
V_SLU	2.809	SLU 43	Si
PF_SLV	3.703	SLV 12	Si
V_SLV	3.126	SLV 12	Si
PFFP_SLV	5.133	SLV 12	Si
R_SLV	1.225	SLV 1	Si

Maschio 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.359	-15.433	-3.359	L5	L6	1.68	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 36	5	-374.61	-13264	-0.0000444	0.0003743	0.0035	1.68	8055.95	10832.35	10832.35	28.92	No	Si
SLU 36	7.1	1716.19	-14328	-0.0000635	0.0003743	0.0035	1.68	8434.77	10274.59	10274.59	5.99	No	Si
SLU 33	5	-366.44	-13024	-0.0000436	0.0003743	0.0035	1.68	7965.06	10690.79	10690.79	29.17	No	Si
SLU 33	7.1	1678.71	-14038	-0.0000621	0.0003743	0.0035	1.68	8335.62	10098.77	10098.77	6.02	No	Si
SLU 42	5	-379.92	-13390	-0.0000449	0.0003743	0.0035	1.68	8102.92	10906.76	10906.76	28.71	No	Si
SLU 42	7.1	1750.58	-14480	-0.0000644	0.0003743	0.0035	1.68	8485.7	10367	10367	5.92	No	Si
SLU 35	5	-368.16	-13156	-0.000044	0.0003743	0.0035	1.68	8015.3	10768.65	10768.65	29.25	No	Si
SLU 35	7.1	1691.38	-14217	-0.0000628	0.0003743	0.0035	1.68	8397.22	10207.38	10207.38	6.03	No	Si
SLU 34	5	-368.17	-12951	-0.0000434	0.0003743	0.0035	1.68	7936.79	10647.39	10647.39	28.92	No	Si
SLU 34	7.1	1676.09	-13942	-0.0000617	0.0003743	0.0035	1.68	8301.85	10040.04	10040.04	5.99	No	Si
SLU 41	5	-373.47	-13282	-0.0000445	0.0003743	0.0035	1.68	8062.75	10843.07	10843.07	29.03	No	Si
SLU 41	7.1	1725.78	-14369	-0.0000637	0.0003743	0.0035	1.68	8448.74	10299.78	10299.78	5.97	No	Si
SLU 40	5	-371.75	-13150	-0.000044	0.0003743	0.0035	1.68	8013.09	10765.21	10765.21	28.96	No	Si
SLU 40	7.1	1713.1	-14191	-0.000063	0.0003743	0.0035	1.68	8388.1	10191.18	10191.18	5.95	No	Si
SLU 38	5	-372.04	-13118	-0.000044	0.0003743	0.0035	1.68	8001.06	10746.48	10746.48	28.89	No	Si
SLU 38	7.1	1697.04	-14157	-0.0000627	0.0003743	0.0035	1.68	8376.74	10171.05	10171.05	5.99	No	Si
SLU 39	5	-365.3	-13042	-0.0000436	0.0003743	0.0035	1.68	7972.01	10701.51	10701.51	29.3	No	Si
SLU 39	7.1	1688.3	-14080	-0.0000623	0.0003743	0.0035	1.68	8350.01	10123.97	10123.97	6	No	Si
SLU 31	5	-359.99	-12711	-0.0000425	0.0003743	0.0035	1.68	7843.26	10501.41	10501.41	29.17	No	Si
SLU 31	7.1	1638.61	-13652	-0.0000603	0.0003743	0.0035	1.68	8198.78	9864.23	9864.23	6.02	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	5	-2176.58	-8110	-0.0000473	0.0005615	0.0035	1.68	7651.8	7651.8	7651.8	3.52		Si
SLD 16	7.1	2979.26	-11540	-0.000067	0.0005615	0.0035	1.68	8959.86	8959.86	8959.86	3.01		Si
SLD 14	5	-2290.72	-10365	-0.0000557	0.0005615	0.0035	1.68	9240.71	9240.71	9240.71	4.03		Si
SLD 14	7.1	3428.48	-13948	-0.0000799	0.0005615	0.0035	1.68	10437.34	10437.34	10437.34	3.04		Si
SLV 3	5	3122.7	-11181	-0.0000675	0.0005615	0.0035	1.68	8739.74	8739.74	8739.74	2.8		Si
SLV 3	7.1	-2330.47	-6375	-0.0000447	0.0005615	0.0035	1.68	6392.14	6392.14	6392.14	2.74		Si
SLV 4	5	3746.35	-11488	-0.0000761	0.0005615	0.0035	1.68	8927.98	8927.98	8927.98	2.38		Si
SLV 4	7.1	-3051.68	-5612	-0.0000638	0.0005615	0.0035	1.344	5814.65	5814.65	5814.65	1.91		Si
SLD 15	5	-2574.64	-7915	-0.0000514	0.0005615	0.0035	1.68	7509.67	7509.67	7509.67	2.92		Si
SLD 15	7.1	3439.59	-12026	-0.0000738	0.0005615	0.0035	1.68	9258.44	9258.44	9258.44	2.69		Si
SLV 13	5	-4101.76	-9931	-0.0000793	0.0005615	0.0035	1.68	8940.76	8940.76	8940.76	2.18		Si
SLV 13	7.1	5419.67	-16423	-0.0001125	0.0005615	0.0035	1.68	11955.78	11955.78	11955.78	2.21		Si
SLV 16	5	-3296.87	-6586	-0.0000655	0.0005615	0.0035	1.344	6545.4	6545.4	6545.4	1.99		Si
SLV 16	7.1	3975.09	-11764	-0.00008	0.0005615	0.0035	1.68	9097.82	9097.82	9097.82	2.29		Si
SLV 15	5	-3920.53	-6279	-0.0000998	0.0005615	0.0035	1.344	6321.82	6321.82	6321.82	1.61		Si
SLV 15	7.1	4696.3	-12527	-0.0000928	0.0005615	0.0035	1.68	9565.59	9565.59	9565.59	2.04		Si
SLV 14	5	-3478.11	-10238	-0.0000693	0.0005615	0.0035	1.68	9152.75	9152.75	9152.75	2.63		Si
SLV 14	7.1	4698.46	-15661	-0.0001004	0.0005615	0.0035	1.68	11488	11488	11488	2.45		Si
SLD 13	5	-2688.78	-10169	-0.0000594	0.0005615	0.0035	1.68	9105.4	9105.4	9105.4	3.39		Si
SLD 13	7.1	3888.81	-14435	-0.0000867	0.0005615	0.0035	1.68	10735.92	10735.92	10735.92	2.76		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5	-334.99	-15679	-11185	-2230	1.68	1.68	-23778	10115	4758	115546	14086	8568	7137	Si	3.2	Si
SLU 82	7.1	1893.15	-16516	-11782	-2821	1.68	1.68	-25046	10284	4838	115546	14086	8568	7256	Si	2.57	Si
SLU 80	5	-335.28	-15647	-11163	-2236	1.68	1.68	-23730	10108	4755	115546	14086	8568	7133	Si	3.19	Si
SLU 80	7.1	1877.09	-16482	-11758	-2786	1.68	1.68	-24996	10277	4834	115546	14086	8568	7252	Si	2.6	Si
SLU 77	5	-331.4	-15685	-11189	-2241	1.68	1.68	-23787	10116	4759	115546	14086	8568	7138	Si	3.18	Si
SLU 77	7.1	1871.43	-16542	-11801	-2788	1.68	1.68	-25087	10289	4840	115546	14086	8568	7260	Si	2.6	Si
SLU 76	5	-331.41	-15480	-11043	-2205	1.68	1.68	-23475	10074	4739	115546	14086	8568	7109	Si	3.22	Si
SLU 76	7.1	1856.14	-16267	-11604	-2753	1.68	1.68	-24669	10234	4814	115546	14086	8568	7221	Si	2.62	Si
SLU 78	5	-337.85	-15793	-11266	-2255	1.68	1.68	-23951	10138	4769	115546	14086	8568	7153	Si	3.17	Si
SLU 78	7.1	1896.23	-16653	-11880	-2810	1.68	1.68	-25255	10312	4851	115546	14086	8568	7276	Si	2.59	Si
SLU 83	5	-336.71	-15811	-11279	-2256	1.68	1.68	-23978	10142	4771	115546	14086	8568	7156	Si	3.17	Si
SLU 83	7.1	1905.82	-16694	-11909	-2847	1.68	1.68	-25317	10320	4855	115546	14086	8568	7282	Si	2.56	Si
SLU 84	5	-343.16	-15919	-11356	-2270	1.68	1.68	-24142	10163	4781	115546	14086	8568	7171	Si	3.16	Si
SLU 84	7.1	1930.63	-16805	-11988	-2869	1.68	1.68	-25485	10342	4865	115546	14086	8568	7298	Si	2.54	Si
SLU 81	5	-328.54	-15571	-11108	-2215	1.68	1.68	-23614	10093	4748	115546	14086	8568	7122	Si	3.21	Si
SLU 81	7.1	1868.34	-16405	-11703	-2799	1.68	1.68	-24878	10262	4827	115546	14086	8568	7241	Si	2.59	Si
SLU 79	5	-328.83	-15540	-11086	-2222	1.68	1.68	-23566	10087	4745	115546	14086	8568	7117	Si	3.2	Si
SLU 79	7.1	1852.28	-16372	-11679	-2764	1.68	1.68	-24828	10255	4824	115546	14086	8568	7236	Si	2.62	Si
SLU 75	5	-329.68	-15553	-11095	-2215	1.68	1.68	-23587	10089	4746	115546	14086	8568	7119	Si	3.21	Si
SLU 75	7.1	1858.75	-16363	-11673	-2762	1.68	1.68	-24816	10253	4823	115546	14086	8568	7235	Si	2.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	5	-2176.58	-8110	-5786	-4631	1.68	1.68	-12300	12877	6057	115546	21129	8568	29697		6.41	Si
SLD 16	7.1	2979.26	-11540	-8232	-4641	1.68	1.68	-17500	13917	6546	115546	21129	8568	29697		6.4	Si
SLV 9	5	-1746.19	-15957	-11383	-4287	1.68	1.68	-24199	15257	7177	115546	21129	8568	29697		6.93	Si
SLV 9	7.1	3686.41	-18691	-13333	-4950	1.68	1.68	-28345	16086	7567	115546	21129	8568	29697		6	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5	-3296.87	-6586	-4698	-6412	1.344	1.0182	0	0	0	115546	16903	6854	23757		3.71	Si
SLV 16	7.1	3975.09	-11764	-8392	-6240	1.68	1.5063	-17841	13985	5898	115546	21129	8568	29697		4.76	Si
SLV 4	5	3746.35	-11488	-8195	5040	1.68	1.5416	-17421	13901	6000	115546	21129	8568	29697		5.89	Si
SLV 4	7.1	-3051.68	-5612	-4004	4497	1.344	0.8888	0	0	0	115546	16903	6854	23757		5.28	Si
SLD 13	5	-2688.78	-10169	-7254	-5597	1.68	1.68	-15422	13501	6351	115546	21129	8568	29697		5.31	Si
SLD 13	7.1	3888.81	-14435	-10297	-5778	1.68	1.68	-21891	14795	6959	115546	21129	8568	29697		5.14	Si
SLV 15	5	-3920.53	-6279	-4479	-7477	1.344	0.6469	0	0	0	115546	16903	6854	23757		3.18	Si
SLV 15	7.1	4696.3	-12527	-8936	-7319	1.68	1.3953	-18997	14216	5554	115546	21129	8568	29697		4.06	Si
SLV 13	5	-4101.76	-9931	-7084	-7935	1.68	1.2809	-19969	14411	5169	115546	21129	8568	29697		3.74	Si
SLV 13	7.1	5419.67	-16423	-11716	-8041	1.68	1.53	-24906	15398	6596	115546	21129	8568	29697		3.69	Si
SLD 14	5	-2290.72	-10365	-7394	-4917	1.68	1.68	-15719	13560	6379	115546	21129	8568	29697		6.04	Si
SLD 14	7.1	3428.48	-13948	-9950	-5090	1.68	1.68	-21152	14647	6890	115546	21129	8568	29697		5.83	Si
SLV 14	5	-3478.11	-10238	-7303	-6870	1.68	1.5008	-17517	13920	5850	115546	21129	8568	29697		4.32	Si
SLV 14	7.1	4698.46	-15661	-11172	-6963	1.68	1.6199	-23750	15167	6879	115546	21129	8568	29697		4.27	Si
SLD 15	5	-2574.64	-7915	-5646	-5311	1.68	1.5441	-13143	13045	5640	115546	21129	8568	29697		5.59	Si
SLD 15	7.1	3439.59	-12026	-8579	-5329	1.68	1.662	-18238	14064	6545	115546	21129	8568	29697		5.57	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-3650	0.38	177.4	485.07	757.28	621.17	3.5	Si
SLV 7	-4164	0.38	177.4	549.12	836.61	692.87	3.91	Si
SLV 12	-5510	0.38	177.4	712.2	1043.87	878.03	4.95	Si
SLV 4	-5900	0.38	177.4	758.17	1103.7	930.94	5.25	Si
SLV 11	-6023	0.38	177.4	772.53	1122.56	947.54	5.34	Si
SLV 3	-6663	0.38	177.4	846.25	1220.45	1033.35	5.82	Si
SLV 2	-9795	0.38	177.4	1184.3	1694.87	1439.58	8.11	Si
SLV 1	-10557	0.38	177.4	1260.8	1809.51	1535.16	8.65	Si
SLV 16	-12098	0.38	177.4	1408.51	2039.2	1723.86	9.72	Si
SLV 15	-12861	0.38	177.4	1478.17	2152.34	1815.25	10.23	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-10699	-15139	-130	0.807	1325.4	0.949	12.36263	6.56194	Si
SLV 1	-10531	-14833	-128	0.818	1308.4	0.948	12.53707	6.56194	Si
SLV 4	-8731	-11488	-1	0.967	1125.8	0.941	14.93871	6.56194	Si
SLV 3	-8562	-11181	1	0.983	1108.8	0.94	15.18919	6.56194	Si
SLV 6	-12112	-17634	-220	0.721	1468.9	0.953	10.98869	4.70862	Si
SLV 5	-11999	-17428	-219	0.727	1457.4	0.953	11.08105	4.70862	Si
SLV 14	-8254	-10238	40	1.009	1077.6	0.939	15.61217	6.56194	Si
SLV 13	-8086	-9931	42	1.025	1060.6	0.938	15.88605	6.56194	Si
SLV 10	-11379	-16164	-169	0.763	1394.4	0.951	11.66726	4.70862	Si
SLV 9	-11265	-15957	-168	0.77	1382.9	0.951	11.77134	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.922	SLU 42	Si
V_SLU	2.544	SLU 84	Si
PF_SLV	1.612	SLV 15	Si
V_SLV	3.177	SLV 15	Si
PFFP_SLV	3.502	SLV 8	Si
R_SLV	1.884	SLV 2	Si

Maschio 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.661	L5	L6	4.455	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 84	5	-16908.07	-40071	-0.000136	0.0004492	0.0035	4.455	42325.47	80667.86	63488.2	3.75	Si	Si
SLU 84	7.1	-9640.07	-36709	-0.0001051	0.0004492	0.0035	4.455	42381.64	76193.21	63572.45	6.59	Si	Si
SLU 75	5	-16380.89	-39096	-0.0001319	0.0004492	0.0035	4.455	42409.78	79388.81	63614.67	3.88	Si	Si
SLU 75	7.1	-9221.64	-35734	-0.0001015	0.0004492	0.0035	4.455	42274.32	74814.2	63411.48	6.88	Si	Si
SLU 83	5	-16618.08	-40345	-0.0001358	0.0004492	0.0035	4.455	42291.71	81027.93	63437.56	3.82	Si	Si
SLU 83	7.1	-9863.66	-36984	-0.0001064	0.0004492	0.0035	4.455	42401.82	76581.41	63602.73	6.45	Si	Si
SLU 77	5	-16200.64	-40143	-0.000134	0.0004492	0.0035	4.455	42316.99	80762.86	63475.48	3.92	Si	Si
SLU 77	7.1	-9592.33	-36782	-0.0001051	0.0004492	0.0035	4.455	42387.39	76295.63	63581.08	6.63	Si	Si
SLU 73	5	-16346.21	-37737	-0.0001284	0.0004492	0.0035	4.455	42434.58	77606.78	63651.88	3.89	Si	Si
SLU 73	7.1	-8849.82	-34375	-0.0000972	0.0004492	0.0035	4.455	42032.13	72892.91	63048.19	7.12	Si	Si
SLU 80	5	-16372.37	-39466	-0.0001328	0.0004492	0.0035	4.455	42384.29	79874.8	63576.44	3.88	Si	Si
SLU 80	7.1	-9293.09	-36104	-0.0001026	0.0004492	0.0035	4.455	42321.64	75338.17	63482.46	6.83	Si	Si
SLU 82	5	-16798.33	-39298	-0.0001337	0.0004492	0.0035	4.455	42396.88	79653.87	63595.31	3.79	Si	Si
SLU 82	7.1	-9492.97	-35936	-0.0001028	0.0004492	0.0035	4.455	42301.12	75099.98	63451.69	6.68	Si	Si
SLU 76	5	-16455.96	-38510	-0.0001307	0.0004492	0.0035	4.455	42433.7	78620.77	63650.55	3.87	Si	Si
SLU 76	7.1	-8996.93	-35148	-0.0000994	0.0004492	0.0035	4.455	42183.17	73986.14	63274.75	7.03	Si	Si
SLU 81	5	-16508.33	-39572	-0.0001335	0.0004492	0.0035	4.455	42375.52	80013.94	63563.28	3.85	Si	Si
SLU 81	7.1	-9716.56	-36211	-0.0001041	0.0004492	0.0035	4.455	42333.71	75488.18	63500.57	6.54	Si	Si
SLU 78	5	-16490.63	-39869	-0.0001342	0.0004492	0.0035	4.455	42347.51	80402.8	63521.26	3.85	Si	Si
SLU 78	7.1	-9368.75	-36507	-0.0001037	0.0004492	0.0035	4.455	42363.96	75907.43	63545.94	6.78	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	5	-28464.6	-11000	-0.0006046	0.0006738	0.0035	3.564		34096.75	34096.75	1.2		Si
SLV 10	7.1	5195.31	-8389	-0.000301	0.0006738	0.0035	4.455		19719.71	19719.71	3.8		Si
SLD 9	5	-21822.17	-17009	-0.0001088	0.0006738	0.0035	3.564		45642.82	45642.82	2.09		Si
SLD 9	7.1	939.48	-14423	-0.0000307	0.0006738	0.0035	4.455		31718.93	31718.93	33.76		Si
SLV 6	5	-30104.02	-11076	-0.0007017	0.0006738	0.0035	3.564		34244.95	34244.95	1.14		Si
SLV 6	7.1	5800.42	-8460	-0.0000318	0.0006738	0.0035	4.455		19864.15	19864.15	3.42		Si
SLD 6	5	-22833.26	-17081	-0.0001162	0.0006738	0.0035	3.564		45778.3	45778.3	2		Si
SLD 6	7.1	1234.9	-14492	-0.0000317	0.0006738	0.0035	4.455		31853.46	31853.46	25.79		Si
SLD 5	5	-22872.16	-17057	-0.0001166	0.0006738	0.0035	3.564		45732.93	45732.93	2		Si
SLD 5	7.1	1326.76	-14468	-0.0000319	0.0006738	0.0035	4.455		31806.76	31806.76	23.97		Si
SLV 5	5	-30166.15	-11037	-0.0007092	0.0006738	0.0035	3.564		34168.86	34168.86	1.13		Si
SLV 5	7.1	5947.17	-8421	-0.0000321	0.0006738	0.0035	4.455		19785.78	19785.78	3.33		Si
SLV 1	5	-19327.59	-22153	-0.0000983	0.0006738	0.0035	4.455		55022.92	55022.92	2.85		Si
SLV 1	7.1	-1592.64	-19583	-0.0000429	0.0006738	0.0035	4.455		50434.84	50434.84	31.67		Si
SLV 9	5	-28526.73	-10962	-0.0006119	0.0006738	0.0035	3.564		34020.66	34020.66	1.19		Si
SLV 9	7.1	5342.05	-8350	-0.0000304	0.0006738	0.0035	4.455		19641.34	19641.34	3.68		Si
SLV 2	5	-19235.31	-22210	-0.0000981	0.0006738	0.0035	4.455		55125.23	55125.23	2.87		Si
SLV 2	7.1	-1810.6	-19640	-0.0000436	0.0006738	0.0035	4.455		50537.15	50537.15	27.91		Si
SLD 10	5	-21783.27	-17033	-0.0001085	0.0006738	0.0035	3.564		45688.19	45688.19	2.1		Si
SLD 10	7.1	847.62	-14447	-0.0000305	0.0006738	0.0035	4.455		31765.62	31765.62	37.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	5	-14653.25	-33778	-18729	-3270	4.455	4.455	-30028	10833	11094	115546	22414	22721	16641	Si	5.09	Si
SLU 55	7.1	-7734.41	-30618	-16976	-3270	4.455	4.455	-27219	10833	10393	115546	22414	22721	15590	Si	4.77	Si
SLU 76	5	-16455.96	-38510	-21352	-3528	4.455	4.455	-34235	10833	12144	115546	22414	22721	18215	Si	5.16	Si
SLU 76	7.1	-8996.93	-35148	-19488	-3528	4.455	4.455	-31246	10833	11398	115546	22414	22721	17097	Si	4.85	Si
SLU 68	5	-14949.91	-35296	-19570	-3360	4.455	4.455	-31377	10833	11431	115546	22414	22721	17146	Si	5.1	Si
SLU 68	7.1	-7844.06	-31934	-17706	-3360	4.455	4.455	-28389	10833	10685	115546	22414	22721	16028	Si	4.77	Si
SLU 47	5	-13147.21	-30564	-16946	-3101	4.455	4.455	-27170	10833	10381	115546	22414	22721	15572	Si	5.02	Si
SLU 47	7.1	-6581.55	-27403	-15194	-3101	4.455	4.455	-24361	10833	9680	115546	22414	22721	14520	Si	4.68	Si
SLU 52	5	-14543.51	-33005	-18300	-3287	4.455	4.455	-29341	10833	10923	115546	22414	22721	16384	Si	4.98	Si
SLU 52	7.1	-7587.31	-29845	-16548	-3287	4.455	4.455	-26531	10833	10222	115546	22414	22721	15333	Si	4.66	Si
SLU 61	5	-14995.62	-34566	-19165	-3196	4.455	4.455	-30728	10833	11269	115546	22414	22721	16903	Si	5.29	Si
SLU 61	7.1	-8230.45	-31406	-17413	-3196	4.455	4.455	-27919	10833	10568	115546	22414	22721	15852	Si	4.96	Si
SLU 73	5	-16346.21	-37737	-20924	-3546	4.455	4.455	-33548	10833	11972	115546	22414	22721	17958	Si	5.06	Si
SLU 73	7.1	-8849.82	-34375	-19060	-3546	4.455	4.455	-30559	10833	11227	115546	22414	22721	16840	Si	4.75	Si
SLU 65	5	-14840.17	-34523	-19141	-3377	4.455	4.455	-30690	10833	11259	115546	22414	22721	16889	Si	5	Si
SLU 65	7.1	-7696.96	-31161	-17277	-3377	4.455	4.455	-27701	10833	10514	115546	22414	22721	15770	Si	4.67	Si
SLU 44	5	-13037.46	-29791	-16518	-3119	4.455	4.455	-26483	10833	10210	115546	22414	22721	15315	Si	4.91	Si
SLU 44	7.1	-6434.44	-26630	-14765	-3119	4.455	4.455	-23674	10833	9509	115546	22414	22721	14263	Si	4.57	Si
SLU 2	5	-10615.8	-24058	-13339	-2562	4.455	4.455	-21387	10833	8938	115546	22414	22721	13408	Si	5.23	Si
SLU 2	7.1	-5196.55	-21574	-11962	-2562	4.455	4.455	-19179	10833	8388	115546	22414	22721	12581	Si	4.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	5	-28464.6	-11000	-6099	-16123	3.564	0	0	0	0	115546	26897	18176	45073		2.8	Si
SLV 10	7.1	5195.31	-8389	-4651	-15811	4.455	4.455	-7457	13991	8726	115546	33621	22721	56342		3.56	Si
SLV 9	5	-28526.73	-10962	-6078	-16222	3.564	0	0	0	0	115546	26897	18176	45073		2.78	Si
SLV 9	7.1	5342.05	-8350	-4630	-15910	4.455	4.455	-7423	13985	8722	115546	33621	22721	56342		3.54	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	5	7948.37	-42497	-23563	12637	4.455	4.455	-37779	16250	14829	115546	33621	22721	56342		4.46	Si
SLV 11	7.1	-18319.02	-40029	-22195	12325	4.455	4.455	-35585	16250	14282	115546	33621	22721	56342		4.57	Si
SLD 9	5	-21822.17	-17009	-9431	-10890	3.564	2.8336	0	0	0	115546	26897	18176	45073		4.14	Si
SLD 9	7.1	939.48	-14423	-7997	-10697	4.455	4.455	-12821	15064	9396	115546	33621	22721	56342		5.27	Si
SLD 10	5	-21783.27	-17033	-9444	-10828	3.564	2.8459	0	0	0	115546	26897	18176	45073		4.16	Si
SLD 10	7.1	847.62	-14447	-8010	-10634	4.455	4.455	-12843	15069	9398	115546	33621	22721	56342		5.3	Si
SLV 5	5	-30166.15	-11037	-6120	-17288	3.564	0	0	0	0	115546	26897	18176	45073		2.61	Si
SLV 5	7.1	5947.17	-8421	-4669	-16976	4.455	4.455	-7486	13997	8730	115546	33621	22721	56342		3.32	Si
SLD 5	5	-22872.16	-17057	-9457	-11572	3.564	2.6597	0	0	0	115546	26897	18176	45073		3.9	Si
SLD 5	7.1	1326.76	-14468	-8022	-11380	4.455	4.455	-12862	15072	9401	115546	33621	22721	56342		4.95	Si
SLD 6	5	-22833.26	-17081	-9471	-11510	3.564	2.6723	0	0	0	115546	26897	18176	45073		3.92	Si
SLD 6	7.1	1234.9	-14492	-8035	-11317	4.455	4.455	-12883	15077	9403	115546	33621	22721	56342		4.98	Si
SLV 12	5	8010.5	-42535	-23584	12736	4.455	4.455	-37813	16250	14838	115546	33621	22721	56342		4.42	Si
SLV 12	7.1	-18465.77	-40068	-22216	12425	4.455	4.455	-35620	16250	14290	115546	33621	22721	56342		4.53	Si
SLV 6	5	-30104.02	-11076	-6141	-17188	3.564	0	0	0	0	115546	26897	18176	45073		2.62	Si
SLV 6	7.1	5800.42	-8460	-4691	-16877	4.455	4.455	-7520	14004	8734	115546	33621	22721	56342		3.34	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 9	-8836	0.38	255.98	570.7	1047.94	809.32	3.16	Si
SLV 10	-8874	0.38	255.98	572.98	1051.24	812.11	3.17	Si
SLV 5	-8910	0.38	255.98	575.08	1054.29	814.68	3.18	Si
SLV 6	-8948	0.38	255.98	577.36	1057.59	817.47	3.19	Si
SLV 13	-19837	0.38	255.98	1147.6	1964.14	1555.87	6.08	Si
SLV 14	-19894	0.38	255.98	1150.22	1968.84	1559.53	6.09	Si
SLV 1	-20084	0.38	255.98	1158.86	1984.42	1571.64	6.14	Si
SLV 2	-20141	0.38	255.98	1161.46	1989.13	1575.29	6.15	Si
SLV 15	-29348	0.38	255.98	1526.93	2728.62	2127.78	8.31	Si
SLV 16	-29405	0.38	255.98	1528.88	2733.23	2131.06	8.32	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-23045	-31613	-403	1.005	2658	0.965	15.13563	13.57575	Si
SLV 4	-23006	-31670	-403	1.006	2654	0.965	15.1596	13.57575	Si
SLV 15	-20806	-31363	402	1.101	2430.2	0.962	16.64545	13.57575	Si
SLV 16	-20767	-31420	402	1.103	2426.3	0.962	16.67451	13.57575	Si
SLV 1	-19140	-22153	-402	1.187	2260.8	0.959	17.98264	13.57575	Si
SLV 2	-19101	-22210	-402	1.189	2256.8	0.959	18.01663	13.57575	Si
SLV 13	-16902	-21902	403	1.325	2033.2	0.955	20.16305	13.57575	Si
SLV 14	-16862	-21959	403	1.328	2029.3	0.955	20.20588	13.57575	Si
SLV 7	-26810	-42572	-123	0.886	3041.2	0.969	13.2856	6.96855	Si
SLV 8	-26784	-42611	-123	0.886	3038.6	0.969	13.29783	6.96855	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.755	SLU 84	Si
V_SLU	4.573	SLU 44	Si
PF_SLV	1.133	SLV 5	Si
V_SLV	2.607	SLV 5	Si
PFFP_SLV	3.162	SLV 9	Si
R_SLV	1.115	SLV 3	Si

Maschio 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.784	-13.753	-3.314	L5	L6	1.47	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	5	-495.14	-15916	-0.0000639	0.0003743	0.0035	1.47	7255.19	10380.41	10380.41	20.96	No	Si
SLU 73	8.55	109.17	-10818	-0.0000389	0.0003743	0.0035	1.47	5898.55	6978.8	6978.8	63.92	No	Si
SLU 82	5	-520.59	-16494	-0.0000666	0.0003743	0.0035	1.47	7351.47	10642.5	10642.5	20.44	No	Si
SLU 82	8.55	114.96	-11199	-0.0000404	0.0003743	0.0035	1.47	6031.35	7175.57	7175.57	62.42	No	Si
SLU 84	5	-524.99	-16701	-0.0000675	0.0003743	0.0035	1.47	7383.11	10736.4	10736.4	20.45	No	Si
SLU 84	8.55	125.87	-11395	-0.0000413	0.0003743	0.0035	1.47	6097.93	7277.19	7277.19	57.82	No	Si
SLU 81	5	-505.33	-16385	-0.0000659	0.0003743	0.0035	1.47	7334.21	10593.08	10593.08	20.96	No	Si
SLU 81	8.55	101.19	-11150	-0.00004	0.0003743	0.0035	1.47	6014.78	7150.6	7150.6	70.67	No	Si
SLU 40	5	-466.46	-14062	-0.0000564	0.0003743	0.0035	1.47	6867.29	9506.29	9506.29	20.38	No	Si
SLU 40	8.55	124.16	-9560	-0.0000346	0.0003743	0.0035	1.47	5423.65	6328.67	6328.67	50.97	No	Si
SLU 42	5	-470.86	-14269	-0.0000572	0.0003743	0.0035	1.47	6916.6	9606.93	9606.93	20.4	No	Si
SLU 42	8.55	135.07	-9757	-0.0000355	0.0003743	0.0035	1.47	5501.54	6430.29	6430.29	47.61	No	Si
SLU 83	5	-509.73	-16592	-0.0000668	0.0003743	0.0035	1.47	7366.65	10686.98	10686.98	20.97	No	Si
SLU 83	8.55	112.1	-11347	-0.0000409	0.0003743	0.0035	1.47	6081.7	7252.22	7252.22	64.7	No	Si
SLU 39	5	-451.2	-13953	-0.0000557	0.0003743	0.0035	1.47	6840.73	9453.33	9453.33	20.95	No	Si
SLU 39	8.55	110.39	-9512	-0.0000342	0.0003743	0.0035	1.47	5404.3	6303.7	6303.7	57.1	No	Si
SLU 34	5	-445.4	-13691	-0.0000546	0.0003743	0.0035	1.47	6775.2	9326.02	9326.02	20.94	No	Si
SLU 34	8.55	129.28	-9376	-0.000034	0.0003743	0.0035	1.47	5349.48	6233.52	6233.52	48.22	No	Si
SLU 31	5	-441	-13484	-0.0000538	0.0003743	0.0035	1.47	6721.68	9225.39	9225.39	20.92	No	Si
SLU 31	8.55	118.38	-9179	-0.0000332	0.0003743	0.0035	1.47	5268.97	6131.9	6131.9	51.8	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	5	1070.21	-4045	-0.0000283	0.0005615	0.0035	1.47		3076.6	3076.6	2.87		Si
SLV 8	8.55	-780.78	-3912	-0.0000238	0.0005615	0.0035	1.47		3754.96	3754.96	4.81		Si
SLV 15	5	-272.66	-8746	-0.0000334	0.0005615	0.0035	1.47		6848.48	6848.48	25.12		Si
SLV 15	8.55	792.88	-6196	-0.0000318	0.0005615	0.0035	1.47		4493.54	4493.54	5.67		Si
SLV 16	5	-234.75	-8760	-0.0000329	0.0005615	0.0035	1.47		6857.17	6857.17	29.21		Si
SLV 16	8.55	644.64	-6173	-0.0000297	0.0005615	0.0035	1.47		4478.67	4478.67	6.95		Si
SLV 14	5	-993.57	-12956	-0.0000587	0.0005615	0.0035	1.47		9301.24	9301.24	9.36		Si
SLV 14	8.55	956.94	-8375	-0.0000418	0.0005615	0.0035	1.47		5869.87	5869.87	6.13		Si
SLV 3	5	382.52	-9028	-0.0000359	0.0005615	0.0035	1.47		6269.71	6269.71	16.39		Si
SLV 3	8.55	-876.78	-6663	-0.0000346	0.0005615	0.0035	1.47		5552.26	5552.26	6.33		Si
SLV 12	5	873.66	-3961	-0.0000252	0.0005615	0.0035	1.47		3019.9	3019.9	3.46		Si
SLV 12	8.55	-279.88	-3772	-0.0000164	0.0005615	0.0035	1.47		3661.62	3661.62	13.08		Si
SLV 7	5	1044.69	-4036	-0.0000279	0.0005615	0.0035	1.47		3070.14	3070.14	2.94		Si
SLV 7	8.55	-680.97	-3927	-0.0000225	0.0005615	0.0035	1.47		3765.3	3765.3	5.53		Si
SLV 11	5	848.13	-3951	-0.0000249	0.0005615	0.0035	1.47		3013.43	3013.43	3.55		Si
SLV 11	8.55	-180.08	-3787	-0.0000151	0.0005615	0.0035	1.47		3671.96	3671.96	20.39		Si
SLV 13	5	-1031.48	-12942	-0.0000592	0.0005615	0.0035	1.47		9293.42	9293.42	9.01		Si
SLV 13	8.55	1105.18	-8398	-0.000044	0.0005615	0.0035	1.47		5884.18	5884.18	5.32		Si
SLV 4	5	420.43	-9042	-0.0000365	0.0005615	0.0035	1.47		6278.45	6278.45	14.93		Si
SLV 4	8.55	-1025.02	-6640	-0.0000366	0.0005615	0.0035	1.47		5537.61	5537.61	5.4		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	5	-520.59	-16494	-11767	-3562	1.47	1.47	-28587	10756	4459	115546	12325	7497	6688	Si	1.88	Si
SLU 82	8.55	114.96	-11199	-7989	757	1.47	1.47	-19409	9532	3924	115546	12325	7497	5885	Si	7.78	Si
SLU 77	5	-482.26	-16280	-11614	-3464	1.47	1.47	-28216	10707	4418	115546	12325	7497	6627	Si	1.91	Si
SLU 77	8.55	111.72	-11256	-8030	869	1.47	1.47	-19509	9546	3929	115546	12325	7497	5893	Si	6.78	Si
SLU 80	5	-493.76	-16258	-11598	-3498	1.47	1.47	-28177	10701	4414	115546	12325	7497	6620	Si	1.89	Si
SLU 80	8.55	121.81	-11179	-7975	808	1.47	1.47	-19375	9528	3922	115546	12325	7497	5882	Si	7.28	Si
SLU 83	5	-509.73	-16592	-11837	-3559	1.47	1.47	-28757	10779	4477	115546	12325	7497	6716	Si	1.89	Si
SLU 83	8.55	112.1	-11347	-8095	816	1.47	1.47	-19666	9567	3938	115546	12325	7497	5906	Si	7.24	Si
SLU 76	5	-499.54	-16123	-11502	-3477	1.47	1.47	-27944	10670	4392	115546	12325	7497	6588	Si	1.89	Si
SLU 76	8.55	120.08	-11014	-7857	767	1.47	1.47	-19090	9490	3906	115546	12325	7497	5859	Si	7.64	Si
SLU 84	5	-524.99	-16701	-11914	-3631	1.47	1.47	-28946	10804	4498	115546	12325	7497	6747	Si	1.86	Si
SLU 84	8.55	125.87	-11395	-8129	761	1.47	1.47	-19750	9578	3942	115546	12325	7497	5913	Si	7.77	Si
SLU 81	5	-505.33	-16385	-11689	-3490	1.47	1.47	-28398	10731	4438	115546	12325	7497	6657	Si	1.91	Si
SLU 81	8.55	101.19	-11150	-7954	811	1.47	1.47	-19325	9521	3919	115546	12325	7497	5878	Si	7.25	Si
SLU 75	5	-493.13	-16182	-11544	-3467	1.47	1.47	-28046	10684	4399	115546	12325	7497	6599	Si	1.9	Si
SLU 75	8.55	114.59	-11108	-7924	810	1.47	1.47	-19252	9511	3915	115546	12325	7497	5872	Si	7.25	Si
SLU 78	5	-497.53	-16389	-11691	-3536	1.47	1.47	-28404	10732	4439	115546	12325	7497	6658	Si	1.88	Si
SLU 78	8.55	125.5	-11304	-8064	814	1.47	1.47	-19592	9557	3934	115546	12325	7497	5900	Si	7.25	Si
SLU 79	5	-478.5	-16149	-11520	-3426	1.47	1.47	-27988	10676	4394	115546	12325	7497	6592	Si	1.92	Si
SLU 79	8.55	108.03	-11131	-7940	863	1.47	1.47	-19291	9517	3917	115546	12325	7497	5876	Si	6.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	5	-1155.79	-15276	-10897	-6395	1.47	1.47	-26475	15712	6467	115546	18488	7497	25985		4.06	Si
SLD 9	8.55	556.66	-9735	-6945	-1473	1.47	1.47	-16873	13791	5676	115546	18488	7497	25985		17.64	Si
SLV 10	5	-1655.74	-17949	-12804	-8541	1.47	1.47	-31108	16250	6689	115546	18488	7497	25985		3.04	Si
SLV 10	8.55	761.14	-11112	-7927	-2369	1.47	1.47	-19258	14268	5873	115546	18488	7497	25985		10.97	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	5	-1681.26	-17939	-12797	-8947	1.47	1.47	-31092	16250	6689	115546	18488	7497	25985		2.9	Si
SLV 9	8.55	860.94	-11127	-7938	-2775	1.47	1.47	-19285	14274	5875	115546	18488	7497	25985		9.36	Si
SLV 6	5	-1459.18	-18033	-12865	-6286	1.47	1.47	-31255	16250	6689	115546	18488	7497	25985		4.13	Si
SLV 6	8.55	260.24	-11252	-8027	-133	1.47	1.47	-19501	14317	5893	115546	18488	7497	25985		194.73	Si
SLD 10	5	-1139.81	-15282	-10902	-6141	1.47	1.47	-26486	15714	6468	115546	18488	7497	25985		4.23	Si
SLD 10	8.55	494.19	-9725	-6938	-1219	1.47	1.47	-16856	13788	5675	115546	18488	7497	25985		21.31	Si
SLV 13	5	-1031.48	-12942	-9233	-7875	1.47	1.47	-22431	14903	6134	115546	18488	7497	25985		3.3	Si
SLV 13	8.55	1105.18	-8398	-5991	-3971	1.47	1.47	-14556	13328	5486	115546	18488	7497	25985		6.54	Si
SLV 14	5	-993.57	-12956	-9243	-7273	1.47	1.47	-22456	14908	6136	115546	18488	7497	25985		3.57	Si
SLV 14	8.55	956.94	-8375	-5975	-3368	1.47	1.47	-14516	13320	5482	115546	18488	7497	25985		7.71	Si
SLD 14	5	-737.4	-12199	-8703	-5409	1.47	1.47	-21143	14645	6028	115546	18488	7497	25985		4.8	Si
SLD 14	8.55	624.99	-8039	-5735	-1891	1.47	1.47	-13932	13203	5434	115546	18488	7497	25985		13.74	Si
SLV 5	5	-1484.71	-18024	-12858	-6691	1.47	1.47	-31238	16250	6689	115546	18488	7497	25985		3.88	Si
SLV 5	8.55	360.04	-11267	-8038	-539	1.47	1.47	-19528	14322	5895	115546	18488	7497	25985		48.2	Si
SLD 13	5	-761.6	-12190	-8696	-5794	1.47	1.47	-21127	14642	6027	115546	18488	7497	25985		4.49	Si
SLD 13	8.55	719.61	-8053	-5745	-2275	1.47	1.47	-13958	13208	5436	115546	18488	7497	25985		11.42	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-4133	0.38	159.23	540.6	804.58	672.59	4.22	Si
SLV 12	-4212	0.38	159.23	550.13	816.71	683.42	4.29	Si
SLV 7	-4691	0.38	159.23	607.71	890.38	749.05	4.7	Si
SLV 8	-4769	0.38	159.23	617.05	902.42	759.73	4.77	Si
SLV 15	-6508	0.38	159.23	816.81	1168.19	992.5	6.23	Si
SLV 16	-6625	0.38	159.23	829.73	1185.9	1007.82	6.33	Si
SLV 3	-8367	0.38	159.23	1015.47	1449.57	1232.52	7.74	Si
SLV 4	-8484	0.38	159.23	1027.42	1467.12	1247.27	7.83	Si
SLV 13	-9118	0.38	159.23	1091.35	1562.55	1326.95	8.33	Si
SLV 14	-9235	0.38	159.23	1102.91	1580.1	1341.51	8.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-8865	-13224	-45	0.851	1109.4	0.947	13.06638	6.56194	Si
SLV 2	-8842	-13239	-45	0.853	1107.1	0.947	13.09541	6.56194	Si
SLV 13	-8398	-12942	63	0.888	1062.1	0.945	13.66609	6.56194	Si
SLV 14	-8375	-12956	63	0.89	1059.7	0.945	13.69926	6.56194	Si
SLV 5	-11267	-18024	11	0.699	1353.3	0.955	10.63312	4.70862	Si
SLV 6	-11252	-18033	11	0.7	1351.7	0.955	10.64633	4.70862	Si
SLV 9	-11127	-17939	43	0.704	1339.1	0.955	10.71126	4.70862	Si
SLV 10	-11112	-17949	43	0.705	1337.5	0.955	10.72473	4.70862	Si
SLV 3	-6663	-9028	-60	1.073	886.4	0.936	16.67194	6.56194	Si
SLV 4	-6640	-9042	-61	1.076	884	0.935	16.72019	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.38	SLU 40	Si
V_SLU	1.858	SLU 84	Si
PF_SLV	2.875	SLV 8	Si
V_SLV	2.904	SLV 9	Si
PFFP_SLV	4.224	SLV 11	Si
R_SLV	1.991	SLV 1	Si

Maschio 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.314	-13.753	-0.354	Z medio 588 cm	L6	2.96	0.28	2.67	1.79	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 21	6.76	1381.24	-23343	-0.0000452	0.0003743	0.0035	2.96	24990.6	29796.09	29796.09	21.57	No	Si
SLU 21	8.55	299.46	-18195	-0.000032	0.0003743	0.0035	2.96	21122.28	24297.88	24297.88	81.14	No	Si
SLU 42	6.76	1670.47	-26807	-0.0000527	0.0003743	0.0035	2.96	27069.93	33495	33495	20.05	No	Si
SLU 42	8.55	264.83	-20952	-0.0000368	0.0003743	0.0035	2.96	23309.57	27242.43	27242.43	102.87	No	Si
SLU 18	6.76	1320.71	-22597	-0.0000436	0.0003743	0.0035	2.96	24487.41	28998.98	28998.98	21.96	No	Si
SLU 18	8.55	273.61	-17543	-0.0000307	0.0003743	0.0035	2.96	20565.79	23601.24	23601.24	86.26	No	Si
SLU 84	6.76	1733.16	-31358	-0.0000616	0.0003743	0.0035	2.96	29162.92	38356.53	38356.53	22.13	No	Si
SLU 84	8.55	235.97	-24373	-0.0000429	0.0003743	0.0035	2.96	25652.57	30895.49	30895.49	130.93	No	Si
SLU 39	6.76	1609.94	-26060	-0.0000511	0.0003743	0.0035	2.96	26657.41	32697.9	32697.9	20.31	No	Si
SLU 39	8.55	238.99	-20300	-0.0000355	0.0003743	0.0035	2.96	22816.16	26545.79	26545.79	111.08	No	Si
SLU 83	6.76	1722.19	-31192	-0.0000612	0.0003743	0.0035	2.96	29099.36	38179.22	38179.22	22.17	No	Si
SLU 83	8.55	224.3	-24244	-0.0000426	0.0003743	0.0035	2.96	25571.98	30758.27	30758.27	137.13	No	Si
SLU 20	6.76	1370.27	-23177	-0.0000449	0.0003743	0.0035	2.96	24880.36	29618.78	29618.78	21.62	No	Si
SLU 20	8.55	287.79	-18067	-0.0000317	0.0003743	0.0035	2.96	21013.85	24160.66	24160.66	83.95	No	Si
SLU 19	6.76	1331.68	-22763	-0.000044	0.0003743	0.0035	2.96	24601.03	29176.29	29176.29	21.91	No	Si
SLU 19	8.55	285.29	-17672	-0.000031	0.0003743	0.0035	2.96	20676.59	23738.46	23738.46	83.21	No	Si
SLU 40	6.76	1620.91	-26226	-0.0000514	0.0003743	0.0035	2.96	26750.86	32875.21	32875.21	20.28	No	Si
SLU 40	8.55	250.66	-20429	-0.0000358	0.0003743	0.0035	2.96	22914.53	26683.01	26683.01	106.45	No	Si
SLU 41	6.76	1659.49	-26641	-0.0000523	0.0003743	0.0035	2.96	26979.86	33317.69	33317.69	20.08	No	Si
SLU 41	8.55	253.16	-20824	-0.0000365	0.0003743	0.0035	2.96	23213.56	27105.21	27105.21	107.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	6.76	956.72	-17362	-0.0000324	0.0005615	0.0035	2.96	24314.53	24314.53	24314.53	25.41		Si
SLV 16	8.55	-70.98	-13522	-0.0000228	0.0005615	0.0035	2.96	23460.65	23460.65	23460.65	330.51		Si
SLD 14	6.76	1027.69	-21871	-0.0000405	0.0005615	0.0035	2.96	29433.02	29433.02	29433.02	28.64		Si
SLD 14	8.55	-295.25	-16716	-0.000029	0.0005615	0.0035	2.96	27504.72	27504.72	27504.72	93.16		Si
SLD 15	6.76	969.54	-18674	-0.0000348	0.0005615	0.0035	2.96	25925.31	25925.31	25925.31	26.74		Si
SLD 15	8.55	-102.37	-14523	-0.0000246	0.0005615	0.0035	2.96	24728.53	24728.53	24728.53	241.56		Si
SLV 14	6.76	1167.34	-22558	-0.0000422	0.0005615	0.0035	2.96	30173.78	30173.78	30173.78	25.85		Si
SLV 14	8.55	-434.51	-17206	-0.0000303	0.0005615	0.0035	2.96	28093.74	28093.74	28093.74	64.66		Si
SLD 13	6.76	1099.87	-21888	-0.0000408	0.0005615	0.0035	2.96	29451.35	29451.35	29451.35	26.78		Si
SLD 13	8.55	-322.6	-16808	-0.0000293	0.0005615	0.0035	2.96	27615.74	27615.74	27615.74	85.6		Si
SLV 15	6.76	1069.81	-17388	-0.0000329	0.0005615	0.0035	2.96	24347.22	24347.22	24347.22	22.76		Si
SLV 15	8.55	-113.84	-13664	-0.0000232	0.0005615	0.0035	2.96	23641.37	23641.37	23641.37	207.68		Si
SLV 8	6.76	287.24	-12396	-0.0000216	0.0005615	0.0035	2.96	18009.84	18009.84	18009.84	62.7		Si
SLV 8	8.55	619.61	-9900	-0.0000185	0.0005615	0.0035	2.96	14724.03	14724.03	14724.03	23.76		Si
SLV 7	6.76	363.38	-12414	-0.0000219	0.0005615	0.0035	2.96	18033.03	18033.03	18033.03	49.63		Si
SLV 7	8.55	590.76	-9997	-0.0000186	0.0005615	0.0035	2.96	14852.57	14852.57	14852.57	25.14		Si
SLD 16	6.76	897.35	-18657	-0.0000345	0.0005615	0.0035	2.96	25904.45	25904.45	25904.45	28.87		Si
SLD 16	8.55	-75.02	-14432	-0.0000243	0.0005615	0.0035	2.96	24613.18	24613.18	24613.18	328.09		Si
SLV 13	6.76	1280.43	-22585	-0.0000427	0.0005615	0.0035	2.96	30202.5	30202.5	30202.5	23.59		Si
SLV 13	8.55	-477.36	-17348	-0.0000307	0.0005615	0.0035	2.96	28265.16	28265.16	28265.16	59.21		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 56	6.76	1264.39	-27591	-19683	1824	2.96	2.96	-23749	10111	11863	81562	24818	15096	17794	Si	9.75	Si
SLU 56	8.55	144.5	-21401	-15267	-401	2.96	2.96	-18421	9401	10096	81562	24818	15096	15145	Si	37.78	Si
SLU 64	6.76	891.45	-27146	-19365	1881	2.96	2.96	-23365	10060	11736	81562	24818	15096	17603	Si	9.36	Si
SLU 64	8.55	-199.28	-20729	-14788	75	2.96	2.96	-17842	9323	9905	81562	24818	15096	14857	Si	198.55	Si
SLU 53	6.76	1214.84	-27011	-19269	1851	2.96	2.96	-23249	10044	11697	81562	24818	15096	17546	Si	9.48	Si
SLU 53	8.55	130.33	-20877	-14893	-385	2.96	2.96	-17970	9340	9947	81562	24818	15096	14920	Si	38.75	Si
SLU 48	6.76	717.56	-25165	-17952	1776	2.96	2.96	-21660	9833	11170	81562	24818	15096	16756	Si	9.43	Si
SLU 48	8.55	-142.08	-19307	-13773	19	2.96	2.96	-16618	9160	9499	81562	24818	15096	14248	Si	769.61	Si
SLU 60	6.76	1383.4	-27149	-19367	1913	2.96	2.96	-23368	10060	11736	81562	24818	15096	17605	Si	9.2	Si
SLU 60	8.55	244.75	-20963	-14955	-543	2.96	2.96	-18044	9350	9971	81562	24818	15096	14957	Si	27.56	Si
SLU 50	6.76	701.33	-24843	-17723	1793	2.96	2.96	-21383	9796	11079	81562	24818	15096	16618	Si	9.27	Si
SLU 50	8.55	-136.31	-19020	-13568	25	2.96	2.96	-16371	9127	9417	81562	24818	15096	14125	Si	569.76	Si
SLU 45	6.76	668.01	-24585	-17538	1802	2.96	2.96	-21161	9766	11005	81562	24818	15096	16507	Si	9.16	Si
SLU 45	8.55	-156.25	-18783	-13400	34	2.96	2.96	-16167	9100	9349	81562	24818	15096	14024	Si	408.64	Si
SLU 62	6.76	1432.96	-27729	-19781	1887	2.96	2.96	-23867	10127	11902	81562	24818	15096	17853	Si	9.46	Si
SLU 62	8.55	258.92	-21487	-15328	-559	2.96	2.96	-18495	9410	10121	81562	24818	15096	15181	Si	27.18	Si
SLU 43	6.76	602.22	-23683	-16895	1845	2.96	2.96	-20384	9662	10747	81562	24818	15096	16121	Si	8.74	Si
SLU 43	8.55	-164.66	-17972	-12821	56	2.96	2.96	-15469	9007	9118	81562	24818	15096	13677	Si	242.49	Si
SLU 58	6.76	1248.16	-27270	-19453	1841	2.96	2.96	-23472	10074	11771	81562	24818	15096	17656	Si	9.59	Si
SLU 58	8.55	150.27	-21114	-15062	-395	2.96	2.96	-18173	9368	10014	81562	24818	15096	15022	Si	38.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	6.76	363.38	-12414	-8856	14402	2.96	2.96	-10685	12554	10404	81562	37227	15096	52323		3.63	Si
SLV 7	8.55	590.76	-9997	-7131	5684	2.96	2.96	-8604	12138	10060	81562	37227	15096	52323		9.2	Si
SLV 8	6.76	287.24	-12396	-8843	14392	2.96	2.96	-10670	12551	10402	81562	37227	15096	52323		3.64	Si
SLV 8	8.55	619.61	-9900	-7063	5696	2.96	2.96	-8522	12121	10046	81562	37227	15096	52323		9.19	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	6.76	567.48	-11910	-8496	13392	2.96	2.96	-10251	12467	10333	81562	37227	15096	52323		3.91	Si
SLV 11	8.55	464.54	-9695	-6916	5144	2.96	2.96	-8345	12086	10017	81562	37227	15096	52323		10.17	Si
SLV 12	6.76	491.34	-11892	-8483	13382	2.96	2.96	-10236	12464	10330	81562	37227	15096	52323		3.91	Si
SLV 12	8.55	493.39	-9599	-6847	5156	2.96	2.96	-8262	12069	10003	81562	37227	15096	52323		10.15	Si
SLV 10	6.76	1193.42	-29213	-20840	-11496	2.96	2.96	-25145	15446	14320	81562	37227	15096	52323		4.55	Si
SLV 10	8.55	-718.37	-21879	-15608	-5817	2.96	2.96	-18832	14183	12228	81562	37227	15096	52323		8.99	Si
SLV 5	6.76	1065.45	-29735	-21212	-10477	2.96	2.96	-25594	15535	14469	81562	37227	15096	52323		4.99	Si
SLV 5	8.55	-621	-22277	-15892	-5288	2.96	2.96	-19175	14252	12341	81562	37227	15096	52323		9.89	Si
SLV 9	6.76	1269.56	-29231	-20853	-11486	2.96	2.96	-25160	15449	14325	81562	37227	15096	52323		4.56	Si
SLV 9	8.55	-747.22	-21975	-15677	-5829	2.96	2.96	-18915	14200	12255	81562	37227	15096	52323		8.98	Si
SLD 7	6.76	518.94	-15625	-11147	9473	2.96	2.96	-13449	13107	10863	81562	37227	15096	52323		5.52	Si
SLD 7	8.55	334.72	-12256	-8743	3492	2.96	2.96	-10549	12527	10382	81562	37227	15096	52323		14.98	Si
SLD 8	6.76	471.28	-15614	-11139	9466	2.96	2.96	-13440	13105	10861	81562	37227	15096	52323		5.53	Si
SLD 8	8.55	352.78	-12196	-8700	3500	2.96	2.96	-10497	12516	10373	81562	37227	15096	52323		14.95	Si
SLV 6	6.76	989.31	-29717	-21200	-10487	2.96	2.96	-25579	15532	14464	81562	37227	15096	52323		4.99	Si
SLV 6	8.55	-592.14	-22181	-15823	-5277	2.96	2.96	-19092	14235	12314	81562	37227	15096	52323		9.92	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 7.655 Ta 0.04 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-10494	0.4	189.95	1347.39	1996.85	1672.12	8.8	Si
SLV 11	-10528	0.4	189.95	1351.36	2002.05	1676.7	8.83	Si
SLV 8	-11222	0.4	189.95	1431.83	2108.22	1770.03	9.32	Si
SLV 7	-11256	0.4	189.95	1435.75	2113.41	1774.58	9.34	Si
SLV 16	-14019	0.4	189.95	1745.27	2533.04	2139.16	11.26	Si
SLV 15	-14069	0.4	189.95	1750.77	2540.69	2145.73	11.3	Si
SLV 4	-16446	0.4	189.95	2003.26	2899.16	2451.21	12.9	Si
SLV 3	-16496	0.4	189.95	2008.48	2906.73	2457.61	12.94	Si
SLV 14	-17775	0.4	189.95	2139.05	3098.67	2618.86	13.79	Si
SLV 13	-17826	0.4	189.95	2144.12	3106.25	2625.18	13.82	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 7.655 Wa = 0.05 Ta = 0.0425

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-18354	-24265	-1033	0.824	2180.7	0.958	12.50382	4.96536	Si
SLV 2	-18211	-24239	-1034	0.829	2166.2	0.957	12.58959	4.96536	Si
SLV 5	-22277	-29735	-415	0.725	2579.7	0.964	10.92969	4.16505	Si
SLV 6	-22181	-29717	-415	0.727	2569.9	0.964	10.97127	4.16505	Si
SLV 13	-17348	-22585	998	0.866	2078.5	0.956	13.16569	4.96536	Si
SLV 14	-17206	-22558	998	0.872	2064	0.956	13.26186	4.96536	Si
SLV 9	-21975	-29231	195	0.742	2549	0.963	11.2003	4.16505	Si
SLV 10	-21879	-29213	194	0.745	2539.2	0.963	11.24391	4.16505	Si
SLV 3	-14670	-19069	-954	0.999	1806.4	0.95	15.28781	4.96536	Si
SLV 4	-14527	-19042	-954	1.007	1791.9	0.95	15.41836	4.96536	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.051	SLU 42	Si
V_SLU	8.739	SLU 43	Si
PF_SLV	22.759	SLV 15	Si
V_SLV	3.633	SLV 7	Si
PFFP_SLV	8.803	SLV 12	Si
R_SLV	2.518	SLV 1	Si

Maschio 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	0.672	-13.753	1.046	L5	L6	0.374	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	5	90.57	-5976	-0.0001102	0.0003743	0.0035	0.3743	492.05	818.33	738.08	8.15	Si	Si
SLU 78	7.1	-217.8	-6535	-0.0001561	0.0003743	0.0035	0.3743	474.01	888.06	711.02	3.26	Si	Si
SLU 62	5	109.7	-5304	-0.0001036	0.0003743	0.0035	0.3743	499.24	757.64	748.85	6.83	Si	Si
SLU 62	7.1	-229.33	-6178	-0.0001522	0.0003743	0.0035	0.3743	486.8	862	730.21	3.18	Si	Si
SLU 79	5	97.96	-5900	-0.0001108	0.0003743	0.0035	0.3743	493.67	812.28	740.5	7.56	Si	Si
SLU 79	7.1	-225.52	-6564	-0.0001589	0.0003743	0.0035	0.3743	472.77	889.91	709.15	3.14	Si	Si
SLU 83	5	100.45	-6001	-0.0001133	0.0003743	0.0035	0.3743	491.48	820.3	737.22	7.34	Si	Si
SLU 83	7.1	-231.57	-6687	-0.0001632	0.0003743	0.0035	0.3743	467.18	897.72	700.78	3.03	Si	Si
SLU 81	5	100.07	-5885	-0.0001111	0.0003743	0.0035	0.3743	493.96	811.09	740.94	7.4	Si	Si
SLU 81	7.1	-229.32	-6569	-0.0001601	0.0003743	0.0035	0.3743	472.55	890.23	708.83	3.09	Si	Si
SLU 77	5	97.82	-5961	-0.0001119	0.0003743	0.0035	0.3743	492.39	817.12	738.59	7.55	Si	Si
SLU 77	7.1	-226.3	-6621	-0.0001603	0.0003743	0.0035	0.3743	470.25	893.53	705.37	3.12	Si	Si
SLU 84	5	93.2	-6016	-0.0001116	0.0003743	0.0035	0.3743	491.12	821.51	736.68	7.9	Si	Si
SLU 84	7.1	-223.07	-6601	-0.0001589	0.0003743	0.0035	0.3743	471.15	892.25	706.73	3.17	Si	Si
SLU 82	5	92.82	-5900	-0.0001094	0.0003743	0.0035	0.3743	493.66	812.3	740.49	7.98	Si	Si
SLU 82	7.1	-220.83	-6483	-0.0001559	0.0003743	0.0035	0.3743	476.16	884.75	714.24	3.23	Si	Si
SLU 60	5	109.33	-5188	-0.0001015	0.0003743	0.0035	0.3743	498.87	744.52	744.52	6.81	No	Si
SLU 60	7.1	-227.08	-6059	-0.0001493	0.0003743	0.0035	0.3743	490.06	851.59	735.08	3.24	Si	Si
SLU 74	5	97.44	-5844	-0.0001097	0.0003743	0.0035	0.3743	494.71	807.9	742.06	7.62	Si	Si
SLU 74	7.1	-224.05	-6503	-0.0001572	0.0003743	0.0035	0.3743	475.34	886.04	713.01	3.18	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	5	-420.6	-4701	-0.0001762	0.0005615	0.0035	0.2994		777.64	777.64	1.85		Si
SLV 10	7.1	343.96	922	-0.0435049	0.0005615	0.0035	0.2994		0	0	0		No
SLV 11	5	513.73	-3051	-0.0036887	0.0005615	0.0035	0.2994		505.1	505.1	0.98		No
SLV 11	7.1	-618.07	-9426	-0.0003174	0.0005615	0.0035	0.3743		1197.89	1197.89	1.94		Si
SLV 6	5	-366.58	-4870	-0.0001571	0.0005615	0.0035	0.3743		798.08	798.08	2.18		Si
SLV 6	7.1	297.73	461	-0.0333954	0.0005615	0.0035	0.2994		0	0	0		No
SLV 9	5	-420.45	-4705	-0.0001761	0.0005615	0.0035	0.2994		778.21	778.21	1.85		Si
SLV 9	7.1	343.41	910	-0.0433084	0.0005615	0.0035	0.2994		0	0	0		No
SLD 9	5	-232.26	-4419	-0.0001144	0.0005615	0.0035	0.3743		741.8	741.8	3.19		Si
SLD 9	7.1	151.77	-1145	-0.0000711	0.0005615	0.0035	0.3743		218.75	218.75	1.44		Si
SLV 5	5	-366.43	-4874	-0.0001571	0.0005615	0.0035	0.3743		798.62	798.62	2.18		Si
SLV 5	7.1	297.18	450	-0.0331977	0.0005615	0.0035	0.2994		0	0	0		No
SLV 12	5	513.58	-3047	-0.0038088	0.0005615	0.0035	0.2994		504.45	504.45	0.98		No
SLV 12	7.1	-617.51	-9415	-0.000317	0.0005615	0.0035	0.3743		1197.12	1197.12	1.94		Si
SLD 10	5	-232.36	-4417	-0.0001144	0.0005615	0.0035	0.3743		741.44	741.44	3.19		Si
SLD 10	7.1	152.12	-1138	-0.0000722	0.0005615	0.0035	0.3743		217.52	217.52	1.43		Si
SLV 7	5	567.75	-3220	-0.0069992	0.0005615	0.0035	0.2994		529.51	529.51	0.93		No
SLV 7	7.1	-664.3	-9886	-0.0003454	0.0005615	0.0035	0.3743		1228.32	1228.32	1.85		Si
SLV 8	5	567.6	-3215	-0.0070532	0.0005615	0.0035	0.2994		528.87	528.87	0.93		No
SLV 8	7.1	-663.74	-9875	-0.000345	0.0005615	0.0035	0.3743		1227.56	1227.56	1.85		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	5	100	-4640	-3310	257	0.3743	0.3743	-31581	10833	1219	115546	3138	1909	1828	Si	7.11	Si
SLU 45	7.1	-202.46	-5429	-3873	266	0.3743	0.3743	-36954	10833	1369	115546	3138	1909	2054	Si	7.71	Si
SLU 56	5	107.07	-5264	-3755	275	0.3743	0.3743	-35832	10833	1338	115546	3138	1909	2007	Si	7.29	Si
SLU 56	7.1	-224.06	-6112	-4360	286	0.3743	0.3743	-41599	10833	1499	115546	3138	1909	2248	Si	7.85	Si
SLU 43	5	99.77	-4462	-3183	256	0.3743	0.3743	-30373	10833	1185	115546	3138	1909	1778	Si	6.94	Si
SLU 43	7.1	-199.43	-5254	-3748	265	0.3743	0.3743	-35759	10833	1336	115546	3138	1909	2004	Si	7.56	Si
SLU 62	5	109.7	-5304	-3784	281	0.3743	0.3743	-36105	10833	1345	115546	3138	1909	2018	Si	7.18	Si
SLU 62	7.1	-229.33	-6178	-4407	293	0.3743	0.3743	-42049	10833	1512	115546	3138	1909	2267	Si	7.75	Si
SLU 60	5	109.33	-5188	-3701	280	0.3743	0.3743	-35313	10833	1323	115546	3138	1909	1985	Si	7.09	Si
SLU 60	7.1	-227.08	-6059	-4323	291	0.3743	0.3743	-41244	10833	1489	115546	3138	1909	2233	Si	7.67	Si
SLU 50	5	100.52	-4695	-3349	259	0.3743	0.3743	-31957	10833	1229	115546	3138	1909	1844	Si	7.13	Si
SLU 50	7.1	-203.92	-5490	-3917	268	0.3743	0.3743	-37371	10833	1381	115546	3138	1909	2071	Si	7.73	Si
SLU 61	5	102.07	-5203	-3712	263	0.3743	0.3743	-35417	10833	1326	115546	3138	1909	1989	Si	7.56	Si
SLU 61	7.1	-218.59	-5973	-4261	275	0.3743	0.3743	-40655	10833	1473	115546	3138	1909	2209	Si	8.04	Si
SLU 53	5	106.7	-5148	-3672	274	0.3743	0.3743	-35040	10833	1316	115546	3138	1909	1973	Si	7.2	Si
SLU 53	7.1	-221.82	-5993	-4275	285	0.3743	0.3743	-40793	10833	1476	115546	3138	1909	2215	Si	7.78	Si
SLU 58	5	107.21	-5203	-3712	275	0.3743	0.3743	-35415	10833	1326	115546	3138	1909	1989	Si	7.22	Si
SLU 58	7.1	-223.28	-6054	-4319	286	0.3743	0.3743	-41210	10833	1488	115546	3138	1909	2232	Si	7.8	Si
SLU 48	5	100.38	-4756	-3393	259	0.3743	0.3743	-32373	10833	1241	115546	3138	1909	1862	Si	7.2	Si
SLU 48	7.1	-204.7	-5548	-3957	268	0.3743	0.3743	-37760	10833	1392	115546	3138	1909	2087	Si	7.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	5	567.6	-3215	-2294	1290	0.2994	0.0319	0	0	0	115546	3766	1527	5293		4.1	Si
SLV 8	7.1	-663.74	-9875	-7045	1028	0.3743	0.3598	-67215	16250	2383	115546	4708	1909	6617		6.44	Si
SLV 7	5	567.75	-3220	-2297	1291	0.2994	0.0325	0	0	0	115546	3766	1527	5293		4.1	Si
SLV 7	7.1	-664.3	-9886	-7053	1029	0.3743	0.3599	-67293	16250	2385	115546	4708	1909	6617		6.43	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	5	379.5	-3504	-2500	871	0.3743	0.2365	-23850	15187	1171	115546	4708	1909	6617		7.59	Si
SLD 7	7.1	-472.45	-7827	-5583	713	0.3743	0.3743	-53274	16250	1993	115546	4708	1909	6617		9.28	Si
SLV 9	5	-420.45	-4705	-3357	-908	0.2994	0.2934	0	0	0	115546	3766	1527	5293		5.83	Si
SLV 9	7.1	343.41	910	649	-630	0.2994	0	0	0	0	115546	3766	1527	5293		8.4	Si
SLV 5	5	-366.43	-4874	-3477	-833	0.3743	0.3359	-33175	16250	1528	115546	4708	1909	6617		7.94	Si
SLV 5	7.1	297.18	450	321	-585	0.2994	0	0	0	0	115546	3766	1527	5293		9.05	Si
SLV 11	5	513.73	-3051	-2177	1216	0.2994	0.0563	0	0	0	115546	3766	1527	5293		4.35	Si
SLV 11	7.1	-618.07	-9426	-6724	984	0.3743	0.3648	-64161	16250	2298	115546	4708	1909	6617		6.73	Si
SLD 8	5	379.41	-3501	-2498	871	0.3743	0.2364	-23832	15183	1171	115546	4708	1909	6617		7.6	Si
SLD 8	7.1	-472.11	-7820	-5578	712	0.3743	0.3743	-53225	16250	1992	115546	4708	1909	6617		9.29	Si
SLV 10	5	-420.6	-4701	-3354	-909	0.2994	0.293	0	0	0	115546	3766	1527	5293		5.82	Si
SLV 10	7.1	343.96	922	657	-631	0.2994	0	0	0	0	115546	3766	1527	5293		8.39	Si
SLV 6	5	-366.58	-4870	-3474	-834	0.3743	0.3356	-33145	16250	1527	115546	4708	1909	6617		7.93	Si
SLV 6	7.1	297.73	461	329	-586	0.2994	0	0	0	0	115546	3766	1527	5293		9.04	Si
SLV 12	5	513.58	-3047	-2173	1215	0.2994	0.0558	0	0	0	115546	3766	1527	5293		4.36	Si
SLV 12	7.1	-617.51	-9415	-6716	983	0.3743	0.3647	-64082	16250	2295	115546	4708	1909	6617		6.73	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	351	0.38	40.55	0	0	0	0	No
SLV 9	340	0.38	40.55	0	0	0	0	No
SLV 6	-133	0.38	40.55	0	48.14	24.07	0.59	No
SLV 5	-143	0.38	40.55	0	49.72	24.86	0.61	No
SLV 14	-2317	0.38	40.55	277.46	384.06	330.76	8.16	Si
SLV 13	-2332	0.38	40.55	278.94	386.31	332.62	8.2	Si
SLV 2	-3930	0.38	40.55	415.09	621.22	518.15	12.78	Si
SLV 1	-3945	0.38	40.55	416.15	623.39	519.77	12.82	Si
SLD 10	-1504	0.16	16.78	190.79	260.77	225.78	13.46	Si
SLD 9	-1510	0.16	16.78	191.51	261.73	226.62	13.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2987	-4493	-56	0.66	356.6	0.957	10.02061	6.56194	Si
SLV 2	-2983	-4486	-56	0.66	356.2	0.957	10.03117	6.56194	Si
SLV 3	-2654	-3996	-56	0.729	322.8	0.953	11.11534	6.56194	Si
SLV 4	-2651	-3990	-56	0.729	322.4	0.953	11.12841	6.56194	Si
SLV 13	-2516	-3931	71	0.757	308.8	0.951	11.56737	6.56194	Si
SLV 14	-2513	-3924	71	0.758	308.4	0.951	11.58044	6.56194	Si
SLV 15	-2184	-3435	71	0.851	275	0.946	13.08804	6.56194	Si
SLV 16	-2180	-3428	71	0.853	274.7	0.945	13.10504	6.56194	Si
SLV 5	-3210	-4874	-11	0.633	379.2	0.959	9.59497	4.70862	Si
SLV 6	-3207	-4870	-11	0.634	379	0.959	9.60134	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.026	SLU 83	Si
V_SLU	6.941	SLU 43	Si
PF_SLV	0	SLV 5	No
V_SLV	4.101	SLV 7	Si
PFFP_SLV	0	SLV 9	No
R_SLV	1.527	SLV 1	Si

Maschio 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-20.668	1.046	-24.678	1.046	L5	L6	4.01	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	γ_F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	5	-13514.82	-60083	-0.0001082	0.0004492	0.0035	4.01	67708.42	100149.76	100149.76	7.41	No	Si
SLU 78	7.1	-7056.94	-52036	-0.0000822	0.0004492	0.0035	4.01	64759.66	91069.7	91069.7	12.9	No	Si
SLU 84	5	-13640.01	-60329	-0.0001088	0.0004492	0.0035	4.01	67768.63	100417.2	100417.2	7.36	No	Si
SLU 84	7.1	-7171.74	-52567	-0.0000833	0.0004492	0.0035	4.01	65012.62	91697.41	91697.41	12.79	No	Si
SLU 74	5	-13402.26	-59121	-0.0001064	0.0004492	0.0035	4.01	67455.49	99101.62	99101.62	7.39	No	Si
SLU 74	7.1	-6870.76	-51129	-0.0000805	0.0004492	0.0035	4.01	64308.51	89997.54	89997.54	13.1	No	Si
SLU 73	5	-13136.31	-57612	-0.0001035	0.0004492	0.0035	4.01	67004.32	97457.83	97457.83	7.42	No	Si
SLU 73	7.1	-6550.23	-49649	-0.0000777	0.0004492	0.0035	4.01	63520.95	88248.62	88248.62	13.47	No	Si
SLU 81	5	-13527.45	-59366	-0.0001071	0.0004492	0.0035	4.01	67522.6	99369.06	99369.06	7.35	No	Si
SLU 81	7.1	-6985.56	-51660	-0.0000815	0.0004492	0.0035	4.01	64575.56	90625.25	90625.25	12.97	No	Si
SLU 82	5	-13515.76	-59400	-0.0001071	0.0004492	0.0035	4.01	67531.57	99405.36	99405.36	7.35	No	Si
SLU 82	7.1	-6972.67	-51683	-0.0000816	0.0004492	0.0035	4.01	64586.89	90652.33	90652.33	13	No	Si
SLU 75	5	-13390.57	-59154	-0.0001065	0.0004492	0.0035	4.01	67464.7	99137.92	99137.92	7.4	No	Si
SLU 75	7.1	-6857.88	-51152	-0.0000805	0.0004492	0.0035	4.01	64320.2	90024.62	90024.62	13.13	No	Si
SLU 79	5	-13404.31	-59414	-0.0001069	0.0004492	0.0035	4.01	67535.43	99421	99421	7.42	No	Si
SLU 79	7.1	-6969.82	-51379	-0.0000811	0.0004492	0.0035	4.01	64435.51	90293.65	90293.65	12.95	No	Si
SLU 77	5	-13526.51	-60050	-0.0001081	0.0004492	0.0035	4.01	67700.12	100113.46	100113.46	7.4	No	Si
SLU 77	7.1	-7069.82	-52013	-0.0000822	0.0004492	0.0035	4.01	64748.56	91042.62	91042.62	12.88	No	Si
SLU 83	5	-13651.71	-60295	-0.0001088	0.0004492	0.0035	4.01	67760.56	100380.9	100380.9	7.35	No	Si
SLU 83	7.1	-7184.62	-52544	-0.0000832	0.0004492	0.0035	4.01	65001.88	91670.33	91670.33	12.76	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	5	-11909.2	-37540	-0.00007	0.0006738	0.0035	4.01		75048.98	75048.98	6.3		Si
SLV 11	7.1	-2343.26	-30848	-0.0000427	0.0006738	0.0035	4.01	64481.33	64481.33	64481.33	27.52		Si
SLV 13	5	-14935.8	-30525	-0.0000665	0.0006738	0.0035	4.01	63960.63	63960.63	63960.63	4.28		Si
SLV 13	7.1	4329.49	-21687	-0.0000348	0.0006738	0.0035	4.01	41955.32	41955.32	41955.32	9.69		Si
SLD 14	5	-12971.22	-34265	-0.0000677	0.0006738	0.0035	4.01	69978.2	69978.2	69978.2	5.39		Si
SLD 14	7.1	1180.41	-26301	-0.0000347	0.0006738	0.0035	4.01	49841.39	49841.39	49841.39	42.22		Si
SLV 14	5	-14987.12	-30512	-0.0000666	0.0006738	0.0035	4.01	63940.17	63940.17	63940.17	4.27		Si
SLV 14	7.1	4240.08	-21696	-0.0000347	0.0006738	0.0035	4.01	41970	41970	41970	9.9		Si
SLV 16	5	-15448.54	-30379	-0.0000673	0.0006738	0.0035	4.01	63727.25	63727.25	63727.25	4.13		Si
SLV 16	7.1	3894.74	-21828	-0.0000342	0.0006738	0.0035	4.01	42198.92	42198.92	42198.92	10.83		Si
SLD 13	5	-12938.46	-34273	-0.0000676	0.0006738	0.0035	4.01	69991.26	69991.26	69991.26	5.41		Si
SLD 13	7.1	1237.48	-26296	-0.0000348	0.0006738	0.0035	4.01	49832.33	49832.33	49832.33	40.27		Si
SLV 12	5	-11943.75	-37531	-0.00007	0.0006738	0.0035	4.01	75035.92	75035.92	75035.92	6.28		Si
SLV 12	7.1	-2403.46	-30854	-0.0000429	0.0006738	0.0035	4.01	64490.53	64490.53	64490.53	26.83		Si
SLD 16	5	-13256.25	-34184	-0.0000681	0.0006738	0.0035	4.01	69847.04	69847.04	69847.04	5.27		Si
SLD 16	7.1	965.17	-26385	-0.0000344	0.0006738	0.0035	4.01	49981.26	49981.26	49981.26	51.78		Si
SLD 15	5	-13223.5	-34192	-0.0000681	0.0006738	0.0035	4.01	69860.11	69860.11	69860.11	5.28		Si
SLD 15	7.1	1022.24	-26379	-0.0000345	0.0006738	0.0035	4.01	49972.19	49972.19	49972.19	48.89		Si
SLV 15	5	-15397.22	-30392	-0.0000672	0.0006738	0.0035	4.01	63747.71	63747.71	63747.71	4.14		Si
SLV 15	7.1	3984.15	-21820	-0.0000343	0.0006738	0.0035	4.01	42184.24	42184.24	42184.24	10.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	5	-11296.19	-48775	-34795	-6130	4.01	4.01	-30989	10833	20404	115546	40351	20451	30605	Si	4.99	Si
SLU 45	7.1	-4732.94	-39898	-28463	-6100	4.01	4.01	-25350	10833	17871	115546	40351	20451	26806	Si	4.39	Si
SLU 49	5	-11408.74	-49737	-35481	-6147	4.01	4.01	-31601	10833	20678	115546	40351	20451	31017	Si	5.05	Si
SLU 49	7.1	-4919.12	-40806	-29110	-6117	4.01	4.01	-25926	10833	18130	115546	40351	20451	27194	Si	4.45	Si
SLU 51	5	-11286.54	-49102	-35028	-6135	4.01	4.01	-31197	10833	20497	115546	40351	20451	30745	Si	5.01	Si
SLU 51	7.1	-4819.12	-40172	-28658	-6105	4.01	4.01	-25523	10833	17949	115546	40351	20451	26923	Si	4.41	Si
SLU 46	5	-11284.49	-48808	-34819	-6140	4.01	4.01	-31011	10833	20413	115546	40351	20451	30620	Si	4.99	Si
SLU 46	7.1	-4720.06	-39921	-28479	-6110	4.01	4.01	-25364	10833	17877	115546	40351	20451	26816	Si	4.39	Si
SLU 47	5	-11154.49	-48195	-34381	-6135	4.01	4.01	-30621	10833	20238	115546	40351	20451	30357	Si	4.95	Si
SLU 47	7.1	-4611.47	-39303	-28038	-6105	4.01	4.01	-24971	10833	17701	115546	40351	20451	26551	Si	4.35	Si
SLU 48	5	-11420.44	-49704	-35458	-6137	4.01	4.01	-31580	10833	20669	115546	40351	20451	31003	Si	5.05	Si
SLU 48	7.1	-4932	-40783	-29093	-6107	4.01	4.01	-25912	10833	18123	115546	40351	20451	27185	Si	4.45	Si
SLU 43	5	-11049.73	-47211	-33679	-6110	4.01	4.01	-29995	10833	19957	115546	40351	20451	29936	Si	4.9	Si
SLU 43	7.1	-4433.87	-38380	-27380	-6081	4.01	4.01	-24385	10833	17438	115546	40351	20451	26156	Si	4.3	Si
SLU 44	5	-11030.24	-47266	-33718	-6127	4.01	4.01	-30031	10833	19973	115546	40351	20451	29959	Si	4.89	Si
SLU 44	7.1	-4412.4	-38419	-27407	-6098	4.01	4.01	-24409	10833	17448	115546	40351	20451	26173	Si	4.29	Si
SLU 50	5	-11298.24	-49068	-35004	-6124	4.01	4.01	-31176	10833	20487	115546	40351	20451	30731	Si	5.02	Si
SLU 50	7.1	-4832	-40149	-28641	-6094	4.01	4.01	-25509	10833	17942	115546	40351	20451	26913	Si	4.42	Si
SLU 2	5	-8807.04	-37986	-27098	-4604	4.01	4.01	-24135	10833	17325	115546	40351	20451	25988	Si	5.64	Si
SLU 2	7.1	-3698.34	-31262	-22302	-4580	4.01	4.01	-19863	10833	15407	115546	40351	20451	23110	Si	5.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	5	-10371.13	-37981	-27095	-7335	4.01	4.01	-24131	16250	20567	115546	60526	20451	80977		11.04	Si
SLV 9	7.1	-1192.13	-30407	-21691	-7059	4.01	4.01	-19319	16250	18405	115546	60526	20451	80977		11.47	Si
SLV 13	5	-14935.8	-30525	-21775	-13747	4.01	4.01	-19394	16250	18439	115546	60526	20451	80977		5.89	Si
SLV 13	7.1	4329.49	-21687	-15471	-12960	4.01	4.01	-13779	15256	17129	115546	60526	20451	80977		6.25	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5	-15448.54	-30379	-21672	-13580	4.01	4.01	-19302	16250	18398	115546	60526	20451	80977		5.96	Si
SLV 16	7.1	3894.74	-21828	-15572	-12808	4.01	4.01	-13869	15274	17149	115546	60526	20451	80977		6.32	Si
SLD 15	5	-13223.5	-34192	-24392	-10250	4.01	4.01	-21724	16250	19485	115546	60526	20451	80977		7.9	Si
SLD 15	7.1	1022.24	-26379	-18818	-9748	4.01	4.01	-16760	15852	17799	115546	60526	20451	80977		8.31	Si
SLV 15	5	-15397.22	-30392	-21681	-13618	4.01	4.01	-19310	16250	18401	115546	60526	20451	80977		5.95	Si
SLV 15	7.1	3984.15	-21820	-15566	-12846	4.01	4.01	-13863	15273	17148	115546	60526	20451	80977		6.3	Si
SLD 16	5	-13256.25	-34184	-24386	-10225	4.01	4.01	-21719	16250	19483	115546	60526	20451	80977		7.92	Si
SLD 16	7.1	965.17	-26385	-18822	-9724	4.01	4.01	-16764	15853	17799	115546	60526	20451	80977		8.33	Si
SLV 14	5	-14987.12	-30512	-21766	-13708	4.01	4.01	-19386	16250	18435	115546	60526	20451	80977		5.91	Si
SLV 14	7.1	4240.08	-21696	-15477	-12922	4.01	4.01	-13785	15257	17130	115546	60526	20451	80977		6.27	Si
SLD 13	5	-12938.46	-34273	-24450	-10330	4.01	4.01	-21776	16250	19509	115546	60526	20451	80977		7.84	Si
SLD 13	7.1	1237.48	-26296	-18759	-9819	4.01	4.01	-16707	15841	17787	115546	60526	20451	80977		8.25	Si
SLD 14	5	-12971.22	-34265	-24444	-10306	4.01	4.01	-21770	16250	19506	115546	60526	20451	80977		7.86	Si
SLD 14	7.1	1180.41	-26301	-18762	-9794	4.01	4.01	-16710	15842	17787	115546	60526	20451	80977		8.27	Si
SLV 10	5	-10405.68	-37972	-27089	-7309	4.01	4.01	-24126	16250	20564	115546	60526	20451	80977		11.08	Si
SLV 10	7.1	-1252.33	-30412	-21696	-7033	4.01	4.01	-19323	16250	18407	115546	60526	20451	80977		11.51	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-22417	0.38	434.36	2796.54	3935.41	3365.98	7.75	Si
SLV 14	-22426	0.38	434.36	2797.47	3936.68	3367.08	7.75	Si
SLV 15	-22551	0.38	434.36	2811.19	3955.47	3383.33	7.79	Si
SLV 16	-22560	0.38	434.36	2812.12	3956.75	3384.43	7.79	Si
SLV 9	-31125	0.38	434.36	3698.48	5224.29	4461.39	10.27	Si
SLV 10	-31131	0.38	434.36	3699.04	5225.12	4462.08	10.27	Si
SLV 11	-31572	0.38	434.36	3741.92	5289.42	4515.67	10.4	Si
SLV 12	-31577	0.38	434.36	3742.47	5290.26	4516.37	10.4	Si
SLV 5	-38722	0.38	434.36	4401.05	6327.99	5364.52	12.35	Si
SLV 6	-38728	0.38	434.36	4401.55	6328.81	5365.18	12.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-36082	-51249	273	0.604	4235.2	0.96	9.13785	6.56194	Si
SLV 3	-36053	-51261	274	0.604	4232.3	0.96	9.14396	6.56194	Si
SLV 2	-35940	-51381	-275	0.606	4220.8	0.96	9.16896	6.56194	Si
SLV 1	-35911	-51394	-275	0.606	4217.9	0.96	9.17571	6.56194	Si
SLV 16	-23575	-30379	274	0.864	2964.7	0.946	13.27344	6.56194	Si
SLV 15	-23547	-30392	274	0.865	2961.7	0.946	13.28702	6.56194	Si
SLV 14	-23434	-30512	-275	0.868	2950.3	0.946	13.3423	6.56194	Si
SLV 13	-23405	-30525	-274	0.869	2947.4	0.946	13.3569	6.56194	Si
SLV 8	-31865	-43792	914	0.653	3806.5	0.957	9.92157	4.70862	Si
SLV 7	-31846	-43801	914	0.653	3804.6	0.956	9.92663	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.346	SLU 81	Si
V_SLU	4.292	SLU 44	Si
PF_SLV	4.125	SLV 16	Si
V_SLV	5.891	SLV 13	Si
PFFP_SLV	7.749	SLV 13	Si
R_SLV	1.393	SLV 4	Si

Maschio 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.283	1.046	-19.868	1.046	L5	L6	7.585	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 56	5	8380.45	-122710	-0.0000908	0.0004492	0.0035	7.585	245315.63	350965.65	350965.65	41.88	No	Si
SLU 56	7.5	-346.11	-105837	-0.0000731	0.0004492	0.0035	7.585	237682.19	343259.25	343259.25	991.76	No	Si
SLU 48	5	8122.18	-112050	-0.0000825	0.0004492	0.0035	7.585	241460.93	328270.24	328270.24	40.42	No	Si
SLU 48	7.5	-128.03	-94332	-0.0000645	0.0004492	0.0035	7.585	227706.73	317804.31	317804.31	2482.25	No	Si
SLU 58	5	8362.54	-121307	-0.0000897	0.0004492	0.0035	7.585	244998.22	347979.54	347979.54	41.61	No	Si
SLU 58	7.5	-275.37	-104453	-0.000072	0.0004492	0.0035	7.585	236686.93	340197.31	340197.31	1235.42	No	Si
SLU 50	5	8104.27	-110647	-0.0000814	0.0004492	0.0035	7.585	240706.48	325284.12	325284.12	40.14	No	Si
SLU 50	7.5	-57.29	-92949	-0.0000634	0.0004492	0.0035	7.585	226246.15	314500.87	314500.87	5489.6	No	Si
SLU 51	5	7928.23	-110743	-0.0000813	0.0004492	0.0035	7.585	240759.95	325488.5	325488.5	41.05	No	Si
SLU 51	7.5	-17.82	-92985	-0.0000634	0.0004492	0.0035	7.585	226285.55	314588.45	314588.45	17657.22	No	Si
SLU 49	5	7946.13	-112146	-0.0000824	0.0004492	0.0035	7.585	241510.46	328474.62	328474.62	41.34	No	Si
SLU 49	7.5	-88.56	-94369	-0.0000645	0.0004492	0.0035	7.585	227744.64	317885.39	317885.39	3589.63	No	Si
SLU 43	5	7781.88	-105461	-0.0000772	0.0004492	0.0035	7.585	237417.46	314242.73	314242.73	40.38	No	Si
SLU 43	7.5	391.51	-87760	-0.0000598	0.0004492	0.0035	7.585	220271.73	275783	275783	704.4	No	Si
SLU 45	5	7960.98	-109457	-0.0000804	0.0004492	0.0035	7.585	240021	322749.55	322749.55	40.54	No	Si
SLU 45	7.5	96.37	-91738	-0.0000626	0.0004492	0.0035	7.585	224922.79	285027.85	285027.85	2957.59	No	Si
SLU 46	5	7784.93	-109553	-0.0000803	0.0004492	0.0035	7.585	240077.81	322953.93	322953.93	41.48	No	Si
SLU 46	7.5	135.85	-91775	-0.0000626	0.0004492	0.0035	7.585	224963.49	285105.86	285105.86	2098.75	No	Si
SLU 47	5	7649.66	-108214	-0.0000792	0.0004492	0.0035	7.585	239261.34	320104.06	320104.06	41.85	No	Si
SLU 47	7.5	232.9	-90416	-0.0000617	0.0004492	0.0035	7.585	223427.56	282211.77	282211.77	1211.72	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	5	39813.61	-95920	-0.0000862	0.0006738	0.0035	7.585	308375.77	308375.77	308375.77	7.75		Si
SLD 4	7.5	-9554.69	-86399	-0.0000627	0.0006738	0.0035	7.585	313064.07	313064.07	313064.07	32.77		Si
SLV 1	5	53358.42	-99646	-0.0000965	0.0006738	0.0035	7.585	318743.38	318743.38	318743.38	5.97		Si
SLV 1	7.5	-12542.96	-90348	-0.0000671	0.0006738	0.0035	7.585	323757.4	323757.4	323757.4	25.81		Si
SLV 4	5	58881.15	-97866	-0.0000983	0.0006738	0.0035	7.585	313791.97	313791.97	313791.97	5.33		Si
SLV 4	7.5	-15048.98	-90429	-0.0000685	0.0006738	0.0035	7.585	323976.95	323976.95	323976.95	21.53		Si
SLD 3	5	39868.52	-96155	-0.0000864	0.0006738	0.0035	7.585	309030.41	309030.41	309030.41	7.75		Si
SLD 3	7.5	-9196.47	-86480	-0.0000625	0.0006738	0.0035	7.585	313282.03	313282.03	313282.03	34.07		Si
SLV 15	5	-41190.14	-85467	-0.0000794	0.0006738	0.0035	7.585	310540.06	310540.06	310540.06	7.54		Si
SLV 15	7.5	13607.19	-68103	-0.0000522	0.0006738	0.0035	7.585	230976.36	230976.36	230976.36	16.97		Si
SLV 3	5	58967.18	-98235	-0.0000986	0.0006738	0.0035	7.585	314817.61	314817.61	314817.61	5.34		Si
SLV 3	7.5	-14487.76	-90555	-0.0000683	0.0006738	0.0035	7.585	324318.42	324318.42	324318.42	22.39		Si
SLV 13	5	-46798.89	-86878	-0.0000836	0.0006738	0.0035	7.585	314361.33	314361.33	314361.33	6.72		Si
SLV 13	7.5	15551.99	-67896	-0.0000531	0.0006738	0.0035	7.585	230400	230400	230400	14.81		Si
SLV 14	5	-46884.92	-86510	-0.0000833	0.0006738	0.0035	7.585	313362.99	313362.99	313362.99	6.68		Si
SLV 14	7.5	14990.77	-67769	-0.0000527	0.0006738	0.0035	7.585	230049.19	230049.19	230049.19	15.35		Si
SLV 2	5	53272.4	-99277	-0.0000962	0.0006738	0.0035	7.585	317717.74	317717.74	317717.74	5.96		Si
SLV 2	7.5	-13104.18	-90221	-0.0000673	0.0006738	0.0035	7.585	323415.93	323415.93	323415.93	24.68		Si
SLV 16	5	-41276.17	-85099	-0.0000792	0.0006738	0.0035	7.585	309541.71	309541.71	309541.71	7.5		Si
SLV 16	7.5	13045.97	-67977	-0.0000518	0.0006738	0.0035	7.585	230625.56	230625.56	230625.56	17.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	5	7649.66	-108214	-77197	-3076	7.585	7.585	-36349	10833	43146	115546	76324	38684	64719	Si	21.04	Si
SLU 47	7.5	232.9	-90416	-64500	78	7.585	7.585	-30370	10833	38068	115546	76324	38684	57102	Si	728.76	Si
SLU 2	5	5683.66	-85221	-60795	-2613	7.585	7.585	-28625	10833	35686	115546	76324	38684	54878	Si	21	Si
SLU 2	7.5	373.03	-71585	-51067	-89	7.585	7.585	-24045	10833	32695	115546	76324	38684	49042	Si	548.9	Si
SLU 67	5	7750.86	-124482	-88802	-3305	7.585	7.585	-41813	10833	47788	115546	76324	38684	71682	Si	21.69	Si
SLU 67	7.5	158.87	-107003	-76334	343	7.585	7.585	-35942	10833	42801	115546	76324	38684	64201	Si	187.32	Si
SLU 23	5	5649.58	-100150	-71445	-2971	7.585	7.585	-33640	10833	40845	115546	76324	38684	61268	Si	20.62	Si
SLU 23	7.5	396.05	-86814	-61931	4	7.585	7.585	-29160	10833	37040	115546	76324	38684	55560	Si	12517.53	Si
SLU 46	5	7784.93	-109553	-78152	-2946	7.585	7.585	-36798	10833	43528	115546	76324	38684	65292	Si	22.16	Si
SLU 46	7.5	135.85	-91775	-65470	249	7.585	7.585	-30827	10833	38456	115546	76324	38684	57683	Si	231.71	Si
SLU 68	5	7615.59	-123143	-87847	-3434	7.585	7.585	-41363	10833	47406	115546	76324	38684	71109	Si	20.71	Si
SLU 68	7.5	255.92	-105644	-75364	172	7.585	7.585	-35485	10833	42413	115546	76324	38684	63619	Si	369.58	Si
SLU 5	5	5844.86	-87814	-62645	-2535	7.585	7.585	-29496	10833	37325	115546	76324	38684	55988	Si	22.08	Si
SLU 5	7.5	148.62	-74179	-52918	18	7.585	7.585	-24917	10833	33435	115546	76324	38684	50152	Si	2761.69	Si
SLU 65	5	7454.39	-120550	-85997	-3511	7.585	7.585	-40492	10833	46666	115546	76324	38684	69999	Si	19.93	Si
SLU 65	7.5	480.32	-103050	-73513	65	7.585	7.585	-34614	10833	41673	115546	76324	38684	62509	Si	967.15	Si
SLU 44	5	7488.46	-105621	-75347	-3153	7.585	7.585	-35478	10833	42406	115546	76324	38684	63610	Si	20.18	Si
SLU 44	7.5	457.3	-87821	-62650	-29	7.585	7.585	-29499	10833	37328	115546	76324	38684	55991	Si	1920.62	Si
SLU 26	5	5810.78	-102743	-73295	-2894	7.585	7.585	-34511	10833	41585	115546	76324	38684	62378	Si	21.55	Si
SLU 26	7.5	171.64	-89408	-63781	112	7.585	7.585	-30032	10833	37780	115546	76324	38684	56670	Si	506.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	5	-41276.17	-85099	-60707	-33797	7.585	7.585	-28584	16250	42685	115546	114486	38684	153170		4.53	Si
SLV 16	7.5	13045.97	-67977	-48493	-27302	7.585	7.585	-22833	16250	37799	115546	114486	38684	153170		5.61	Si
SLV 2	5	53272.4	-99277	-70822	29907	7.585	7.585	-33347	16250	46731	115546	114486	38684	153170		5.12	Si
SLV 2	7.5	-13104.18	-90221	-64362	28895	7.585	7.585	-30305	16250	44147	115546	114486	38684	153170		5.3	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	5	58881.15	-97866	-69816	38004	7.585	7.585	-32873	16250	46328	115546	114486	38684	153170		4.03	Si
SLV 4	7.5	-15048.98	-90429	-64510	36977	7.585	7.585	-30375	16250	44206	115546	114486	38684	153170		4.14	Si
SLD 14	5	-27786.27	-88590	-63198	-27517	7.585	7.585	-29757	16250	43681	115546	114486	38684	153170		5.57	Si
SLD 14	7.5	9699.48	-71844	-51252	-22362	7.585	7.585	-24132	16250	38903	115546	114486	38684	153170		6.85	Si
SLD 13	5	-27731.36	-88825	-63365	-27804	7.585	7.585	-29836	16250	43748	115546	114486	38684	153170		5.51	Si
SLD 13	7.5	10057.7	-71925	-51309	-22646	7.585	7.585	-24159	16250	38926	115546	114486	38684	153170		6.76	Si
SLV 13	5	-46798.89	-86878	-61977	-42343	7.585	7.585	-29182	16250	43193	115546	114486	38684	153170		3.62	Si
SLV 13	7.5	15551.99	-67896	-48435	-35829	7.585	7.585	-22806	16250	37776	115546	114486	38684	153170		4.27	Si
SLV 14	5	-46884.92	-86510	-61714	-41894	7.585	7.585	-29058	16250	43088	115546	114486	38684	153170		3.66	Si
SLV 14	7.5	14990.77	-67769	-48345	-35385	7.585	7.585	-22763	16250	37740	115546	114486	38684	153170		4.33	Si
SLV 15	5	-41190.14	-85467	-60970	-34246	7.585	7.585	-28708	16250	42790	115546	114486	38684	153170		4.47	Si
SLV 15	7.5	13607.19	-68103	-48583	-27747	7.585	7.585	-22875	16250	37835	115546	114486	38684	153170		5.52	Si
SLV 3	5	58967.18	-98235	-70078	37555	7.585	7.585	-32997	16250	46433	115546	114486	38684	153170		4.08	Si
SLV 3	7.5	-14487.76	-90555	-64600	36533	7.585	7.585	-30417	16250	44242	115546	114486	38684	153170		4.19	Si
SLV 1	5	53358.42	-99646	-71085	29457	7.585	7.585	-33471	16250	46836	115546	114486	38684	153170		5.2	Si
SLV 1	7.5	-12542.96	-90348	-64452	28450	7.585	7.585	-30347	16250	44183	115546	114486	38684	153170		5.38	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-76658	0.38	821.61	8618.58	12439.05	10528.81	12.81	Si
SLV 14	-76681	0.38	821.61	8620.53	12442.36	10531.44	12.82	Si
SLV 15	-76844	0.38	821.61	8634.32	12465.77	10550.05	12.84	Si
SLV 13	-76867	0.38	821.61	8636.27	12469.09	10552.68	12.84	Si
SLV 12	-82218	0.38	821.61	9079.26	13234.07	11156.67	13.58	Si
SLV 10	-82295	0.38	821.61	9085.47	13245.02	11165.24	13.59	Si
SLV 11	-82343	0.38	821.61	9089.37	13251.91	11170.64	13.6	Si
SLV 9	-82420	0.38	821.61	9095.56	13262.86	11179.21	13.61	Si
SLV 8	-86981	0.38	821.61	9456.21	13914.15	11685.18	14.22	Si
SLV 6	-87057	0.38	821.61	9462.15	13925.11	11693.63	14.23	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-82053	-99646	26	0.522	9415.5	0.966	7.85007	6.56194	Si
SLV 2	-81931	-99277	25	0.522	9403.1	0.966	7.86053	6.56194	Si
SLV 3	-81360	-98235	-223	0.523	9344.9	0.966	7.8754	6.56194	Si
SLV 4	-81238	-97866	-224	0.524	9332.5	0.966	7.88566	6.56194	Si
SLV 13	-65411	-86878	204	0.63	7722.3	0.959	9.55255	6.56194	Si
SLV 14	-65289	-86510	203	0.631	7710	0.959	9.56846	6.56194	Si
SLV 15	-64718	-85467	-44	0.638	7651.9	0.959	9.67664	6.56194	Si
SLV 16	-64596	-85099	-45	0.639	7639.5	0.959	9.69254	6.56194	Si
SLV 5	-77017	-96763	378	0.547	8903	0.964	8.23827	4.70862	Si
SLV 6	-76935	-96515	377	0.547	8894.6	0.964	8.24613	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	40.137	SLU 50	Si
V_SLU	19.935	SLU 65	Si
PF_SLV	5.329	SLV 4	Si
V_SLV	3.617	SLV 13	Si
PFFP_SLV	12.815	SLV 16	Si
R_SLV	1.196	SLV 1	Si

Maschio 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.046	-11.163	1.046	L5	L6	0.696	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	5	-167.23	-15460	-0.0001359	0.0004492	0.0035	0.6964	1889.91	3630.51	2834.86	16.95	Si	Si
SLU 78	7.5	146.55	-12910	-0.0001108	0.0004492	0.0035	0.6964	2059.28	3249.85	3088.92	21.08	Si	Si
SLU 79	5	-168.88	-15378	-0.0001353	0.0004492	0.0035	0.6964	1898.27	3620.91	2847.4	16.86	Si	Si
SLU 79	7.5	146.95	-12715	-0.0001091	0.0004492	0.0035	0.6964	2064.41	3224.24	3096.62	21.07	Si	Si
SLU 77	5	-171.3	-15519	-0.0001368	0.0004492	0.0035	0.6964	1883.68	3637.51	2825.52	16.49	Si	Si
SLU 77	7.5	149.39	-12849	-0.0001105	0.0004492	0.0035	0.6964	2061.01	3241.79	3091.52	20.69	Si	Si
SLU 60	5	-181.05	-13811	-0.0001216	0.0004492	0.0035	0.6964	2021.16	3436.51	3031.74	16.75	Si	Si
SLU 60	7.5	164.37	-10951	-0.000095	0.0004492	0.0035	0.6964	2060.33	2897.1	2897.1	17.62	No	Si
SLU 74	5	-171.06	-15229	-0.000134	0.0004492	0.0035	0.6964	1913.1	3603.3	2869.65	16.78	Si	Si
SLU 74	7.5	150.01	-12574	-0.0001081	0.0004492	0.0035	0.6964	2067.43	3205.75	3101.14	20.67	Si	Si
SLU 84	5	-178	-15609	-0.0001382	0.0004492	0.0035	0.6964	1874.08	3648.09	2811.12	15.79	Si	Si
SLU 84	7.5	158.39	-13071	-0.0001131	0.0004492	0.0035	0.6964	2054.21	3270.95	3081.32	19.45	Si	Si
SLU 83	5	-182.07	-15669	-0.0001391	0.0004492	0.0035	0.6964	1867.6	3655.09	2801.39	15.39	Si	Si
SLU 83	7.5	161.23	-13010	-0.0001128	0.0004492	0.0035	0.6964	2056.24	3262.89	3084.35	19.13	Si	Si
SLU 62	5	-181.29	-14101	-0.0001243	0.0004492	0.0035	0.6964	2003.79	3470.71	3005.68	16.58	Si	Si
SLU 62	7.5	163.76	-11225	-0.0000973	0.0004492	0.0035	0.6964	2066.94	2949.41	2949.41	18.01	No	Si
SLU 82	5	-177.76	-15318	-0.0001354	0.0004492	0.0035	0.6964	1904.27	3613.88	2856.4	16.07	Si	Si
SLU 82	7.5	159	-12796	-0.0001107	0.0004492	0.0035	0.6964	2062.41	3234.91	3093.61	19.46	Si	Si
SLU 81	5	-181.83	-15378	-0.0001363	0.0004492	0.0035	0.6964	1898.29	3620.89	2847.43	15.66	Si	Si
SLU 81	7.5	161.85	-12735	-0.0001104	0.0004492	0.0035	0.6964	2063.94	3226.85	3095.91	19.13	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	5	-2102.39	-14846	-0.0002743	0.0006738	0.0035	0.6964		3963.24	3963.24	1.89		Si
SLV 15	7.5	2001.84	-9115	-0.0002698	0.0006738	0.0035	0.6964		2681.46	2681.46	1.34		Si
SLV 3	5	1740.85	-8530	-0.0002178	0.0006738	0.0035	0.6964		2535.38	2535.38	1.46		Si
SLV 3	7.5	-1699.31	-5708	-0.0004656	0.0006738	0.0035	0.5571		1938.64	1938.64	1.14		Si
SLD 15	5	-1386.63	-13212	-0.0001972	0.0006738	0.0035	0.6964		3685.6	3685.6	2.66		Si
SLD 15	7.5	1316.64	-8854	-0.0001573	0.0006738	0.0035	0.6964		2616.23	2616.23	1.99		Si
SLD 2	5	1158.21	-7551	-0.0001355	0.0006738	0.0035	0.6964		2291.27	2291.27	1.98		Si
SLD 2	7.5	-1118.37	-7795	-0.0001326	0.0006738	0.0035	0.6964		2496.37	2496.37	2.23		Si
SLV 4	5	1758.74	-8481	-0.0002223	0.0006738	0.0035	0.6964		2523.27	2523.27	1.43		Si
SLV 4	7.5	-1717.34	-5721	-0.0004966	0.0006738	0.0035	0.5571		1942.32	1942.32	1.13		Si
SLV 13	5	-1987.16	-12282	-0.000247	0.0006738	0.0035	0.6964		3527.47	3527.47	1.78		Si
SLV 13	7.5	1915.6	-10928	-0.0002352	0.0006738	0.0035	0.6964		3124.45	3124.45	1.63		Si
SLV 2	5	1873.98	-5918	-0.0023387	0.0006738	0.0035	0.5571		1883.92	1883.92	1.01		Si
SLV 2	7.5	-1803.58	-7534	-0.0002615	0.0006738	0.0035	0.5571		2429.03	2429.03	1.35		Si
SLV 14	5	-1969.27	-12234	-0.0002446	0.0006738	0.0035	0.6964		3518.05	3518.05	1.79		Si
SLV 14	7.5	1897.57	-10941	-0.0002326	0.0006738	0.0035	0.6964		3126.99	3126.99	1.65		Si
SLV 16	5	-2084.5	-14797	-0.000272	0.0006738	0.0035	0.6964		3954.99	3954.99	1.9		Si
SLV 16	7.5	1983.81	-9128	-0.0002645	0.0006738	0.0035	0.6964		2684.73	2684.73	1.35		Si
SLV 1	5	1856.08	-5966	-0.0012586	0.0006738	0.0035	0.5571		1896.02	1896.02	1.02		Si
SLV 1	7.5	-1785.55	-7521	-0.0002554	0.0006738	0.0035	0.5571		2425.66	2425.66	1.36		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	5	-136.27	-11873	-8470	-236	0.6964	0.6964	-43438	10833	3009	115546	7007	3551	4514	Si	19.09	Si
SLU 43	7.5	118.84	-9054	-6459	-227	0.6964	0.6964	-33127	10833	2473	115546	7007	3551	3710	Si	16.34	Si
SLU 45	5	-138.93	-12305	-8778	-240	0.6964	0.6964	-45019	10833	3092	115546	7007	3551	4637	Si	19.29	Si
SLU 45	7.5	120.66	-9463	-6750	-230	0.6964	0.6964	-34620	10833	2551	115546	7007	3551	3826	Si	16.61	Si
SLU 61	5	-176.98	-13751	-9810	-251	0.6964	0.6964	-50311	10833	3367	115546	7007	3551	5050	Si	20.11	Si
SLU 61	7.5	161.53	-11012	-7856	-257	0.6964	0.6964	-40290	10833	2846	115546	7007	3551	4269	Si	16.63	Si
SLU 53	5	-170.28	-13661	-9746	-260	0.6964	0.6964	-49982	10833	3350	115546	7007	3551	5024	Si	19.36	Si
SLU 53	7.5	152.54	-10790	-7697	-260	0.6964	0.6964	-39477	10833	2803	115546	7007	3551	4205	Si	16.18	Si
SLU 56	5	-170.52	-13952	-9953	-261	0.6964	0.6964	-51046	10833	3405	115546	7007	3551	5107	Si	19.58	Si
SLU 56	7.5	151.92	-11065	-7893	-261	0.6964	0.6964	-40482	10833	2856	115546	7007	3551	4284	Si	16.42	Si
SLU 62	5	-181.29	-14101	-10060	-265	0.6964	0.6964	-51592	10833	3433	115546	7007	3551	5150	Si	19.43	Si
SLU 62	7.5	163.76	-11225	-8008	-270	0.6964	0.6964	-41070	10833	2886	115546	7007	3551	4329	Si	16.02	Si
SLU 63	5	-177.22	-14042	-10017	-253	0.6964	0.6964	-51375	10833	3422	115546	7007	3551	5133	Si	20.33	Si
SLU 63	7.5	160.91	-11287	-8052	-258	0.6964	0.6964	-41295	10833	2898	115546	7007	3551	4347	Si	16.87	Si
SLU 48	5	-139.17	-12595	-8985	-242	0.6964	0.6964	-46082	10833	3147	115546	7007	3551	4720	Si	19.52	Si
SLU 48	7.5	120.05	-9737	-6946	-231	0.6964	0.6964	-35625	10833	2603	115546	7007	3551	3905	Si	16.89	Si
SLU 58	5	-168.09	-13811	-9852	-258	0.6964	0.6964	-50529	10833	3378	115546	7007	3551	5067	Si	19.62	Si
SLU 58	7.5	149.48	-10931	-7798	-258	0.6964	0.6964	-39993	10833	2830	115546	7007	3551	4245	Si	16.43	Si
SLU 60	5	-181.05	-13811	-9852	-264	0.6964	0.6964	-50529	10833	3378	115546	7007	3551	5067	Si	19.22	Si
SLU 60	7.5	164.37	-10951	-7812	-269	0.6964	0.6964	-40066	10833	2834	115546	7007	3551	4251	Si	15.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	5	-1375.21	-13182	-9403	-1407	0.6964	0.6964	-48227	16250	3634	115546	10511	3551	14062		9.99	Si
SLD 16	7.5	1305.13	-8862	-6322	-1241	0.6964	0.6027	-32423	16250	2812	115546	10511	3551	14062		11.33	Si
SLV 13	5	-1987.16	-12282	-8762	-1701	0.6964	0.5592	-57683	16250	3463	115546	10511	3551	14062		8.27	Si
SLV 13	7.5	1915.6	-10928	-7796	-1431	0.6964	0.5187	-39981	16250	3205	115546	10511	3551	14062		9.83	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	5	-888.77	-15617	-11141	-1405	0.6964	0.6964	-57139	16250	4097	115546	10511	3551	14062		10.01	Si
SLV 11	7.5	804.11	-5810	-4145	-1353	0.6964	0.6294	-21257	16250	2864	115546	10511	3551	14062		10.4	Si
SLV 1	5	1856.08	-5966	-4256	1754	0.5571	0.1113	0	0	0	115546	8409	2841	11250		6.41	Si
SLV 1	7.5	-1785.55	-7521	-5365	1510	0.5571	0.3323	0	0	0	115546	8409	2841	11250		7.45	Si
SLV 16	5	-2084.5	-14797	-10556	-2105	0.6964	0.6219	-54137	16250	3941	115546	10511	3551	14062		6.68	Si
SLV 16	7.5	1983.81	-9128	-6512	-1852	0.6964	0.3926	-33397	16250	2863	115546	10511	3551	14062		7.59	Si
SLD 15	5	-1386.63	-13212	-9425	-1419	0.6964	0.6964	-48340	16250	3640	115546	10511	3551	14062		9.91	Si
SLD 15	7.5	1316.64	-8854	-6316	-1254	0.6964	0.5984	-32392	16250	2811	115546	10511	3551	14062		11.22	Si
SLV 12	5	-876.72	-15585	-11118	-1392	0.6964	0.6964	-57019	16250	4091	115546	10511	3551	14062		10.1	Si
SLV 12	7.5	791.97	-5819	-4151	-1340	0.6964	0.6362	-21289	16250	2895	115546	10511	3551	14062		10.5	Si
SLV 2	5	1873.98	-5918	-4222	1773	0.5571	0.0945	0	0	0	115546	8409	2841	11250		6.34	Si
SLV 2	7.5	-1803.58	-7534	-5375	1529	0.5571	0.3264	0	0	0	115546	8409	2841	11250		7.36	Si
SLV 14	5	-1969.27	-12234	-8727	-1682	0.6964	0.5616	-57187	16250	3454	115546	10511	3551	14062		8.36	Si
SLV 14	7.5	1897.57	-10941	-7805	-1411	0.6964	0.5242	-40029	16250	3208	115546	10511	3551	14062		9.96	Si
SLV 15	5	-2102.39	-14846	-10590	-2124	0.6964	0.6197	-54315	16250	3950	115546	10511	3551	14062		6.62	Si
SLV 15	7.5	2001.84	-9115	-6503	-1871	0.6964	0.3857	-33349	16250	2860	115546	10511	3551	14062		7.52	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-6572	0.38	75.43	750.84	1051.05	900.94	11.94	Si
SLV 3	-6575	0.38	75.43	751.16	1051.57	901.37	11.95	Si
SLV 2	-6757	0.38	75.43	767.09	1077.8	922.44	12.23	Si
SLV 1	-6760	0.38	75.43	767.41	1078.32	922.86	12.23	Si
SLV 8	-7566	0.38	75.43	834.99	1194.76	1014.88	13.45	Si
SLV 7	-7569	0.38	75.43	835.19	1195.12	1015.15	13.46	Si
SLV 6	-8183	0.38	75.43	883.31	1283.88	1083.59	14.37	Si
SLV 5	-8186	0.38	75.43	883.49	1284.23	1083.86	14.37	Si
SLV 12	-8603	0.38	75.43	914.49	1344.51	1129.5	14.97	Si
SLV 11	-8606	0.38	75.43	914.67	1344.86	1129.76	14.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-5904	-14797	65	0.633	698.7	0.959	9.58933	6.56194	Si
SLV 15	-5875	-14846	65	0.635	695.7	0.958	9.63132	6.56194	Si
SLV 14	-5800	-12234	62	0.643	688.1	0.958	9.74765	6.56194	Si
SLV 13	-5771	-12282	62	0.645	685.2	0.958	9.79109	6.56194	Si
SLV 4	-4242	-8481	57	0.837	529.8	0.947	12.842	6.56194	Si
SLV 3	-4213	-8530	57	0.842	526.9	0.947	12.91933	6.56194	Si
SLV 2	-4138	-5918	60	0.854	519.3	0.946	13.1105	6.56194	Si
SLV 1	-4109	-5966	60	0.859	516.4	0.946	13.1913	6.56194	Si
SLV 12	-5438	-15585	26	0.684	651.3	0.956	10.40671	4.70862	Si
SLV 11	-5418	-15617	26	0.687	649.3	0.956	10.43993	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.386	SLU 83	Si
V_SLU	15.787	SLU 60	Si
PF_SLV	1.005	SLV 2	Si
V_SLV	6.345	SLV 2	Si
PFFP_SLV	11.944	SLV 4	Si
R_SLV	1.461	SLV 16	Si

Maschio 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.278	1.046	-9.386	1.046	L5	L6	2.109	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 73	5	2642.78	-41737	-0.0001297	0.0004492	0.0035	2.1086	18545.84	30801.49	27818.76	10.53	Si	Si
SLU 73	7.5	1863.26	-33529	-0.0000988	0.0004492	0.0035	2.1086	18920.55	26800	26800	14.38	No	Si
SLU 79	5	2605.98	-43487	-0.0001348	0.0004492	0.0035	2.1086	18211.09	31532.51	27316.63	10.48	Si	Si
SLU 79	7.5	2038.66	-35144	-0.0001049	0.0004492	0.0035	2.1086	19002.44	27770.07	27770.07	13.62	No	Si
SLU 83	5	2611.8	-44206	-0.0001371	0.0004492	0.0035	2.1086	18047.8	31832.47	27071.7	10.37	Si	Si
SLU 83	7.5	2107.61	-35810	-0.0001074	0.0004492	0.0035	2.1086	19013.99	28169.58	28169.58	13.37	No	Si
SLU 84	5	2674.75	-44232	-0.0001377	0.0004492	0.0035	2.1086	18041.65	31843.25	27062.47	10.12	Si	Si
SLU 84	7.5	2065.32	-35811	-0.0001071	0.0004492	0.0035	2.1086	19014	28170.44	28170.44	13.64	No	Si
SLU 76	5	2676.85	-42634	-0.0001327	0.0004492	0.0035	2.1086	18385.54	31175.98	27578.32	10.3	Si	Si
SLU 76	7.5	1915.72	-34338	-0.0001016	0.0004492	0.0035	2.1086	18971.09	27285.75	27285.75	14.24	No	Si
SLU 80	5	2668.94	-43513	-0.0001354	0.0004492	0.0035	2.1086	18205.48	31543.28	27308.22	10.23	Si	Si
SLU 80	7.5	1996.37	-35146	-0.0001046	0.0004492	0.0035	2.1086	19002.48	27770.93	27770.93	13.91	No	Si
SLU 75	5	2649.21	-43051	-0.0001338	0.0004492	0.0035	2.1086	18302.97	31350.16	27454.46	10.36	Si	Si
SLU 75	7.5	1969.22	-34728	-0.0001031	0.0004492	0.0035	2.1086	18988.64	27520.13	27520.13	13.98	No	Si
SLU 77	5	2620.31	-43922	-0.0001363	0.0004492	0.0035	2.1086	18114.16	31713.87	27171.24	10.37	Si	Si
SLU 77	7.5	2063.97	-35536	-0.0001062	0.0004492	0.0035	2.1086	19010.8	28005.02	28005.02	13.57	No	Si
SLU 78	5	2683.27	-43948	-0.0001369	0.0004492	0.0035	2.1086	18108.23	31724.65	27162.34	10.12	Si	Si
SLU 78	7.5	2021.68	-35537	-0.0001059	0.0004492	0.0035	2.1086	19010.82	28005.88	28005.88	13.85	No	Si
SLU 82	5	2640.69	-43335	-0.0001346	0.0004492	0.0035	2.1086	18243.84	31468.76	27365.77	10.36	Si	Si
SLU 82	7.5	2012.87	-35002	-0.0001043	0.0004492	0.0035	2.1086	18998.3	27684.69	27684.69	13.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	5	9639.74	-29254	-0.0001416	0.0006738	0.0035	2.1086		25890.74	25890.74	2.69		Si
SLV 3	7.5	-3068.03	-21010	-0.0000716	0.0006738	0.0035	2.1086		21780.51	21780.51	7.1		Si
SLV 1	5	11687.4	-29381	-0.0001587	0.0006738	0.0035	2.1086		25989.78	25989.78	2.22		Si
SLV 1	7.5	-4588.26	-20445	-0.0000809	0.0006738	0.0035	2.1086		21327.49	21327.49	4.65		Si
SLV 4	5	9708.05	-29326	-0.0001423	0.0006738	0.0035	2.1086		25946.71	25946.71	2.67		Si
SLV 4	7.5	-3137.72	-21042	-0.0000722	0.0006738	0.0035	2.1086		21805.9	21805.9	6.95		Si
SLV 2	5	11755.7	-29452	-0.0001595	0.0006738	0.0035	2.1086		26045.75	26045.75	2.22		Si
SLV 2	7.5	-4657.96	-20477	-0.0000815	0.0006738	0.0035	2.1086		21352.88	21352.88	4.58		Si
SLV 6	5	7913.48	-29417	-0.0001291	0.0006738	0.0035	2.1086		26018.37	26018.37	3.29		Si
SLV 6	7.5	-2796.46	-21484	-0.0000709	0.0006738	0.0035	2.1086		22160.47	22160.47	7.92		Si
SLV 5	5	7867.49	-29369	-0.0001287	0.0006738	0.0035	2.1086		25980.68	25980.68	3.3		Si
SLV 5	7.5	-2749.54	-21463	-0.0000705	0.0006738	0.0035	2.1086		22143.37	22143.37	8.05		Si
SLD 2	5	8154.98	-29328	-0.0001307	0.0006738	0.0035	2.1086		25948.78	25948.78	3.18		Si
SLD 2	7.5	-2489.47	-21440	-0.0000686	0.0006738	0.0035	2.1086		22125	22125	8.89		Si
SLD 1	5	8111.38	-29283	-0.0001302	0.0006738	0.0035	2.1086		25913.05	25913.05	3.19		Si
SLD 1	7.5	-2444.98	-21420	-0.0000682	0.0006738	0.0035	2.1086		22108.8	22108.8	9.04		Si
SLV 16	5	-8063.37	-28837	-0.0001287	0.0006738	0.0035	2.1086		27655.11	27655.11	3.43		Si
SLV 16	7.5	7215.75	-25819	-0.0001141	0.0006738	0.0035	2.1086		23206.09	23206.09	3.22		Si
SLV 15	5	-8131.68	-28765	-0.000129	0.0006738	0.0035	2.1086		27604.07	27604.07	3.39		Si
SLV 15	7.5	7285.45	-25788	-0.0001145	0.0006738	0.0035	2.1086		23181.33	23181.33	3.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 26	5	2233.77	-32679	-23313	2118	2.1086	2.1086	-39485	10833	8490	115546	21218	10754	12735	Si	6.01	Si
SLU 26	7.5	1334.31	-26191	-18684	56	2.1086	2.1086	-31645	10833	7256	115546	21218	10754	10884	Si	194.51	Si
SLU 73	5	2642.78	-41737	-29774	2519	2.1086	2.1086	-50429	10833	10213	115546	21218	10754	15320	Si	6.08	Si
SLU 73	7.5	1863.26	-33529	-23919	-54	2.1086	2.1086	-40511	10833	8652	115546	21218	10754	12978	Si	239.92	Si
SLU 70	5	2590.22	-40178	-28662	2494	2.1086	2.1086	-48546	10833	9917	115546	21218	10754	14875	Si	5.96	Si
SLU 70	7.5	1738.39	-32097	-22897	-66	2.1086	2.1086	-38781	10833	8379	115546	21218	10754	12569	Si	191	Si
SLU 72	5	2575.88	-39744	-28352	2478	2.1086	2.1086	-48021	10833	9834	115546	21218	10754	14751	Si	5.95	Si
SLU 72	7.5	1713.08	-31706	-22618	-60	2.1086	2.1086	-38308	10833	8305	115546	21218	10754	12458	Si	207.7	Si
SLU 23	5	2199.71	-31782	-22673	2084	2.1086	2.1086	-38401	10833	8320	115546	21218	10754	12479	Si	5.99	Si
SLU 23	7.5	1281.86	-25382	-18107	57	2.1086	2.1086	-30668	10833	7102	115546	21218	10754	10653	Si	186.9	Si
SLU 67	5	2556.15	-39281	-28022	2460	2.1086	2.1086	-47462	10833	9746	115546	21218	10754	14619	Si	5.94	Si
SLU 67	7.5	1685.94	-31288	-22320	-65	2.1086	2.1086	-37804	10833	8226	115546	21218	10754	12338	Si	190.51	Si
SLU 66	5	2493.19	-39256	-28004	2406	2.1086	2.1086	-47431	10833	9741	115546	21218	10754	14612	Si	6.07	Si
SLU 66	7.5	1728.23	-31286	-22319	-103	2.1086	2.1086	-37802	10833	8225	115546	21218	10754	12338	Si	119.95	Si
SLU 64	5	2444.8	-37924	-27054	2356	2.1086	2.1086	-45822	10833	9488	115546	21218	10754	14232	Si	6.04	Si
SLU 64	7.5	1650.46	-30086	-21463	-96	2.1086	2.1086	-36352	10833	7997	115546	21218	10754	11995	Si	124.97	Si
SLU 65	5	2549.73	-37967	-27085	2447	2.1086	2.1086	-45874	10833	9496	115546	21218	10754	14244	Si	5.82	Si
SLU 65	7.5	1579.98	-30088	-21464	-32	2.1086	2.1086	-36355	10833	7997	115546	21218	10754	11996	Si	369.16	Si
SLU 68	5	2583.79	-38864	-27725	2481	2.1086	2.1086	-46958	10833	9667	115546	21218	10754	14500	Si	5.85	Si
SLU 68	7.5	1632.43	-30897	-22042	-34	2.1086	2.1086	-37332	10833	8151	115546	21218	10754	12227	Si	364.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	5	7867.49	-29369	-20951	6788	2.1086	2.1086	-35485	16250	9594	115546	31827	10754	42581		6.27	Si
SLV 5	7.5	-2749.54	-21463	-15311	3367	2.1086	2.1086	-25933	16250	9594	115546	31827	10754	42581		12.64	Si
SLV 4	5	9708.05	-29326	-20920	8069	2.1086	2.1086	-35433	16250	9594	115546	31827	10754	42581		5.28	Si
SLV 4	7.5	-3137.72	-21042	-15011	3805	2.1086	2.1086	-25424	16250	9594	115546	31827	10754	42581		11.19	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	5	11687.4	-29381	-20959	9744	2.1086	1.9696	-35500	16250	9000	115546	31827	10754	42581		4.37	Si
SLV 1	7.5	-4588.26	-20445	-14585	5027	2.1086	2.1086	-24703	16250	9594	115546	31827	10754	42581		8.47	Si
SLV 6	5	7913.48	-29417	-20986	6838	2.1086	2.1086	-35544	16250	9594	115546	31827	10754	42581		6.23	Si
SLV 6	7.5	-2796.46	-21484	-15326	3409	2.1086	2.1086	-25958	16250	9594	115546	31827	10754	42581		12.49	Si
SLD 2	5	8154.98	-29328	-20922	6897	2.1086	2.1086	-35436	16250	9594	115546	31827	10754	42581		6.17	Si
SLD 2	7.5	-2489.47	-21440	-15295	3204	2.1086	2.1086	-25905	16250	9594	115546	31827	10754	42581		13.29	Si
SLD 1	5	8111.38	-29283	-20889	6850	2.1086	2.1086	-35381	16250	9594	115546	31827	10754	42581		6.22	Si
SLD 1	7.5	-2444.98	-21420	-15280	3164	2.1086	2.1086	-25881	16250	9594	115546	31827	10754	42581		13.46	Si
SLV 15	5	-8131.68	-28765	-20520	-6313	2.1086	2.1086	-34756	16250	9594	115546	31827	10754	42581		6.75	Si
SLV 15	7.5	7285.45	-25788	-18396	-5309	2.1086	2.1086	-31158	16250	9594	115546	31827	10754	42581		8.02	Si
SLV 3	5	9639.74	-29254	-20869	7995	2.1086	2.1086	-35346	16250	9594	115546	31827	10754	42581		5.33	Si
SLV 3	7.5	-3068.03	-21010	-14988	3743	2.1086	2.1086	-25386	16250	9594	115546	31827	10754	42581		11.38	Si
SLV 16	5	-8063.37	-28837	-20571	-6239	2.1086	2.1086	-34842	16250	9594	115546	31827	10754	42581		6.83	Si
SLV 16	7.5	7215.75	-25819	-18419	-5247	2.1086	2.1086	-31196	16250	9594	115546	31827	10754	42581		8.11	Si
SLV 2	5	11755.7	-29452	-21011	9818	2.1086	1.9655	-35586	16250	9013	115546	31827	10754	42581		4.34	Si
SLV 2	7.5	-4657.96	-20477	-14608	5089	2.1086	2.1086	-24741	16250	9594	115546	31827	10754	42581		8.37	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 15	-26821	0.38	228.41	2824.28	4261.96	3543.12	15.51	Si
SLV 13	-26876	0.38	228.41	2828.12	4269.47	3548.79	15.54	Si
SLV 16	-26893	0.38	228.41	2829.33	4271.84	3550.58	15.54	Si
SLV 14	-26947	0.38	228.41	2833.15	4279.36	3556.26	15.57	Si
SLV 11	-26977	0.38	228.41	2835.25	4283.48	3559.37	15.58	Si
SLV 12	-27025	0.38	228.41	2838.63	4290.14	3564.38	15.61	Si
SLV 7	-27155	0.38	228.41	2847.71	4308.06	3577.88	15.66	Si
SLV 9	-27159	0.38	228.41	2847.95	4308.53	3578.24	15.67	Si
SLV 8	-27203	0.38	228.41	2851.07	4314.72	3582.89	15.69	Si
SLV 10	-27207	0.38	228.41	2851.31	4315.19	3583.25	15.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-22845	-28837	472	0.502	2621	0.966	7.5569	6.56194	Si
SLV 15	-22824	-28765	472	0.503	2618.8	0.966	7.56304	6.56194	Si
SLV 14	-23268	-28963	-214	0.505	2664	0.966	7.59028	6.56194	Si
SLV 13	-23247	-28892	-214	0.505	2661.9	0.966	7.59629	6.56194	Si
SLV 2	-19729	-29452	-470	0.569	2303.9	0.962	8.6005	6.56194	Si
SLV 1	-19708	-29381	-470	0.57	2301.8	0.962	8.60854	6.56194	Si
SLV 4	-19306	-29326	216	0.592	2260.9	0.961	8.94698	6.56194	Si
SLV 3	-19285	-29254	216	0.592	2258.8	0.961	8.9556	6.56194	Si
SLV 10	-22519	-29271	-1104	0.483	2587.8	0.966	7.26358	4.70862	Si
SLV 9	-22505	-29222	-1104	0.483	2586.4	0.966	7.26756	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.118	SLU 84	Si
V_SLU	5.821	SLU 65	Si
PF_SLV	2.216	SLV 2	Si
V_SLV	4.337	SLV 2	Si
PFFP_SLV	15.512	SLV 15	Si
R_SLV	1.152	SLV 16	Si

Maschio 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.968	1.046	-6.478	1.046	L5	L6	1.51	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	5	2013.37	-30398	-0.0001429	0.0004492	0.0035	1.51	9446.05	15946.29	14169.08	7.04	Si	Si
SLU 77	7.1	-1058.79	-27544	-0.0001149	0.0004492	0.0035	1.51	9708.09	15836.2	14562.14	13.75	Si	Si
SLU 84	5	2068.75	-30404	-0.0001438	0.0004492	0.0035	1.51	9445.24	15948.13	14167.85	6.85	Si	Si
SLU 84	7.1	-1077.62	-27806	-0.0001163	0.0004492	0.0035	1.51	9693.95	15909.07	14540.93	13.49	Si	Si
SLU 81	5	2022.71	-29754	-0.0001402	0.0004492	0.0035	1.51	9525.97	15751.98	14288.95	7.06	Si	Si
SLU 81	7.1	-1065.45	-27250	-0.0001138	0.0004492	0.0035	1.51	9721.53	15754.67	14582.3	13.69	Si	Si
SLU 75	5	2055.19	-29802	-0.0001409	0.0004492	0.0035	1.51	9520.47	15766.36	14280.7	6.95	Si	Si
SLU 75	7.1	-1105.88	-26988	-0.0001133	0.0004492	0.0035	1.51	9731.39	15681.94	14597.09	13.2	Si	Si
SLU 83	5	2024.82	-30378	-0.000143	0.0004492	0.0035	1.51	9448.82	15940.02	14173.23	7	Si	Si
SLU 83	7.1	-1047.99	-27806	-0.0001158	0.0004492	0.0035	1.51	9693.97	15909	14540.95	13.88	Si	Si
SLU 78	5	2057.31	-30425	-0.0001437	0.0004492	0.0035	1.51	9442.45	15954.4	14163.68	6.88	Si	Si
SLU 78	7.1	-1088.42	-27544	-0.0001154	0.0004492	0.0035	1.51	9708.08	15836.27	14562.12	13.38	Si	Si
SLU 73	5	2071.2	-28899	-0.0001372	0.0004492	0.0035	1.51	9613.35	15493.98	14420.03	6.96	Si	Si
SLU 73	7.1	-1139	-26142	-0.0001104	0.0004492	0.0035	1.51	9749.57	15446.78	14624.36	12.84	Si	Si
SLU 76	5	2073.32	-29522	-0.00014	0.0004492	0.0035	1.51	9551.78	15682.01	14327.67	6.91	Si	Si
SLU 76	7.1	-1121.54	-26697	-0.0001124	0.0004492	0.0035	1.51	9740	15601.11	14610.01	13.03	Si	Si
SLU 82	5	2066.64	-29781	-0.000141	0.0004492	0.0035	1.51	9522.87	15760.09	14284.31	6.91	Si	Si
SLU 82	7.1	-1095.08	-27250	-0.0001142	0.0004492	0.0035	1.51	9721.52	15754.74	14582.28	13.32	Si	Si
SLU 80	5	2046.15	-30128	-0.0001422	0.0004492	0.0035	1.51	9481.11	15864.64	14221.67	6.95	Si	Si
SLU 80	7.1	-1084.32	-27253	-0.0001141	0.0004492	0.0035	1.51	9721.42	15755.39	14582.14	13.45	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	5	3992.72	-19643	-0.0001227	0.0006738	0.0035	1.51		12558.04	12558.04	3.15		Si
SLD 4	7.1	-3121.12	-17286	-0.0001014	0.0006738	0.0035	1.51		12387.91	12387.91	3.97		Si
SLD 2	5	4823.13	-19884	-0.0001357	0.0006738	0.0035	1.51		12693.7	12693.7	2.63		Si
SLD 2	7.1	-3729.86	-17034	-0.0001091	0.0006738	0.0035	1.51		12250.73	12250.73	3.28		Si
SLD 1	5	4768.65	-19840	-0.0001347	0.0006738	0.0035	1.51		12668.7	12668.7	2.66		Si
SLD 1	7.1	-3706.43	-17043	-0.0001088	0.0006738	0.0035	1.51		12255.92	12255.92	3.31		Si
SLD 3	5	3938.25	-19599	-0.0001217	0.0006738	0.0035	1.51		12533.04	12533.04	3.18		Si
SLD 3	7.1	-3097.69	-17295	-0.0001011	0.0006738	0.0035	1.51		12393.11	12393.11	4		Si
SLV 5	5	5044.88	-20764	-0.0001424	0.0006738	0.0035	1.51		13188.62	13188.62	2.61		Si
SLV 5	7.1	-3684.97	-16987	-0.0001082	0.0006738	0.0035	1.51		12225.03	12225.03	3.32		Si
SLV 4	5	5386.78	-19170	-0.000142	0.0006738	0.0035	1.51		12292.06	12292.06	2.28		Si
SLV 4	7.1	-4377.01	-16841	-0.0001177	0.0006738	0.0035	1.51		12145.91	12145.91	2.77		Si
SLV 3	5	5301.44	-19100	-0.0001403	0.0006738	0.0035	1.51		12252.89	12252.89	2.31		Si
SLV 3	7.1	-4340.3	-16856	-0.0001172	0.0006738	0.0035	1.51		12154.06	12154.06	2.8		Si
SLV 6	5	5102.34	-20811	-0.0001434	0.0006738	0.0035	1.51		13214.99	13214.99	2.59		Si
SLV 6	7.1	-3709.68	-16977	-0.0001086	0.0006738	0.0035	1.51		12219.55	12219.55	3.29		Si
SLV 1	5	6645.39	-19491	-0.0001679	0.0006738	0.0035	1.51		12472.4	12472.4	1.88		Si
SLV 1	7.1	-5325.84	-16447	-0.0001327	0.0006738	0.0035	1.51		11931.06	11931.06	2.24		Si
SLV 2	5	6730.73	-19560	-0.00017	0.0006738	0.0035	1.51		12511.57	12511.57	1.86		Si
SLV 2	7.1	-5362.55	-16432	-0.0001339	0.0006738	0.0035	1.51		11922.91	11922.91	2.22		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	5	2015.63	-27423	-19563	2041	1.51	1.51	-46269	10833	6845	115546	15194	7701	10267	Si	5.03	Si
SLU 68	7.1	-1177.93	-24111	-17200	2041	1.51	1.51	-40681	10833	6215	115546	15194	7701	9322	Si	4.57	Si
SLU 2	5	1475.62	-19021	-13569	1550	1.51	1.51	-32094	10833	5247	115546	15194	7701	7870	Si	5.08	Si
SLU 2	7.1	-909.69	-16379	-11684	1549	1.51	1.51	-27635	10833	4744	115546	15194	7701	7116	Si	4.59	Si
SLU 52	5	1892.9	-25726	-18352	1912	1.51	1.51	-43406	10833	6522	115546	15194	7701	9783	Si	5.12	Si
SLU 52	7.1	-1096.97	-22698	-16192	1912	1.51	1.51	-38298	10833	5946	115546	15194	7701	8919	Si	4.67	Si
SLU 49	5	1821.31	-25152	-17943	1870	1.51	1.51	-42438	10833	6413	115546	15194	7701	9619	Si	5.15	Si
SLU 49	7.1	-1102.78	-21513	-15347	1869	1.51	1.51	-36299	10833	5721	115546	15194	7701	8581	Si	4.59	Si
SLU 47	5	1837.33	-24249	-17299	1930	1.51	1.51	-40915	10833	6241	115546	15194	7701	9362	Si	4.85	Si
SLU 47	7.1	-1135.9	-20667	-14743	1930	1.51	1.51	-34871	10833	5560	115546	15194	7701	8340	Si	4.32	Si
SLU 44	5	1835.21	-23626	-16854	1925	1.51	1.51	-39863	10833	6123	115546	15194	7701	9184	Si	4.77	Si
SLU 44	7.1	-1153.37	-20112	-14347	1924	1.51	1.51	-33934	10833	5454	115546	15194	7701	8181	Si	4.25	Si
SLU 43	5	1761.99	-23581	-16822	1753	1.51	1.51	-39788	10833	6114	115546	15194	7701	9171	Si	5.23	Si
SLU 43	7.1	-1103.99	-20111	-14347	1752	1.51	1.51	-33933	10833	5454	115546	15194	7701	8181	Si	4.67	Si
SLU 51	5	1810.15	-24854	-17731	1866	1.51	1.51	-41936	10833	6356	115546	15194	7701	9534	Si	5.11	Si
SLU 51	7.1	-1098.69	-21222	-15140	1866	1.51	1.51	-35808	10833	5665	115546	15194	7701	8498	Si	4.55	Si
SLU 46	5	1819.2	-24529	-17498	1865	1.51	1.51	-41386	10833	6294	115546	15194	7701	9441	Si	5.06	Si
SLU 46	7.1	-1120.25	-20958	-14951	1864	1.51	1.51	-35362	10833	5615	115546	15194	7701	8423	Si	4.52	Si
SLU 65	5	2013.51	-26800	-19118	2036	1.51	1.51	-45218	10833	6726	115546	15194	7701	10089	Si	4.95	Si
SLU 65	7.1	-1195.4	-23555	-16804	2036	1.51	1.51	-39744	10833	6109	115546	15194	7701	9164	Si	4.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	5	4823.13	-19884	-14185	5879	1.51	1.51	-33550	16250	6871	115546	22792	7701	30493		5.19	Si
SLD 2	7.1	-3729.86	-17034	-12152	5688	1.51	1.51	-28741	16250	6871	115546	22792	7701	30493		5.36	Si
SLV 6	5	5102.34	-20811	-14846	8767	1.51	1.51	-35114	16250	6871	115546	22792	7701	30493		3.48	Si
SLV 6	7.1	-3709.68	-16977	-12111	8690	1.51	1.51	-28644	16250	6871	115546	22792	7701	30493		3.51	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	5	-2162.68	-20155	-14378	-5955	1.51	1.51	-34006	16250	6871	115546	22792	7701	30493		5.12	Si
SLV 11	7.1	1997.28	-19226	-13715	-5879	1.51	1.51	-32439	16250	6871	115546	22792	7701	30493		5.19	Si
SLD 1	5	4768.65	-19840	-14153	5746	1.51	1.51	-33475	16250	6871	115546	22792	7701	30493		5.31	Si
SLD 1	7.1	-3706.43	-17043	-12158	5556	1.51	1.51	-28757	16250	6871	115546	22792	7701	30493		5.49	Si
SLD 6	5	3745.08	-20677	-14751	5992	1.51	1.51	-34888	16250	6871	115546	22792	7701	30493		5.09	Si
SLD 6	7.1	-2645.77	-17397	-12411	5944	1.51	1.51	-29354	16250	6871	115546	22792	7701	30493		5.13	Si
SLV 12	5	-2105.22	-20202	-14411	-5815	1.51	1.51	-34086	16250	6871	115546	22792	7701	30493		5.24	Si
SLV 12	7.1	1972.57	-19216	-13708	-5739	1.51	1.51	-32422	16250	6871	115546	22792	7701	30493		5.31	Si
SLV 5	5	5044.88	-20764	-14813	8627	1.51	1.51	-35035	16250	6871	115546	22792	7701	30493		3.53	Si
SLV 5	7.1	-3684.97	-16987	-12118	8550	1.51	1.51	-28661	16250	6871	115546	22792	7701	30493		3.57	Si
SLD 5	5	3709.12	-20648	-14730	5904	1.51	1.51	-34838	16250	6871	115546	22792	7701	30493		5.16	Si
SLD 5	7.1	-2630.3	-17404	-12415	5856	1.51	1.51	-29364	16250	6871	115546	22792	7701	30493		5.21	Si
SLV 1	5	6645.39	-19491	-13904	8243	1.51	1.2421	-32886	16250	6150	115546	22792	7701	30493		3.7	Si
SLV 1	7.1	-5325.84	-16447	-11733	7945	1.51	1.2935	-32739	16250	5886	115546	22792	7701	30493		3.84	Si
SLV 2	5	6730.73	-19560	-13954	8451	1.51	1.2327	-33004	16250	6163	115546	22792	7701	30493		3.61	Si
SLV 2	7.1	-5362.55	-16432	-11722	8153	1.51	1.286	-33074	16250	5851	115546	22792	7701	30493		3.74	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-16671	0.38	163.56	1831.83	2691.07	2261.45	13.83	Si
SLV 1	-16686	0.38	163.56	1833.03	2693.23	2263.13	13.84	Si
SLV 4	-17104	0.38	163.56	1866.06	2753.44	2309.75	14.12	Si
SLV 3	-17119	0.38	163.56	1867.23	2755.6	2311.41	14.13	Si
SLV 6	-17199	0.38	163.56	1873.48	2767.12	2320.3	14.19	Si
SLV 5	-17210	0.38	163.56	1874.26	2768.57	2321.42	14.19	Si
SLV 10	-18084	0.38	163.56	1940.9	2894.38	2417.64	14.78	Si
SLV 9	-18094	0.38	163.56	1941.66	2895.83	2418.74	14.79	Si
SLV 8	-18644	0.38	163.56	1982.17	2975.04	2478.61	15.15	Si
SLV 7	-18654	0.38	163.56	1982.9	2976.49	2479.7	15.16	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-14895	-21866	37	0.563	1727.9	0.963	8.48719	6.56194	Si
SLV 13	-14892	-21796	35	0.563	1727.6	0.963	8.48972	6.56194	Si
SLV 16	-14924	-21475	13	0.563	1730.8	0.963	8.49428	6.56194	Si
SLV 15	-14921	-21406	12	0.563	1730.5	0.963	8.49681	6.56194	Si
SLV 4	-12605	-19170	-35	0.649	1495	0.958	9.83692	6.56194	Si
SLV 3	-12602	-19100	-36	0.649	1494.7	0.958	9.83776	6.56194	Si
SLV 2	-12577	-19560	-12	0.651	1492.1	0.958	9.88185	6.56194	Si
SLV 1	-12574	-19491	-13	0.651	1491.8	0.958	9.8827	6.56194	Si
SLV 12	-14145	-20202	-31	0.588	1651.6	0.962	8.88926	4.70862	Si
SLV 11	-14143	-20155	-31	0.588	1651.4	0.962	8.88964	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.848	SLU 84	Si
V_SLU	4.251	SLU 44	Si
PF_SLV	1.859	SLV 2	Si
V_SLV	3.478	SLV 6	Si
PFFP_SLV	13.826	SLV 2	Si
R_SLV	1.293	SLV 14	Si

Maschio 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.046	-4.168	1.046	L5	L6	4.045	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	5	10312.9	-55036	-0.0000925	0.0004492	0.0035	4.045	67043.47	88002.08	88002.08	8.53	No	Si
SLU 70	7.1	3571.8	-48863	-0.0000697	0.0004492	0.0035	4.045	63931.87	80986.14	80986.14	22.67	No	Si
SLU 67	5	10189	-53994	-0.0000907	0.0004492	0.0035	4.045	66596.52	86818.16	86818.16	8.52	No	Si
SLU 67	7.1	3408.26	-47833	-0.0000679	0.0004492	0.0035	4.045	63304.37	79815.71	79815.71	23.42	No	Si
SLU 65	5	10019.15	-52305	-0.0000879	0.0004492	0.0035	4.045	65804.27	84898.2	84898.2	8.47	No	Si
SLU 65	7.1	3139.35	-46180	-0.0000651	0.0004492	0.0035	4.045	62232.01	77553.94	77553.94	24.7	No	Si
SLU 46	5	9404.91	-47868	-0.0000802	0.0004492	0.0035	4.045	63326.12	79855.33	79855.33	8.49	No	Si
SLU 46	7.1	2437.08	-41285	-0.000057	0.0004492	0.0035	4.045	58589.42	70365.68	70365.68	28.87	No	Si
SLU 43	5	9137.38	-46210	-0.0000773	0.0004492	0.0035	4.045	62252.1	77597.82	77597.82	8.49	No	Si
SLU 43	7.1	2261.65	-39582	-0.0000544	0.0004492	0.0035	4.045	57157.48	67864.02	67864.02	30.01	No	Si
SLU 44	5	9235.05	-46179	-0.0000775	0.0004492	0.0035	4.045	62231.37	77552.54	77552.54	8.4	No	Si
SLU 44	7.1	2168.17	-39632	-0.0000542	0.0004492	0.0035	4.045	57200.6	67937.26	67937.26	31.33	No	Si
SLU 51	5	9443.77	-48275	-0.0000809	0.0004492	0.0035	4.045	63577.05	80317.24	80317.24	8.5	No	Si
SLU 51	7.1	2532.64	-41672	-0.0000577	0.0004492	0.0035	4.045	58902.29	70932.89	70932.89	28.01	No	Si
SLU 68	5	10143.04	-53347	-0.0000897	0.0004492	0.0035	4.045	66302.66	86082.12	86082.12	8.49	No	Si
SLU 68	7.1	3302.89	-47210	-0.0000669	0.0004492	0.0035	4.045	62909.28	79066.4	79066.4	23.94	No	Si
SLU 49	5	9528.8	-48910	-0.000082	0.0004492	0.0035	4.045	63959.61	81039.26	81039.26	8.5	No	Si
SLU 49	7.1	2600.62	-42315	-0.0000587	0.0004492	0.0035	4.045	59414.01	71878.14	71878.14	27.64	No	Si
SLU 47	5	9358.95	-47220	-0.0000792	0.0004492	0.0035	4.045	62916.3	79082.44	79082.44	8.45	No	Si
SLU 47	7.1	2331.71	-40662	-0.000056	0.0004492	0.0035	4.045	58074.96	69449.72	69449.72	29.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	5	16637.22	-30471	-0.0000688	0.0006738	0.0035	4.045		57044.77	57044.77	3.43		Si
SLV 1	7.1	-5470.58	-24413	-0.00004	0.0006738	0.0035	4.045		54323.84	54323.84	9.93		Si
SLD 4	5	12217.59	-34677	-0.0000659	0.0006738	0.0035	4.045		63286.6	63286.6	5.18		Si
SLD 4	7.1	-1801.03	-28364	-0.0000382	0.0006738	0.0035	4.045		61042.12	61042.12	33.89		Si
SLD 1	5	13318.5	-33955	-0.0000671	0.0006738	0.0035	4.045		62215.83	62215.83	4.67		Si
SLD 1	7.1	-2619.55	-28375	-0.0000397	0.0006738	0.0035	4.045		61060.46	61060.46	23.31		Si
SLV 2	5	16893.55	-30127	-0.0000689	0.0006738	0.0035	4.045		56534.46	56534.46	3.35		Si
SLV 2	7.1	-5860.23	-24584	-0.0000409	0.0006738	0.0035	4.045		54617.01	54617.01	9.32		Si
SLV 3	5	14590.31	-31991	-0.0000669	0.0006738	0.0035	4.045		59301.46	59301.46	4.06		Si
SLV 3	7.1	-3743.66	-24215	-0.0000365	0.0006738	0.0035	4.045		53986.26	53986.26	14.42		Si
SLD 3	5	12053.98	-34896	-0.0000659	0.0006738	0.0035	4.045		63612.32	63612.32	5.28		Si
SLD 3	7.1	-1552.32	-28255	-0.0000376	0.0006738	0.0035	4.045		60864.27	60864.27	39.21		Si
SLD 2	5	13482.12	-33736	-0.0000671	0.0006738	0.0035	4.045		61890.11	61890.11	4.59		Si
SLD 2	7.1	-2868.25	-28485	-0.0000403	0.0006738	0.0035	4.045		61238.32	61238.32	21.35		Si
SLV 4	5	14846.64	-31648	-0.000067	0.0006738	0.0035	4.045		58791.16	58791.16	3.96		Si
SLV 4	7.1	-4133.3	-24387	-0.0000375	0.0006738	0.0035	4.045		54279.43	54279.43	13.13		Si
SLV 5	5	13346.14	-34972	-0.0000685	0.0006738	0.0035	4.045		63724.71	63724.71	4.77		Si
SLV 5	7.1	-2434.88	-32381	-0.0000444	0.0006738	0.0035	4.045		67568.11	67568.11	27.75		Si
SLV 6	5	13518.72	-34740	-0.0000685	0.0006738	0.0035	4.045		63381.14	63381.14	4.69		Si
SLV 6	7.1	-2697.21	-32497	-0.0000451	0.0006738	0.0035	4.045		67755.72	67755.72	25.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	5	9404.91	-47868	-34148	4096	4.045	4.045	-30150	10833	20201	115546	40703	20630	30302	Si	7.4	Si
SLU 46	7.1	2437.08	-41285	-29452	4084	4.045	4.045	-26004	10833	18323	115546	40703	20630	27485	Si	6.73	Si
SLU 44	5	9235.05	-46179	-32943	4108	4.045	4.045	-29086	10833	19719	115546	40703	20630	29579	Si	7.2	Si
SLU 44	7.1	2168.17	-39632	-28272	4097	4.045	4.045	-24962	10833	17851	115546	40703	20630	26777	Si	6.54	Si
SLU 43	5	9137.38	-46210	-32965	4095	4.045	4.045	-29105	10833	19728	115546	40703	20630	29592	Si	7.23	Si
SLU 43	7.1	2261.65	-39582	-28237	4083	4.045	4.045	-24931	10833	17837	115546	40703	20630	26756	Si	6.55	Si
SLU 50	5	9385.17	-48293	-34451	4081	4.045	4.045	-30418	10833	20323	115546	40703	20630	30484	Si	7.47	Si
SLU 50	7.1	2588.73	-41642	-29706	4068	4.045	4.045	-26228	10833	18425	115546	40703	20630	27637	Si	6.79	Si
SLU 49	5	9528.8	-48910	-34891	4089	4.045	4.045	-30806	10833	20499	115546	40703	20630	30748	Si	7.52	Si
SLU 49	7.1	2600.62	-42315	-30187	4076	4.045	4.045	-26652	10833	18617	115546	40703	20630	27925	Si	6.85	Si
SLU 48	5	9470.2	-48928	-34904	4081	4.045	4.045	-30818	10833	20504	115546	40703	20630	30756	Si	7.54	Si
SLU 48	7.1	2656.71	-42285	-30165	4069	4.045	4.045	-26634	10833	18608	115546	40703	20630	27913	Si	6.86	Si
SLU 2	5	7333.22	-37131	-26488	2992	4.045	4.045	-23387	10833	17138	115546	40703	20630	25706	Si	8.59	Si
SLU 2	7.1	1902.39	-32224	-22988	2982	4.045	4.045	-20297	10833	15738	115546	40703	20630	23606	Si	7.92	Si
SLU 45	5	9346.3	-47887	-34161	4088	4.045	4.045	-30162	10833	20207	115546	40703	20630	30310	Si	7.41	Si
SLU 45	7.1	2493.17	-41255	-29431	4076	4.045	4.045	-25985	10833	18315	115546	40703	20630	27472	Si	6.74	Si
SLU 51	5	9443.77	-48275	-34438	4089	4.045	4.045	-30406	10833	20317	115546	40703	20630	30476	Si	7.45	Si
SLU 51	7.1	2532.64	-41672	-29727	4076	4.045	4.045	-26247	10833	18433	115546	40703	20630	27650	Si	6.78	Si
SLU 47	5	9358.95	-47220	-33686	4101	4.045	4.045	-29742	10833	20017	115546	40703	20630	30025	Si	7.32	Si
SLU 47	7.1	2331.71	-40662	-29007	4089	4.045	4.045	-25611	10833	18145	115546	40703	20630	27218	Si	6.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5	547.79	-48216	-34396	-7190	4.045	4.045	-30369	16250	23572	115546	61054	20630	81684		11.36	Si
SLV 14	7.1	8751.51	-46613	-33253	-6617	4.045	4.045	-29360	16250	23115	115546	61054	20630	81684		12.35	Si
SLD 3	5	12053.98	-34896	-24894	8801	4.045	4.045	-21980	16250	19771	115546	61054	20630	81684		9.28	Si
SLD 3	7.1	-1552.32	-28255	-20156	8416	4.045	4.045	-17796	16059	18189	115546	61054	20630	81684		9.71	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	5	14590.31	-31991	-22822	12321	4.045	4.045	-20150	16250	18943	115546	61054	20630	81684		6.63	Si
SLV 3	7.1	-3743.66	-24215	-17274	11726	4.045	4.045	-15252	15550	17612	115546	61054	20630	81684		6.97	Si
SLD 2	5	13482.12	-33736	-24066	8770	4.045	4.045	-21249	16250	19440	115546	61054	20630	81684		9.31	Si
SLD 2	7.1	-2868.25	-28485	-20320	8369	4.045	4.045	-17941	16088	18222	115546	61054	20630	81684		9.76	Si
SLD 1	5	13318.5	-33955	-24223	8890	4.045	4.045	-21387	16250	19503	115546	61054	20630	81684		9.19	Si
SLD 1	7.1	-2619.55	-28375	-20242	8489	4.045	4.045	-17872	16074	18206	115546	61054	20630	81684		9.62	Si
SLV 2	5	16893.55	-30127	-21492	12275	4.045	4.045	-18976	16250	18411	115546	61054	20630	81684		6.65	Si
SLV 2	7.1	-5860.23	-24584	-17538	11656	4.045	4.045	-15484	15597	17665	115546	61054	20630	81684		7.01	Si
SLV 16	5	-1499.12	-49737	-35481	-7333	4.045	4.045	-31327	16250	24006	115546	61054	20630	81684		11.14	Si
SLV 16	7.1	10478.44	-46416	-33112	-6735	4.045	4.045	-29235	16250	23058	115546	61054	20630	81684		12.13	Si
SLV 1	5	16637.22	-30471	-21737	12463	4.045	4.045	-19192	16250	18509	115546	61054	20630	81684		6.55	Si
SLV 1	7.1	-5470.58	-24413	-17415	11844	4.045	4.045	-15376	15575	17641	115546	61054	20630	81684		6.9	Si
SLV 4	5	14846.64	-31648	-22577	12132	4.045	4.045	-19933	16250	18844	115546	61054	20630	81684		6.73	Si
SLV 4	7.1	-4133.3	-24387	-17397	11537	4.045	4.045	-15360	15572	17637	115546	61054	20630	81684		7.08	Si
SLD 4	5	12217.59	-34677	-24737	8681	4.045	4.045	-21841	16250	19709	115546	61054	20630	81684		9.41	Si
SLD 4	7.1	-1801.03	-28364	-20234	8295	4.045	4.045	-17865	16073	18204	115546	61054	20630	81684		9.85	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-24954	0.38	438.16	3073.57	4316.79	3695.18	8.43	Si
SLV 4	-25125	0.38	438.16	3091.79	4342.29	3717.04	8.48	Si
SLV 1	-25172	0.38	438.16	3096.7	4349.15	3722.93	8.5	Si
SLV 2	-25343	0.38	438.16	3114.87	4374.49	3744.68	8.55	Si
SLV 7	-32420	0.38	438.16	3829.9	5415.37	4622.64	10.55	Si
SLV 8	-32535	0.38	438.16	3841.01	5432.24	4636.63	10.58	Si
SLV 5	-33145	0.38	438.16	3899.43	5521.4	4710.42	10.75	Si
SLV 6	-33261	0.38	438.16	3910.43	5538.27	4724.35	10.78	Si
SLV 11	-39013	0.38	438.16	4435.3	6372.76	5404.03	12.33	Si
SLV 12	-39128	0.38	438.16	4445.38	6389.36	5417.37	12.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-36507	-48216	-420	0.599	4283.4	0.961	9.05901	6.56194	Si
SLV 13	-36333	-48560	-421	0.601	4265.7	0.96	9.09692	6.56194	Si
SLV 16	-35904	-49737	152	0.614	4222.1	0.96	9.29576	6.56194	Si
SLV 15	-35730	-50080	152	0.617	4204.4	0.96	9.3359	6.56194	Si
SLV 2	-25217	-30127	-151	0.827	3136.2	0.948	12.67966	6.56194	Si
SLV 1	-25044	-30471	-152	0.832	3118.6	0.948	12.75585	6.56194	Si
SLV 4	-24614	-31648	421	0.834	3075	0.947	12.80296	6.56194	Si
SLV 3	-24441	-31991	421	0.839	3057.4	0.947	12.88243	6.56194	Si
SLV 10	-33231	-40167	-994	0.633	3950.3	0.958	9.60557	4.70862	Si
SLV 9	-33114	-40399	-995	0.635	3938.4	0.957	9.6352	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.398	SLU 44	Si
V_SLU	6.536	SLU 44	Si
PF_SLV	3.347	SLV 2	Si
V_SLV	6.554	SLV 1	Si
PFFP_SLV	8.433	SLV 3	Si
R_SLV	1.381	SLV 14	Si

Maschio 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.718	6.661	L5	L6	2.04	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 44	5.9	1573.76	-17062	-0.000055	0.0003743	0.0035	2.04	12297.44	14886.88	14886.88	9.46	No	Si
SLU 44	7.7	928	-14468	-0.000043	0.0003743	0.0035	2.04	11086.13	13007.94	13007.94	14.02	No	Si
SLU 69	5.9	1935.54	-21825	-0.0000712	0.0003743	0.0035	2.04	13906.95	18336.78	18336.78	9.47	No	Si
SLU 69	7.7	1296.3	-19188	-0.0000586	0.0003743	0.0035	2.04	13114.05	16426.49	16426.49	12.67	No	Si
SLU 47	5.9	1623.46	-17660	-0.000057	0.0003743	0.0035	2.04	12543.1	15319.83	15319.83	9.44	No	Si
SLU 47	7.7	962.01	-15066	-0.0000449	0.0003743	0.0035	2.04	11386.17	13440.89	13440.89	13.97	No	Si
SLU 48	5.9	1792.74	-18596	-0.0000609	0.0003743	0.0035	2.04	12902.65	15997.92	15997.92	8.92	No	Si
SLU 48	7.7	971.61	-16002	-0.0000474	0.0003743	0.0035	2.04	11830.91	14118.98	14118.98	14.53	No	Si
SLU 45	5.9	1743.05	-17999	-0.0000589	0.0003743	0.0035	2.04	12676.63	15564.97	15564.97	8.93	No	Si
SLU 45	7.7	937.6	-15405	-0.0000456	0.0003743	0.0035	2.04	11550.5	13686.03	13686.03	14.6	No	Si
SLU 50	5.9	1766.18	-18292	-0.0000599	0.0003743	0.0035	2.04	12789.32	15777.83	15777.83	8.93	No	Si
SLU 50	7.7	948.79	-15698	-0.0000464	0.0003743	0.0035	2.04	11689.93	13898.89	13898.89	14.65	No	Si
SLU 43	5.9	1666.78	-17097	-0.0000558	0.0003743	0.0035	2.04	12312	14911.93	14911.93	8.95	No	Si
SLU 43	7.7	880.77	-14503	-0.0000427	0.0003743	0.0035	2.04	11103.83	13032.99	13032.99	14.8	No	Si
SLU 49	5.9	1736.93	-18575	-0.0000604	0.0003743	0.0035	2.04	12895.02	15982.89	15982.89	9.2	No	Si
SLU 49	7.7	999.94	-15981	-0.0000476	0.0003743	0.0035	2.04	11821.39	14103.95	14103.95	14.1	No	Si
SLU 51	5.9	1710.36	-18272	-0.0000594	0.0003743	0.0035	2.04	12781.46	15762.8	15762.8	9.22	No	Si
SLU 51	7.7	977.13	-15678	-0.0000466	0.0003743	0.0035	2.04	11680.19	13883.86	13883.86	14.21	No	Si
SLU 46	5.9	1687.23	-17978	-0.0000584	0.0003743	0.0035	2.04	12668.56	15549.94	15549.94	9.22	No	Si
SLU 46	7.7	965.94	-15384	-0.0000457	0.0003743	0.0035	2.04	11540.54	13671	13671	14.15	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	5.9	6201.85	-10208	-0.0000848	0.0005615	0.0035	2.04		10050.13	10050.13	1.62		Si
SLV 15	7.7	-3300.31	-8080	-0.0000439	0.0005615	0.0035	2.04		9860.07	9860.07	2.99		Si
SLD 14	5.9	3779.45	-10473	-0.0000532	0.0005615	0.0035	2.04		10280.29	10280.29	2.72		Si
SLD 14	7.7	-1656.02	-8365	-0.0000322	0.0005615	0.0035	2.04		10110.27	10110.27	6.11		Si
SLD 15	5.9	4438.78	-12124	-0.0000625	0.0005615	0.0035	2.04		11701.53	11701.53	2.64		Si
SLD 15	7.7	-1765.04	-10037	-0.0000372	0.0005615	0.0035	2.04		11577.34	11577.34	6.56		Si
SLV 1	5.9	-4552.24	-22561	-0.0000915	0.0005615	0.0035	2.04		21469.67	21469.67	4.72		Si
SLV 1	7.7	6160.74	-20650	-0.0000987	0.0005615	0.0035	2.04		18149.87	18149.87	2.95		Si
SLV 16	5.9	7293.47	-8590	-0.0001851	0.0005615	0.0035	2.04		8615.58	8615.58	1.18		Si
SLV 16	7.7	-4287.81	-6462	-0.0000609	0.0005615	0.0035	1.632		8380.84	8380.84	1.95		Si
SLD 16	5.9	5135.53	-11091	-0.0000674	0.0005615	0.0035	2.04		10816.31	10816.31	2.11		Si
SLD 16	7.7	-2395.34	-9005	-0.0000392	0.0005615	0.0035	2.04		10671.18	10671.18	4.45		Si
SLV 11	5.9	5942.09	-15803	-0.000084	0.0005615	0.0035	2.04		14603.81	14603.81	2.46		Si
SLV 11	7.7	-1962.92	-13809	-0.0000483	0.0005615	0.0035	2.04		14773.55	14773.55	7.53		Si
SLV 14	5.9	5100.61	-7577	-0.0000743	0.0005615	0.0035	2.04		7703.53	7703.53	1.51		Si
SLV 14	7.7	-3092.66	-5411	-0.00004	0.0005615	0.0035	2.04		7413.05	7413.05	2.4		Si
SLV 13	5.9	4008.99	-9195	-0.0000527	0.0005615	0.0035	2.04		9156.06	9156.06	2.28		Si
SLV 13	7.7	-2105.16	-7029	-0.0000321	0.0005615	0.0035	2.04		8903	8903	4.23		Si
SLV 12	5.9	6677.04	-14713	-0.0000893	0.0005615	0.0035	2.04		13806.87	13806.87	2.07		Si
SLV 12	7.7	-2627.77	-12720	-0.0000504	0.0005615	0.0035	2.04		13865.03	13865.03	5.28		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	5.9	1573.76	-17062	-12172	398	2.04	2.04	-21309	9786	5590	115546	17104	10404	8384	Si	21.06	Si
SLU 44	7.7	928	-14468	-10321	398	2.04	2.04	-18070	9354	5343	115546	17104	10404	8014	Si	20.13	Si
SLU 49	5.9	1736.93	-18575	-13251	449	2.04	2.04	-23199	10038	5734	115546	17104	10404	8600	Si	19.16	Si
SLU 49	7.7	999.94	-15981	-11401	449	2.04	2.04	-19959	9606	5487	115546	17104	10404	8230	Si	18.34	Si
SLU 46	5.9	1687.23	-17978	-12825	440	2.04	2.04	-22453	9938	5677	115546	17104	10404	8515	Si	19.35	Si
SLU 46	7.7	965.94	-15384	-10974	440	2.04	2.04	-19213	9506	5430	115546	17104	10404	8145	Si	18.5	Si
SLU 43	5.9	1666.78	-17097	-12197	476	2.04	2.04	-21352	9791	5593	115546	17104	10404	8389	Si	17.62	Si
SLU 43	7.7	880.77	-14503	-10346	476	2.04	2.04	-18113	9359	5346	115546	17104	10404	8019	Si	16.84	Si
SLU 48	5.9	1792.74	-18596	-13266	496	2.04	2.04	-23225	10041	5735	115546	17104	10404	8603	Si	17.36	Si
SLU 48	7.7	971.61	-16002	-11416	496	2.04	2.04	-19985	9609	5489	115546	17104	10404	8233	Si	16.61	Si
SLU 50	5.9	1766.18	-18292	-13049	494	2.04	2.04	-22845	9991	5707	115546	17104	10404	8560	Si	17.34	Si
SLU 50	7.7	948.79	-15698	-11199	494	2.04	2.04	-19606	9559	5460	115546	17104	10404	8190	Si	16.59	Si
SLU 6	5.9	1445.76	-15502	-11059	359	2.04	2.04	-19361	9526	5441	115546	17104	10404	8162	Si	22.73	Si
SLU 6	7.7	853.98	-13496	-9627	359	2.04	2.04	-16855	9192	5250	115546	17104	10404	7875	Si	21.93	Si
SLU 45	5.9	1743.05	-17999	-12840	487	2.04	2.04	-22478	9942	5679	115546	17104	10404	8518	Si	17.49	Si
SLU 45	7.7	937.6	-15405	-10989	487	2.04	2.04	-19239	9510	5432	115546	17104	10404	8148	Si	16.73	Si
SLU 51	5.9	1710.36	-18272	-13035	447	2.04	2.04	-22820	9987	5705	115546	17104	10404	8557	Si	19.15	Si
SLU 51	7.7	977.13	-15678	-11184	447	2.04	2.04	-19580	9555	5458	115546	17104	10404	8187	Si	18.32	Si
SLU 47	5.9	1623.46	-17660	-12598	407	2.04	2.04	-22056	9885	5646	115546	17104	10404	8470	Si	20.81	Si
SLU 47	7.7	962.01	-15066	-10748	407	2.04	2.04	-18816	9453	5400	115546	17104	10404	8100	Si	19.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	5.9	-3935.81	-16437	-11726	-4676	2.04	2.04	-20529	14522	8295	115546	25656	10404	36060		7.71	Si
SLV 5	7.7	4500.7	-14392	-10267	-4602	2.04	2.04	-17975	14012	8003	115546	25656	10404	36060		7.84	Si
SLV 14	5.9	5100.61	-7577	-5405	4778	2.04	1.0405	-9463	12309	4191	115546	25656	10404	36060		7.55	Si
SLV 14	7.7	-3092.66	-5411	-3860	4495	2.04	1.3453	-10295	12476	4700	115546	25656	10404	36060		8.02	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 16	5.9	5135.53	-11091	-7912	4325	2.04	1.6709	-13852	13187	6170	115546	25656	10404	36060		8.34	Si
SLD 16	7.7	-2395.34	-9005	-6424	4149	2.04	2.04	-11246	12666	7235	115546	25656	10404	36060		8.69	Si
SLV 12	5.9	6677.04	-14713	-10496	5219	2.04	1.6986	-18376	14092	6702	115546	25656	10404	36060		6.91	Si
SLV 12	7.7	-2627.77	-12720	-9074	5145	2.04	2.04	-15886	13594	7765	115546	25656	10404	36060		7.01	Si
SLV 11	5.9	5942.09	-15803	-11273	4441	2.04	1.932	-19736	14364	7770	115546	25656	10404	36060		8.12	Si
SLV 11	7.7	-1962.92	-13809	-9851	4368	2.04	2.04	-17247	13866	7920	115546	25656	10404	36060		8.26	Si
SLV 1	5.9	-4552.24	-22561	-16094	-6096	2.04	2.04	-28176	16052	9169	115546	25656	10404	36060		5.92	Si
SLV 1	7.7	6160.74	-20650	-14731	-5819	2.04	2.04	-25790	15575	8896	115546	25656	10404	36060		6.2	Si
SLV 2	5.9	-3460.62	-20943	-14940	-4940	2.04	2.04	-26156	15648	8938	115546	25656	10404	36060		7.3	Si
SLV 2	7.7	5173.24	-19032	-13577	-4664	2.04	2.04	-23769	15171	8665	115546	25656	10404	36060		7.73	Si
SLV 15	5.9	6201.85	-10208	-7282	5484	2.04	1.2373	-12749	12966	4692	115546	25656	10404	36060		6.58	Si
SLV 15	7.7	-3300.31	-8080	-5764	5207	2.04	1.8347	-11276	12672	6510	115546	25656	10404	36060		6.93	Si
SLV 16	5.9	7293.47	-8590	-6128	6639	2.04	0.5127	-43819	16250	4384	115546	25656	10404	36060		5.43	Si
SLV 16	7.7	-4287.81	-6462	-4610	6362	1.632	1.0694	0	0	0	115546	20525	8323	28848		4.53	Si
SLV 3	5.9	-2359.37	-23573	-16817	-4235	2.04	2.04	-29441	16250	9282	115546	25656	10404	36060		8.51	Si
SLV 3	7.7	4965.58	-21701	-15481	-3952	2.04	2.04	-27103	15837	9046	115546	25656	10404	36060		9.12	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-6518	0.38	215.41	844.37	1252.84	1048.61	4.87	Si
SLV 16	-7517	0.38	215.41	961.74	1405.84	1183.79	5.5	Si
SLV 13	-8136	0.38	215.41	1032.85	1500.66	1266.76	5.88	Si
SLV 15	-9136	0.38	215.41	1145.03	1652.44	1398.73	6.49	Si
SLV 10	-10242	0.38	215.41	1265.57	1820.5	1543.03	7.16	Si
SLV 9	-11332	0.38	215.41	1380.36	1984.7	1682.53	7.81	Si
SLV 12	-13573	0.38	215.41	1604.52	2320.65	1962.58	9.11	Si
SLV 6	-14207	0.38	215.41	1665.04	2415	2040.02	9.47	Si
SLV 11	-14662	0.38	215.41	1707.67	2482.72	2095.2	9.73	Si
SLV 5	-15296	0.38	215.41	1765.97	2577.04	2171.5	10.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-15644	-25998	-242	0.686	1878.9	0.955	10.43062	6.56194	Si
SLV 4	-14961	-23536	-242	0.712	1809.4	0.954	10.84875	6.56194	Si
SLV 1	-13745	-26385	235	0.765	1686	0.951	11.69189	6.56194	Si
SLV 2	-13062	-23923	235	0.798	1616.6	0.949	12.2246	6.56194	Si
SLV 7	-15656	-17928	-794	0.654	1880.1	0.955	9.94358	4.70862	Si
SLV 8	-15195	-16270	-794	0.67	1833.3	0.954	10.20738	4.70862	Si
SLV 11	-13862	-11744	-791	0.724	1697.9	0.951	11.06413	4.70862	Si
SLV 15	-9666	-5382	-231	1.023	1272.4	0.937	15.85805	6.56194	Si
SLV 12	-13402	-10086	-790	0.745	1651.1	0.95	11.39522	4.70862	Si
SLV 16	-8982	-2920	-230	1.085	1203.2	0.934	16.87653	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.924	SLU 48	Si
V_SLU	16.594	SLU 50	Si
PF_SLV	1.181	SLV 16	Si
V_SLV	4.535	SLV 16	Si
PFFP_SLV	4.868	SLV 14	Si
R_SLV	1.59	SLV 3	Si

Maschio 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.818	6.661	-12.838	6.661	L5	L6	3.98	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yf,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	5.9	-3124.64	-54718	-0.0000799	0.0003743	0.0035	3.98	56374.58	90643.48	84561.87	27.06	Si	Si
SLU 80	7.7	781.38	-49659	-0.0000673	0.0003743	0.0035	3.98	55568.76	77726.97	77726.97	99.47	No	Si
SLU 83	5.9	-3186.13	-55828	-0.0000817	0.0003743	0.0035	3.98	56431.26	91789.5	84646.89	26.57	Si	Si
SLU 83	7.7	919.89	-50769	-0.0000692	0.0003743	0.0035	3.98	55822.37	78963.75	78963.75	85.84	No	Si
SLU 73	5.9	-3073.57	-52077	-0.0000759	0.0003743	0.0035	3.98	56065.85	87808.41	84098.77	27.36	Si	Si
SLU 73	7.7	960.21	-47017	-0.0000639	0.0003743	0.0035	3.98	54791.21	74782.79	74782.79	77.88	No	Si
SLU 76	5.9	-3122.48	-53334	-0.0000778	0.0003743	0.0035	3.98	56243.28	89157.44	84364.92	27.02	Si	Si
SLU 76	7.7	886.43	-48274	-0.0000655	0.0003743	0.0035	3.98	55191.72	76183.74	76183.74	85.94	No	Si
SLU 78	5.9	-3153.39	-55410	-0.000081	0.0003743	0.0035	3.98	56414.99	91380.77	84622.49	26.84	Si	Si
SLU 78	7.7	829.76	-50351	-0.0000684	0.0003743	0.0035	3.98	55731.97	78498.15	78498.15	94.6	No	Si
SLU 81	5.9	-3137.21	-54571	-0.0000797	0.0003743	0.0035	3.98	56363.81	90485.4	84545.71	26.95	Si	Si
SLU 81	7.7	993.66	-49512	-0.0000675	0.0003743	0.0035	3.98	55531.84	77562.8	77562.8	78.06	No	Si
SLU 82	5.9	-3207.35	-54379	-0.0000796	0.0003743	0.0035	3.98	56348.67	90279.88	84523	26.35	Si	Si
SLU 82	7.7	1040.58	-49320	-0.0000674	0.0003743	0.0035	3.98	55482.72	77349.38	77349.38	74.33	No	Si
SLU 75	5.9	-3104.48	-54153	-0.000079	0.0003743	0.0035	3.98	56329.12	90037.05	84493.68	27.22	Si	Si
SLU 75	7.7	903.54	-49094	-0.0000667	0.0003743	0.0035	3.98	55423.02	77097.2	77097.2	85.33	No	Si
SLU 84	5.9	-3256.26	-55636	-0.0000816	0.0003743	0.0035	3.98	56424.56	91602.15	84636.84	25.99	Si	Si
SLU 84	7.7	966.81	-50577	-0.000069	0.0003743	0.0035	3.98	55781.69	78750.33	78750.33	81.45	No	Si
SLU 77	5.9	-3083.26	-55602	-0.0000812	0.0003743	0.0035	3.98	56423.21	91568.12	84634.81	27.45	Si	Si
SLU 77	7.7	782.84	-50542	-0.0000686	0.0003743	0.0035	3.98	55774.17	78711.57	78711.57	100.55	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	5.9	-12431.91	-35780	-0.00007	0.0005615	0.0035	3.98		70722.04	70722.04	5.69		Si
SLD 1	7.7	9827.79	-31998	-0.0000597	0.0005615	0.0035	3.98		56911.5	56911.5	5.79		Si
SLV 6	5.9	-8988.91	-24140	-0.0000475	0.0005615	0.0035	3.98		52510.19	52510.19	5.84		Si
SLV 6	7.7	6737.1	-20466	-0.0000384	0.0005615	0.0035	3.98		39132.01	39132.01	5.81		Si
SLV 15	5.9	11503.78	-37622	-0.0000706	0.0005615	0.0035	3.98		65100.38	65100.38	5.66		Si
SLV 15	7.7	-11561.87	-33598	-0.0000653	0.0005615	0.0035	3.98		67395.08	67395.08	5.83		Si
SLV 13	5.9	9169.59	-29958	-0.0000556	0.0005615	0.0035	3.98		53940.73	53940.73	5.88		Si
SLV 13	7.7	-9521.84	-26035	-0.0000511	0.0005615	0.0035	3.98		55566.07	55566.07	5.84		Si
SLV 5	5.9	-10963.72	-24458	-0.0000518	0.0005615	0.0035	3.98		53022.79	53022.79	4.84		Si
SLV 5	7.7	8445.91	-20784	-0.0000421	0.0005615	0.0035	3.98		39668.04	39668.04	4.7		Si
SLV 3	5.9	-16018.2	-43036	-0.0000874	0.0005615	0.0035	3.98		81187.83	81187.83	5.07		Si
SLV 3	7.7	13057.14	-39212	-0.000076	0.0005615	0.0035	3.98		67415.72	67415.72	5.16		Si
SLV 14	5.9	12102.77	-29486	-0.0000608	0.0005615	0.0035	3.98		53253.28	53253.28	4.4		Si
SLV 14	7.7	-12059.92	-25563	-0.0000554	0.0005615	0.0035	3.98		54804.7	54804.7	4.54		Si
SLV 16	5.9	14436.96	-37150	-0.0000759	0.0005615	0.0035	3.98		64412.92	64412.92	4.46		Si
SLV 16	7.7	-14099.95	-33126	-0.0000697	0.0005615	0.0035	3.98		66675.26	66675.26	4.73		Si
SLV 2	5.9	-15419.2	-34900	-0.0000748	0.0005615	0.0035	3.98		69379.5	69379.5	4.5		Si
SLV 2	7.7	12559.08	-31177	-0.0000664	0.0005615	0.0035	3.98		55716.42	55716.42	4.44		Si
SLV 1	5.9	-18352.38	-35372	-0.0000814	0.0005615	0.0035	3.98		70099.32	70099.32	3.82		Si
SLV 1	7.7	15097.17	-31649	-0.0000697	0.0005615	0.0035	3.98		56403.87	56403.87	3.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	5.9	-3256.26	-55636	-39690	-2361	3.98	3.98	-35615	10833	21240	115546	33370	20298	31860	Si	13.5	Si
SLU 84	7.7	966.81	-50577	-36081	-2361	3.98	3.98	-32377	10833	19796	115546	33370	20298	29694	Si	12.58	Si
SLU 81	5.9	-3137.21	-54571	-38930	-2309	3.98	3.98	-34933	10833	20936	115546	33370	20298	31404	Si	13.6	Si
SLU 81	7.7	993.66	-49512	-35320	-2309	3.98	3.98	-31695	10833	19492	115546	33370	20298	29238	Si	12.66	Si
SLU 39	5.9	-2806.3	-47227	-33691	-2110	3.98	3.98	-30232	10833	18840	115546	33370	20298	28261	Si	13.39	Si
SLU 39	7.7	971.5	-43294	-30885	-2110	3.98	3.98	-27714	10640	17718	115546	33370	20298	26577	Si	12.6	Si
SLU 34	5.9	-2791.56	-45990	-32808	-2042	3.98	3.98	-29440	10833	18487	115546	33370	20298	27731	Si	13.58	Si
SLU 34	7.7	864.27	-42057	-30002	-2042	3.98	3.98	-26922	10534	17365	115546	33370	20298	26048	Si	12.76	Si
SLU 42	5.9	-2925.35	-48293	-34451	-2161	3.98	3.98	-30914	10833	19145	115546	33370	20298	28717	Si	13.29	Si
SLU 42	7.7	944.65	-44359	-31645	-2161	3.98	3.98	-28396	10731	18022	115546	33370	20298	27033	Si	12.51	Si
SLU 76	5.9	-3122.48	-53334	-38047	-2242	3.98	3.98	-34141	10833	20583	115546	33370	20298	30874	Si	13.77	Si
SLU 76	7.7	886.43	-48274	-34438	-2242	3.98	3.98	-30903	10833	19139	115546	33370	20298	28709	Si	12.81	Si
SLU 31	5.9	-2742.65	-44733	-31912	-2056	3.98	3.98	-28636	10763	18129	115546	33370	20298	27193	Si	13.23	Si
SLU 31	7.7	938.05	-40800	-29105	-2056	3.98	3.98	-26118	10427	17006	115546	33370	20298	25510	Si	12.41	Si
SLU 73	5.9	-3073.57	-52077	-37150	-2255	3.98	3.98	-33337	10833	20224	115546	33370	20298	30336	Si	13.45	Si
SLU 73	7.7	960.21	-47017	-33541	-2255	3.98	3.98	-30098	10833	18781	115546	33370	20298	28171	Si	12.49	Si
SLU 40	5.9	-2876.43	-47036	-33554	-2175	3.98	3.98	-30110	10833	18786	115546	33370	20298	28179	Si	12.96	Si
SLU 40	7.7	1018.42	-43102	-30748	-2175	3.98	3.98	-27592	10623	17663	115546	33370	20298	26495	Si	12.18	Si
SLU 82	5.9	-3207.35	-54379	-38793	-2374	3.98	3.98	-34811	10833	20881	115546	33370	20298	31322	Si	13.19	Si
SLU 82	7.7	1040.58	-49320	-35184	-2374	3.98	3.98	-31572	10833	19438	115546	33370	20298	29156	Si	12.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	5.9	-10963.72	-24458	-17448	-11275	3.98	3.98	-15657	13548	15098	115546	50055	20298	70353		6.24	Si
SLV 5	7.7	8445.91	-20784	-14827	-11126	3.98	3.98	-13305	13078	14574	115546	50055	20298	70353		6.32	Si
SLV 1	5.9	-18352.38	-35372	-25233	-19051	3.98	3.98	-22643	14945	18140	115546	50055	20298	70353		3.69	Si
SLV 1	7.7	15097.17	-31649	-22578	-18565	3.98	3.98	-20260	14469	17078	115546	50055	20298	70353		3.79	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5.9	12102.77	-29486	-21034	13643	3.98	3.98	-18875	14192	16460	115546	50055	20298	70353		5.16	Si
SLV 14	7.7	-12059.92	-25563	-18236	13159	3.98	3.98	-16364	13689	15341	115546	50055	20298	70353		5.35	Si
SLV 15	5.9	11503.78	-37622	-26839	13260	3.98	3.98	-24084	15233	18782	115546	50055	20298	70353		5.31	Si
SLV 15	7.7	-11561.87	-33598	-23968	12774	3.98	3.98	-21507	14718	17634	115546	50055	20298	70353		5.51	Si
SLV 3	5.9	-16018.2	-43036	-30701	-16394	3.98	3.98	-27549	15927	20327	115546	50055	20298	70353		4.29	Si
SLV 3	7.7	13057.14	-39212	-27973	-15910	3.98	3.98	-25102	15437	19236	115546	50055	20298	70353		4.42	Si
SLV 4	5.9	-13085.02	-42564	-30364	-13355	3.98	3.98	-27247	15866	20192	115546	50055	20298	70353		5.27	Si
SLV 4	7.7	10519.05	-38740	-27636	-12870	3.98	3.98	-24799	15377	19101	115546	50055	20298	70353		5.47	Si
SLV 2	5.9	-15419.2	-34900	-24896	-16011	3.98	3.98	-22341	14885	18005	115546	50055	20298	70353		4.39	Si
SLV 2	7.7	12559.08	-31177	-22241	-15525	3.98	3.98	-19958	14408	16943	115546	50055	20298	70353		4.53	Si
SLD 3	5.9	-10975.86	-40513	-28901	-11013	3.98	3.98	-25934	15603	19607	115546	50055	20298	70353		6.39	Si
SLD 3	7.7	8560.82	-36668	-26158	-10703	3.98	3.98	-23473	15111	18510	115546	50055	20298	70353		6.57	Si
SLD 1	5.9	-12431.91	-35780	-25525	-12661	3.98	3.98	-22904	14998	18256	115546	50055	20298	70353		5.56	Si
SLD 1	7.7	9827.79	-31998	-22827	-12350	3.98	3.98	-20483	14513	17177	115546	50055	20298	70353		5.7	Si
SLV 16	5.9	14436.96	-37150	-26502	16300	3.98	3.98	-23781	15173	18647	115546	50055	20298	70353		4.32	Si
SLV 16	7.7	-14099.95	-33126	-23631	15813	3.98	3.98	-21205	14658	17499	115546	50055	20298	70353		4.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-20543	0.38	420.27	2528.83	3661.19	3095.01	7.36	Si
SLV 9	-20861	0.38	420.27	2562.5	3708.83	3135.67	7.46	Si
SLV 6	-22226	0.38	420.27	2705.25	3913.53	3309.39	7.87	Si
SLV 5	-22544	0.38	420.27	2738.04	3961.21	3349.62	7.97	Si
SLV 14	-27310	0.38	420.27	3209.82	4668.87	3939.35	9.37	Si
SLV 13	-27782	0.38	420.27	3254.53	4738.53	3996.53	9.51	Si
SLV 2	-32920	0.38	420.27	3717.3	5488.08	4602.69	10.95	Si
SLV 1	-33392	0.38	420.27	3757.65	5556.33	4656.99	11.08	Si
SLV 16	-34859	0.38	420.27	3880.66	5768.46	4824.56	11.48	Si
SLV 15	-35331	0.38	420.27	3919.5	5836.75	4878.13	11.61	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-30255	-43236	-85	0.702	3638.6	0.955	10.68572	6.56194	Si
SLV 4	-29914	-42787	-85	0.709	3604	0.955	10.79271	6.56194	Si
SLV 15	-27262	-36814	-101	0.766	3334.6	0.951	11.70149	6.56194	Si
SLV 16	-26921	-36364	-101	0.774	3300	0.951	11.83111	6.56194	Si
SLV 7	-36635	-49260	-320	0.591	4287.2	0.961	8.93818	4.70862	Si
SLV 8	-36405	-48957	-320	0.594	4263.9	0.961	8.98786	4.70862	Si
SLV 11	-35737	-47333	-325	0.604	4195.9	0.96	9.13422	4.70862	Si
SLV 12	-35507	-47030	-325	0.607	4172.6	0.96	9.18626	4.70862	Si
SLV 1	-23841	-36084	112	0.856	2987.3	0.946	13.14888	6.56194	Si
SLV 2	-23501	-35634	112	0.867	2952.8	0.946	13.31435	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.992	SLU 84	Si
V_SLU	12.182	SLU 40	Si
PF_SLV	3.736	SLV 1	Si
V_SLV	3.693	SLV 1	Si
PFFP_SLV	7.364	SLV 10	Si
R_SLV	1.628	SLV 3	Si

Maschio 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.938	6.661	-7.958	6.661	L5	L6	3.98	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	5.9	-1210.64	-44504	-0.0000608	0.0003743	0.0035	3.98	53824.21	79199.86	79199.86	65.42	No	Si
SLU 61	7.7	2260.81	-39528	-0.000056	0.0003743	0.0035	3.98	51255.89	65604.96	65604.96	29.02	No	Si
SLU 19	5.9	-954.12	-37682	-0.0000507	0.0003743	0.0035	3.98	50082.33	70616.57	70616.57	74.01	No	Si
SLU 19	7.7	1920.7	-33832	-0.0000474	0.0003743	0.0035	3.98	47249.89	57388.28	57388.28	29.88	No	Si
SLU 40	5.9	-1079.84	-44690	-0.0000608	0.0003743	0.0035	3.98	53903.19	79416.64	79416.64	73.55	No	Si
SLU 40	7.7	2251.08	-40755	-0.0000577	0.0003743	0.0035	3.98	51970.04	67375.43	67375.43	29.93	No	Si
SLU 60	5.9	-1259.38	-44708	-0.0000612	0.0003743	0.0035	3.98	53910.9	79437.96	79437.96	63.08	No	Si
SLU 60	7.7	2271.6	-39732	-0.0000563	0.0003743	0.0035	3.98	51378.16	65899.01	65899.01	29.01	No	Si
SLU 81	5.9	-1385.09	-51716	-0.0000716	0.0003743	0.0035	3.98	56004.64	87420.96	84006.96	60.65	Si	Si
SLU 81	7.7	2601.98	-46655	-0.0000669	0.0003743	0.0035	3.98	54665.47	74378.97	74378.97	28.59	No	Si
SLU 52	5.9	-1176.9	-42227	-0.0000575	0.0003743	0.0035	3.98	52756.81	76390.28	76390.28	64.91	No	Si
SLU 52	7.7	2127.57	-37251	-0.0000525	0.0003743	0.0035	3.98	49791.03	62320.32	62320.32	29.29	No	Si
SLU 82	5.9	-1336.35	-51512	-0.0000712	0.0003743	0.0035	3.98	55968.06	87202.19	83952.1	62.82	Si	Si
SLU 82	7.7	2591.2	-46451	-0.0000666	0.0003743	0.0035	3.98	54592.71	74151.78	74151.78	28.62	No	Si
SLU 18	5.9	-1002.86	-37886	-0.0000511	0.0003743	0.0035	3.98	50217.8	70893.34	70893.34	70.69	No	Si
SLU 18	7.7	1931.48	-34036	-0.0000477	0.0003743	0.0035	3.98	47412.89	57682.33	57682.33	29.86	No	Si
SLU 39	5.9	-1128.58	-44894	-0.0000612	0.0003743	0.0035	3.98	53988.55	79654.74	79654.74	70.58	No	Si
SLU 39	7.7	2261.87	-40959	-0.000058	0.0003743	0.0035	3.98	52083.53	67669.48	67669.48	29.92	No	Si
SLU 73	5.9	-1302.62	-49235	-0.0000678	0.0003743	0.0035	3.98	55460.4	84725.71	83190.6	63.86	Si	Si
SLU 73	7.7	2457.95	-44174	-0.000063	0.0003743	0.0035	3.98	53680.83	71613.99	71613.99	29.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 16	5.9	14108.33	-42139	-0.0000822	0.0005615	0.0035	3.98		71676.83	71676.83	5.08		Si
SLV 16	7.7	-11950.15	-38376	-0.0000726	0.0005615	0.0035	3.98		74492.82	74492.82	6.23		Si
SLV 13	5.9	12571.82	-34080	-0.0000679	0.0005615	0.0035	3.98		59942.82	59942.82	4.77		Si
SLV 13	7.7	-9596.88	-30289	-0.0000569	0.0005615	0.0035	3.98		62350.54	62350.54	6.5		Si
SLV 5	5.9	-3918.77	-20411	-0.0000329	0.0005615	0.0035	3.98		46304.29	46304.29	11.82		Si
SLV 5	7.7	6042.53	-16462	-0.0000319	0.0005615	0.0035	3.98		32214.38	32214.38	5.33		Si
SLV 14	5.9	15571.91	-34714	-0.0000748	0.0005615	0.0035	3.98		60866.1	60866.1	3.91		Si
SLV 14	7.7	-12084.26	-30923	-0.0000627	0.0005615	0.0035	3.98		63317.3	63317.3	5.24		Si
SLV 4	5.9	-14642.77	-34277	-0.0000724	0.0005615	0.0035	3.98		68430.49	68430.49	4.67		Si
SLV 4	7.7	12976.35	-30319	-0.0000636	0.0005615	0.0035	3.98		54467.29	54467.29	4.2		Si
SLV 1	5.9	-16179.28	-26218	-0.0000644	0.0005615	0.0035	3.98		55861.44	55861.44	3.45		Si
SLV 1	7.7	15329.62	-22233	-0.0000574	0.0005615	0.0035	3.98		42111.34	42111.34	2.75		Si
SLV 3	5.9	-17642.86	-33643	-0.0000775	0.0005615	0.0035	3.98		67463.73	67463.73	3.82		Si
SLV 3	7.7	15463.72	-29685	-0.0000677	0.0005615	0.0035	3.98		53544.01	53544.01	3.46		Si
SLD 3	5.9	-11644.78	-33754	-0.0000656	0.0005615	0.0035	3.98		67633.71	67633.71	5.81		Si
SLD 3	7.7	10508.29	-29831	-0.0000581	0.0005615	0.0035	3.98		53756.25	53756.25	5.12		Si
SLV 2	5.9	-13179.19	-26852	-0.0000594	0.0005615	0.0035	3.98		56883.99	56883.99	4.32		Si
SLV 2	7.7	12842.25	-22867	-0.0000534	0.0005615	0.0035	3.98		43177.28	43177.28	3.36		Si
SLD 1	5.9	-10749.36	-29165	-0.0000577	0.0005615	0.0035	3.98		60612.76	60612.76	5.64		Si
SLD 1	7.7	10430.48	-25225	-0.0000518	0.0005615	0.0035	3.98		47049.38	47049.38	4.51		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	5.9	-1385.09	-51716	-36893	-2211	3.98	3.98	-33105	10833	20121	115546	33370	20298	30182	Si	13.65	Si
SLU 81	7.7	2601.98	-46655	-33283	-2211	3.98	3.98	-29866	10833	18677	115546	33370	20298	28016	Si	12.67	Si
SLU 43	5.9	-1255.25	-37571	-26802	-1722	3.98	3.98	-24051	10151	16085	115546	33370	20298	24128	Si	14.01	Si
SLU 43	7.7	1851.42	-32595	-23252	-1722	3.98	3.98	-20865	9726	14665	115546	33370	20298	21998	Si	12.77	Si
SLU 61	5.9	-1210.64	-44504	-31748	-1925	3.98	3.98	-28489	10743	18063	115546	33370	20298	27095	Si	14.08	Si
SLU 61	7.7	2260.81	-39528	-28198	-1925	3.98	3.98	-25304	10318	16644	115546	33370	20298	24965	Si	12.97	Si
SLU 83	5.9	-1456.63	-52699	-37594	-2172	3.98	3.98	-33735	10833	20402	115546	33370	20298	30603	Si	14.09	Si
SLU 83	7.7	2459.49	-47638	-33984	-2172	3.98	3.98	-30495	10833	18958	115546	33370	20298	28437	Si	13.09	Si
SLU 65	5.9	-1299.72	-44239	-31559	-1920	3.98	3.98	-28319	10720	17988	115546	33370	20298	26982	Si	14.05	Si
SLU 65	7.7	2163.83	-39178	-27949	-1920	3.98	3.98	-25080	10288	16544	115546	33370	20298	24816	Si	12.92	Si
SLU 73	5.9	-1302.62	-49235	-35123	-2085	3.98	3.98	-31517	10833	19413	115546	33370	20298	29120	Si	13.97	Si
SLU 73	7.7	2457.95	-44174	-31513	-2085	3.98	3.98	-28278	10715	17969	115546	33370	20298	26954	Si	12.93	Si
SLU 64	5.9	-1380.96	-44579	-31801	-1975	3.98	3.98	-28537	10749	18085	115546	33370	20298	27127	Si	13.73	Si
SLU 64	7.7	2181.8	-39518	-28191	-1975	3.98	3.98	-25297	10317	16641	115546	33370	20298	24961	Si	12.64	Si
SLU 60	5.9	-1259.38	-44708	-31894	-1958	3.98	3.98	-28620	10760	18122	115546	33370	20298	27182	Si	13.88	Si
SLU 60	7.7	2271.6	-39732	-28344	-1958	3.98	3.98	-25434	10336	16702	115546	33370	20298	25053	Si	12.8	Si
SLU 74	5.9	-1441.45	-51329	-36617	-2127	3.98	3.98	-32858	10833	20011	115546	33370	20298	30016	Si	14.11	Si
SLU 74	7.7	2394.1	-46268	-33007	-2127	3.98	3.98	-29618	10833	18567	115546	33370	20298	27850	Si	13.09	Si
SLU 82	5.9	-1336.35	-51512	-36747	-2178	3.98	3.98	-32975	10833	20063	115546	33370	20298	30094	Si	13.82	Si
SLU 82	7.7	2591.2	-46451	-33137	-2178	3.98	3.98	-29735	10833	18619	115546	33370	20298	27929	Si	12.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	5.9	-10749.36	-29165	-20805	-11990	3.98	3.98	-18670	14151	16369	115546	50055	20298	70353		5.87	Si
SLD 1	7.7	10430.48	-25225	-17995	-11692	3.98	3.98	-16148	13646	15245	115546	50055	20298	70353		6.02	Si
SLV 14	5.9	15571.91	-34714	-24764	15671	3.98	3.98	-22222	14861	17952	115546	50055	20298	70353		4.49	Si
SLV 14	7.7	-12084.26	-30923	-22060	15191	3.98	3.98	-19795	14376	16871	115546	50055	20298	70353		4.63	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	5.9	-14642.77	-34277	-24452	-15644	3.98	3.98	-21942	14805	17828	115546	50055	20298	70353		4.5	Si
SLV 4	7.7	12976.35	-30319	-21629	-15164	3.98	3.98	-19409	14298	16698	115546	50055	20298	70353		4.64	Si
SLV 1	5.9	-16179.28	-26218	-18703	-17867	3.98	3.98	-16783	13773	15528	115546	50055	20298	70353		3.94	Si
SLV 1	7.7	15329.62	-22233	-15860	-17401	3.98	3.9015	-14232	13263	14489	115546	50055	20298	70353		4.04	Si
SLD 3	5.9	-11644.78	-33754	-24080	-12497	3.98	3.98	-21608	14738	17678	115546	50055	20298	70353		5.63	Si
SLD 3	7.7	10508.29	-29831	-21281	-12189	3.98	3.98	-19096	14236	16559	115546	50055	20298	70353		5.77	Si
SLV 2	5.9	-13179.19	-26852	-19156	-14818	3.98	3.98	-17189	13855	15709	115546	50055	20298	70353		4.75	Si
SLV 2	7.7	12842.25	-22867	-16313	-14353	3.98	3.98	-14638	13344	14871	115546	50055	20298	70353		4.9	Si
SLV 13	5.9	12571.82	-34080	-24312	12622	3.98	3.98	-21816	14780	17771	115546	50055	20298	70353		5.57	Si
SLV 13	7.7	-9596.88	-30289	-21608	12142	3.98	3.98	-19389	14295	16690	115546	50055	20298	70353		5.79	Si
SLV 3	5.9	-17642.86	-33643	-24000	-18692	3.98	3.98	-21536	14724	17647	115546	50055	20298	70353		3.76	Si
SLV 3	7.7	15463.72	-29685	-21177	-18213	3.98	3.98	-19003	14217	16517	115546	50055	20298	70353		3.86	Si
SLV 15	5.9	11108.24	-41505	-29608	11796	3.98	3.98	-26569	15730	19890	115546	50055	20298	70353		5.96	Si
SLV 15	7.7	-9462.78	-37742	-26924	11331	3.98	3.98	-24160	15249	18816	115546	50055	20298	70353		6.21	Si
SLV 16	5.9	14108.33	-42139	-30061	14845	3.98	3.98	-26975	15812	20071	115546	50055	20298	70353		4.74	Si
SLV 16	7.7	-11950.15	-38376	-27376	14379	3.98	3.98	-24566	15330	18997	115546	50055	20298	70353		4.89	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-18201	0.38	420.27	2275.64	3306.8	2791.22	6.64	Si
SLV 6	-18628	0.38	420.27	2322.48	3371.42	2846.95	6.77	Si
SLV 9	-20616	0.38	420.27	2536.59	3672.15	3104.37	7.39	Si
SLV 10	-21043	0.38	420.27	2581.73	3736.15	3158.94	7.52	Si
SLV 1	-23975	0.38	420.27	2883.62	4175.58	3529.6	8.4	Si
SLV 2	-24609	0.38	420.27	2947.05	4269.88	3608.47	8.59	Si
SLV 3	-31427	0.38	420.27	3587.29	5272.29	4429.79	10.54	Si
SLV 13	-32023	0.38	420.27	3639.69	5358.51	4499.1	10.71	Si
SLV 4	-32061	0.38	420.27	3642.95	5363.91	4503.43	10.72	Si
SLV 14	-32658	0.38	420.27	3694.72	5450.15	4572.43	10.88	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-31347	-39891	248	0.677	3749.6	0.956	10.2862	6.56194	Si
SLV 15	-30873	-39382	248	0.686	3701.5	0.956	10.42512	6.56194	Si
SLV 14	-25907	-31408	-200	0.796	3196.9	0.95	12.18399	6.56194	Si
SLV 4	-25577	-32943	211	0.804	3163.5	0.949	12.3153	6.56194	Si
SLV 13	-25433	-30900	-201	0.808	3148.8	0.949	12.38205	6.56194	Si
SLV 3	-25103	-32435	211	0.817	3115.4	0.948	12.51802	6.56194	Si
SLV 12	-35598	-47272	758	0.595	4181.8	0.96	8.99803	4.70862	Si
SLV 11	-35279	-46930	758	0.599	4149.4	0.96	9.06973	4.70862	Si
SLV 8	-33867	-45188	747	0.621	4005.8	0.959	9.40649	4.70862	Si
SLV 7	-33548	-44846	747	0.626	3973.3	0.958	9.48527	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	28.585	SLU 81	Si
V_SLU	12.637	SLU 64	Si
PF_SLV	2.747	SLV 1	Si
V_SLV	3.764	SLV 3	Si
PFFP_SLV	6.641	SLV 5	Si
R_SLV	1.568	SLV 16	Si

Maschio 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.058	6.661	-5.018	6.661	L5	L6	2.04	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 31	5.9	-1286.24	-19524	-0.0000595	0.0003743	0.0035	2.04	13228.58	18487.18	18487.18	14.37	No	Si
SLU 31	7.7	-1816.04	-17474	-0.000058	0.0003743	0.0035	2.04	12467.93	17068.52	17068.52	9.4	No	Si
SLU 73	5.9	-1615.82	-22529	-0.0000706	0.0003743	0.0035	2.04	14077.41	20434.74	20434.74	12.65	No	Si
SLU 73	7.7	-1992.9	-19893	-0.0000662	0.0003743	0.0035	2.04	13349.78	18731.1	18731.1	9.4	No	Si
SLU 41	5.9	-1483.29	-20759	-0.0000645	0.0003743	0.0035	2.04	13615.9	19304.48	19304.48	13.01	No	Si
SLU 41	7.7	-1905.36	-18710	-0.0000622	0.0003743	0.0035	2.04	12944.1	17943.66	17943.66	9.42	No	Si
SLU 82	5.9	-1657.69	-23581	-0.000074	0.0003743	0.0035	2.04	14299.48	21080.84	21080.84	12.72	No	Si
SLU 82	7.7	-2118.53	-20944	-0.0000702	0.0003743	0.0035	2.04	13669.08	19426.4	19426.4	9.17	No	Si
SLU 42	5.9	-1415.18	-20782	-0.000064	0.0003743	0.0035	2.04	13622.59	19319.66	19319.66	13.65	No	Si
SLU 42	7.7	-1945.92	-18733	-0.0000626	0.0003743	0.0035	2.04	12952.44	17959.92	17959.92	9.23	No	Si
SLU 39	5.9	-1396.21	-20552	-0.0000632	0.0003743	0.0035	2.04	13554.62	19167.3	19167.3	13.73	No	Si
SLU 39	7.7	-1901.11	-18502	-0.0000616	0.0003743	0.0035	2.04	12867.91	17796.77	17796.77	9.36	No	Si
SLU 40	5.9	-1328.11	-20575	-0.0000627	0.0003743	0.0035	2.04	13561.48	19182.48	19182.48	14.44	No	Si
SLU 40	7.7	-1941.67	-18525	-0.000062	0.0003743	0.0035	2.04	12876.42	17813.03	17813.03	9.17	No	Si
SLU 83	5.9	-1812.87	-23765	-0.0000758	0.0003743	0.0035	2.04	14334.45	21194.2	21194.2	11.69	No	Si
SLU 83	7.7	-2082.22	-21128	-0.0000704	0.0003743	0.0035	2.04	13721.11	19548.4	19548.4	9.39	No	Si
SLU 84	5.9	-1744.76	-23788	-0.0000753	0.0003743	0.0035	2.04	14338.72	21208.31	21208.31	12.16	No	Si
SLU 84	7.7	-2122.78	-21151	-0.0000708	0.0003743	0.0035	2.04	13727.5	19563.58	19563.58	9.22	No	Si
SLU 81	5.9	-1725.79	-23558	-0.0000745	0.0003743	0.0035	2.04	14295.05	21066.73	21066.73	12.21	No	Si
SLU 81	7.7	-2077.97	-20921	-0.0000698	0.0003743	0.0035	2.04	13662.52	19411.21	19411.21	9.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	5.9	-6679.63	-7847	-0.0001588	0.0005615	0.0035	1.632		9655.39	9655.39	1.45		Si
SLV 4	7.7	3612.93	-5584	-0.00005	0.0005615	0.0035	2.04		5866.24	5866.24	1.62		Si
SLD 7	5.9	-4850.63	-13108	-0.0000683	0.0005615	0.0035	2.04		14188.45	14188.45	2.93		Si
SLD 7	7.7	1320.83	-11038	-0.0000365	0.0005615	0.0035	2.04		10769.89	10769.89	8.15		Si
SLD 1	5.9	-4000.13	-9506	-0.0000531	0.0005615	0.0035	2.04		11111.06	11111.06	2.78		Si
SLD 1	7.7	1653.98	-7345	-0.0000296	0.0005615	0.0035	2.04		7490.96	7490.96	4.53		Si
SLV 7	5.9	-7004.22	-11780	-0.0000955	0.0005615	0.0035	1.632		13081.52	13081.52	1.87		Si
SLV 7	7.7	2851.06	-9678	-0.0000442	0.0005615	0.0035	2.04		9582.64	9582.64	3.36		Si
SLD 3	5.9	-5436.29	-9345	-0.0000723	0.0005615	0.0035	1.632		10970.2	10970.2	2.02		Si
SLD 3	7.7	2515.3	-7180	-0.0000355	0.0005615	0.0035	2.04		7339.78	7339.78	2.92		Si
SLV 3	5.9	-7808.52	-5936	-0.0000771	0.0005615	0.0035	1.632		7896.72	7896.72	1.01		Si
SLV 3	7.7	4642.61	-3674	-0.0030483	0.0005615	0.0035	1.632		4060.67	4060.67	0.87		No
SLV 1	5.9	-5474.97	-6207	-0.0001455	0.0005615	0.0035	1.632		8146.38	8146.38	1.49		Si
SLV 1	7.7	3241.77	-3951	-0.0000669	0.0005615	0.0035	2.04		4326.47	4326.47	1.33		Si
SLD 4	5.9	-4715.74	-10565	-0.0000621	0.0005615	0.0035	2.04		12040.14	12040.14	2.55		Si
SLD 4	7.7	1858.08	-8399	-0.0000337	0.0005615	0.0035	2.04		8444.26	8444.26	4.54		Si
SLV 2	5.9	-4346.08	-8118	-0.0000562	0.0005615	0.0035	2.04		9893.27	9893.27	2.28		Si
SLV 2	7.7	2212.09	-5862	-0.0000301	0.0005615	0.0035	2.04		6124.98	6124.98	2.77		Si
SLV 8	5.9	-6244.17	-13067	-0.0000824	0.0005615	0.0035	2.04		14154.25	14154.25	2.27		Si
SLV 8	7.7	2157.81	-10965	-0.0000424	0.0005615	0.0035	2.04		10706.48	10706.48	4.96		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	5.9	-1782.76	-17576	-12539	-339	2.04	2.04	-21951	9871	5638	115546	17104	10404	8458	Si	24.96	Si
SLU 48	7.7	-1243.82	-14983	-10688	-339	2.04	2.04	-18712	9439	5392	115546	17104	10404	8088	Si	23.86	Si
SLU 49	5.9	-1714.66	-17599	-12555	-279	2.04	2.04	-21980	9875	5641	115546	17104	10404	8461	Si	30.38	Si
SLU 49	7.7	-1284.38	-15006	-10705	-279	2.04	2.04	-18741	9443	5394	115546	17104	10404	8091	Si	29.05	Si
SLU 51	5.9	-1699.23	-17184	-12259	-293	2.04	2.04	-21461	9806	5601	115546	17104	10404	8402	Si	28.71	Si
SLU 51	7.7	-1243.55	-14590	-10408	-293	2.04	2.04	-18222	9374	5354	115546	17104	10404	8032	Si	27.45	Si
SLU 31	5.9	-1286.24	-19524	-13928	264	2.04	2.04	-24383	10196	5824	115546	17104	10404	8736	Si	33.12	Si
SLU 31	7.7	-1816.04	-17474	-12465	264	2.04	2.04	-21823	9854	5629	115546	17104	10404	8443	Si	32.01	Si
SLU 6	5.9	-1453.18	-14571	-10394	-245	2.04	2.04	-18198	9371	5353	115546	17104	10404	8029	Si	32.77	Si
SLU 6	7.7	-1066.96	-12564	-8963	-245	2.04	2.04	-15692	9037	5162	115546	17104	10404	7743	Si	31.6	Si
SLU 45	5.9	-1695.69	-17369	-12391	-293	2.04	2.04	-21692	9837	5619	115546	17104	10404	8428	Si	28.78	Si
SLU 45	7.7	-1239.56	-14775	-10540	-293	2.04	2.04	-18453	9405	5372	115546	17104	10404	8058	Si	27.51	Si
SLU 40	5.9	-1328.11	-20575	-14678	310	2.04	2.04	-25696	10371	5924	115546	17104	10404	8886	Si	28.64	Si
SLU 40	7.7	-1941.67	-18525	-13215	310	2.04	2.04	-23136	10029	5729	115546	17104	10404	8593	Si	27.7	Si
SLU 50	5.9	-1767.33	-17161	-12242	-353	2.04	2.04	-21433	9802	5599	115546	17104	10404	8398	Si	23.79	Si
SLU 50	7.7	-1203	-14567	-10392	-353	2.04	2.04	-18193	9370	5352	115546	17104	10404	8028	Si	22.74	Si
SLU 43	5.9	-1593.19	-16746	-11946	-261	2.04	2.04	-20915	9733	5560	115546	17104	10404	8339	Si	31.95	Si
SLU 43	7.7	-1194.49	-14153	-10096	-261	2.04	2.04	-17675	9301	5313	115546	17104	10404	7969	Si	30.53	Si
SLU 8	5.9	-1437.75	-14155	-10098	-259	2.04	2.04	-17679	9302	5313	115546	17104	10404	7970	Si	30.76	Si
SLU 8	7.7	-1026.14	-12149	-8667	-259	2.04	2.04	-15173	8967	5122	115546	17104	10404	7683	Si	29.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	5.9	-5474.97	-6207	-4428	-5083	1.632	0.414	0	0	0	115546	20525	8323	28848		5.68	Si
SLV 1	7.7	3241.77	-3951	-2819	-4803	2.04	0.5987	-16967	13810	3501	115546	25656	10404	36060		7.51	Si
SLV 10	5.9	4399.22	-18983	-13542	5327	2.04	2.04	-23709	15158	8658	115546	25656	10404	36060		6.77	Si
SLV 10	7.7	-5303.93	-17048	-12161	5268	2.04	2.04	-21291	14675	8382	115546	25656	10404	36060		6.85	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	5.9	-6679.63	-7847	-5598	-5905	1.632	0.5062	0	0	0	115546	20525	8323	28848		4.89	Si
SLV 4	7.7	3612.93	-5584	-3984	-5639	2.04	1.119	-6974	11811	3812	115546	25656	10404	36060		6.39	Si
SLV 16	5.9	2869.96	-24557	-17518	4938	2.04	2.04	-30669	16250	9282	115546	25656	10404	36060		7.3	Si
SLV 16	7.7	-5694.64	-22775	-16247	4658	2.04	2.04	-28444	16105	9199	115546	25656	10404	36060		7.74	Si
SLV 14	5.9	5203.51	-24828	-17712	6959	2.04	2.04	-31008	16250	9282	115546	25656	10404	36060		5.18	Si
SLV 14	7.7	-7095.48	-23053	-16445	6693	2.04	2.04	-28791	16175	9239	115546	25656	10404	36060		5.39	Si
SLV 13	5.9	4074.62	-22917	-16349	5760	2.04	2.04	-28621	16141	9220	115546	25656	10404	36060		6.26	Si
SLV 13	7.7	-6065.8	-21142	-15082	5494	2.04	2.04	-26404	15698	8966	115546	25656	10404	36060		6.56	Si
SLV 7	5.9	-7004.22	-11780	-8404	-5472	1.632	1.2763	0	0	0	115546	20525	8323	28848		5.27	Si
SLV 7	7.7	2851.06	-9678	-6904	-5413	2.04	2.04	-12087	12834	7331	115546	25656	10404	36060		6.66	Si
SLV 8	5.9	-6244.17	-13067	-9322	-4665	2.04	1.6264	-20698	14557	6629	115546	25656	10404	36060		7.73	Si
SLV 8	7.7	2157.81	-10965	-7822	-4606	2.04	2.04	-13694	13155	7514	115546	25656	10404	36060		7.83	Si
SLD 3	5.9	-5436.29	-9345	-6667	-4548	1.632	1.3149	0	0	0	115546	20525	8323	28848		6.34	Si
SLD 3	7.7	2515.3	-7180	-5122	-4379	2.04	2.009	-8967	12210	6868	115546	25656	10404	36060		8.24	Si
SLV 3	5.9	-7808.52	-5936	-4235	-7105	1.632	0	0	0	0	115546	20525	8323	28848		4.06	Si
SLV 3	7.7	4642.61	-3674	-2621	-6839	1.632	0	0	0	0	115546	20525	8323	28848		4.22	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-4750	0.38	215.41	628.8	980.31	804.55	3.73	Si
SLV 1	-5035	0.38	215.41	664.25	1024.35	844.3	3.92	Si
SLV 4	-6661	0.38	215.41	861.29	1274.64	1067.96	4.96	Si
SLV 2	-6946	0.38	215.41	895	1318.32	1106.66	5.14	Si
SLV 7	-10605	0.38	215.41	1304.19	1875.41	1589.8	7.38	Si
SLV 5	-11556	0.38	215.41	1403.49	2018.37	1710.93	7.94	Si
SLV 8	-11891	0.38	215.41	1437.83	2068.83	1753.33	8.14	Si
SLV 6	-12842	0.38	215.41	1533.2	2211.78	1872.49	8.69	Si
SLV 11	-15641	0.38	215.41	1797.11	2627.69	2212.4	10.27	Si
SLV 9	-16592	0.38	215.41	1881.04	2765.84	2323.44	10.79	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-16007	-27441	-102	0.68	1915.8	0.956	10.34168	6.56194	Si
SLV 14	-15294	-29384	38	0.711	1843.3	0.955	10.82157	6.56194	Si
SLV 15	-15058	-24659	-102	0.716	1819.3	0.954	10.91337	6.56194	Si
SLV 13	-14345	-26603	39	0.75	1746.9	0.952	11.44742	6.56194	Si
SLV 12	-13762	-16072	-240	0.764	1687.7	0.951	11.67372	4.70862	Si
SLV 11	-13124	-14200	-240	0.795	1622.9	0.949	12.16922	4.70862	Si
SLV 10	-11386	-22550	228	0.895	1446.6	0.944	13.78085	4.70862	Si
SLV 8	-11259	-8660	-218	0.904	1433.7	0.943	13.9277	4.70862	Si
SLV 4	-7661	-2735	-28	1.252	1069.9	0.928	19.60948	6.56194	Si
SLV 9	-10747	-20677	229	0.938	1381.9	0.942	14.48406	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.17	SLU 82	Si
V_SLU	22.743	SLU 50	Si
PF_SLV	0.875	SLV 3	No
V_SLV	4.06	SLV 3	Si
PFFP_SLV	3.735	SLV 3	Si
R_SLV	1.576	SLV 16	Si

Maschio 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.359	-11.013	-0.737	L5	L6	2.622	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 56	5	2265.34	-31930	-0.0000752	0.0003743	0.0035	2.622	23978.73	33215.84	33215.84	14.66	No	Si
SLU 56	8.55	152.33	-22265	-0.0000441	0.0003743	0.0035	2.622	20495.12	24889.97	24889.97	163.39	No	Si
SLU 71	5	2308.59	-32203	-0.0000761	0.0003743	0.0035	2.622	24029.59	33412.61	33412.61	14.47	No	Si
SLU 71	8.55	148.64	-22770	-0.0000451	0.0003743	0.0035	2.622	20758.18	25362.15	25362.15	170.63	No	Si
SLU 81	5	2502.44	-35968	-0.0000857	0.0003743	0.0035	2.622	24463.76	36123.95	36123.95	14.44	No	Si
SLU 81	8.55	161.25	-24648	-0.0000491	0.0003743	0.0035	2.622	21658.37	27118.78	27118.78	168.18	No	Si
SLU 66	5	2277.39	-31944	-0.0000753	0.0003743	0.0035	2.622	23981.46	33226.16	33226.16	14.59	No	Si
SLU 66	8.55	121.6	-22509	-0.0000445	0.0003743	0.0035	2.622	20623.34	25118.11	25118.11	206.56	No	Si
SLU 83	5	2550.82	-36520	-0.0000872	0.0003743	0.0035	2.622	24485.6	36520.93	36520.93	14.32	No	Si
SLU 83	8.55	202.2	-25191	-0.0000504	0.0003743	0.0035	2.622	21895.37	27626.21	27626.21	136.63	No	Si
SLU 74	5	2480.82	-35352	-0.0000841	0.0003743	0.0035	2.622	24426.71	35679.87	35679.87	14.38	No	Si
SLU 74	8.55	187.77	-24584	-0.0000491	0.0003743	0.0035	2.622	21629.36	27058.16	27058.16	144.1	No	Si
SLU 79	5	2512.02	-35611	-0.0000849	0.0003743	0.0035	2.622	24443.89	35866.32	35866.32	14.28	No	Si
SLU 79	8.55	214.8	-24844	-0.0000498	0.0003743	0.0035	2.622	21745.23	27302.2	27302.2	127.1	No	Si
SLU 78	5	2468.2	-36050	-0.0000857	0.0003743	0.0035	2.622	24467.66	36182.6	36182.6	14.66	No	Si
SLU 78	8.55	261.24	-25225	-0.0000508	0.0003743	0.0035	2.622	21910.01	27658.29	27658.29	105.87	No	Si
SLU 77	5	2529.2	-35903	-0.0000857	0.0003743	0.0035	2.622	24460.47	36076.85	36076.85	14.26	No	Si
SLU 77	8.55	228.73	-25126	-0.0000504	0.0003743	0.0035	2.622	21867.6	27565.6	27565.6	120.52	No	Si
SLU 69	5	2325.77	-32496	-0.0000768	0.0003743	0.0035	2.622	24081.11	33623.14	33623.14	14.46	No	Si
SLU 69	8.55	162.56	-23052	-0.0000458	0.0003743	0.0035	2.622	20901.05	25625.55	25625.55	157.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	5	3975	-18844	-0.0000538	0.0005615	0.0035	2.622		22692.09	22692.09	5.71		Si
SLD 7	8.55	-942.3	-13065	-0.0000288	0.0005615	0.0035	2.622		19469.8	19469.8	20.66		Si
SLV 12	5	6036.06	-17001	-0.0000594	0.0005615	0.0035	2.622		20845.29	20845.29	3.45		Si
SLV 12	8.55	-1274.25	-12167	-0.0000285	0.0005615	0.0035	2.622		18460.69	18460.69	14.49		Si
SLD 12	5	4387.9	-19699	-0.0000574	0.0005615	0.0035	2.622		23500.05	23500.05	5.36		Si
SLD 12	8.55	-764.24	-13894	-0.0000296	0.0005615	0.0035	2.622		20402.09	20402.09	26.7		Si
SLV 7	5	5394.13	-15660	-0.0000538	0.0005615	0.0035	2.622		19391.67	19391.67	3.59		Si
SLV 7	8.55	-1547.97	-10868	-0.0000272	0.0005615	0.0035	2.622		16999.69	16999.69	10.98		Si
SLV 16	5	4056.25	-23832	-0.0000643	0.0005615	0.0035	2.622		27402.78	27402.78	6.76		Si
SLV 16	8.55	90.85	-17216	-0.0000331	0.0005615	0.0035	2.622		21076.12	21076.12	231.99		Si
SLV 8	5	5306.72	-15789	-0.0000536	0.0005615	0.0035	2.622		19532.98	19532.98	3.68		Si
SLV 8	8.55	-1570.24	-10929	-0.0000274	0.0005615	0.0035	2.622		17068.74	17068.74	10.87		Si
SLD 11	5	4442.62	-19618	-0.0000575	0.0005615	0.0035	2.622		23423.86	23423.86	5.27		Si
SLD 11	8.55	-750.31	-13856	-0.0000295	0.0005615	0.0035	2.622		20358.86	20358.86	27.13		Si
SLV 11	5	6123.47	-16872	-0.0000595	0.0005615	0.0035	2.622		20706.62	20706.62	3.38		Si
SLV 11	8.55	-1251.99	-12106	-0.0000283	0.0005615	0.0035	2.622		18391.64	18391.64	14.69		Si
SLD 8	5	3920.28	-18924	-0.0000537	0.0005615	0.0035	2.622		22768.27	22768.27	5.81		Si
SLD 8	8.55	-956.24	-13103	-0.0000289	0.0005615	0.0035	2.622		19513.03	19513.03	20.41		Si
SLV 15	5	4186.08	-23640	-0.0000645	0.0005615	0.0035	2.622		27222.02	27222.02	6.5		Si
SLV 15	8.55	123.92	-17124	-0.000033	0.0005615	0.0035	2.622		20977.96	20977.96	169.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 62	5	2286.96	-32547	-23218	3109	2.622	2.622	-31625	10833	9470	115546	21984	13372	14205	Si	4.57	Si
SLU 62	8.55	125.81	-22330	-15930	4551	2.622	2.622	-21698	9837	7317	115546	21984	13372	10975	Si	2.41	Si
SLU 81	5	2502.44	-35968	-25639	3257	2.622	2.622	-34950	10833	10191	115546	21984	13372	15286	Si	4.69	Si
SLU 81	8.55	161.25	-24648	-17584	4869	2.622	2.622	-23950	10138	7805	115546	21984	13372	11708	Si	2.4	Si
SLU 83	5	2550.82	-36520	-26052	3231	2.622	2.622	-35486	10833	10307	115546	21984	13372	15460	Si	4.79	Si
SLU 83	8.55	202.2	-25191	-17971	4893	2.622	2.622	-24478	10208	7919	115546	21984	13372	11879	Si	2.43	Si
SLU 74	5	2480.82	-35352	-25219	3149	2.622	2.622	-34351	10833	10061	115546	21984	13372	15091	Si	4.79	Si
SLU 74	8.55	187.77	-24584	-17537	4769	2.622	2.622	-23887	10129	7791	115546	21984	13372	11687	Si	2.45	Si
SLU 58	5	2248.16	-31638	-22570	3010	2.622	2.622	-30742	10833	9278	115546	21984	13372	13917	Si	4.62	Si
SLU 58	8.55	138.41	-21984	-15683	4439	2.622	2.622	-21361	9793	7244	115546	21984	13372	10865	Si	2.45	Si
SLU 64	5	2211.82	-31101	-22187	3015	2.622	2.622	-30220	10833	9165	115546	21984	13372	13747	Si	4.56	Si
SLU 64	8.55	66.73	-21685	-15470	4414	2.622	2.622	-21071	9754	7181	115546	21984	13372	10771	Si	2.44	Si
SLU 53	5	2216.96	-31379	-22385	3028	2.622	2.622	-30490	10833	9224	115546	21984	13372	13835	Si	4.57	Si
SLU 53	8.55	111.38	-21723	-15497	4428	2.622	2.622	-21108	9759	7189	115546	21984	13372	10783	Si	2.44	Si
SLU 60	5	2238.57	-31996	-22825	3136	2.622	2.622	-31089	10833	9353	115546	21984	13372	14030	Si	4.47	Si
SLU 60	8.55	84.86	-21788	-15543	4527	2.622	2.622	-21171	9767	7202	115546	21984	13372	10803	Si	2.39	Si
SLU 79	5	2512.02	-35611	-25404	3131	2.622	2.622	-34602	10833	10115	115546	21984	13372	15173	Si	4.85	Si
SLU 79	8.55	214.8	-24844	-17723	4780	2.622	2.622	-24141	10163	7846	115546	21984	13372	11770	Si	2.46	Si
SLU 56	5	2265.34	-31930	-22778	3001	2.622	2.622	-31026	10833	9340	115546	21984	13372	14010	Si	4.67	Si
SLU 56	8.55	152.33	-22265	-15884	4452	2.622	2.622	-21635	9829	7303	115546	21984	13372	10954	Si	2.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_m = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	5	-1903.65	-32259	-23013	-10002	2.622	2.622	-31345	16250	11930	115546	32976	13372	46349		4.63	Si
SLV 9	8.55	1677.12	-22360	-15951	-7616	2.622	2.622	-21727	14762	10838	115546	32976	13372	46349		6.09	Si
SLV 11	5	6123.47	-16872	-12036	14276	2.622	2.622	-16394	13696	10055	115546	32976	13372	46349		3.25	Si
SLV 11	8.55	-1251.99	-12106	-8636	15034	2.622	2.622	-11763	12769	9375	115546	32976	13372	46349		3.08	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 12	5	4387.9	-19699	-14053	9697	2.622	2.622	-19141	14245	10458	115546	32976	13372	46349		4.78	Si
SLD 12	8.55	-764.24	-13894	-9912	10541	2.622	2.622	-13501	13117	9630	115546	32976	13372	46349		4.4	Si
SLV 12	5	6036.06	-17001	-12128	14240	2.622	2.622	-16520	13721	10073	115546	32976	13372	46349		3.25	Si
SLV 12	8.55	-1274.25	-12167	-8680	14939	2.622	2.622	-11823	12781	9384	115546	32976	13372	46349		3.1	Si
SLV 8	5	5306.72	-15789	-11264	14685	2.622	2.622	-15342	13485	9900	115546	32976	13372	46349		3.16	Si
SLV 8	8.55	-1570.24	-10929	-7797	14439	2.622	2.622	-10620	12541	9207	115546	32976	13372	46349		3.21	Si
SLV 10	5	-1991.06	-32388	-23105	-10039	2.622	2.622	-31471	16250	11930	115546	32976	13372	46349		4.62	Si
SLV 10	8.55	1654.86	-22422	-15995	-7711	2.622	2.622	-21787	14774	10847	115546	32976	13372	46349		6.01	Si
SLD 7	5	3975	-18844	-13443	10003	2.622	2.622	-18310	14079	10336	115546	32976	13372	46349		4.63	Si
SLD 7	8.55	-942.3	-13065	-9320	10280	2.622	2.622	-12695	12956	9512	115546	32976	13372	46349		4.51	Si
SLD 11	5	4442.62	-19618	-13995	9720	2.622	2.622	-19063	14229	10447	115546	32976	13372	46349		4.77	Si
SLD 11	8.55	-750.31	-13856	-9884	10600	2.622	2.622	-13463	13109	9624	115546	32976	13372	46349		4.37	Si
SLV 7	5	5394.13	-15660	-11172	14721	2.622	2.622	-15217	13460	9882	115546	32976	13372	46349		3.15	Si
SLV 7	8.55	-1547.97	-10868	-7753	14533	2.622	2.622	-10560	12529	9198	115546	32976	13372	46349		3.19	Si
SLD 8	5	3920.28	-18924	-13500	9980	2.622	2.622	-18388	14094	10348	115546	32976	13372	46349		4.64	Si
SLD 8	8.55	-956.24	-13103	-9348	10221	2.622	2.622	-12732	12963	9517	115546	32976	13372	46349		4.53	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-13302	0.38	284.02	1641.3	2369.26	2005.28	7.06	Si
SLV 7	-13322	0.38	284.02	1643.44	2372.29	2007.87	7.07	Si
SLV 12	-15141	0.38	284.02	1833.47	2645.85	2239.66	7.89	Si
SLV 11	-15161	0.38	284.02	1835.52	2648.86	2242.19	7.89	Si
SLV 4	-15406	0.38	284.02	1860.48	2685.7	2273.09	8	Si
SLV 3	-15436	0.38	284.02	1863.5	2690.17	2276.84	8.02	Si
SLV 2	-19053	0.38	284.02	2214.16	3229.64	2721.9	9.58	Si
SLV 1	-19083	0.38	284.02	2216.9	3234.06	2725.48	9.6	Si
SLV 16	-21537	0.38	284.02	2435.98	3592.77	3014.37	10.61	Si
SLV 15	-21567	0.38	284.02	2438.54	3597.06	3017.8	10.63	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-20292	-28448	644	0.666	2433.7	0.956	10.12363	6.56194	Si
SLV 13	-20201	-28256	645	0.668	2424.4	0.955	10.16342	6.56194	Si
SLV 16	-17216	-23832	705	0.761	2121.2	0.95	11.64385	6.56194	Si
SLV 15	-17124	-23640	706	0.764	2111.9	0.95	11.69754	6.56194	Si
SLV 2	-16165	-24408	-686	0.803	2014.6	0.948	12.31635	6.56194	Si
SLV 1	-16074	-24217	-685	0.807	2005.3	0.947	12.37752	6.56194	Si
SLV 10	-22422	-32388	107	0.633	2650.2	0.959	9.60128	4.70862	Si
SLV 9	-22360	-32259	108	0.635	2644	0.959	9.62433	4.70862	Si
SLV 6	-21184	-31176	-292	0.657	2524.3	0.957	9.97558	4.70862	Si
SLV 5	-21122	-31047	-291	0.659	2518.1	0.957	10.00135	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.264	SLU 77	Si
V_SLU	2.386	SLU 60	Si
PF_SLV	3.382	SLV 11	Si
V_SLV	3.083	SLV 11	Si
PFFP_SLV	7.06	SLV 8	Si
R_SLV	1.543	SLV 14	Si

Maschio 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-0.354	-11.013	1.046	L5	L6	1.4	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 75	5	1878.32	-22240	-0.0001214	0.0003743	0.0035	1.4	6892.73	11458.56	10339.09	5.5	Si	Si
SLU 75	8.55	46.68	-16793	-0.0000636	0.0003743	0.0035	1.4	6808.95	9382.65	9382.65	201	No	Si
SLU 77	5	1934.83	-22656	-0.0001246	0.0003743	0.0035	1.4	6856.3	11617.31	10284.45	5.32	Si	Si
SLU 77	8.55	42.77	-17169	-0.0000651	0.0003743	0.0035	1.4	6848.14	9525.83	9525.83	222.71	No	Si
SLU 81	5	1982.85	-22458	-0.0001245	0.0003743	0.0035	1.4	6874.38	11541.82	10311.57	5.2	Si	Si
SLU 81	8.55	-69.46	-16835	-0.0000642	0.0003743	0.0035	1.4	6813.58	10172.36	10172.36	146.45	No	Si
SLU 83	5	2014.43	-22869	-0.0001272	0.0003743	0.0035	1.4	6835.39	11698.24	10253.09	5.09	Si	Si
SLU 83	8.55	-52.56	-17257	-0.0000656	0.0003743	0.0035	1.4	6856.63	10338.57	10284.94	195.7	Si	Si
SLU 79	5	1920.86	-22457	-0.0001233	0.0003743	0.0035	1.4	6874.51	11541.29	10311.76	5.37	Si	Si
SLU 79	8.55	37	-16974	-0.0000642	0.0003743	0.0035	1.4	6828.41	9451.5	9451.5	255.47	No	Si
SLU 84	5	1989.5	-22863	-0.0001266	0.0003743	0.0035	1.4	6836.02	11695.9	10254.03	5.15	Si	Si
SLU 84	8.55	-31.75	-17303	-0.0000655	0.0003743	0.0035	1.4	6860.97	10356.79	10291.45	324.19	Si	Si
SLU 78	5	1909.9	-22650	-0.000124	0.0003743	0.0035	1.4	6856.88	11614.97	10285.32	5.39	Si	Si
SLU 78	8.55	63.58	-17215	-0.0000657	0.0003743	0.0035	1.4	6852.62	9543.46	9543.46	150.1	No	Si
SLU 82	5	1957.92	-22452	-0.000124	0.0003743	0.0035	1.4	6874.92	11539.49	10312.38	5.27	Si	Si
SLU 82	8.55	-48.65	-16882	-0.000064	0.0003743	0.0035	1.4	6818.6	10190.58	10190.58	209.47	No	Si
SLU 80	5	1895.93	-22451	-0.0001228	0.0003743	0.0035	1.4	6875.04	11538.95	10312.57	5.44	Si	Si
SLU 80	8.55	57.81	-17020	-0.0000648	0.0003743	0.0035	1.4	6833.21	9469.13	9469.13	163.81	No	Si
SLU 74	5	1903.25	-22246	-0.0001219	0.0003743	0.0035	1.4	6892.24	11460.89	10338.35	5.43	Si	Si
SLU 74	8.55	25.87	-16747	-0.0000631	0.0003743	0.0035	1.4	6803.78	9365.02	9365.02	362.01	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	5	2141.26	-13522	-0.0000835	0.0005615	0.0035	1.4		8230.64	8230.64	3.84		Si
SLV 3	8.55	-22.24	-9740	-0.000035	0.0005615	0.0035	1.4		7077.56	7077.56	318.31		Si
SLV 8	5	3094.02	-15991	-0.0001095	0.0005615	0.0035	1.4		9465.1	9465.1	3.06		Si
SLV 8	8.55	-812.57	-9459	-0.0000464	0.0005615	0.0035	1.4		6915.97	6915.97	8.51		Si
SLD 11	5	2261.01	-16462	-0.0000974	0.0005615	0.0035	1.4		9700.72	9700.72	4.29		Si
SLD 11	8.55	-554.68	-10462	-0.0000461	0.0005615	0.0035	1.4		7474.67	7474.67	13.48		Si
SLD 12	5	2256.48	-16457	-0.0000973	0.0005615	0.0035	1.4		9698.13	9698.13	4.3		Si
SLD 12	8.55	-547.86	-10481	-0.0000461	0.0005615	0.0035	1.4		7485.09	7485.09	13.66		Si
SLV 7	5	3101.25	-15999	-0.0001097	0.0005615	0.0035	1.4		9469.24	9469.24	3.05		Si
SLV 7	8.55	-823.47	-9428	-0.0000465	0.0005615	0.0035	1.4		6898.43	6898.43	8.38		Si
SLD 7	5	2398.96	-15662	-0.0000964	0.0005615	0.0035	1.4		9300.62	9300.62	3.88		Si
SLD 7	8.55	-478.84	-10082	-0.0000435	0.0005615	0.0035	1.4		7267.77	7267.77	15.18		Si
SLD 8	5	2394.43	-15657	-0.0000963	0.0005615	0.0035	1.4		9298.03	9298.03	3.88		Si
SLD 8	8.55	-472.02	-10101	-0.0000434	0.0005615	0.0035	1.4		7278.19	7278.19	15.42		Si
SLV 4	5	2130.52	-13510	-0.0000833	0.0005615	0.0035	1.4		8224.5	8224.5	3.86		Si
SLV 4	8.55	-6.04	-9785	-0.0000349	0.0005615	0.0035	1.4		7103.62	7103.62	1175.13		Si
SLV 12	5	2878.36	-17239	-0.0001111	0.0005615	0.0035	1.4		10089.24	10089.24	3.51		Si
SLV 12	8.55	-930.79	-10051	-0.0000505	0.0005615	0.0035	1.4		7250.79	7250.79	7.79		Si
SLV 11	5	2885.59	-17247	-0.0001112	0.0005615	0.0035	1.4		10093.38	10093.38	3.5		Si
SLV 11	8.55	-941.69	-10020	-0.0000506	0.0005615	0.0035	1.4		7234.14	7234.14	7.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 63	5	1846.89	-20326	-14500	3953	1.4	1.4	-36989	10833	5125	115546	11738	7140	7687	Si	1.94	Si
SLU 63	8.55	-78.03	-15349	-10950	-1512	1.4	1.4	-27933	10669	4182	115546	11738	7140	6273	Si	4.15	Si
SLU 56	5	1792.21	-20120	-14353	3936	1.4	1.4	-36614	10833	5085	115546	11738	7140	7628	Si	1.94	Si
SLU 56	8.55	-3.52	-15215	-10854	-1404	1.4	1.4	-27688	10636	4169	115546	11738	7140	6254	Si	4.45	Si
SLU 62	5	1871.82	-20332	-14504	4047	1.4	1.4	-37001	10833	5126	115546	11738	7140	7689	Si	1.9	Si
SLU 62	8.55	-98.84	-15303	-10917	-1391	1.4	1.4	-27849	10658	4178	115546	11738	7140	6267	Si	4.51	Si
SLU 54	5	1735.71	-19703	-14056	3788	1.4	1.4	-35856	10833	5006	115546	11738	7140	7509	Si	1.98	Si
SLU 54	8.55	0.39	-14839	-10586	-1467	1.4	1.4	-27005	10545	4134	115546	11738	7140	6201	Si	4.23	Si
SLU 60	5	1840.24	-19922	-14212	3992	1.4	1.4	-36254	10833	5048	115546	11738	7140	7571	Si	1.9	Si
SLU 60	8.55	-115.75	-14881	-10616	-1332	1.4	1.4	-27081	10555	4138	115546	11738	7140	6207	Si	4.66	Si
SLU 58	5	1778.25	-19920	-14211	3909	1.4	1.4	-36251	10833	5047	115546	11738	7140	7571	Si	1.94	Si
SLU 58	8.55	-9.29	-15020	-10715	-1373	1.4	1.4	-27333	10589	4151	115546	11738	7140	6226	Si	4.54	Si
SLU 59	5	1753.32	-19914	-14206	3816	1.4	1.4	-36240	10833	5046	115546	11738	7140	7569	Si	1.98	Si
SLU 59	8.55	11.52	-15066	-10748	-1494	1.4	1.4	-27418	10600	4155	115546	11738	7140	6233	Si	4.17	Si
SLU 81	5	1982.85	-22458	-16021	4180	1.4	1.4	-40870	10833	5530	115546	11738	7140	8295	Si	1.98	Si
SLU 81	8.55	-69.46	-16835	-12010	-1878	1.4	1.4	-30637	10833	4461	115546	11738	7140	6691	Si	3.56	Si
SLU 61	5	1815.31	-19915	-14207	3899	1.4	1.4	-36243	10833	5046	115546	11738	7140	7570	Si	1.94	Si
SLU 61	8.55	-94.94	-14927	-10649	-1454	1.4	1.4	-27165	10566	4142	115546	11738	7140	6213	Si	4.27	Si
SLU 53	5	1760.64	-19709	-14060	3881	1.4	1.4	-35867	10833	5007	115546	11738	7140	7511	Si	1.94	Si
SLU 53	8.55	-20.42	-14793	-10553	-1346	1.4	1.4	-26921	10534	4129	115546	11738	7140	6194	Si	4.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	5	3094.02	-15991	-11408	8712	1.4	1.4	-29101	16237	6365	115546	17607	7140	24747		2.84	Si
SLV 8	8.55	-812.57	-9459	-6748	5615	1.4	1.4	-17213	13859	5433	115546	17607	7140	24747		4.41	Si
SLV 10	5	-588.3	-14317	-10213	-3122	1.4	1.4	-26054	15628	6126	115546	17607	7140	24747		7.93	Si
SLV 10	8.55	971.96	-12937	-9229	-8004	1.4	1.4	-23544	15125	5929	115546	17607	7140	24747		3.09	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	5	2878.36	-17239	-12298	8764	1.4	1.4	-31372	16250	6370	115546	17607	7140	24747		2.82	Si
SLV 12	8.55	-930.79	-10051	-7170	4790	1.4	1.4	-18291	14075	5517	115546	17607	7140	24747		5.17	Si
SLD 12	5	2256.48	-16457	-11740	6493	1.4	1.4	-29949	16250	6370	115546	17607	7140	24747		3.81	Si
SLD 12	8.55	-547.86	-10481	-7477	2498	1.4	1.4	-19073	14231	5579	115546	17607	7140	24747		9.91	Si
SLV 9	5	-581.06	-14325	-10219	-3093	1.4	1.4	-26069	15631	6127	115546	17607	7140	24747		8	Si
SLV 9	8.55	961.06	-12907	-9207	-7976	1.4	1.4	-23488	15114	5925	115546	17607	7140	24747		3.1	Si
SLD 11	5	2261.01	-16462	-11744	6512	1.4	1.4	-29958	16250	6370	115546	17607	7140	24747		3.8	Si
SLD 11	8.55	-554.68	-10462	-7463	2516	1.4	1.4	-19039	14224	5576	115546	17607	7140	24747		9.83	Si
SLV 7	5	3101.25	-15999	-11413	8741	1.4	1.4	-29116	16240	6366	115546	17607	7140	24747		2.83	Si
SLV 7	8.55	-823.47	-9428	-6726	5643	1.4	1.4	-17157	13848	5428	115546	17607	7140	24747		4.39	Si
SLV 5	5	-365.41	-13077	-9329	-3145	1.4	1.4	-23798	15176	5949	115546	17607	7140	24747		7.87	Si
SLV 5	8.55	1079.28	-12315	-8785	-7151	1.4	1.4	-22410	14899	5840	115546	17607	7140	24747		3.46	Si
SLV 11	5	2885.59	-17247	-12304	8793	1.4	1.4	-31387	16250	6370	115546	17607	7140	24747		2.81	Si
SLV 11	8.55	-941.69	-10020	-7148	4818	1.4	1.4	-18235	14064	5513	115546	17607	7140	24747		5.14	Si
SLV 6	5	-372.64	-13069	-9323	-3174	1.4	1.4	-23783	15173	5948	115546	17607	7140	24747		7.8	Si
SLV 6	8.55	1090.18	-12345	-8807	-7179	1.4	1.4	-22466	14910	5845	115546	17607	7140	24747		3.45	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-9019	0.38	151.65	1072.46	1545.69	1309.07	8.63	Si
SLV 4	-9026	0.38	151.65	1073.15	1546.75	1309.95	8.64	Si
SLV 7	-10152	0.38	151.65	1180.29	1714.43	1447.36	9.54	Si
SLV 8	-10157	0.38	151.65	1180.74	1715.14	1447.94	9.55	Si
SLV 1	-10517	0.38	151.65	1213.72	1768.69	1491.21	9.83	Si
SLV 2	-10524	0.38	151.65	1214.37	1769.75	1492.06	9.84	Si
SLV 11	-12621	0.38	151.65	1394.39	2074.98	1734.69	11.44	Si
SLV 12	-12625	0.38	151.65	1394.78	2075.68	1735.23	11.44	Si
SLV 5	-15145	0.38	151.65	1583.91	2441.71	2012.81	13.27	Si
SLV 6	-15150	0.38	151.65	1584.24	2442.4	2013.32	13.28	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-12625	-16794	300	0.588	1481.5	0.961	8.8972	6.56194	Si
SLV 13	-12580	-16806	300	0.59	1476.9	0.96	8.92568	6.56194	Si
SLV 16	-11759	-17670	258	0.628	1393.4	0.958	9.51995	6.56194	Si
SLV 15	-11714	-17683	258	0.63	1388.8	0.958	9.55266	6.56194	Si
SLV 2	-10651	-12633	-329	0.677	1280.8	0.955	10.29605	6.56194	Si
SLV 1	-10606	-12646	-329	0.679	1276.2	0.955	10.33449	6.56194	Si
SLV 4	-9785	-13510	-370	0.723	1192.8	0.952	11.03364	6.56194	Si
SLV 3	-9740	-13522	-370	0.726	1188.2	0.952	11.07835	6.56194	Si
SLV 10	-12937	-14317	128	0.588	1513.2	0.961	8.89081	4.70862	Si
SLV 9	-12907	-14325	128	0.589	1510.1	0.961	8.90952	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.09	SLU 83	Si
V_SLU	1.897	SLU 60	Si
PF_SLV	3.053	SLV 7	Si
V_SLV	2.814	SLV 11	Si
PFFP_SLV	8.632	SLV 3	Si
R_SLV	1.356	SLV 14	Si

Maschio 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.448	-3.359	-11.013	-3.359	L5	L6	1.565	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	5	646.89	-15872	-0.0000612	0.0003743	0.0035	1.565	8001.3	10355.06	10355.06	16.01	No	Si
SLU 81	7.1	-2221.81	-17781	-0.0000904	0.0003743	0.0035	1.565	8368.21	12288.04	12288.04	5.53	No	Si
SLU 73	5	678.91	-15492	-0.0000603	0.0003743	0.0035	1.565	7912.84	10137.55	10137.55	14.93	No	Si
SLU 73	7.1	-2184.85	-17213	-0.0000877	0.0003743	0.0035	1.565	8272.33	12021.26	12021.26	5.5	No	Si
SLU 82	5	655.84	-15975	-0.0000617	0.0003743	0.0035	1.565	8024.26	10413.67	10413.67	15.88	No	Si
SLU 82	7.1	-2245.41	-17894	-0.0000912	0.0003743	0.0035	1.565	8385.98	12341.25	12341.25	5.5	No	Si
SLU 78	5	676	-16068	-0.0000623	0.0003743	0.0035	1.565	8044.78	10466.84	10466.84	15.48	No	Si
SLU 78	7.1	-2236.69	-17858	-0.0000909	0.0003743	0.0035	1.565	8380.3	12324.09	12324.09	5.51	No	Si
SLU 83	5	645.94	-16124	-0.0000621	0.0003743	0.0035	1.565	8057.09	10499.12	10499.12	16.25	No	Si
SLU 83	7.1	-2245.18	-18058	-0.0000918	0.0003743	0.0035	1.565	8410.94	12418.39	12418.39	5.53	No	Si
SLU 76	5	677.96	-15744	-0.0000612	0.0003743	0.0035	1.565	7971.99	10281.61	10281.61	15.17	No	Si
SLU 76	7.1	-2208.22	-17490	-0.0000891	0.0003743	0.0035	1.565	8320.59	12151.61	12151.61	5.5	No	Si
SLU 75	5	676.95	-15816	-0.0000614	0.0003743	0.0035	1.565	7988.49	10322.77	10322.77	15.25	No	Si
SLU 75	7.1	-2213.32	-17580	-0.0000895	0.0003743	0.0035	1.565	8335.62	12193.75	12193.75	5.51	No	Si
SLU 84	5	654.89	-16227	-0.0000626	0.0003743	0.0035	1.565	8079.15	10548.68	10548.68	16.11	No	Si
SLU 84	7.1	-2268.78	-18172	-0.0000926	0.0003743	0.0035	1.565	8427.6	12471.6	12471.6	5.5	No	Si
SLU 80	5	671.05	-15927	-0.0000618	0.0003743	0.0035	1.565	8013.7	10386.6	10386.6	15.48	No	Si
SLU 80	7.1	-2215.85	-17692	-0.00009	0.0003743	0.0035	1.565	8354.02	12246.48	12246.48	5.53	No	Si
SLU 74	5	668.01	-15713	-0.0000609	0.0003743	0.0035	1.565	7964.95	10264.17	10264.17	15.37	No	Si
SLU 74	7.1	-2189.72	-17467	-0.0000887	0.0003743	0.0035	1.565	8316.6	12140.54	12140.54	5.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	5	1473.23	-3450	-0.000032	0.0005615	0.0035	1.565		2875.26	2875.26	1.95		Si
SLV 8	7.1	-1823.78	-6769	-0.0000439	0.0005615	0.0035	1.565		6218.24	6218.24	3.41		Si
SLV 4	5	4289.62	-5267	-0.0032658	0.0005615	0.0035	1.565		4173.34	4173.34	0.97		No
SLV 4	7.1	-5029.45	-13437	-0.0001152	0.0005615	0.0035	1.565		10466.85	10466.85	2.08		Si
SLD 4	5	2925.13	-7312	-0.0000645	0.0005615	0.0035	1.565		5585.04	5585.04	1.91		Si
SLD 4	7.1	-3761.8	-12883	-0.0000902	0.0005615	0.0035	1.565		10131.1	10131.1	2.69		Si
SLV 15	5	-3486.23	-12683	-0.0000856	0.0005615	0.0035	1.565		10010.36	10010.36	2.87		Si
SLV 15	7.1	2616.93	-6391	-0.0000576	0.0005615	0.0035	1.565		4955.71	4955.71	1.89		Si
SLD 1	5	2657.88	-9843	-0.0000649	0.0005615	0.0035	1.565		7216.22	7216.22	2.72		Si
SLD 1	7.1	-3693.3	-14684	-0.0000954	0.0005615	0.0035	1.565		11193.4	11193.4	3.03		Si
SLV 3	5	3704.46	-5629	-0.0001641	0.0005615	0.0035	1.565		4427.01	4427.01	1.2		Si
SLV 3	7.1	-4386.24	-12662	-0.0001005	0.0005615	0.0035	1.565		9997.3	9997.3	2.28		Si
SLV 2	5	4464.52	-8991	-0.0001096	0.0005615	0.0035	1.565		6704.15	6704.15	1.5		Si
SLV 2	7.1	-5586.14	-17163	-0.0001332	0.0005615	0.0035	1.565		12586.34	12586.34	2.25		Si
SLD 2	5	3031.37	-9613	-0.0000697	0.0005615	0.0035	1.565		7083.07	7083.07	2.34		Si
SLD 2	7.1	-4103.85	-15179	-0.0001028	0.0005615	0.0035	1.565		11476.5	11476.5	2.8		Si
SLV 1	5	3879.36	-9353	-0.0000873	0.0005615	0.0035	1.565		6933.03	6933.03	1.79		Si
SLV 1	7.1	-4942.94	-16387	-0.0001197	0.0005615	0.0035	1.565		12166.97	12166.97	2.46		Si
SLD 3	5	2551.63	-7543	-0.000057	0.0005615	0.0035	1.565		5741.76	5741.76	2.25		Si
SLD 3	7.1	-3351.25	-12387	-0.0000827	0.0005615	0.0035	1.565		9831.39	9831.39	2.93		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	5	716.88	-14529	-10364	2135	1.565	1.565	-23652	10098	4425	115546	13122	7981	6637	Si	3.11	Si
SLU 67	7.1	-2035.3	-15813	-11281	4047	1.565	1.565	-25744	10377	4547	115546	13122	7981	6821	Si	1.69	Si
SLU 72	5	710.97	-14640	-10444	2132	1.565	1.565	-23834	10122	4436	115546	13122	7981	6653	Si	3.12	Si
SLU 72	7.1	-2037.84	-15926	-11361	4054	1.565	1.565	-25927	10401	4558	115546	13122	7981	6837	Si	1.69	Si
SLU 68	5	717.88	-14457	-10313	2128	1.565	1.565	-23535	10082	4418	115546	13122	7981	6627	Si	3.11	Si
SLU 68	7.1	-2030.2	-15724	-11217	4029	1.565	1.565	-25598	10357	4539	115546	13122	7981	6808	Si	1.69	Si
SLU 66	5	707.93	-14426	-10291	2118	1.565	1.565	-23485	10076	4415	115546	13122	7981	6623	Si	3.13	Si
SLU 66	7.1	-2011.71	-15700	-11200	4016	1.565	1.565	-25559	10352	4536	115546	13122	7981	6805	Si	1.69	Si
SLU 70	5	715.93	-14781	-10544	2150	1.565	1.565	-24063	10153	4449	115546	13122	7981	6673	Si	3.1	Si
SLU 70	7.1	-2058.67	-16091	-11479	4093	1.565	1.565	-26196	10437	4574	115546	13122	7981	6860	Si	1.68	Si
SLU 69	5	706.98	-14678	-10471	2133	1.565	1.565	-23896	10131	4439	115546	13122	7981	6659	Si	3.12	Si
SLU 69	7.1	-2035.08	-15978	-11398	4062	1.565	1.565	-26011	10413	4563	115546	13122	7981	6844	Si	1.69	Si
SLU 65	5	718.83	-14205	-10133	2113	1.565	1.565	-23125	10028	4394	115546	13122	7981	6591	Si	3.12	Si
SLU 65	7.1	-2006.84	-15446	-11019	3984	1.565	1.565	-25146	10297	4512	115546	13122	7981	6768	Si	1.7	Si
SLU 71	5	702.03	-14538	-10371	2115	1.565	1.565	-23667	10100	4426	115546	13122	7981	6639	Si	3.14	Si
SLU 71	7.1	-2014.24	-15812	-11280	4023	1.565	1.565	-25742	10377	4547	115546	13122	7981	6821	Si	1.7	Si
SLU 78	5	676	-16068	-11462	2122	1.565	1.565	-26158	10432	4571	115546	13122	7981	6857	Si	3.23	Si
SLU 78	7.1	-2236.69	-17858	-12739	4214	1.565	1.565	-29072	10821	4803	115546	13122	7981	7205	Si	1.71	Si
SLU 75	5	676.95	-15816	-11283	2106	1.565	1.565	-25748	10377	4547	115546	13122	7981	6821	Si	3.24	Si
SLU 75	7.1	-2213.32	-17580	-12541	4168	1.565	1.565	-28820	10760	4750	115546	13122	7981	7126	Si	1.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	5	1662.27	-16107	-11491	3501	1.565	1.565	-26222	15661	6863	115546	19682	7981	27664		7.9	Si
SLV 5	7.1	-3246.39	-18665	-13315	5371	1.565	1.565	-30387	16250	7121	115546	19682	7981	27664		5.15	Si
SLV 4	5	4289.62	-5267	-3757	7860	1.565	0	-145714	16250	3111	115546	19682	7981	27664		3.52	Si
SLV 4	7.1	-5029.45	-13437	-9586	9021	1.565	1.2246	-28397	16096	5519	115546	19682	7981	27664		3.07	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5	2056.24	-15864	-11317	4168	1.565	1.565	-25826	15582	6828	115546	19682	7981	27664		6.64	Si
SLV 6	7.1	-3679.44	-19188	-13688	6114	1.565	1.565	-31237	16250	7121	115546	19682	7981	27664		4.53	Si
SLD 2	5	3031.37	-9613	-6857	5770	1.565	1.4014	-15649	13547	5316	115546	19682	7981	27664		4.79	Si
SLD 2	7.1	-4103.85	-15179	-10829	7220	1.565	1.5364	-24712	15359	6607	115546	19682	7981	27664		3.83	Si
SLV 1	5	3879.36	-9353	-6672	7184	1.565	1.1031	-15226	13462	4158	115546	19682	7981	27664		3.85	Si
SLV 1	7.1	-4942.94	-16387	-11690	8561	1.565	1.4426	-29438	16250	6564	115546	19682	7981	27664		3.23	Si
SLD 4	5	2925.13	-7312	-5216	5578	1.565	1.1474	-11904	12797	4111	115546	19682	7981	27664		4.96	Si
SLD 4	7.1	-3761.8	-12883	-9190	6827	1.565	1.4715	-22572	14931	6152	115546	19682	7981	27664		4.05	Si
SLD 1	5	2657.88	-9843	-7022	5138	1.565	1.5374	-16025	13622	5864	115546	19682	7981	27664		5.38	Si
SLD 1	7.1	-3693.3	-14684	-10475	6516	1.565	1.565	-23906	15198	6660	115546	19682	7981	27664		4.25	Si
SLV 3	5	3704.46	-5629	-4015	6870	1.565	0.373	-39326	16250	3180	115546	19682	7981	27664		4.03	Si
SLV 3	7.1	-4386.24	-12662	-9032	7917	1.565	1.3082	-25006	15418	5648	115546	19682	7981	27664		3.49	Si
SLV 2	5	4464.52	-8991	-6414	8175	1.565	0.8579	-14637	13344	3820	115546	19682	7981	27664		3.38	Si
SLV 2	7.1	-5586.14	-17163	-12243	9664	1.565	1.371	-32505	16250	6238	115546	19682	7981	27664		2.86	Si
SLD 3	5	2551.63	-7543	-5381	4945	1.565	1.3326	-12280	12873	4803	115546	19682	7981	27664		5.59	Si
SLD 3	7.1	-3351.25	-12387	-8837	6123	1.565	1.5359	-20166	14450	6214	115546	19682	7981	27664		4.52	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 11	-4646	0.38	165.26	605.31	910.13	757.72	4.59	Si
SLV 12	-5169	0.38	165.26	667.71	990.16	828.93	5.02	Si
SLV 7	-6544	0.38	165.26	826.54	1200.5	1013.52	6.13	Si
SLV 15	-6651	0.38	165.26	838.62	1216.82	1027.72	6.22	Si
SLV 8	-7066	0.38	165.26	884.79	1279.84	1082.31	6.55	Si
SLV 16	-7427	0.38	165.26	924.37	1334.66	1129.51	6.83	Si
SLV 13	-10376	0.38	165.26	1227.39	1778.47	1502.93	9.09	Si
SLV 14	-11152	0.38	165.26	1301.05	1893.92	1597.49	9.67	Si
SLV 3	-12976	0.38	165.26	1464.41	2161.6	1813.01	10.97	Si
SLV 4	-13752	0.38	165.26	1529.63	2274.38	1902.01	11.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-11218	-16407	-115	0.731	1361.8	0.953	11.15312	6.56194	Si
SLV 14	-11027	-16046	-115	0.742	1342.4	0.952	11.32237	6.56194	Si
SLV 15	-9201	-12683	-4	0.874	1157	0.946	13.4227	6.56194	Si
SLV 16	-9010	-12322	-4	0.889	1137.7	0.945	13.6692	6.56194	Si
SLV 9	-12118	-18224	-206	0.679	1453.3	0.956	10.31928	4.70862	Si
SLV 10	-11990	-17980	-206	0.685	1440.2	0.955	10.41651	4.70862	Si
SLV 5	-10900	-16107	-172	0.745	1329.5	0.952	11.36728	4.70862	Si
SLV 6	-10772	-15864	-172	0.752	1316.5	0.952	11.48603	4.70862	Si
SLV 1	-7157	-9353	-2	1.073	950	0.936	16.65983	6.56194	Si
SLV 2	-6966	-8991	-2	1.096	930.7	0.935	17.04582	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.496	SLU 82	Si
V_SLU	1.676	SLU 70	Si
PF_SLV	0.973	SLV 4	No
V_SLV	2.863	SLV 2	Si
PFFP_SLV	4.585	SLV 11	Si
R_SLV	1.7	SLV 13	Si

Maschio 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	-3.359	-6.268	1.046	L5	L6	4.405	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 83	5	6590.5	-39110	-0.0001029	0.0004492	0.0035	4.405	41431.17	69706.65	62146.76	9.43	Si	Si
SLU 83	8.55	3229.46	-24863	-0.0000601	0.0004492	0.0035	4.405	36692.54	48056.65	48056.65	14.88	No	Si
SLU 79	5	6540.01	-38261	-0.0001007	0.0004492	0.0035	4.405	41481.29	68667.64	62221.94	9.51	Si	Si
SLU 79	8.55	3277.21	-24561	-0.0000596	0.0004492	0.0035	4.405	36463.02	47579.07	47579.07	14.52	No	Si
SLU 78	5	6527.65	-38752	-0.0001018	0.0004492	0.0035	4.405	41457.48	69268.09	62186.22	9.53	Si	Si
SLU 78	8.55	3366.88	-24914	-0.0000606	0.0004492	0.0035	4.405	36730.17	48136.04	48136.04	14.3	No	Si
SLU 84	5	6520.81	-39264	-0.000103	0.0004492	0.0035	4.405	41417.56	69895.07	62126.34	9.53	Si	Si
SLU 84	8.55	3277.3	-24901	-0.0000603	0.0004492	0.0035	4.405	36720.88	48116.42	48116.42	14.68	No	Si
SLU 80	5	6470.32	-38415	-0.0001008	0.0004492	0.0035	4.405	41475.34	68856.06	62213.01	9.62	Si	Si
SLU 80	8.55	3325.05	-24598	-0.0000598	0.0004492	0.0035	4.405	36492.04	47638.84	47638.84	14.33	No	Si
SLU 81	5	6444.25	-38496	-0.0001009	0.0004492	0.0035	4.405	41471.62	68955.87	62207.43	9.65	Si	Si
SLU 81	8.55	3099.41	-24289	-0.0000585	0.0004492	0.0035	4.405	36252.62	47150.75	47150.75	15.21	No	Si
SLU 82	5	6374.57	-38650	-0.0001011	0.0004492	0.0035	4.405	41463.54	69144.29	62195.31	9.76	Si	Si
SLU 82	8.55	3147.25	-24327	-0.0000587	0.0004492	0.0035	4.405	36282.24	47210.52	47210.52	15	No	Si
SLU 75	5	6381.4	-38138	-0.0000999	0.0004492	0.0035	4.405	41485.05	68517.31	62227.58	9.75	Si	Si
SLU 75	8.55	3236.83	-24339	-0.000059	0.0004492	0.0035	4.405	36291.94	47230.13	47230.13	14.59	No	Si
SLU 74	5	6451.09	-37983	-0.0000997	0.0004492	0.0035	4.405	41488.51	68328.89	62232.76	9.65	Si	Si
SLU 74	8.55	3188.99	-24301	-0.0000588	0.0004492	0.0035	4.405	36262.35	47170.36	47170.36	14.79	No	Si
SLU 77	5	6597.34	-38598	-0.0001017	0.0004492	0.0035	4.405	41466.47	69079.67	62199.7	9.43	Si	Si
SLU 77	8.55	3319.04	-24876	-0.0000604	0.0004492	0.0035	4.405	36701.85	48076.27	48076.27	14.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	5	8033.66	-20381	-0.0000632	0.0006738	0.0035	4.405		42406.59	42406.59	5.28		Si
SLD 7	8.55	1290.39	-13918	-0.0000311	0.0006738	0.0035	4.405		30338.62	30338.62	23.51		Si
SLV 8	5	10147.58	-17264	-0.0000625	0.0006738	0.0035	4.405		36678.79	36678.79	3.61		Si
SLV 8	8.55	858.74	-12430	-0.0000269	0.0006738	0.0035	4.405		27457.76	27457.76	31.97		Si
SLD 11	5	7443.95	-20802	-0.0000624	0.0006738	0.0035	4.405		43171.33	43171.33	5.8		Si
SLD 11	8.55	865.2	-14564	-0.0000312	0.0006738	0.0035	4.405		31573.91	31573.91	36.49		Si
SLD 12	5	7385.39	-20958	-0.0000626	0.0006738	0.0035	4.405		43454.59	43454.59	5.88		Si
SLD 12	8.55	922.85	-14577	-0.0000314	0.0006738	0.0035	4.405		31598.98	31598.98	34.24		Si
SLD 8	5	7975.09	-20537	-0.0000633	0.0006738	0.0035	4.405		42689.85	42689.85	5.35		Si
SLD 8	8.55	1348.04	-13931	-0.0000313	0.0006738	0.0035	4.405		30363.69	30363.69	22.52		Si
SLV 7	5	10241.13	-17014	-0.0000623	0.0006738	0.0035	4.405		36210.27	36210.27	3.54		Si
SLV 7	8.55	766.66	-12409	-0.0000266	0.0006738	0.0035	4.405		27417.05	27417.05	35.76		Si
SLV 12	5	9228.32	-17921	-0.0000614	0.0006738	0.0035	4.405		37895.65	37895.65	4.11		Si
SLV 12	8.55	194.35	-13439	-0.0000271	0.0006738	0.0035	4.405		29418.94	29418.94	151.37		Si
SLV 4	5	7474.58	-22432	-0.0000659	0.0006738	0.0035	4.405		45838.28	45838.28	6.13		Si
SLV 4	8.55	2814.02	-13677	-0.0000348	0.0006738	0.0035	4.405		29877.75	29877.75	10.62		Si
SLV 3	5	7613.54	-22062	-0.0000655	0.0006738	0.0035	4.405		45248.68	45248.68	5.94		Si
SLV 3	8.55	2677.24	-13646	-0.0000343	0.0006738	0.0035	4.405		29818.28	29818.28	11.14		Si
SLV 11	5	9321.88	-17672	-0.0000611	0.0006738	0.0035	4.405		37435.15	37435.15	4.02		Si
SLV 11	8.55	102.27	-13418	-0.0000268	0.0006738	0.0035	4.405		29378.23	29378.23	287.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	5	5788.46	-33616	-18639	3355	4.405	4.405	-30224	10833	11018	115546	22163	22466	16527	Si	4.93	Si
SLU 64	8.55	2825.11	-21365	-11846	3342	4.405	4.405	-19208	10833	8301	115546	22163	22466	12451	Si	3.73	Si
SLU 53	5	5689.73	-33549	-18601	3360	4.405	4.405	-30163	10833	11003	115546	22163	22466	16504	Si	4.91	Si
SLU 53	8.55	2763.55	-21386	-11858	3347	4.405	4.405	-19228	10833	8305	115546	22163	22466	12458	Si	3.72	Si
SLU 45	5	5230.67	-30133	-16707	3226	4.405	4.405	-27092	10833	10245	115546	22163	22466	15368	Si	4.76	Si
SLU 45	8.55	2571.53	-19339	-10723	3215	4.405	4.405	-17387	10652	7851	115546	22163	22466	11777	Si	3.66	Si
SLU 58	5	5778.65	-33826	-18755	3347	4.405	4.405	-30412	10833	11064	115546	22163	22466	16596	Si	4.96	Si
SLU 58	8.55	2851.77	-21645	-12001	3334	4.405	4.405	-19461	10833	8363	115546	22163	22466	12544	Si	3.76	Si
SLU 48	5	5376.92	-30747	-17048	3240	4.405	4.405	-27644	10833	10381	115546	22163	22466	15572	Si	4.81	Si
SLU 48	8.55	2701.58	-19914	-11041	3228	4.405	4.405	-17904	10721	7979	115546	22163	22466	11968	Si	3.71	Si
SLU 56	5	5835.98	-34163	-18942	3373	4.405	4.405	-30715	10833	11139	115546	22163	22466	16708	Si	4.95	Si
SLU 56	8.55	2893.59	-21961	-12176	3361	4.405	4.405	-19744	10833	8433	115546	22163	22466	12649	Si	3.76	Si
SLU 43	5	5027.1	-29182	-16180	3187	4.405	4.405	-26237	10833	10034	115546	22163	22466	15051	Si	4.72	Si
SLU 43	8.55	2399.66	-18450	-10229	3175	4.405	4.405	-16587	10545	7654	115546	22163	22466	11481	Si	3.62	Si
SLU 62	5	5829.14	-34676	-19226	3391	4.405	4.405	-31176	10833	11253	115546	22163	22466	16879	Si	4.98	Si
SLU 62	8.55	2804.02	-21948	-12169	3378	4.405	4.405	-19733	10833	8430	115546	22163	22466	12645	Si	3.74	Si
SLU 50	5	5319.59	-30410	-16861	3213	4.405	4.405	-27341	10833	10307	115546	22163	22466	15460	Si	4.81	Si
SLU 50	8.55	2659.75	-19598	-10866	3202	4.405	4.405	-17620	10683	7909	115546	22163	22466	11863	Si	3.7	Si
SLU 60	5	5682.9	-34062	-18886	3377	4.405	4.405	-30624	10833	11117	115546	22163	22466	16675	Si	4.94	Si
SLU 60	8.55	2673.97	-21374	-11851	3364	4.405	4.405	-19217	10833	8303	115546	22163	22466	12454	Si	3.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	5	9321.88	-17672	-9798	16196	4.405	4.405	-15888	15678	9668	115546	33244	22466	55709		3.44	Si
SLV 11	8.55	102.27	-13418	-7440	15169	4.405	4.405	-12064	14913	9197	115546	33244	22466	55709		3.67	Si
SLD 8	5	7975.09	-20537	-11387	10489	4.405	4.405	-18464	16193	9986	115546	33244	22466	55709		5.31	Si
SLD 8	8.55	1348.04	-13931	-7724	9829	4.405	4.405	-12525	15005	9254	115546	33244	22466	55709		5.67	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	5	10147.58	-17264	-9572	15359	4.405	4.405	-15521	15604	9623	115546	33244	22466	55709		3.63	Si
SLV 8	8.55	858.74	-12430	-6892	14343	4.405	4.405	-11176	14735	9087	115546	33244	22466	55709		3.88	Si
SLV 5	5	-395.34	-33799	-18740	-10780	4.405	4.405	-30388	16250	12840	115546	33244	22466	55709		5.17	Si
SLV 5	8.55	4074.68	-19318	-10711	-9773	4.405	4.405	-17369	15974	9851	115546	33244	22466	55709		5.7	Si
SLV 12	5	9228.32	-17921	-9936	15943	4.405	4.405	-16112	15722	9696	115546	33244	22466	55709		3.49	Si
SLV 12	8.55	194.35	-13439	-7451	14917	4.405	4.405	-12082	14916	9199	115546	33244	22466	55709		3.73	Si
SLD 11	5	7443.95	-20802	-11534	11021	4.405	4.405	-18703	16241	10016	115546	33244	22466	55709		5.06	Si
SLD 11	8.55	865.2	-14564	-8075	10352	4.405	4.405	-13094	15119	9324	115546	33244	22466	55709		5.38	Si
SLV 7	5	10241.13	-17014	-9434	15612	4.405	4.405	-15297	15559	9596	115546	33244	22466	55709		3.57	Si
SLV 7	8.55	766.66	-12409	-6881	14595	4.405	4.405	-11157	14731	9085	115546	33244	22466	55709		3.82	Si
SLD 12	5	7385.39	-20958	-11620	10863	4.405	4.405	-18843	16250	10021	115546	33244	22466	55709		5.13	Si
SLD 12	8.55	922.85	-14577	-8082	10195	4.405	4.405	-13106	15121	9325	115546	33244	22466	55709		5.46	Si
SLD 7	5	8033.66	-20381	-11301	10647	4.405	4.405	-18324	16165	9969	115546	33244	22466	55709		5.23	Si
SLD 7	8.55	1290.39	-13918	-7717	9987	4.405	4.405	-12513	15003	9252	115546	33244	22466	55709		5.58	Si
SLV 6	5	-488.9	-34048	-18878	-11032	4.405	4.405	-30612	16250	12895	115546	33244	22466	55709		5.05	Si
SLV 6	8.55	4166.76	-19339	-10723	-10025	4.405	4.405	-17387	15977	9853	115546	33244	22466	55709		5.56	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-15797	0.38	253.11	951.24	1631.37	1291.31	5.1	Si
SLV 8	-15881	0.38	253.11	955.5	1638.33	1296.92	5.12	Si
SLV 3	-17342	0.38	253.11	1027.66	1758.47	1393.07	5.5	Si
SLV 4	-17467	0.38	253.11	1033.74	1768.73	1401.23	5.54	Si
SLV 11	-17544	0.38	253.11	1037.48	1775.06	1406.27	5.56	Si
SLV 12	-17629	0.38	253.11	1041.55	1781.97	1411.76	5.58	Si
SLV 1	-20430	0.38	253.11	1171.63	2011.23	1591.43	6.29	Si
SLV 2	-20556	0.38	253.11	1177.22	2021.27	1599.25	6.32	Si
SLV 15	-23166	0.38	253.11	1289.26	2230.36	1759.81	6.95	Si
SLV 16	-23291	0.38	253.11	1294.43	2240.42	1767.42	6.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-19111	-29659	291	1.181	2254.3	0.959	17.89787	13.57575	Si
SLV 13	-19080	-29289	291	1.183	2251.1	0.959	17.92481	13.57575	Si
SLV 16	-17038	-24623	260	1.31	2043.6	0.956	19.9195	13.57575	Si
SLV 15	-17007	-24253	260	1.312	2040.4	0.956	19.9529	13.57575	Si
SLV 2	-15750	-27467	-261	1.404	1912.7	0.953	21.40551	13.57575	Si
SLV 1	-15719	-27097	-261	1.406	1909.5	0.953	21.44417	13.57575	Si
SLV 4	-13677	-22432	-292	1.585	1702.2	0.948	24.30013	13.57575	Si
SLV 3	-13646	-22062	-292	1.588	1699.1	0.948	24.35009	13.57575	Si
SLV 10	-20348	-34706	134	1.124	2380.1	0.961	16.99446	6.96855	Si
SLV 9	-20327	-34457	134	1.125	2378	0.961	17.01068	6.96855	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.428	SLU 77	Si
V_SLU	3.616	SLU 43	Si
PF_SLV	3.536	SLV 7	Si
V_SLV	3.44	SLV 11	Si
PFFP_SLV	5.102	SLV 7	Si
R_SLV	1.318	SLV 14	Si

Maschio 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.413	-3.359	-8.548	-3.359	L5	L6	1.135	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	5.9	120.71	-11602	-0.000056	0.0003743	0.0035	1.135	4223.25	5473.72	5473.72	45.35	No	Si
SLU 72	7.7	-1052.55	-9916	-0.0000716	0.0003743	0.0035	1.135	3902.82	5369.18	5369.18	5.1	No	Si
SLU 71	5.9	85.4	-11541	-0.0000548	0.0003743	0.0035	1.135	4213.28	5448.41	5448.41	63.8	No	Si
SLU 71	7.7	-1021.32	-9813	-0.0000703	0.0003743	0.0035	1.135	3879.9	5328.37	5328.37	5.22	No	Si
SLU 70	5.9	124.6	-11727	-0.0000567	0.0003743	0.0035	1.135	4243.05	5525.09	5525.09	44.34	No	Si
SLU 70	7.7	-1069.5	-10048	-0.0000728	0.0003743	0.0035	1.135	3931.38	5420.98	5420.98	5.07	No	Si
SLU 65	5.9	152.72	-11206	-0.0000549	0.0003743	0.0035	1.135	4156.88	5311.01	5311.01	34.78	No	Si
SLU 65	7.7	-1032.79	-9568	-0.0000693	0.0003743	0.0035	1.135	3824.18	5231.84	5231.84	5.07	No	Si
SLU 68	5.9	148.48	-11425	-0.0000558	0.0003743	0.0035	1.135	4194.19	5400.8	5400.8	36.37	No	Si
SLU 68	7.7	-1053.08	-9777	-0.0000709	0.0003743	0.0035	1.135	3871.8	5314.11	5314.11	5.05	No	Si
SLU 44	5.9	113.96	-9900	-0.0000475	0.0003743	0.0035	1.135	3899.28	4774.96	4774.96	41.9	No	Si
SLU 44	7.7	-895.11	-8188	-0.0000589	0.0003743	0.0035	1.135	3470.68	4669.8	4669.8	5.22	No	Si
SLU 69	5.9	89.3	-11666	-0.0000555	0.0003743	0.0035	1.135	4233.36	5499.78	5499.78	61.59	No	Si
SLU 69	7.7	-1038.27	-9944	-0.0000714	0.0003743	0.0035	1.135	3908.94	5380.18	5380.18	5.18	No	Si
SLU 67	5.9	128.84	-11509	-0.0000557	0.0003743	0.0035	1.135	4208.07	5435.29	5435.29	42.19	No	Si
SLU 67	7.7	-1049.21	-9839	-0.0000712	0.0003743	0.0035	1.135	3885.74	5338.71	5338.71	5.09	No	Si
SLU 66	5.9	93.53	-11447	-0.0000545	0.0003743	0.0035	1.135	4197.9	5409.98	5409.98	57.84	No	Si
SLU 66	7.7	-1017.98	-9736	-0.0000698	0.0003743	0.0035	1.135	3862.54	5297.91	5297.91	5.2	No	Si
SLU 47	5.9	109.72	-10119	-0.0000485	0.0003743	0.0035	1.135	3946.6	4864.76	4864.76	44.34	No	Si
SLU 47	7.7	-915.39	-8396	-0.0000604	0.0003743	0.0035	1.135	3528.41	4757.5	4757.5	5.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	5.9	-2431.32	-6095	-0.0001268	0.0005615	0.0035	0.908		3842.05	3842.05	1.58		Si
SLV 11	7.7	1347.12	-1074	-0.0067177	0.0005615	0.0035	0.908		740.45	740.45	0.55		No
SLV 12	5.9	-2037.46	-5803	-0.0000922	0.0005615	0.0035	0.908		3699.73	3699.73	1.82		Si
SLV 12	7.7	1107.18	-1435	-0.0025252	0.0005615	0.0035	0.908		936.38	936.38	0.85		No
SLV 15	5.9	-3618.03	-11405	-0.0001654	0.0005615	0.0035	0.908		6194.91	6194.91	1.71		Si
SLV 15	7.7	1446.24	-4099	-0.0000645	0.0005615	0.0035	1.135		2331.1	2331.1	1.61		Si
SLD 4	5.9	1858.76	-5357	-0.0000831	0.0005615	0.0035	1.135		2958.44	2958.44	1.59		Si
SLD 4	7.7	-1557.9	-7093	-0.000069	0.0005615	0.0035	1.135		4308.36	4308.36	2.77		Si
SLV 1	5.9	3113.74	-6191	-0.0004297	0.0005615	0.0035	1.135		3363.19	3363.19	1.08		Si
SLV 1	7.7	-2547.24	-9793	-0.0001112	0.0005615	0.0035	1.135		5520.49	5520.49	2.17		Si
SLD 1	5.9	1998.9	-7024	-0.000085	0.0005615	0.0035	1.135		3759.38	3759.38	1.88		Si
SLD 1	7.7	-1881.94	-8827	-0.0000853	0.0005615	0.0035	1.135		5095.51	5095.51	2.71		Si
SLV 2	5.9	3698.75	-5758	-0.0094466	0.0005615	0.0035	1.135		3154.6	3154.6	0.85		No
SLV 2	7.7	-2903.62	-10330	-0.0001273	0.0005615	0.0035	1.135		5747.79	5747.79	1.98		Si
SLV 3	5.9	2279.69	-3940	-0.0026431	0.0005615	0.0035	1.135		2250.29	2250.29	0.99		No
SLV 3	7.7	-1652.63	-6427	-0.0000702	0.0005615	0.0035	1.135		3999.16	3999.16	2.42		Si
SLD 2	5.9	2372.3	-6748	-0.0001089	0.0005615	0.0035	1.135		3628.74	3628.74	1.53		Si
SLD 2	7.7	-2109.41	-9170	-0.0000935	0.0005615	0.0035	1.135		5246.17	5246.17	2.49		Si
SLV 4	5.9	2864.69	-3507	-0.0109574	0.0005615	0.0035	0.908		2028.49	2028.49	0.71		No
SLV 4	7.7	-2009.01	-6963	-0.0000855	0.0005615	0.0035	1.135		4248.15	4248.15	2.11		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	5.9	128.84	-11509	-8210	452	1.135	1.135	-25834	10389	3302	115546	9516	5788	4952	Si	10.95	Si
SLU 67	7.7	-1049.21	-9839	-7019	1154	1.135	1.135	-22086	9889	3143	115546	9516	5788	4714	Si	4.08	Si
SLU 72	5.9	120.71	-11602	-8277	439	1.135	1.135	-26044	10417	3311	115546	9516	5788	4966	Si	11.31	Si
SLU 72	7.7	-1052.55	-9916	-7074	1154	1.135	1.135	-22260	9912	3150	115546	9516	5788	4725	Si	4.1	Si
SLU 70	5.9	124.6	-11727	-8366	447	1.135	1.135	-26325	10454	3322	115546	9516	5788	4984	Si	11.14	Si
SLU 70	7.7	-1069.5	-10048	-7168	1174	1.135	1.135	-22555	9952	3163	115546	9516	5788	4744	Si	4.04	Si
SLU 49	5.9	85.84	-10422	-7435	347	1.135	1.135	-23394	10064	3198	115546	9516	5788	4797	Si	13.84	Si
SLU 49	7.7	-931.81	-8667	-6183	1053	1.135	1.135	-19456	9539	3031	115546	9516	5788	4547	Si	4.32	Si
SLU 65	5.9	152.72	-11206	-7994	480	1.135	1.135	-25154	10298	3273	115546	9516	5788	4909	Si	10.23	Si
SLU 65	7.7	-1032.79	-9568	-6826	1145	1.135	1.135	-21478	9808	3117	115546	9516	5788	4676	Si	4.08	Si
SLU 47	5.9	109.72	-10119	-7219	374	1.135	1.135	-22715	9973	3169	115546	9516	5788	4754	Si	12.7	Si
SLU 47	7.7	-915.39	-8396	-5990	1044	1.135	1.135	-18847	9457	3006	115546	9516	5788	4508	Si	4.32	Si
SLU 66	5.9	93.53	-11447	-8166	406	1.135	1.135	-25695	10370	3296	115546	9516	5788	4944	Si	12.17	Si
SLU 66	7.7	-1017.98	-9736	-6945	1108	1.135	1.135	-21854	9858	3133	115546	9516	5788	4699	Si	4.24	Si
SLU 69	5.9	89.3	-11666	-8322	401	1.135	1.135	-26186	10436	3317	115546	9516	5788	4975	Si	12.41	Si
SLU 69	7.7	-1038.27	-9944	-7094	1128	1.135	1.135	-22322	9921	3153	115546	9516	5788	4729	Si	4.19	Si
SLU 68	5.9	148.48	-11425	-8150	475	1.135	1.135	-25645	10364	3294	115546	9516	5788	4940	Si	10.4	Si
SLU 68	7.7	-1053.08	-9777	-6975	1165	1.135	1.135	-21946	9871	3137	115546	9516	5788	4705	Si	4.04	Si
SLU 71	5.9	85.4	-11541	-8233	393	1.135	1.135	-25906	10399	3305	115546	9516	5788	4957	Si	12.62	Si
SLU 71	7.7	-1021.32	-9813	-7000	1108	1.135	1.135	-22027	9881	3140	115546	9516	5788	4710	Si	4.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	5.9	2372.3	-6748	-4814	4176	1.135	0.6478	-15147	13446	2814	115546	14275	5788	20063		4.8	Si
SLD 2	7.7	-2109.41	-9170	-6541	3035	1.135	1.0124	-23327	15082	4275	115546	14275	5788	20063		6.61	Si
SLV 1	5.9	3113.74	-6191	-4416	5433	1.135	0.1936	-86657	16250	2708	115546	14275	5788	20063		3.69	Si
SLV 1	7.7	-2547.24	-9793	-6986	3724	1.135	0.9222	-27476	15912	4109	115546	14275	5788	20063		5.39	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	5.9	2864.69	-3507	-2502	5366	0.908	0	0	0	0	115546	11420	4631	16050		2.99	Si
SLV 4	7.7	-2009.01	-6963	-4967	3085	1.135	0.8369	-21444	14706	3446	115546	14275	5788	20063		6.5	Si
SLV 15	5.9	-3618.03	-11405	-8136	-5885	0.908	0.7508	0	0	0	115546	11420	4631	16050		2.73	Si
SLV 15	7.7	1446.24	-4099	-2924	-2766	1.135	0.6441	-9202	12257	2310	115546	14275	5788	20063		7.25	Si
SLV 11	5.9	-2431.32	-6095	-4348	-3332	0.908	0.5058	0	0	0	115546	11420	4631	16050		4.82	Si
SLV 11	7.7	1347.12	-1074	-766	-2281	0.908	0	0	0	0	115546	11420	4631	16050		7.04	Si
SLV 3	5.9	2279.69	-3940	-2810	4400	1.135	0	-147599	16250	2279	115546	14275	5788	20063		4.56	Si
SLV 3	7.7	-1652.63	-6427	-4585	2481	1.135	0.9311	-17755	13968	3641	115546	14275	5788	20063		8.09	Si
SLV 13	5.9	-2783.98	-13656	-9742	-4852	1.135	1.0909	-30654	16250	4964	115546	14275	5788	20063		4.13	Si
SLV 13	7.7	551.63	-7466	-5326	-1524	1.135	1.135	-16758	13768	4376	115546	14275	5788	20063		13.17	Si
SLV 14	5.9	-2198.97	-13223	-9433	-3886	1.135	1.135	-29682	16250	5164	115546	14275	5788	20063		5.16	Si
SLV 14	7.7	195.25	-8002	-5708	-920	1.135	1.135	-17962	14009	4452	115546	14275	5788	20063		21.81	Si
SLV 16	5.9	-3033.03	-10972	-7827	-4919	1.135	0.8732	-32625	16250	3973	115546	14275	5788	20063		4.08	Si
SLV 16	7.7	1089.86	-4636	-3307	-2163	1.135	0.9972	-10406	12498	3490	115546	14275	5788	20063		9.28	Si
SLV 2	5.9	3698.75	-5758	-4107	6398	1.135	0	-214193	16250	2625	115546	14275	5788	20063		3.14	Si
SLV 2	7.7	-2903.62	-10330	-7369	4328	1.135	0.8592	-31183	16250	3909	115546	14275	5788	20063		4.64	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-2318	0.38	119.85	309.02	496.02	402.52	3.36	Si
SLV 7	-2603	0.38	119.85	344.86	540.08	442.47	3.69	Si
SLV 4	-2667	0.38	119.85	352.92	550.07	451.49	3.77	Si
SLV 3	-3091	0.38	119.85	405.14	615.4	510.27	4.26	Si
SLV 12	-4642	0.38	119.85	587.76	853.46	720.61	6.01	Si
SLV 11	-4927	0.38	119.85	619.78	896.76	758.27	6.33	Si
SLV 2	-5351	0.38	119.85	666.51	961.11	813.81	6.79	Si
SLV 1	-5774	0.38	119.85	712.17	1025.43	868.8	7.25	Si
SLV 16	-10415	0.38	119.85	1145.23	1712.84	1429.03	11.92	Si
SLV 15	-10839	0.38	119.85	1178.53	1774.36	1476.45	12.32	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-8562	-11269	-41	0.705	1031	0.955	10.73111	6.56194	Si
SLV 1	-8179	-10789	-40	0.733	992	0.953	11.17428	6.56194	Si
SLV 4	-6856	-8353	20	0.852	857.7	0.947	13.07674	6.56194	Si
SLV 6	-9573	-13713	-107	0.635	1133.7	0.958	9.63191	4.70862	Si
SLV 3	-6472	-7874	22	0.893	818.7	0.945	13.74495	6.56194	Si
SLV 5	-9314	-13390	-106	0.65	1107.4	0.958	9.86812	4.70862	Si
SLV 10	-8785	-12959	-103	0.684	1053.6	0.956	10.39503	4.70862	Si
SLV 14	-5938	-8756	-26	0.958	764.7	0.941	14.79484	6.56194	Si
SLV 9	-8527	-12636	-102	0.701	1027.4	0.955	10.67273	4.70862	Si
SLV 13	-5555	-8277	-25	1.012	725.8	0.939	15.66989	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.046	SLU 68	Si
V_SLU	4.039	SLU 68	Si
PF_SLV	0.55	SLV 11	No
V_SLV	2.728	SLV 15	Si
PFFP_SLV	3.358	SLV 8	Si
R_SLV	1.635	SLV 2	Si

Maschio 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.046	-5.158	5.811	L5	L6	4.765	0.14	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yf,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	5	-3806.46	-41116	-0.0000898	0.0004492	0.0035	4.765	48546.35	90194.25	72819.53	19.13	Si	Si
SLU 78	8.55	-2115.83	-27512	-0.0000572	0.0004492	0.0035	4.765	43423.88	68737.38	65135.82	30.78	Si	Si
SLU 80	5	-3766.84	-40762	-0.0000889	0.0004492	0.0035	4.765	48550.16	89700.88	72825.23	19.33	Si	Si
SLU 80	8.55	-2014.92	-27249	-0.0000564	0.0004492	0.0035	4.765	43217.52	68282.37	64826.28	32.17	Si	Si
SLU 81	5	-3833.34	-40457	-0.0000884	0.0004492	0.0035	4.765	48547.54	89276.44	72821.32	19	Si	Si
SLU 81	8.55	-2661.67	-25992	-0.0000555	0.0004492	0.0035	4.765	42178.96	66115.57	63268.45	23.77	Si	Si
SLU 73	5	-3903.44	-38680	-0.0000848	0.0004492	0.0035	4.765	48424.28	86617.07	72636.42	18.61	Si	Si
SLU 73	8.55	-2456.26	-24955	-0.0000529	0.0004492	0.0035	4.765	41253.02	64328.67	61879.53	25.19	Si	Si
SLU 82	5	-3958.67	-40258	-0.0000883	0.0004492	0.0035	4.765	48542.92	88987.01	72814.38	18.39	Si	Si
SLU 82	8.55	-2654.82	-25876	-0.0000553	0.0004492	0.0035	4.765	42079.03	65916.72	63118.54	23.78	Si	Si
SLU 83	5	-3806.82	-41431	-0.0000905	0.0004492	0.0035	4.765	48536.82	90632.2	72805.23	19.12	Si	Si
SLU 83	8.55	-2438.72	-27100	-0.0000572	0.0004492	0.0035	4.765	43099.52	68026.14	64649.28	26.51	Si	Si
SLU 84	5	-3932.15	-41232	-0.0000904	0.0004492	0.0035	4.765	48543.51	90355.86	72815.27	18.52	Si	Si
SLU 84	8.55	-2431.87	-26985	-0.0000569	0.0004492	0.0035	4.765	43007.06	67827.28	64510.59	26.53	Si	Si
SLU 61	5	-3658.82	-35413	-0.0000773	0.0004492	0.0035	4.765	47715.87	81708.78	71573.8	19.56	Si	Si
SLU 61	8.55	-2276.49	-22651	-0.0000479	0.0004492	0.0035	4.765	38969.5	60140.49	58454.25	25.68	Si	Si
SLU 76	5	-3876.92	-39655	-0.0000868	0.0004492	0.0035	4.765	48514.74	88080.9	72727.11	18.77	Si	Si
SLU 76	8.55	-2233.31	-26063	-0.0000546	0.0004492	0.0035	4.765	42240.72	66239.23	63361.08	28.37	Si	Si
SLU 75	5	-3832.98	-40142	-0.0000878	0.0004492	0.0035	4.765	48539.15	88812.51	72808.72	19	Si	Si
SLU 75	8.55	-2338.78	-26404	-0.0000555	0.0004492	0.0035	4.765	42530.05	66826.81	63795.07	27.28	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	5	-7237.23	-27242	-0.0000681	0.0006738	0.0035	4.765	69998.89	69998.89	69998.89	9.67		Si
SLV 14	8.55	-1981.23	-18115	-0.0000379	0.0006738	0.0035	4.765	52443.86	52443.86	52443.86	26.47		Si
SLV 9	5	-10964.5	-16279	-0.0000557	0.0006738	0.0035	4.765	48762.38	48762.38	48762.38	4.45		Si
SLV 9	8.55	-2554.48	-10579	-0.0000252	0.0006738	0.0035	4.765	36902.35	36902.35	36902.35	14.45		Si
SLV 13	5	-6878.29	-27914	-0.0000685	0.0006738	0.0035	4.765	71211.51	71211.51	71211.51	10.35		Si
SLV 13	8.55	-2414.4	-18117	-0.000039	0.0006738	0.0035	4.765	52449	52449	52449	21.72		Si
SLV 5	5	-9712.73	-13877	-0.0000481	0.0006738	0.0035	4.765	43848.2	43848.2	43848.2	4.51		Si
SLV 5	8.55	-2318.51	-8887	-0.0000215	0.0006738	0.0035	4.765	33330.65	33330.65	33330.65	14.38		Si
SLD 5	5	-6978.09	-18990	-0.0000515	0.0006738	0.0035	4.765	54199.2	54199.2	54199.2	7.77		Si
SLD 5	8.55	-2031.7	-12235	-0.000027	0.0006738	0.0035	4.765	40391.1	40391.1	40391.1	19.88		Si
SLD 10	5	-7926.96	-20249	-0.0000561	0.0006738	0.0035	4.765	56722.03	56722.03	56722.03	7.16		Si
SLD 10	8.55	-1998.55	-13316	-0.000029	0.0006738	0.0035	4.765	42667.82	42667.82	42667.82	21.35		Si
SLD 9	5	-7775.68	-20532	-0.0000563	0.0006738	0.0035	4.765	57290.45	57290.45	57290.45	7.37		Si
SLD 9	8.55	-2181.12	-13317	-0.0000294	0.0006738	0.0035	4.765	42670.09	42670.09	42670.09	19.56		Si
SLV 10	5	-11206.17	-15826	-0.0000554	0.0006738	0.0035	4.765	47854.35	47854.35	47854.35	4.27		Si
SLV 10	8.55	-2262.84	-10577	-0.0000245	0.0006738	0.0035	4.765	36898.72	36898.72	36898.72	16.31		Si
SLD 6	5	-7129.37	-18707	-0.0000513	0.0006738	0.0035	4.765	53630.78	53630.78	53630.78	7.52		Si
SLD 6	8.55	-1849.14	-12234	-0.0000266	0.0006738	0.0035	4.765	40388.83	40388.83	40388.83	21.84		Si
SLV 6	5	-9954.4	-13424	-0.0000479	0.0006738	0.0035	4.765	42894.35	42894.35	42894.35	4.31		Si
SLV 6	8.55	-2026.87	-8886	-0.0000208	0.0006738	0.0035	4.765	33326.9	33326.9	33326.9	16.44		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	5	-3577.06	-34810	-19301	-5885	4.765	4.765	-28932	10833	11574	115546	23974	24301	17360	Si	2.95	Si
SLU 55	8.55	-1854.97	-22838	-12663	-4180	4.765	4.765	-18982	10833	8919	115546	23974	24301	13378	Si	3.2	Si
SLU 51	5	-3143.15	-32545	-18045	-5822	4.765	4.765	-27049	10833	11071	115546	23974	24301	16607	Si	2.85	Si
SLU 51	8.55	-1183.93	-22053	-12228	-4167	4.765	4.765	-18329	10777	8745	115546	23974	24301	13117	Si	3.15	Si
SLU 50	5	-3017.82	-32743	-18155	-5536	4.765	4.765	-27214	10833	11115	115546	23974	24301	16673	Si	3.01	Si
SLU 50	8.55	-1190.78	-22169	-12292	-3855	4.765	4.765	-18425	10790	8770	115546	23974	24301	13155	Si	3.41	Si
SLU 52	5	-3603.58	-33835	-18760	-5750	4.765	4.765	-28122	10833	11357	115546	23974	24301	17036	Si	2.96	Si
SLU 52	8.55	-2077.93	-21730	-12048	-4118	4.765	4.765	-18061	10741	8673	115546	23974	24301	13009	Si	3.16	Si
SLU 44	5	-3279.74	-30463	-16891	-5743	4.765	4.765	-25319	10833	10610	115546	23974	24301	15914	Si	2.77	Si
SLU 44	8.55	-1625.27	-19760	-10956	-4250	4.765	4.765	-16423	10523	8236	115546	23974	24301	12354	Si	2.91	Si
SLU 65	5	-3579.6	-35308	-19577	-5889	4.765	4.765	-29346	10833	11684	115546	23974	24301	17526	Si	2.98	Si
SLU 65	8.55	-2003.61	-22985	-12744	-4149	4.765	4.765	-19104	10833	8951	115546	23974	24301	13427	Si	3.24	Si
SLU 49	5	-3182.77	-32899	-18241	-5828	4.765	4.765	-27344	10833	11150	115546	23974	24301	16725	Si	2.87	Si
SLU 49	8.55	-1284.84	-22317	-12374	-4151	4.765	4.765	-18549	10807	8803	115546	23974	24301	13205	Si	3.18	Si
SLU 68	5	-3553.08	-36283	-20117	-6023	4.765	4.765	-30156	10833	11900	115546	23974	24301	17850	Si	2.96	Si
SLU 68	8.55	-1780.65	-24094	-13359	-4211	4.765	4.765	-20025	10833	9197	115546	23974	24301	13795	Si	3.28	Si
SLU 46	5	-3209.29	-31925	-17701	-5694	4.765	4.765	-26534	10833	10934	115546	23974	24301	16401	Si	2.88	Si
SLU 46	8.55	-1507.8	-21209	-11759	-4089	4.765	4.765	-17628	10684	8557	115546	23974	24301	12836	Si	3.14	Si
SLU 47	5	-3253.22	-31438	-17431	-5878	4.765	4.765	-26129	10833	10826	115546	23974	24301	16239	Si	2.76	Si
SLU 47	8.55	-1402.32	-20868	-11570	-4312	4.765	4.765	-17344	10646	8482	115546	23974	24301	12723	Si	2.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	5	4715.44	-41203	-22845	13050	4.765	4.765	-34246	16250	14918	115546	35961	24301	60262		4.62	Si
SLV 11	8.55	-1165.52	-26480	-14682	15106	4.765	4.765	-22009	16250	11653	115546	35961	24301	60262		3.99	Si
SLV 7	5	5967.21	-38801	-21514	11844	4.765	4.765	-32249	16250	14386	115546	35961	24301	60262		5.09	Si
SLV 7	8.55	-929.55	-24789	-13744	14091	4.765	4.765	-20603	16250	11278	115546	35961	24301	60262		4.28	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	5	-6978.09	-18990	-10529	-14679	4.765	4.765	-15784	15657	10445	115546	35961	24301	60262		4.11	Si
SLD 5	8.55	-2031.7	-12235	-6784	-13703	4.765	4.765	-10169	14534	9696	115546	35961	24301	60262		4.4	Si
SLD 6	5	-7129.37	-18707	-10372	-14777	4.765	4.765	-15548	15610	10413	115546	35961	24301	60262		4.08	Si
SLD 6	8.55	-1849.14	-12234	-6783	-13851	4.765	4.765	-10168	14534	9695	115546	35961	24301	60262		4.35	Si
SLV 9	5	-10964.5	-16279	-9026	-19955	4.765	4.765	-13530	15206	10144	115546	35961	24301	60262		3.02	Si
SLV 9	8.55	-2554.48	-10579	-5865	-19407	4.765	4.765	-8792	14258	9512	115546	35961	24301	60262		3.11	Si
SLD 10	5	-7926.96	-20249	-11227	-14006	4.765	4.765	-16830	15866	10584	115546	35961	24301	60262		4.3	Si
SLD 10	8.55	-1998.55	-13316	-7383	-13205	4.765	4.765	-11068	14714	9815	115546	35961	24301	60262		4.56	Si
SLV 6	5	-9954.4	-13424	-7443	-21317	4.765	4.765	-11157	14731	9827	115546	35961	24301	60262		2.83	Si
SLV 6	8.55	-2026.87	-8886	-4927	-20660	4.765	4.765	-7385	13977	9324	115546	35961	24301	60262		2.92	Si
SLV 5	5	-9712.73	-13877	-7694	-21161	4.765	4.765	-11533	14807	9878	115546	35961	24301	60262		2.85	Si
SLV 5	8.55	-2318.51	-8887	-4928	-20422	4.765	4.765	-7387	13977	9324	115546	35961	24301	60262		2.95	Si
SLV 10	5	-11206.17	-15826	-8775	-20111	4.765	4.765	-13153	15131	10094	115546	35961	24301	60262		3	Si
SLV 10	8.55	-2262.84	-10577	-5864	-19644	4.765	4.765	-8791	14258	9512	115546	35961	24301	60262		3.07	Si
SLV 12	5	4473.78	-40750	-22594	12894	4.765	4.765	-33869	16250	14818	115546	35961	24301	60262		4.67	Si
SLV 12	8.55	-873.88	-26478	-14681	14869	4.765	4.765	-22007	16250	11653	115546	35961	24301	60262		4.05	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-13012	0.38	273.8	813.91	1428.18	1121.04	4.09	Si
SLV 5	-13291	0.38	273.8	829.22	1451.71	1140.46	4.17	Si
SLV 10	-14113	0.38	273.8	873.89	1520.2	1197.05	4.37	Si
SLV 9	-14392	0.38	273.8	888.84	1543.25	1216.05	4.44	Si
SLV 2	-18454	0.38	273.8	1096.81	1877.67	1487.24	5.43	Si
SLV 1	-18868	0.38	273.8	1116.93	1911.51	1514.22	5.53	Si
SLV 14	-22124	0.38	273.8	1268.47	2177.93	1723.2	6.29	Si
SLV 13	-22538	0.38	273.8	1286.85	2211.05	1748.95	6.39	Si
SLV 4	-24277	0.38	273.8	1361.98	2350.37	1856.18	6.78	Si
SLV 3	-24691	0.38	273.8	1379.35	2383.54	1881.44	6.87	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.03 Ta = 0.1503

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-22888	-35392	396	1.075	2663.8	0.962	16.23708	13.57575	Si
SLV 16	-22885	-34719	396	1.075	2663.6	0.962	16.23875	13.57575	Si
SLV 13	-18117	-27914	409	1.323	2178.8	0.955	20.13916	13.57575	Si
SLV 14	-18115	-27242	409	1.324	2178.5	0.955	20.14174	13.57575	Si
SLV 3	-17251	-27385	408	1.382	2090.7	0.953	21.06378	13.57575	Si
SLV 4	-17248	-26713	408	1.382	2090.5	0.953	21.06666	13.57575	Si
SLV 11	-26480	-41203	100	0.953	3029.4	0.967	14.33001	6.96855	Si
SLV 12	-26478	-40750	100	0.953	3029.2	0.967	14.33087	6.96855	Si
SLV 1	-12480	-19908	396	1.827	1606.7	0.941	28.21033	13.57575	Si
SLV 2	-12478	-19235	396	1.828	1606.4	0.941	28.2155	13.57575	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.394	SLU 82	Si
V_SLU	2.763	SLU 47	Si
PF_SLV	4.27	SLV 10	Si
V_SLV	2.827	SLV 6	Si
PFFP_SLV	4.094	SLV 6	Si
R_SLV	1.196	SLV 15	Si

Maschio 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.008	-3.359	-6.513	-3.359	L5	L6	0.505	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	7	-37.58	-6745	-0.0000758	0.0003743	0.0035	0.505	905.16	1419.09	1357.74	36.13	Si	Si
SLU 82	7.8	-447.63	-6617	-0.0001324	0.0003743	0.0035	0.505	902.83	1401.71	1354.24	3.03	Si	Si
SLU 73	7	-25.57	-6445	-0.0000707	0.0003743	0.0035	0.505	898.8	1378.42	1348.2	52.73	Si	Si
SLU 73	7.8	-441.54	-6329	-0.0001276	0.0003743	0.0035	0.505	895.51	1361.54	1343.27	3.04	Si	Si
SLU 65	7	-5.68	-5756	-0.0000602	0.0003743	0.0035	0.505	872.27	1277.51	1277.51	224.89	No	Si
SLU 65	7.8	-417.18	-5659	-0.0001152	0.0003743	0.0035	0.505	867.22	1262.31	1262.31	3.03	No	Si
SLU 78	7	-39.01	-6777	-0.0000764	0.0003743	0.0035	0.505	905.64	1423.31	1358.46	34.82	Si	Si
SLU 78	7.8	-451.57	-6624	-0.0001331	0.0003743	0.0035	0.505	902.98	1402.72	1354.47	3	Si	Si
SLU 77	7	-44.24	-6785	-0.0000772	0.0003743	0.0035	0.505	905.76	1424.43	1358.64	30.71	Si	Si
SLU 77	7.8	-445.04	-6625	-0.0001322	0.0003743	0.0035	0.505	903	1402.84	1354.5	3.04	Si	Si
SLU 75	7	-34.62	-6651	-0.0000743	0.0003743	0.0035	0.505	903.5	1406.32	1355.26	39.15	Si	Si
SLU 75	7.8	-446.82	-6513	-0.0001309	0.0003743	0.0035	0.505	900.52	1387.66	1350.78	3.02	Si	Si
SLU 68	7	-10.07	-5881	-0.0000622	0.0003743	0.0035	0.505	878.35	1296.07	1296.07	128.66	No	Si
SLU 68	7.8	-421.93	-5771	-0.0001174	0.0003743	0.0035	0.505	873.02	1279.83	1279.83	3.03	No	Si
SLU 84	7	-41.97	-6871	-0.0000779	0.0003743	0.0035	0.505	906.88	1436.07	1360.32	32.41	Si	Si
SLU 84	7.8	-452.38	-6728	-0.0001347	0.0003743	0.0035	0.505	904.88	1416.77	1357.32	3	Si	Si
SLU 76	7	-29.96	-6570	-0.0000727	0.0003743	0.0035	0.505	901.84	1395.41	1352.76	45.15	Si	Si
SLU 76	7.8	-446.29	-6441	-0.0001298	0.0003743	0.0035	0.505	898.69	1377.83	1348.03	3.02	Si	Si
SLU 80	7	-37.84	-6701	-0.0000754	0.0003743	0.0035	0.505	904.43	1413.14	1356.64	35.85	Si	Si
SLU 80	7.8	-446.69	-6552	-0.0001314	0.0003743	0.0035	0.505	901.44	1393	1352.17	3.03	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7	431.08	-1758	-0.0011378	0.0005615	0.0035	0.404	447.99	447.99	447.99	1.04		Si
SLV 3	7.8	-668.1	-3105	-0.0003119	0.0005615	0.0035	0.404	836.03	836.03	836.03	1.25		Si
SLV 4	7	539.8	-1361	-0.0114327	0.0005615	0.0035	0.404	357.13	357.13	357.13	0.66		No
SLV 4	7.8	-783.27	-2997	-0.0011244	0.0005615	0.0035	0.404	813.57	813.57	813.57	1.04		Si
SLD 3	7	270.63	-2737	-0.00006	0.0005615	0.0035	0.505	663.92	663.92	663.92	2.45		Si
SLD 3	7.8	-540.45	-3563	-0.0001244	0.0005615	0.0035	0.404	930.34	930.34	930.34	1.72		Si
SLD 4	7	340.02	-2484	-0.000073	0.0005615	0.0035	0.505	609.23	609.23	609.23	1.79		Si
SLD 4	7.8	-613.96	-3494	-0.0001643	0.0005615	0.0035	0.404	916.7	916.7	916.7	1.49		Si
SLV 6	7	218.48	-4714	-0.0000742	0.0005615	0.0035	0.505	1038.46	1038.46	1038.46	4.75		Si
SLV 6	7.8	-723.28	-4605	-0.0001764	0.0005615	0.0035	0.404	1133.54	1133.54	1133.54	1.57		Si
SLD 2	7	355.83	-2911	-0.0000761	0.0005615	0.0035	0.505	700.95	700.95	700.95	1.97		Si
SLD 2	7.8	-698.62	-3719	-0.0002145	0.0005615	0.0035	0.404	961.31	961.31	961.31	1.38		Si
SLV 2	7	565.46	-2053	-0.0062738	0.0005615	0.0035	0.404	514.42	514.42	514.42	0.91		No
SLV 2	7.8	-921.39	-3364	-0.0018338	0.0005615	0.0035	0.404	890.14	890.14	890.14	0.97		No
SLD 1	7	286.44	-3164	-0.000066	0.0005615	0.0035	0.505	748.91	748.91	748.91	2.61		Si
SLD 1	7.8	-625.11	-3787	-0.0001557	0.0005615	0.0035	0.404	974.95	974.95	974.95	1.56		Si
SLV 5	7	145.29	-4981	-0.0000679	0.0005615	0.0035	0.505	1088.35	1088.35	1088.35	7.49		Si
SLV 5	7.8	-645.74	-4678	-0.0001463	0.0005615	0.0035	0.404	1147.18	1147.18	1147.18	1.78		Si
SLV 1	7	456.74	-2450	-0.0001313	0.0005615	0.0035	0.505	601.87	601.87	601.87	1.32		Si
SLV 1	7.8	-806.22	-3471	-0.0006356	0.0005615	0.0035	0.404	912.21	912.21	912.21	1.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	7	-28.63	-5949	-4244	68	0.505	0.505	-30013	10833	1585	115546	4234	2576	2378	Si	35.01	Si
SLU 61	7.8	-397.15	-5824	-4155	577	0.505	0.505	-29381	10833	1562	115546	4234	2576	2342	Si	4.06	Si
SLU 73	7	-25.57	-6445	-4597	109	0.505	0.505	-32514	10833	1680	115546	4234	2576	2520	Si	23.14	Si
SLU 73	7.8	-441.54	-6329	-4515	615	0.505	0.505	-31931	10833	1658	115546	4234	2576	2487	Si	4.04	Si
SLU 81	7	-42.81	-6754	-4818	45	0.505	0.505	-34073	10833	1739	115546	4234	2576	2608	Si	58.24	Si
SLU 81	7.8	-441.09	-6618	-4721	634	0.505	0.505	-33387	10833	1713	115546	4234	2576	2569	Si	4.05	Si
SLU 83	7	-47.21	-6879	-4908	36	0.505	0.505	-34707	10833	1762	115546	4234	2576	2644	Si	73.44	Si
SLU 83	7.8	-445.85	-6729	-4800	638	0.505	0.505	-33949	10833	1734	115546	4234	2576	2601	Si	4.08	Si
SLU 84	7	-41.97	-6871	-4902	59	0.505	0.505	-34665	10833	1761	115546	4234	2576	2641	Si	45.12	Si
SLU 84	7.8	-452.38	-6728	-4800	640	0.505	0.505	-33945	10833	1734	115546	4234	2576	2601	Si	4.06	Si
SLU 52	7	-16.62	-5648	-4029	109	0.505	0.505	-28496	10744	1528	115546	4234	2576	2292	Si	20.94	Si
SLU 52	7.8	-391.07	-5536	-3949	555	0.505	0.505	-27930	10668	1509	115546	4234	2576	2263	Si	4.07	Si
SLU 60	7	-33.86	-5957	-4250	45	0.505	0.505	-30055	10833	1587	115546	4234	2576	2381	Si	52.45	Si
SLU 60	7.8	-390.62	-5825	-4155	575	0.505	0.505	-29386	10833	1562	115546	4234	2576	2343	Si	4.08	Si
SLU 75	7	-34.62	-6651	-4745	86	0.505	0.505	-33555	10833	1719	115546	4234	2576	2578	Si	30.13	Si
SLU 75	7.8	-446.82	-6513	-4646	622	0.505	0.505	-32859	10833	1693	115546	4234	2576	2539	Si	4.08	Si
SLU 82	7	-37.58	-6745	-4812	67	0.505	0.505	-34031	10833	1737	115546	4234	2576	2605	Si	38.7	Si
SLU 82	7.8	-447.63	-6617	-4720	637	0.505	0.505	-33383	10833	1712	115546	4234	2576	2569	Si	4.03	Si
SLU 76	7	-29.96	-6570	-4687	100	0.505	0.505	-33148	10833	1704	115546	4234	2576	2555	Si	25.53	Si
SLU 76	7.8	-446.29	-6441	-4595	619	0.505	0.505	-32493	10833	1679	115546	4234	2576	2518	Si	4.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	7	565.46	-2053	-1465	2419	0.404	0	0	0	0	115546	5081	2060	7141		2.95	Si
SLV 2	7.8	-921.39	-3364	-2400	711	0.404	0	0	0	0	115546	5081	2060	7141		10.05	Si
SLV 1	7	456.74	-2450	-1748	2003	0.505	0.1982	-12361	12889	1147	115546	6351	2576	8927		4.46	Si
SLV 1	7.8	-806.22	-3471	-2476	619	0.404	0.0608	0	0	0	115546	5081	2060	7141		11.54	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	7	-595.04	-6867	-4898	-2250	0.505	0.4975	-34643	16250	2264	115546	6351	2576	8927		3.97	Si
SLV 15	7.8	304.59	-5379	-3837	151	0.505	0.505	-27138	15844	2240	115546	6351	2576	8927		59.12	Si
SLV 6	7	218.48	-4714	-3363	1424	0.505	0.505	-23781	15173	2145	115546	6351	2576	8927		6.27	Si
SLV 6	7.8	-723.28	-4605	-3285	385	0.404	0.2863	0	0	0	115546	5081	2060	7141		18.55	Si
SLV 3	7	431.08	-1758	-1254	1633	0.404	0.0218	0	0	0	115546	5081	2060	7141		4.37	Si
SLV 3	7.8	-668.1	-3105	-2215	716	0.404	0.112	0	0	0	115546	5081	2060	7141		9.98	Si
SLV 14	7	-460.67	-7162	-5109	-1464	0.505	0.505	-36133	16250	2298	115546	6351	2576	8927		6.1	Si
SLV 14	7.8	51.3	-5638	-4022	146	0.505	0.505	-28445	16106	2277	115546	6351	2576	8927		61.05	Si
SLV 16	7	-486.32	-6470	-4615	-1833	0.505	0.505	-32641	16250	2298	115546	6351	2576	8927		4.87	Si
SLV 16	7.8	189.42	-5272	-3761	243	0.505	0.505	-26595	15736	2225	115546	6351	2576	8927		36.7	Si
SLD 2	7	355.83	-2911	-2076	1574	0.505	0.3907	-14684	13353	1461	115546	6351	2576	8927		5.67	Si
SLD 2	7.8	-698.62	-3719	-2653	611	0.404	0.1939	0	0	0	115546	5081	2060	7141		11.69	Si
SLV 13	7	-569.39	-7559	-5392	-1880	0.505	0.505	-38134	16250	2298	115546	6351	2576	8927		4.75	Si
SLV 13	7.8	166.47	-5746	-4099	54	0.505	0.505	-28987	16214	2293	115546	6351	2576	8927		165.29	Si
SLV 4	7	539.8	-1361	-971	2050	0.404	0	0	0	0	115546	5081	2060	7141		3.48	Si
SLV 4	7.8	-783.27	-2997	-2138	808	0.404	0	0	0	0	115546	5081	2060	7141		8.84	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-1419	0.38	53.33	185.58	275.05	230.31	4.32	Si
SLV 7	-1501	0.38	53.33	195.57	287.8	241.68	4.53	Si
SLV 4	-1706	0.38	53.33	220.02	319.26	269.64	5.06	Si
SLV 3	-1829	0.38	53.33	234.37	338.03	286.2	5.37	Si
SLV 12	-2095	0.38	53.33	264.81	378.71	321.76	6.03	Si
SLV 11	-2177	0.38	53.33	274.07	391.26	332.67	6.24	Si
SLV 2	-2646	0.38	53.33	325.06	462.56	393.81	7.39	Si
SLV 1	-2769	0.38	53.33	337.91	481.03	409.47	7.68	Si
SLV 16	-3959	0.38	53.33	452.69	658.95	555.82	10.42	Si
SLV 15	-4082	0.38	53.33	463.45	676.82	570.14	10.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3224	-4463	-1	0.816	399.3	0.949	12.49446	6.56194	Si
SLV 14	-3146	-4619	0	0.833	391.4	0.948	12.7659	6.56194	Si
SLV 15	-2936	-3034	-13	0.878	370	0.945	13.49931	6.56194	Si
SLV 16	-2858	-3190	-13	0.898	362.1	0.944	13.8199	6.56194	Si
SLV 9	-3095	-6158	14	0.84	386.1	0.947	12.89201	4.70862	Si
SLV 10	-3042	-6264	14	0.852	380.8	0.947	13.08473	4.70862	Si
SLV 1	-1927	-4470	-2	1.238	268	0.929	19.38094	6.56194	Si
SLV 2	-1849	-4626	-2	1.279	260.1	0.927	20.05641	6.56194	Si
SLV 5	-2705	-6160	14	0.939	346.6	0.942	14.48692	4.70862	Si
SLV 6	-2653	-6266	14	0.954	341.3	0.941	14.73276	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.999	SLU 78	Si
V_SLU	4.035	SLU 82	Si
PF_SLV	0.662	SLV 4	No
V_SLV	2.952	SLV 2	Si
PFFP_SLV	4.319	SLV 8	Si
R_SLV	1.904	SLV 13	Si

Maschio 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.183	-3.359	-5.508	-3.359	L5	L6	2.325	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200					CRM / Fibrenet?					
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8	1.5		0.009	1.5	Laterizio	Si	No			

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 84	7	-24459	2854.82	37572	17940.81	6.284	Si
SLU 84	7.8	-21565	1372.67	33126	16912.71	12.321	Si
SLU 82	7	-24034	2814.26	36918	17808.02	6.328	Si
SLU 82	7.8	-21155	1319.87	32496	16743.23	12.686	Si
SLU 73	7	-23147	2741.54	35556	17511.02	6.387	Si
SLU 73	7.8	-20293	1207.63	31172	16367.7	13.554	Si
SLU 83	7	-24422	2821.96	37515	17929.43	6.354	Si
SLU 83	7.8	-21546	1394.56	33097	16904.95	12.122	Si
SLU 80	7	-23974	2800.75	36826	17788.75	6.351	Si
SLU 80	7.8	-21100	1327.83	32412	16720.19	12.592	Si
SLU 78	7	-24265	2829.22	37274	17881.1	6.32	Si
SLU 78	7.8	-21376	1350.14	32835	16835.13	12.469	Si
SLU 76	7	-23573	2782.1	36210	17657.06	6.347	Si
SLU 76	7.8	-20703	1260.44	31802	16549.58	13.13	Si
SLU 75	7	-23840	2788.65	36620	17745.41	6.363	Si
SLU 75	7.8	-20966	1297.34	32205	16662.93	12.844	Si
SLU 81	7	-23996	2781.39	36861	17796.08	6.398	Si
SLU 81	7.8	-21136	1341.76	32467	16735.2	12.473	Si
SLU 77	7	-24228	2796.35	37217	17869.46	6.39	Si
SLU 77	7.8	-21357	1372.03	32806	16827.24	12.264	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo in FRCM.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRCM non venga condotta come sezione rinforzata possono essere:

- La sezione è tutta compressa.
- Per la sezione inferiore o superiore non è presente l'ancoraggio delle barre verticali.

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 14	7	-18591	1108.02	28557	17570.36	15.857	Si
SLV 14	7.8	-17325	3424.72	26613	16630.52	4.856	Si
SLV 11	7	-7485	519.57	11498	8046.15	15.486	Si
SLV 11	7.8	-7370	2518.82	11322	7932.95	3.149	Si
SLV 4	7	-14355	2935.59	22051	14278.2	4.864	Si
SLV 4	7.8	-10986	-2616.25	16875	11359.76	4.342	Si
SLV 16	7	-13630	557.29	20938	13673	24.535	Si
SLV 16	7.8	-13197	3729.79	20273	13305.43	3.567	Si
SLD 15	7	-14113	872.48	21679	14077.6	16.135	Si
SLD 15	7.8	-13357	3173.37	20518	13441.3	4.236	Si
SLV 13	7	-17859	835.97	27433	17031.46	20.373	Si
SLV 13	7.8	-17041	4206.71	26177	16414.56	3.902	Si
SLV 15	7	-12899	285.24	19813	13049.2	45.748	Si
SLV 15	7.8	-12914	4511.78	19836	13062.07	2.895	Si
SLD 16	7	-14580	1046.12	22397	14463.93	13.826	Si
SLD 16	7.8	-13538	2674.24	20796	13594.97	5.084	Si
SLV 12	7	-7978	702.73	12255	8529.9	12.138	Si
SLV 12	7.8	-7562	1992.34	11615	8121.78	4.077	Si
SLV 2	7	-19315	3486.32	29670	18091.51	5.189	Si
SLV 2	7.8	-15113	-2921.32	23215	14898.33	5.1	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo in FRCM.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRCM non venga condotta come sezione rinforzata possono essere:

- La sezione è tutta compressa.
- Per la sezione inferiore o superiore non è presente l'ancoraggio delle barre verticali.

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 51	7	2242.38	-19015		3947	2.325	2.325	-29209	10833	7160	40441	19494		10740	Si	2.72	Si
SLU 51	7.8	865.11	-16398		2980	2.325	2.325	-25188	10303	6707	40441	19494		10061	Si	3.38	Si
SLU 65	7	2520.72	-21020		4344	2.325	2.325	-32289	10833	7694	40441	19494		11542	Si	2.66	Si
SLU 65	7.8	979.8	-18251		3306	2.325	2.325	-28036	10683	6956	40441	19494		10434	Si	3.16	Si
SLU 67	7	2567.84	-21713		4320	2.325	2.325	-33353	10833	7879	40441	19494		11819	Si	2.74	Si
SLU 67	7.8	1069.5	-18924		3281	2.325	2.325	-29069	10820	7135	40441	19494		10703	Si	3.26	Si
SLU 43	7	2128.39	-18126		3834	2.325	2.325	-27844	10657	6938	40441	19494		10407	Si	2.71	Si
SLU 43	7.8	781.4	-15558		2897	2.325	2.325	-23899	10131	6595	40441	19494		9893	Si	3.42	Si
SLU 47	7	2223.73	-18614		4004	2.325	2.325	-28593	10757	7053	40441	19494		10579	Si	2.64	Si
SLU 47	7.8	797.72	-16000		3028	2.325	2.325	-24578	10221	6654	40441	19494		9981	Si	3.3	Si
SLU 52	7	2403.98	-20315		4114	2.325	2.325	-31206	10833	7506	40441	19494		11260	Si	2.74	Si
SLU 52	7.8	972.75	-17632		3122	2.325	2.325	-27084	10556	6872	40441	19494		10308	Si	3.3	Si
SLU 49	7	2270.85	-19307		3980	2.325	2.325	-29657	10833	7238	40441	19494		10856	Si	2.73	Si
SLU 49	7.8	887.42	-16673		3003	2.325	2.325	-25611	10359	6744	40441	19494		10116	Si	3.37	Si
SLU 44	7	2183.16	-18188		3996	2.325	2.325	-27939	10670	6946	40441	19494		10419	Si	2.61	Si
SLU 44	7.8	744.92	-15590		3025	2.325	2.325	-23948	10137	6600	40441	19494		9899	Si	3.27	Si
SLU 68	7	2561.28	-21446		4352	2.325	2.325	-32943	10833	7808	40441	19494		11712	Si	2.69	Si
SLU 68	7.8	1032.6	-18661		3309	2.325	2.325	-28666	10767	7065	40441	19494		10598	Si	3.2	Si
SLU 46	7	2230.28	-18881		3972	2.325	2.325	-29003	10812	7124	40441	19494		10686	Si	2.69	Si
SLU 46	7.8	834.62	-16263		3000	2.325	2.325	-24981	10275	6689	40441	19494		10034	Si	3.34	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	7	3214.27	-18583		11205	2.325	2.325	-28546	16126	10498	40441	29241		29241		2.61	Si
SLV 1	7.8	-2139.33	-14829		8575	2.325	2.325	-22779	14973	9747	40441	29241		29241		3.41	Si
SLD 1	7	2725.44	-17633		8284	2.325	2.325	-27087	15834	10308	40441	29241		29241		3.53	Si
SLD 1	7.8	-1083.79	-14489		6335	2.325	2.325	-22256	14868	9679	40441	29241		29241		4.62	Si
SLD 4	7	2561.37	-15045		8066	2.325	2.325	-23111	15039	9790	40441	29241		29241		3.63	Si
SLD 4	7.8	-1394.26	-12128		6331	2.325	2.325	-18630	14143	9207	40441	29241		29241		4.62	Si
SLV 5	7	3068.83	-24236		8939	2.325	2.325	-37229	16250	10579	40441	29241		29241		3.27	Si
SLV 5	7.8	-401.88	-20465		6429	2.325	2.325	-31436	16250	10579	40441	29241		29241		4.55	Si
SLD 6	7	2733.25	-21423		7625	2.325	2.325	-32908	16250	10579	40441	29241		29241		3.83	Si
SLD 6	7.8	-294.26	-18098		5576	2.325	2.325	-27800	15977	10401	40441	29241		29241		5.24	Si
SLV 3	7	2663.54	-13623		8743	2.325	2.325	-20926	14602	9506	40441	29241		29241		3.34	Si
SLV 3	7.8	-1834.27	-10702		6953	2.325	2.325	-16439	13704	8922	40441	29241		29241		4.21	Si
SLV 2	7	3486.32	-19315		13236	2.325	2.325	-29670	16250	10579	40441	29241		29241		2.21	Si
SLV 2	7.8	-2921.32	-15113		10130	2.325	2.325	-23215	15060	9804	40441	29241		29241		2.89	Si
SLD 2	7	2899.08	-18100		9580	2.325	2.325	-27804	15977	10401	40441	29241		29241		3.05	Si
SLD 2	7.8	-1582.91	-14670		7328	2.325	2.325	-22534	14924	9715	40441	29241		29241		3.99	Si
SLV 4	7	2935.59	-14355		10774	2.325	2.325	-22051	14827	9652	40441	29241		29241		2.71	Si
SLV 4	7.8	-2616.25	-10986		8508	2.325	2.325	-16875	13792	8978	40441	29241		29241		3.44	Si
SLV 6	7	3251.99	-24729		10306	2.325	2.325	-37986	16250	10579	40441	29241		29241		2.84	Si
SLV 6	7.8	-928.37	-20656		7476	2.325	2.325	-31730	16250	10579	40441	29241		29241		3.91	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.775 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.38	11189	-7284	245.51	945.07	3.85	Si
SLV 11	179667	0.38	11621	-7565	245.51	978.52	3.99	Si
SLV 8	179667	0.38	11705	-7620	245.51	985.07	4.01	Si
SLV 12	179667	0.38	12137	-7901	245.51	1018.25	4.15	Si
SLV 3	179667	0.38	18572	-12091	245.51	1486.84	6.06	Si
SLV 4	179667	0.38	19339	-12590	245.51	1539.38	6.27	Si
SLV 15	179667	0.38	20011	-13027	245.51	1584.8	6.46	Si
SLV 16	179667	0.38	20778	-13526	245.51	1636.03	6.66	Si
SLV 1	179667	0.38	25440	-16561	245.51	1932.35	7.87	Si
SLV 2	179667	0.38	26207	-17061	245.51	1978.61	8.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 14	-13854	-16953	-246	0.849	1737.6	0.946	13.03499	6.56194	Si
SLV 13	-13681	-16708	-247	0.858	1720.2	0.946	13.17723	6.56194	Si
SLV 2	-11943	-13067	-126	0.968	1544	0.941	14.95061	6.56194	Si
SLV 10	-16589	-20449	-645	0.709	2015.3	0.953	10.81142	4.70862	Si
SLV 1	-11771	-12822	-126	0.979	1526.5	0.94	15.13799	6.56194	Si
SLV 9	-16473	-20284	-645	0.713	2003.5	0.953	10.87795	4.70862	Si
SLV 6	-16016	-19283	-609	0.732	1957.1	0.952	11.17981	4.70862	Si
SLV 5	-15900	-19118	-609	0.736	1945.3	0.951	11.251	4.70862	Si
SLV 16	-10912	-12757	131	1.041	1439.6	0.937	16.14413	6.56194	Si
SLV 15	-10740	-12512	131	1.054	1422.2	0.936	16.36414	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.284	SLU 84	Si
V_SLU	2.607	SLU 44	Si
PF_SLV	2.895	SLV 15	Si
V_SLV	2.209	SLV 2	Si
PFFP_SLV	3.849	SLV 7	Si
R_SLV	1.986	SLV 14	Si

Maschio 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-0.123	-3.359	-2.283	-3.359	L5	L6	2.16	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	5.9	527.82	-14221	-0.0000368	0.0003743	0.0035	2.16	11811.75	13660.57	13660.57	25.88	No	Si
SLU 32	7.7	961.45	-14184	-0.0000396	0.0003743	0.0035	2.16	11790.08	13631.28	13631.28	14.18	No	Si
SLU 36	5.9	560.93	-14515	-0.0000377	0.0003743	0.0035	2.16	11980.87	13891.52	13891.52	24.76	No	Si
SLU 36	7.7	972.44	-14442	-0.0000404	0.0003743	0.0035	2.16	11939.38	13834.48	13834.48	14.23	No	Si
SLU 40	5.9	492.7	-14364	-0.0000369	0.0003743	0.0035	2.16	11894.54	13773.11	13773.11	27.95	No	Si
SLU 40	7.7	988.71	-14399	-0.0000404	0.0003743	0.0035	2.16	11914.64	13800.59	13800.59	13.96	No	Si
SLU 35	5.9	533.34	-14476	-0.0000375	0.0003743	0.0035	2.16	11958.49	13860.72	13860.72	25.99	No	Si
SLU 35	7.7	1003.55	-14478	-0.0000407	0.0003743	0.0035	2.16	11959.84	13862.58	13862.58	13.81	No	Si
SLU 37	5.9	522.96	-14279	-0.0000369	0.0003743	0.0035	2.16	11845.17	13705.89	13705.89	26.21	No	Si
SLU 37	7.7	989.98	-14269	-0.0000417	0.0003743	0.0035	2.16	11839.16	13697.72	13697.72	13.84	No	Si
SLU 42	5.9	498.22	-14619	-0.0000376	0.0003743	0.0035	2.16	12039.99	13973.25	13973.25	28.05	No	Si
SLU 42	7.7	1030.81	-14693	-0.0000414	0.0003743	0.0035	2.16	12082.18	14031.89	14031.89	13.61	No	Si
SLU 38	5.9	550.55	-14318	-0.0000372	0.0003743	0.0035	2.16	11867.82	13736.69	13736.69	24.95	No	Si
SLU 38	7.7	958.87	-14233	-0.0000397	0.0003743	0.0035	2.16	11818.44	13669.63	13669.63	14.26	No	Si
SLU 41	5.9	470.63	-14580	-0.0000373	0.0003743	0.0035	2.16	12017.75	13942.45	13942.45	29.63	No	Si
SLU 41	7.7	1061.92	-14729	-0.0000417	0.0003743	0.0035	2.16	12102.33	14059.99	14059.99	13.24	No	Si
SLU 39	5.9	465.11	-14325	-0.0000366	0.0003743	0.0035	2.16	11871.95	13742.31	13742.31	29.55	No	Si
SLU 39	7.7	1019.82	-14435	-0.0000407	0.0003743	0.0035	2.16	11935.16	13828.69	13828.69	13.56	No	Si
SLU 44	5.9	923.82	-13448	-0.0000376	0.0003743	0.0035	2.16	11352.04	13052.54	13052.54	14.13	No	Si
SLU 44	7.7	346.73	-11904	-0.0000299	0.0003743	0.0035	2.16	10371.13	11838.12	11838.12	34.14	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 15	5.9	-3363.73	-10815	-0.0000467	0.0005615	0.0035	2.16		13305.9	13305.9	3.96		Si
SLV 15	7.7	4610.17	-15746	-0.0000672	0.0005615	0.0035	2.16		15470.1	15470.1	3.36		Si
SLV 4	5.9	3194.78	-7715	-0.0000384	0.0005615	0.0035	2.16		8351.15	8351.15	2.61		Si
SLV 4	7.7	-2490.95	-4865	-0.0000282	0.0005615	0.0035	2.16		7630.69	7630.69	3.06		Si
SLV 16	5.9	-2579.79	-11263	-0.0000427	0.0005615	0.0035	2.16		13720.13	13720.13	5.32		Si
SLV 16	7.7	3747.91	-14814	-0.0000591	0.0005615	0.0035	2.16		14730.02	14730.02	3.93		Si
SLV 3	5.9	2410.84	-7267	-0.0000332	0.0005615	0.0035	2.16		7918.83	7918.83	3.28		Si
SLV 3	7.7	-1628.68	-5797	-0.0000235	0.0005615	0.0035	2.16		8536.98	8536.98	5.24		Si
SLD 4	5.9	2273.94	-9193	-0.0000357	0.0005615	0.0035	2.16		9764.47	9764.47	4.29		Si
SLD 4	7.7	-1418.26	-7054	-0.0000251	0.0005615	0.0035	2.16		9759.97	9759.97	6.88		Si
SLV 2	5.9	4604.77	-12410	-0.0000589	0.0005615	0.0035	2.16		12743.27	12743.27	2.77		Si
SLV 2	7.7	-3555.26	-6028	-0.0000408	0.0005615	0.0035	1.728		8762.03	8762.03	2.46		Si
SLV 11	5.9	-2859.55	-4169	-0.0000349	0.0005615	0.0035	1.728		6935.67	6935.67	2.43		Si
SLV 11	7.7	3527.4	-10754	-0.0000476	0.0005615	0.0035	2.16		11227.92	11227.92	3.18		Si
SLV 12	5.9	-2331.74	-4470	-0.0000263	0.0005615	0.0035	2.16		7237.61	7237.61	3.1		Si
SLV 12	7.7	2946.87	-10127	-0.0000423	0.0005615	0.0035	2.16		10642.1	10642.1	3.61		Si
SLV 1	5.9	3820.83	-11962	-0.0000525	0.0005615	0.0035	2.16		12338.29	12338.29	3.23		Si
SLV 1	7.7	-2693	-6960	-0.0000332	0.0005615	0.0035	2.16		9668.31	9668.31	3.59		Si
SLD 2	5.9	3142.06	-12076	-0.0000483	0.0005615	0.0035	2.16		12441.02	12441.02	3.96		Si
SLD 2	7.7	-2070.44	-7766	-0.000031	0.0005615	0.0035	2.16		10451.57	10451.57	5.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 39	5.9	465.11	-14325	-10219	-1546	2.16	2.16	-16897	9197	5563	115546	18110	11016	8344	Si	5.4	Si
SLU 39	7.7	1019.82	-14435	-10298	-1548	2.16	2.16	-17027	9215	5573	115546	18110	11016	8360	Si	5.4	Si
SLU 84	5.9	712.09	-17252	-12307	-1482	2.16	2.16	-20350	9658	5841	115546	18110	11016	8761	Si	5.91	Si
SLU 84	7.7	1053.27	-16887	-12047	-1472	2.16	2.16	-19919	9600	5806	115546	18110	11016	8709	Si	5.91	Si
SLU 35	5.9	533.34	-14476	-10327	-1435	2.16	2.16	-17075	9221	5577	115546	18110	11016	8365	Si	5.83	Si
SLU 35	7.7	1003.55	-14478	-10328	-1436	2.16	2.16	-17077	9221	5577	115546	18110	11016	8366	Si	5.82	Si
SLU 41	5.9	470.63	-14580	-10401	-1590	2.16	2.16	-17197	9237	5587	115546	18110	11016	8380	Si	5.27	Si
SLU 41	7.7	1061.92	-14729	-10507	-1592	2.16	2.16	-17373	9261	5601	115546	18110	11016	8401	Si	5.28	Si
SLU 37	5.9	522.96	-14279	-10186	-1425	2.16	2.16	-16842	9190	5558	115546	18110	11016	8337	Si	5.85	Si
SLU 37	7.7	989.98	-14269	-10179	-1427	2.16	2.16	-16830	9188	5557	115546	18110	11016	8336	Si	5.84	Si
SLU 81	5.9	678.98	-16959	-12098	-1510	2.16	2.16	-20003	9612	5813	115546	18110	11016	8720	Si	5.78	Si
SLU 81	7.7	1042.28	-16629	-11863	-1511	2.16	2.16	-19614	9560	5782	115546	18110	11016	8673	Si	5.74	Si
SLU 42	5.9	498.22	-14619	-10429	-1519	2.16	2.16	-17243	9244	5590	115546	18110	11016	8386	Si	5.52	Si
SLU 42	7.7	1030.81	-14693	-10482	-1509	2.16	2.16	-17331	9255	5598	115546	18110	11016	8396	Si	5.56	Si
SLU 40	5.9	492.7	-14364	-10247	-1475	2.16	2.16	-16943	9204	5566	115546	18110	11016	8349	Si	5.66	Si
SLU 40	7.7	988.71	-14399	-10272	-1465	2.16	2.16	-16984	9209	5570	115546	18110	11016	8354	Si	5.7	Si
SLU 32	5.9	527.82	-14221	-10145	-1391	2.16	2.16	-16774	9181	5553	115546	18110	11016	8329	Si	5.99	Si
SLU 32	7.7	961.45	-14184	-10119	-1392	2.16	2.16	-16730	9175	5549	115546	18110	11016	8324	Si	5.98	Si
SLU 83	5.9	684.5	-17213	-12279	-1554	2.16	2.16	-20303	9652	5837	115546	18110	11016	8756	Si	5.64	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	7.7	1084.38	-16923	-12073	-1555	2.16	2.16	-19961	9606	5810	115546	18110	11016	8715	Si	5.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5.9	4100.58	-19056	-13594	7192	2.16	2.16	-22477	14912	9019	115546	27166	11016	38182		5.31	Si
SLV 6	7.7	-2472.49	-11020	-7861	7085	2.16	2.16	-12998	13016	7872	115546	27166	11016	38182		5.39	Si
SLV 2	5.9	4604.77	-12410	-8853	7413	2.16	2.1268	-14638	13344	7947	115546	27166	11016	38182		5.15	Si
SLV 2	7.7	-3555.26	-6028	-4300	6957	1.728	1.4706	0	0	0	115546	21732	8813	30545		4.39	Si
SLV 12	5.9	-2331.74	-4470	-3189	-7350	2.16	1.6752	-6819	11781	5526	115546	27166	11016	38182		5.19	Si
SLV 12	7.7	2946.87	-10127	-7224	-7245	2.16	2.16	-11945	12806	7745	115546	27166	11016	38182		5.27	Si
SLV 11	5.9	-2859.55	-4169	-2974	-8523	1.728	1.1823	0	0	0	115546	21732	8813	30545		3.58	Si
SLV 11	7.7	3527.4	-10754	-7672	-8418	2.16	2.16	-12685	12954	7834	115546	27166	11016	38182		4.54	Si
SLV 5	5.9	3572.78	-18755	-13379	6020	2.16	2.16	-22122	14841	8976	115546	27166	11016	38182		6.34	Si
SLV 5	7.7	-1891.96	-11648	-8309	5912	2.16	2.16	-13739	13164	7962	115546	27166	11016	38182		6.46	Si
SLD 11	5.9	-1542.75	-7050	-5029	-5557	2.16	2.16	-8315	12080	7306	115546	27166	11016	38182		6.87	Si
SLD 11	7.7	2395.12	-10852	-7742	-5490	2.16	2.16	-12800	12977	7848	115546	27166	11016	38182		6.95	Si
SLV 15	5.9	-3363.73	-10815	-7715	-8743	2.16	2.16	-12757	12968	7843	115546	27166	11016	38182		4.37	Si
SLV 15	7.7	4610.17	-15746	-11233	-8290	2.16	2.16	-18573	14131	8547	115546	27166	11016	38182		4.61	Si
SLV 16	5.9	-2579.79	-11263	-8035	-7001	2.16	2.16	-13285	13074	7907	115546	27166	11016	38182		5.45	Si
SLV 16	7.7	3747.91	-14814	-10568	-6548	2.16	2.16	-17474	13911	8414	115546	27166	11016	38182		5.83	Si
SLV 1	5.9	3820.83	-11962	-8534	5671	2.16	2.16	-14110	13239	8007	115546	27166	11016	38182		6.73	Si
SLV 1	7.7	-2693	-6960	-4965	5216	2.16	2.0792	-8566	12130	7062	115546	27166	11016	38182		7.32	Si
SLD 15	5.9	-1901.03	-11149	-7954	-5794	2.16	2.16	-13151	13047	7891	115546	27166	11016	38182		6.59	Si
SLD 15	7.7	3125.35	-14009	-9994	-5504	2.16	2.16	-16524	13721	8299	115546	27166	11016	38182		6.94	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-6403	0.38	228.09	834.27	1261.81	1048.04	4.59	Si
SLV 4	-6481	0.38	228.09	843.69	1273.78	1058.74	4.64	Si
SLV 7	-6664	0.38	228.09	865.6	1301.73	1083.66	4.75	Si
SLV 3	-6868	0.38	228.09	890.06	1333.07	1111.57	4.87	Si
SLV 12	-8571	0.38	228.09	1088.58	1593.73	1341.15	5.88	Si
SLV 2	-8770	0.38	228.09	1111.26	1624.11	1367.68	6	Si
SLV 11	-8832	0.38	228.09	1118.2	1633.41	1375.8	6.03	Si
SLV 1	-9158	0.38	228.09	1154.94	1682.88	1418.91	6.22	Si
SLV 16	-13708	0.38	228.09	1634.26	2369.51	2001.88	8.78	Si
SLV 6	-14034	0.38	228.09	1666.18	2418	2042.09	8.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-13686	-17138	53	0.818	1697.1	0.949	12.5289	6.56194	Si
SLV 14	-13169	-17022	54	0.844	1644.6	0.947	12.95603	6.56194	Si
SLV 15	-12762	-13035	287	0.851	1603.3	0.946	13.07044	6.56194	Si
SLV 16	-12245	-12918	288	0.88	1550.9	0.944	13.54685	6.56194	Si
SLV 9	-12379	-19146	-341	0.869	1564.4	0.945	13.36275	4.70862	Si
SLV 10	-12030	-19068	-341	0.889	1529.1	0.944	13.6972	4.70862	Si
SLV 1	-7111	-9252	-292	1.357	1032.1	0.923	21.38074	6.56194	Si
SLV 5	-10406	-16780	-445	0.993	1364.6	0.938	15.38323	4.70862	Si
SLV 6	-10058	-16702	-444	1.021	1329.4	0.937	15.83585	4.70862	Si
SLV 2	-6594	-9136	-292	1.437	980.2	0.919	22.717	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.24	SLU 41	Si
V_SLU	5.269	SLU 41	Si
PF_SLV	2.425	SLV 11	Si
V_SLV	3.584	SLV 11	Si
PFFP_SLV	4.595	SLV 8	Si
R_SLV	1.909	SLV 13	Si

Maschio 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2.963	5.951	-5.158	5.951	L5	L6	2.195	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	e _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 44	5.9	-253.49	-16530	-0.0000399	0.0003743	0.0035	2.195	13349.14	18094.55	18094.55	71.38	No	Si
SLU 44	7.7	-986.56	-18089	-0.0000487	0.0003743	0.0035	2.195	14113.59	19320.18	19320.18	19.58	No	Si
SLU 60	5.9	-385.84	-19117	-0.0000472	0.0003743	0.0035	2.195	14571.08	20098.37	20098.37	52.09	No	Si
SLU 60	7.7	-1093.12	-21174	-0.0000572	0.0003743	0.0035	2.195	15374.76	21621.96	21621.96	19.78	No	Si
SLU 45	5.9	-238.77	-17865	-0.0000431	0.0003743	0.0035	2.195	14009.17	19150.9	19150.9	80.21	No	Si
SLU 45	7.7	-1000.15	-19563	-0.0000525	0.0003743	0.0035	2.195	14757.84	20435.65	20435.65	20.43	No	Si
SLU 43	5.9	-193.12	-16825	-0.0000402	0.0003743	0.0035	2.195	13500.19	18332.69	18332.69	94.93	No	Si
SLU 43	7.7	-1031.94	-18385	-0.0000497	0.0003743	0.0035	2.195	14249.2	19544.38	19544.38	18.94	No	Si
SLU 52	5.9	-388.4	-18135	-0.0000448	0.0003743	0.0035	2.195	14134.71	19354.77	19354.77	49.83	No	Si
SLU 52	7.7	-1029.38	-20041	-0.0000539	0.0003743	0.0035	2.195	14950.41	20797.41	20797.41	20.2	No	Si
SLU 61	5.9	-422.07	-18940	-0.000047	0.0003743	0.0035	2.195	14495.03	19964.53	19964.53	47.3	No	Si
SLU 61	7.7	-1065.89	-20996	-0.0000565	0.0003743	0.0035	2.195	15311.15	21496.53	21496.53	20.17	No	Si
SLU 1	5.9	-188.04	-13652	-0.0000325	0.0003743	0.0035	2.195	11714.35	15735.88	15735.88	83.68	No	Si
SLU 1	7.7	-807.45	-14967	-0.0000398	0.0003743	0.0035	2.195	12497.4	16831.98	16831.98	20.85	No	Si
SLU 64	5.9	-342.86	-19518	-0.0000479	0.0003743	0.0035	2.195	14739.29	20401.58	20401.58	59.5	No	Si
SLU 64	7.7	-1083.72	-21512	-0.000058	0.0003743	0.0035	2.195	15492.85	21860.86	21860.86	20.17	No	Si
SLU 65	5.9	-403.23	-19223	-0.0000476	0.0003743	0.0035	2.195	14616.08	20178.51	20178.51	50.04	No	Si
SLU 65	7.7	-1038.34	-21216	-0.0000569	0.0003743	0.0035	2.195	15389.74	21651.81	21651.81	20.85	No	Si
SLU 81	5.9	-535.58	-21811	-0.000055	0.0003743	0.0035	2.195	15593.57	22071.37	22071.37	41.21	No	Si
SLU 81	7.7	-1144.9	-24301	-0.0000656	0.0003743	0.0035	2.195	16312.55	23795.05	23795.05	20.78	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 10	5.9	-2093.56	-7876	-0.0000307	0.0005615	0.0035	2.195		10725.52	10725.52	5.12		Si
SLD 10	7.7	725.39	-8409	-0.0000234	0.0005615	0.0035	2.195		9187.88	9187.88	12.67		Si
SLV 9	5.9	-2626.34	-3918	-0.0000302	0.0005615	0.0035	1.756		6783.03	6783.03	2.58		Si
SLV 9	7.7	980.2	-4667	-0.0000164	0.0005615	0.0035	2.195		5455.6	5455.6	5.57		Si
SLV 6	5.9	-1558.07	-2865	-0.0000169	0.0005615	0.0035	2.195		5697.95	5697.95	3.66		Si
SLV 6	7.7	-151.33	-5176	-0.0000125	0.0005615	0.0035	2.195		8055.15	8055.15	53.23		Si
SLV 1	5.9	2318.07	-10685	-0.0000387	0.0005615	0.0035	2.195		11369.55	11369.55	4.9		Si
SLV 1	7.7	-3975.2	-16776	-0.000064	0.0005615	0.0035	2.195		18878.29	18878.29	4.75		Si
SLV 13	5.9	-3115.9	-12803	-0.0000488	0.0005615	0.0035	2.195		15368.17	15368.17	4.93		Si
SLV 13	7.7	2051.02	-10986	-0.0000377	0.0005615	0.0035	2.195		11654.85	11654.85	5.68		Si
SLV 3	5.9	3411.77	-17579	-0.0000622	0.0005615	0.0035	2.195		17259.77	17259.77	5.06		Si
SLV 3	7.7	-4724.55	-23674	-0.0000862	0.0005615	0.0035	2.195		24504.74	24504.74	5.19		Si
SLV 14	5.9	-3950.51	-12182	-0.0000526	0.0005615	0.0035	2.195		14811.28	14811.28	3.75		Si
SLV 14	7.7	3055.58	-9163	-0.0000397	0.0005615	0.0035	2.195		9916.12	9916.12	3.25		Si
SLV 10	5.9	-3188.26	-3500	-0.00006	0.0005615	0.0035	1.756		6352.84	6352.84	1.99		Si
SLV 10	7.7	1656.53	-3439	-0.0000183	0.0005615	0.0035	2.195		4193.06	4193.06	2.53		Si
SLD 14	5.9	-2611.66	-13238	-0.0000466	0.0005615	0.0035	2.195		15757.27	15757.27	6.03		Si
SLD 14	7.7	1646.49	-11869	-0.0000372	0.0005615	0.0035	2.195		12479.15	12479.15	7.58		Si
SLV 2	5.9	1483.46	-10064	-0.0000319	0.0005615	0.0035	2.195		10780.11	10780.11	7.27		Si
SLV 2	7.7	-2970.64	-14952	-0.000053	0.0005615	0.0035	2.195		17289.9	17289.9	5.82		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	5.9	-559.64	-21987	-15685	3364	2.195	2.195	-25520	10347	6359	115546	18404	11195	9539	Si	2.84	Si
SLU 75	7.7	-1067.53	-24464	-17452	3366	2.195	2.195	-28396	10731	6626	115546	18404	11195	9939	Si	2.95	Si
SLU 81	5.9	-535.58	-21811	-15559	3428	2.195	2.195	-25316	10320	6343	115546	18404	11195	9514	Si	2.78	Si
SLU 81	7.7	-1144.9	-24301	-17336	3430	2.195	2.195	-28206	10705	6595	115546	18404	11195	9893	Si	2.88	Si
SLU 82	5.9	-571.81	-21634	-15433	3392	2.195	2.195	-25111	10293	6326	115546	18404	11195	9489	Si	2.8	Si
SLU 82	7.7	-1117.68	-24123	-17209	3394	2.195	2.195	-28000	10678	6563	115546	18404	11195	9844	Si	2.9	Si
SLU 79	5.9	-520.15	-22746	-16226	3429	2.195	2.195	-26401	10465	6432	115546	18404	11195	9647	Si	2.81	Si
SLU 79	7.7	-1043.39	-25316	-18060	3431	2.195	2.195	-29385	10833	6788	115546	18404	11195	10182	Si	2.97	Si
SLU 84	5.9	-593	-22445	-16012	3427	2.195	2.195	-26053	10418	6403	115546	18404	11195	9604	Si	2.8	Si
SLU 84	7.7	-1076.1	-25049	-17869	3429	2.195	2.195	-29075	10821	6737	115546	18404	11195	10106	Si	2.95	Si
SLU 83	5.9	-556.78	-22622	-16138	3463	2.195	2.195	-26258	10445	6420	115546	18404	11195	9630	Si	2.78	Si
SLU 83	7.7	-1103.33	-25227	-17996	3465	2.195	2.195	-29281	10833	6771	115546	18404	11195	10157	Si	2.93	Si
SLU 78	5.9	-580.83	-22798	-16264	3399	2.195	2.195	-26462	10473	6437	115546	18404	11195	9655	Si	2.84	Si
SLU 78	7.7	-1025.96	-25390	-18113	3401	2.195	2.195	-29471	10833	6802	115546	18404	11195	10203	Si	3	Si
SLU 74	5.9	-523.42	-22164	-15811	3400	2.195	2.195	-25726	10375	6376	115546	18404	11195	9564	Si	2.81	Si
SLU 74	7.7	-1094.76	-24642	-17579	3402	2.195	2.195	-28602	10758	6660	115546	18404	11195	9990	Si	2.94	Si
SLU 77	5.9	-544.61	-22975	-16390	3434	2.195	2.195	-26667	10500	6453	115546	18404	11195	9680	Si	2.82	Si
SLU 77	7.7	-1053.18	-25568	-18239	3437	2.195	2.195	-29677	10833	6836	115546	18404	11195	10254	Si	2.98	Si
SLU 80	5.9	-556.37	-22569	-16100	3393	2.195	2.195	-26196	10437	6415	115546	18404	11195	9622	Si	2.84	Si
SLU 80	7.7	-1016.17	-25138	-17933	3395	2.195	2.195	-29178	10833	6754	115546	18404	11195	10132	Si	2.98	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	5.9	864.02	-11880	-8475	5294	2.195	2.195	-13789	13174	8097	115546	27606	11195	38800		7.33	Si
SLD 2	7.7	-2212.69	-15561	-11101	5035	2.195	2.195	-18062	14029	8622	115546	27606	11195	38800		7.71	Si
SLV 3	5.9	3411.77	-17579	-12540	9734	2.195	2.195	-20404	14497	8910	115546	27606	11195	38800		3.99	Si
SLV 3	7.7	-4724.55	-23674	-16888	9273	2.195	2.195	-27478	15912	9780	115546	27606	11195	38800		4.18	Si
SLV 1	5.9	2318.07	-10685	-7623	8623	2.195	2.195	-12403	12897	7927	115546	27606	11195	38800		4.5	Si
SLV 1	7.7	-3975.2	-16776	-11967	8222	2.195	2.195	-19472	14311	8796	115546	27606	11195	38800		4.72	Si
SLV 4	5.9	2577.16	-16958	-12097	7980	2.195	2.195	-19683	14353	8822	115546	27606	11195	38800		4.86	Si
SLV 4	7.7	-3719.99	-21851	-15588	7518	2.195	2.195	-25362	15489	9520	115546	27606	11195	38800		5.16	Si
SLD 3	5.9	2072.91	-16522	-11787	7093	2.195	2.195	-19178	14252	8759	115546	27606	11195	38800		5.47	Si
SLD 3	7.7	-3315.46	-20967	-14958	6799	2.195	2.195	-24337	15284	9394	115546	27606	11195	38800		5.71	Si
SLV 2	5.9	1483.46	-10064	-7180	6869	2.195	2.195	-11682	12753	7838	115546	27606	11195	38800		5.65	Si
SLV 2	7.7	-2970.64	-14952	-10667	6468	2.195	2.195	-17356	13888	8535	115546	27606	11195	38800		6	Si
SLD 1	5.9	1396.73	-12276	-8757	6414	2.195	2.195	-14249	13266	8154	115546	27606	11195	38800		6.05	Si
SLD 1	7.7	-2853.88	-16725	-11931	6155	2.195	2.195	-19413	14299	8788	115546	27606	11195	38800		6.3	Si
SLV 8	5.9	2087.6	-25843	-18436	5469	2.195	2.195	-29996	16250	9987	115546	27606	11195	38800		7.1	Si
SLV 8	7.7	-2649.17	-28170	-20096	5240	2.195	2.195	-32697	16250	9987	115546	27606	11195	38800		7.41	Si
SLV 7	5.9	2649.51	-26261	-18734	6650	2.195	2.195	-30481	16250	9987	115546	27606	11195	38800		5.83	Si
SLV 7	7.7	-3325.51	-29397	-20971	6421	2.195	2.195	-34122	16250	9987	115546	27606	11195	38800		6.04	Si
SLD 4	5.9	1540.2	-16126	-11504	5973	2.195	2.195	-18718	14160	8703	115546	27606	11195	38800		6.5	Si
SLD 4	7.7	-2674.28	-19804	-14127	5680	2.195	2.195	-22986	15014	9228	115546	27606	11195	38800		6.83	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-2876	0.38	231.78	390.32	715.56	552.94	2.39	Si
SLV 9	-3848	0.38	231.78	516.58	866.88	691.73	2.98	Si
SLV 6	-3929	0.38	231.78	527.06	879.59	703.33	3.03	Si
SLV 5	-4901	0.38	231.78	650.26	1030.21	840.23	3.63	Si
SLV 14	-9787	0.38	231.78	1227.32	1779.16	1503.24	6.49	Si
SLV 13	-11230	0.38	231.78	1384.08	1998.03	1691.06	7.3	Si
SLV 2	-13297	0.38	231.78	1597.87	2308.88	1953.37	8.43	Si
SLV 1	-14740	0.38	231.78	1739.53	2524.48	2132.01	9.2	Si
SLV 16	-16966	0.38	231.78	1945.88	2854.13	2400.01	10.35	Si
SLV 15	-18409	0.38	231.78	2071.74	3063.63	2567.69	11.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-19411	-18148	127	0.614	2283.8	0.96	9.29491	6.56194	Si
SLV 4	-17859	-17197	125	0.659	2125.9	0.957	10.00499	6.56194	Si
SLV 7	-22027	-26092	758	0.525	2549.9	0.964	7.91662	4.70862	Si
SLV 1	-15229	-11252	-346	0.741	1858.7	0.952	11.31259	6.56194	Si
SLV 8	-20982	-25452	757	0.547	2443.6	0.962	8.26308	4.70862	Si
SLV 11	-20305	-26139	826	0.559	2374.7	0.961	8.45805	4.70862	Si
SLV 12	-19260	-25498	825	0.585	2268.5	0.96	8.86099	4.70862	Si
SLV 15	-13672	-18303	353	0.81	1700.6	0.948	12.42357	6.56194	Si
SLV 2	-13677	-10301	-348	0.81	1701.2	0.948	12.42477	6.56194	Si
SLV 16	-12120	-17352	352	0.895	1543.2	0.943	13.79397	6.56194	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.94	SLU 43	Si
V_SLU	2.775	SLU 81	Si
PF_SLV	1.993	SLV 10	Si
V_SLV	3.986	SLV 3	Si
PFFP_SLV	2.386	SLV 10	Si
R_SLV	1.416	SLV 3	Si

Maschio 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-0.123	5.951	-2.063	5.951	L5	L6	1.94	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 50	5.9	1193.68	-14060	-0.0000469	0.0003743	0.0035	1.94	10170.7	11952.67	11952.67	10.01	No	Si
SLU 50	7.7	644.42	-13160	-0.0000397	0.0003743	0.0035	1.94	9727.83	11329.57	11329.57	17.58	No	Si
SLU 44	5.9	1050.54	-12743	-0.000042	0.0003743	0.0035	1.94	9512.77	11040.55	11040.55	10.51	No	Si
SLU 44	7.7	598.29	-11950	-0.000036	0.0003743	0.0035	1.94	9086.99	10490.94	10490.94	17.53	No	Si
SLU 45	5.9	1165.71	-13710	-0.0000456	0.0003743	0.0035	1.94	10001.75	11710.23	11710.23	10.05	No	Si
SLU 45	7.7	617.56	-12785	-0.0000384	0.0003743	0.0035	1.94	9534.58	11069.49	11069.49	17.92	No	Si
SLU 47	5.9	1087.19	-13296	-0.0000438	0.0003743	0.0035	1.94	9796.34	11423.42	11423.42	10.51	No	Si
SLU 47	7.7	639.61	-12536	-0.0000379	0.0003743	0.0035	1.94	9403.4	10896.62	10896.62	17.04	No	Si
SLU 42	5.9	738.2	-14700	-0.0000448	0.0003743	0.0035	1.94	10469.11	12396.87	12396.87	16.79	No	Si
SLU 42	7.7	1191.68	-15246	-0.0000502	0.0003743	0.0035	1.94	10711.91	12775.22	12775.22	10.72	No	Si
SLU 51	5.9	1151.78	-13933	-0.0000462	0.0003743	0.0035	1.94	10109.99	11864.84	11864.84	10.3	No	Si
SLU 51	7.7	666.32	-13137	-0.0000398	0.0003743	0.0035	1.94	9715.81	11313.21	11313.21	16.98	No	Si
SLU 48	5.9	1202.36	-14262	-0.0000475	0.0003743	0.0035	1.94	10266.59	12093.1	12093.1	10.06	No	Si
SLU 48	7.7	658.88	-13371	-0.0000404	0.0003743	0.0035	1.94	9833.85	11475.17	11475.17	17.42	No	Si
SLU 49	5.9	1160.46	-14135	-0.0000468	0.0003743	0.0035	1.94	10206.79	12005.28	12005.28	10.35	No	Si
SLU 49	7.7	680.79	-13347	-0.0000405	0.0003743	0.0035	1.94	9822.01	11458.81	11458.81	16.83	No	Si
SLU 43	5.9	1120.37	-12955	-0.0000432	0.0003743	0.0035	1.94	9622.44	11186.92	11186.92	9.99	No	Si
SLU 43	7.7	561.78	-11990	-0.0000358	0.0003743	0.0035	1.94	9108.64	10518.21	10518.21	18.72	No	Si
SLU 46	5.9	1123.81	-13583	-0.0000449	0.0003743	0.0035	1.94	9939.49	11622.4	11622.4	10.34	No	Si
SLU 46	7.7	639.47	-12762	-0.0000386	0.0003743	0.0035	1.94	9522.26	11053.13	11053.13	17.28	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 14	5.9	-2439.55	-8987	-0.0000425	0.0005615	0.0035	1.94		10129.33	10129.33	4.15		Si
SLV 14	7.7	3516.17	-13395	-0.0000634	0.0005615	0.0035	1.94		12033.08	12033.08	3.42		Si
SLV 10	5.9	-2187.11	-2065	-0.0001364	0.0005615	0.0035	1.552		4065.63	4065.63	1.86		Si
SLV 10	7.7	2668.44	-8816	-0.0000439	0.0005615	0.0035	1.94		8326.56	8326.56	3.12		Si
SLD 1	5.9	2141.6	-9483	-0.0000415	0.0005615	0.0035	1.94		8888.2	8888.2	4.15		Si
SLD 1	7.7	-747.19	-8266	-0.000027	0.0005615	0.0035	1.94		9529.63	9529.63	12.75		Si
SLV 2	5.9	2069.29	-7644	-0.000036	0.0005615	0.0035	1.94		7329.02	7329.02	3.54		Si
SLV 2	7.7	-896.03	-7374	-0.0000258	0.0005615	0.0035	1.94		8778.78	8778.78	9.8		Si
SLV 13	5.9	-1642.77	-9606	-0.0000377	0.0005615	0.0035	1.94		10643.29	10643.29	6.48		Si
SLV 13	7.7	2886.1	-12684	-0.0000562	0.0005615	0.0035	1.94		11495.67	11495.67	3.98		Si
SLV 4	5.9	3317.13	-13261	-0.0000614	0.0005615	0.0035	1.94		11939.39	11939.39	3.6		Si
SLV 4	7.7	-1581.29	-9392	-0.0000367	0.0005615	0.0035	1.94		10465.76	10465.76	6.62		Si
SLV 3	5.9	4113.91	-13879	-0.0000697	0.0005615	0.0035	1.94		12372.19	12372.19	3.01		Si
SLV 3	7.7	-2211.36	-8681	-0.0000399	0.0005615	0.0035	1.94		9875.19	9875.19	4.47		Si
SLV 1	5.9	2866.07	-8263	-0.0000441	0.0005615	0.0035	1.94		7859.37	7859.37	2.74		Si
SLV 1	7.7	-1526.1	-6663	-0.000029	0.0005615	0.0035	1.94		8158.16	8158.16	5.35		Si
SLV 9	5.9	-1650.66	-2482	-0.0000266	0.0005615	0.0035	1.552		4447.93	4447.93	2.69		Si
SLV 9	7.7	2244.23	-8338	-0.0000392	0.0005615	0.0035	1.94		7923.48	7923.48	3.53		Si
SLD 3	5.9	2912.85	-12932	-0.0000571	0.0005615	0.0035	1.94		11693.18	11693.18	4.01		Si
SLD 3	7.7	-1169.63	-9507	-0.0000336	0.0005615	0.0035	1.94		10561.41	10561.41	9.03		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	5.9	701.55	-14148	-10093	-1485	1.94	1.94	-18580	9422	5118	115546	16266	9894	7677	Si	5.17	Si
SLU 40	7.7	1150.36	-14661	-10459	-1486	1.94	1.94	-19254	9512	5167	115546	16266	9894	7750	Si	5.22	Si
SLU 39	5.9	743.45	-14275	-10183	-1394	1.94	1.94	-18747	9444	5130	115546	16266	9894	7695	Si	5.52	Si
SLU 39	7.7	1128.45	-14685	-10476	-1395	1.94	1.94	-19285	9516	5169	115546	16266	9894	7753	Si	5.56	Si
SLU 36	5.9	817.81	-14937	-10656	-1349	1.94	1.94	-19617	9560	5193	115546	16266	9894	7790	Si	5.77	Si
SLU 36	7.7	1142.07	-15327	-10934	-1350	1.94	1.94	-20129	9628	5230	115546	16266	9894	7845	Si	5.81	Si
SLU 31	5.9	707.89	-13545	-9663	-1362	1.94	1.94	-17789	9316	5061	115546	16266	9894	7591	Si	5.57	Si
SLU 31	7.7	1059.57	-13930	-9938	-1363	1.94	1.94	-18294	9384	5097	115546	16266	9894	7646	Si	5.61	Si
SLU 34	5.9	744.54	-14098	-10057	-1382	1.94	1.94	-18514	9413	5113	115546	16266	9894	7670	Si	5.55	Si
SLU 34	7.7	1100.89	-14516	-10355	-1383	1.94	1.94	-19063	9486	5153	115546	16266	9894	7729	Si	5.59	Si
SLU 82	5.9	960.96	-16599	-11841	-1469	1.94	1.94	-21799	9851	5351	115546	16266	9894	8027	Si	5.47	Si
SLU 82	7.7	1208	-16785	-11974	-1470	1.94	1.94	-22044	9884	5369	115546	16266	9894	8053	Si	5.48	Si
SLU 41	5.9	780.1	-14827	-10577	-1414	1.94	1.94	-19472	9541	5183	115546	16266	9894	7774	Si	5.5	Si
SLU 41	7.7	1169.77	-15270	-10893	-1415	1.94	1.94	-20054	9618	5225	115546	16266	9894	7837	Si	5.54	Si
SLU 84	5.9	997.61	-17151	-12235	-1489	1.94	1.94	-22524	9948	5404	115546	16266	9894	8105	Si	5.44	Si
SLU 84	7.7	1249.32	-17371	-12392	-1490	1.94	1.94	-22813	9986	5424	115546	16266	9894	8137	Si	5.46	Si
SLU 38	5.9	809.13	-14735	-10511	-1342	1.94	1.94	-19351	9525	5174	115546	16266	9894	7761	Si	5.78	Si
SLU 38	7.7	1127.61	-15117	-10784	-1343	1.94	1.94	-19853	9591	5210	115546	16266	9894	7815	Si	5.82	Si
SLU 42	5.9	738.2	-14700	-10487	-1505	1.94	1.94	-19306	9519	5170	115546	16266	9894	7756	Si	5.15	Si
SLU 42	7.7	1191.68	-15246	-10876	-1506	1.94	1.94	-20023	9614	5222	115546	16266	9894	7834	Si	5.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	5.9	-2439.55	-8987	-6411	-6813	1.94	1.94	-11803	12777	6941	115546	24399	9894	34293		5.03	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	7.7	3516.17	-13395	-9555	-6344	1.94	1.94	-17591	13935	7569	115546	24399	9894	34293		5.41	Si
SLV 7	5.9	3861.47	-20801	-14839	5946	1.94	1.94	-27318	15880	8626	115546	24399	9894	34293		5.77	Si
SLV 7	7.7	-1363.63	-13260	-9459	5810	1.94	1.94	-17414	13899	7550	115546	24399	9894	34293		5.9	Si
SLD 14	5.9	-1238.49	-9935	-7087	-4548	1.94	1.94	-13047	13026	7076	115546	24399	9894	34293		7.54	Si
SLD 14	7.7	2474.44	-12569	-8966	-4249	1.94	1.94	-16506	13718	7452	115546	24399	9894	34293		8.07	Si
SLV 3	5.9	4113.91	-13879	-9901	5561	1.94	1.94	-18227	14062	7639	115546	24399	9894	34293		6.17	Si
SLV 3	7.7	-2211.36	-8681	-6193	5090	1.94	1.94	-11401	12697	6897	115546	24399	9894	34293		6.74	Si
SLD 10	5.9	-1046.88	-5682	-4053	-4712	1.94	1.94	-7462	11909	6469	115546	24399	9894	34293		7.28	Si
SLD 10	7.7	1912.16	-9696	-6917	-4627	1.94	1.94	-12733	12963	7042	115546	24399	9894	34293		7.41	Si
SLV 13	5.9	-1642.77	-9606	-6853	-5304	1.94	1.94	-12615	12940	7029	115546	24399	9894	34293		6.46	Si
SLV 13	7.7	2886.1	-12684	-9048	-4835	1.94	1.94	-16658	13748	7468	115546	24399	9894	34293		7.09	Si
SLV 8	5.9	3325.02	-20384	-14542	4931	1.94	1.94	-26771	15771	8567	115546	24399	9894	34293		6.95	Si
SLV 8	7.7	-939.42	-13738	-9801	4795	1.94	1.94	-18042	14025	7618	115546	24399	9894	34293		7.15	Si
SLV 10	5.9	-2187.11	-2065	-1473	-7198	1.552	0	0	0	0	115546	19519	7915	27434		3.81	Si
SLV 10	7.7	2668.44	-8816	-6289	-7064	1.94	1.94	-11578	12732	6916	115546	24399	9894	34293		4.85	Si
SLV 9	5.9	-1650.66	-2482	-1771	-6182	1.552	0.9148	0	0	0	115546	19519	7915	27434		4.44	Si
SLV 9	7.7	2244.23	-8338	-5948	-6048	1.94	1.94	-10950	12607	6848	115546	24399	9894	34293		5.67	Si
SLV 6	5.9	-834.46	-1663	-1186	-4815	1.94	1.4043	-3020	11021	4333	115546	24399	9894	34293		7.12	Si
SLV 6	7.7	1344.78	-7010	-5001	-4965	1.94	1.94	-9206	12258	6658	115546	24399	9894	34293		6.91	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 6.775 Ta 0.08 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-5515	0.38	204.86	720.78	1097.49	909.14	4.44	Si
SLV 6	-5640	0.38	204.86	735.88	1116.73	926.31	4.52	Si
SLV 9	-6723	0.38	204.86	864.9	1282.77	1073.83	5.24	Si
SLV 10	-6847	0.38	204.86	879.49	1301.85	1090.67	5.32	Si
SLV 1	-7803	0.38	204.86	989.68	1448.21	1218.94	5.95	Si
SLV 2	-7988	0.38	204.86	1010.66	1476.34	1243.5	6.07	Si
SLV 3	-10998	0.38	204.86	1335.56	1931.69	1633.63	7.97	Si
SLV 4	-11183	0.38	204.86	1354.54	1959.51	1657.03	8.09	Si
SLV 13	-11828	0.38	204.86	1419.83	2056.54	1738.19	8.48	Si
SLV 14	-12013	0.38	204.86	1438.3	2084.37	1761.33	8.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-11985	-15452	2	0.838	1493.1	0.948	12.85931	6.56194	Si
SLV 15	-11692	-15472	1	0.856	1463.4	0.947	13.14008	6.56194	Si
SLV 14	-10086	-10705	-251	0.946	1300.5	0.941	14.60664	6.56194	Si
SLV 13	-9793	-10725	-251	0.969	1270.9	0.94	14.97999	6.56194	Si
SLV 4	-9391	-9779	257	1.002	1230.2	0.938	15.51903	6.56194	Si
SLV 12	-13245	-19007	385	0.746	1621	0.951	11.39247	4.70862	Si
SLV 3	-9098	-9798	256	1.028	1200.5	0.937	15.9445	6.56194	Si
SLV 11	-13048	-19021	385	0.755	1600.9	0.951	11.54332	4.70862	Si
SLV 8	-12467	-17305	462	0.779	1542	0.949	11.92882	4.70862	Si
SLV 7	-12270	-17319	461	0.789	1521.9	0.949	12.09617	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.985	SLU 43	Si
V_SLU	5.154	SLU 42	Si
PF_SLV	1.859	SLV 10	Si
V_SLV	3.811	SLV 10	Si
PFFP_SLV	4.438	SLV 5	Si
R_SLV	1.96	SLV 16	Si

Maschio 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.359	-0.123	1.266	L5	L6	4.625	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 70	5	8592.9	-49131	-0.000076	0.0003743	0.0035	4.625	71277.95	84268.64	84268.64	9.81	No	Si
SLU 70	7.1	9740.49	-41196	-0.0000668	0.0003743	0.0035	4.625	65499.22	74104.66	74104.66	7.61	No	Si
SLU 46	5	6699.44	-42028	-0.0000628	0.0003743	0.0035	4.625	66208.85	75297.75	75297.75	11.24	No	Si
SLU 46	7.1	8515.68	-35282	-0.0000566	0.0003743	0.0035	4.625	59756.09	65794.16	65794.16	7.73	No	Si
SLU 69	5	8844.59	-49045	-0.0000764	0.0003743	0.0035	4.625	71227.03	84189.02	84189.02	9.52	No	Si
SLU 69	7.1	9568.04	-41081	-0.0000663	0.0003743	0.0035	4.625	65399.37	73940.61	73940.61	7.73	No	Si
SLU 65	5	7800.52	-47010	-0.0000716	0.0003743	0.0035	4.625	69949.28	82087.38	82087.38	10.52	No	Si
SLU 65	7.1	9250.83	-39162	-0.0000631	0.0003743	0.0035	4.625	63662.48	71201.68	71201.68	7.7	No	Si
SLU 47	5	6415.14	-41552	-0.0000617	0.0003743	0.0035	4.625	65805.81	74614.16	74614.16	11.63	No	Si
SLU 47	7.1	8526.83	-34845	-0.0000561	0.0003743	0.0035	4.625	59283.19	65196.4	65196.4	7.65	No	Si
SLU 49	5	6953.49	-42851	-0.0000644	0.0003743	0.0035	4.625	66886.64	76485.22	76485.22	11	No	Si
SLU 49	7.1	8766.09	-36080	-0.0000581	0.0003743	0.0035	4.625	60603.2	66892.59	66892.59	7.63	No	Si
SLU 68	5	8054.56	-47833	-0.0000732	0.0003743	0.0035	4.625	70483.28	83053.8	83053.8	10.31	No	Si
SLU 68	7.1	9501.24	-39961	-0.0000647	0.0003743	0.0035	4.625	64400.9	72336.52	72336.52	7.61	No	Si
SLU 72	5	8476.39	-48598	-0.0000751	0.0003743	0.0035	4.625	70958.66	83776.91	83776.91	9.88	No	Si
SLU 72	7.1	9636.68	-40682	-0.0000659	0.0003743	0.0035	4.625	65049.26	73369.01	73369.01	7.61	No	Si
SLU 51	5	6836.98	-42317	-0.0000634	0.0003743	0.0035	4.625	66449.8	75714.27	75714.27	11.07	No	Si
SLU 51	7.1	8662.27	-35567	-0.0000573	0.0003743	0.0035	4.625	60061.11	66185.48	66185.48	7.64	No	Si
SLU 67	5	8338.86	-48309	-0.0000744	0.0003743	0.0035	4.625	70781.43	83511.37	83511.37	10.01	No	Si
SLU 67	7.1	9490.08	-40397	-0.0000653	0.0003743	0.0035	4.625	64795.4	72960.54	72960.54	7.69	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 7	5	17019.57	-30796	-0.0000628	0.0005615	0.0035	4.625		62464.56	62464.56	3.67		Si
SLD 7	7.1	2691.98	-23799	-0.0000319	0.0005615	0.0035	4.625		50402.01	50402.01	18.72		Si
SLV 6	5	-13280.29	-36748	-0.0000645	0.0005615	0.0035	4.625		79143.23	79143.23	5.96		Si
SLV 6	7.1	13533.49	-34998	-0.0000627	0.0005615	0.0035	4.625		69880.55	69880.55	5.16		Si
SLV 12	5	24820.32	-35092	-0.0000808	0.0005615	0.0035	4.625		70048.68	70048.68	2.82		Si
SLV 12	7.1	1336.47	-25128	-0.0000314	0.0005615	0.0035	4.625		52666.42	52666.42	39.41		Si
SLV 7	5	23722.88	-27620	-0.0000697	0.0005615	0.0035	4.625		56945.08	56945.08	2.4		Si
SLV 7	7.1	125.71	-20033	-0.0000234	0.0005615	0.0035	4.625		43828.6	43828.6	348.64		Si
SLD 8	5	16372.55	-30592	-0.0000615	0.0005615	0.0035	4.625		62107.36	62107.36	3.79		Si
SLD 8	7.1	3434.96	-23931	-0.0000332	0.0005615	0.0035	4.625		50627.26	50627.26	14.74		Si
SLD 11	5	18393.6	-35760	-0.0000714	0.0005615	0.0035	4.625		71239.66	71239.66	3.87		Si
SLD 11	7.1	2697.36	-26892	-0.0000356	0.0005615	0.0035	4.625		55690.1	55690.1	20.65		Si
SLD 12	5	17746.57	-35555	-0.0000701	0.0005615	0.0035	4.625		70874.94	70874.94	3.99		Si
SLD 12	7.1	3440.34	-27025	-0.0000369	0.0005615	0.0035	4.625		55918.35	55918.35	16.25		Si
SLV 3	5	8898.13	-21911	-0.0000391	0.0005615	0.0035	4.625		47208.65	47208.65	5.31		Si
SLV 3	7.1	4087.18	-19448	-0.0000287	0.0005615	0.0035	4.625		42674.74	42674.74	10.44		Si
SLV 8	5	22689.29	-27294	-0.0000675	0.0005615	0.0035	4.625		56382.2	56382.2	2.48		Si
SLV 8	7.1	1312.6	-20245	-0.0000255	0.0005615	0.0035	4.625		44246.83	44246.83	33.71		Si
SLV 11	5	25853.91	-35418	-0.0000829	0.0005615	0.0035	4.625		70630.31	70630.31	2.73		Si
SLV 11	7.1	149.58	-24917	-0.0000293	0.0005615	0.0035	4.625		52304.76	52304.76	349.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	5	8892.54	-46281	-38539	1623	4.625	4.625	-29760	10833	21649	40441	38778	11794	32474	Si	20.01	Si
SLU 35	7.1	8544.09	-38481	-32044	1612	4.625	4.625	-24744	10244	19051	40441	38778	11794	28577	Si	17.72	Si
SLU 81	5	9840.24	-53931	-44909	1814	4.625	4.625	-34679	10833	24197	40441	38778	11794	36295	Si	20	Si
SLU 81	7.1	9767.24	-44490	-37048	1802	4.625	4.625	-28608	10759	21053	40441	38778	11794	31579	Si	17.52	Si
SLU 69	5	8844.59	-49045	-40841	1698	4.625	4.625	-31537	10833	22570	40441	38778	11794	33855	Si	19.94	Si
SLU 69	7.1	9568.04	-41081	-34209	1687	4.625	4.625	-26416	10467	19917	40441	38778	11794	29876	Si	17.71	Si
SLU 83	5	10094.29	-54753	-45594	1868	4.625	4.625	-35208	10833	24471	40441	38778	11794	36706	Si	19.65	Si
SLU 83	7.1	10017.64	-45289	-37713	1855	4.625	4.625	-29122	10827	21319	40441	38778	11794	31978	Si	17.24	Si
SLU 37	5	8776.04	-45747	-38095	1612	4.625	4.625	-29417	10833	21471	40441	38778	11794	32207	Si	19.98	Si
SLU 37	7.1	8440.28	-37968	-31616	1602	4.625	4.625	-24414	10200	18880	40441	38778	11794	28320	Si	17.68	Si
SLU 71	5	8728.08	-48512	-40396	1687	4.625	4.625	-31194	10833	22392	40441	38778	11794	33588	Si	19.91	Si
SLU 71	7.1	9464.22	-40568	-33781	1676	4.625	4.625	-26086	10423	19746	40441	38778	11794	29619	Si	17.67	Si
SLU 41	5	9008.07	-47044	-39174	1629	4.625	4.625	-30250	10833	21903	40441	38778	11794	32855	Si	20.17	Si
SLU 41	7.1	8431.02	-38825	-32330	1618	4.625	4.625	-24966	10273	19166	40441	38778	11794	28749	Si	17.77	Si
SLU 79	5	9862.26	-53457	-44514	1851	4.625	4.625	-34374	10833	24039	40441	38778	11794	36059	Si	19.48	Si
SLU 79	7.1	10026.9	-44431	-36999	1839	4.625	4.625	-28570	10754	21033	40441	38778	11794	31549	Si	17.16	Si
SLU 74	5	9724.72	-53168	-44273	1809	4.625	4.625	-34188	10833	23943	40441	38778	11794	35914	Si	19.86	Si
SLU 74	7.1	9880.31	-44146	-36761	1796	4.625	4.625	-28387	10729	20938	40441	38778	11794	31407	Si	17.48	Si
SLU 77	5	9978.76	-53990	-44959	1862	4.625	4.625	-34717	10833	24217	40441	38778	11794	36325	Si	19.51	Si
SLU 77	7.1	10130.72	-44945	-37426	1850	4.625	4.625	-28901	10798	21204	40441	38778	11794	31806	Si	17.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 11	5	18393.6	-35760	-29778	15290	4.625	4.625	-22994	15016	21262	40441	58167	11794	61703		4.04	Si
SLD 11	7.1	2697.36	-26892	-22393	14786	4.625	4.625	-17292	13875	18308	40441	58167	11794	58749		3.97	Si
SLV 8	5	22689.29	-27294	-22728	19584	4.625	4.4436	-17551	13927	18442	40441	58167	11794	58883		3.01	Si
SLV 8	7.1	1312.6	-20245	-16858	18788	4.625	4.625	-13018	13020	16861	40441	58167	11794	57302		3.05	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	5	-13280.29	-36748	-30601	-21533	4.625	4.625	-23630	15143	21591	40441	58167	11794	62032		2.88	Si
SLV 6	7.1	13533.49	-34998	-29143	-20741	4.625	4.625	-22504	14918	21008	40441	58167	11794	61449		2.96	Si
SLV 7	5	23722.88	-27620	-23000	21961	4.625	4.3608	-17760	13969	18551	40441	58167	11794	58992		2.69	Si
SLV 7	7.1	125.71	-20033	-16682	21166	4.625	4.625	-12882	12993	16826	40441	58167	11794	57267		2.71	Si
SLV 9	5	-10115.67	-44873	-37366	-17171	4.625	4.625	-28854	16188	24297	40441	58167	11794	64738		3.77	Si
SLV 9	7.1	12370.48	-39669	-33033	-16392	4.625	4.625	-25508	15518	22564	40441	58167	11794	63005		3.84	Si
SLD 7	5	17019.57	-30796	-25644	14021	4.625	4.625	-19803	14377	19608	40441	58167	11794	60049		4.28	Si
SLD 7	7.1	2691.98	-23799	-19818	13524	4.625	4.625	-15303	13477	17453	40441	58167	11794	57894		4.28	Si
SLV 10	5	-11149.26	-44547	-37095	-19548	4.625	4.625	-28644	16146	24188	40441	58167	11794	64629		3.31	Si
SLV 10	7.1	13557.36	-39881	-33210	-18769	4.625	4.625	-25644	15546	22634	40441	58167	11794	63075		3.36	Si
SLV 12	5	24820.32	-35092	-29222	21569	4.625	4.625	-22565	14930	21039	40441	58167	11794	61480		2.85	Si
SLV 12	7.1	1336.47	-25128	-20925	20761	4.625	4.625	-16158	13648	17721	40441	58167	11794	58162		2.8	Si
SLV 11	5	25853.91	-35418	-29493	23947	4.625	4.625	-22775	14972	21148	40441	58167	11794	61589		2.57	Si
SLV 11	7.1	149.58	-24917	-20748	23138	4.625	4.625	-16022	13621	17650	40441	58167	11794	58091		2.51	Si
SLV 5	5	-12246.69	-37075	-30873	-19156	4.625	4.625	-23840	15185	21700	40441	58167	11794	62141		3.24	Si
SLV 5	7.1	12346.6	-34786	-28967	-18364	4.625	4.625	-22368	14890	20937	40441	58167	11794	61378		3.34	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.775 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.38	15634	-20246	488.38	2544.27	5.21	Si
SLV 4	179667	0.38	15877	-20561	488.38	2579.23	5.28	Si
SLV 7	179667	0.38	16083	-20828	488.38	2608.84	5.34	Si
SLV 8	179667	0.38	16247	-21040	488.38	2632.22	5.39	Si
SLV 1	179667	0.38	19063	-24687	488.38	3024.73	6.19	Si
SLV 2	179667	0.38	19306	-25001	488.38	3057.71	6.26	Si
SLV 11	179667	0.38	19864	-25724	488.38	3132.9	6.41	Si
SLV 12	179667	0.38	20027	-25936	488.38	3154.81	6.46	Si
SLV 5	179667	0.38	27514	-35631	488.38	4089.58	8.37	Si
SLV 6	179667	0.38	27678	-35842	488.38	4108.52	8.41	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-30628	-50256	880	0.766	3768.1	0.95	11.7174	6.56194	Si
SLV 13	-30508	-50741	879	0.769	3755.9	0.95	11.75788	6.56194	Si
SLV 16	-28069	-47420	893	0.823	3508.4	0.947	12.63671	6.56194	Si
SLV 15	-27949	-47904	892	0.826	3496.3	0.947	12.68409	6.56194	Si
SLV 2	-20148	-24262	-870	1.08	2706.1	0.934	16.80545	6.56194	Si
SLV 1	-20028	-24747	-871	1.085	2694	0.934	16.88983	6.56194	Si
SLV 10	-29925	-44547	252	0.799	3696.7	0.949	12.23935	4.70862	Si
SLV 9	-29844	-44873	252	0.801	3688.6	0.949	12.26844	4.70862	Si
SLV 6	-26781	-36748	-273	0.876	3377.8	0.945	13.47071	4.70862	Si
SLV 5	-26700	-37075	-273	0.878	3369.6	0.945	13.50584	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.608	SLU 70	Si
V_SLU	17.156	SLU 79	Si
PF_SLV	2.4	SLV 7	Si
V_SLV	2.511	SLV 11	Si
PFFP_SLV	5.21	SLV 3	Si
R_SLV	1.786	SLV 14	Si

Maschio 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	2.066	-0.123	5.951	L5	L6	3.885	0.28	3.55	3.55	3.55			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{fd}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 73	5	-7482.87	-43113	-0.0000828	0.0003743	0.0035	3.885	51145.95	63756.25	63756.25	8.52	No	Si
SLU 73	7.1	-4389.94	-35062	-0.0000616	0.0003743	0.0035	3.885	46545.68	56818.95	56818.95	12.94	No	Si
SLU 47	5	-6769.31	-34899	-0.000067	0.0003743	0.0035	3.885	46429.57	56675.33	56675.33	8.37	No	Si
SLU 47	7.1	-2807.67	-27777	-0.0000463	0.0003743	0.0035	3.885	40424.3	48419.68	48419.68	17.25	No	Si
SLU 68	5	-7138.43	-40306	-0.000077	0.0003743	0.0035	3.885	49800.37	61225.88	61225.88	8.58	No	Si
SLU 68	7.1	-3658.01	-32662	-0.000056	0.0003743	0.0035	3.885	44734.49	54281.47	54281.47	14.84	No	Si
SLU 44	5	-6748.12	-33882	-0.0000653	0.0003743	0.0035	3.885	45680.65	55690.45	55690.45	8.25	No	Si
SLU 44	7.1	-2814.76	-26797	-0.0000448	0.0003743	0.0035	3.885	39458.05	47170.59	47170.59	16.76	No	Si
SLU 54	5	-7005.8	-39227	-0.0000749	0.0003743	0.0035	3.885	49209.24	60287.12	60287.12	8.61	No	Si
SLU 54	7.1	-3718.55	-31721	-0.0000546	0.0003743	0.0035	3.885	43969.44	53212.61	53212.61	14.31	No	Si
SLU 52	5	-7113.75	-37706	-0.0000726	0.0003743	0.0035	3.885	48307.56	58997.75	58997.75	8.29	No	Si
SLU 52	7.1	-3539.6	-30177	-0.0000517	0.0003743	0.0035	3.885	42646.72	51372.43	51372.43	14.51	No	Si
SLU 61	5	-7102.94	-39390	-0.0000754	0.0003743	0.0035	3.885	49301.56	60428.33	60428.33	8.51	No	Si
SLU 61	7.1	-3959.51	-31737	-0.0000552	0.0003743	0.0035	3.885	43982.95	53230.99	53230.99	13.44	No	Si
SLU 55	5	-7134.94	-38724	-0.0000743	0.0003743	0.0035	3.885	48919.99	59856.46	59856.46	8.39	No	Si
SLU 55	7.1	-3532.51	-31158	-0.0000533	0.0003743	0.0035	3.885	43496.67	52559.27	52559.27	14.88	No	Si
SLU 65	5	-7117.24	-39289	-0.0000753	0.0003743	0.0035	3.885	49244.41	60340.69	60340.69	8.48	No	Si
SLU 65	7.1	-3665.1	-31681	-0.0000544	0.0003743	0.0035	3.885	43936.27	53167.55	53167.55	14.51	No	Si
SLU 46	5	-6640.17	-35402	-0.0000676	0.0003743	0.0035	3.885	46786.27	57113.06	57113.06	8.6	No	Si
SLU 46	7.1	-2993.72	-28340	-0.0000476	0.0003743	0.0035	3.885	40963.85	49124.19	49124.19	16.41	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 5	5	-19665.61	-20275	-0.0000769	0.0005615	0.0035	3.885		39818.03	39818.03	2.02		Si
SLV 5	7.1	5988.14	-10348	-0.0000269	0.0005615	0.0035	3.885		19862.05	19862.05	3.32		Si
SLD 5	5	-14097.41	-24036	-0.0000647	0.0005615	0.0035	3.885		45693.54	45693.54	3.24		Si
SLD 5	7.1	2538.7	-15717	-0.0000271	0.0005615	0.0035	3.885		29068.78	29068.78	11.45		Si
SLV 2	5	-9893.74	-19730	-0.0000489	0.0005615	0.0035	3.885		38972.32	38972.32	3.94		Si
SLV 2	7.1	3064.3	-13808	-0.0000255	0.0005615	0.0035	3.885		25849.59	25849.59	8.44		Si
SLD 9	5	-14362.66	-27390	-0.0000704	0.0005615	0.0035	3.885		50712.49	50712.49	3.53		Si
SLD 9	7.1	1533.44	-18306	-0.0000286	0.0005615	0.0035	3.885		33333.2	33333.2	21.74		Si
SLD 10	5	-15051.95	-27737	-0.0000725	0.0005615	0.0035	3.885		51237.32	51237.32	3.4		Si
SLD 10	7.1	2244.6	-18134	-0.0000299	0.0005615	0.0035	3.885		33064.51	33064.51	14.73		Si
SLV 10	5	-21170.3	-26101	-0.0000855	0.0005615	0.0035	3.885		48773.52	48773.52	2.3		Si
SLV 10	7.1	5549.34	-14150	-0.0000314	0.0005615	0.0035	3.885		26428.97	26428.97	4.76		Si
SLV 9	5	-20069.18	-25547	-0.0000816	0.0005615	0.0035	3.885		47945.03	47945.03	2.39		Si
SLV 9	7.1	4413.29	-14425	-0.0000293	0.0005615	0.0035	3.885		26895.25	26895.25	6.09		Si
SLD 6	5	-14786.7	-24383	-0.0000667	0.0005615	0.0035	3.885		46217.97	46217.97	3.13		Si
SLD 6	7.1	3249.85	-15545	-0.0000284	0.0005615	0.0035	3.885		28781.98	28781.98	8.86		Si
SLV 1	5	-8258.26	-18907	-0.0000441	0.0005615	0.0035	3.885		37620.54	37620.54	4.56		Si
SLV 1	7.1	1376.93	-14216	-0.0000225	0.0005615	0.0035	3.885		26541.13	26541.13	19.28		Si
SLV 6	5	-20766.73	-20829	-0.0000815	0.0005615	0.0035	3.885		40678.41	40678.41	1.96		Si
SLV 6	7.1	7124.19	-10073	-0.000029	0.0005615	0.0035	3.885		19376.57	19376.57	2.72		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	5	-6748.12	-33882	-28214	-3352	3.885	3.885	-25937	10403	16522	40441	32574	9907	24783	Si	7.39	Si
SLU 44	7.1	-2814.76	-26797	-22314	-3340	3.885	3.885	-20513	9679	14162	40441	32574	9907	21243	Si	6.36	Si
SLU 52	5	-7113.75	-37706	-31399	-3592	3.885	3.885	-28864	10793	17796	40441	32574	9907	26693	Si	7.43	Si
SLU 52	7.1	-3539.6	-30177	-25129	-3579	3.885	3.885	-23101	10025	15288	40441	32574	9907	22932	Si	6.41	Si
SLU 47	5	-6769.31	-34899	-29061	-3399	3.885	3.885	-26716	10507	16861	40441	32574	9907	25291	Si	7.44	Si
SLU 47	7.1	-2807.67	-27777	-23131	-3387	3.885	3.885	-21264	9780	14488	40441	32574	9907	21733	Si	6.42	Si
SLU 76	5	-7504.06	-44131	-36748	-3809	3.885	3.885	-33782	10833	19935	40441	32574	9907	29903	Si	7.85	Si
SLU 76	7.1	-4382.85	-36042	-30013	-3794	3.885	3.885	-27591	10623	17241	40441	32574	9907	25862	Si	6.82	Si
SLU 68	5	-7138.43	-40306	-33564	-3569	3.885	3.885	-30855	10833	18662	40441	32574	9907	27992	Si	7.84	Si
SLU 68	7.1	-3658.01	-32662	-27198	-3555	3.885	3.885	-25003	10278	16115	40441	32574	9907	24173	Si	6.8	Si
SLU 63	5	-7124.14	-40408	-33648	-3549	3.885	3.885	-30932	10833	18695	40441	32574	9907	28043	Si	7.9	Si
SLU 63	7.1	-3952.42	-32718	-27245	-3535	3.885	3.885	-25046	10284	16134	40441	32574	9907	24201	Si	6.85	Si
SLU 55	5	-7134.94	-38724	-32246	-3639	3.885	3.885	-29643	10833	18134	40441	32574	9907	27202	Si	7.47	Si
SLU 55	7.1	-3532.51	-31158	-25946	-3626	3.885	3.885	-23851	10125	15614	40441	32574	9907	23422	Si	6.46	Si
SLU 73	5	-7482.87	-43113	-35901	-3762	3.885	3.885	-33003	10833	19596	40441	32574	9907	29395	Si	7.81	Si
SLU 73	7.1	-4389.94	-35062	-29196	-3747	3.885	3.885	-26840	10523	16915	40441	32574	9907	25372	Si	6.77	Si
SLU 65	5	-7117.24	-39289	-32716	-3522	3.885	3.885	-30076	10833	18323	40441	32574	9907	27484	Si	7.8	Si
SLU 65	7.1	-3665.1	-31681	-26381	-3508	3.885	3.885	-24252	10178	15789	40441	32574	9907	23683	Si	6.75	Si
SLU 61	5	-7102.94	-39390	-32801	-3502	3.885	3.885	-30154	10833	18356	40441	32574	9907	27535	Si	7.86	Si
SLU 61	7.1	-3959.51	-31737	-26428	-3488	3.885	3.885	-24295	10184	15807	40441	32574	9907	23711	Si	6.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γ_M = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	5	-20069.18	-25547	-21273	-18329	3.885	3.4708	-22092	14835	16364	40441	48860	9907	56805		3.1	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	7.1	4413.29	-14425	-12012	-17695	3.885	3.885	-11042	12625	13734	40441	48860	9907	54175		3.06	Si
SLV 12	5	9313.56	-40151	-33434	12721	3.885	3.885	-30736	16250	21228	40441	48860	9907	58767		4.62	Si
SLV 12	7.1	-12087.44	-38605	-32147	12219	3.885	3.885	-29552	16250	20713	40441	48860	9907	58767		4.81	Si
SLV 11	5	10414.68	-39597	-32973	14553	3.885	3.885	-30312	16250	21044	40441	48860	9907	58767		4.04	Si
SLV 11	7.1	-13223.49	-38880	-32376	14051	3.885	3.885	-29763	16250	20805	40441	48860	9907	58767		4.18	Si
SLV 10	5	-21170.3	-26101	-21735	-20161	3.885	3.3943	-23067	15030	16549	40441	48860	9907	56990		2.83	Si
SLV 10	7.1	5549.34	-14150	-11783	-19527	3.885	3.885	-10832	12583	13688	40441	48860	9907	54129		2.77	Si
SLV 5	5	-19665.61	-20275	-16883	-17459	3.885	2.9177	-20882	14593	14608	40441	48860	9907	55049		3.15	Si
SLV 5	7.1	5988.14	-10348	-8617	-16936	3.885	3.885	-7921	12001	13055	40441	48860	9907	53496		3.16	Si
SLD 6	5	-14786.7	-24383	-20304	-12825	3.885	3.885	-18665	14150	15976	40441	48860	9907	56417		4.4	Si
SLD 6	7.1	3249.85	-15545	-12945	-12497	3.885	3.885	-11900	12797	13920	40441	48860	9907	54361		4.35	Si
SLV 7	5	10818.24	-34325	-28583	15423	3.885	3.885	-26276	15672	19288	40441	48860	9907	58767		3.81	Si
SLV 7	7.1	-11648.64	-34802	-28980	14810	3.885	3.885	-26641	15745	19447	40441	48860	9907	58767		3.97	Si
SLD 10	5	-15051.95	-27737	-23097	-13379	3.885	3.885	-21233	14663	17094	40441	48860	9907	57534		4.3	Si
SLD 10	7.1	2244.6	-18134	-15100	-12983	3.885	3.885	-13881	13193	14351	40441	48860	9907	54792		4.22	Si
SLV 8	5	9717.13	-34879	-29044	13591	3.885	3.885	-26700	15757	19472	40441	48860	9907	58767		4.32	Si
SLV 8	7.1	-10512.59	-34527	-28751	12978	3.885	3.885	-26431	15703	19355	40441	48860	9907	58767		4.53	Si
SLV 6	5	-20766.73	-20829	-17345	-19291	3.885	2.8365	-22080	14833	14793	40441	48860	9907	55234		2.86	Si
SLV 6	7.1	7124.19	-10073	-8388	-18768	3.885	3.7057	-7711	11959	12408	40441	48860	9907	52849		2.82	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.775 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 6	179667	0.38	9863	-10728	410.24	1404.99	3.42	Si
SLV 5	179667	0.38	10115	-11003	410.24	1438.43	3.51	Si
SLV 2	179667	0.38	13299	-14466	410.24	1848.94	4.51	Si
SLV 10	179667	0.38	13626	-14822	410.24	1889.96	4.61	Si
SLV 1	179667	0.38	13674	-14875	410.24	1895.99	4.62	Si
SLV 9	179667	0.38	13878	-15097	410.24	1921.5	4.68	Si
SLV 4	179667	0.38	20060	-21821	410.24	2653.69	6.47	Si
SLV 3	179667	0.38	20435	-22229	410.24	2695.69	6.57	Si
SLV 14	179667	0.38	25843	-28112	410.24	3269.69	7.97	Si
SLV 13	179667	0.38	26218	-28520	410.24	3307.35	8.06	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 6.775 Wa = 0.05 Ta = 0.0752

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-25799	-40696	932	0.758	3172.5	0.95	11.58783	6.56194	Si
SLV 16	-25609	-41519	932	0.762	3153.2	0.95	11.66311	6.56194	Si
SLV 13	-20627	-36481	992	0.909	2647.9	0.942	14.03077	6.56194	Si
SLV 14	-20437	-37304	992	0.916	2628.6	0.942	14.14316	6.56194	Si
SLV 11	-29154	-39597	192	0.707	3513.2	0.955	10.75712	4.70862	Si
SLV 12	-29026	-40151	192	0.709	3500.2	0.954	10.79894	4.70862	Si
SLV 3	-18233	-23122	-983	1.006	2405.4	0.937	15.59909	6.56194	Si
SLV 4	-18043	-23945	-983	1.014	2386.2	0.937	15.73828	6.56194	Si
SLV 7	-26884	-34325	-383	0.75	3282.6	0.952	11.45455	4.70862	Si
SLV 8	-26756	-34879	-383	0.753	3269.6	0.952	11.50241	4.70862	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.253	SLU 44	Si
V_SLU	6.36	SLU 44	Si
PF_SLV	1.959	SLV 6	Si
V_SLV	2.772	SLV 10	Si
PFFP_SLV	3.425	SLV 6	Si
R_SLV	1.766	SLV 15	Si

Maschio 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.678	-3.359	-24.678	5.951	L6	L7	9.311	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 70	8.55	3596.03	-60054	-0.0000371	0.0003743	0.0035	9.3107	216315.98	236933.9	236933.9	65.89	No	Si
SLU 70	12.05	3592.15	-34155	-0.0000212	0.0003743	0.0035	9.3107	138540.91	145048.06	145048.06	40.38	No	Si
SLU 72	8.55	3439.96	-59169	-0.0000365	0.0003743	0.0035	9.3107	214047.75	234129.57	234129.57	68.06	No	Si
SLU 72	12.05	3505.6	-33445	-0.0000207	0.0003743	0.0035	9.3107	136077.92	142646.83	142646.83	40.69	No	Si
SLU 30	8.55	3402.1	-49935	-0.0000307	0.0003743	0.0035	9.3107	188729.01	200584.77	200584.77	58.96	No	Si
SLU 30	12.05	3219.73	-28520	-0.0000177	0.0003743	0.0035	9.3107	118502.98	126126.53	126126.53	39.17	No	Si
SLU 68	8.55	3053.4	-57613	-0.0000354	0.0003743	0.0035	9.3107	209989.51	228758.68	228758.68	74.92	No	Si
SLU 68	12.05	3437.16	-32002	-0.0000198	0.0003743	0.0035	9.3107	131018.86	137792.58	137792.58	40.09	No	Si
SLU 28	8.55	3558.17	-50819	-0.0000313	0.0003743	0.0035	9.3107	191283.78	203818.02	203818.02	57.28	No	Si
SLU 28	12.05	3306.28	-29230	-0.0000181	0.0003743	0.0035	9.3107	121088.6	128553.95	128553.95	38.88	No	Si
SLU 26	8.55	3015.54	-48378	-0.0000296	0.0003743	0.0035	9.3107	184166.5	194921.81	194921.81	64.64	No	Si
SLU 26	12.05	3151.29	-27077	-0.0000168	0.0003743	0.0035	9.3107	113194.73	120651.65	120651.65	38.29	No	Si
SLU 36	8.55	3705.45	-55791	-0.0000345	0.0003743	0.0035	9.3107	205132.19	222188.98	222188.98	59.96	No	Si
SLU 36	12.05	3410.94	-31584	-0.0000196	0.0003743	0.0035	9.3107	129538.61	136391.58	136391.58	39.99	No	Si
SLU 34	8.55	3162.82	-53350	-0.0000327	0.0003743	0.0035	9.3107	198440.66	213127.02	213127.02	67.39	No	Si
SLU 34	12.05	3255.95	-29432	-0.0000182	0.0003743	0.0035	9.3107	121822.5	129224.13	129224.13	39.69	No	Si
SLU 38	8.55	3549.37	-54906	-0.0000339	0.0003743	0.0035	9.3107	202731.68	218896.37	218896.37	61.67	No	Si
SLU 38	12.05	3324.39	-30874	-0.0000191	0.0003743	0.0035	9.3107	127011.62	134019.59	134019.59	40.31	No	Si
SLU 23	8.55	2625.17	-46823	-0.0000285	0.0003743	0.0035	9.3107	179525.18	189301.23	189301.23	72.11	No	Si
SLU 23	12.05	2877.96	-25641	-0.0000158	0.0003743	0.0035	9.3107	107834.34	114921.9	114921.9	39.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 9	8.55	-15822.53	-39773	-0.0000288	0.0005615	0.0035	9.3107		196456.6	196456.6	12.42		Si
SLV 9	12.05	10113.17	-22446	-0.0000165	0.0005615	0.0035	9.3107		103915.77	103915.77	10.28		Si
SLV 8	8.55	19478.3	-46028	-0.000034	0.0005615	0.0035	9.3107		197702.38	197702.38	10.15		Si
SLV 8	12.05	-6263.79	-24049	-0.000016	0.0005615	0.0035	9.3107		132040.39	132040.39	21.08		Si
SLV 16	8.55	13398.11	-34213	-0.0000246	0.0005615	0.0035	9.3107		152887.97	152887.97	11.41		Si
SLV 16	12.05	-233.13	-21808	-0.0000125	0.0005615	0.0035	9.3107		122610.75	122610.75	525.94		Si
SLV 15	8.55	14777.91	-34415	-0.0000253	0.0005615	0.0035	9.3107		153705.04	153705.04	10.4		Si
SLV 15	12.05	2609.56	-21887	-0.0000134	0.0005615	0.0035	9.3107		101522.71	101522.71	38.9		Si
SLV 5	8.55	-19579.77	-45027	-0.0000334	0.0005615	0.0035	9.3107		216824.76	216824.76	11.07		Si
SLV 5	12.05	9324.37	-23354	-0.0000168	0.0005615	0.0035	9.3107		107792.3	107792.3	11.56		Si
SLV 11	8.55	24164.51	-40910	-0.0000326	0.0005615	0.0035	9.3107		179710.09	179710.09	7.44		Si
SLV 11	12.05	-3561.1	-23195	-0.0000145	0.0005615	0.0035	9.3107		128434.73	128434.73	36.07		Si
SLV 6	8.55	-20508.74	-44891	-0.0000337	0.0005615	0.0035	9.3107		216293.16	216293.16	10.55		Si
SLV 6	12.05	7410.49	-23301	-0.000016	0.0005615	0.0035	9.3107		107567.74	107567.74	14.52		Si
SLV 12	8.55	23235.54	-40774	-0.0000322	0.0005615	0.0035	9.3107		179169.32	179169.32	7.71		Si
SLV 12	12.05	-5474.99	-23142	-0.0000152	0.0005615	0.0035	9.3107		128212.36	128212.36	23.42		Si
SLV 7	8.55	20407.27	-46164	-0.0000344	0.0005615	0.0035	9.3107		198165.74	198165.74	9.71		Si
SLV 7	12.05	-4349.9	-24102	-0.0000154	0.0005615	0.0035	9.3107		132263.34	132263.34	30.41		Si
SLV 10	8.55	-16751.5	-39637	-0.0000291	0.0005615	0.0035	9.3107		195933.68	195933.68	11.7		Si
SLV 10	12.05	8199.29	-22394	-0.0000158	0.0005615	0.0035	9.3107		103689.92	103689.92	12.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	8.55	3699.72	-55794	-46460	1262	9.3107	9.3107	-17821	9321	31133	38062	78065	23742	46700	Si	37.01	Si
SLU 35	12.05	3103.61	-31593	-26308	1263	9.3107	9.3107	-10091	8290	23073	38062	78065	23742	34609	Si	27.39	Si
SLU 32	8.55	3309.34	-54239	-45166	1138	9.3107	9.3107	-17325	9254	30616	38062	78065	23742	45923	Si	40.36	Si
SLU 32	12.05	2830.28	-30156	-25111	1139	9.3107	9.3107	-9632	8229	22594	38062	78065	23742	33891	Si	29.75	Si
SLU 77	8.55	3737.57	-65029	-54150	1171	9.3107	9.3107	-20771	9714	34209	38062	78065	23742	51314	Si	43.83	Si
SLU 77	12.05	3389.47	-36517	-30409	1173	9.3107	9.3107	-11664	8500	24713	38062	78065	23742	37069	Si	31.61	Si
SLU 27	8.55	3552.44	-50822	-42320	1047	9.3107	9.3107	-16233	9109	29477	38062	78065	23742	44216	Si	42.22	Si
SLU 27	12.05	2998.95	-29238	-24347	1049	9.3107	9.3107	-9339	8190	22288	38062	78065	23742	33432	Si	31.88	Si
SLU 29	8.55	3396.37	-49938	-41584	990	9.3107	9.3107	-15951	9071	29183	38062	78065	23742	43774	Si	44.23	Si
SLU 29	12.05	2912.4	-28528	-23756	991	9.3107	9.3107	-9112	8159	22052	38062	78065	23742	33078	Si	33.37	Si
SLU 83	8.55	3254.24	-64720	-53893	1081	9.3107	9.3107	-20673	9701	34106	38062	78065	23742	51160	Si	47.32	Si
SLU 83	12.05	3074.44	-35380	-29461	1083	9.3107	9.3107	-11301	8451	24334	38062	78065	23742	36501	Si	33.7	Si
SLU 39	8.55	2826.01	-53931	-44909	1048	9.3107	9.3107	-17226	9241	30513	38062	78065	23742	45769	Si	43.67	Si
SLU 39	12.05	2515.25	-29018	-24164	1050	9.3107	9.3107	-9269	8180	22215	38062	78065	23742	33323	Si	31.75	Si
SLU 37	8.55	3543.64	-54909	-45724	1204	9.3107	9.3107	-17539	9283	30839	38062	78065	23742	46258	Si	38.42	Si
SLU 37	12.05	3017.05	-30883	-25716	1206	9.3107	9.3107	-9864	8260	22836	38062	78065	23742	34254	Si	28.41	Si
SLU 41	8.55	3216.38	-55486	-46204	1172	9.3107	9.3107	-17723	9308	31031	38062	78065	23742	46546	Si	39.71	Si
SLU 41	12.05	2788.58	-30455	-25360	1174	9.3107	9.3107	-9728	8241	22694	38062	78065	23742	34041	Si	29	Si
SLU 79	8.55	3581.5	-64144	-53414	1113	9.3107	9.3107	-20489	9676	33915	38062	78065	23742	50872	Si	45.7	Si
SLU 79	12.05	3302.92	-35808	-29818	1115	9.3107	9.3107	-11438	8469	24477	38062	78065	23742	36715	Si	32.93	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	8.55	-16751.5	-39637	-33006	-26984	9.3107	9.3107	-12661	12949	33757	38062	117097	23742	71819		2.66	Si
SLV 10	12.05	8199.29	-22394	-18647	-22952	9.3107	9.3107	-7153	11847	30886	38062	117097	23742	68948		3	Si
SLV 9	8.55	-15822.53	-39773	-33119	-30077	9.3107	9.3107	-12704	12957	33780	38062	117097	23742	71842		2.39	Si
SLV 9	12.05	10113.17	-22446	-18691	-26044	9.3107	9.3107	-7170	11851	30894	38062	117097	23742	68957		2.65	Si
SLV 7	8.55	20407.27	-46164	-38441	27894	9.3107	9.3107	-14745	13366	34844	38062	117097	23742	72907		2.61	Si
SLV 7	12.05	-4349.9	-24102	-20070	23864	9.3107	9.3107	-7699	11956	31170	38062	117097	23742	69232		2.9	Si
SLD 8	8.55	12570.55	-44867	-37361	19331	9.3107	9.3107	-14331	13283	34628	38062	117097	23742	72691		3.76	Si
SLD 8	12.05	-3261.71	-23741	-19770	16808	9.3107	9.3107	-7583	11933	31110	38062	117097	23742	69172		4.12	Si
SLV 8	8.55	19478.3	-46028	-38328	30986	9.3107	9.3107	-14702	13357	34822	38062	117097	23742	72884		2.35	Si
SLV 8	12.05	-6263.79	-24049	-20026	26956	9.3107	9.3107	-7682	11953	31161	38062	117097	23742	69224		2.57	Si
SLD 12	8.55	14906.36	-41565	-34612	19535	9.3107	9.3107	-13277	13072	34079	38062	117097	23742	72141		3.69	Si
SLD 12	12.05	-2759.53	-23191	-19311	17113	9.3107	9.3107	-7407	11898	31018	38062	117097	23742	69081		4.04	Si
SLV 5	8.55	-19579.77	-45027	-37494	-30398	9.3107	9.3107	-14382	13293	34655	38062	117097	23742	72717		2.39	Si
SLV 5	12.05	9324.37	-23354	-19447	-26528	9.3107	9.3107	-7460	11909	31046	38062	117097	23742	69108		2.61	Si
SLV 6	8.55	-20508.74	-44891	-37381	-27306	9.3107	9.3107	-14339	13284	34632	38062	117097	23742	72694		2.66	Si
SLV 6	12.05	7410.49	-23301	-19403	-23436	9.3107	9.3107	-7443	11905	31037	38062	117097	23742	69099		2.95	Si
SLV 11	8.55	24164.51	-40910	-34066	28215	9.3107	9.3107	-13067	13030	33969	38062	117097	23742	72031		2.55	Si
SLV 11	12.05	-3561.1	-23195	-19314	24347	9.3107	9.3107	-7409	11898	31019	38062	117097	23742	69081		2.84	Si
SLV 12	8.55	23235.54	-40774	-33953	31308	9.3107	9.3107	-13024	13021	33947	38062	117097	23742	72009		2.3	Si
SLV 12	12.05	-5474.99	-23142	-19270	27439	9.3107	9.3107	-7392	11895	31010	38062	117097	23742	69072		2.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.46	10893	-28397	1136.83	3691.98	3.25	Si
SLV 13	179667	0.46	10947	-28538	1136.83	3708.99	3.26	Si
SLV 16	179667	0.46	10987	-28642	1136.83	3721.41	3.27	Si
SLV 15	179667	0.46	11041	-28784	1136.83	3738.4	3.29	Si
SLV 10	179667	0.46	11885	-30984	1136.83	4000.2	3.52	Si
SLV 9	179667	0.46	11922	-31080	1136.83	4011.48	3.53	Si
SLV 12	179667	0.46	12199	-31802	1136.83	4096.66	3.6	Si
SLV 11	179667	0.46	12235	-31898	1136.83	4107.88	3.61	Si
SLV 6	179667	0.46	12822	-33428	1136.83	4286.93	3.77	Si
SLV 5	179667	0.46	12859	-33523	1136.83	4298.05	3.78	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 3	-24912	-51929	-2770	1.545	3854.3	0.915	24.54981	7.35059	Si
SLV 4	-24834	-51727	-2770	1.549	3846.5	0.915	24.60986	7.35059	Si
SLV 1	-24687	-51588	-2753	1.556	3831.9	0.914	24.73055	7.35059	Si
SLV 2	-24609	-51386	-2753	1.56	3824.1	0.914	24.79147	7.35059	Si
SLV 15	-21887	-34415	2739	1.697	3552.8	0.91	27.11712	7.35059	Si
SLV 16	-21808	-34213	2739	1.702	3545	0.91	27.1903	7.35059	Si
SLV 13	-21662	-34074	2755	1.709	3530.5	0.909	27.31874	7.35059	Si
SLV 14	-21584	-33872	2755	1.714	3522.7	0.909	27.39302	7.35059	Si
SLV 7	-24102	-46164	-861	1.642	3773.5	0.913	26.12451	5.33016	Si
SLV 8	-24049	-46028	-861	1.645	3768.2	0.913	26.16864	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	38.286	SLU 26	Si
V_SLU	27.393	SLU 35	Si
PF_SLV	7.437	SLV 11	Si
V_SLV	2.3	SLV 12	Si
PFFP_SLV	3.248	SLV 14	Si
R_SLV	3.34	SLV 3	Si

Maschio 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-22.713	5.951	-24.678	5.951	L6	L7	1.965	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{med10}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	9.45	-1031.08	-10517	-0.0000383	0.0003743	0.0035	1.965	8392.68	9975.14	9975.14	9.67	No	Si
SLU 64	11.25	-376.49	-8800	-0.0000276	0.0003743	0.0035	1.965	7288.05	8701.97	8701.97	23.11	No	Si
SLU 51	9.45	-1023.4	-10107	-0.0000371	0.0003743	0.0035	1.965	8138.31	9673.57	9673.57	9.45	No	Si
SLU 51	11.25	-196.31	-8240	-0.0000244	0.0003743	0.0035	1.965	6904.86	8263.75	8263.75	42.1	No	Si
SLU 44	9.45	-955.21	-9193	-0.0000337	0.0003743	0.0035	1.965	7549.62	8998.58	8998.58	9.42	No	Si
SLU 44	11.25	-215.4	-7316	-0.000022	0.0003743	0.0035	1.965	6248.9	7546.4	7546.4	35.03	No	Si
SLU 47	9.45	-977.76	-9640	-0.0000353	0.0003743	0.0035	1.965	7841.14	9326.37	9326.37	9.54	No	Si
SLU 47	11.25	-211.97	-7788	-0.0000233	0.0003743	0.0035	1.965	6587.82	7914.14	7914.14	37.34	No	Si
SLU 46	9.45	-1019.39	-9879	-0.0000363	0.0003743	0.0035	1.965	7994.08	9503.3	9503.3	9.32	No	Si
SLU 46	11.25	-229.4	-7996	-0.000024	0.0003743	0.0035	1.965	6734.7	8074.56	8074.56	35.2	No	Si
SLU 45	9.45	-1054.03	-9909	-0.0000367	0.0003743	0.0035	1.965	8013.26	9525.74	9525.74	9.04	No	Si
SLU 45	11.25	-211.05	-7966	-0.0000238	0.0003743	0.0035	1.965	6713.32	8051.06	8051.06	38.15	No	Si
SLU 50	9.45	-1058.04	-10137	-0.0000374	0.0003743	0.0035	1.965	8157.25	9696.06	9696.06	9.16	No	Si
SLU 50	11.25	-177.96	-8209	-0.0000242	0.0003743	0.0035	1.965	6883.74	8240.08	8240.08	46.3	No	Si
SLU 49	9.45	-1041.94	-10326	-0.0000379	0.0003743	0.0035	1.965	8274.85	9835.57	9835.57	9.44	No	Si
SLU 49	11.25	-225.98	-8468	-0.0000253	0.0003743	0.0035	1.965	7062.34	8442.15	8442.15	37.36	No	Si
SLU 48	9.45	-1076.58	-10356	-0.0000383	0.0003743	0.0035	1.965	8293.56	9857.74	9857.74	9.16	No	Si
SLU 48	11.25	-207.62	-8438	-0.0000251	0.0003743	0.0035	1.965	7041.47	8418.32	8418.32	40.55	No	Si
SLU 43	9.45	-1012.95	-9243	-0.0000344	0.0003743	0.0035	1.965	7582.78	9035.26	9035.26	8.92	No	Si
SLU 43	11.25	-184.81	-7265	-0.0000216	0.0003743	0.0035	1.965	6212.04	7504.43	7504.43	40.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	9.45	1431.8	-4157	-0.0000231	0.0005615	0.0035	1.965		4116.92	4116.92	2.88		Si
SLV 9	11.25	-1368.47	-6965	-0.0000304	0.0005615	0.0035	1.965		7429.6	7429.6	5.43		Si
SLV 16	9.45	-2728.16	-9582	-0.0000494	0.0005615	0.0035	1.965		9626.9	9626.9	3.53		Si
SLV 16	11.25	1675.71	-5030	-0.0000275	0.0005615	0.0035	1.965		4903.69	4903.69	2.93		Si
SLD 12	9.45	-2504	-10449	-0.00005	0.0005615	0.0035	1.965		10324.29	10324.29	4.12		Si
SLD 12	11.25	865.6	-6051	-0.0000236	0.0005615	0.0035	1.965		5808.65	5808.65	6.71		Si
SLV 5	9.45	2003.64	-3962	-0.0000295	0.0005615	0.0035	1.965		3939.26	3939.26	1.97		Si
SLV 5	11.25	-2156.39	-7680	-0.0000391	0.0005615	0.0035	1.965		8047.33	8047.33	3.73		Si
SLV 8	9.45	-2987.37	-11787	-0.0000582	0.0005615	0.0035	1.965		11387.94	11387.94	3.81		Si
SLV 8	11.25	778.95	-6405	-0.0000239	0.0005615	0.0035	1.965		6116.48	6116.48	7.85		Si
SLV 11	9.45	-3139.62	-11796	-0.0000595	0.0005615	0.0035	1.965		11395.28	11395.28	3.63		Si
SLV 11	11.25	1200.78	-6150	-0.0000267	0.0005615	0.0035	1.965		5894.41	5894.41	4.91		Si
SLV 12	9.45	-3559.21	-11983	-0.0000637	0.0005615	0.0035	1.965		11542.52	11542.52	3.24		Si
SLV 12	11.25	1566.88	-5690	-0.0000284	0.0005615	0.0035	1.965		5490.05	5490.05	3.5		Si
SLV 1	9.45	1172.6	-6362	-0.0000227	0.0005615	0.0035	1.965		6079.22	6079.22	5.18		Si
SLV 1	11.25	-2265.23	-8340	-0.0000419	0.0005615	0.0035	1.965		8598.31	8598.31	3.8		Si
SLV 10	9.45	1012.21	-4343	-0.0000201	0.0005615	0.0035	1.965		4285.87	4285.87	4.23		Si
SLV 10	11.25	-1002.38	-6505	-0.000026	0.0005615	0.0035	1.965		7034.53	7034.53	7.02		Si
SLV 6	9.45	1584.05	-4148	-0.0000245	0.0005615	0.0035	1.965		4108.53	4108.53	2.59		Si
SLV 6	11.25	-1790.3	-7220	-0.0000346	0.0005615	0.0035	1.965		7650.13	7650.13	4.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	9.45	-791.29	-10370	-8635	536	1.965	1.965	-15695	9037	4972	38062	16475	5011	7458	Si	13.92	Si
SLU 36	11.25	-591.04	-9618	-8009	536	1.965	1.965	-14556	8885	4889	38062	16475	5011	7333	Si	13.68	Si
SLU 33	9.45	-768.75	-9923	-8263	536	1.965	1.965	-15018	8947	4923	38062	16475	5011	7384	Si	13.77	Si
SLU 33	11.25	-594.47	-9146	-7616	536	1.965	1.965	-13842	8790	4836	38062	16475	5011	7254	Si	13.52	Si
SLU 39	9.45	-745.26	-9531	-7937	586	1.965	1.965	-14425	8868	4879	38062	16475	5011	7319	Si	12.49	Si
SLU 39	11.25	-620.79	-8794	-7323	586	1.965	1.965	-13309	8719	4797	38062	16475	5011	7196	Si	12.28	Si
SLU 34	9.45	-727.12	-9684	-8064	566	1.965	1.965	-14657	8899	4896	38062	16475	5011	7344	Si	12.96	Si
SLU 34	11.25	-577.04	-8937	-7442	567	1.965	1.965	-13526	8748	4813	38062	16475	5011	7220	Si	12.74	Si
SLU 42	9.45	-733.16	-9948	-8284	648	1.965	1.965	-15056	8952	4925	38062	16475	5011	7388	Si	11.4	Si
SLU 42	11.25	-635.72	-9297	-7741	648	1.965	1.965	-14070	8820	4853	38062	16475	5011	7280	Si	11.23	Si
SLU 41	9.45	-767.8	-9978	-8309	585	1.965	1.965	-15101	8958	4929	38062	16475	5011	7393	Si	12.63	Si
SLU 41	11.25	-617.36	-9266	-7716	586	1.965	1.965	-14024	8814	4850	38062	16475	5011	7274	Si	12.42	Si
SLU 82	9.45	-939.59	-11298	-9408	532	1.965	1.965	-17099	9224	5075	38062	16475	5011	7613	Si	14.31	Si
SLU 82	11.25	-631.24	-10096	-8407	532	1.965	1.965	-15280	8882	4942	38062	16475	5011	7413	Si	13.93	Si
SLU 40	9.45	-710.61	-9501	-7911	649	1.965	1.965	-14379	8862	4876	38062	16475	5011	7314	Si	11.28	Si
SLU 40	11.25	-639.14	-8824	-7348	649	1.965	1.965	-13355	8725	4801	38062	16475	5011	7201	Si	11.1	Si
SLU 31	9.45	-704.57	-9237	-7692	567	1.965	1.965	-13980	8808	4846	38062	16475	5011	7270	Si	12.82	Si
SLU 31	11.25	-580.46	-8465	-7049	567	1.965	1.965	-12812	8653	4761	38062	16475	5011	7141	Si	12.59	Si
SLU 38	9.45	-772.76	-10151	-8453	524	1.965	1.965	-15364	8993	4948	38062	16475	5011	7422	Si	14.16	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 38	11.25	-561.38	-9389	-7819	524	1.965	1.965	-14211	8839	4863	38062	16475	5011	7295	Si	13.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	9.45	1012.21	-4343	-3616	3297	1.965	1.965	-6573	11731	6455	38062	24713	5011	29724		9.02	Si
SLV 10	11.25	-1002.38	-6505	-5417	3494	1.965	1.965	-9846	12386	6815	38062	24713	5011	29724		8.51	Si
SLV 9	9.45	1431.8	-4157	-3461	4085	1.965	1.9142	-6291	11675	6257	38062	24713	5011	29724		7.28	Si
SLV 9	11.25	-1368.47	-6965	-5800	4282	1.965	1.965	-10541	12525	6891	38062	24713	5011	29724		6.94	Si
SLV 16	9.45	-2728.16	-9582	-7979	-4143	1.965	1.965	-14502	13317	7327	38062	24713	5011	29724		7.17	Si
SLV 16	11.25	1675.71	-5030	-4189	-3684	1.965	1.9481	-7613	11939	6513	38062	24713	5011	29724		8.07	Si
SLV 5	9.45	2003.64	-3962	-3299	5484	1.965	1.4302	-5996	11616	4652	38062	24713	5011	29724		5.42	Si
SLV 5	11.25	-2156.39	-7680	-6395	5395	1.965	1.965	-11623	12741	7010	38062	24713	5011	29724		5.51	Si
SLV 12	9.45	-3559.21	-11983	-9978	-5345	1.965	1.965	-18135	14044	7727	38062	24713	5011	29724		5.56	Si
SLV 12	11.25	1566.88	-5690	-4739	-5256	1.965	1.965	-8612	12139	6679	38062	24713	5011	29724		5.66	Si
SLD 5	9.45	948.43	-5496	-4576	3437	1.965	1.965	-8317	12080	6646	38062	24713	5011	29724		8.65	Si
SLD 5	11.25	-1455.12	-7319	-6094	3375	1.965	1.965	-11077	12632	6950	38062	24713	5011	29724		8.81	Si
SLV 6	9.45	1584.05	-4148	-3454	4695	1.965	1.8018	-6277	11672	5888	38062	24713	5011	29724		6.33	Si
SLV 6	11.25	-1790.3	-7220	-6012	4607	1.965	1.965	-10928	12602	6934	38062	24713	5011	29724		6.45	Si
SLV 11	9.45	-3139.62	-11796	-9823	-4556	1.965	1.965	-17854	13987	7696	38062	24713	5011	29724		6.52	Si
SLV 11	11.25	1200.78	-6150	-5121	-4467	1.965	1.965	-9308	12278	6755	38062	24713	5011	29724		6.65	Si
SLV 8	9.45	-2987.37	-11787	-9815	-3946	1.965	1.965	-17840	13985	7694	38062	24713	5011	29724		7.53	Si
SLV 8	11.25	778.95	-6405	-5334	-4143	1.965	1.965	-9694	12355	6798	38062	24713	5011	29724		7.17	Si
SLV 1	9.45	1172.6	-6362	-5298	4282	1.965	1.965	-9629	12343	6791	38062	24713	5011	29724		6.94	Si
SLV 1	11.25	-2265.23	-8340	-6945	3823	1.965	1.965	-12622	12941	7120	38062	24713	5011	29724		7.77	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.46	10760	-5920	239.93	770.4	3.21	Si
SLV 9	179667	0.46	11119	-6118	239.93	794.15	3.31	Si
SLV 6	179667	0.46	11418	-6282	239.93	813.72	3.39	Si
SLV 14	179667	0.46	11425	-6286	239.93	814.18	3.39	Si
SLV 5	179667	0.46	11777	-6480	239.93	837.23	3.49	Si
SLV 13	179667	0.46	11959	-6580	239.93	849.04	3.54	Si
SLV 16	179667	0.46	12727	-7003	239.93	898.65	3.75	Si
SLV 15	179667	0.46	13262	-7297	239.93	932.82	3.89	Si
SLV 2	179667	0.46	13618	-7493	239.93	955.42	3.98	Si
SLV 1	179667	0.46	14152	-7787	239.93	989.1	4.12	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-6344	-7398	-383	1.368	922.3	0.922	21.55023	7.35059	Si
SLV 3	-6215	-8896	-146	1.419	909.3	0.921	22.38204	7.35059	Si
SLV 2	-5985	-7173	-384	1.429	886.2	0.92	22.58236	7.35059	Si
SLV 4	-5855	-8671	-147	1.484	873.2	0.919	23.47369	7.35059	Si
SLV 15	-5152	-7194	388	1.597	802.9	0.914	25.39144	7.35059	Si
SLV 13	-5282	-5696	151	1.602	815.9	0.915	25.44342	7.35059	Si
SLV 16	-4792	-6969	388	1.683	767	0.911	26.83945	7.35059	Si
SLV 14	-4922	-5471	151	1.686	780	0.912	26.86634	7.35059	Si
SLV 5	-6065	-5018	-473	1.404	894.3	0.92	22.16291	5.33016	Si
SLV 6	-5823	-4867	-473	1.447	870	0.919	22.8933	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.92	SLU 43	Si
V_SLU	11.1	SLU 40	Si
PF_SLV	1.966	SLV 5	Si
V_SLV	5.42	SLV 5	Si
PFFP_SLV	3.211	SLV 10	Si
R_SLV	2.932	SLV 1	Si

Maschio 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	5.951	-21.813	5.951	L6	L7	2.195	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fν0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 8	9.45	-691.97	-11139	-0.0000326	0.0003743	0.0035	2.195	10048.91	11941.06	11941.06	17.26	No	Si
SLU 8	11.25	1326.85	-9115	-0.0000317	0.0003743	0.0035	2.195	8546.71	8930.59	8930.59	6.73	No	Si
SLU 49	9.45	-893.54	-13934	-0.0000414	0.0003743	0.0035	2.195	11887.23	14145.56	14145.56	15.83	No	Si
SLU 49	11.25	1607.36	-11321	-0.0000395	0.0003743	0.0035	2.195	10177.11	10780.91	10780.91	6.71	No	Si
SLU 71	9.45	-980.63	-15590	-0.0000466	0.0003743	0.0035	2.195	12847.27	15368.58	15368.58	15.67	No	Si
SLU 71	11.25	1796.31	-12924	-0.0000451	0.0003743	0.0035	2.195	11254.69	12178.17	12178.17	6.78	No	Si
SLU 45	9.45	-988.06	-13701	-0.0000415	0.0003743	0.0035	2.195	11744.58	13975.59	13975.59	14.14	No	Si
SLU 45	11.25	1568.64	-11089	-0.0000386	0.0003743	0.0035	2.195	10013.12	10581.82	10581.82	6.75	No	Si
SLU 58	9.45	-1023.24	-14776	-0.0000447	0.0003743	0.0035	2.195	12387.05	14768.63	14768.63	14.43	No	Si
SLU 58	11.25	1716.54	-12163	-0.0000425	0.0003743	0.0035	2.195	10754.05	11509.2	11509.2	6.7	No	Si
SLU 48	9.45	-918.92	-14000	-0.0000418	0.0003743	0.0035	2.195	11927.08	14193.63	14193.63	15.45	No	Si
SLU 48	11.25	1636.16	-11387	-0.0000398	0.0003743	0.0035	2.195	10222.96	10837.15	10837.15	6.62	No	Si
SLU 43	9.45	-1058.66	-13033	-0.0000402	0.0003743	0.0035	2.195	11324.41	13454.41	13454.41	12.71	No	Si
SLU 43	11.25	1490.96	-10420	-0.0000362	0.0003743	0.0035	2.195	9531.69	10015.08	10015.08	6.72	No	Si
SLU 50	9.45	-920.39	-13630	-0.0000408	0.0003743	0.0035	2.195	11700.27	13923.45	13923.45	15.13	No	Si
SLU 50	11.25	1626	-11017	-0.0000388	0.0003743	0.0035	2.195	9962.23	10520.69	10520.69	6.47	No	Si
SLU 47	9.45	-947.22	-13222	-0.0000399	0.0003743	0.0035	2.195	11444.85	13604.98	13604.98	14.36	No	Si
SLU 47	11.25	1510.49	-10609	-0.0000369	0.0003743	0.0035	2.195	9669.46	10174.64	10174.64	6.74	No	Si
SLU 51	9.45	-895.01	-13564	-0.0000405	0.0003743	0.0035	2.195	11659.57	13875.28	13875.28	15.5	No	Si
SLU 51	11.25	1597.21	-10951	-0.0000384	0.0003743	0.0035	2.195	9915.53	10464.84	10464.84	6.55	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 15	9.45	-2082.04	-12621	-0.0000454	0.0005615	0.0035	2.195		13718.33	13718.33	6.59		Si
SLD 15	11.25	2391.26	-10473	-0.0000419	0.0005615	0.0035	2.195		10679.36	10679.36	4.47		Si
SLV 15	9.45	-2803.86	-13376	-0.0000523	0.0005615	0.0035	2.195		14385.72	14385.72	5.13		Si
SLV 15	11.25	3054	-11153	-0.0000482	0.0005615	0.0035	2.195		11228	11228	3.68		Si
SLV 11	9.45	-2761.92	-16552	-0.0000605	0.0005615	0.0035	2.195		17048.21	17048.21	6.17		Si
SLV 11	11.25	3611.85	-14466	-0.0000608	0.0005615	0.0035	2.195		13950.52	13950.52	3.86		Si
SLV 14	9.45	-2784.4	-11242	-0.0000466	0.0005615	0.0035	2.195		12496.49	12496.49	4.49		Si
SLV 14	11.25	2387.6	-9013	-0.0000381	0.0005615	0.0035	2.195		9427.66	9427.66	3.95		Si
SLV 16	9.45	-3764.33	-14354	-0.0000616	0.0005615	0.0035	2.195		15215.34	15215.34	4.04		Si
SLV 16	11.25	3654.37	-12131	-0.0000549	0.0005615	0.0035	2.195		12022.82	12022.82	3.29		Si
SLV 5	9.45	1654.9	-5650	-0.0000247	0.0005615	0.0035	2.195		6167.49	6167.49	3.73		Si
SLV 5	11.25	-1483.38	-3657	-0.0000186	0.0005615	0.0035	2.195		5187.52	5187.52	3.5		Si
SLV 1	9.45	2010.66	-8506	-0.0000343	0.0005615	0.0035	2.195		8948.69	8948.69	4.45		Si
SLV 1	11.25	-1121.69	-6651	-0.0000236	0.0005615	0.0035	2.195		8182.1	8182.1	7.29		Si
SLD 16	9.45	-2695.09	-13245	-0.0000512	0.0005615	0.0035	2.195		14271.68	14271.68	5.3		Si
SLD 16	11.25	2774.46	-11097	-0.0000461	0.0005615	0.0035	2.195		11182.66	11182.66	4.03		Si
SLV 12	9.45	-3408.57	-17210	-0.0000668	0.0005615	0.0035	2.195		17578.38	17578.38	5.16		Si
SLV 12	11.25	4016.06	-15125	-0.0000655	0.0005615	0.0035	2.195		14501.08	14501.08	3.61		Si
SLD 12	9.45	-2456.21	-15009	-0.0000542	0.0005615	0.0035	2.195		15771.08	15771.08	6.42		Si
SLD 12	11.25	2976.47	-12942	-0.0000524	0.0005615	0.0035	2.195		12687.38	12687.38	4.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	9.45	-1205.59	-14670	-12216	-1542	2.195	2.195	-19876	9595	5897	38062	18404	5597	8845	Si	5.74	Si
SLU 60	11.25	1620.3	-12057	-10040	-1542	2.195	2.195	-16336	9123	5607	38062	18404	5597	8410	Si	5.45	Si
SLU 74	9.45	-1151.15	-16808	-13996	-1629	2.195	2.195	-22773	9981	6134	38062	18404	5597	9201	Si	5.65	Si
SLU 74	11.25	1829.49	-14142	-11776	-1629	2.195	2.195	-19161	9499	5838	38062	18404	5597	8757	Si	5.38	Si
SLU 75	9.45	-1125.77	-16742	-13942	-1598	2.195	2.195	-22684	9969	6127	38062	18404	5597	9190	Si	5.75	Si
SLU 75	11.25	1800.7	-14076	-11722	-1598	2.195	2.195	-19072	9487	5831	38062	18404	5597	8746	Si	5.47	Si
SLU 79	9.45	-1083.48	-16736	-13937	-1623	2.195	2.195	-22676	9968	6126	38062	18404	5597	9189	Si	5.66	Si
SLU 79	11.25	1886.85	-14070	-11717	-1623	2.195	2.195	-19064	9486	5830	38062	18404	5597	8745	Si	5.39	Si
SLU 83	9.45	-1196.7	-16929	-14097	-1670	2.195	2.195	-22937	10003	6148	38062	18404	5597	9222	Si	5.52	Si
SLU 83	11.25	1858.14	-14263	-11877	-1670	2.195	2.195	-19325	9521	5852	38062	18404	5597	8777	Si	5.26	Si
SLU 81	9.45	-1265.83	-16631	-13849	-1671	2.195	2.195	-22533	9949	6115	38062	18404	5597	9172	Si	5.49	Si
SLU 81	11.25	1790.62	-13965	-11629	-1671	2.195	2.195	-18921	9467	5819	38062	18404	5597	8728	Si	5.22	Si
SLU 82	9.45	-1240.45	-16565	-13794	-1641	2.195	2.195	-22444	9937	6107	38062	18404	5597	9161	Si	5.58	Si
SLU 82	11.25	1761.82	-13899	-11574	-1641	2.195	2.195	-18832	9455	5811	38062	18404	5597	8717	Si	5.31	Si
SLU 73	9.45	-1179.45	-16030	-13349	-1574	2.195	2.195	-21719	9840	6048	38062	18404	5597	9072	Si	5.76	Si
SLU 73	11.25	1703.83	-13364	-11129	-1574	2.195	2.195	-18107	9359	5752	38062	18404	5597	8628	Si	5.48	Si
SLU 77	9.45	-1082.02	-17106	-14245	-1628	2.195	2.195	-23177	10035	6167	38062	18404	5597	9251	Si	5.68	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	11.25	1897.01	-14440	-12025	-1628	2.195	2.195	-19565	9553	5871	38062	18404	5597	8807	Si	5.41	Si
SLU 84	9.45	-1171.32	-16864	-14042	-1640	2.195	2.195	-22848	9991	6140	38062	18404	5597	9211	Si	5.62	Si
SLU 84	11.25	1829.34	-14198	-11822	-1640	2.195	2.195	-19236	9509	5844	38062	18404	5597	8767	Si	5.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	9.45	-2784.4	-11242	-9361	-2994	2.195	2.195	-15231	13463	8274	38062	27606	5597	33203		11.09	Si
SLV 14	11.25	2387.6	-9013	-7505	-2627	2.195	2.195	-12211	12859	7903	38062	27606	5597	33203		12.64	Si
SLD 15	9.45	-2082.04	-12621	-10510	-2549	2.195	2.195	-17100	13837	8504	38062	27606	5597	33203		13.03	Si
SLD 15	11.25	2391.26	-10473	-8721	-2315	2.195	2.195	-14190	13255	8146	38062	27606	5597	33203		14.34	Si
SLV 15	9.45	-2803.86	-13376	-11139	-3357	2.195	2.195	-18124	14041	8630	38062	27606	5597	33203		9.89	Si
SLV 15	11.25	3054	-11153	-9288	-3000	2.195	2.195	-15112	13439	8260	38062	27606	5597	33203		11.07	Si
SLD 16	9.45	-2695.09	-13245	-11029	-3102	2.195	2.195	-17946	14006	8608	38062	27606	5597	33203		10.7	Si
SLD 16	11.25	2774.46	-11097	-9241	-2869	2.195	2.195	-15036	13424	8250	38062	27606	5597	33203		11.57	Si
SLV 16	9.45	-3764.33	-14354	-11953	-4224	2.195	2.195	-19448	14306	8793	38062	27606	5597	33203		7.86	Si
SLV 16	11.25	3654.37	-12131	-10102	-3867	2.195	2.195	-16436	13704	8422	38062	27606	5597	33203		8.59	Si
SLV 12	9.45	-3408.57	-17210	-14331	-4113	2.195	2.195	-23318	15080	9268	38062	27606	5597	33203		8.07	Si
SLV 12	11.25	4016.06	-15125	-12594	-4022	2.195	2.195	-20492	14515	8921	38062	27606	5597	33203		8.26	Si
SLD 12	9.45	-2456.21	-15009	-12498	-3006	2.195	2.195	-20335	14484	8902	38062	27606	5597	33203		11.05	Si
SLD 12	11.25	2976.47	-12942	-10777	-2945	2.195	2.195	-17534	13924	8557	38062	27606	5597	33203		11.27	Si
SLV 11	9.45	-2761.92	-16552	-13783	-3529	2.195	2.195	-22426	14902	9159	38062	27606	5597	33203		9.41	Si
SLV 11	11.25	3611.85	-14466	-12046	-3438	2.195	2.195	-19600	14337	8811	38062	27606	5597	33203		9.66	Si
SLV 8	9.45	-2258.19	-16683	-13892	-2909	2.195	2.195	-22603	14937	9180	38062	27606	5597	33203		11.41	Si
SLV 8	11.25	3143.38	-14709	-12249	-3035	2.195	2.195	-19929	14403	8852	38062	27606	5597	33203		10.94	Si
SLD 11	9.45	-2051.41	-14597	-12155	-2640	2.195	2.195	-19777	14372	8833	38062	27606	5597	33203		12.57	Si
SLD 11	11.25	2723.44	-12530	-10434	-2580	2.195	2.195	-16976	13812	8489	38062	27606	5597	33203		12.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.46	7540	-4634	268.01	616.71	2.3	Si
SLV 9	179667	0.46	8247	-5069	268.01	671.31	2.5	Si
SLV 6	179667	0.46	8610	-5292	268.01	699.1	2.61	Si
SLV 10	179667	0.46	9318	-5727	268.01	752.85	2.81	Si
SLV 1	179667	0.46	12382	-7610	268.01	979.04	3.65	Si
SLV 2	179667	0.46	13973	-8588	268.01	1092.27	4.08	Si
SLV 13	179667	0.46	14742	-9060	268.01	1145.99	4.28	Si
SLV 14	179667	0.46	16332	-10038	268.01	1254.99	4.68	Si
SLV 3	179667	0.46	17464	-10733	268.01	1330.81	4.97	Si
SLV 4	179667	0.46	19054	-11711	268.01	1434.94	5.35	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-8632	-12754	244	1.191	1185.9	0.93	18.60334	7.35059	Si
SLV 3	-8269	-11106	244	1.232	1149.2	0.929	19.27948	7.35059	Si
SLV 16	-7816	-17476	330	1.278	1103.7	0.926	20.05593	7.35059	Si
SLV 8	-10526	-18959	943	0.96	1377.3	0.938	14.86544	5.33016	Si
SLV 15	-7453	-15828	330	1.326	1067.1	0.924	20.8511	7.35059	Si
SLV 12	-10282	-20375	969	0.976	1352.6	0.937	15.13293	5.33016	Si
SLV 7	-10282	-17849	943	0.978	1352.6	0.937	15.16559	5.33016	Si
SLV 11	-10037	-19266	969	0.995	1327.9	0.937	15.44509	5.33016	Si
SLV 2	-6712	-8621	-329	1.436	992.7	0.92	22.69027	7.35059	Si
SLV 1	-6350	-6973	-329	1.498	956.3	0.918	23.71443	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.47	SLU 50	Si
V_SLU	5.224	SLU 81	Si
PF_SLV	3.29	SLV 16	Si
V_SLV	7.86	SLV 16	Si
PFFP_SLV	2.301	SLV 5	Si
R_SLV	2.531	SLV 4	Si

Maschio 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-22.493	-3.359	-24.678	-3.359	L6	L7	2.185	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti



fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 46	9.45	-1171.29	-9709	-0.0000323	0.0003743	0.0035	2.185	8953.8	10697.61	10697.61	9.13	No	Si
SLU 46	11.25	-330.28	-7805	-0.0000216	0.0003743	0.0035	2.185	7458.53	9030.52	9030.52	27.34	No	Si
SLU 2	9.45	-885.4	-7286	-0.000024	0.0003743	0.0035	2.185	7028.77	8559.64	8559.64	9.67	No	Si
SLU 2	11.25	-251.23	-5809	-0.0000159	0.0003743	0.0035	2.185	5754.17	7193.23	7193.23	28.63	No	Si
SLU 51	9.45	-1189.24	-9935	-0.000033	0.0003743	0.0035	2.185	9123.13	10890.92	10890.92	9.16	No	Si
SLU 51	11.25	-322.95	-8075	-0.0000222	0.0003743	0.0035	2.185	7678.52	9275.7	9275.7	28.72	No	Si
SLU 43	9.45	-1097.25	-9130	-0.0000303	0.0003743	0.0035	2.185	8512.46	10191.74	10191.74	9.29	No	Si
SLU 43	11.25	-281.59	-7183	-0.0000196	0.0003743	0.0035	2.185	6942.19	8466.93	8466.93	30.07	No	Si
SLU 44	9.45	-1146.3	-9118	-0.0000306	0.0003743	0.0035	2.185	8502.92	10181.03	10181.03	8.88	No	Si
SLU 44	11.25	-247.71	-7095	-0.0000192	0.0003743	0.0035	2.185	6868.67	8388.7	8388.7	33.87	No	Si
SLU 50	9.45	-1159.81	-9943	-0.0000329	0.0003743	0.0035	2.185	9128.65	10897.12	10897.12	9.4	No	Si
SLU 50	11.25	-343.29	-8128	-0.0000225	0.0003743	0.0035	2.185	7720.86	9322.52	9322.52	27.16	No	Si
SLU 47	9.45	-1177.58	-9524	-0.0000319	0.0003743	0.0035	2.185	8814.09	10535.19	10535.19	8.95	No	Si
SLU 47	11.25	-278.55	-7568	-0.0000206	0.0003743	0.0035	2.185	7263.37	8814.18	8814.18	31.64	No	Si
SLU 48	9.45	-1173.14	-10123	-0.0000334	0.0003743	0.0035	2.185	9262	11046.55	11046.55	9.42	No	Si
SLU 48	11.25	-381.46	-8330	-0.0000232	0.0003743	0.0035	2.185	7883.44	9501.65	9501.65	24.91	No	Si
SLU 49	9.45	-1202.57	-10116	-0.0000336	0.0003743	0.0035	2.185	9256.54	11040.43	11040.43	9.18	No	Si
SLU 49	11.25	-361.13	-8278	-0.000023	0.0003743	0.0035	2.185	7841.47	9455.51	9455.51	26.18	No	Si
SLU 45	9.45	-1141.86	-9717	-0.0000321	0.0003743	0.0035	2.185	8959.38	10704.13	10704.13	9.37	No	Si
SLU 45	11.25	-350.61	-7857	-0.0000218	0.0003743	0.0035	2.185	7501.37	9078.54	9078.54	25.89	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	9.45	-3424.31	-7998	-0.0000432	0.0005615	0.0035	2.185		9431.66	9431.66	2.75		Si
SLV 13	11.25	2469.01	-3599	-0.0000315	0.0005615	0.0035	2.185		4066.81	4066.81	1.65		Si
SLV 7	9.45	1736.73	-4842	-0.0000234	0.0005615	0.0035	2.185		5328.84	5328.84	3.07		Si
SLV 7	11.25	-2367.17	-7833	-0.0000352	0.0005615	0.0035	2.185		9272.69	9272.69	3.92		Si
SLV 9	9.45	-3772.34	-10760	-0.0000525	0.0005615	0.0035	2.185		12001.79	12001.79	3.18		Si
SLV 9	11.25	1967.58	-4752	-0.0000248	0.0005615	0.0035	2.185		5238.77	5238.77	2.66		Si
SLV 10	9.45	-3336.4	-10663	-0.0000492	0.0005615	0.0035	2.185		11913.39	11913.39	3.57		Si
SLV 10	11.25	1516.7	-5285	-0.000023	0.0005615	0.0035	2.185		5772.01	5772.01	3.81		Si
SLV 8	9.45	2172.67	-4745	-0.0000265	0.0005615	0.0035	2.185		5231.56	5231.56	2.41		Si
SLV 8	11.25	-2818.05	-8365	-0.0000396	0.0005615	0.0035	2.185		9785.55	9785.55	3.47		Si
SLV 3	9.45	1177.14	-7651	-0.0000267	0.0005615	0.0035	2.185		8088.64	8088.64	6.87		Si
SLV 3	11.25	-2649.79	-8727	-0.0000394	0.0005615	0.0035	2.185		10128.27	10128.27	3.82		Si
SLV 4	9.45	1824.64	-7507	-0.0000307	0.0005615	0.0035	2.185		7950.4	7950.4	4.36		Si
SLV 4	11.25	-3319.48	-9518	-0.0000461	0.0005615	0.0035	2.185		10857.25	10857.25	3.27		Si
SLV 15	9.45	-2063.22	-6081	-0.0000287	0.0005615	0.0035	2.185		7583.62	7583.62	3.68		Si
SLV 15	11.25	1546.23	-4108	-0.0000203	0.0005615	0.0035	2.185		4585.87	4585.87	2.97		Si
SLD 13	9.45	-2454.22	-7896	-0.0000359	0.0005615	0.0035	2.185		9334.01	9334.01	3.8		Si
SLD 13	11.25	1411.91	-4680	-0.0000208	0.0005615	0.0035	2.185		5166.5	5166.5	3.66		Si
SLV 14	9.45	-2776.81	-7854	-0.000038	0.0005615	0.0035	2.185		9292.85	9292.85	3.35		Si
SLV 14	11.25	1799.32	-4390	-0.0000228	0.0005615	0.0035	2.185		4873.74	4873.74	2.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	9.45	-958.45	-11360	-9460	1020	2.185	2.185	-15462	9006	5510	38062	18320	5572	8265	Si	8.1	Si
SLU 83	11.25	-901.69	-10366	-8632	1020	2.185	2.185	-14109	8826	5400	38062	18320	5572	8099	Si	7.94	Si
SLU 36	9.45	-813.88	-9873	-8222	974	2.185	2.185	-13439	8736	5345	38062	18320	5572	8017	Si	8.23	Si
SLU 36	11.25	-855.06	-9310	-7753	964	2.185	2.185	-12672	8634	5282	38062	18320	5572	7923	Si	8.22	Si
SLU 37	9.45	-771.12	-9701	-8078	996	2.185	2.185	-13204	8705	5326	38062	18320	5572	7989	Si	8.02	Si
SLU 37	11.25	-837.22	-9161	-7628	996	2.185	2.185	-12468	8607	5266	38062	18320	5572	7899	Si	7.93	Si
SLU 32	9.45	-753.17	-9474	-7889	983	2.185	2.185	-12895	8664	5301	38062	18320	5572	7951	Si	8.09	Si
SLU 32	11.25	-844.54	-8890	-7403	984	2.185	2.185	-12100	8558	5236	38062	18320	5572	7854	Si	7.98	Si
SLU 41	9.45	-697.55	-9528	-7934	1130	2.185	2.185	-12969	8674	5307	38062	18320	5572	7960	Si	7.04	Si
SLU 41	11.25	-905.21	-9079	-7561	1130	2.185	2.185	-12358	8592	5257	38062	18320	5572	7885	Si	6.98	Si
SLU 40	9.45	-695.7	-9114	-7590	1041	2.185	2.185	-12406	8599	5261	38062	18320	5572	7891	Si	7.58	Si
SLU 40	11.25	-854.04	-8555	-7123	1031	2.185	2.185	-11644	8497	5198	38062	18320	5572	7798	Si	7.57	Si
SLU 81	9.45	-927.17	-10954	-9121	980	2.185	2.185	-14909	8932	5465	38062	18320	5572	8197	Si	8.36	Si
SLU 81	11.25	-870.84	-9894	-8239	980	2.185	2.185	-13466	8740	5347	38062	18320	5572	8021	Si	8.18	Si
SLU 35	9.45	-784.45	-9881	-8228	1023	2.185	2.185	-13449	8738	5346	38062	18320	5572	8018	Si	7.84	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	11.25	-875.39	-9363	-7797	1023	2.185	2.185	-12744	8644	5288	38062	18320	5572	7932	Si	7.75	Si
SLU 39	9.45	-666.27	-9122	-7596	1090	2.185	2.185	-12416	8600	5261	38062	18320	5572	7892	Si	7.24	Si
SLU 39	11.25	-874.37	-8607	-7167	1090	2.185	2.185	-11715	8506	5204	38062	18320	5572	7806	Si	7.16	Si
SLU 42	9.45	-726.99	-9521	-7928	1081	2.185	2.185	-12959	8672	5306	38062	18320	5572	7959	Si	7.36	Si
SLU 42	11.25	-884.88	-9027	-7517	1070	2.185	2.185	-12287	8583	5251	38062	18320	5572	7876	Si	7.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	9.45	1736.73	-4842	-4032	5516	2.185	2.185	-6590	11735	7179	38062	27480	5572	33052		5.99	Si
SLV 7	11.25	-2367.17	-7833	-6522	5414	2.185	2.185	-10661	12549	7677	38062	27480	5572	33052		6.1	Si
SLV 8	9.45	2172.67	-4745	-3951	6391	2.185	1.9038	-6458	11708	6241	38062	27480	5572	33052		5.17	Si
SLV 8	11.25	-2818.05	-8365	-6966	6289	2.185	2.185	-11386	12694	7766	38062	27480	5572	33052		5.26	Si
SLD 8	9.45	1055.96	-5904	-4916	4108	2.185	2.185	-8036	12024	7356	38062	27480	5572	33052		8.05	Si
SLD 8	11.25	-1920.01	-7706	-6417	4038	2.185	2.185	-10489	12515	7656	38062	27480	5572	33052		8.18	Si
SLV 5	9.45	-2800.23	-11231	-9352	-3755	2.185	2.185	-15286	13474	8243	38062	27480	5572	33052		8.8	Si
SLV 5	11.25	708.78	-6138	-5111	-3979	2.185	2.185	-8354	12088	7395	38062	27480	5572	33052		8.31	Si
SLV 9	9.45	-3772.34	-10760	-8960	-5723	2.185	2.185	-14645	13346	8165	38062	27480	5572	33052		5.78	Si
SLV 9	11.25	1967.58	-4752	-3957	-5620	2.185	2.0353	-6468	11710	6674	38062	27480	5572	33052		5.88	Si
SLV 13	9.45	-3424.31	-7998	-6660	-4987	2.185	1.993	-11992	12815	7151	38062	27480	5572	33052		6.63	Si
SLV 13	11.25	2469.01	-3599	-2997	-4461	2.185	1.2195	-4899	11396	3891	38062	27480	5572	33052		7.41	Si
SLV 12	9.45	1200.56	-4274	-3559	4423	2.185	2.185	-5817	11580	7085	38062	27480	5572	33052		7.47	Si
SLV 12	11.25	-1559.25	-6979	-5812	4647	2.185	2.185	-9500	12317	7535	38062	27480	5572	33052		7.11	Si
SLV 10	9.45	-3336.4	-10663	-8879	-4849	2.185	2.185	-14513	13319	8149	38062	27480	5572	33052		6.82	Si
SLV 10	11.25	1516.7	-5285	-4401	-4746	2.185	2.185	-7193	11855	7253	38062	27480	5572	33052		6.96	Si
SLV 4	9.45	1824.64	-7507	-6251	5655	2.185	2.185	-10218	12460	7623	38062	27480	5572	33052		5.84	Si
SLV 4	11.25	-3319.48	-9518	-7926	5129	2.185	2.185	-12955	13008	7958	38062	27480	5572	33052		6.44	Si
SLV 3	9.45	1177.14	-7651	-6371	4356	2.185	2.185	-10414	12499	7647	38062	27480	5572	33052		7.59	Si
SLV 3	11.25	-2649.79	-8727	-7267	3830	2.185	2.185	-11878	12792	7826	38062	27480	5572	33052		8.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.46	8449	-5169	266.79	683.62	2.56	Si
SLV 16	179667	0.46	9129	-5585	266.79	735.18	2.76	Si
SLV 13	179667	0.46	9201	-5629	266.79	740.58	2.78	Si
SLV 11	179667	0.46	9674	-5919	266.79	776.11	2.91	Si
SLV 14	179667	0.46	9881	-6045	266.79	791.56	2.97	Si
SLV 12	179667	0.46	10132	-6199	266.79	810.26	3.04	Si
SLV 7	179667	0.46	11381	-6963	266.79	902.16	3.38	Si
SLV 8	179667	0.46	11839	-7243	266.79	935.43	3.51	Si
SLV 9	179667	0.46	12181	-7452	266.79	960.07	3.6	Si
SLV 10	179667	0.46	12639	-7732	266.79	992.93	3.72	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-7111	-9030	502	1.351	1031.2	0.923	21.28005	7.35059	Si
SLV 3	-6666	-8722	503	1.419	986.6	0.92	22.41203	7.35059	Si
SLV 2	-6828	-10436	173	1.431	1002.8	0.921	22.5807	7.35059	Si
SLV 1	-6383	-10128	173	1.505	958.2	0.918	23.8252	7.35059	Si
SLV 16	-4738	-4510	-178	1.866	794.2	0.907	29.9123	7.35059	Si
SLV 14	-4455	-5916	-508	1.896	766.3	0.905	30.4532	7.35059	Si
SLV 8	-6537	-5757	649	1.422	973.7	0.919	22.48946	5.33016	Si
SLV 15	-4293	-4202	-177	1.997	750.3	0.903	32.12774	7.35059	Si
SLV 17	-6238	-5550	649	1.473	943.7	0.917	23.3384	5.33016	Si
SLV 3	-4010	-5608	-507	2.035	722.5	0.901	32.81341	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.882	SLU 44	Si
V_SLU	6.977	SLU 41	Si
PF_SLV	1.647	SLV 13	Si
V_SLV	5.172	SLV 8	Si
PFFP_SLV	2.562	SLV 15	Si
R_SLV	2.895	SLV 4	Si

Maschio 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.368	-3.359	-21.593	-3.359	L6	L7	2.225	0.28	3.5	3.5	3.5			



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	10.55	-1288.99	-13273	-0.0000417	0.0003743	0.0035	2.225	11676.42	13855.16	13855.16	10.75	No	Si
SLU 65	11.35	-422.16	-10904	-0.0000296	0.0003743	0.0035	2.225	10045.25	11921.27	11921.27	28.24	No	Si
SLU 84	10.55	-1437.82	-15290	-0.0000482	0.0003743	0.0035	2.225	12909.93	15394.84	15394.84	10.71	No	Si
SLU 84	11.35	-658.44	-12840	-0.0000363	0.0003743	0.0035	2.225	11393.13	13506.36	13506.36	20.51	No	Si
SLU 82	10.55	-1403.05	-14754	-0.0000465	0.0003743	0.0035	2.225	12595.89	14985.29	14985.29	10.68	No	Si
SLU 82	11.35	-618.4	-12341	-0.0000347	0.0003743	0.0035	2.225	11058.41	13108.96	13108.96	21.2	No	Si
SLU 75	10.55	-1426.68	-15158	-0.0000478	0.0003743	0.0035	2.225	12833.26	15293.12	15293.12	10.72	No	Si
SLU 75	11.35	-635.4	-12708	-0.0000357	0.0003743	0.0035	2.225	11305.31	13400.59	13400.59	21.09	No	Si
SLU 73	10.55	-1375.49	-14320	-0.0000451	0.0003743	0.0035	2.225	12334.2	14657.69	14657.69	10.66	No	Si
SLU 73	11.35	-551.53	-11914	-0.0000331	0.0003743	0.0035	2.225	10764.42	12772.17	12772.17	23.16	No	Si
SLU 80	10.55	-1435.52	-15378	-0.0000484	0.0003743	0.0035	2.225	12960.39	15461.13	15461.13	10.77	No	Si
SLU 80	11.35	-643.04	-12907	-0.0000363	0.0003743	0.0035	2.225	11436.93	13559.52	13559.52	21.09	No	Si
SLU 68	10.55	-1323.76	-13810	-0.0000434	0.0003743	0.0035	2.225	12018.32	14277.43	14277.43	10.79	No	Si
SLU 68	11.35	-462.2	-11403	-0.0000312	0.0003743	0.0035	2.225	10405.13	12343.83	12343.83	26.71	No	Si
SLU 76	10.55	-1410.26	-14856	-0.0000468	0.0003743	0.0035	2.225	12656.41	15062.79	15062.79	10.68	No	Si
SLU 76	11.35	-591.57	-12413	-0.0000347	0.0003743	0.0035	2.225	11106.63	13165.27	13165.27	22.25	No	Si
SLU 81	10.55	-1388.79	-14733	-0.0000464	0.0003743	0.0035	2.225	12583.19	14969.12	14969.12	10.78	No	Si
SLU 81	11.35	-635.53	-12334	-0.0000348	0.0003743	0.0035	2.225	11053.5	13103.25	13103.25	20.62	No	Si
SLU 78	10.55	-1461.44	-15694	-0.0000495	0.0003743	0.0035	2.225	13139.7	15691.29	15691.29	10.74	No	Si
SLU 78	11.35	-675.45	-13207	-0.0000373	0.0003743	0.0035	2.225	11633.61	13801.68	13801.68	20.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	10.55	-301.49	-5724	-0.0000156	0.0005615	0.0035	2.225		7356.92	7356.92	24.4		Si
SLV 7	11.35	-1416.56	-5291	-0.0000218	0.0005615	0.0035	2.225		6917.99	6917.99	4.88		Si
SLV 8	10.55	-135.81	-5435	-0.0000139	0.0005615	0.0035	2.225		7064.39	7064.39	52.02		Si
SLV 8	11.35	-1794.01	-5252	-0.0000241	0.0005615	0.0035	2.225		6879.14	6879.14	3.83		Si
SLV 3	10.55	-157.45	-8768	-0.0000221	0.0005615	0.0035	2.225		10358.99	10358.99	65.79		Si
SLV 3	11.35	-2192.5	-8007	-0.0000335	0.0005615	0.0035	2.225		9616.43	9616.43	4.39		Si
SLV 2	10.55	-215.6	-11008	-0.0000281	0.0005615	0.0035	2.225		12463.34	12463.34	57.81		Si
SLV 2	11.35	-2344.99	-9882	-0.0000393	0.0005615	0.0035	2.225		11404.98	11404.98	4.86		Si
SLD 4	10.55	-297.72	-9001	-0.0000236	0.0005615	0.0035	2.225		10580.97	10580.97	35.54		Si
SLD 4	11.35	-1881.91	-8098	-0.0000317	0.0005615	0.0035	2.225		9705.68	9705.68	5.16		Si
SLV 13	10.55	-2002.2	-11828	-0.000042	0.0005615	0.0035	2.225		13205.97	13205.97	6.6		Si
SLV 13	11.35	2054.74	-8644	-0.0000342	0.0005615	0.0035	2.225		9217.97	9217.97	4.49		Si
SLV 15	10.55	-1697.97	-9161	-0.0000332	0.0005615	0.0035	2.225		10732.38	10732.38	6.32		Si
SLV 15	11.35	1646.61	-6712	-0.0000268	0.0005615	0.0035	2.225		7326.74	7326.74	4.45		Si
SLV 4	10.55	88.63	-8340	-0.0000206	0.0005615	0.0035	2.225		8924.27	8924.27	100.69		Si
SLV 4	11.35	-2753.13	-7950	-0.0000371	0.0005615	0.0035	2.225		9560.37	9560.37	3.47		Si
SLD 8	10.55	-443.98	-7216	-0.0000202	0.0005615	0.0035	2.225		8844.4	8844.4	19.92		Si
SLD 8	11.35	-1262.98	-6429	-0.0000236	0.0005615	0.0035	2.225		8072.03	8072.03	6.39		Si
SLV 14	10.55	-1756.11	-11400	-0.0000392	0.0005615	0.0035	2.225		12822.36	12822.36	7.3		Si
SLV 14	11.35	1494.12	-8587	-0.0000304	0.0005615	0.0035	2.225		9162.75	9162.75	6.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 80	10.55	-1435.52	-15378	-12806	-2913	2.225	2.225	-20555	9685	6034	38062	18655	5674	9051	Si	3.11	Si
SLU 80	11.35	-643.04	-12907	-10748	-2125	2.225	2.225	-17251	9245	5759	38062	18655	5674	8639	Si	4.07	Si
SLU 69	10.55	-1360.68	-14626	-12180	-2871	2.225	2.225	-19550	9551	5950	38062	18655	5674	8925	Si	3.11	Si
SLU 69	11.35	-563.22	-12190	-10151	-2077	2.225	2.225	-16294	9117	5680	38062	18655	5674	8520	Si	4.1	Si
SLU 65	10.55	-1288.99	-13273	-11053	-2862	2.225	2.225	-17741	9310	5800	38062	18655	5674	8700	Si	3.04	Si
SLU 65	11.35	-422.16	-10904	-9080	-2086	2.225	2.225	-14574	8888	5537	38062	18655	5674	8306	Si	3.98	Si
SLU 76	10.55	-1410.26	-14856	-12371	-2906	2.225	2.225	-19857	9592	5976	38062	18655	5674	8964	Si	3.08	Si
SLU 76	11.35	-591.57	-12413	-10336	-2127	2.225	2.225	-16591	9157	5705	38062	18655	5674	8557	Si	4.02	Si
SLU 70	10.55	-1374.94	-14648	-12197	-2932	2.225	2.225	-19578	9555	5953	38062	18655	5674	8929	Si	3.05	Si
SLU 70	11.35	-546.08	-12198	-10157	-2123	2.225	2.225	-16304	9118	5681	38062	18655	5674	8521	Si	4.01	Si
SLU 68	10.55	-1323.76	-13810	-11499	-2910	2.225	2.225	-18458	9406	5860	38062	18655	5674	8789	Si	3.02	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	11.35	-462.2	-11403	-9495	-2115	2.225	2.225	-15241	8977	5592	38062	18655	5674	8389	Si	3.97	Si
SLU 67	10.55	-1340.18	-14111	-11751	-2883	2.225	2.225	-18862	9459	5893	38062	18655	5674	8840	Si	3.07	Si
SLU 67	11.35	-506.04	-11699	-9742	-2094	2.225	2.225	-15637	9029	5625	38062	18655	5674	8438	Si	4.03	Si
SLU 73	10.55	-1375.49	-14320	-11924	-2857	2.225	2.225	-19140	9496	5916	38062	18655	5674	8874	Si	3.11	Si
SLU 73	11.35	-551.53	-11914	-9921	-2098	2.225	2.225	-15924	9068	5649	38062	18655	5674	8474	Si	4.04	Si
SLU 71	10.55	-1334.75	-14310	-11916	-2857	2.225	2.225	-19128	9495	5915	38062	18655	5674	8873	Si	3.11	Si
SLU 71	11.35	-530.81	-11890	-9901	-2067	2.225	2.225	-15892	9063	5646	38062	18655	5674	8470	Si	4.1	Si
SLU 72	10.55	-1349.02	-14332	-11934	-2918	2.225	2.225	-19156	9499	5918	38062	18655	5674	8876	Si	3.04	Si
SLU 72	11.35	-513.67	-11897	-9907	-2113	2.225	2.225	-15902	9065	5647	38062	18655	5674	8471	Si	4.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	10.55	-1777.76	-14733	-12269	-7596	2.225	2.225	-19693	14355	8943	38062	27983	5674	33657		4.43	Si
SLV 9	11.35	-1095.63	-11342	-9444	-5354	2.225	2.225	-15160	13449	8378	38062	27983	5674	33657		6.29	Si
SLV 14	10.55	-1756.11	-11400	-9493	-7231	2.225	2.225	-15238	13464	8388	38062	27983	5674	33657		4.65	Si
SLV 14	11.35	-1494.12	-8587	-7150	-5335	2.225	2.225	-11477	12712	7920	38062	27983	5674	33657		6.31	Si
SLD 13	10.55	-1615.84	-11168	-9300	-6349	2.225	2.225	-14927	13402	8350	38062	27983	5674	33657		5.3	Si
SLD 13	11.35	-1183.53	-8496	-7075	-4686	2.225	2.225	-11356	12688	7905	38062	27983	5674	33657		7.18	Si
SLD 14	10.55	-1458.77	-10895	-9072	-5340	2.225	2.225	-14562	13329	8304	38062	27983	5674	33657		6.3	Si
SLD 14	11.35	-825.69	-8460	-7045	-3933	2.225	2.225	-11307	12678	7898	38062	27983	5674	33657		8.56	Si
SLD 15	10.55	-1426.76	-9523	-7930	-5038	2.225	2.225	-12729	12962	8076	38062	27983	5674	33657		6.68	Si
SLD 15	11.35	-926.71	-7308	-6085	-3818	2.225	2.225	-9768	12370	7707	38062	27983	5674	33657		8.82	Si
SLV 15	10.55	-1697.97	-9161	-7628	-6701	2.225	2.225	-12244	12866	8015	38062	27983	5674	33657		5.02	Si
SLV 15	11.35	-1646.61	-6712	-5589	-5118	2.225	2.225	-8972	12211	7607	38062	27983	5674	33657		6.58	Si
SLV 13	10.55	-2002.2	-11828	-9850	-8812	2.225	2.225	-15810	13579	8460	38062	27983	5674	33657		3.82	Si
SLV 13	11.35	-2054.74	-8644	-7198	-6515	2.225	2.225	-11554	12727	7929	38062	27983	5674	33657		5.17	Si
SLV 16	10.55	-1451.88	-8733	-7272	-5120	2.225	2.225	-11672	12751	7944	38062	27983	5674	33657		6.57	Si
SLV 16	11.35	-1085.98	-6655	-5542	-3938	2.225	2.225	-8895	12196	7598	38062	27983	5674	33657		8.55	Si
SLV 10	10.55	-1612.08	-14445	-12029	-6532	2.225	2.225	-19308	14278	8895	38062	27983	5674	33657		5.15	Si
SLV 10	11.35	-718.18	-11303	-9412	-4559	2.225	2.225	-15108	13438	8372	38062	27983	5674	33657		7.38	Si
SLD 9	10.55	-1469.58	-12953	-10786	-5531	2.225	2.225	-17313	13879	8647	38062	27983	5674	33657		6.08	Si
SLD 9	11.35	-564.6	-10165	-8465	-3917	2.225	2.225	-13587	13134	8183	38062	27983	5674	33657		8.59	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.46	8612	-5365	271.67	708.74	2.61	Si
SLV 11	179667	0.46	8768	-5462	271.67	720.82	2.65	Si
SLV 8	179667	0.46	9232	-5751	271.67	756.51	2.78	Si
SLV 7	179667	0.46	9388	-5849	271.67	768.48	2.83	Si
SLV 16	179667	0.46	11920	-7426	271.67	958.52	3.53	Si
SLV 15	179667	0.46	12152	-7571	271.67	975.57	3.59	Si
SLV 4	179667	0.46	13987	-8714	271.67	1108.22	4.08	Si
SLV 3	179667	0.46	14219	-8859	271.67	1124.72	4.14	Si
SLV 14	179667	0.46	15409	-9600	271.67	1208.34	4.45	Si
SLV 13	179667	0.46	15641	-9744	271.67	1224.47	4.51	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-7788	-12133	-403	1.288	1105.2	0.926	20.22957	7.35059	Si
SLV 2	-7723	-12138	-403	1.297	1098.6	0.925	20.3691	7.35059	Si
SLV 13	-7130	-8514	-54	1.417	1039	0.922	22.34046	7.35059	Si
SLV 14	-7065	-8519	-54	1.427	1032.4	0.922	22.5064	7.35059	Si
SLV 5	-9093	-13672	-813	1.104	1236.7	0.932	17.21578	5.33016	Si
SLV 6	-9049	-13675	-813	1.108	1232.3	0.932	17.28558	5.33016	Si
SLV 3	-6463	-9729	53	1.526	972.1	0.918	24.16405	7.35059	Si
SLV 4	-6398	-9734	53	1.538	965.6	0.918	24.35837	7.35059	Si
SLV 9	-8895	-12586	-709	1.133	1216.8	0.931	17.68534	5.33016	Si
SLV 10	-8852	-12589	-709	1.137	1212.3	0.931	17.75845	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.656	SLU 73	Si
V_SLU	3.021	SLU 68	Si
PF_SLV	3.473	SLV 4	Si
V_SLV	3.82	SLV 13	Si
PFFP_SLV	2.609	SLV 12	Si
R_SLV	2.752	SLV 1	Si

Maschio 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.263	-3.359	-18.868	-3.359	L6	L7	0.605	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 69	10.55	10.55	-4555	-0.0000431	0.0003743	0.0035	0.605	1013.94	1117	1117	105.9	No	Si
SLU 69	11.35	316.24	-4440	-0.0000714	0.0003743	0.0035	0.605	997.37	1096.84	1096.84	3.47	No	Si
SLU 65	10.55	-8.41	-4104	-0.0000384	0.0003743	0.0035	0.605	946.07	1103.56	1103.56	131.3	No	Si
SLU 65	11.35	302.67	-4029	-0.0000657	0.0003743	0.0035	0.605	934.1	1024.94	1024.94	3.39	No	Si
SLU 70	10.55	6.18	-4533	-0.0000425	0.0003743	0.0035	0.605	1010.9	1113.25	1113.25	180.26	No	Si
SLU 70	11.35	322.14	-4429	-0.0000719	0.0003743	0.0035	0.605	995.76	1094.92	1094.92	3.4	No	Si
SLU 67	10.55	1.83	-4375	-0.0000405	0.0003743	0.0035	0.605	987.68	1085.36	1085.36	592.44	No	Si
SLU 67	11.35	313.09	-4279	-0.0000694	0.0003743	0.0035	0.605	973.2	1068.52	1068.52	3.41	No	Si
SLU 47	10.55	-9.82	-3684	-0.0000345	0.0003743	0.0035	0.605	876.39	1017.5	1017.5	103.58	No	Si
SLU 47	11.35	272.46	-3592	-0.0000583	0.0003743	0.0035	0.605	860.25	931.24	931.24	3.42	No	Si
SLU 2	10.55	-11.06	-2856	-0.0000267	0.0003743	0.0035	0.605	720.93	832.83	832.83	75.3	No	Si
SLU 2	11.35	215.25	-2798	-0.0000449	0.0003743	0.0035	0.605	709.07	745.95	745.95	3.47	No	Si
SLU 68	10.55	-4.06	-4263	-0.0000396	0.0003743	0.0035	0.605	970.79	1135.53	1135.53	279.6	No	Si
SLU 68	11.35	311.72	-4180	-0.0000682	0.0003743	0.0035	0.605	957.98	1051.32	1051.32	3.37	No	Si
SLU 23	10.55	-5.3	-3435	-0.0000317	0.0003743	0.0035	0.605	832.15	962.89	962.89	181.76	No	Si
SLU 23	11.35	254.51	-3386	-0.0000545	0.0003743	0.0035	0.605	823.17	882.18	882.18	3.47	No	Si
SLU 72	10.55	3.2	-4436	-0.0000412	0.0003743	0.0035	0.605	996.72	1096.07	1096.07	342.81	No	Si
SLU 72	11.35	316.84	-4338	-0.0000704	0.0003743	0.0035	0.605	982.16	1078.88	1078.88	3.41	No	Si
SLU 44	10.55	-14.17	-3525	-0.0000334	0.0003743	0.0035	0.605	848.44	982.79	982.79	69.37	No	Si
SLU 44	11.35	263.41	-3441	-0.0000559	0.0003743	0.0035	0.605	833.26	895.3	895.3	3.4	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 13	10.55	-338.97	-1759	-0.0000582	0.0005615	0.0035	0.484		574.86	574.86	1.7		Si
SLD 13	11.35	577.76	-2649	-0.0001198	0.0005615	0.0035	0.605		760.87	760.87	1.32		Si
SLV 9	10.55	-312.18	-2240	-0.0000496	0.0005615	0.0035	0.605		702.92	702.92	2.25		Si
SLV 9	11.35	667.81	-2677	-0.0002066	0.0005615	0.0035	0.605		768.14	768.14	1.15		Si
SLV 15	10.55	-447.85	-1088	-0.0012414	0.0005615	0.0035	0.484		389.3	389.3	0.87		No
SLV 15	11.35	615.4	-2533	-0.0001688	0.0005615	0.0035	0.605		731.02	731.02	1.19		Si
SLD 9	10.55	-194.43	-2584	-0.0000402	0.0005615	0.0035	0.605		793.7	793.7	4.08		Si
SLD 9	11.35	499.65	-2833	-0.0000832	0.0005615	0.0035	0.605		806.42	806.42	1.61		Si
SLV 13	10.55	-534.68	-957	-0.002674	0.0005615	0.0035	0.484		352.41	352.41	0.66		No
SLV 13	11.35	784.49	-2400	-0.008536	0.0005615	0.0035	0.484		696.11	696.11	0.89		No
SLV 16	10.55	-332.08	-1491	-0.0000682	0.0005615	0.0035	0.484		500.7	500.7	1.51		Si
SLV 16	11.35	492.39	-2600	-0.0000853	0.0005615	0.0035	0.605		748.27	748.27	1.52		Si
SLV 14	10.55	-418.9	-1361	-0.0004169	0.0005615	0.0035	0.484		464.73	464.73	1.11		Si
SLV 14	11.35	661.48	-2466	-0.000325	0.0005615	0.0035	0.484		713.68	713.68	1.08		Si
SLD 14	10.55	-265.07	-2016	-0.0000423	0.0005615	0.0035	0.605		643.59	643.59	2.43		Si
SLD 14	11.35	499.24	-2692	-0.0000854	0.0005615	0.0035	0.605		771.71	771.71	1.55		Si
SLD 15	10.55	-285.6	-1840	-0.0000449	0.0005615	0.0035	0.605		596.91	596.91	2.09		Si
SLD 15	11.35	472.83	-2732	-0.0000779	0.0005615	0.0035	0.605		781.87	781.87	1.65		Si
SLV 10	10.55	-234.23	-2512	-0.0000431	0.0005615	0.0035	0.605		774.8	774.8	3.31		Si
SLV 10	11.35	584.99	-2722	-0.0001184	0.0005615	0.0035	0.605		779.42	779.42	1.33		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	10.55	22.58	-4887	-4070	-180	0.605	0.605	-24024	10148	1719	38062	5073	1543	2579	Si	14.36	Si
SLU 79	11.35	317.99	-4767	-3970	-583	0.605	0.605	-23434	10069	1706	38062	5073	1543	2559	Si	4.39	Si
SLU 84	10.55	20.3	-4892	-4073	-182	0.605	0.605	-24046	10151	1720	38062	5073	1543	2579	Si	14.2	Si
SLU 84	11.35	317.85	-4785	-3984	-593	0.605	0.605	-23521	10081	1708	38062	5073	1543	2561	Si	4.32	Si
SLU 76	10.55	10.95	-4693	-3908	-215	0.605	0.605	-23070	10020	1697	38062	5073	1543	2546	Si	11.85	Si
SLU 76	11.35	318.77	-4598	-3829	-578	0.605	0.605	-22603	9958	1687	38062	5073	1543	2530	Si	4.38	Si
SLU 83	10.55	24.67	-4913	-4091	-161	0.605	0.605	-24150	10164	1722	38062	5073	1543	2583	Si	16	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	11.35	311.96	-4796	-3994	-591	0.605	0.605	-23574	10088	1709	38062	5073	1543	2563	Si	4.34	Si
SLU 81	10.55	20.33	-4754	-3959	-163	0.605	0.605	-23370	10060	1704	38062	5073	1543	2556	Si	15.67	Si
SLU 81	11.35	302.91	-4645	-3868	-582	0.605	0.605	-22834	9989	1692	38062	5073	1543	2538	Si	4.36	Si
SLU 75	10.55	16.85	-4805	-4001	-200	0.605	0.605	-23619	10094	1710	38062	5073	1543	2565	Si	12.86	Si
SLU 75	11.35	320.13	-4697	-3911	-581	0.605	0.605	-23089	10023	1698	38062	5073	1543	2547	Si	4.38	Si
SLU 82	10.55	15.96	-4733	-3941	-183	0.605	0.605	-23265	10046	1702	38062	5073	1543	2553	Si	13.93	Si
SLU 82	11.35	308.81	-4634	-3859	-584	0.605	0.605	-22780	9982	1691	38062	5073	1543	2536	Si	4.34	Si
SLU 78	10.55	21.19	-4964	-4133	-198	0.605	0.605	-24400	10198	1728	38062	5073	1543	2591	Si	13.1	Si
SLU 78	11.35	329.18	-4848	-4037	-590	0.605	0.605	-23829	10122	1715	38062	5073	1543	2572	Si	4.36	Si
SLU 77	10.55	25.56	-4985	-4151	-178	0.605	0.605	-24504	10212	1730	38062	5073	1543	2595	Si	14.6	Si
SLU 77	11.35	323.28	-4859	-4046	-588	0.605	0.605	-23883	10129	1716	38062	5073	1543	2574	Si	4.38	Si
SLU 80	10.55	18.21	-4866	-4052	-200	0.605	0.605	-23920	10134	1717	38062	5073	1543	2575	Si	12.89	Si
SLU 80	11.35	323.88	-4756	-3961	-585	0.605	0.605	-23380	10062	1704	38062	5073	1543	2557	Si	4.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	10.55	-332.08	-1491	-1241	-1338	0.484	0.2392	0	0	0	38062	6087	1234	7321		5.47	Si
SLV 16	11.35	492.39	-2600	-2165	-887	0.605	0.3394	-12781	12973	1393	38062	7609	1543	9152		10.32	Si
SLV 10	10.55	-234.23	-2512	-2092	-1285	0.605	0.605	-12347	12886	2183	38062	7609	1543	9152		7.12	Si
SLV 10	11.35	584.99	-2722	-2267	-366	0.605	0.2628	-13382	13093	1420	38062	7609	1543	9152		25.01	Si
SLV 3	10.55	423.23	-4999	-4163	1491	0.605	0.605	-24575	15332	2597	38062	7609	1543	9152		6.14	Si
SLV 3	11.35	-224.19	-3741	-3115	-8	0.605	0.605	-18390	14095	2388	38062	7609	1543	9152		1126.16	Si
SLV 15	10.55	-447.85	-1088	-906	-1776	0.484	0	0	0	0	38062	6087	1234	7321		4.12	Si
SLV 15	11.35	615.4	-2533	-2109	-1047	0.605	0.1787	-43204	16250	1378	38062	7609	1543	9152		8.74	Si
SLD 13	10.55	-338.97	-1759	-1465	-1486	0.484	0.3294	0	0	0	38062	6087	1234	7321		4.93	Si
SLD 13	11.35	577.76	-2649	-2206	-759	0.605	0.2532	-13021	13021	1404	38062	7609	1543	9152		12.05	Si
SLV 4	10.55	539.01	-5402	-4499	1929	0.605	0.605	-26557	15728	2664	38062	7609	1543	9152		4.75	Si
SLV 4	11.35	-347.2	-3808	-3171	152	0.605	0.605	-18719	14160	2399	38062	7609	1543	9152		60.17	Si
SLV 2	10.55	452.18	-5272	-4390	1459	0.605	0.605	-25916	15600	2643	38062	7609	1543	9152		6.27	Si
SLV 2	11.35	-178.11	-3674	-3060	237	0.605	0.605	-18062	14029	2377	38062	7609	1543	9152		38.65	Si
SLV 14	10.55	-418.9	-1361	-1133	-1808	0.484	0	0	0	0	38062	6087	1234	7321		4.05	Si
SLV 14	11.35	661.48	-2466	-2054	-802	0.484	0.1029	0	0	0	38062	6087	1234	7321		9.13	Si
SLV 9	10.55	-312.18	-2240	-1866	-1579	0.605	0.4895	-13700	13157	1803	38062	7609	1543	9152		5.79	Si
SLV 9	11.35	667.81	-2677	-2229	-474	0.605	0.1592	-51546	16250	1410	38062	7609	1543	9152		19.32	Si
SLV 13	10.55	-534.68	-957	-797	-2246	0.484	0	0	0	0	38062	6087	1234	7321		3.26	Si
SLV 13	11.35	784.49	-2400	-1998	-962	0.484	0	0	0	0	38062	6087	1234	7321		7.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.46	7057	-1195	73.87	159.62	2.16	Si
SLV 16	179667	0.46	7982	-1352	73.87	179.41	2.43	Si
SLV 11	179667	0.46	8580	-1453	73.87	192.06	2.6	Si
SLV 12	179667	0.46	9203	-1559	73.87	205.11	2.78	Si
SLV 13	179667	0.46	9520	-1613	73.87	211.69	2.87	Si
SLV 14	179667	0.46	10445	-1769	73.87	230.77	3.12	Si
SLV 7	179667	0.46	12220	-2070	73.87	266.61	3.61	Si
SLV 8	179667	0.46	12842	-2176	73.87	278.96	3.78	Si
SLV 9	179667	0.46	16790	-2844	73.87	354.41	4.8	Si
SLV 10	179667	0.46	17413	-2950	73.87	365.88	4.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-2231	-2339	-9	1.274	312	0.928	19.95075	7.35059	Si
SLV 2	-2199	-3131	-13	1.287	308.7	0.927	20.16622	7.35059	Si
SLV 3	-2163	-2422	-8	1.305	305.1	0.926	20.46852	7.35059	Si
SLV 1	-2131	-3213	-13	1.318	301.9	0.926	20.69612	7.35059	Si
SLV 16	-1385	-2042	1	1.822	227.2	0.909	29.13235	7.35059	Si
SLV 14	-1353	-2834	-3	1.851	224	0.908	29.6287	7.35059	Si
SLV 15	-1317	-2124	1	1.887	220.4	0.907	30.2386	7.35059	Si
SLV 8	-1961	-1325	0	1.41	284.8	0.922	22.22131	5.33016	Si
SLV 13	-1285	-2916	-3	1.919	217.3	0.906	30.77923	7.35059	Si
SLV 7	-1916	-1380	0	1.436	280.2	0.921	22.65047	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.373	SLU 68	Si
V_SLU	4.322	SLU 84	Si
PF_SLV	0.659	SLV 13	No
V_SLV	3.26	SLV 13	Si
PFFP_SLV	2.161	SLV 15	Si
R_SLV	2.714	SLV 4	Si



Maschio 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.046	-19.618	5.811	L6	L7	4.765	0.14	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim.conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	8.55	-4077.48	-21711	-0.0000505	0.0004492	0.0035	4.7652	37950.52	57167.95	56925.78	13.96	Si	Si
SLU 61	12.05	-709.32	-12349	-0.0000243	0.0004492	0.0035	4.7652	24965.29	38858.19	37447.94	52.79	Si	Si
SLU 84	8.55	-4372.5	-25490	-0.0000588	0.0004492	0.0035	4.7652	41740.96	63938.26	62611.44	14.32	Si	Si
SLU 84	12.05	-895.49	-14888	-0.0000296	0.0004492	0.0035	4.7652	28992.42	44003.27	43488.63	48.56	Si	Si
SLU 73	8.55	-4330.08	-23815	-0.0000553	0.0004492	0.0035	4.7652	40163.39	60944.11	60245.08	13.91	Si	Si
SLU 73	12.05	-830.21	-13692	-0.0000271	0.0004492	0.0035	4.7652	27142.19	41579.44	40713.28	49.04	Si	Si
SLU 52	8.55	-3988.33	-20862	-0.0000486	0.0004492	0.0035	4.7652	36984.35	55549.31	55476.52	13.91	Si	Si
SLU 52	12.05	-642.99	-11945	-0.0000234	0.0004492	0.0035	4.7652	24288.74	38038.28	36433.12	56.66	Si	Si
SLU 82	8.55	-4419.24	-24664	-0.0000572	0.0004492	0.0035	4.7652	40983.05	62460.84	61474.57	13.91	Si	Si
SLU 82	12.05	-896.53	-14096	-0.0000281	0.0004492	0.0035	4.7652	27777.42	42399.35	41666.13	46.47	Si	Si
SLU 44	8.55	-3670.6	-19019	-0.0000442	0.0004492	0.0035	4.7652	34741.37	52034.6	52034.6	14.18	No	Si
SLU 44	12.05	-566.85	-11037	-0.0000215	0.0004492	0.0035	4.7652	22735.1	36197.66	34102.65	60.16	Si	Si
SLU 81	8.55	-4348.71	-24752	-0.0000572	0.0004492	0.0035	4.7652	41065.96	62618.74	61598.93	14.16	Si	Si
SLU 81	12.05	-947.08	-14119	-0.0000282	0.0004492	0.0035	4.7652	27813.24	42445.95	41719.86	44.05	Si	Si
SLU 76	8.55	-4283.34	-24642	-0.0000568	0.0004492	0.0035	4.7652	40962.33	62421.52	61443.5	14.34	Si	Si
SLU 76	12.05	-829.16	-14483	-0.0000286	0.0004492	0.0035	4.7652	28375.9	43183.36	42563.85	51.33	Si	Si
SLU 65	8.55	-4012.35	-21972	-0.0000509	0.0004492	0.0035	4.7652	38238.55	57650.68	57357.83	14.3	Si	Si
SLU 65	12.05	-754.07	-12784	-0.0000253	0.0004492	0.0035	4.7652	25681.29	39738.82	38521.94	51.09	Si	Si
SLU 60	8.55	-4006.96	-21799	-0.0000505	0.0004492	0.0035	4.7652	38048.68	57336.45	57073.02	14.24	Si	Si
SLU 60	12.05	-759.86	-12372	-0.0000245	0.0004492	0.0035	4.7652	25003.46	38904.79	37505.19	49.36	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	8.55	-8249.89	-11813	-0.0000408	0.0006738	0.0035	4.7652		38073.2	38073.2	4.61		Si
SLV 6	12.05	2256.64	-8405	-0.0000205	0.0006738	0.0035	4.7652		21088.15	21088.15	9.34		Si
SLD 5	8.55	-6075.04	-13878	-0.0000396	0.0006738	0.0035	4.7652		42362.94	42362.94	6.97		Si
SLD 5	12.05	1345.94	-9057	-0.0000196	0.0006738	0.0035	4.7652		22521.87	22521.87	16.73		Si
SLV 9	8.55	-8093.89	-9718	-0.0000365	0.0006738	0.0035	4.7652		33636.07	33636.07	4.16		Si
SLV 9	12.05	2038.89	-7367	-0.000018	0.0006738	0.0035	4.7652		18806.55	18806.55	9.22		Si
SLV 10	8.55	-8355.83	-9561	-0.0000369	0.0006738	0.0035	4.7652		33296.64	33296.64	3.98		Si
SLV 10	12.05	1746.4	-7162	-0.000017	0.0006738	0.0035	4.7652		18353.65	18353.65	10.51		Si
SLV 13	8.55	-4541.78	-11417	-0.0000314	0.0006738	0.0035	4.7652		37249.14	37249.14	8.2		Si
SLV 13	12.05	-426.68	-7263	-0.0000141	0.0006738	0.0035	4.7652		28308.85	28308.85	66.35		Si
SLD 10	8.55	-6307.23	-12339	-0.0000372	0.0006738	0.0035	4.7652		39164.48	39164.48	6.21		Si
SLD 10	12.05	835.16	-8134	-0.0000167	0.0006738	0.0035	4.7652		20492.38	20492.38	24.54		Si
SLV 14	8.55	-4930.84	-11182	-0.0000318	0.0006738	0.0035	4.7652		36761.96	36761.96	7.46		Si
SLV 14	12.05	-861.1	-6958	-0.0000146	0.0006738	0.0035	4.7652		27641.95	27641.95	32.1		Si
SLV 5	8.55	-7987.95	-11971	-0.0000405	0.0006738	0.0035	4.7652		38401.2	38401.2	4.81		Si
SLV 5	12.05	2549.13	-8611	-0.0000215	0.0006738	0.0035	4.7652		21540.44	21540.44	8.45		Si
SLD 9	8.55	-6143.25	-12437	-0.000037	0.0006738	0.0035	4.7652		39369.81	39369.81	6.41		Si
SLD 9	12.05	1018.26	-8263	-0.0000173	0.0006738	0.0035	4.7652		20775.51	20775.51	20.4		Si
SLD 6	8.55	-6239.01	-13779	-0.0000398	0.0006738	0.0035	4.7652		42157.62	42157.62	6.76		Si
SLD 6	12.05	1162.85	-8928	-0.0000189	0.0006738	0.0035	4.7652		22238.74	22238.74	19.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 45	8.55	-3581.57	-20297	-11254	-1966	4.7652	4.7652	-16869	10583	8355	96666	23975	24302	12533	Si	6.38	Si
SLU 45	12.05	-751.14	-12102	-6710	-551	4.7652	4.7652	-10058	9674	6538	96666	23975	24302	9807	Si	17.79	Si
SLU 2	8.55	-2940.8	-15375	-8525	-1728	4.7652	4.7652	-12778	10037	7263	96666	23975	24302	10895	Si	6.3	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 2	12.05	-465.98	-8942	-4958	-681	4.7652	4.7652	-7431	9324	6220	96666	23975	24302	9331	Si	13.71	Si
SLU 50	8.55	-3459.58	-20820	-11544	-2028	4.7652	4.7652	-17304	10641	8471	96666	23975	24302	12707	Si	6.27	Si
SLU 50	12.05	-649	-12657	-7018	-556	4.7652	4.7652	-10520	9736	6661	96666	23975	24302	9991	Si	17.95	Si
SLU 43	8.55	-3553.06	-19166	-10627	-2001	4.7652	4.7652	-15929	10457	8104	96666	23975	24302	12157	Si	6.08	Si
SLU 43	12.05	-651.1	-11075	-6141	-684	4.7652	4.7652	-9204	9561	6378	96666	23975	24302	9567	Si	13.99	Si
SLU 49	8.55	-3605.35	-21036	-11663	-2155	4.7652	4.7652	-17483	10664	8519	96666	23975	24302	12778	Si	5.93	Si
SLU 49	12.05	-699.54	-12870	-7136	-672	4.7652	4.7652	-10697	9760	6708	96666	23975	24302	10062	Si	14.97	Si
SLU 47	8.55	-3623.86	-19846	-11004	-2307	4.7652	4.7652	-16494	10533	8255	96666	23975	24302	12383	Si	5.37	Si
SLU 47	12.05	-565.81	-11828	-6558	-928	4.7652	4.7652	-9830	9644	6477	96666	23975	24302	9715	Si	10.47	Si
SLU 5	8.55	-2894.06	-16202	-8983	-1742	4.7652	4.7652	-13465	10129	7447	96666	23975	24302	11170	Si	6.41	Si
SLU 5	12.05	-464.93	-9733	-5396	-617	4.7652	4.7652	-8089	9412	6279	96666	23975	24302	9418	Si	15.26	Si
SLU 51	8.55	-3530.11	-20732	-11495	-2203	4.7652	4.7652	-17230	10631	8452	96666	23975	24302	12677	Si	5.75	Si
SLU 51	12.05	-598.45	-12634	-7005	-741	4.7652	4.7652	-10501	9733	6656	96666	23975	24302	9984	Si	13.47	Si
SLU 44	8.55	-3670.6	-19019	-10545	-2294	4.7652	4.7652	-15807	10441	8072	96666	23975	24302	12108	Si	5.28	Si
SLU 44	12.05	-566.85	-11037	-6119	-992	4.7652	4.7652	-9173	9556	6375	96666	23975	24302	9563	Si	9.64	Si
SLU 46	8.55	-3652.09	-20209	-11205	-2142	4.7652	4.7652	-16796	10573	8336	96666	23975	24302	12503	Si	5.84	Si
SLU 46	12.05	-700.59	-12079	-6697	-736	4.7652	4.7652	-10039	9672	6533	96666	23975	24302	9799	Si	13.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	8.55	-8093.89	-9718	-5388	-13485	4.7652	4.6492	-8310	14162	9218	96666	35962	24302	60264		4.47	Si
SLV 9	12.05	2038.89	-7367	-4085	-11686	4.7652	4.7652	-6123	13725	9156	96666	35962	24302	60264		5.16	Si
SLV 10	8.55	-8355.83	-9561	-5301	-13421	4.7652	4.5258	-8398	14180	8984	96666	35962	24302	60264		4.49	Si
SLV 10	12.05	1746.4	-7162	-3971	-11564	4.7652	4.7652	-5952	13690	9133	96666	35962	24302	60264		5.21	Si
SLV 12	8.55	1964.59	-21813	-12094	10462	4.7652	4.7652	-18129	16126	10758	96666	35962	24302	60264		5.76	Si
SLV 12	12.05	-3800.06	-10866	-6025	11115	4.7652	4.7652	-9031	14306	9544	96666	35962	24302	60264		5.42	Si
SLV 7	8.55	2332.47	-24224	-13431	10998	4.7652	4.7652	-20133	16250	11153	96666	35962	24302	60264		5.48	Si
SLV 7	12.05	-2997.34	-12315	-6828	11424	4.7652	4.7652	-10236	14547	9705	96666	35962	24302	60264		5.28	Si
SLV 5	8.55	-7987.95	-11971	-6638	-12886	4.7652	4.7652	-9949	14490	9667	96666	35962	24302	60264		4.68	Si
SLV 5	12.05	2549.13	-8611	-4774	-11255	4.7652	4.7652	-7156	13931	9294	96666	35962	24302	60264		5.35	Si
SLD 9	8.55	-6143.25	-12437	-6896	-8801	4.7652	4.7652	-10337	14567	9718	96666	35962	24302	60264		6.85	Si
SLD 9	12.05	1018.26	-8263	-4581	-7234	4.7652	4.7652	-6867	13873	9255	96666	35962	24302	60264		8.33	Si
SLV 11	8.55	2226.53	-21971	-12182	10398	4.7652	4.7652	-18260	16152	10775	96666	35962	24302	60264		5.8	Si
SLV 11	12.05	-3507.57	-11072	-6139	10992	4.7652	4.7652	-9202	14340	9567	96666	35962	24302	60264		5.48	Si
SLV 8	8.55	2070.53	-24066	-13343	11062	4.7652	4.7652	-20002	16250	11118	96666	35962	24302	60264		5.45	Si
SLV 8	12.05	-3289.82	-12110	-6714	11546	4.7652	4.7652	-10065	14513	9682	96666	35962	24302	60264		5.22	Si
SLV 6	8.55	-8249.89	-11813	-6550	-12822	4.7652	4.7652	-9818	14464	9649	96666	35962	24302	60264		4.7	Si
SLV 6	12.05	2256.64	-8405	-4660	-11133	4.7652	4.7652	-6985	13897	9271	96666	35962	24302	60264		5.41	Si
SLD 10	8.55	-6307.23	-12339	-6841	-8761	4.7652	4.7652	-10255	14551	9707	96666	35962	24302	60264		6.88	Si
SLD 10	12.05	835.16	-8134	-4510	-7158	4.7652	4.7652	-6760	13852	9241	96666	35962	24302	60264		8.42	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-9258	0.46	316.6	598.99	1076.57	837.78	2.65	Si
SLV 9	-9448	0.46	316.6	610.24	1092.78	851.51	2.69	Si
SLV 14	-10220	0.46	316.6	655.6	1158.39	907	2.86	Si
SLV 13	-10502	0.46	316.6	672	1182.34	927.17	2.93	Si
SLV 6	-10698	0.46	316.6	683.31	1198.96	941.14	2.97	Si
SLV 5	-10887	0.46	316.6	694.26	1215.09	954.67	3.02	Si
SLV 16	-12524	0.46	316.6	786.87	1353.89	1070.38	3.38	Si
SLV 15	-12806	0.46	316.6	802.52	1377.79	1090.15	3.44	Si
SLV 2	-15019	0.46	316.6	922.18	1563.45	1242.82	3.93	Si
SLV 1	-15301	0.46	316.6	937.03	1587.09	1262.06	3.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.03 Ta = 0.1461

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-12519	-22602	-363	1.829	1605.8	0.942	28.21381	15.01175	Si
SLV 4	-12214	-22367	-363	1.867	1574.8	0.941	28.83889	15.01175	Si
SLV 1	-11408	-18926	-366	1.977	1493.2	0.938	30.62437	15.01175	Si
SLV 2	-11102	-18692	-366	2.023	1462.3	0.937	31.36204	15.01175	Si
SLV 15	-8375	-15093	366	2.544	1187	0.926	39.93665	15.01175	Si
SLV 16	-8069	-14858	366	2.62	1156.2	0.924	41.19476	15.01175	Si
SLV 13	-7263	-11417	362	2.844	1075.3	0.92	44.92872	15.01175	Si
SLV 14	-6958	-11182	362	2.939	1044.6	0.918	46.52098	15.01175	Si
SLV 7	-12315	-24224	-103	1.872	1585.1	0.941	28.90535	7.79135	Si
SLV 8	-12110	-24066	-103	1.899	1564.3	0.941	29.3398	7.79135	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.91	SLU 52	Si
V_SLU	5.278	SLU 44	Si
PF_SLV	3.985	SLV 10	Si
V_SLV	4.469	SLV 9	Si
PFFP_SLV	2.646	SLV 10	Si
R_SLV	1.879	SLV 3	Si

Maschio 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.333	-3.359	-17.363	-3.359	L6	L7	1.03	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 68	9.45	-11.77	-6947	-0.0000378	0.0003743	0.0035	1.03	2731.12	3213.33	3213.33	273.04	No	Si
SLU 68	11.25	563.87	-5654	-0.0000482	0.0003743	0.0035	1.03	2351.12	2520.81	2520.81	4.47	No	Si
SLU 47	9.45	26.87	-6237	-0.0000343	0.0003743	0.0035	1.03	2529.85	2757.72	2757.72	102.62	No	Si
SLU 47	11.25	476.31	-4778	-0.0000403	0.0003743	0.0035	1.03	2060.21	2167.31	2167.31	4.55	No	Si
SLU 30	9.45	-29.48	-5961	-0.0000328	0.0003743	0.0035	1.03	2446.64	2861.37	2861.37	97.07	No	Si
SLU 30	11.25	503.45	-5081	-0.0000429	0.0003743	0.0035	1.03	2163.8	2288.14	2288.14	4.54	No	Si
SLU 72	9.45	-1.13	-7163	-0.0000387	0.0003743	0.0035	1.03	2789.02	3286.75	3286.75	2896.57	No	Si
SLU 72	11.25	577.66	-5880	-0.0000499	0.0003743	0.0035	1.03	2421.81	2613.95	2613.95	4.53	No	Si
SLU 70	9.45	-4.42	-7292	-0.0000396	0.0003743	0.0035	1.03	2822.67	3330.82	3330.82	752.85	No	Si
SLU 70	11.25	592.57	-6028	-0.0000513	0.0003743	0.0035	1.03	2467.16	2675.22	2675.22	4.51	No	Si
SLU 65	9.45	-4.57	-6730	-0.0000363	0.0003743	0.0035	1.03	2671.5	3138.2	3138.2	686.64	No	Si
SLU 65	11.25	538.41	-5403	-0.0000459	0.0003743	0.0035	1.03	2270.61	2418.43	2418.43	4.49	No	Si
SLU 26	9.45	-40.11	-5744	-0.0000319	0.0003743	0.0035	1.03	2379.62	2781.51	2781.51	69.35	No	Si
SLU 26	11.25	489.66	-4855	-0.0000412	0.0003743	0.0035	1.03	2086.78	2197.81	2197.81	4.49	No	Si
SLU 67	9.45	2.77	-7075	-0.0000383	0.0003743	0.0035	1.03	2765.67	3022.9	3022.9	1089.75	No	Si
SLU 67	11.25	567.1	-5777	-0.000049	0.0003743	0.0035	1.03	2389.94	2571.57	2571.57	4.53	No	Si
SLU 28	9.45	-32.77	-6090	-0.0000336	0.0003743	0.0035	1.03	2485.73	2908.36	2908.36	88.76	No	Si
SLU 28	11.25	518.36	-5229	-0.0000442	0.0003743	0.0035	1.03	2213.31	2347.78	2347.78	4.53	No	Si
SLU 23	9.45	-32.91	-5528	-0.0000305	0.0003743	0.0035	1.03	2310.86	2699.21	2699.21	82.01	No	Si
SLU 23	11.25	464.2	-4604	-0.0000389	0.0003743	0.0035	1.03	1999.24	2098.73	2098.73	4.52	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	9.45	-2008.69	-3312	-0.0015092	0.0005615	0.0035	0.824		1840.45	1840.45	0.92		No
SLV 14	11.25	1519.62	-5974	-0.0000851	0.0005615	0.0035	1.03		2759.35	2759.35	1.82		Si
SLV 12	9.45	1062.82	-3981	-0.0000583	0.0005615	0.0035	1.03		1976.42	1976.42	1.86		Si
SLV 12	11.25	-523.79	-922	-0.0002048	0.0005615	0.0035	0.824		706.57	706.57	1.35		Si
SLV 13	9.45	-2460.32	-2896	-0.0044986	0.0005615	0.0035	0.824		1649.48	1649.48	0.67		No
SLV 13	11.25	1778.54	-6422	-0.0001014	0.0005615	0.0035	1.03		2933.54	2933.54	1.65		Si
SLV 8	9.45	2184.59	-5336	-0.0002072	0.0005615	0.0035	1.03		2513.77	2513.77	1.15		Si
SLV 8	11.25	-1093	-228	-0.0028011	0.0005615	0.0035	0.824		360.84	360.84	0.33		No
SLV 9	9.45	-2066.72	-5001	-0.0001962	0.0005615	0.0035	0.824		2588.03	2588.03	1.25		Si
SLV 9	11.25	1837.67	-7862	-0.0001054	0.0005615	0.0035	1.03		3504.22	3504.22	1.91		Si
SLV 7	9.45	1880.52	-5057	-0.0001366	0.0005615	0.0035	1.03		2407.13	2407.13	1.28		Si
SLV 7	11.25	-918.67	-529	-0.0014858	0.0005615	0.0035	0.824		511.52	511.52	0.56		No
SLV 4	9.45	2578.19	-7441	-0.0001764	0.0005615	0.0035	1.03		3335.85	3335.85	1.29		Si
SLV 4	11.25	-1033.86	-1667	-0.000578	0.0005615	0.0035	0.824		1070.52	1070.52	1.04		Si
SLV 15	9.45	-1612.68	-2506	-0.0012339	0.0005615	0.0035	0.824		1468.55	1468.55	0.91		No
SLV 15	11.25	1122.4	-4431	-0.0000617	0.0005615	0.0035	1.03		2166.34	2166.34	1.93		Si
SLD 13	9.45	-1542.87	-3711	-0.0001427	0.0005615	0.0035	0.824		2022.68	2022.68	1.31		Si
SLD 13	11.25	1263.99	-5542	-0.0000709	0.0005615	0.0035	1.03		2592.39	2592.39	2.05		Si
SLV 16	9.45	-1161.04	-2922	-0.0000918	0.0005615	0.0035	0.824		1661.09	1661.09	1.43		Si
SLV 16	11.25	863.48	-3983	-0.0000482	0.0005615	0.0035	1.03		1977.51	1977.51	2.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	9.45	22.32	-7291	-6072	-63	1.03	1.03	-21052	9751	2812	38062	8636	2627	4218	Si	66.47	Si
SLU 69	11.25	575.05	-5991	-4989	-513	1.03	1.03	-17299	9251	2668	38062	8636	2627	4002	Si	7.8	Si
SLU 71	9.45	25.61	-7163	-5964	-58	1.03	1.03	-20681	9702	2798	38062	8636	2627	4197	Si	72.14	Si
SLU 71	11.25	560.14	-5843	-4866	-497	1.03	1.03	-16871	9194	2652	38062	8636	2627	3977	Si	8	Si
SLU 65	9.45	-4.57	-6730	-5604	-97	1.03	1.03	-19432	9535	2750	38062	8636	2627	4125	Si	42.64	Si
SLU 65	11.25	538.41	-5403	-4499	-501	1.03	1.03	-15601	9025	2603	38062	8636	2627	3904	Si	7.8	Si
SLU 68	9.45	-11.77	-6947	-5785	-109	1.03	1.03	-20057	9619	2774	38062	8636	2627	4161	Si	38.25	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	11.25	563.87	-5654	-4708	-526	1.03	1.03	-16325	9121	2631	38062	8636	2627	3946	Si	7.5	Si
SLV 70	9.45	-4.42	-7292	-6072	-101	1.03	1.03	-21054	9752	2812	38062	8636	2627	4219	Si	41.74	Si
SLU 70	11.25	592.57	-6028	-5020	-546	1.03	1.03	-17406	9265	2672	38062	8636	2627	4008	Si	7.34	Si
SLU 72	9.45	-1.13	-7163	-5965	-96	1.03	1.03	-20682	9702	2798	38062	8636	2627	4197	Si	43.82	Si
SLU 72	11.25	577.66	-5880	-4896	-530	1.03	1.03	-16978	9208	2656	38062	8636	2627	3983	Si	7.51	Si
SLU 67	9.45	2.77	-7075	-5891	-89	1.03	1.03	-20428	9668	2788	38062	8636	2627	4182	Si	46.99	Si
SLU 67	11.25	567.1	-5777	-4811	-520	1.03	1.03	-16682	9169	2644	38062	8636	2627	3966	Si	7.63	Si
SLU 28	9.45	-32.77	-6090	-5071	-129	1.03	1.03	-17583	9289	2679	38062	8636	2627	4018	Si	31.17	Si
SLU 28	11.25	518.36	-5229	-4354	-474	1.03	1.03	-15098	8957	2583	38062	8636	2627	3875	Si	8.17	Si
SLU 66	9.45	29.52	-7075	-5891	-51	1.03	1.03	-20427	9668	2788	38062	8636	2627	4182	Si	81.35	Si
SLU 66	11.25	549.58	-5740	-4780	-487	1.03	1.03	-16574	9154	2640	38062	8636	2627	3960	Si	8.13	Si
SLU 49	9.45	34.22	-6582	-5481	-29	1.03	1.03	-19006	9479	2734	38062	8636	2627	4100	Si	142.19	Si
SLU 49	11.25	505	-5152	-4290	-482	1.03	1.03	-14876	8928	2575	38062	8636	2627	3862	Si	8.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 15	9.45	-1612.68	-2506	-2087	-2932	0.824	0	0	0	0	38062	10363	2101	12464		4.25	Si
SLV 15	11.25	1122.4	-4431	-3689	-1455	1.03	0.785	-12793	12975	2852	38062	12954	2627	15580		10.71	Si
SLV 3	9.45	2126.55	-7026	-5851	3400	1.03	0.637	-20287	14474	2948	38062	12954	2627	15580		4.58	Si
SLV 3	11.25	-774.94	-2115	-1761	1541	0.824	0.4458	0	0	0	38062	10363	2101	12464		8.09	Si
SLV 13	9.45	-2460.32	-2896	-2412	-4073	0.824	0	0	0	0	38062	10363	2101	12464		3.06	Si
SLV 13	11.25	1778.54	-6422	-5348	-2588	1.03	0.7142	-18543	14125	2825	38062	12954	2627	15580		6.02	Si
SLV 2	9.45	1730.55	-7831	-6521	2985	1.03	0.8821	-22612	14939	3690	38062	12954	2627	15580		5.22	Si
SLV 2	11.25	-377.72	-3659	-3047	859	1.03	1.03	-10565	12530	3614	38062	12954	2627	15580		18.15	Si
SLV 10	9.45	-1762.65	-5281	-4397	-2581	0.824	0.5436	0	0	0	38062	10363	2101	12464		4.83	Si
SLV 10	11.25	1663.35	-7561	-6296	-2484	1.03	0.885	-21830	14783	3663	38062	12954	2627	15580		6.27	Si
SLD 13	9.45	-1542.87	-3711	-3090	-2583	0.824	0.2976	0	0	0	38062	10363	2101	12464		4.83	Si
SLD 13	11.25	1263.99	-5542	-4615	-1748	1.03	0.8607	-16001	13617	3282	38062	12954	2627	15580		8.91	Si
SLV 4	9.45	2578.19	-7441	-6196	4126	1.03	0.5056	-21485	14714	3041	38062	12954	2627	15580		3.78	Si
SLV 4	11.25	-1033.86	-1667	-1388	1992	0.824	0	0	0	0	38062	10363	2101	12464		6.26	Si
SLV 14	9.45	-2008.69	-3312	-2758	-3348	0.824	0	0	0	0	38062	10363	2101	12464		3.72	Si
SLV 14	11.25	1519.62	-5974	-4975	-2137	1.03	0.7819	-17250	13867	3036	38062	12954	2627	15580		7.29	Si
SLV 9	9.45	-2066.72	-5001	-4165	-3069	0.824	0.3053	0	0	0	38062	10363	2101	12464		4.06	Si
SLV 9	11.25	1837.67	-7862	-6547	-2788	1.03	0.8438	-22700	14957	3534	38062	12954	2627	15580		5.59	Si
SLV 8	9.45	2184.59	-5336	-4444	3122	1.03	0.3169	-51656	16250	2573	38062	12954	2627	15580		4.99	Si
SLV 8	11.25	-1093	-228	-189	2192	0.824	0	0	0	0	38062	10363	2101	12464		5.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.46	7251	-2091	125.76	278.86	2.22	Si
SLV 16	179667	0.46	8511	-2455	125.76	324.49	2.58	Si
SLV 11	179667	0.46	9442	-2723	125.76	357.66	2.84	Si
SLV 13	179667	0.46	10089	-2910	125.76	380.43	3.03	Si
SLV 12	179667	0.46	10291	-2968	125.76	387.5	3.08	Si
SLV 14	179667	0.46	11349	-3273	125.76	424.17	3.37	Si
SLV 7	179667	0.46	13982	-4032	125.76	512.84	4.08	Si
SLV 8	179667	0.46	14830	-4277	125.76	540.64	4.3	Si
SLV 9	179667	0.46	18902	-5451	125.76	668.71	5.32	Si
SLV 10	179667	0.46	19750	-5696	125.76	694.3	5.52	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5014	-6891	-92	1.007	653.8	0.939	15.59304	7.35059	Si
SLV 14	-4711	-6540	-92	1.06	623.2	0.937	16.4462	7.35059	Si
SLV 9	-5577	-7618	-300	0.891	710.9	0.943	13.73552	5.33016	Si
SLV 15	-3916	-5508	87	1.229	542.9	0.929	19.22394	7.35059	Si
SLV 10	-5373	-7382	-300	0.919	690.2	0.942	14.18451	5.33016	Si
SLV 16	-3613	-5158	87	1.308	512.3	0.926	20.54287	7.35059	Si
SLV 5	-5004	-6907	-300	0.974	652.9	0.939	15.075	5.33016	Si
SLV 6	-4800	-6671	-299	1.007	632.2	0.937	15.62055	5.33016	Si
SLV 1	-3105	-4523	-91	1.468	461.3	0.919	23.20318	7.35059	Si
SLV 2	-2802	-4172	-90	1.585	431	0.915	25.16276	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.471	SLU 68	Si
V_SLV	7.345	SLU 70	Si
PF_SLV	0.33	SLV 8	No
V_SLV	3.06	SLV 13	Si
PFFP_SLV	2.217	SLV 15	Si
R_SLV	2.121	SLV 13	Si



Maschio 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.448	-3.359	-18.448	1.046	L6	L7	4.406	0.14	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 80	8.55	4166.59	-23890	-0.0000607	0.0004492	0.0035	4.4057	35943.8	46652.39	46652.39	11.2	No	Si
SLU 80	12.05	2253.73	-13179	-0.0000325	0.0004492	0.0035	4.4057	23954.59	28350.19	28350.19	12.58	No	Si
SLU 83	8.55	4191.81	-24096	-0.0000612	0.0004492	0.0035	4.4057	36109.14	46972.45	46972.45	11.21	No	Si
SLU 83	12.05	2111.18	-13007	-0.0000318	0.0004492	0.0035	4.4057	23707.27	28025.04	28025.04	13.27	No	Si
SLU 77	8.55	4243.76	-24173	-0.0000616	0.0004492	0.0035	4.4057	36169.89	47091.27	47091.27	11.1	No	Si
SLU 77	12.05	2269.15	-13464	-0.0000331	0.0004492	0.0035	4.4057	24360.13	28888.35	28888.35	12.73	No	Si
SLU 69	8.55	3977.94	-22279	-0.0000567	0.0004492	0.0035	4.4057	34568.81	44156.39	44156.39	11.1	No	Si
SLU 69	12.05	2174.74	-12628	-0.0000312	0.0004492	0.0035	4.4057	23156.93	27309.53	27309.53	12.56	No	Si
SLU 78	8.55	4215.39	-24205	-0.0000616	0.0004492	0.0035	4.4057	36194.85	47140.29	47140.29	11.18	No	Si
SLU 78	12.05	2306.99	-13458	-0.0000332	0.0004492	0.0035	4.4057	24352.49	28878.14	28878.14	12.52	No	Si
SLU 70	8.55	3949.58	-22310	-0.0000567	0.0004492	0.0035	4.4057	34597.27	44205.41	44205.41	11.19	No	Si
SLU 70	12.05	2212.58	-12623	-0.0000313	0.0004492	0.0035	4.4057	23149.02	27299.32	27299.32	12.34	No	Si
SLU 79	8.55	4194.95	-23858	-0.0000607	0.0004492	0.0035	4.4057	35918.26	46603.37	46603.37	11.11	No	Si
SLU 79	12.05	2215.89	-13184	-0.0000324	0.0004492	0.0035	4.4057	23962.33	28360.39	28360.39	12.8	No	Si
SLU 71	8.55	3929.13	-21964	-0.0000558	0.0004492	0.0035	4.4057	34282.29	43668.48	43668.48	11.11	No	Si
SLU 71	12.05	2121.47	-12349	-0.0000304	0.0004492	0.0035	4.4057	22745.47	26781.58	26781.58	12.62	No	Si
SLU 66	8.55	3860.88	-21705	-0.0000551	0.0004492	0.0035	4.4057	34042.59	43267.67	43267.67	11.21	No	Si
SLU 66	12.05	2029.57	-12093	-0.0000297	0.0004492	0.0035	4.4057	22364.23	26297.54	26297.54	12.96	No	Si
SLU 74	8.55	4126.69	-23599	-0.00006	0.0004492	0.0035	4.4057	35707.21	46202.55	46202.55	11.2	No	Si
SLU 74	12.05	2123.98	-12928	-0.0000316	0.0004492	0.0035	4.4057	23593.59	27876.35	27876.35	13.12	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	8.55	6379.61	-11798	-0.0000407	0.0006738	0.0035	4.4057		26060.77	26060.77	4.09		Si
SLV 12	12.05	-433.96	-7131	-0.0000151	0.0006738	0.0035	4.4057		24870.8	24870.8	57.31		Si
SLV 11	8.55	6400.76	-11852	-0.0000409	0.0006738	0.0035	4.4057		26166.46	26166.46	4.09		Si
SLV 11	12.05	-337.5	-7108	-0.0000148	0.0006738	0.0035	4.4057		24824.56	24824.56	73.55		Si
SLD 7	8.55	4930.09	-14359	-0.000042	0.0006738	0.0035	4.4057		31032.66	31032.66	6.29		Si
SLD 7	12.05	192.85	-8198	-0.0000166	0.0006738	0.0035	4.4057		18885.85	18885.85	97.93		Si
SLD 8	8.55	4916.85	-14325	-0.0000419	0.0006738	0.0035	4.4057		30967.68	30967.68	6.3		Si
SLD 8	12.05	132.47	-8212	-0.0000165	0.0006738	0.0035	4.4057		18914.92	18914.92	142.79		Si
SLV 7	8.55	6244.73	-13342	-0.0000435	0.0006738	0.0035	4.4057		29076.71	29076.71	4.66		Si
SLV 7	12.05	-533.81	-7946	-0.000017	0.0006738	0.0035	4.4057		26516.84	26516.84	49.67		Si
SLD 12	8.55	5015.96	-13372	-0.0000402	0.0006738	0.0035	4.4057		29133.08	29133.08	5.81		Si
SLD 12	12.05	256.85	-7676	-0.0000158	0.0006738	0.0035	4.4057		17826.99	17826.99	69.41		Si
SLV 8	8.55	6223.58	-13288	-0.0000434	0.0006738	0.0035	4.4057		28972.9	28972.9	4.66		Si
SLV 8	12.05	-630.27	-7968	-0.0000173	0.0006738	0.0035	4.4057		26563.08	26563.08	42.15		Si
SLV 10	8.55	-599.09	-18572	-0.0000386	0.0006738	0.0035	4.4057		46812.77	46812.77	78.14		Si
SLV 10	12.05	3282.65	-9211	-0.000027	0.0006738	0.0035	4.4057		20931.73	20931.73	6.38		Si
SLD 11	8.55	5029.2	-13405	-0.0000403	0.0006738	0.0035	4.4057		29198.06	29198.06	5.81		Si
SLD 11	12.05	317.23	-7661	-0.0000159	0.0006738	0.0035	4.4057		17797.92	17797.92	56.1		Si
SLV 9	8.55	-577.94	-18626	-0.0000387	0.0006738	0.0035	4.4057		46911.11	46911.11	81.17		Si
SLV 9	12.05	3379.1	-9188	-0.0000272	0.0006738	0.0035	4.4057		20886.09	20886.09	6.18		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 62	8.55	3757.54	-21382	-11855	2338	4.4057	4.4057	-19221	10833	8305	96666	22166	22469	12458	Si	5.33	Si
SLU 62	12.05	1833.05	-11479	-6365	2346	4.4057	4.4057	-10319	9709	6109	96666	22166	22469	9163	Si	3.91	Si
SLU 43	8.55	3260.74	-18102	-10037	2328	4.4057	4.4057	-16272	10503	7578	96666	22166	22469	11366	Si	4.88	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	12.05	1553	-9750	-5406	2334	4.4057	4.4057	-8765	9502	5861	96666	22166	22469	8791	Si	3.77	Si
SLU 58	8.55	3760.68	-21144	-11723	2344	4.4057	4.4057	-19007	10833	8252	96666	22166	22469	12378	Si	5.28	Si
SLU 58	12.05	1937.75	-11657	-6463	2352	4.4057	4.4057	-10479	9730	6148	96666	22166	22469	9222	Si	3.92	Si
SLU 45	8.55	3426.6	-18991	-10529	2329	4.4057	4.4057	-17071	10609	7775	96666	22166	22469	11662	Si	5.01	Si
SLU 45	12.05	1751.43	-10565	-5858	2335	4.4057	4.4057	-9497	9600	5921	96666	22166	22469	8882	Si	3.8	Si
SLU 64	8.55	3695.01	-20816	-11542	2324	4.4057	4.4057	-18712	10828	8180	96666	22166	22469	12269	Si	5.28	Si
SLU 64	12.05	1831.14	-11278	-6253	2331	4.4057	4.4057	-10138	9685	6064	96666	22166	22469	9096	Si	3.9	Si
SLU 53	8.55	3692.42	-20885	-11580	2331	4.4057	4.4057	-18774	10833	8195	96666	22166	22469	12292	Si	5.27	Si
SLU 53	12.05	1845.85	-11401	-6321	2339	4.4057	4.4057	-10248	9700	6091	96666	22166	22469	9137	Si	3.91	Si
SLU 46	8.55	3398.24	-19022	-10547	2156	4.4057	4.4057	-17100	10613	7782	96666	22166	22469	11673	Si	5.41	Si
SLU 46	12.05	1789.27	-10560	-5855	2259	4.4057	4.4057	-9492	9599	5921	96666	22166	22469	8881	Si	3.93	Si
SLU 60	8.55	3640.48	-20808	-11537	2332	4.4057	4.4057	-18705	10827	8178	96666	22166	22469	12267	Si	5.26	Si
SLU 60	12.05	1687.88	-10944	-6068	2339	4.4057	4.4057	-9838	9645	5990	96666	22166	22469	8985	Si	3.84	Si
SLU 50	8.55	3494.86	-19249	-10673	2341	4.4057	4.4057	-17304	10640	7832	96666	22166	22469	11748	Si	5.02	Si
SLU 50	12.05	1843.33	-10821	-6000	2348	4.4057	4.4057	-9728	9630	5963	96666	22166	22469	8944	Si	3.81	Si
SLU 48	8.55	3543.66	-19564	-10847	2335	4.4057	4.4057	-17587	10678	7902	96666	22166	22469	11853	Si	5.08	Si
SLU 48	12.05	1896.6	-11101	-6155	2342	4.4057	4.4057	-9979	9664	6025	96666	22166	22469	9037	Si	3.86	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	8.55	6400.76	-11852	-6571	12925	4.4057	4.4057	-10654	14631	9024	96666	33249	22469	55718		4.31	Si
SLV 11	12.05	-337.5	-7108	-3941	11176	4.4057	4.4057	-6389	13778	8498	96666	33249	22469	55718		4.99	Si
SLV 5	8.55	-733.97	-20117	-11154	-9342	4.4057	4.4057	-18084	16117	9941	96666	33249	22469	55718		5.96	Si
SLV 5	12.05	3182.79	-10026	-5559	-7581	4.4057	4.4057	-9013	14303	8822	96666	33249	22469	55718		7.35	Si
SLV 7	8.55	6244.73	-13342	-7398	12193	4.4057	4.4057	-11994	14899	9190	96666	33249	22469	55718		4.57	Si
SLV 7	12.05	-533.81	-7946	-4405	10409	4.4057	4.4057	-7143	13929	8591	96666	33249	22469	55718		5.35	Si
SLV 6	8.55	-755.12	-20063	-11124	-9346	4.4057	4.4057	-18035	16107	9935	96666	33249	22469	55718		5.96	Si
SLV 6	12.05	3086.33	-10049	-5572	-7586	4.4057	4.4057	-9033	14307	8824	96666	33249	22469	55718		7.34	Si
SLV 8	8.55	6223.58	-13288	-7368	12188	4.4057	4.4057	-11945	14889	9184	96666	33249	22469	55718		4.57	Si
SLV 8	12.05	-630.27	-7968	-4418	10403	4.4057	4.4057	-7163	13933	8594	96666	33249	22469	55718		5.36	Si
SLD 12	8.55	5015.96	-13372	-7414	8671	4.4057	4.4057	-12020	14904	9193	96666	33249	22469	55718		6.43	Si
SLD 12	12.05	256.85	-7676	-4256	7581	4.4057	4.4057	-6900	13880	8561	96666	33249	22469	55718		7.35	Si
SLD 11	8.55	5029.2	-13405	-7433	8674	4.4057	4.4057	-12051	14910	9197	96666	33249	22469	55718		6.42	Si
SLD 11	12.05	317.23	-7661	-4248	7585	4.4057	4.4057	-6887	13877	8560	96666	33249	22469	55718		7.35	Si
SLV 9	8.55	-577.94	-18626	-10327	-8610	4.4057	4.4057	-16743	15849	9775	96666	33249	22469	55718		6.47	Si
SLV 9	12.05	3379.1	-9188	-5094	-6813	4.4057	4.4057	-8259	14152	8729	96666	33249	22469	55718		8.18	Si
SLV 12	8.55	6379.61	-11798	-6541	12920	4.4057	4.4057	-10605	14621	9018	96666	33249	22469	55718		4.31	Si
SLV 12	12.05	-433.96	-7131	-3954	11171	4.4057	4.4057	-6410	13782	8501	96666	33249	22469	55718		4.99	Si
SLV 10	8.55	-599.09	-18572	-10297	-8614	4.4057	4.4057	-16695	15839	9769	96666	33249	22469	55718		6.47	Si
SLV 10	12.05	3282.65	-9211	-5107	-6819	4.4057	4.4057	-8280	14156	8731	96666	33249	22469	55718		8.17	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 16	-10281	0.46	292.72	654.23	1140.04	897.13	3.06	Si
SLV 15	-10306	0.46	292.72	655.63	1142.12	898.88	3.07	Si
SLV 12	-10345	0.46	292.72	657.9	1145.5	901.7	3.08	Si
SLV 11	-10362	0.46	292.72	658.85	1146.9	902.87	3.08	Si
SLV 14	-11437	0.46	292.72	719.61	1238.23	978.92	3.34	Si
SLV 13	-11462	0.46	292.72	720.98	1240.31	980.64	3.35	Si
SLV 8	-11553	0.46	292.72	726.07	1248.04	987.05	3.37	Si
SLV 7	-11570	0.46	292.72	726.99	1249.44	988.21	3.38	Si
SLV 10	-14199	0.46	292.72	869.09	1470.38	1169.73	4	Si
SLV 9	-14216	0.46	292.72	869.96	1471.76	1170.86	4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.03 Ta = 0.1461

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-10304	-19418	-328	2.017	1356	0.937	31.27065	15.01175	Si
SLV 1	-10270	-19498	-328	2.023	1352.5	0.937	31.36133	15.01175	Si
SLV 4	-9680	-17386	-289	2.128	1292.8	0.935	33.07423	15.01175	Si
SLV 3	-9646	-17466	-289	2.134	1289.4	0.935	33.17548	15.01175	Si
SLV 14	-7511	-14448	289	2.611	1074	0.925	41.04807	15.01175	Si
SLV 13	-7477	-14529	289	2.621	1070.6	0.924	41.20335	15.01175	Si
SLV 16	-6887	-12416	328	2.79	1011.3	0.921	44.02682	15.01175	Si
SLV 15	-6853	-12496	328	2.801	1007.9	0.921	44.20541	15.01175	Si
SLV 6	-10049	-20063	-158	2.074	1330.2	0.936	32.1839	7.79135	Si
SLV 5	-10026	-20117	-158	2.078	1327.8	0.936	32.24806	7.79135	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.097	SLU 77	Si
V_SLU	3.766	SLU 43	Si
PF_SLV	4.085	SLV 12	Si
V_SLV	4.311	SLV 11	Si
PFFP_SLV	3.065	SLV 16	Si
R_SLV	2.083	SLV 2	Si

Maschio 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.359	-15.433	-3.359	L6	L7	1.68	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	8.55	-539.45	-8562	-0.0000343	0.0003743	0.0035	1.68	5906.25	6946.47	6946.47	12.88	No	Si
SLU 38	10.65	1409.69	-9886	-0.0000495	0.0003743	0.0035	1.68	6589.93	7131.99	7131.99	5.06	No	Si
SLU 41	8.55	-515.22	-8456	-0.0000336	0.0003743	0.0035	1.68	5849.16	6879.36	6879.36	13.35	No	Si
SLU 41	10.65	1439.84	-9843	-0.0000497	0.0003743	0.0035	1.68	6568.98	7103.51	7103.51	4.93	No	Si
SLU 84	8.55	-538.26	-10295	-0.0000403	0.0003743	0.0035	1.68	6788.87	7996.89	7996.89	14.86	No	Si
SLU 84	10.65	1596.51	-11421	-0.0000574	0.0003743	0.0035	1.68	7305.77	7997.68	7997.68	5.01	No	Si
SLU 39	8.55	-501.65	-8204	-0.0000326	0.0003743	0.0035	1.68	5710.92	6716.92	6716.92	13.39	No	Si
SLU 39	10.65	1391.36	-9504	-0.0000479	0.0003743	0.0035	1.68	6399.12	6876.54	6876.54	4.94	No	Si
SLU 31	8.55	-521.69	-8090	-0.0000324	0.0003743	0.0035	1.68	5647.92	6643.47	6643.47	12.73	No	Si
SLU 31	10.65	1326.58	-9245	-0.0000462	0.0003743	0.0035	1.68	6266.82	6704.38	6704.38	5.05	No	Si
SLU 34	8.55	-535.26	-8343	-0.0000335	0.0003743	0.0035	1.68	5787.17	6806.51	6806.51	12.72	No	Si
SLU 34	10.65	1375.06	-9584	-0.000048	0.0003743	0.0035	1.68	6439.76	6930.22	6930.22	5.04	No	Si
SLU 40	8.55	-515.72	-8254	-0.0000329	0.0003743	0.0035	1.68	5738.43	6749.23	6749.23	13.09	No	Si
SLU 40	10.65	1412.14	-9561	-0.0000483	0.0003743	0.0035	1.68	6427.95	6914.59	6914.59	4.9	No	Si
SLU 82	8.55	-524.69	-10043	-0.0000393	0.0003743	0.0035	1.68	6666.9	7851.93	7851.93	14.96	No	Si
SLU 82	10.65	1548.03	-11082	-0.0000555	0.0003743	0.0035	1.68	7154.69	7833.35	7833.35	5.06	No	Si
SLU 42	8.55	-529.28	-8506	-0.000034	0.0003743	0.0035	1.68	5876.23	6911.18	6911.18	13.06	No	Si
SLU 42	10.65	1460.61	-9900	-0.0000501	0.0003743	0.0035	1.68	6597.13	7141.8	7141.8	4.89	No	Si
SLU 83	8.55	-524.19	-10245	-0.00004	0.0003743	0.0035	1.68	6764.93	7968.3	7968.3	15.2	No	Si
SLU 83	10.65	1575.74	-11364	-0.0000569	0.0003743	0.0035	1.68	7280.66	7969.96	7969.96	5.06	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 16	8.55	-1840.16	-5260	-0.0000384	0.0005615	0.0035	1.68		4837.94	4837.94	2.63		Si
SLD 16	10.65	2002.68	-8856	-0.0000518	0.0005615	0.0035	1.68		6793.3	6793.3	3.39		Si
SLV 14	8.55	-2993.35	-6038	-0.000064	0.0005615	0.0035	1.344		5415.68	5415.68	1.81		Si
SLV 14	10.65	3227.71	-11857	-0.000077	0.0005615	0.0035	1.68		8684.14	8684.14	2.69		Si
SLV 15	8.55	-3226.65	-3796	-0.0003545	0.0005615	0.0035	1.344		3726.94	3726.94	1.16		Si
SLV 15	10.65	3085.84	-10411	-0.0000703	0.0005615	0.0035	1.68		7764.38	7764.38	2.52		Si
SLV 16	8.55	-2684.85	-4159	-0.0000782	0.0005615	0.0035	1.344		4005.87	4005.87	1.49		Si
SLV 16	10.65	2601.46	-9598	-0.0000615	0.0005615	0.0035	1.68		7254.27	7254.27	2.79		Si
SLD 13	8.55	-2379.53	-6185	-0.000049	0.0005615	0.0035	1.68		5525.75	5525.75	2.32		Si
SLD 13	10.65	2700.76	-10772	-0.0000668	0.0005615	0.0035	1.68		7992.62	7992.62	2.96		Si
SLV 13	8.55	-3535.15	-5675	-0.0000973	0.0005615	0.0035	1.344		5145.26	5145.26	1.46		Si
SLV 13	10.65	3712.09	-12670	-0.000086	0.0005615	0.0035	1.68		9208.01	9208.01	2.48		Si
SLV 8	8.55	1188.7	-4811	-0.0000288	0.0005615	0.0035	1.68		3995.83	3995.83	3.36		Si
SLV 8	10.65	-952.71	-2338	-0.0000191	0.0005615	0.0035	1.68		2594.43	2594.43	2.72		Si
SLV 3	8.55	2315.12	-8264	-0.0000535	0.0005615	0.0035	1.68		6428.11	6428.11	2.78		Si
SLV 3	10.65	-1379.81	-3093	-0.0000279	0.0005615	0.0035	1.68		3187.61	3187.61	2.31		Si
SLD 15	8.55	-2185.98	-5028	-0.0000446	0.0005615	0.0035	1.68		4667.27	4667.27	2.14		Si
SLD 15	10.65	2311.85	-9375	-0.0000573	0.0005615	0.0035	1.68		7115.44	7115.44	3.08		Si
SLV 4	8.55	2856.92	-8626	-0.0000618	0.0005615	0.0035	1.68		6651.53	6651.53	2.33		Si
SLV 4	10.65	-1864.19	-2280	-0.0001541	0.0005615	0.0035	1.344		2548.54	2548.54	1.37		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 67	8.55	-532.82	-9792	-8154	-1698	1.68	1.68	-17333	9256	4354	38062	14086	4284	6531	Si	3.85	Si
SLU 67	10.65	1291.26	-10440	-8694	-3128	1.68	1.68	-18482	9409	4426	38062	14086	4284	6639	Si	2.12	Si
SLU 80	8.55	-548.42	-10351	-8619	-1752	1.68	1.68	-18323	9387	4416	38062	14086	4284	6624	Si	3.78	Si
SLU 80	10.65	1545.59	-11406	-9498	-3250	1.68	1.68	-20192	9637	4533	38062	14086	4284	6800	Si	2.09	Si
SLU 77	8.55	-540.26	-10453	-8705	-1764	1.68	1.68	-18505	9412	4427	38062	14086	4284	6641	Si	3.76	Si
SLU 77	10.65	1550.9	-11548	-9616	-3274	1.68	1.68	-20443	9670	4549	38062	14086	4284	6823	Si	2.08	Si
SLU 70	8.55	-546.39	-10044	-8364	-1751	1.68	1.68	-17780	9315	4382	38062	14086	4284	6573	Si	3.75	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	10.65	1339.74	-10780	-8976	-3238	1.68	1.68	-19082	9489	4464	38062	14086	4284	6695	Si	2.07	Si
SLU 69	8.55	-532.32	-9994	-8322	-1737	1.68	1.68	-17692	9303	4376	38062	14086	4284	6564	Si	3.78	Si
SLU 69	10.65	1318.96	-10723	-8929	-3200	1.68	1.68	-18981	9475	4457	38062	14086	4284	6686	Si	2.09	Si
SLU 75	8.55	-540.76	-10251	-8536	-1726	1.68	1.68	-18147	9364	4405	38062	14086	4284	6607	Si	3.83	Si
SLU 75	10.65	1523.19	-11266	-9381	-3202	1.68	1.68	-19943	9604	4518	38062	14086	4284	6776	Si	2.12	Si
SLU 78	8.55	-554.33	-10503	-8746	-1779	1.68	1.68	-18593	9424	4433	38062	14086	4284	6649	Si	3.74	Si
SLU 78	10.65	1571.67	-11605	-9664	-3312	1.68	1.68	-20544	9684	4555	38062	14086	4284	6833	Si	2.06	Si
SLU 79	8.55	-534.36	-10301	-8578	-1738	1.68	1.68	-18235	9376	4410	38062	14086	4284	6616	Si	3.81	Si
SLU 79	10.65	1524.82	-11349	-9451	-3212	1.68	1.68	-20091	9623	4527	38062	14086	4284	6790	Si	2.11	Si
SLU 72	8.55	-540.48	-9891	-8237	-1725	1.68	1.68	-17510	9279	4365	38062	14086	4284	6547	Si	3.8	Si
SLU 72	10.65	1313.66	-10581	-8811	-3176	1.68	1.68	-18730	9442	4441	38062	14086	4284	6662	Si	2.1	Si
SLU 71	8.55	-526.42	-9841	-8195	-1710	1.68	1.68	-17421	9267	4359	38062	14086	4284	6539	Si	3.82	Si
SLU 71	10.65	1292.88	-10524	-8763	-3138	1.68	1.68	-18629	9428	4435	38062	14086	4284	6653	Si	2.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	8.55	-2993.35	-6038	-5028	-5942	1.344	1.0327	0	0	0	38062	16903	3427	20330		3.42	Si
SLV 14	10.65	3227.71	-11857	-9874	-6219	1.68	1.68	-20990	14615	6875	38062	21129	4284	25413		4.09	Si
SLD 13	8.55	-2379.53	-6185	-5150	-4823	1.68	1.3658	-13553	13127	5020	38062	21129	4284	25413		5.27	Si
SLD 13	10.65	2700.76	-10772	-8970	-5326	1.68	1.68	-19069	14230	6694	38062	21129	4284	25413		4.77	Si
SLV 9	8.55	-1866.93	-9490	-7903	-3600	1.68	1.68	-16800	13777	6481	38062	21129	4284	25413		7.06	Si
SLV 9	10.65	2800.61	-12612	-10503	-5730	1.68	1.68	-22327	14882	7001	38062	21129	4284	25413		4.44	Si
SLV 16	8.55	-2684.85	-4159	-3463	-5578	1.344	0.5832	0	0	0	38062	16903	3427	20330		3.64	Si
SLV 16	10.65	2601.46	-9598	-7992	-4947	1.68	1.68	-16990	13815	6498	38062	21129	4284	25413		5.14	Si
SLD 14	8.55	-2033.72	-6417	-5343	-4209	1.68	1.5692	-11359	12688	5575	38062	21129	4284	25413		6.04	Si
SLD 14	10.65	2391.59	-10253	-8538	-4719	1.68	1.68	-18150	14047	6608	38062	21129	4284	25413		5.39	Si
SLV 13	8.55	-3535.15	-5675	-4725	-6904	1.344	0.6511	0	0	0	38062	16903	3427	20330		2.94	Si
SLV 13	10.65	3712.09	-12670	-10551	-7170	1.68	1.6411	-22429	14903	6848	38062	21129	4284	25413		3.54	Si
SLD 15	8.55	-2185.98	-5028	-4187	-4596	1.68	1.2157	-12370	12891	4388	38062	21129	4284	25413		5.53	Si
SLD 15	10.65	2311.85	-9375	-7807	-4537	1.68	1.68	-16596	13736	6461	38062	21129	4284	25413		5.6	Si
SLV 15	8.55	-3226.65	-3796	-3161	-6540	1.344	0	0	0	0	38062	16903	3427	20330		3.11	Si
SLV 15	10.65	3085.84	-10411	-8669	-5898	1.68	1.6308	-18429	14103	6439	38062	21129	4284	25413		4.31	Si
SLV 4	8.55	2856.92	-8626	-7183	4627	1.68	1.5265	-15271	13471	5758	38062	21129	4284	25413		5.49	Si
SLV 4	10.65	-1864.19	-2280	-1898	2960	1.344	0.0669	0	0	0	38062	16903	3427	20330		6.87	Si
SLV 10	8.55	-1502.15	-9734	-8106	-2952	1.68	1.68	-17232	13863	6521	38062	21129	4284	25413		8.61	Si
SLV 10	10.65	2474.49	-12065	-10047	-5090	1.68	1.68	-21358	14688	6909	38062	21129	4284	25413		4.99	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.46	6007	-2826	205.13	380.05	1.85	Si
SLV 4	179667	0.46	6737	-3169	205.13	424.1	2.07	Si
SLV 7	179667	0.46	6942	-3265	205.13	436.36	2.13	Si
SLV 3	179667	0.46	8125	-3822	205.13	506.6	2.47	Si
SLV 12	179667	0.46	9743	-4583	205.13	600.72	2.93	Si
SLV 11	179667	0.46	10678	-5023	205.13	654.03	3.19	Si
SLV 2	179667	0.46	11293	-5312	205.13	688.72	3.36	Si
SLV 1	179667	0.46	12681	-5965	205.13	765.76	3.73	Si
SLV 16	179667	0.46	19191	-9027	205.13	1105.02	5.39	Si
SLV 15	179667	0.46	20579	-9680	205.13	1172.62	5.72	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5943	-5675	128	1.302	840.8	0.926	20.42743	7.35059	Si
SLV 14	-5875	-6038	128	1.313	833.9	0.926	20.62176	7.35059	Si
SLV 15	-5050	-3796	340	1.442	751	0.919	22.79289	7.35059	Si
SLV 16	-4982	-4159	339	1.457	744.1	0.919	23.04068	7.35059	Si
SLV 1	-4927	-10143	-342	1.468	738.7	0.918	23.23569	7.35059	Si
SLV 2	-4859	-10506	-342	1.484	731.9	0.918	23.49154	7.35059	Si
SLV 9	-6619	-9490	-283	1.177	908.9	0.93	18.38737	5.33016	Si
SLV 10	-6574	-9734	-283	1.184	904.3	0.93	18.49354	5.33016	Si
SLV 5	-6315	-10830	-424	1.204	878.2	0.929	18.8385	5.33016	Si
SLV 6	-6269	-11075	-424	1.21	873.6	0.928	18.95173	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.89	SLU 42	Si
V_SLU	2.063	SLU 78	Si
PF_SLV	1.155	SLV 15	Si
V_SLV	2.945	SLV 13	Si
PFFP_SLV	1.853	SLV 8	Si
R_SLV	2.779	SLV 13	Si



Maschio 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-15.058	2.206	-15.058	6.521	L6	L7	4.315	0.14	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 55	8.55	-2370.92	-22317	-0.0000534	0.0004492	0.0035	4.315	33591.78	51280.21	50387.66	21.25	Si	Si
SLU 55	10.65	-977.79	-19290	-0.0000426	0.0004492	0.0035	4.315	30741.96	46326.23	46112.94	47.16	Si	Si
SLU 52	8.55	-2460.36	-21698	-0.0000523	0.0004492	0.0035	4.315	33052.46	50279.74	49578.7	20.15	Si	Si
SLU 52	10.65	-901.85	-18671	-0.0000411	0.0004492	0.0035	4.315	30093.06	45258.16	45139.59	50.05	Si	Si
SLU 2	8.55	-1873.84	-15880	-0.000038	0.0004492	0.0035	4.315	26889.88	40443.77	40334.82	21.53	Si	Si
SLU 2	10.65	-487.56	-13500	-0.0000289	0.0004492	0.0035	4.315	23799.13	36209.07	35698.69	73.22	Si	Si
SLU 76	8.55	-2511.13	-25478	-0.0000608	0.0004492	0.0035	4.315	35995.18	56338.45	53992.77	21.5	Si	Si
SLU 76	10.65	-1198.38	-22257	-0.0000497	0.0004492	0.0035	4.315	33540.06	51182.45	50310.09	41.98	Si	Si
SLU 47	8.55	-1122.53	-20235	-0.0000484	0.0004492	0.0035	4.315	31689.44	47916.33	47534.16	21.33	Si	Si
SLU 47	10.65	-747.2	-17208	-0.0000375	0.0004492	0.0035	4.315	28471.17	42735.09	42706.75	57.16	Si	Si
SLU 73	8.55	-2600.57	-24859	-0.0000597	0.0004492	0.0035	4.315	35570.26	55385.94	53355.4	20.52	Si	Si
SLU 73	10.65	-1122.44	-21638	-0.0000481	0.0004492	0.0035	4.315	32998.56	50181.97	49497.84	44.1	Si	Si
SLU 61	8.55	-2428.13	-22665	-0.0000543	0.0004492	0.0035	4.315	33885.01	51842.44	50827.52	20.93	Si	Si
SLU 61	10.65	-1151.42	-19638	-0.0000439	0.0004492	0.0035	4.315	31096.78	46926.43	46645.16	40.51	Si	Si
SLU 65	8.55	-2458.19	-22777	-0.0000547	0.0004492	0.0035	4.315	33977.2	52022.06	50965.8	20.73	Si	Si
SLU 65	10.65	-891.86	-19556	-0.0000429	0.0004492	0.0035	4.315	31013.5	46784.48	46520.24	52.16	Si	Si
SLU 82	8.55	-2568.34	-25826	-0.0000618	0.0004492	0.0035	4.315	36224.13	56862.69	54336.19	21.16	Si	Si
SLU 82	10.65	-1372.02	-22605	-0.000051	0.0004492	0.0035	4.315	33834.53	51744.67	50751.79	36.99	Si	Si
SLU 44	8.55	-2317.97	-19616	-0.0000473	0.0004492	0.0035	4.315	31074.76	46888.85	46612.15	20.11	Si	Si
SLU 44	10.65	-671.26	-16589	-0.0000359	0.0004492	0.0035	4.315	27746.91	41667.02	41620.36	62	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	8.55	-7911.48	-13512	-0.00005	0.0006738	0.0035	4.315		36609.59	36609.59	4.63		Si
SLD 10	10.65	6871.41	-11082	-0.0000419	0.0006738	0.0035	4.315		24062.29	24062.29	3.5		Si
SLV 12	8.55	9482.6	-23626	-0.0000764	0.0006738	0.0035	4.315		46759.36	46759.36	4.93		Si
SLV 12	10.65	-14861.1	-21189	-0.000087	0.0006738	0.0035	4.315		50490.73	50490.73	3.4		Si
SLV 10	8.55	-11762.94	-11045	-0.0000595	0.0006738	0.0035	4.315		31969.42	31969.42	2.72		Si
SLV 10	10.65	11754.07	-8613	-0.0000642	0.0006738	0.0035	4.315		19249.92	19249.92	1.64		Si
SLD 9	8.55	-7929.06	-13515	-0.0000501	0.0006738	0.0035	4.315		36616.1	36616.1	4.62		Si
SLD 9	10.65	6958.51	-11085	-0.0000421	0.0006738	0.0035	4.315		24068.94	24068.94	3.46		Si
SLV 9	8.55	-11791.03	-11050	-0.0000597	0.0006738	0.0035	4.315		31979.82	31979.82	2.71		Si
SLV 9	10.65	11893.22	-8619	-0.0000655	0.0006738	0.0035	4.315		19260.92	19260.92	1.62		Si
SLD 5	8.55	-8655.15	-13805	-0.0000528	0.0006738	0.0035	4.315		37161.89	37161.89	4.29		Si
SLD 5	10.65	7585.56	-11375	-0.0000445	0.0006738	0.0035	4.315		24625.23	24625.23	3.25		Si
SLV 5	8.55	-12925.48	-11503	-0.0000657	0.0006738	0.0035	4.315		32831.51	32831.51	2.54		Si
SLV 5	10.65	12874.4	-9071	-0.0000729	0.0006738	0.0035	4.315		20145.89	20145.89	1.56		Si
SLD 6	8.55	-8637.56	-13802	-0.0000527	0.0006738	0.0035	4.315		37155.38	37155.38	4.3		Si
SLD 6	10.65	7498.46	-11371	-0.0000443	0.0006738	0.0035	4.315		24618.58	24618.58	3.28		Si
SLV 6	8.55	-12897.4	-11498	-0.0000656	0.0006738	0.0035	4.315		32821.11	32821.11	2.54		Si
SLV 6	10.65	12735.25	-9065	-0.0000714	0.0006738	0.0035	4.315		20135.08	20135.08	1.58		Si
SLV 11	8.55	9454.52	-23632	-0.0000763	0.0006738	0.0035	4.315		46767.87	46767.87	4.95		Si
SLV 11	10.65	-14721.95	-21194	-0.0000866	0.0006738	0.0035	4.315		50500.58	50500.58	3.43		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	8.55	-2317.97	-19616	-10876	-756	4.315	4.315	-18004	10734	7840	96666	21710	22007	11760	Si	15.55	Si
SLU 44	10.65	-671.26	-16589	-9198	-756	4.315	4.315	-15226	10363	7169	96666	21710	22007	10753	Si	14.22	Si
SLU 23	8.55	-2014.05	-19040	-10557	-601	4.315	4.315	-17475	10663	7712	96666	21710	22007	11568	Si	19.26	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 23	10.65	-708.16	-16467	-9130	-601	4.315	4.315	-15114	10348	7142	96666	21710	22007	10712	Si	17.83	Si
SLU 55	8.55	-2370.92	-22317	-12374	-636	4.315	4.315	-20483	10833	8439	96666	21710	22007	12659	Si	19.92	Si
SLU 55	10.65	-977.79	-19290	-10695	-636	4.315	4.315	-17705	10694	7768	96666	21710	22007	11652	Si	18.33	Si
SLU 65	8.55	-2458.19	-22777	-12629	-718	4.315	4.315	-20905	10833	8541	96666	21710	22007	12811	Si	17.84	Si
SLU 65	10.65	-891.86	-19556	-10843	-718	4.315	4.315	-17949	10726	7827	96666	21710	22007	11740	Si	16.34	Si
SLU 5	8.55	-1784.4	-16499	-9148	-560	4.315	4.315	-15143	10352	7149	96666	21710	22007	10723	Si	19.15	Si
SLU 5	10.65	-563.5	-14119	-7828	-560	4.315	4.315	-12959	10061	6621	96666	21710	22007	9931	Si	17.73	Si
SLU 10	8.55	-2016.23	-17962	-9959	-597	4.315	4.315	-16486	10531	7473	96666	21710	22007	11210	Si	18.78	Si
SLU 10	10.65	-718.15	-15582	-8639	-597	4.315	4.315	-14301	10240	6945	96666	21710	22007	10418	Si	17.46	Si
SLU 52	8.55	-2460.36	-21698	-12031	-714	4.315	4.315	-19915	10833	8302	96666	21710	22007	12453	Si	17.43	Si
SLU 52	10.65	-901.85	-18671	-10352	-714	4.315	4.315	-17136	10618	7630	96666	21710	22007	11446	Si	16.02	Si
SLU 47	8.55	-2228.53	-20235	-11220	-678	4.315	4.315	-18573	10810	7977	96666	21710	22007	11966	Si	17.66	Si
SLU 47	10.65	-747.2	-17208	-9541	-678	4.315	4.315	-15794	10439	7306	96666	21710	22007	10959	Si	16.17	Si
SLU 2	8.55	-1873.84	-15880	-8805	-639	4.315	4.315	-14575	10277	7011	96666	21710	22007	10517	Si	16.46	Si
SLU 2	10.65	-487.56	-13500	-7485	-639	4.315	4.315	-12390	9985	6484	96666	21710	22007	9725	Si	15.22	Si
SLU 73	8.55	-2600.57	-24859	-13783	-676	4.315	4.315	-22816	10833	9003	96666	21710	22007	13504	Si	19.97	Si
SLU 73	10.65	-1122.44	-21638	-11997	-676	4.315	4.315	-19860	10833	8288	96666	21710	22007	12433	Si	18.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	8.55	-11791.03	-11050	-6127	-11458	4.315	3.2714	-13446	15190	7685	96666	32565	22007	54571		4.76	Si
SLV 9	10.65	-11893.22	-8619	-4779	-10947	4.315	2.3328	-7911	14082	7146	96666	32565	22007	54571		4.99	Si
SLD 5	8.55	-8655.15	-13805	-7655	-7833	4.315	4.315	-12671	15034	9082	96666	32565	22007	54571		6.97	Si
SLD 5	10.65	-7585.56	-11375	-6307	-7520	4.315	4.315	-10440	14588	8813	96666	32565	22007	54571		7.26	Si
SLV 7	8.55	-8320.07	-24085	-13354	-10727	4.315	4.315	-22106	16250	10576	96666	32565	22007	54571		5.09	Si
SLV 7	10.65	-13740.77	-21646	-12002	-10216	4.315	4.315	-19867	16250	10035	96666	32565	22007	54571		5.34	Si
SLV 12	8.55	-9482.6	-23626	-13100	-11808	4.315	4.315	-21685	16250	10474	96666	32565	22007	54571		4.62	Si
SLV 12	10.65	-14861.1	-21189	-11748	-11302	4.315	4.315	-19447	16250	9934	96666	32565	22007	54571		4.83	Si
SLD 6	8.55	-8637.56	-13802	-7653	-7783	4.315	4.315	-12668	15034	9082	96666	32565	22007	54571		7.01	Si
SLD 6	10.65	-7498.46	-11371	-6305	-7470	4.315	4.315	-10437	14587	8812	96666	32565	22007	54571		7.31	Si
SLV 11	8.55	-9454.52	-23632	-13103	-11729	4.315	4.315	-21690	16250	10476	96666	32565	22007	54571		4.65	Si
SLV 11	10.65	-14721.95	-21194	-11751	-11222	4.315	4.315	-19452	16250	9935	96666	32565	22007	54571		4.86	Si
SLV 5	8.55	-12925.48	-11503	-6378	-12459	4.315	3.1015	-14777	15456	7786	96666	32565	22007	54571		4.38	Si
SLV 5	10.65	-12874.4	-9071	-5029	-11953	4.315	2.2145	-8325	14165	7246	96666	32565	22007	54571		4.57	Si
SLV 6	8.55	-12897.4	-11498	-6375	-12379	4.315	3.1072	-14742	15450	7784	96666	32565	22007	54571		4.41	Si
SLV 6	10.65	-12735.25	-9065	-5026	-11873	4.315	2.2579	-8320	14164	7245	96666	32565	22007	54571		4.6	Si
SLV 8	8.55	-8348.15	-24079	-13351	-10807	4.315	4.315	-22100	16250	10575	96666	32565	22007	54571		5.05	Si
SLV 8	10.65	-13879.92	-21641	-11999	-10296	4.315	4.315	-19862	16250	10034	96666	32565	22007	54571		5.3	Si
SLV 10	8.55	-11762.94	-11045	-6124	-11378	4.315	3.2774	-13415	15184	7684	96666	32565	22007	54571		4.8	Si
SLV 10	10.65	-11754.07	-8613	-4776	-10867	4.315	2.3786	-7906	14081	7145	96666	32565	22007	54571		5.02	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-9069	0.46	286.69	582.82	1036	809.41	2.82	Si
SLV 9	-9074	0.46	286.69	583.14	1036.47	809.81	2.82	Si
SLV 6	-9524	0.46	286.69	609.31	1074.64	841.97	2.94	Si
SLV 5	-9529	0.46	286.69	609.63	1075.11	842.37	2.94	Si
SLV 14	-12953	0.46	286.69	800.62	1364.58	1082.6	3.78	Si
SLV 13	-12961	0.46	286.69	801.06	1365.27	1083.17	3.78	Si
SLV 2	-14469	0.46	286.69	880.46	1491.66	1186.06	4.14	Si
SLV 1	-14477	0.46	286.69	880.88	1492.34	1186.61	4.14	Si
SLV 16	-16738	0.46	286.69	994.52	1678.61	1336.57	4.66	Si
SLV 15	-16746	0.46	286.69	994.93	1679.29	1337.11	4.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.03 Ta = 0.1461

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-13434	-16436	-441	1.574	1666.7	0.948	24.1201	15.01175	Si
SLV 2	-13364	-16428	-441	1.581	1659.7	0.948	24.2339	15.01175	Si
SLV 3	-12812	-20211	-442	1.64	1603.7	0.947	25.17219	15.01175	Si
SLV 4	-12742	-20203	-442	1.647	1596.6	0.946	25.29619	15.01175	Si
SLV 13	-10181	-14927	442	1.992	1337.1	0.938	30.87694	15.01175	Si
SLV 14	-10111	-14919	442	2.004	1330	0.938	31.0637	15.01175	Si
SLV 15	-9559	-18701	441	2.099	1274.2	0.935	32.62327	15.01175	Si
SLV 16	-9489	-18693	441	2.112	1267.1	0.935	32.83172	15.01175	Si
SLV 5	-13009	-11503	-132	1.639	1623.7	0.947	25.14773	7.79135	Si
SLV 6	-12962	-11498	-132	1.644	1618.9	0.947	25.22987	7.79135	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.109	SLU 44	Si
V_SLU	14.217	SLU 44	Si
PF_SLV	1.565	SLV 5	Si
V_SLV	4.38	SLV 5	Si
PFFP_SLV	2.823	SLV 10	Si
R_SLV	1.607	SLV 1	Si

Maschio 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.784	-13.753	-3.359	L6	Z medio 1024 cm	1.424	0.28	1.69	1.69	1.69			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim.conv / ϵ_c CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim.conv	ϵ_c fd	γ_f d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ε _m	ε _m _	ε _{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 21	8.55	-284.56	-8028	-0.0000357	0.0003743	0.0035	1.4243	4586.76	5396.29	5396.29	18.96	No	Si
SLU 21	10.24	704.44	-6321	-0.0000357	0.0003743	0.0035	1.4243	3800.88	3997.8	3997.8	5.68	No	Si
SLU 19	8.55	-278.98	-7842	-0.0000349	0.0003743	0.0035	1.4243	4506.26	5300.17	5300.17	19	No	Si
SLU 19	10.24	684.9	-6161	-0.0000347	0.0003743	0.0035	1.4243	3721.8	3914.87	3914.87	5.72	No	Si
SLU 83	8.55	-389.34	-10682	-0.0000486	0.0003743	0.0035	1.4243	5605.9	6681.42	6681.42	17.16	No	Si
SLU 83	10.24	875.18	-8342	-0.000047	0.0003743	0.0035	1.4243	4720.33	5078.81	5078.81	5.8	No	Si
SLU 20	8.55	-284.6	-7987	-0.0000355	0.0003743	0.0035	1.4243	4569.18	5375.07	5375.07	18.89	No	Si
SLU 20	10.24	701.39	-6299	-0.0000356	0.0003743	0.0035	1.4243	3789.94	3986.25	3986.25	5.68	No	Si
SLU 40	8.55	-345.08	-8956	-0.0000406	0.0003743	0.0035	1.4243	4971.38	5863.34	5863.34	16.99	No	Si
SLU 40	10.24	815.29	-7023	-0.0000404	0.0003743	0.0035	1.4243	4136.33	4365.58	4365.58	5.35	No	Si
SLU 41	8.55	-350.7	-9101	-0.0000413	0.0003743	0.0035	1.4243	5028.64	5934.25	5934.25	16.92	No	Si
SLU 41	10.24	831.78	-7161	-0.0000413	0.0003743	0.0035	1.4243	4200.29	4438.89	4438.89	5.34	No	Si
SLU 84	8.55	-389.3	-10723	-0.0000488	0.0003743	0.0035	1.4243	5619.63	6700.6	6700.6	17.21	No	Si
SLU 84	10.24	878.24	-8365	-0.0000471	0.0003743	0.0035	1.4243	4729.67	5091.1	5091.1	5.8	No	Si
SLU 18	8.55	-279.01	-7802	-0.0000347	0.0003743	0.0035	1.4243	4488.42	5279.17	5279.17	18.92	No	Si
SLU 18	10.24	681.84	-6139	-0.0000346	0.0003743	0.0035	1.4243	3710.73	3903.38	3903.38	5.72	No	Si
SLU 39	8.55	-345.12	-8916	-0.0000404	0.0003743	0.0035	1.4243	4955.13	5843.46	5843.46	16.93	No	Si
SLU 39	10.24	812.23	-7001	-0.0000403	0.0003743	0.0035	1.4243	4125.94	4353.78	4353.78	5.36	No	Si
SLU 42	8.55	-350.66	-9142	-0.0000414	0.0003743	0.0035	1.4243	5044.62	5954.28	5954.28	16.98	No	Si
SLU 42	10.24	834.84	-7183	-0.0000414	0.0003743	0.0035	1.4243	4210.56	4450.75	4450.75	5.33	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ε _m	ε _m _	ε _{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	8.55	-836.25	-10182	-0.0000528	0.0005615	0.0035	1.4243		6832.92	6832.92	8.17		Si
SLV 10	10.24	1169	-6914	-0.000045	0.0005615	0.0035	1.4243		4612.65	4612.65	3.95		Si
SLD 10	8.55	-608.13	-9002	-0.0000442	0.0005615	0.0035	1.4243		6184.37	6184.37	10.17		Si
SLD 10	10.24	882.15	-6330	-0.000038	0.0005615	0.0035	1.4243		4263.13	4263.13	4.83		Si
SLV 13	8.55	-901.3	-8079	-0.0000453	0.0005615	0.0035	1.4243		5665.66	5665.66	6.29		Si
SLV 13	10.24	1110.89	-5509	-0.0000385	0.0005615	0.0035	1.4243		3762.21	3762.21	3.39		Si
SLV 16	8.55	-538.61	-6164	-0.0000318	0.0005615	0.0035	1.4243		4534.95	4534.95	8.42		Si
SLV 16	10.24	643.62	-4552	-0.0000272	0.0005615	0.0035	1.4243		3164.02	3164.02	4.92		Si
SLV 9	8.55	-886.98	-10224	-0.0000538	0.0005615	0.0035	1.4243		6855.4	6855.4	7.73		Si
SLV 9	10.24	1222.42	-6907	-0.0000458	0.0005615	0.0035	1.4243		4608.54	4608.54	3.77		Si
SLV 14	8.55	-825.96	-8017	-0.0000438	0.0005615	0.0035	1.4243		5629.08	5629.08	6.82		Si
SLV 14	10.24	1031.55	-5520	-0.0000372	0.0005615	0.0035	1.4243		3769.11	3769.11	3.65		Si
SLD 14	8.55	-610.78	-7667	-0.0000389	0.0005615	0.0035	1.4243		5425.22	5425.22	8.88		Si
SLD 14	10.24	803.3	-5467	-0.0000334	0.0005615	0.0035	1.4243		3736.54	3736.54	4.65		Si
SLD 13	8.55	-658.87	-7707	-0.0000399	0.0005615	0.0035	1.4243		5448.41	5448.41	8.27		Si
SLD 13	10.24	853.94	-5460	-0.0000341	0.0005615	0.0035	1.4243		3732.14	3732.14	4.37		Si
SLV 15	8.55	-613.95	-6227	-0.0000333	0.0005615	0.0035	1.4243		4572.72	4572.72	7.45		Si
SLV 15	10.24	722.96	-4541	-0.0000285	0.0005615	0.0035	1.4243		3156.98	3156.98	4.37		Si
SLD 9	8.55	-639.88	-9028	-0.0000449	0.0005615	0.0035	1.4243		6199	6199	9.69		Si
SLD 9	10.24	915.59	-6325	-0.0000386	0.0005615	0.0035	1.4243		4260.3	4260.3	4.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	8.55	-350.7	-9101	-7579	-2743	1.4243	1.4243	-19004	9478	4173	16652	11942	3632	6259	Si	2.28	Si
SLU 41	10.24	831.78	-7161	-5963	-1786	1.4243	1.4243	-14952	8938	3628	16652	11942	3632	5442	Si	3.05	Si
SLU 77	8.55	-378.59	-10608	-8834	-2986	1.4243	1.4243	-22151	9898	4596	16652	11942	3632	6894	Si	2.31	Si
SLU 77	10.24	789.8	-8240	-6861	-1752	1.4243	1.4243	-17204	9238	3931	16652	11942	3632	5896	Si	3.37	Si
SLU 40	8.55	-345.08	-8956	-7458	-2682	1.4243	1.4243	-18701	9438	4132	16652	11942	3632	6198	Si	2.31	Si
SLU 40	10.24	815.29	-7023	-5848	-1738	1.4243	1.4243	-14664	8900	3589	16652	11942	3632	5384	Si	3.1	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 35	8.55	-339.95	-9028	-7517	-2709	1.4243	1.4243	-18850	9458	4152	16652	11942	3632	6228	Si	2.3	Si
SLU 35	10.24	746.41	-7058	-5878	-1674	1.4243	1.4243	-14738	8910	3599	16652	11942	3632	5399	Si	3.22	Si
SLU 36	8.55	-339.91	-9068	-7551	-2732	1.4243	1.4243	-18935	9469	4164	16652	11942	3632	6245	Si	2.29	Si
SLU 36	10.24	749.47	-7081	-5896	-1678	1.4243	1.4243	-14784	8916	3606	16652	11942	3632	5408	Si	3.22	Si
SLU 38	8.55	-333.84	-8950	-7453	-2676	1.4243	1.4243	-18687	9436	4130	16652	11942	3632	6195	Si	2.31	Si
SLU 38	10.24	737.94	-6979	-5811	-1642	1.4243	1.4243	-14572	8887	3577	16652	11942	3632	5366	Si	3.27	Si
SLU 78	8.55	-378.55	-10649	-8868	-3009	1.4243	1.4243	-22236	9909	4607	16652	11942	3632	6911	Si	2.3	Si
SLU 78	10.24	792.86	-8262	-6880	-1755	1.4243	1.4243	-17251	9245	3937	16652	11942	3632	5906	Si	3.36	Si
SLU 42	8.55	-350.66	-9142	-7613	-2767	1.4243	1.4243	-19089	9490	4184	16652	11942	3632	6276	Si	2.27	Si
SLU 42	10.24	834.84	-7183	-5982	-1789	1.4243	1.4243	-14999	8944	3634	16652	11942	3632	5452	Si	3.05	Si
SLU 83	8.55	-389.34	-10682	-8895	-3020	1.4243	1.4243	-22304	9918	4617	16652	11942	3632	6925	Si	2.29	Si
SLU 83	10.24	875.18	-8342	-6947	-1863	1.4243	1.4243	-17419	9267	3960	16652	11942	3632	5940	Si	3.19	Si
SLU 84	8.55	-389.3	-10723	-8929	-3044	1.4243	1.4243	-22389	9930	4628	16652	11942	3632	6942	Si	2.28	Si
SLU 84	10.24	878.24	-8365	-6965	-1867	1.4243	1.4243	-17465	9273	3966	16652	11942	3632	5949	Si	3.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	8.55	-886.98	-10224	-8514	-6881	1.4243	1.4243	-21348	14686	5857	16652	17913	3632	21545		3.13	Si
SLV 9	10.24	1222.42	-6907	-5751	-4946	1.4243	1.4243	-14421	13301	5304	16652	17913	3632	21545		4.36	Si
SLD 9	8.55	-639.88	-9028	-7518	-4968	1.4243	1.4243	-18851	14187	5658	16652	17913	3632	21545		4.34	Si
SLD 9	10.24	915.59	-6325	-5267	-3437	1.4243	1.4243	-13208	13058	5208	16652	17913	3632	21545		6.27	Si
SLV 10	8.55	-836.25	-10182	-8479	-6443	1.4243	1.4243	-21260	14669	5850	16652	17913	3632	21545		3.34	Si
SLV 10	10.24	1169	-6914	-5758	-4514	1.4243	1.4243	-14437	13304	5306	16652	17913	3632	21545		4.77	Si
SLD 14	8.55	-610.78	-7667	-6384	-4745	1.4243	1.4243	-16009	13618	5431	16652	17913	3632	21545		4.54	Si
SLD 14	10.24	803.3	-5467	-4553	-3608	1.4243	1.4243	-11416	12700	5065	16652	17913	3632	21545		5.97	Si
SLV 13	8.55	-901.3	-8079	-6728	-7087	1.4243	1.4243	-16870	13791	5500	16652	17913	3632	21545		3.04	Si
SLV 13	10.24	1110.89	-5509	-4587	-5781	1.4243	1.4243	-11502	12717	5072	16652	17913	3632	21545		3.73	Si
SLD 13	8.55	-658.87	-7707	-6418	-5161	1.4243	1.4243	-16092	13635	5438	16652	17913	3632	21545		4.17	Si
SLD 13	10.24	853.94	-5460	-4547	-4018	1.4243	1.4243	-11401	12697	5064	16652	17913	3632	21545		5.36	Si
SLD 10	8.55	-608.13	-9002	-7496	-4694	1.4243	1.4243	-18796	14176	5653	16652	17913	3632	21545		4.59	Si
SLD 10	10.24	882.15	-6330	-5271	-3166	1.4243	1.4243	-13217	13060	5208	16652	17913	3632	21545		6.8	Si
SLV 14	8.55	-825.96	-8017	-6676	-6435	1.4243	1.4243	-16739	13764	5489	16652	17913	3632	21545		3.35	Si
SLV 14	10.24	1031.55	-5520	-4596	-5139	1.4243	1.4243	-11525	12722	5074	16652	17913	3632	21545		4.19	Si
SLV 15	8.55	-613.95	-6227	-5185	-4866	1.4243	1.4243	-13001	13017	5191	16652	17913	3632	21545		4.43	Si
SLV 15	10.24	722.96	-4541	-3781	-4174	1.4243	1.4243	-9481	12313	4910	16652	17913	3632	21545		5.16	Si
SLV 5	8.55	-597.9	-10219	-8509	-4576	1.4243	1.4243	-21337	14684	5856	16652	17913	3632	21545		4.71	Si
SLV 5	10.24	941.2	-7136	-5942	-2713	1.4243	1.4243	-14900	13397	5343	16652	17913	3632	21545		7.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 9.395 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.44	10308	-4111	39.89	536.69	13.45	Si
SLV 8	179667	0.44	10326	-4118	39.89	537.56	13.48	Si
SLV 11	179667	0.44	10415	-4154	39.89	541.86	13.58	Si
SLV 7	179667	0.44	10433	-4161	39.89	542.73	13.61	Si
SLV 16	179667	0.44	14354	-5724	39.89	726.08	18.2	Si
SLV 4	179667	0.44	14414	-5748	39.89	728.8	18.27	Si
SLV 15	179667	0.44	14513	-5788	39.89	733.28	18.38	Si
SLV 3	179667	0.44	14573	-5812	39.89	735.99	18.45	Si
SLV 14	179667	0.44	17861	-7123	39.89	880.61	22.08	Si
SLV 2	179667	0.44	17921	-7147	39.89	883.18	22.14	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 9.395 Wa = 0.05 Ta = 0.017

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 6	-7143	-10177	98	1.109	822.2	0.965	16.69847	3.95629	Si
SLV 5	-7136	-10219	98	1.11	821.4	0.965	16.71469	3.95629	Si
SLV 10	-6914	-10182	35	1.149	798.9	0.964	17.31205	3.95629	Si
SLV 9	-6907	-10224	35	1.15	798.1	0.964	17.32941	3.95629	Si
SLV 2	-6283	-7999	132	1.232	734.7	0.961	18.62536	4.2281	Si
SLV 1	-6272	-8061	132	1.234	733.5	0.961	18.65578	4.2281	Si
SLV 14	-5520	-8017	-78	1.384	657	0.957	21.01464	4.2281	Si
SLV 13	-5509	-8079	-78	1.386	655.9	0.957	21.05062	4.2281	Si
SLV 4	-5316	-6146	98	1.426	636.3	0.956	21.67142	4.2281	Si
SLV 3	-5304	-6209	98	1.428	635.1	0.956	21.71292	4.2281	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.331	SLU 42	Si
V_SLU	2.269	SLU 42	Si
PF_SLV	3.387	SLV 13	Si
V_SLV	3.04	SLV 13	Si
PFFP_SLV	13.454	SLV 12	Si
R_SLV	4.221	SLV 6	Si



Maschio 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.784	-13.753	-3.359	Z medio 1024 cm	L7	1.424	0.28	1.81	1.81	1.81			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato _Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 18	10.24	-472.25	-4720	-0.0000255	0.0003743	0.0035	1.4243	2970.52	3565.49	3565.49	7.55	No	Si
SLU 18	12.05	-72.72	-2567	-0.0000107	0.0003743	0.0035	1.4243	1712.47	2234.57	2234.57	30.73	No	Si
SLU 82	10.24	-555.98	-6518	-0.0000341	0.0003743	0.0035	1.4243	3896.74	4593.98	4593.98	8.26	No	Si
SLU 82	12.05	-96.84	-3458	-0.0000145	0.0003743	0.0035	1.4243	2253.12	2799.37	2799.37	28.91	No	Si
SLU 19	10.24	-476.71	-4736	-0.0000256	0.0003743	0.0035	1.4243	2979.14	3574.92	3574.92	7.5	No	Si
SLU 19	12.05	-67.24	-2535	-0.0000105	0.0003743	0.0035	1.4243	1692.4	2213.93	2213.93	32.92	No	Si
SLU 41	10.24	-544.05	-5533	-0.0000299	0.0003743	0.0035	1.4243	3403.14	4039.49	4039.49	7.42	No	Si
SLU 41	12.05	-81.62	-2908	-0.0000122	0.0003743	0.0035	1.4243	1922.45	2454.32	2454.32	30.07	No	Si
SLU 39	10.24	-545.96	-5379	-0.0000293	0.0003743	0.0035	1.4243	3323.43	3952.47	3952.47	7.24	No	Si
SLU 39	12.05	-76.4	-2819	-0.0000118	0.0003743	0.0035	1.4243	1868.31	2396.97	2396.97	31.37	No	Si
SLU 42	10.24	-548.51	-5548	-0.00003	0.0003743	0.0035	1.4243	3411.3	4048.39	4048.39	7.38	No	Si
SLU 42	12.05	-76.14	-2875	-0.000012	0.0003743	0.0035	1.4243	1902.76	2433.4	2433.4	31.96	No	Si
SLU 40	10.24	-550.42	-5395	-0.0000294	0.0003743	0.0035	1.4243	3331.69	3961.47	3961.47	7.2	No	Si
SLU 40	12.05	-70.93	-2787	-0.0000115	0.0003743	0.0035	1.4243	1848.52	2376.12	2376.12	33.5	No	Si
SLU 81	10.24	-551.52	-6502	-0.0000339	0.0003743	0.0035	1.4243	3889.11	4585.37	4585.37	8.31	No	Si
SLU 81	12.05	-102.31	-3491	-0.0000147	0.0003743	0.0035	1.4243	2272.16	2819.22	2819.22	27.56	No	Si
SLU 20	10.24	-470.34	-4873	-0.000026	0.0003743	0.0035	1.4243	3053.77	3657.22	3657.22	7.78	No	Si
SLU 20	12.05	-77.93	-2655	-0.0000112	0.0003743	0.0035	1.4243	1767.4	2291.36	2291.36	29.4	No	Si
SLU 21	10.24	-474.8	-4889	-0.0000262	0.0003743	0.0035	1.4243	3062.3	3666.71	3666.71	7.72	No	Si
SLU 21	12.05	-72.46	-2623	-0.0000109	0.0003743	0.0035	1.4243	1747.42	2270.65	2270.65	31.34	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	10.24	-1113.57	-4520	-0.0000346	0.0005615	0.0035	1.4243		3519.77	3519.77	3.16		Si
SLV 13	12.05	727.87	-1751	-0.0000209	0.0005615	0.0035	1.4243		1328.4	1328.4	1.83		Si
SLV 4	10.24	718.09	-4939	-0.0000299	0.0005615	0.0035	1.4243		3408.79	3408.79	4.75		Si
SLV 4	12.05	-903.98	-3462	-0.0000272	0.0005615	0.0035	1.4243		2842.34	2842.34	3.14		Si
SLV 2	10.24	582.53	-5705	-0.0000308	0.0005615	0.0035	1.4243		3883.64	3883.64	6.67		Si
SLV 2	12.05	-752.29	-3509	-0.0000249	0.0005615	0.0035	1.4243		2872.47	2872.47	3.82		Si
SLV 15	10.24	-978.01	-3755	-0.0000296	0.0005615	0.0035	1.4243		3033.49	3033.49	3.1		Si
SLV 15	12.05	576.18	-1705	-0.000016	0.0005615	0.0035	1.4243		1297.29	1297.29	2.25		Si
SLV 16	10.24	-842.67	-3811	-0.0000275	0.0005615	0.0035	1.4243		3070.47	3070.47	3.64		Si
SLV 16	12.05	498.63	-1922	-0.0000149	0.0005615	0.0035	1.4243		1443.45	1443.45	2.89		Si
SLV 14	10.24	-978.23	-4577	-0.0000327	0.0005615	0.0035	1.4243		3555.1	3555.1	3.63		Si
SLV 14	12.05	650.33	-1968	-0.0000182	0.0005615	0.0035	1.4243		1474.52	1474.52	2.27		Si
SLV 8	10.24	307.87	-3642	-0.0000184	0.0005615	0.0035	1.4243		2581.83	2581.83	8.39		Si
SLV 8	12.05	-577.37	-2834	-0.0000196	0.0005615	0.0035	1.4243		2434.68	2434.68	4.22		Si
SLV 3	10.24	582.75	-4883	-0.0000276	0.0005615	0.0035	1.4243		3373.3	3373.3	5.79		Si
SLV 3	12.05	-826.43	-3245	-0.0000251	0.0005615	0.0035	1.4243		2700.98	2700.98	3.27		Si
SLD 13	10.24	-781.47	-4585	-0.0000296	0.0005615	0.0035	1.4243		3560.05	3560.05	4.56		Si
SLD 13	12.05	433.41	-2061	-0.0000144	0.0005615	0.0035	1.4243		1537.02	1537.02	3.55		Si
SLV 1	10.24	447.19	-5649	-0.0000284	0.0005615	0.0035	1.4243		3848.84	3848.84	8.61		Si
SLV 1	12.05	-674.74	-3291	-0.0000229	0.0005615	0.0035	1.4243		2730.99	2730.99	4.05		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 41	10.24	-544.05	-5533	-4607	-1660	1.4243	1.4243	-11552	8485	3384	19031	11942	3632	5076	Si	3.06	Si
SLU 41	12.05	-81.62	-2908	-2421	-636	1.4243	1.4243	-6071	7754	3092	19031	11942	3632	4638	Si	7.3	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	10.24	-441.96	-6854	-5708	-1652	1.4243	1.4243	-14312	8853	3531	19031	11942	3632	5296	Si	3.21	Si
SLU 78	12.05	-117.42	-3672	-3058	-522	1.4243	1.4243	-7668	7967	3177	19031	11942	3632	4766	Si	9.14	Si
SLU 81	10.24	-551.52	-6502	-5415	-1672	1.4243	1.4243	-13577	8755	3491	19031	11942	3632	5237	Si	3.13	Si
SLU 81	12.05	-102.31	-3491	-2907	-548	1.4243	1.4243	-7288	7916	3157	19031	11942	3632	4736	Si	8.64	Si
SLU 39	10.24	-545.96	-5379	-4480	-1609	1.4243	1.4243	-11232	8442	3367	19031	11942	3632	5050	Si	3.14	Si
SLU 39	12.05	-76.4	-2819	-2348	-613	1.4243	1.4243	-5887	7729	3082	19031	11942	3632	4624	Si	7.54	Si
SLU 84	10.24	-554.08	-6671	-5555	-1758	1.4243	1.4243	-13930	8802	3510	19031	11942	3632	5265	Si	2.99	Si
SLU 84	12.05	-102.05	-3547	-2954	-590	1.4243	1.4243	-7406	7932	3163	19031	11942	3632	4745	Si	8.04	Si
SLU 40	10.24	-550.42	-5395	-4493	-1645	1.4243	1.4243	-11265	8446	3369	19031	11942	3632	5053	Si	3.07	Si
SLU 40	12.05	-70.93	-2787	-2321	-633	1.4243	1.4243	-5819	7720	3079	19031	11942	3632	4618	Si	7.3	Si
SLU 42	10.24	-548.51	-5548	-4620	-1695	1.4243	1.4243	-11585	8489	3386	19031	11942	3632	5078	Si	3	Si
SLU 42	12.05	-76.14	-2875	-2394	-655	1.4243	1.4243	-6004	7745	3089	19031	11942	3632	4633	Si	7.07	Si
SLU 83	10.24	-549.62	-6655	-5542	-1723	1.4243	1.4243	-13897	8797	3508	19031	11942	3632	5263	Si	3.05	Si
SLU 83	12.05	-107.52	-3579	-2980	-571	1.4243	1.4243	-7473	7941	3167	19031	11942	3632	4750	Si	8.32	Si
SLU 36	10.24	-436.39	-5731	-4773	-1589	1.4243	1.4243	-11967	8540	3406	19031	11942	3632	5109	Si	3.21	Si
SLU 36	12.05	-91.51	-3001	-2499	-587	1.4243	1.4243	-6266	7780	3103	19031	11942	3632	4654	Si	7.93	Si
SLU 82	10.24	-555.98	-6518	-5428	-1708	1.4243	1.4243	-13610	8759	3493	19031	11942	3632	5240	Si	3.07	Si
SLU 82	12.05	-96.84	-3458	-2880	-568	1.4243	1.4243	-7221	7907	3153	19031	11942	3632	4730	Si	8.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.24	582.53	-5705	-4751	2525	1.4243	1.4243	-11912	12799	5104	19031	17913	3632	21545		8.53	Si
SLV 2	12.05	-752.29	-3509	-2922	3505	1.4243	1.4243	-7326	11882	4739	19031	17913	3632	21545		6.15	Si
SLV 13	10.24	-1113.57	-4520	-3764	-5550	1.4243	1.3974	-9439	12304	4815	19031	17913	3632	21545		3.88	Si
SLV 13	12.05	727.87	-1751	-1458	-4495	1.4243	0.8892	-3656	11148	2776	19031	17913	3632	21545		4.79	Si
SLD 13	10.24	-781.47	-4585	-3818	-3839	1.4243	1.4243	-9573	12331	4918	19031	17913	3632	21545		5.61	Si
SLD 13	12.05	433.41	-2061	-1716	-2926	1.4243	1.4243	-4303	11277	4497	19031	17913	3632	21545		7.36	Si
SLV 4	10.24	718.09	-4939	-4113	3859	1.4243	1.4243	-10314	12479	4977	19031	17913	3632	21545		5.58	Si
SLV 4	12.05	-903.98	-3462	-2883	4166	1.4243	1.3532	-7230	11863	4495	19031	17913	3632	21545		5.17	Si
SLV 15	10.24	-978.01	-3755	-3127	-4216	1.4243	1.355	-7840	11985	4547	19031	17913	3632	21545		5.11	Si
SLV 15	12.05	576.18	-1705	-1419	-3833	1.4243	1.1224	-3559	11128	3497	19031	17913	3632	21545		5.62	Si
SLV 16	10.24	-842.67	-3811	-3174	-3598	1.4243	1.4243	-7958	12008	4789	19031	17913	3632	21545		5.99	Si
SLV 16	12.05	498.63	-1922	-1600	-3220	1.4243	1.358	-4013	11219	4266	19031	17913	3632	21545		6.69	Si
SLV 14	10.24	-978.23	-4577	-3811	-4932	1.4243	1.4243	-9556	12328	4916	19031	17913	3632	21545		4.37	Si
SLV 14	12.05	650.33	-1968	-1639	-3882	1.4243	1.1451	-4109	11238	3603	19031	17913	3632	21545		5.55	Si
SLV 9	10.24	-703.35	-5818	-4845	-4395	1.4243	1.4243	-12148	12846	5123	19031	17913	3632	21545		4.9	Si
SLV 9	12.05	401.26	-2379	-1981	-2582	1.4243	1.4243	-4968	11410	4550	19031	17913	3632	21545		8.34	Si
SLV 10	10.24	-612.23	-5856	-4876	-3979	1.4243	1.4243	-12227	12862	5129	19031	17913	3632	21545		5.42	Si
SLV 10	12.05	349.06	-2526	-2103	-2169	1.4243	1.4243	-5273	11471	4575	19031	17913	3632	21545		9.93	Si
SLV 3	10.24	582.75	-4883	-4066	3241	1.4243	1.4243	-10196	12456	4967	19031	17913	3632	21545		6.65	Si
SLV 3	12.05	-826.43	-3245	-2702	3553	1.4243	1.3725	-6776	11772	4524	19031	17913	3632	21545		6.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.145 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.47	7063	-2817	49.53	376.09	7.59	Si
SLV 11	179667	0.47	7126	-2842	49.53	379.32	7.66	Si
SLV 12	179667	0.47	7329	-2923	49.53	389.57	7.86	Si
SLV 16	179667	0.47	7364	-2937	49.53	391.32	7.9	Si
SLV 13	179667	0.47	8074	-3220	49.53	426.94	8.62	Si
SLV 7	179667	0.47	8150	-3250	49.53	430.74	8.7	Si
SLV 8	179667	0.47	8352	-3331	49.53	440.83	8.9	Si
SLV 14	179667	0.47	8375	-3340	49.53	441.94	8.92	Si
SLV 3	179667	0.47	10474	-4177	49.53	544.67	11	Si
SLV 9	179667	0.47	10496	-4186	49.53	545.75	11.02	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCP su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.145 Wa = 0.05 Ta = 0.0195

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 2	-3509	-5705	-370	1.924	459.8	0.938	29.80994	4.59903	Si
SLV 4	-3462	-4939	-401	1.938	455.1	0.938	30.03425	4.59903	Si
SLV 1	-3291	-5649	-367	2.027	437.8	0.936	31.48704	4.59903	Si
SLV 3	-3245	-4883	-397	2.042	433.2	0.935	31.74488	4.59903	Si
SLV 6	-2988	-6194	-78	2.269	407.1	0.932	35.39673	4.25964	Si
SLV 8	-2834	-3642	-179	2.337	391.6	0.929	36.5412	4.25964	Si
SLV 5	-2842	-6156	-76	2.362	392.4	0.93	36.9212	4.25964	Si
SLV 7	-2688	-3604	-177	2.437	376.9	0.927	38.19026	4.25964	Si
SLV 10	-2526	-5856	141	2.568	360.6	0.925	40.3624	4.25964	Si
SLV 9	-2379	-5818	144	2.688	345.9	0.922	42.35141	4.25964	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.197	SLU 40	Si
V_SLU	2.995	SLU 84	Si
PF_SLV	1.825	SLV 13	Si
V_SLV	3.882	SLV 13	Si
PFFP_SLV	7.593	SLV 15	Si



Stato limite	Coeff.s.	Comb.	Verifica
R_SLV	6.482	SLV 2	Si

Maschio 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.359	-13.753	-0.354	Z medio 940 cm	L7	3.006	0.28	2.655	1.81	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	10.24	2621.57	-15843	-0.0000386	0.0003743	0.0035	3.0057	19406.7	20579.67	20579.67	7.85	No	Si
SLU 41	12.05	23.98	-11168	-0.0000202	0.0003743	0.0035	3.0057	14595.91	15314.99	15314.99	638.76	No	Si
SLU 38	10.24	2522.66	-16252	-0.0000391	0.0003743	0.0035	3.0057	19791.71	21057.86	21057.86	8.35	No	Si
SLU 38	12.05	-131.01	-11449	-0.0000211	0.0003743	0.0035	3.0057	14906.91	18023.66	18023.66	137.58	No	Si
SLU 36	10.24	2564.83	-16576	-0.0000399	0.0003743	0.0035	3.0057	20091.66	21439.06	21439.06	8.36	No	Si
SLU 36	12.05	-183.76	-11728	-0.0000218	0.0003743	0.0035	3.0057	15212.62	18357.65	18357.65	99.9	No	Si
SLU 40	10.24	2582.18	-15408	-0.0000377	0.0003743	0.0035	3.0057	18991.47	20074.93	20074.93	7.77	No	Si
SLU 40	12.05	98.93	-10770	-0.0000197	0.0003743	0.0035	3.0057	14151.4	14883.48	14883.48	150.44	No	Si
SLU 42	10.24	2677.75	-15985	-0.0000391	0.0003743	0.0035	3.0057	19540.96	20745.29	20745.29	7.75	No	Si
SLU 42	12.05	44.51	-11264	-0.0000204	0.0003743	0.0035	3.0057	14702.44	15419.58	15419.58	346.44	No	Si
SLU 19	10.24	2103	-13143	-0.0000315	0.0003743	0.0035	3.0057	16722.03	17496.27	17496.27	8.32	No	Si
SLU 19	12.05	263.21	-9098	-0.0000172	0.0003743	0.0035	3.0057	12220.61	13052.98	13052.98	49.59	No	Si
SLU 34	10.24	2464.54	-15770	-0.0000379	0.0003743	0.0035	3.0057	19337.78	20495.12	20495.12	8.32	No	Si
SLU 34	12.05	-62.9	-11019	-0.00002	0.0003743	0.0035	3.0057	14430.6	17490.1	17490.1	278.07	No	Si
SLU 39	10.24	2526	-15265	-0.0000372	0.0003743	0.0035	3.0057	18854.32	19910.64	19910.64	7.88	No	Si
SLU 39	12.05	78.4	-10674	-0.0000195	0.0003743	0.0035	3.0057	14043.2	14779.64	14779.64	188.52	No	Si
SLU 31	10.24	2368.97	-15193	-0.0000364	0.0003743	0.0035	3.0057	18783.93	19826.77	19826.77	8.37	No	Si
SLU 31	12.05	-8.48	-10526	-0.0000189	0.0003743	0.0035	3.0057	13875.32	16871.8	16871.8	1990.25	No	Si
SLU 21	10.24	2198.56	-13720	-0.000033	0.0003743	0.0035	3.0057	17317.37	18145.42	18145.42	8.25	No	Si
SLU 21	12.05	208.79	-9591	-0.0000179	0.0003743	0.0035	3.0057	12800.62	13618.8	13618.8	65.23	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 10	10.24	3360.91	-17839	-0.0000444	0.0005615	0.0035	3.0057		23952.59	23952.59	7.13		Si
SLD 10	12.05	-174.18	-12132	-0.0000223	0.0005615	0.0035	3.0057		19383.98	19383.98	111.28		Si
SLV 7	10.24	-1455.88	-4723	-0.0000134	0.0005615	0.0035	3.0057		9389.03	9389.03	6.45		Si
SLV 7	12.05	-53.94	-3038	-0.0000055	0.0005615	0.0035	3.0057		6995.82	6995.82	129.7		Si
SLV 9	10.24	4531.24	-20959	-0.0000547	0.0005615	0.0035	3.0057		27465.82	27465.82	6.06		Si
SLV 9	12.05	-302.07	-14476	-0.0000227	0.0005615	0.0035	3.0057		22344.18	22344.18	73.97		Si
SLV 10	10.24	4486.51	-20922	-0.0000545	0.0005615	0.0035	3.0057		27424.09	27424.09	6.11		Si
SLV 10	12.05	-200.42	-14276	-0.0000263	0.0005615	0.0035	3.0057		22089.84	22089.84	110.22		Si
SLV 5	10.24	4212.82	-21219	-0.0000541	0.0005615	0.0035	3.0057		27761.95	27761.95	6.59		Si
SLV 5	12.05	447.32	-14068	-0.0000268	0.0005615	0.0035	3.0057		19800.33	19800.33	44.26		Si
SLV 14	10.24	2863.1	-14836	-0.0000369	0.0005615	0.0035	3.0057		20637.03	20637.03	7.21		Si
SLV 14	12.05	-1225.49	-10842	-0.0000237	0.0005615	0.0035	3.0057		17683.83	17683.83	14.43		Si
SLD 9	10.24	3388.91	-17862	-0.0000446	0.0005615	0.0035	3.0057		23978.2	23978.2	7.08		Si
SLD 9	12.05	-237.81	-12257	-0.0000227	0.0005615	0.0035	3.0057		19545.69	19545.69	82.19		Si
SLV 13	10.24	2929.53	-14890	-0.0000373	0.0005615	0.0035	3.0057		20696.59	20696.59	7.06		Si
SLV 13	12.05	-1376.46	-11138	-0.0000247	0.0005615	0.0035	3.0057		18075.83	18075.83	13.13		Si
SLV 6	10.24	4168.09	-21182	-0.0000538	0.0005615	0.0035	3.0057		27720.16	27720.16	6.65		Si
SLV 6	12.05	548.96	-13869	-0.0000268	0.0005615	0.0035	3.0057		19583.29	19583.29	35.67		Si
SLV 8	10.24	-1500.61	-4686	-0.0000135	0.0005615	0.0035	3.0057		9337.3	9337.3	6.22		Si
SLV 8	12.05	47.7	-2838	-0.0000051	0.0005615	0.0035	3.0057		4641.57	4641.57	97.3		Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	10.24	1601.54	-15937	-13271	421	3.0057	3.0057	-15769	9047	9360	28547	25201	7665	14039	Si	33.38	Si
SLU 50	12.05	-261.78	-10779	-8976	186	3.0057	3.0057	-10665	8366	7642	28547	25201	7665	11462	Si	61.77	Si
SLU 29	10.24	1881.62	-15388	-12814	10	3.0057	3.0057	-15225	8974	9177	28547	25201	7665	13765	Si	1348.74	Si
SLU 29	12.05	-434.1	-10633	-8854	367	3.0057	3.0057	-10521	8347	7593	28547	25201	7665	11390	Si	31	Si
SLU 60	10.24	2245.92	-15815	-13169	526	3.0057	3.0057	-15648	9031	9319	28547	25201	7665	13978	Si	26.56	Si
SLU 60	12.05	250.71	-10820	-9010	-208	3.0057	3.0057	-10706	8372	7655	28547	25201	7665	11483	Si	55.1	Si
SLU 24	10.24	1828.23	-15134	-12602	18	3.0057	3.0057	-14975	8941	9092	28547	25201	7665	13638	Si	749.38	Si
SLU 24	12.05	-432.42	-10418	-8676	351	3.0057	3.0057	-10308	8319	7521	28547	25201	7665	11282	Si	32.14	Si
SLU 27	10.24	1923.79	-15711	-13083	-45	3.0057	3.0057	-15545	9017	9284	28547	25201	7665	13927	Si	307.26	Si
SLU 27	12.05	-486.85	-10912	-9087	380	3.0057	3.0057	-10797	8384	7686	28547	25201	7665	11529	Si	30.3	Si
SLU 69	10.24	2122.89	-18525	-15426	140	3.0057	3.0057	-18330	9388	10222	28547	25201	7665	15333	Si	109.28	Si
SLU 69	12.05	-478.81	-12731	-10601	366	3.0057	3.0057	-12596	8624	8292	28547	25201	7665	12437	Si	34.01	Si
SLU 43	10.24	1410.4	-14783	-12310	548	3.0057	3.0057	-14627	8895	8975	28547	25201	7665	13463	Si	24.59	Si
SLU 43	12.05	-152.94	-9792	-8154	127	3.0057	3.0057	-9689	8236	7313	28547	25201	7665	10969	Si	86.6	Si
SLU 62	10.24	2341.49	-16392	-13650	463	3.0057	3.0057	-16219	9107	9511	28547	25201	7665	14267	Si	30.83	Si
SLU 62	12.05	196.29	-11314	-9421	-179	3.0057	3.0057	-11194	8437	7820	28547	25201	7665	11730	Si	65.54	Si
SLU 45	10.24	1548.15	-15684	-13060	429	3.0057	3.0057	-15518	9014	9275	28547	25201	7665	13913	Si	32.47	Si
SLU 45	12.05	-260.11	-10564	-8797	169	3.0057	3.0057	-10453	8338	7570	28547	25201	7665	11355	Si	67.1	Si
SLU 1	10.24	1211.3	-11969	-9967	362	3.0057	3.0057	-11843	8523	8038	28547	25201	7665	12057	Si	33.31	Si
SLU 1	12.05	-160.97	-7973	-6640	141	3.0057	3.0057	-7889	7996	6730	28547	25201	7665	10094	Si	71.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	10.24	-1500.61	-4686	-3902	9414	3.0057	3.0057	-4637	11344	9547	28547	37802	7665	38094		4.05	Si
SLV 8	12.05	47.7	-2838	-2363	1646	3.0057	3.0057	-2808	10978	9239	28547	37802	7665	37786		22.96	Si
SLD 7	10.24	-330.28	-7805	-6499	5925	3.0057	3.0057	-7723	11961	10066	28547	37802	7665	38613		6.52	Si
SLD 7	12.05	-80.18	-5182	-4315	1034	3.0057	3.0057	-5127	11442	9630	28547	37802	7665	38176		36.92	Si
SLV 5	10.24	4212.82	-21219	-17669	-8003	3.0057	3.0057	-20995	14616	13144	28547	37802	7665	41691		5.21	Si
SLV 5	12.05	447.32	-14068	-11715	-1086	3.0057	3.0057	-13920	13201	11110	28547	37802	7665	39656		36.5	Si
SLV 12	10.24	-1182.2	-4426	-3685	8590	3.0057	3.0057	-4379	11293	9504	28547	37802	7665	38050		4.43	Si
SLV 12	12.05	-701.68	-3245	-2702	1331	3.0057	3.0057	-3211	11059	9307	28547	37802	7665	37854		28.45	Si
SLV 10	10.24	4486.51	-20922	-17422	-8833	3.0057	3.0057	-20701	14557	13046	28547	37802	7665	41592		4.71	Si
SLV 10	12.05	-200.42	-14276	-11888	-1365	3.0057	3.0057	-14125	13242	11144	28547	37802	7665	39691		29.08	Si
SLD 8	10.24	-358.28	-7782	-6480	5922	3.0057	3.0057	-7700	11957	10063	28547	37802	7665	38609		6.52	Si
SLD 8	12.05	-16.55	-5057	-4211	1057	3.0057	3.0057	-5004	11417	9609	28547	37802	7665	38155		36.1	Si
SLV 9	10.24	4531.24	-20959	-17453	-8827	3.0057	3.0057	-20738	14564	13058	28547	37802	7665	41604		4.71	Si
SLV 9	12.05	-302.07	-14476	-12054	-1401	3.0057	3.0057	-14323	13281	11177	28547	37802	7665	39724		28.35	Si
SLV 11	10.24	-1137.47	-4463	-3716	8596	3.0057	3.0057	-4415	11300	9510	28547	37802	7665	38056		4.43	Si
SLV 11	12.05	-803.33	-3445	-2869	1294	3.0057	3.0057	-3409	11098	9340	28547	37802	7665	37887		29.27	Si
SLV 7	10.24	-1455.88	-4723	-3933	9420	3.0057	3.0057	-4673	11351	9553	28547	37802	7665	38100		4.04	Si
SLV 7	12.05	-53.94	-3038	-2530	1609	3.0057	3.0057	-3006	11018	9273	28547	37802	7665	37819		23.5	Si
SLV 6	10.24	4168.09	-21182	-17639	-8009	3.0057	3.0057	-20959	14608	13132	28547	37802	7665	41679		5.2	Si
SLV 6	12.05	548.96	-13869	-11549	-1050	3.0057	3.0057	-13722	13161	11076	28547	37802	7665	39623		37.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 11.145 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.47	4585	-3859	224.9	523.98	2.33	Si
SLV 11	179667	0.47	4681	-3939	224.9	534.59	2.38	Si
SLV 8	179667	0.47	4838	-4072	224.9	551.97	2.45	Si
SLV 7	179667	0.47	4934	-4152	224.9	562.54	2.5	Si
SLV 15	179667	0.47	9624	-8100	224.9	1062.49	4.72	Si
SLV 16	179667	0.47	9767	-8219	224.9	1077.13	4.79	Si
SLV 4	179667	0.47	10468	-8810	224.9	1148.84	5.11	Si
SLV 3	179667	0.47	10610	-8930	224.9	1163.3	5.17	Si
SLV 14	179667	0.47	14217	-11965	224.9	1519.12	6.75	Si
SLV 13	179667	0.47	14359	-12085	224.9	1532.76	6.82	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 11.145 Wa = 0.05 Ta = 0.042

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-11138	-14890	1536	1.228	1451.4	0.939	19.00182	5.62324	Si
SLV 5	-14068	-21219	-710	1.065	1748.4	0.948	16.32684	4.72705	Si
SLV 14	-10842	-14836	1535	1.255	1421.4	0.938	19.44433	5.62324	Si
SLV 9	-14476	-20959	240	1.069	1789.7	0.949	16.36246	4.72705	Si
SLV 6	-13869	-21182	-710	1.078	1728.1	0.948	16.53107	4.72705	Si
SLV 10	-14276	-20922	240	1.081	1769.5	0.949	16.56235	4.72705	Si
SLV 1	-9781	-15757	-1633	1.355	1314.1	0.934	21.0854	5.62324	Si
SLV 2	-9484	-15703	-1633	1.389	1284.1	0.933	21.63708	5.62324	Si
SLV 15	-7829	-9942	1696	1.607	1117.3	0.925	25.25191	5.62324	Si
SLV 16	-7533	-9887	1695	1.655	1087.4	0.923	26.05655	5.62324	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.747	SLU 42	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	24.586	SLU 43	Si
PF_SLV	6.061	SLV 9	Si
V_SLV	4.045	SLV 7	Si
PFFP_SLV	2.33	SLV 12	Si
R_SLV	3.379	SLV 13	Si

Maschio 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	0.672	-13.753	1.046	L6	L7	0.374	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	8.55	22.51	-3586	-0.0000604	0.0003743	0.0035	0.3743	445.57	515.8	515.8	22.91	No	Si
SLU 45	10.65	-74.7	-3134	-0.0000662	0.0003743	0.0035	0.3743	414.25	481.86	481.86	6.45	No	Si
SLU 61	8.55	27.68	-3827	-0.0000659	0.0003743	0.0035	0.3743	459.38	535.46	535.46	19.34	No	Si
SLU 61	10.65	-82.17	-3357	-0.000072	0.0003743	0.0035	0.3743	430.62	504.87	504.87	6.14	No	Si
SLU 62	8.55	28.98	-3934	-0.0000681	0.0003743	0.0035	0.3743	464.81	544.27	544.27	18.78	No	Si
SLU 62	10.65	-85.15	-3470	-0.0000747	0.0003743	0.0035	0.3743	438.24	516.83	516.83	6.07	No	Si
SLU 60	8.55	30.51	-3792	-0.000066	0.0003743	0.0035	0.3743	457.48	532.54	532.54	17.45	No	Si
SLU 60	10.65	-84.93	-3329	-0.0000722	0.0003743	0.0035	0.3743	428.69	501.97	501.97	5.91	No	Si
SLU 58	8.55	25.92	-3949	-0.0000675	0.0003743	0.0035	0.3743	465.55	545.52	545.52	21.05	No	Si
SLU 58	10.65	-82.36	-3488	-0.0000743	0.0003743	0.0035	0.3743	439.39	518.7	518.7	6.3	No	Si
SLU 63	8.55	26.15	-3969	-0.0000679	0.0003743	0.0035	0.3743	466.54	547.23	547.23	20.92	No	Si
SLU 63	10.65	-82.39	-3498	-0.0000745	0.0003743	0.0035	0.3743	440.04	519.79	519.79	6.31	No	Si
SLU 52	8.55	24.26	-3724	-0.0000632	0.0003743	0.0035	0.3743	453.73	527	527	21.72	No	Si
SLU 52	10.65	-77.33	-3252	-0.0000689	0.0003743	0.0035	0.3743	423.16	493.98	493.98	6.39	No	Si
SLU 43	8.55	25.4	-3369	-0.0000575	0.0003743	0.0035	0.3743	431.42	492.86	492.86	19.4	No	Si
SLU 43	10.65	-74.93	-2919	-0.0000626	0.0003743	0.0035	0.3743	396.85	460.49	460.49	6.15	No	Si
SLU 53	8.55	26.09	-3882	-0.0000664	0.0003743	0.0035	0.3743	462.22	539.97	539.97	20.7	No	Si
SLU 53	10.65	-81.71	-3421	-0.000073	0.0003743	0.0035	0.3743	435	511.62	511.62	6.26	No	Si
SLU 56	8.55	24.56	-4024	-0.0000685	0.0003743	0.0035	0.3743	469.1	551.81	551.81	22.47	No	Si
SLU 56	10.65	-81.92	-3562	-0.0000755	0.0003743	0.0035	0.3743	444.1	526.69	526.69	6.43	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 8	8.55	203.33	-1749	-0.0000921	0.0005615	0.0035	0.3743		298.43	298.43	1.47		Si
SLD 8	10.65	-147.04	-1711	-0.0000616	0.0005615	0.0035	0.3743		318.96	318.96	2.17		Si
SLV 7	8.55	320.18	-981	-0.035265	0.0005615	0.0035	0.2994		181.58	181.58	0.57		No
SLV 7	10.65	-202.77	-1147	-0.0003525	0.0005615	0.0035	0.2994		227.49	227.49	1.12		Si
SLV 9	8.55	-288.09	-5010	-0.0001512	0.0005615	0.0035	0.3743		738.64	738.64	2.56		Si
SLV 9	10.65	85.04	-4101	-0.0000823	0.0005615	0.0035	0.3743		618.51	618.51	7.27		Si
SLV 10	8.55	-289.05	-5011	-0.0001515	0.0005615	0.0035	0.3743		738.65	738.65	2.56		Si
SLV 10	10.65	86.23	-4100	-0.0000825	0.0005615	0.0035	0.3743		618.37	618.37	7.17		Si
SLD 7	8.55	203.93	-1749	-0.0000926	0.0005615	0.0035	0.3743		298.42	298.42	1.46		Si
SLD 7	10.65	-147.79	-1712	-0.0000619	0.0005615	0.0035	0.3743		319.08	319.08	2.16		Si
SLD 11	8.55	184.28	-1714	-0.0000795	0.0005615	0.0035	0.3743		293.31	293.31	1.59		Si
SLD 11	10.65	-130.78	-1690	-0.0000559	0.0005615	0.0035	0.3743		315.75	315.75	2.41		Si
SLV 8	8.55	319.22	-981	-0.0350342	0.0005615	0.0035	0.2994		181.6	181.6	0.57		No
SLV 8	10.65	-201.58	-1146	-0.0003367	0.0005615	0.0035	0.2994		227.3	227.3	1.13		Si
SLV 12	8.55	288.06	-928	-0.0298585	0.0005615	0.0035	0.2994		172.88	172.88	0.6		No
SLV 12	10.65	-174.38	-1114	-0.0001376	0.0005615	0.0035	0.2994		221.97	221.97	1.27		Si
SLV 11	8.55	289.02	-928	-0.0300887	0.0005615	0.0035	0.2994		172.86	172.86	0.6		No
SLV 11	10.65	-175.57	-1115	-0.0001421	0.0005615	0.0035	0.2994		222.17	222.17	1.27		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 12	8.55	183.68	-1714	-0.0000792	0.0005615	0.0035	0.3743		293.32	293.32	1.6		Si
SLD 12	10.65	-130.04	-1690	-0.0000556	0.0005615	0.0035	0.3743		315.63	315.63	2.43		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 52	8.55	24.26	-3724	-3101	55	0.3743	0.3743	-29590	10833	1163	38062	3138	954	1745	Si	31.91	Si
SLU 52	10.65	-77.33	-3252	-2708	55	0.3743	0.3743	-25841	10390	1089	38062	3138	954	1633	Si	29.43	Si
SLU 58	8.55	25.92	-3949	-3288	59	0.3743	0.3743	-31376	10833	1213	38062	3138	954	1820	Si	30.92	Si
SLU 58	10.65	-82.36	-3488	-2904	60	0.3743	0.3743	-27711	10639	1115	38062	3138	954	1673	Si	28.04	Si
SLU 45	8.55	22.51	-3586	-2986	54	0.3743	0.3743	-28490	10743	1133	38062	3138	954	1699	Si	31.44	Si
SLU 45	10.65	-74.7	-3134	-2610	54	0.3743	0.3743	-24899	10264	1076	38062	3138	954	1614	Si	29.67	Si
SLU 60	8.55	30.51	-3792	-3158	62	0.3743	0.3743	-30128	10833	1178	38062	3138	954	1768	Si	28.38	Si
SLU 60	10.65	-84.93	-3329	-2773	63	0.3743	0.3743	-26454	10472	1097	38062	3138	954	1646	Si	26.02	Si
SLU 56	8.55	24.56	-4024	-3351	58	0.3743	0.3743	-31973	10833	1230	38062	3138	954	1845	Si	31.86	Si
SLU 56	10.65	-81.92	-3562	-2966	59	0.3743	0.3743	-28300	10718	1127	38062	3138	954	1691	Si	28.81	Si
SLU 61	8.55	27.68	-3827	-3187	59	0.3743	0.3743	-30410	10833	1186	38062	3138	954	1779	Si	30.2	Si
SLU 61	10.65	-82.17	-3357	-2796	60	0.3743	0.3743	-26673	10501	1101	38062	3138	954	1651	Si	27.56	Si
SLU 62	8.55	28.98	-3934	-3276	62	0.3743	0.3743	-31257	10833	1210	38062	3138	954	1815	Si	29.48	Si
SLU 62	10.65	-85.15	-3470	-2890	63	0.3743	0.3743	-27572	10621	1113	38062	3138	954	1670	Si	26.7	Si
SLU 63	8.55	26.15	-3969	-3305	58	0.3743	0.3743	-31539	10833	1218	38062	3138	954	1827	Si	31.39	Si
SLU 63	10.65	-82.39	-3498	-2913	59	0.3743	0.3743	-27791	10650	1116	38062	3138	954	1674	Si	28.3	Si
SLU 53	8.55	26.09	-3882	-3233	59	0.3743	0.3743	-30844	10833	1198	38062	3138	954	1798	Si	30.66	Si
SLU 53	10.65	-81.71	-3421	-2849	59	0.3743	0.3743	-27182	10569	1108	38062	3138	954	1662	Si	27.96	Si
SLU 43	8.55	25.4	-3369	-2805	56	0.3743	0.3743	-26765	10513	1102	38062	3138	954	1653	Si	29.67	Si
SLU 43	10.65	-74.93	-2919	-2431	56	0.3743	0.3743	-23192	10037	1052	38062	3138	954	1578	Si	28.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 8	8.55	203.33	-1749	-1456	238	0.3743	0.2126	-13894	13196	893	38062	4708	954	5662		23.81	Si
SLD 8	10.65	-147.04	-1711	-1425	178	0.3743	0.3036	-13592	13135	1117	38062	4708	954	5662		31.76	Si
SLV 6	8.55	-257.89	-5063	-4216	-242	0.3743	0.3743	-40230	16250	1703	38062	4708	954	5662		23.37	Si
SLV 6	10.65	59.03	-4132	-3441	-173	0.3743	0.3743	-32829	16250	1703	38062	4708	954	5662		32.64	Si
SLV 9	8.55	-288.09	-5010	-4172	-281	0.3743	0.3743	-39810	16250	1703	38062	4708	954	5662		20.13	Si
SLV 9	10.65	85.04	-4101	-3415	-178	0.3743	0.3743	-32585	16250	1703	38062	4708	954	5662		31.75	Si
SLV 7	8.55	320.18	-981	-817	362	0.2994	0	0	0	0	38062	3766	764	4530		12.52	Si
SLV 7	10.65	-202.77	-1147	-955	260	0.2994	0.0313	0	0	0	38062	3766	764	4530		17.43	Si
SLV 8	8.55	319.22	-981	-817	361	0.2994	0	0	0	0	38062	3766	764	4530		12.55	Si
SLV 8	10.65	-201.58	-1146	-954	259	0.2994	0.0338	0	0	0	38062	3766	764	4530		17.5	Si
SLD 7	8.55	203.93	-1749	-1456	238	0.3743	0.2116	-13894	13195	893	38062	4708	954	5662		23.74	Si
SLD 7	10.65	-147.79	-1712	-1425	179	0.3743	0.3024	-13598	13136	1112	38062	4708	954	5662		31.64	Si
SLV 11	8.55	289.02	-928	-773	322	0.2994	0	0	0	0	38062	3766	764	4530		14.07	Si
SLV 11	10.65	-175.57	-1115	-929	254	0.2994	0.0893	0	0	0	38062	3766	764	4530		17.84	Si
SLV 12	8.55	288.06	-928	-773	321	0.2994	0	0	0	0	38062	3766	764	4530		14.12	Si
SLV 12	10.65	-174.38	-1114	-928	253	0.2994	0.092	0	0	0	38062	3766	764	4530		17.91	Si
SLV 5	8.55	-256.93	-5063	-4216	-241	0.3743	0.3743	-40229	16250	1703	38062	4708	954	5662		23.47	Si
SLV 5	10.65	57.84	-4133	-3442	-172	0.3743	0.3743	-32838	16250	1703	38062	4708	954	5662		32.84	Si
SLV 10	8.55	-289.05	-5011	-4172	-282	0.3743	0.3743	-39810	16250	1703	38062	4708	954	5662		20.06	Si
SLV 10	10.65	86.23	-4100	-3414	-179	0.3743	0.3743	-32575	16250	1703	38062	4708	954	5662		31.57	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.46	11450	-1200	46.88	155.41	3.31	Si
SLV 11	179667	0.46	11462	-1201	46.88	155.55	3.32	Si
SLV 8	179667	0.46	11695	-1226	46.88	158.46	3.38	Si
SLV 7	179667	0.46	11707	-1227	46.88	158.6	3.38	Si
SLV 16	179667	0.46	21021	-2203	46.88	265.98	5.67	Si
SLV 15	179667	0.46	21038	-2205	46.88	266.16	5.68	Si
SLV 4	179667	0.46	21838	-2289	46.88	274.6	5.86	Si
SLV 3	179667	0.46	21855	-2291	46.88	274.78	5.86	Si
SLV 14	179667	0.46	29472	-3089	46.88	348.99	7.44	Si
SLV 13	179667	0.46	29489	-3091	46.88	349.14	7.45	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 10	-7856	-5011	47	0.293	851.6	0.981	4.33711	5.33016	No
SLV 9	-7833	-5010	47	0.293	849.3	0.981	4.34773	5.33016	No
SLV 6	-7460	-5063	-51	0.305	811.3	0.98	4.5241	5.33016	No
SLV 5	-7437	-5063	-51	0.306	809	0.98	4.5358	5.33016	No
SLV 14	-4255	-3520	159	0.467	484.9	0.968	7.01022	7.35059	No
SLV 13	-4221	-3520	159	0.47	481.4	0.967	7.05919	7.35059	No
SLV 2	-2935	-3696	-165	0.637	350.6	0.957	9.68508	7.35059	Si
SLV 1	-2902	-3696	-165	0.644	347.2	0.956	9.78341	7.35059	Si
SLV 7	4186	-981	-53	1.082	67.3	1	15.7307	5.33016	Si, Trazione
SLV 8	4164	-981	-53	1.09	67.3	1	15.83999	5.33016	Si, Trazione

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.91	SLU 60	Si
V_SLU	26.021	SLU 60	Si
PF_SLV	0.567	SLV 7	No
V_SLV	12.518	SLV 7	Si
PFFP_SLV	3.315	SLV 12	Si
R_SLV	0.814	SLV 10	No

Maschio 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-20.668	1.046	-24.678	1.046	L6	L7	4.01	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 61	8.55	-6754.66	-29996	-0.0000509	0.0004492	0.0035	4.01	46992.13	60430.54	60430.54	8.95	No	Si
SLU 61	10.65	-2993.89	-24682	-0.0000365	0.0004492	0.0035	4.01	40583.63	52162.45	52162.45	17.42	No	Si
SLU 65	8.55	-6953.02	-30995	-0.0000527	0.0004492	0.0035	4.01	48105.04	61940.56	61940.56	8.91	No	Si
SLU 65	10.65	-3079.32	-25246	-0.0000374	0.0004492	0.0035	4.01	41303.4	53071.71	53071.71	17.23	No	Si
SLU 73	8.55	-7155.35	-32397	-0.000055	0.0004492	0.0035	4.01	49617.07	64058.87	64058.87	8.95	No	Si
SLU 73	10.65	-3574.62	-27438	-0.0000413	0.0004492	0.0035	4.01	44011.05	56566.12	56566.12	15.82	No	Si
SLU 81	8.55	-7241.22	-32975	-0.0000559	0.0004492	0.0035	4.01	50223.91	64932.46	64932.46	8.97	No	Si
SLU 81	10.65	-3816.13	-28374	-0.000043	0.0004492	0.0035	4.01	45123.8	57979.84	57979.84	15.19	No	Si
SLU 43	8.55	-6465.11	-27979	-0.0000477	0.0004492	0.0035	4.01	44657.79	57383.83	57383.83	8.88	No	Si
SLU 43	10.65	-2303.88	-21547	-0.0000312	0.0004492	0.0035	4.01	36416.93	47112.84	47112.84	20.45	No	Si
SLU 44	8.55	-6465.95	-28002	-0.0000477	0.0004492	0.0035	4.01	44684.7	57418.08	57418.08	8.88	No	Si
SLU 44	10.65	-2274.63	-21551	-0.0000311	0.0004492	0.0035	4.01	36422.39	47119.23	47119.23	20.72	No	Si
SLU 52	8.55	-6668.28	-29404	-0.00005	0.0004492	0.0035	4.01	46319.37	59536.39	59536.39	8.93	No	Si
SLU 52	10.65	-2769.93	-23744	-0.0000349	0.0004492	0.0035	4.01	39366.79	50651.27	50651.27	18.29	No	Si
SLU 64	8.55	-6952.18	-30972	-0.0000526	0.0004492	0.0035	4.01	48080.12	61906.31	61906.31	8.9	No	Si
SLU 64	10.65	-3108.57	-25242	-0.0000375	0.0004492	0.0035	4.01	41298.38	53065.32	53065.32	17.07	No	Si
SLU 82	8.55	-7241.72	-32989	-0.0000559	0.0004492	0.0035	4.01	50238.07	64953.01	64953.01	8.97	No	Si
SLU 82	10.65	-3798.58	-28376	-0.000043	0.0004492	0.0035	4.01	45126.6	57983.44	57983.44	15.26	No	Si
SLU 60	8.55	-6754.15	-29982	-0.0000509	0.0004492	0.0035	4.01	46976.78	60409.98	60409.98	8.94	No	Si
SLU 60	10.65	-3011.44	-24679	-0.0000366	0.0004492	0.0035	4.01	40580.58	52158.62	52158.62	17.32	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	8.55	-2044.54	-28846	-0.0000396	0.0006738	0.0035	4.01		60251.13	60251.13	29.47		Si
SLV 1	10.65	-9163.27	-26084	-0.0000496	0.0006738	0.0035	4.01		55659.42	55659.42	6.07		Si
SLV 2	8.55	-2249.87	-28888	-0.00004	0.0006738	0.0035	4.01		60321.8	60321.8	26.81		Si
SLV 2	10.65	-9112.36	-26057	-0.0000495	0.0006738	0.0035	4.01		55614.48	55614.48	6.1		Si
SLD 14	8.55	-7279.04	-20083	-0.0000383	0.0006738	0.0035	4.01		45399.67	45399.67	6.24		Si
SLD 14	10.65	2294.5	-14656	-0.0000222	0.0006738	0.0035	4.01		29331.18	29331.18	12.78		Si
SLV 4	8.55	-2378.48	-29076	-0.0000405	0.0006738	0.0035	4.01		60634.36	60634.36	25.49		Si
SLV 4	10.65	-9584.71	-26392	-0.0000508	0.0006738	0.0035	4.01		56171.62	56171.62	5.86		Si
SLV 13	8.55	-8218.69	-18059	-0.0000375	0.0006738	0.0035	4.01		41849.95	41849.95	5.09		Si
SLV 13	10.65	4872.99	-12070	-0.0000237	0.0006738	0.0035	4.01		24599.7	24599.7	5.05		Si
SLD 16	8.55	-7358.5	-20199	-0.0000386	0.0006738	0.0035	4.01		45602.43	45602.43	6.2		Si
SLD 16	10.65	2002.46	-14863	-0.0000219	0.0006738	0.0035	4.01		29709.22	29709.22	14.84		Si
SLV 14	8.55	-8424.02	-18102	-0.000038	0.0006738	0.0035	4.01		41924.49	41924.49	4.98		Si
SLV 14	10.65	4923.9	-12043	-0.0000238	0.0006738	0.0035	4.01		24549.53	24549.53	4.99		Si
SLV 3	8.55	-2173.16	-29034	-0.0000401	0.0006738	0.0035	4.01		60563.7	60563.7	27.87		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	10.65	-9635.63	-26419	-0.0000509	0.0006738	0.0035	4.01		56216.56	56216.56	5.83		Si
SLV 15	8.55	-8347.31	-18247	-0.000038	0.0006738	0.0035	4.01		42179.64	42179.64	5.05		Si
SLV 15	10.65	4400.63	-12405	-0.0000233	0.0006738	0.0035	4.01		25221.45	25221.45	5.73		Si
SLV 16	8.55	-8552.63	-18290	-0.0000384	0.0006738	0.0035	4.01		42254.18	42254.18	4.94		Si
SLV 16	10.65	4451.55	-12378	-0.0000233	0.0006738	0.0035	4.01		25171.57	25171.57	5.65		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	8.55	-6653.7	-30098	-21471	-2380	4.01	4.01	-19123	10833	15074	96666	40351	20451	22611	Si	9.5	Si
SLU 49	10.65	-3038.41	-23714	-16917	-2371	4.01	4.01	-15067	10342	13253	96666	40351	20451	19879	Si	8.38	Si
SLU 48	8.55	-6653.19	-30084	-21461	-2361	4.01	4.01	-19114	10833	15070	96666	40351	20451	22606	Si	9.58	Si
SLU 48	10.65	-3055.96	-23712	-16916	-2351	4.01	4.01	-15065	10342	13252	96666	40351	20451	19878	Si	8.45	Si
SLU 44	8.55	-6465.95	-28002	-19976	-2718	4.01	4.01	-17791	10706	14476	96666	40351	20451	21714	Si	7.99	Si
SLU 44	10.65	-2274.63	-21551	-15374	-2710	4.01	4.01	-13693	10159	12636	96666	40351	20451	18953	Si	6.99	Si
SLU 50	8.55	-6519.36	-29419	-20987	-2437	4.01	4.01	-18691	10826	14881	96666	40351	20451	22321	Si	9.16	Si
SLU 50	10.65	-2902.32	-22977	-16391	-2428	4.01	4.01	-14598	10280	13042	96666	40351	20451	19563	Si	8.06	Si
SLU 46	8.55	-6626.57	-29378	-20958	-2505	4.01	4.01	-18666	10822	14869	96666	40351	20451	22303	Si	8.91	Si
SLU 46	10.65	-2739.19	-23000	-16407	-2496	4.01	4.01	-14613	10282	13049	96666	40351	20451	19573	Si	7.84	Si
SLU 51	8.55	-6519.87	-29433	-20997	-2456	4.01	4.01	-18700	10827	14884	96666	40351	20451	22327	Si	9.09	Si
SLU 51	10.65	-2884.77	-22979	-16393	-2447	4.01	4.01	-14600	10280	13043	96666	40351	20451	19564	Si	8	Si
SLU 45	8.55	-6626.06	-29365	-20948	-2485	4.01	4.01	-18657	10821	14865	96666	40351	20451	22297	Si	8.97	Si
SLU 45	10.65	-2756.74	-22997	-16406	-2476	4.01	4.01	-14611	10282	13048	96666	40351	20451	19572	Si	7.9	Si
SLU 47	8.55	-6493.08	-28722	-20490	-2593	4.01	4.01	-18249	10766	14682	96666	40351	20451	22022	Si	8.49	Si
SLU 47	10.65	-2573.85	-22266	-15884	-2585	4.01	4.01	-14147	10220	12839	96666	40351	20451	19259	Si	7.45	Si
SLU 2	8.55	-5102.46	-22335	-15933	-1842	4.01	4.01	-14190	10225	12859	96666	40351	20451	19289	Si	10.47	Si
SLU 2	10.65	-1955.19	-17553	-12522	-1835	4.01	4.01	-11153	9820	11495	96666	40351	20451	17242	Si	9.4	Si
SLU 43	8.55	-6465.11	-27979	-19960	-2686	4.01	4.01	-17777	10704	14470	96666	40351	20451	21705	Si	8.08	Si
SLU 43	10.65	-2303.88	-21547	-15371	-2677	4.01	4.01	-13690	10159	12634	96666	40351	20451	18952	Si	7.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	8.55	-8218.69	-18059	-12883	-8517	4.01	4.01	-11474	14795	16612	96666	60526	20451	80977		9.51	Si
SLV 13	10.65	4872.99	-12070	-8611	-7744	4.01	4.01	-7669	14034	15757	96666	60526	20451	80977		10.46	Si
SLD 13	8.55	-7147.98	-20056	-14307	-5877	4.01	4.01	-12743	15049	16896	96666	60526	20451	80977		13.78	Si
SLD 13	10.65	2262	-14673	-10467	-5369	4.01	4.01	-9323	14365	16128	96666	60526	20451	80977		15.08	Si
SLV 3	8.55	-2173.16	-29034	-20712	6153	4.01	4.01	-18447	16189	18177	96666	60526	20451	80977		13.16	Si
SLV 3	10.65	-9635.63	-26419	-18847	5395	4.01	4.01	-16786	15857	17804	96666	60526	20451	80977		15.01	Si
SLV 15	8.55	-8347.31	-18247	-13017	-8162	4.01	4.01	-11593	14819	16638	96666	60526	20451	80977		9.92	Si
SLV 15	10.65	4400.63	-12405	-8850	-7391	4.01	4.01	-7882	14076	15805	96666	60526	20451	80977		10.96	Si
SLD 14	8.55	-7279.04	-20083	-14327	-5997	4.01	4.01	-12760	15052	16900	96666	60526	20451	80977		13.5	Si
SLD 14	10.65	2294.5	-14656	-10455	-5489	4.01	4.01	-9312	14362	16126	96666	60526	20451	80977		14.75	Si
SLV 4	8.55	-2378.48	-29076	-20742	5964	4.01	4.01	-18474	16195	18183	96666	60526	20451	80977		13.58	Si
SLV 4	10.65	-9584.71	-26392	-18828	5207	4.01	4.01	-16768	15854	17801	96666	60526	20451	80977		15.55	Si
SLV 1	8.55	-2044.54	-28846	-20578	5798	4.01	4.01	-18327	16165	18151	96666	60526	20451	80977		13.97	Si
SLV 1	10.65	-9163.27	-26084	-18608	5041	4.01	4.01	-16573	15815	17757	96666	60526	20451	80977		16.06	Si
SLV 16	8.55	-8552.63	-18290	-13047	-8350	4.01	4.01	-11620	14824	16644	96666	60526	20451	80977		9.7	Si
SLV 16	10.65	4451.55	-12378	-8830	-7579	4.01	4.01	-7865	14073	15801	96666	60526	20451	80977		10.68	Si
SLV 14	8.55	-8424.02	-18102	-12913	-8706	4.01	4.01	-11501	14800	16618	96666	60526	20451	80977		9.3	Si
SLV 14	10.65	4923.9	-12043	-8591	-7933	4.01	4.01	-7652	14030	15753	96666	60526	20451	80977		10.21	Si
SLD 16	8.55	-7358.5	-20199	-14409	-5780	4.01	4.01	-12833	15067	16917	96666	60526	20451	80977		14.01	Si
SLD 16	10.65	2002.46	-14863	-10603	-5272	4.01	4.01	-9443	14389	16156	96666	60526	20451	80977		15.36	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-12770	0.46	502.25	1676.9	2420.25	2048.57	4.08	Si
SLV 13	-12797	0.46	502.25	1680.21	2424.36	2052.29	4.09	Si
SLV 16	-13104	0.46	502.25	1717.71	2471.05	2094.38	4.17	Si
SLV 15	-13131	0.46	502.25	1721.01	2475.17	2098.09	4.18	Si
SLV 10	-17277	0.46	502.25	2215.76	3105.23	2660.49	5.3	Si
SLV 9	-17296	0.46	502.25	2217.87	3107.97	2662.92	5.3	Si
SLV 12	-18389	0.46	502.25	2344.39	3272.79	2808.59	5.59	Si
SLV 11	-18407	0.46	502.25	2346.48	3275.53	2811	5.6	Si
SLV 6	-21470	0.46	502.25	2692.23	3737.08	3214.66	6.4	Si
SLV 5	-21488	0.46	502.25	2694.25	3739.82	3217.03	6.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-19287	-29076	449	1.013	2522	0.939	15.69247	7.35059	Si
SLV 3	-19263	-29034	450	1.014	2519.6	0.939	15.7083	7.35059	Si
SLV 2	-19121	-28888	-357	1.025	2505.2	0.938	15.87134	7.35059	Si
SLV 1	-19098	-28846	-356	1.026	2502.8	0.938	15.88833	7.35059	Si
SLV 16	-13124	-18290	356	1.379	1900	0.923	21.71782	7.35059	Si
SLV 15	-13101	-18247	357	1.381	1897.7	0.923	21.74856	7.35059	Si
SLV 14	-12958	-18102	-450	1.387	1883.4	0.922	21.85255	7.35059	Si
SLV 13	-12935	-18059	-449	1.389	1881	0.922	21.88499	7.35059	Si
SLV 8	-17319	-25513	1357	1.062	2323	0.934	16.51638	5.33016	Si
SLV 7	-17304	-25485	1357	1.062	2321.4	0.934	16.52871	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.876	SLU 43	Si
V_SLU	6.995	SLU 44	Si
PF_SLV	4.94	SLV 16	Si
V_SLV	9.302	SLV 14	Si
PFFP_SLV	4.079	SLV 14	Si
R_SLV	2.135	SLV 4	Si

Maschio 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.283	1.046	-19.868	1.046	L6	L7	7.585	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	8.55	-796.01	-78221	-0.0000532	0.0004492	0.0035	7.585	207233.35	275666.84	275666.84	346.31	No	Si
SLU 49	11.05	-4934.96	-64199	-0.0000456	0.0004492	0.0035	7.585	183239.88	238432.65	238432.65	48.32	No	Si
SLU 47	8.55	-912.23	-74025	-0.0000503	0.0004492	0.0035	7.585	200656.5	264618.34	264618.34	290.08	No	Si
SLU 47	11.05	-4386.29	-59771	-0.0000422	0.0004492	0.0035	7.585	174470.38	225839.52	225839.52	51.49	No	Si
SLU 50	8.55	-462.15	-76704	-0.0000519	0.0004492	0.0035	7.585	204915.31	271724.21	271724.21	587.95	No	Si
SLU 50	11.05	-5020.37	-62790	-0.0000446	0.0004492	0.0035	7.585	180511.82	234425.87	234425.87	46.69	No	Si
SLU 45	8.55	-656.61	-75389	-0.0000511	0.0004492	0.0035	7.585	202850.24	268234.87	268234.87	408.51	No	Si
SLU 45	11.05	-4795.82	-61380	-0.0000435	0.0004492	0.0035	7.585	177723.84	230416.36	230416.36	48.05	No	Si
SLU 46	8.55	-877.67	-75446	-0.0000513	0.0004492	0.0035	7.585	202941.47	268387.24	268387.24	305.8	No	Si
SLU 46	11.05	-4610.21	-61305	-0.0000434	0.0004492	0.0035	7.585	177573.56	230202.59	230202.59	49.93	No	Si
SLU 8	8.55	-564.44	-62559	-0.000042	0.0004492	0.0035	7.585	180059.61	233769.81	233769.81	414.17	No	Si
SLU 8	11.05	-3852.89	-52044	-0.0000365	0.0004492	0.0035	7.585	157792.25	203860.59	203860.59	52.91	No	Si
SLU 51	8.55	-683.21	-76762	-0.0000521	0.0004492	0.0035	7.585	205004.34	271876.57	271876.57	397.94	No	Si
SLU 51	11.05	-4834.77	-62715	-0.0000445	0.0004492	0.0035	7.585	180364.64	234212.09	234212.09	48.44	No	Si
SLU 48	8.55	-574.96	-78163	-0.000053	0.0004492	0.0035	7.585	207146.78	275525.5	275525.5	479.21	No	Si
SLU 48	11.05	-5120.56	-64274	-0.0000457	0.0004492	0.0035	7.585	183383.8	238646.42	238646.42	46.61	No	Si
SLU 43	8.55	-625.46	-71154	-0.0000481	0.0004492	0.0035	7.585	195860.47	257004.59	257004.59	410.9	No	Si
SLU 43	11.05	-4370.88	-57003	-0.0000402	0.0004492	0.0035	7.585	168696.19	217965.74	217965.74	49.87	No	Si
SLU 6	8.55	-677.24	-64018	-0.0000431	0.0004492	0.0035	7.585	182894.38	237920.45	237920.45	351.31	No	Si
SLU 6	11.05	-3953.09	-53528	-0.0000376	0.0004492	0.0035	7.585	161130.29	208081.14	208081.14	52.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 9	8.55	-19024.67	-60149	-0.0000497	0.0006738	0.0035	7.585		233993.62	233993.62	12.3		Si
SLV 9	11.05	17338.89	-41339	-0.000036	0.0006738	0.0035	7.585		150436.35	150436.35	8.68		Si
SLV 2	8.55	-15683.4	-68748	-0.0000538	0.0006738	0.0035	7.585		233673.44	233673.44	14.9		Si
SLV 2	11.05	-25446.03	-60004	-0.000053	0.0006738	0.0035	7.585		233564.62	233564.62	9.18		Si
SLV 14	8.55	-25323.59	-53561	-0.0000485	0.0006738	0.0035	7.585		213411.53	213411.53	8.43		Si
SLV 14	11.05	26872.87	-37415	-0.0000384	0.0006738	0.0035	7.585		137468.94	137468.94	5.12		Si
SLV 15	8.55	-17587.7	-52659	-0.0000438	0.0006738	0.0035	7.585		210582.15	210582.15	11.97		Si
SLV 15	11.05	19668.57	-40839	-0.0000369	0.0006738	0.0035	7.585		148799.44	148799.44	7.57		Si
SLV 13	8.55	-24838.55	-53671	-0.0000483	0.0006738	0.0035	7.585		213755.82	213755.82	8.61		Si
SLV 13	11.05	27058.87	-37421	-0.0000385	0.0006738	0.0035	7.585		137488.94	137488.94	5.08		Si
SLV 10	8.55	-19351.23	-60075	-0.0000498	0.0006738	0.0035	7.585		233774.75	233774.75	12.08		Si
SLV 10	11.05	17213.66	-41335	-0.0000359	0.0006738	0.0035	7.585		150423.12	150423.12	8.74		Si
SLV 4	8.55	22934.25	-67736	-0.000057	0.0006738	0.0035	7.585		230906.53	230906.53	10.07		Si
SLV 4	11.05	-32836.33	-63423	-0.0000593	0.0006738	0.0035	7.585		243684.53	243684.53	7.42		Si
SLV 1	8.55	16168.43	-68858	-0.0000541	0.0006738	0.0035	7.585		233973.6	233973.6	14.47		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 1	11.05	-25260.02	-60010	-0.0000529	0.0006738	0.0035	7.585		233582.37	233582.37	9.25		Si
SLV 16	8.55	-18072.74	-52549	-0.000044	0.0006738	0.0035	7.585		210237.86	210237.86	11.63		Si
SLV 16	11.05	19482.56	-40833	-0.0000368	0.0006738	0.0035	7.585		148779.8	148779.8	7.64		Si
SLV 3	8.55	23419.28	-67846	-0.0000573	0.0006738	0.0035	7.585		231206.69	231206.69	9.87		Si
SLV 3	11.05	-32650.33	-63429	-0.0000593	0.0006738	0.0035	7.585		243702.28	243702.28	7.46		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	8.55	-993.89	-71250	-50828	-2723	7.585	7.585	-23933	10833	32599	96666	76324	38684	48899	Si	17.96	Si
SLU 44	11.05	-4061.54	-56878	-40575	-768	7.585	7.585	-19105	10833	28498	96666	76324	38684	42747	Si	55.64	Si
SLU 2	8.55	-1096.17	-57105	-40738	-2252	7.585	7.585	-19181	10833	28563	96666	76324	38684	42845	Si	19.03	Si
SLU 2	11.05	-2894.07	-46132	-32909	-678	7.585	7.585	-15495	10399	25432	96666	76324	38684	38148	Si	56.27	Si
SLU 43	8.55	-625.46	-71154	-50760	-2368	7.585	7.585	-23900	10833	32572	96666	76324	38684	48858	Si	20.63	Si
SLU 43	11.05	-4370.88	-57003	-40665	-422	7.585	7.585	-19147	10833	28534	96666	76324	38684	42801	Si	101.46	Si
SLU 64	8.55	-1560.56	-79782	-56915	-2656	7.585	7.585	-26799	10833	35034	96666	76324	38684	52550	Si	19.79	Si
SLU 64	11.05	-3768.72	-66136	-47180	-449	7.585	7.585	-22215	10833	31140	96666	76324	38684	46710	Si	104.12	Si
SLU 67	8.55	-1812.77	-84074	-59976	-2715	7.585	7.585	-28240	10833	36258	96666	76324	38684	54387	Si	20.03	Si
SLU 67	11.05	-4008.06	-70438	-50249	-457	7.585	7.585	-23660	10833	32367	96666	76324	38684	48551	Si	106.3	Si
SLU 65	8.55	-1928.99	-79878	-56983	-3010	7.585	7.585	-26831	10833	35061	96666	76324	38684	52591	Si	17.47	Si
SLU 65	11.05	-3459.39	-66010	-47090	-795	7.585	7.585	-22173	10833	31104	96666	76324	38684	46656	Si	58.68	Si
SLU 47	8.55	-912.23	-74025	-52808	-2535	7.585	7.585	-24865	10833	33391	96666	76324	38684	50086	Si	19.76	Si
SLU 47	11.05	-4386.29	-59771	-42639	-591	7.585	7.585	-20077	10833	29324	96666	76324	38684	43986	Si	74.39	Si
SLU 26	8.55	-1949.61	-68508	-48872	-2351	7.585	7.585	-23012	10833	31817	96666	76324	38684	47725	Si	20.3	Si
SLU 26	11.05	-2616.66	-58158	-41489	-528	7.585	7.585	-19535	10833	28863	96666	76324	38684	43295	Si	82.05	Si
SLU 68	8.55	-1847.33	-82653	-58962	-2822	7.585	7.585	-27763	10833	35853	96666	76324	38684	53779	Si	19.06	Si
SLU 68	11.05	-3784.13	-68904	-49154	-618	7.585	7.585	-23145	10833	31930	96666	76324	38684	47894	Si	77.5	Si
SLU 23	8.55	-2031.27	-65733	-46892	-2539	7.585	7.585	-22079	10833	31025	96666	76324	38684	46537	Si	18.33	Si
SLU 23	11.05	-2291.91	-55265	-39424	-705	7.585	7.585	-18563	10808	28038	96666	76324	38684	42057	Si	59.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 14	8.55	-16423.66	-56100	-40020	-20992	7.585	7.585	-18844	16250	34512	96666	114486	38684	131177		6.25	Si
SLD 14	11.05	16093.38	-42113	-30042	-16884	7.585	7.585	-14146	15329	32556	96666	114486	38684	129222		7.65	Si
SLV 15	8.55	-17587.7	-52659	-37566	-24530	7.585	7.585	-17688	16038	34061	96666	114486	38684	130726		5.33	Si
SLV 15	11.05	19668.57	-40839	-29134	-19222	7.585	7.585	-13718	15244	32374	96666	114486	38684	129040		6.71	Si
SLV 14	8.55	-25323.59	-53561	-38209	-31936	7.585	7.585	-17991	16098	34189	96666	114486	38684	130855		4.1	Si
SLV 14	11.05	26872.87	-37415	-26691	-26480	7.585	7.585	-12568	15014	31886	96666	114486	38684	128551		4.85	Si
SLV 3	8.55	23419.28	-67846	-48399	28262	7.585	7.585	-22789	16250	37762	96666	114486	38684	134428		4.76	Si
SLV 3	11.05	-32650.33	-63429	-45248	26180	7.585	7.585	-21305	16250	36502	96666	114486	38684	133167		5.09	Si
SLD 13	8.55	-16114.07	-56170	-40070	-20937	7.585	7.585	-18867	16250	34512	96666	114486	38684	131177		6.27	Si
SLD 13	11.05	16212.1	-42117	-30045	-16850	7.585	7.585	-14147	15329	32557	96666	114486	38684	129222		7.67	Si
SLV 9	8.55	-19024.67	-60149	-42909	-21928	7.585	7.585	-20204	16250	35566	96666	114486	38684	132232		6.03	Si
SLV 9	11.05	17338.89	-41339	-29490	-18951	7.585	7.585	-13886	15277	32446	96666	114486	38684	129111		6.81	Si
SLV 16	8.55	-18072.74	-52549	-37487	-24616	7.585	7.585	-17651	16030	34045	96666	114486	38684	130711		5.31	Si
SLV 16	11.05	19482.56	-40833	-29130	-19275	7.585	7.585	-13716	15243	32373	96666	114486	38684	129039		6.69	Si
SLV 10	8.55	-19351.23	-60075	-42856	-21986	7.585	7.585	-20179	16250	35545	96666	114486	38684	132211		6.01	Si
SLV 10	11.05	17213.66	-41335	-29487	-18987	7.585	7.585	-13884	15277	32445	96666	114486	38684	129111		6.8	Si
SLV 13	8.55	-24838.55	-53671	-38288	-31851	7.585	7.585	-18028	16106	34205	96666	114486	38684	130871		4.11	Si
SLV 13	11.05	27058.87	-37421	-26695	-26427	7.585	7.585	-12570	15014	31887	96666	114486	38684	128552		4.86	Si
SLV 4	8.55	22934.25	-67736	-48321	28176	7.585	7.585	-22752	16250	37731	96666	114486	38684	134396		4.77	Si
SLV 4	11.05	-32836.33	-63423	-45244	26126	7.585	7.585	-21303	16250	36500	96666	114486	38684	133166		5.1	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-44520	0.46	950.02	5519.91	7638.68	6579.3	6.93	Si
SLV 14	-44535	0.46	950.02	5521.6	7640.98	6581.29	6.93	Si
SLV 9	-46978	0.46	950.02	5783.16	8001.62	6892.39	7.25	Si
SLV 10	-46988	0.46	950.02	5784.27	8003.17	6893.72	7.26	Si
SLV 15	-47570	0.46	950.02	5845.94	8089.14	6967.54	7.33	Si
SLV 16	-47586	0.46	950.02	5847.59	8091.44	6969.52	7.34	Si
SLV 5	-52133	0.46	950.02	6321.12	8764.02	7542.57	7.94	Si
SLV 6	-52144	0.46	950.02	6322.2	8765.57	7543.89	7.94	Si
SLV 11	-57146	0.46	950.02	6825.91	9499.37	8162.64	8.59	Si
SLV 12	-57157	0.46	950.02	6826.95	9500.91	8163.93	8.59	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 3	-55759	-67846	121	0.725	6726.1	0.954	11.03416	7.35059	Si
SLV 4	-55712	-67736	121	0.725	6721.4	0.954	11.04242	7.35059	Si
SLV 1	-52643	-68858	-375	0.756	6409.5	0.952	11.54089	7.35059	Si
SLV 2	-52596	-68748	-375	0.757	6404.8	0.952	11.54969	7.35059	Si
SLV 15	-38765	-52659	367	0.975	5001.6	0.941	15.0612	7.35059	Si
SLV 16	-38718	-52549	366	0.976	4996.9	0.941	15.07698	7.35059	Si
SLV 7	-53439	-61332	786	0.74	6490.5	0.953	11.28548	5.33016	Si
SLV 8	-53408	-61258	785	0.74	6487.3	0.953	11.2914	5.33016	Si
SLV 13	-35648	-53671	-129	1.05	4686.1	0.938	16.26837	7.35059	Si
SLV 14	-35602	-53561	-130	1.051	4681.4	0.938	16.28628	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	46.606	SLU 48	Si
V_SLU	17.472	SLU 65	Si
PF_SLV	5.081	SLV 13	Si
V_SLV	4.097	SLV 14	Si
PFFP_SLV	6.925	SLV 13	Si
R_SLV	1.501	SLV 3	Si

Maschio 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-10.466	1.046	-11.163	1.046	L6	L7	0.696	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 29	8.55	112.24	-6445	-0.0000545	0.0004492	0.0035	0.6964	1636.95	1926.22	1926.22	17.16	No	Si
SLU 29	11.05	-84.66	-6937	-0.0000565	0.0004492	0.0035	0.6964	1712.12	2170.29	2170.29	25.64	No	Si
SLU 23	8.55	99.38	-5927	-0.0000496	0.0004492	0.0035	0.6964	1550.28	1801.05	1801.05	18.12	No	Si
SLU 23	11.05	-71.42	-6431	-0.0000517	0.0004492	0.0035	0.6964	1634.77	2046.41	2046.41	28.65	No	Si
SLU 25	8.55	106.51	-6301	-0.000053	0.0004492	0.0035	0.6964	1613.6	1891.37	1891.37	17.76	No	Si
SLU 25	11.05	-78.11	-6847	-0.0000554	0.0004492	0.0035	0.6964	1698.91	2148.94	2148.94	27.51	No	Si
SLU 30	8.55	114.87	-6440	-0.0000546	0.0004492	0.0035	0.6964	1636.26	1925.18	1925.18	16.76	No	Si
SLU 30	11.05	-86.48	-7008	-0.0000572	0.0004492	0.0035	0.6964	1722.36	2187.12	2187.12	25.29	No	Si
SLU 28	8.55	115.12	-6556	-0.0000556	0.0004492	0.0035	0.6964	1654.53	1953.08	1953.08	16.97	No	Si
SLU 28	11.05	-86.25	-7159	-0.0000584	0.0004492	0.0035	0.6964	1743.71	2223	2223	25.77	No	Si
SLU 27	8.55	112.5	-6560	-0.0000554	0.0004492	0.0035	0.6964	1655.2	1954.12	1954.12	17.37	No	Si
SLU 27	11.05	-84.43	-7089	-0.0000577	0.0004492	0.0035	0.6964	1733.78	2206.18	2206.18	26.13	No	Si
SLU 38	8.55	106.72	-6814	-0.000057	0.0004492	0.0035	0.6964	1694.02	2015.56	2015.56	18.89	No	Si
SLU 38	11.05	-74.53	-7712	-0.0000619	0.0004492	0.0035	0.6964	1815.97	2353.13	2353.13	31.57	No	Si
SLU 26	8.55	108	-6182	-0.0000522	0.0004492	0.0035	0.6964	1593.99	1862.77	1862.77	17.25	No	Si
SLU 26	11.05	-79.55	-6743	-0.0000546	0.0004492	0.0035	0.6964	1683.36	2124.27	2124.27	26.7	No	Si
SLU 72	8.55	120.21	-7819	-0.0000659	0.0004492	0.0035	0.6964	1828.96	2258.38	2258.38	18.79	No	Si
SLU 72	11.05	-86.84	-8082	-0.0000657	0.0004492	0.0035	0.6964	1859.4	2435.72	2435.72	28.05	No	Si
SLU 24	8.55	103.88	-6305	-0.0000528	0.0004492	0.0035	0.6964	1614.31	1892.4	1892.4	18.22	No	Si
SLU 24	11.05	-76.3	-6776	-0.0000547	0.0004492	0.0035	0.6964	1688.34	2132.12	2132.12	27.95	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	8.55	-1687.64	-6294	-0.000303	0.0006738	0.0035	0.5571		2083.69	2083.69	1.23		Si
SLV 14	11.05	1482.94	-7179	-0.0001824	0.0006738	0.0035	0.6964		2204.35	2204.35	1.49		Si
SLV 16	8.55	-1757.44	-7002	-0.0002738	0.0006738	0.0035	0.5571		2274.18	2274.18	1.29		Si
SLV 16	11.05	1551.03	-4789	-0.0018675	0.0006738	0.0035	0.5571		1573.32	1573.32	1.01		Si
SLV 12	8.55	-585.26	-7098	-0.0000892	0.0006738	0.0035	0.6964		2299.46	2299.46	3.93		Si
SLV 12	11.05	538.14	-1736	-0.0001597	0.0006738	0.0035	0.5571		633.7	633.7	1.18		Si
SLV 1	8.55	1891.33	-4187	-0.0137998	0.0006738	0.0035	0.5571		1396.51	1396.51	0.74		No
SLV 1	11.05	-1636.18	-6416	-0.000259	0.0006738	0.0035	0.5571		2117.39	2117.39	1.29		Si
SLV 2	8.55	1896.48	-4228	-0.0136944	0.0006738	0.0035	0.5571		1408.73	1408.73	0.74		No
SLV 2	11.05	-1639.67	-6431	-0.0002596	0.0006738	0.0035	0.5571		2121.39	2121.39	1.29		Si
SLV 11	8.55	-588.73	-7071	-0.0000892	0.0006738	0.0035	0.6964		2292.21	2292.21	3.89		Si
SLV 11	11.05	540.48	-1726	-0.0001736	0.0006738	0.0035	0.5571		630.5	630.5	1.17		Si
SLV 3	8.55	1821.53	-4895	-0.0087142	0.0006738	0.0035	0.5571		1604.38	1604.38	0.88		No
SLV 3	11.05	-1568.09	-4026	-0.0021225	0.0006738	0.0035	0.5571		1435.4	1435.4	0.92		No
SLV 15	8.55	-1762.59	-6961	-0.0002795	0.0006738	0.0035	0.5571		2263.42	2263.42	1.28		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	11.05	1554.52	-4774	-0.0021986	0.0006738	0.0035	0.5571		1569.07	1569.07	1.01		Si
SLV 4	8.55	1826.69	-4936	-0.0085843	0.0006738	0.0035	0.5571		1616.35	1616.35	0.88		No
SLV 4	11.05	-1571.58	-4041	-0.0021228	0.0006738	0.0035	0.5571		1439.77	1439.77	0.92		No
SLV 13	8.55	-1692.79	-6253	-0.003126	0.0006738	0.0035	0.5571		2072.4	2072.4	1.22		Si
SLV 13	11.05	1486.43	-7164	-0.0001833	0.0006738	0.0035	0.6964		2200.79	2200.79	1.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 33	8.55	98.36	-6674	-4761	223	0.6964	0.6964	-24420	10833	2112	96666	7007	3551	3168	Si	14.23	Si
SLU 33	11.05	-66.17	-7551	-5387	214	0.6964	0.6964	-27626	10833	2187	96666	7007	3551	3281	Si	15.36	Si
SLU 36	8.55	106.98	-6930	-4944	234	0.6964	0.6964	-25354	10833	2112	96666	7007	3551	3168	Si	13.55	Si
SLU 36	11.05	-74.31	-7863	-5609	225	0.6964	0.6964	-28768	10833	2247	96666	7007	3551	3370	Si	14.97	Si
SLU 40	8.55	85.99	-6464	-4611	220	0.6964	0.6964	-23649	10833	2112	96666	7007	3551	3168	Si	14.38	Si
SLU 40	11.05	-53.14	-7389	-5271	206	0.6964	0.6964	-27033	10833	2156	96666	7007	3551	3235	Si	15.72	Si
SLU 34	8.55	99.85	-6556	-4677	225	0.6964	0.6964	-23987	10833	2112	96666	7007	3551	3168	Si	14.07	Si
SLU 34	11.05	-67.61	-7447	-5312	216	0.6964	0.6964	-27245	10833	2167	96666	7007	3551	3251	Si	15.07	Si
SLU 38	8.55	106.72	-6814	-4861	231	0.6964	0.6964	-24931	10833	2112	96666	7007	3551	3168	Si	13.72	Si
SLU 38	11.05	-74.53	-7712	-5501	222	0.6964	0.6964	-28215	10833	2218	96666	7007	3551	3327	Si	14.98	Si
SLU 37	8.55	104.1	-6819	-4864	223	0.6964	0.6964	-24947	10833	2112	96666	7007	3551	3168	Si	14.2	Si
SLU 37	11.05	-72.71	-7641	-5451	214	0.6964	0.6964	-27955	10833	2204	96666	7007	3551	3307	Si	15.44	Si
SLU 32	8.55	95.74	-6679	-4764	215	0.6964	0.6964	-24435	10833	2112	96666	7007	3551	3168	Si	14.75	Si
SLU 32	11.05	-64.35	-7480	-5336	206	0.6964	0.6964	-27366	10833	2174	96666	7007	3551	3261	Si	15.86	Si
SLU 35	8.55	104.35	-6934	-4947	226	0.6964	0.6964	-25369	10833	2112	96666	7007	3551	3168	Si	14.02	Si
SLU 35	11.05	-72.49	-7792	-5559	217	0.6964	0.6964	-28509	10833	2233	96666	7007	3551	3350	Si	15.43	Si
SLU 41	8.55	91.99	-6724	-4796	224	0.6964	0.6964	-24599	10833	2112	96666	7007	3551	3168	Si	14.17	Si
SLU 41	11.05	-59.46	-7630	-5443	209	0.6964	0.6964	-27916	10833	2202	96666	7007	3551	3304	Si	15.78	Si
SLU 42	8.55	94.61	-6719	-4793	231	0.6964	0.6964	-24583	10833	2112	96666	7007	3551	3168	Si	13.69	Si
SLU 42	11.05	-61.28	-7701	-5494	217	0.6964	0.6964	-28176	10833	2216	96666	7007	3551	3324	Si	15.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	8.55	1891.33	-4187	-2987	1802	0.5571	0	0	0	0	96666	8409	2841	11250		6.24	Si
SLV 1	11.05	-1636.18	-6416	-4577	1479	0.5571	0.2795	0	0	0	96666	8409	2841	11250		7.61	Si
SLV 14	8.55	-1687.64	-6294	-4490	-1259	0.5571	0.2401	0	0	0	96666	8409	2841	11250		8.93	Si
SLV 14	11.05	1482.94	-7179	-5121	-910	0.6964	0.4249	-26266	16250	2492	96666	10511	3551	14062		15.45	Si
SLV 15	8.55	-1762.59	-6961	-4966	-1559	0.5571	0.2849	0	0	0	96666	8409	2841	11250		7.22	Si
SLV 15	11.05	1554.52	-4774	-3406	-1239	0.5571	0.0677	0	0	0	96666	8409	2841	11250		9.08	Si
SLD 1	8.55	1233.9	-4704	-3356	1194	0.6964	0.2577	-17211	15942	2021	96666	10511	3551	14062		11.78	Si
SLD 1	11.05	-1061.17	-6095	-4348	986	0.6964	0.5223	-30164	16250	2376	96666	10511	3551	14062		14.27	Si
SLV 4	8.55	1826.69	-4936	-3521	1505	0.5571	0	0	0	0	96666	8409	2841	11250		7.48	Si
SLV 4	11.05	-1571.58	-4041	-2882	1153	0.5571	0	0	0	0	96666	8409	2841	11250		9.75	Si
SLV 16	8.55	-1757.44	-7002	-4995	-1558	0.5571	0.2916	0	0	0	96666	8409	2841	11250		7.22	Si
SLV 16	11.05	1551.03	-4789	-3416	-1237	0.5571	0.0729	0	0	0	96666	8409	2841	11250		9.09	Si
SLV 2	8.55	1896.48	-4228	-3016	1803	0.5571	0	0	0	0	96666	8409	2841	11250		6.24	Si
SLV 2	11.05	-1639.67	-6431	-4588	1481	0.5571	0.2796	0	0	0	96666	8409	2841	11250		7.6	Si
SLV 13	8.55	-1692.79	-6253	-4461	-1260	0.5571	0.2324	0	0	0	96666	8409	2841	11250		8.93	Si
SLV 13	11.05	1486.43	-7164	-5111	-912	0.6964	0.4221	-26212	16250	2489	96666	10511	3551	14062		15.43	Si
SLD 2	8.55	1237.19	-4731	-3375	1195	0.6964	0.26	-17307	15961	2026	96666	10511	3551	14062		11.77	Si
SLD 2	11.05	-1063.4	-6105	-4355	986	0.6964	0.522	-30228	16250	2375	96666	10511	3551	14062		14.25	Si
SLV 3	8.55	1821.53	-4895	-3492	1503	0.5571	0	0	0	0	96666	8409	2841	11250		7.48	Si
SLV 3	11.05	-1568.09	-4026	-2872	1152	0.5571	0	0	0	0	96666	8409	2841	11250		9.76	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 7	-2969	0.46	87.22	381.11	507.34	444.22	5.09	Si
SLV 8	-2984	0.46	87.22	382.92	509.7	446.31	5.12	Si
SLV 11	-3130	0.46	87.22	399.79	531.68	465.74	5.34	Si
SLV 12	-3145	0.46	87.22	401.59	534.04	467.81	5.36	Si
SLV 3	-4316	0.46	87.22	531.24	710.4	620.82	7.12	Si
SLV 4	-4339	0.46	87.22	533.69	713.85	623.77	7.15	Si
SLV 15	-4852	0.46	87.22	587.06	790.62	688.84	7.9	Si
SLV 16	-4875	0.46	87.22	589.42	794.08	691.75	7.93	Si
SLV 1	-5634	0.46	87.22	664.45	906.47	785.46	9.01	Si
SLV 2	-5658	0.46	87.22	666.66	909.88	788.27	9.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 14	-3480	-6294	5	1	451.2	0.94	15.4616	7.35059	Si
SLV 13	-3456	-6253	5	1.006	448.7	0.94	15.55666	7.35059	Si
SLV 16	-2972	-7002	98	1.11	399.8	0.934	17.27945	7.35059	Si
SLV 15	-2947	-6961	98	1.118	397.3	0.933	17.40172	7.35059	Si
SLV 2	-2870	-4228	-95	1.143	389.5	0.932	17.81023	7.35059	Si
SLV 1	-2845	-4187	-95	1.15	387	0.932	17.94019	7.35059	Si
SLV 10	-3856	-4738	-139	0.889	489.3	0.944	13.69273	5.33016	Si
SLV 9	-3839	-4710	-139	0.893	487.6	0.944	13.74415	5.33016	Si
SLV 6	-3673	-4118	-169	0.919	470.7	0.942	14.17239	5.33016	Si
SLV 5	-3656	-4091	-169	0.922	469	0.942	14.22804	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.76	SLU 30	Si
V_SLU	13.553	SLU 36	Si
PF_SLV	0.738	SLV 1	No
V_SLV	6.238	SLV 2	Si
PFFP_SLV	5.093	SLV 7	Si
R_SLV	2.103	SLV 14	Si

Maschio 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.278	1.046	-9.386	1.046	L6	L7	2.109	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 25	8.55	1473.51	-21996	-0.0000642	0.0004492	0.0035	2.1086	16120.04	19465.32	19465.32	13.21	No	Si
SLU 25	11.05	166.07	-17137	-0.0000422	0.0004492	0.0035	2.1086	13776.11	15766.96	15766.96	94.94	No	Si
SLU 30	8.55	1487.77	-22478	-0.0000656	0.0004492	0.0035	2.1086	16314.56	19831.48	19831.48	13.33	No	Si
SLU 30	11.05	187.57	-17584	-0.0000435	0.0004492	0.0035	2.1086	14020.55	16107.17	16107.17	85.87	No	Si
SLU 67	8.55	1708.36	-26299	-0.0000775	0.0004492	0.0035	2.1086	17619.55	22521.51	22521.51	13.18	No	Si
SLU 67	11.05	255.76	-20242	-0.0000508	0.0004492	0.0035	2.1086	15353.44	18130.15	18130.15	70.89	No	Si
SLU 73	8.55	1698.41	-26436	-0.0000778	0.0004492	0.0035	2.1086	17658.42	22602.05	22602.05	13.31	No	Si
SLU 73	11.05	261.52	-20398	-0.0000512	0.0004492	0.0035	2.1086	15425.22	18248.83	18248.83	69.78	No	Si
SLU 72	8.55	1722.62	-26780	-0.0000789	0.0004492	0.0035	2.1086	17753.57	22804.23	22804.23	13.24	No	Si
SLU 72	11.05	277.26	-20689	-0.0000521	0.0004492	0.0035	2.1086	15557.32	18470.37	18470.37	66.62	No	Si
SLU 22	8.55	1384.56	-20551	-0.0000598	0.0004492	0.0035	2.1086	15494.73	18364.89	18364.89	13.26	No	Si
SLU 22	11.05	150.27	-15807	-0.0000388	0.0004492	0.0035	2.1086	13013.93	14754.25	14754.25	98.18	No	Si
SLU 65	8.55	1724.58	-24911	-0.0000739	0.0004492	0.0035	2.1086	17194.82	21683.55	21683.55	12.57	No	Si
SLU 65	11.05	184.07	-18926	-0.0000469	0.0004492	0.0035	2.1086	14719.16	17128.31	17128.31	93.05	No	Si
SLU 26	8.55	1509.78	-21554	-0.0000633	0.0004492	0.0035	2.1086	15935.26	19128.72	19128.72	12.67	No	Si
SLU 26	11.05	129.79	-16706	-0.0000409	0.0004492	0.0035	2.1086	13534.44	15438.32	15438.32	118.95	No	Si
SLU 23	8.55	1489.72	-20608	-0.0000607	0.0004492	0.0035	2.1086	15520.68	18408.51	18408.51	12.36	No	Si
SLU 23	11.05	94.37	-15821	-0.0000384	0.0004492	0.0035	2.1086	13022.39	14765.12	14765.12	156.45	No	Si
SLU 68	8.55	1744.63	-25857	-0.0000766	0.0004492	0.0035	2.1086	17490.39	22261.61	22261.61	12.76	No	Si
SLU 68	11.05	219.49	-19811	-0.0000494	0.0004492	0.0035	2.1086	15150.96	17801.51	17801.51	81.11	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	8.55	6412.1	-19540	-0.0000916	0.0006738	0.0035	2.1086		18344.59	18344.59	2.86		Si
SLV 5	11.05	-3122.87	-13118	-0.0000522	0.0006738	0.0035	2.1086		14877.16	14877.16	4.76		Si
SLV 6	8.55	6395.89	-19555	-0.0000915	0.0006738	0.0035	2.1086		18356.13	18356.13	2.87		Si
SLV 6	11.05	-3122.66	-13131	-0.0000522	0.0006738	0.0035	2.1086		14888.28	14888.28	4.77		Si
SLV 3	8.55	6032.19	-16542	-0.0000812	0.0006738	0.0035	2.1086		16038.73	16038.73	2.66		Si
SLV 3	11.05	-3880.33	-10256	-0.0000504	0.0006738	0.0035	2.1086		12282.3	12282.3	3.17		Si
SLV 16	8.55	-5756.81	-20555	-0.0000896	0.0006738	0.0035	2.1086		21179.42	21179.42	3.68		Si
SLV 16	11.05	5487.98	-18583	-0.0000825	0.0006738	0.0035	2.1086		17608.81	17608.81	3.21		Si
SLV 1	8.55	8109.84	-17279	-0.0001012	0.0006738	0.0035	2.1086		16605.82	16605.82	2.05		Si
SLV 1	11.05	-5044.05	-10233	-0.000061	0.0006738	0.0035	2.1086		12261.51	12261.51	2.43		Si
SLV 2	8.55	8085.75	-17301	-0.0001009	0.0006738	0.0035	2.1086		16622.95	16622.95	2.06		Si
SLV 2	11.05	-5043.74	-10252	-0.000061	0.0006738	0.0035	2.1086		12278.94	12278.94	2.43		Si
SLD 2	8.55	5562.14	-17863	-0.0000812	0.0006738	0.0035	2.1086		17054.66	17054.66	3.07		Si
SLD 2	11.05	-3131.35	-11746	-0.0000489	0.0006738	0.0035	2.1086		13656.83	13656.83	4.36		Si
SLD 1	8.55	5577.51	-17849	-0.0000813	0.0006738	0.0035	2.1086		17043.73	17043.73	3.06		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 1	11.05	-3131.55	-11734	-0.0000488	0.0006738	0.0035	2.1086		13645.7	13645.7	4.36		Si
SLV 4	8.55	6008.1	-16564	-0.0000811	0.0006738	0.0035	2.1086		16055.86	16055.86	2.67		Si
SLV 4	11.05	-3880.01	-10275	-0.0000505	0.0006738	0.0035	2.1086		12299.74	12299.74	3.17		Si
SLV 15	8.55	-5732.72	-20533	-0.0000893	0.0006738	0.0035	2.1086		21161.02	21161.02	3.69		Si
SLV 15	11.05	5487.67	-18564	-0.0000825	0.0006738	0.0035	2.1086		17594.27	17594.27	3.21		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	8.55	1724.58	-24911	-17771	1734	2.1086	2.1086	-30099	10833	7012	96666	21218	10754	10519	Si	6.07	Si
SLU 65	11.05	184.07	-18926	-13501	457	2.1086	2.1086	-22868	10833	6396	96666	21218	10754	9594	Si	20.99	Si
SLU 70	8.55	1728.42	-27245	-19436	1750	2.1086	2.1086	-32920	10833	7457	96666	21218	10754	11185	Si	6.39	Si
SLU 70	11.05	291.18	-21127	-15071	458	2.1086	2.1086	-25527	10833	6396	96666	21218	10754	9594	Si	20.93	Si
SLU 76	8.55	1718.47	-27383	-19534	1727	2.1086	2.1086	-33085	10833	7483	96666	21218	10754	11224	Si	6.5	Si
SLU 76	11.05	296.93	-21283	-15183	500	2.1086	2.1086	-25715	10833	6396	96666	21218	10754	9594	Si	19.19	Si
SLU 66	8.55	1645.26	-26265	-18737	1677	2.1086	2.1086	-31735	10833	7270	96666	21218	10754	10905	Si	6.5	Si
SLU 66	11.05	289.3	-20234	-14434	409	2.1086	2.1086	-24448	10833	6396	96666	21218	10754	9594	Si	23.44	Si
SLU 67	8.55	1708.36	-26299	-18761	1729	2.1086	2.1086	-31776	10833	7277	96666	21218	10754	10915	Si	6.31	Si
SLU 67	11.05	255.76	-20242	-14440	444	2.1086	2.1086	-24458	10833	6396	96666	21218	10754	9594	Si	21.62	Si
SLU 26	8.55	1509.78	-21554	-15376	1495	2.1086	2.1086	-26043	10833	6396	96666	21218	10754	9594	Si	6.42	Si
SLU 26	11.05	129.79	-16706	-11917	481	2.1086	2.1086	-20185	10833	6396	96666	21218	10754	9594	Si	19.94	Si
SLU 72	8.55	1722.62	-26780	-19104	1740	2.1086	2.1086	-32358	10833	7368	96666	21218	10754	11052	Si	6.35	Si
SLU 72	11.05	277.26	-20689	-14759	463	2.1086	2.1086	-24998	10833	6396	96666	21218	10754	9594	Si	20.71	Si
SLU 64	8.55	1619.41	-24853	-17730	1647	2.1086	2.1086	-30029	10833	7002	96666	21218	10754	10502	Si	6.38	Si
SLU 64	11.05	239.97	-18912	-13491	400	2.1086	2.1086	-22850	10833	6396	96666	21218	10754	9594	Si	24.01	Si
SLU 68	8.55	1744.63	-25857	-18446	1754	2.1086	2.1086	-31242	10833	7192	96666	21218	10754	10789	Si	6.15	Si
SLU 68	11.05	219.49	-19811	-14132	472	2.1086	2.1086	-23936	10833	6396	96666	21218	10754	9594	Si	20.34	Si
SLU 73	8.55	1698.41	-26436	-18859	1707	2.1086	2.1086	-31942	10833	7303	96666	21218	10754	10954	Si	6.42	Si
SLU 73	11.05	261.52	-20398	-14552	485	2.1086	2.1086	-24646	10833	6396	96666	21218	10754	9594	Si	19.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	8.55	8085.75	-17301	-12342	7527	2.1086	1.7609	-20905	16250	8012	96666	31827	10754	42581		5.66	Si
SLV 2	11.05	-5043.74	-10252	-7314	4478	2.1086	1.6871	-15587	15618	7377	96666	31827	10754	42581		9.51	Si
SLV 5	8.55	6412.1	-19540	-13939	5651	2.1086	2.1086	-23609	16250	9594	96666	31827	10754	42581		7.53	Si
SLV 5	11.05	-3122.87	-13118	-9358	3324	2.1086	2.1086	-15850	15670	9252	96666	31827	10754	42581		12.81	Si
SLV 16	8.55	-5756.81	-20555	-14664	-5125	2.1086	2.1086	-24836	16250	9594	96666	31827	10754	42581		8.31	Si
SLV 16	11.05	5487.98	-18583	-13257	-3928	2.1086	2.1086	-22453	16250	9594	96666	31827	10754	42581		10.84	Si
SLV 4	8.55	6008.1	-16564	-11816	5849	2.1086	2.0748	-20014	16250	9440	96666	31827	10754	42581		7.28	Si
SLV 4	11.05	-3880.01	-10275	-7330	3294	2.1086	2.0301	-12968	15094	8580	96666	31827	10754	42581		12.93	Si
SLV 15	8.55	-5732.72	-20533	-14648	-5116	2.1086	2.1086	-24809	16250	9594	96666	31827	10754	42581		8.32	Si
SLV 15	11.05	5487.67	-18564	-13243	-3937	2.1086	2.1086	-22431	16250	9594	96666	31827	10754	42581		10.81	Si
SLV 1	8.55	8109.84	-17279	-12327	7536	2.1086	1.7549	-20878	16250	7985	96666	31827	10754	42581		5.65	Si
SLV 1	11.05	-5044.05	-10233	-7300	4469	2.1086	1.6843	-15584	15617	7365	96666	31827	10754	42581		9.53	Si
SLD 2	8.55	5562.14	-17863	-12743	5226	2.1086	2.1086	-21583	16250	9594	96666	31827	10754	42581		8.15	Si
SLD 2	11.05	-3131.35	-11746	-8380	2946	2.1086	2.1086	-14193	15339	9056	96666	31827	10754	42581		14.46	Si
SLV 3	8.55	6032.19	-16542	-11801	5859	2.1086	2.069	-19987	16250	9414	96666	31827	10754	42581		7.27	Si
SLV 3	11.05	-3880.33	-10256	-7316	3285	2.1086	2.0279	-12958	15092	8569	96666	31827	10754	42581		12.96	Si
SLV 6	8.55	6395.89	-19555	-13950	5645	2.1086	2.1086	-23627	16250	9594	96666	31827	10754	42581		7.54	Si
SLV 6	11.05	-3122.66	-13131	-9367	3330	2.1086	2.1086	-15866	15673	9254	96666	31827	10754	42581		12.79	Si
SLD 1	8.55	5577.51	-17849	-12733	5232	2.1086	2.1086	-21566	16250	9594	96666	31827	10754	42581		8.14	Si
SLD 1	11.05	-3131.55	-11734	-8371	2940	2.1086	2.1086	-14178	15336	9054	96666	31827	10754	42581		14.48	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-14556	0.46	264.11	1763.68	2457.88		7.99	Si
SLV 4	-14578	0.46	264.11	1765.96	2461.21		8	Si
SLV 7	-15121	0.46	264.11	1821.1	2541.48		8.26	Si
SLV 8	-15136	0.46	264.11	1822.61	2543.69		8.27	Si
SLV 1	-15305	0.46	264.11	1839.68	2568.69		8.35	Si
SLV 2	-15328	0.46	264.11	1841.91	2571.97		8.36	Si
SLV 11	-16352	0.46	264.11	1943.32	2722.94		8.83	Si
SLV 12	-16367	0.46	264.11	1944.79	2725.15		8.84	Si
SLV 5	-17620	0.46	264.11	2065.12	2909.91		9.42	Si
SLV 6	-17635	0.46	264.11	2066.54	2912.11		9.43	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 13	-16812	-21270	-343	0.66	2003.1	0.957	10.02116	7.35059	Si
SLV 14	-16810	-21293	-343	0.66	2002.9	0.957	10.02213	7.35059	Si
SLV 15	-16176	-20533	638	0.665	1938.4	0.956	10.1184	7.35059	Si
SLV 16	-16174	-20555	638	0.666	1938.2	0.956	10.11931	7.35059	Si
SLV 9	-15332	-20737	-1592	0.641	1852.7	0.954	9.76025	5.33016	Si
SLV 10	-15331	-20752	-1592	0.641	1852.6	0.954	9.76094	5.33016	Si
SLV 1	-10464	-17279	-638	0.955	1358.8	0.94	14.77379	7.35059	Si
SLV 2	-10462	-17301	-638	0.955	1358.6	0.94	14.77598	7.35059	Si
SLV 5	-13428	-19540	-1680	0.71	1659.3	0.949	10.86557	5.33016	Si
SLV 6	-13426	-19555	-1680	0.71	1659.2	0.949	10.86644	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.357	SLU 23	Si
V_SLU	6.067	SLU 65	Si
PF_SLV	2.048	SLV 1	Si
V_SLV	5.65	SLV 1	Si
PFFP_SLV	7.992	SLV 3	Si
R_SLV	1.363	SLV 13	Si

Maschio 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.968	1.046	-6.478	1.046	L6	L7	1.51	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	8.55	990.28	-16304	-0.0000696	0.0004492	0.0035	1.51	8424.73	10294.16	10294.16	10.4	No	Si
SLU 65	10.65	-519.69	-14320	-0.0000556	0.0004492	0.0035	1.51	7814.79	10211.6	10211.6	19.65	No	Si
SLU 47	8.55	950.1	-15293	-0.0000653	0.0004492	0.0035	1.51	8128.27	9740.05	9740.05	10.25	No	Si
SLU 47	10.65	-504.07	-12789	-0.0000499	0.0004492	0.0035	1.51	7265.3	9394.21	9394.21	18.64	No	Si
SLU 43	8.55	918.33	-14662	-0.0000625	0.0004492	0.0035	1.51	7928.16	9394.33	9394.33	10.23	No	Si
SLU 43	10.65	-518.03	-12263	-0.0000482	0.0004492	0.0035	1.51	7060.62	9100.52	9100.52	17.57	No	Si
SLU 46	8.55	925.83	-15572	-0.000066	0.0004492	0.0035	1.51	8213.14	9893.11	9893.11	10.69	No	Si
SLU 46	10.65	-483.83	-13115	-0.0000508	0.0004492	0.0035	1.51	7388.02	9568.22	9568.22	19.78	No	Si
SLU 5	8.55	739.73	-12338	-0.0000516	0.0004492	0.0035	1.51	7090.58	8120.64	8120.64	10.98	No	Si
SLU 5	10.65	-372.42	-10506	-0.00004	0.0004492	0.0035	1.51	6318.74	8097.24	8097.24	21.74	No	Si
SLU 68	8.55	956	-16919	-0.0000714	0.0004492	0.0035	1.51	8590.35	10631.02	10631.02	11.12	No	Si
SLU 68	10.65	-458.15	-14861	-0.0000567	0.0004492	0.0035	1.51	7992.48	10500.28	10500.28	22.92	No	Si
SLU 1	8.55	707.96	-11707	-0.0000489	0.0004492	0.0035	1.51	6835.99	7774.91	7774.91	10.98	No	Si
SLU 1	10.65	-386.37	-9979	-0.0000384	0.0004492	0.0035	1.51	6078.93	7792.65	7792.65	20.17	No	Si
SLU 44	8.55	984.38	-14678	-0.0000635	0.0004492	0.0035	1.51	7933.44	9403.2	9403.2	9.55	No	Si
SLU 44	10.65	-565.61	-12248	-0.0000489	0.0004492	0.0035	1.51	7054.86	9092.23	9092.23	16.08	No	Si
SLU 2	8.55	774.02	-11724	-0.0000499	0.0004492	0.0035	1.51	6842.67	7783.78	7783.78	10.06	No	Si
SLU 2	10.65	-433.95	-9965	-0.000039	0.0004492	0.0035	1.51	6072.2	7783.81	7783.81	17.94	No	Si
SLU 52	8.55	899.86	-15392	-0.000065	0.0004492	0.0035	1.51	8158.65	9794.37	9794.37	10.88	No	Si
SLU 52	10.65	-452.34	-13564	-0.000052	0.0004492	0.0035	1.51	7552	9807.94	9807.94	21.68	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	8.55	3517.65	-10846	-0.0000855	0.0006738	0.0035	1.51		7657.43	7657.43	2.18		Si
SLV 4	10.65	-3004.56	-9560	-0.0000731	0.0006738	0.0035	1.51		7706.26	7706.26	2.56		Si
SLD 1	8.55	3295.55	-11389	-0.0000829	0.0006738	0.0035	1.51		7958.23	7958.23	2.41		Si
SLD 1	10.65	-2664.94	-9802	-0.0000681	0.0006738	0.0035	1.51		7858.1	7858.1	2.95		Si
SLV 16	8.55	-3423.83	-13907	-0.0000932	0.0006738	0.0035	1.51		10356.16	10356.16	3.02		Si
SLV 16	10.65	3317.7	-12731	-0.0000875	0.0006738	0.0035	1.51		8701.5	8701.5	2.62		Si
SLV 1	8.55	4794.83	-10845	-0.0001201	0.0006738	0.0035	1.51		7656.78	7656.78	1.6		Si
SLV 1	10.65	-3999.48	-9164	-0.0000983	0.0006738	0.0035	1.208		7457.3	7457.3	1.86		Si
SLV 2	8.55	4801.99	-10851	-0.0001203	0.0006738	0.0035	1.51		7660.42	7660.42	1.6		Si
SLV 2	10.65	-3965.06	-9107	-0.0000973	0.0006738	0.0035	1.208		7421.65	7421.65	1.87		Si
SLV 6	8.55	3869.71	-11928	-0.0000945	0.0006738	0.0035	1.51		8256.71	8256.71	2.13		Si
SLV 6	10.65	-2878.48	-9697	-0.0000712	0.0006738	0.0035	1.51		7791.86	7791.86	2.71		Si
SLV 5	8.55	3864.88	-11923	-0.0000944	0.0006738	0.0035	1.51		8254.26	8254.26	2.14		Si
SLV 5	10.65	-2901.65	-9735	-0.0000717	0.0006738	0.0035	1.51		7815.86	7815.86	2.69		Si
SLV 15	8.55	-3430.99	-13901	-0.0000932	0.0006738	0.0035	1.51		10352.26	10352.26	3.02		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	10.65	3283.27	-12788	-0.0000872	0.0006738	0.0035	1.51		8732.96	8732.96	2.66		Si
SLV 3	8.55	3510.49	-10839	-0.0000853	0.0006738	0.0035	1.51		7653.79	7653.79	2.18		Si
SLV 3	10.65	-3038.98	-9617	-0.0000738	0.0006738	0.0035	1.51		7741.91	7741.91	2.55		Si
SLD 2	8.55	3300.13	-11393	-0.000083	0.0006738	0.0035	1.51		7960.56	7960.56	2.41		Si
SLD 2	10.65	-2642.96	-9766	-0.0000677	0.0006738	0.0035	1.51		7835.35	7835.35	2.96		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	8.55	984.38	-14678	-10471	983	1.51	1.51	-24767	10833	4580	96666	15194	7701	6871	Si	6.99	Si
SLU 44	10.65	-565.61	-12248	-8737	983	1.51	1.51	-20666	10833	4580	96666	15194	7701	6871	Si	6.99	Si
SLU 67	8.55	931.74	-17198	-12269	858	1.51	1.51	-29018	10833	4900	96666	15194	7701	7350	Si	8.56	Si
SLU 67	10.65	-437.91	-15187	-10834	858	1.51	1.51	-25625	10833	4580	96666	15194	7701	6871	Si	8.01	Si
SLU 52	8.55	899.86	-15392	-10980	853	1.51	1.51	-25971	10833	4580	96666	15194	7701	6871	Si	8.06	Si
SLU 52	10.65	-452.34	-13564	-9676	853	1.51	1.51	-22886	10833	4580	96666	15194	7701	6871	Si	8.06	Si
SLU 68	8.55	956	-16919	-12069	914	1.51	1.51	-28547	10833	4847	96666	15194	7701	7270	Si	7.96	Si
SLU 68	10.65	-458.15	-14861	-10602	914	1.51	1.51	-25075	10833	4580	96666	15194	7701	6871	Si	7.52	Si
SLU 43	8.55	918.33	-14662	-10460	866	1.51	1.51	-24739	10833	4580	96666	15194	7701	6871	Si	7.93	Si
SLU 43	10.65	-518.03	-12263	-8748	866	1.51	1.51	-20690	10833	4580	96666	15194	7701	6871	Si	7.93	Si
SLU 65	8.55	990.28	-16304	-11631	944	1.51	1.51	-27509	10833	4730	96666	15194	7701	7095	Si	7.52	Si
SLU 65	10.65	-519.69	-14320	-10216	944	1.51	1.51	-24162	10833	4580	96666	15194	7701	6871	Si	7.28	Si
SLU 46	8.55	925.83	-15572	-11109	897	1.51	1.51	-26275	10833	4591	96666	15194	7701	6886	Si	7.67	Si
SLU 46	10.65	-483.83	-13115	-9356	897	1.51	1.51	-22128	10833	4580	96666	15194	7701	6871	Si	7.66	Si
SLU 51	8.55	889.39	-15901	-11344	877	1.51	1.51	-26830	10833	4653	96666	15194	7701	6980	Si	7.96	Si
SLU 51	10.65	-423.5	-13336	-9513	877	1.51	1.51	-22501	10833	4580	96666	15194	7701	6871	Si	7.84	Si
SLU 47	8.55	950.1	-15293	-10910	953	1.51	1.51	-25804	10833	4580	96666	15194	7701	6871	Si	7.21	Si
SLU 47	10.65	-504.07	-12789	-9123	953	1.51	1.51	-21578	10833	4580	96666	15194	7701	6871	Si	7.21	Si
SLU 49	8.55	891.55	-16187	-11547	868	1.51	1.51	-27312	10833	4707	96666	15194	7701	7061	Si	8.14	Si
SLU 49	10.65	-422.29	-13656	-9742	868	1.51	1.51	-23041	10833	4580	96666	15194	7701	6871	Si	7.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 5	8.55	2671.47	-12083	-8619	4026	1.51	1.51	-20386	16250	6871	96666	22792	7701	30493		7.57	Si
SLD 5	10.65	-1941.24	-10183	-7264	3941	1.51	1.51	-17181	15936	6738	96666	22792	7701	30493		7.74	Si
SLV 16	8.55	-3423.83	-13907	-9921	-4644	1.51	1.51	-23465	16250	6871	96666	22792	7701	30493		6.57	Si
SLV 16	10.65	3317.7	-12731	-9082	-4218	1.51	1.4832	-21481	16250	6749	96666	22792	7701	30493		7.23	Si
SLV 12	8.55	-2493.88	-12828	-9151	-4885	1.51	1.51	-21645	16250	6871	96666	22792	7701	30493		6.24	Si
SLV 12	10.65	2219.87	-12160	-8674	-4755	1.51	1.51	-20517	16250	6871	96666	22792	7701	30493		6.41	Si
SLV 2	8.55	4801.99	-10851	-7741	5876	1.51	0.9374	-18309	16162	4507	96666	22792	7701	30493		5.19	Si
SLV 2	10.65	-3965.06	-9107	-6497	5450	1.208	0.9588	0	0	0	96666	18233	6161	24394		4.48	Si
SLV 5	8.55	3864.88	-11923	-8506	6100	1.51	1.2926	-20118	16250	5881	96666	22792	7701	30493		5	Si
SLV 5	10.65	-2901.65	-9735	-6945	5971	1.51	1.3708	-18224	16145	6197	96666	22792	7701	30493		5.11	Si
SLD 6	8.55	2674.49	-12085	-8621	4034	1.51	1.51	-20391	16250	6871	96666	22792	7701	30493		7.56	Si
SLD 6	10.65	-1926.73	-10159	-7247	3948	1.51	1.51	-17141	15928	6734	96666	22792	7701	30493		7.72	Si
SLV 11	8.55	-2498.71	-12824	-9148	-4897	1.51	1.51	-21637	16250	6871	96666	22792	7701	30493		6.23	Si
SLV 11	10.65	2196.69	-12198	-8702	-4767	1.51	1.51	-20581	16250	6871	96666	22792	7701	30493		6.4	Si
SLV 15	8.55	-3430.99	-13901	-9916	-4661	1.51	1.51	-23454	16250	6871	96666	22792	7701	30493		6.54	Si
SLV 15	10.65	3283.27	-12788	-9123	-4235	1.51	1.4948	-21576	16250	6801	96666	22792	7701	30493		7.2	Si
SLV 6	8.55	3869.71	-11928	-8509	6112	1.51	1.2917	-20125	16250	5877	96666	22792	7701	30493		4.99	Si
SLV 6	10.65	-2878.48	-9697	-6917	5982	1.51	1.3744	-18105	16121	6204	96666	22792	7701	30493		5.1	Si
SLV 1	8.55	4794.83	-10845	-7736	5859	1.51	0.9386	-18298	16160	4505	96666	22792	7701	30493		5.2	Si
SLV 1	10.65	-3999.48	-9164	-6537	5433	1.208	0.9556	0	0	0	96666	18233	6161	24394		4.49	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-9356	0.46	189.13	1151.74	1598.83	1375.29	7.27	Si
SLV 1	-9413	0.46	189.13	1157.77	1607.31	1382.54	7.31	Si
SLV 4	-9818	0.46	189.13	1200.37	1667.71	1434.04	7.58	Si
SLV 3	-9875	0.46	189.13	1206.3	1676.19	1441.25	7.62	Si
SLV 6	-9985	0.46	189.13	1217.75	1692.59	1455.17	7.69	Si
SLV 5	-10023	0.46	189.13	1221.72	1698.3	1460.01	7.72	Si
SLV 10	-10977	0.46	189.13	1319.07	1839.98	1579.52	8.35	Si
SLV 9	-11015	0.46	189.13	1322.91	1845.62	1584.26	8.38	Si
SLV 8	-11523	0.46	189.13	1373.36	1920.65	1647	8.71	Si
SLV 7	-11562	0.46	189.13	1377.12	1926.29	1651.71	8.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 15	-9337	-13901	23	0.838	1159.9	0.948	12.84181	7.35059	Si
SLV 16	-9328	-13907	24	0.838	1159	0.948	12.85189	7.35059	Si
SLV 13	-9139	-13906	29	0.852	1139.8	0.947	13.07557	7.35059	Si
SLV 14	-9130	-13913	29	0.853	1138.9	0.947	13.08605	7.35059	Si
SLV 3	-7076	-10839	-29	1.052	930.8	0.938	16.30241	7.35059	Si
SLV 4	-7067	-10846	-29	1.053	929.9	0.937	16.32104	7.35059	Si
SLV 1	-6878	-10845	-24	1.077	910.8	0.936	16.71111	7.35059	Si
SLV 2	-6869	-10851	-23	1.078	909.9	0.936	16.73067	7.35059	Si
SLV 11	-8775	-12824	-2	0.884	1102.9	0.946	13.58776	5.33016	Si
SLV 12	-8769	-12828	-1	0.885	1102.3	0.946	13.59644	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.552	SLU 44	Si
V_SLU	6.991	SLU 44	Si
PF_SLV	1.595	SLV 2	Si
V_SLV	4.476	SLV 2	Si
PFFP_SLV	7.272	SLV 2	Si
R_SLV	1.747	SLV 15	Si

Maschio 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.046	-4.168	1.046	L6	L7	4.045	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR} DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 50	8.55	5042.79	-30008	-0.000047	0.0004492	0.0035	4.045	47530.68	53961.82	53961.82	10.7	No	Si
SLU 50	10.65	3284.87	-24275	-0.0000362	0.0004492	0.0035	4.045	40484.09	45599.73	45599.73	13.88	No	Si
SLU 49	8.55	5148.65	-30702	-0.0000482	0.0004492	0.0035	4.045	48319.43	54964.46	54964.46	10.68	No	Si
SLU 49	10.65	3406.3	-25027	-0.0000374	0.0004492	0.0035	4.045	41462.76	46773.64	46773.64	13.73	No	Si
SLU 44	8.55	4928.31	-28334	-0.0000446	0.0004492	0.0035	4.045	45573.26	51547.2	51547.2	10.46	No	Si
SLU 44	10.65	2690.58	-22570	-0.0000329	0.0004492	0.0035	4.045	38202.63	42788.34	42788.34	15.9	No	Si
SLU 46	8.55	5095.37	-29839	-0.0000469	0.0004492	0.0035	4.045	47336.65	53717.89	53717.89	10.54	No	Si
SLU 46	10.65	3134.76	-24172	-0.0000358	0.0004492	0.0035	4.045	40349.07	45430.38	45430.38	14.49	No	Si
SLU 64	8.55	5248.73	-31257	-0.0000491	0.0004492	0.0035	4.045	48938.95	55764.87	55764.87	10.62	No	Si
SLU 64	10.65	3405.34	-26429	-0.0000392	0.0004492	0.0035	4.045	43244.37	48797.29	48797.29	14.33	No	Si
SLU 45	8.55	5100.12	-29806	-0.0000469	0.0004492	0.0035	4.045	47299.07	53670.76	53670.76	10.52	No	Si
SLU 45	10.65	3165.48	-24170	-0.0000358	0.0004492	0.0035	4.045	40346.3	45426.91	45426.91	14.35	No	Si
SLU 43	8.55	4936.22	-28280	-0.0000446	0.0004492	0.0035	4.045	45508.22	51468.67	51468.67	10.43	No	Si
SLU 43	10.65	2741.79	-22566	-0.000033	0.0004492	0.0035	4.045	38197.84	42782.55	42782.55	15.6	No	Si
SLU 65	8.55	5240.81	-31311	-0.0000492	0.0004492	0.0035	4.045	48999.26	55843.4	55843.4	10.66	No	Si
SLU 65	10.65	3354.14	-26432	-0.0000391	0.0004492	0.0035	4.045	43248.76	48802.36	48802.36	14.55	No	Si
SLU 47	8.55	4981.59	-29198	-0.0000459	0.0004492	0.0035	4.045	46594.02	52793.78	52793.78	10.6	No	Si
SLU 47	10.65	2962.12	-23424	-0.0000345	0.0004492	0.0035	4.045	39356.33	44196.93	44196.93	14.92	No	Si
SLU 48	8.55	5153.4	-30670	-0.0000481	0.0004492	0.0035	4.045	48282.67	54917.34	54917.34	10.66	No	Si
SLU 48	10.65	3437.02	-25024	-0.0000375	0.0004492	0.0035	4.045	41460.04	46770.6	46770.6	13.61	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	8.55	7026.05	-19208	-0.0000363	0.0006738	0.0035	4.045		37844.5	37844.5	5.39		Si
SLV 1	10.65	-4715	-13621	-0.0000251	0.0006738	0.0035	4.045		34259	34259	7.27		Si
SLD 15	8.55	2293.44	-26600	-0.0000368	0.0006738	0.0035	4.045		50717.66	50717.66	22.11		Si
SLD 15	10.65	7245.92	-24227	-0.0000431	0.0006738	0.0035	4.045		46649.97	46649.97	6.44		Si
SLV 2	8.55	6609.28	-19339	-0.0000357	0.0006738	0.0035	4.045		38078.79	38078.79	5.76		Si
SLV 2	10.65	-4731.3	-13735	-0.0000253	0.0006738	0.0035	4.045		34468.84	34468.84	7.29		Si
SLV 14	8.55	685.01	-28841	-0.0000367	0.0006738	0.0035	4.045		54499.46	54499.46	79.56		Si
SLV 14	10.65	8848.17	-26271	-0.0000487	0.0006738	0.0035	4.045		50161.7	50161.7	5.67		Si
SLD 16	8.55	2027.42	-26684	-0.0000365	0.0006738	0.0035	4.045		50859.47	50859.47	25.09		Si
SLD 16	10.65	7235.51	-24300	-0.0000431	0.0006738	0.0035	4.045		46775.69	46775.69	6.46		Si
SLV 4	8.55	6830	-18825	-0.0000355	0.0006738	0.0035	4.045		37164.18	37164.18	5.44		Si
SLV 4	10.65	-3705.76	-14121	-0.0000239	0.0006738	0.0035	4.045		35175.33	35175.33	9.49		Si
SLV 13	8.55	1101.77	-28709	-0.0000373	0.0006738	0.0035	4.045		54277.28	54277.28	49.26		Si
SLV 13	10.65	8864.47	-26156	-0.0000486	0.0006738	0.0035	4.045		49965.64	49965.64	5.64		Si
SLV 16	8.55	905.73	-28327	-0.0000364	0.0006738	0.0035	4.045		53632.14	53632.14	59.21		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 16	10.65	9873.71	-26657	-0.0000511	0.0006738	0.0035	4.045		50813	50813	5.15		Si
SLV 3	8.55	7246.77	-18694	-0.0000361	0.0006738	0.0035	4.045		36929.89	36929.89	5.1		Si
SLV 3	10.65	-3689.46	-14007	-0.0000237	0.0006738	0.0035	4.045		34965.49	34965.49	9.48		Si
SLV 15	8.55	1322.5	-28195	-0.000037	0.0006738	0.0035	4.045		53409.96	53409.96	40.39		Si
SLV 15	10.65	9890.01	-26542	-0.000051	0.0006738	0.0035	4.045		50619.55	50619.55	5.12		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	8.55	4225.98	-28301	-20189	-2218	4.045	4.045	-17825	10710	14618	96666	40703	20629	21927	Si	9.88	Si
SLU 42	10.65	3716.91	-26385	-18823	-2226	4.045	4.045	-16619	10549	14071	96666	40703	20629	21107	Si	9.48	Si
SLU 39	8.55	4177.45	-27404	-19550	-2165	4.045	4.045	-17261	10635	14362	96666	40703	20629	21543	Si	9.95	Si
SLU 39	10.65	3476.1	-25529	-18212	-2173	4.045	4.045	-16079	10477	13827	96666	40703	20629	20741	Si	9.54	Si
SLU 32	8.55	4345.71	-28364	-20234	-1882	4.045	4.045	-17865	10715	14636	96666	40703	20629	21954	Si	11.67	Si
SLU 32	10.65	3741.25	-26146	-18652	-1890	4.045	4.045	-16468	10529	14003	96666	40703	20629	21005	Si	11.12	Si
SLU 40	8.55	4172.7	-27437	-19573	-2123	4.045	4.045	-17281	10638	14372	96666	40703	20629	21557	Si	10.15	Si
SLU 40	10.65	3445.37	-25531	-18213	-2132	4.045	4.045	-16081	10477	13828	96666	40703	20629	20742	Si	9.73	Si
SLU 37	8.55	4288.38	-28565	-20378	-1873	4.045	4.045	-17992	10732	14694	96666	40703	20629	22040	Si	11.77	Si
SLU 37	10.65	3860.64	-26251	-18727	-1880	4.045	4.045	-16534	10538	14033	96666	40703	20629	21050	Si	11.2	Si
SLU 33	8.55	4340.96	-28396	-20257	-1840	4.045	4.045	-17886	10718	14645	96666	40703	20629	21968	Si	11.94	Si
SLU 33	10.65	3710.52	-26148	-18653	-1848	4.045	4.045	-16470	10529	14004	96666	40703	20629	21006	Si	11.37	Si
SLU 35	8.55	4399	-29228	-20850	-1977	4.045	4.045	-18409	10788	14883	96666	40703	20629	22324	Si	11.29	Si
SLU 35	10.65	4012.79	-27000	-19261	-1984	4.045	4.045	-17006	10601	14247	96666	40703	20629	21371	Si	10.77	Si
SLU 36	8.55	4394.25	-29260	-20874	-1935	4.045	4.045	-18430	10791	14892	96666	40703	20629	22338	Si	11.54	Si
SLU 36	10.65	3982.07	-27003	-19263	-1942	4.045	4.045	-17008	10601	14248	96666	40703	20629	21371	Si	11	Si
SLU 38	8.55	4283.63	-28598	-20401	-1831	4.045	4.045	-18013	10735	14703	96666	40703	20629	22054	Si	12.04	Si
SLU 38	10.65	3829.91	-26253	-18728	-1838	4.045	4.045	-16536	10538	14034	96666	40703	20629	21051	Si	11.45	Si
SLU 41	8.55	4230.73	-28268	-20166	-2260	4.045	4.045	-17805	10707	14609	96666	40703	20629	21913	Si	9.7	Si
SLU 41	10.65	3747.64	-26383	-18821	-2268	4.045	4.045	-16618	10549	14071	96666	40703	20629	21106	Si	9.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	8.55	6830	-18825	-13430	6259	4.045	4.045	-11857	14871	16843	96666	61054	20629	81684		13.05	Si
SLV 4	10.65	-3705.76	-14121	-10074	5371	4.045	4.045	-8894	14279	16172	96666	61054	20629	81684		15.21	Si
SLV 1	8.55	7026.05	-19208	-13702	7677	4.045	4.045	-12098	14920	16898	96666	61054	20629	81684		10.64	Si
SLV 1	10.65	-4715	-13621	-9717	6772	4.045	4.045	-8579	14216	16101	96666	61054	20629	81684		12.06	Si
SLV 3	8.55	7246.77	-18694	-13336	6433	4.045	4.045	-11774	14855	16825	96666	61054	20629	81684		12.7	Si
SLV 3	10.65	-3689.46	-14007	-9992	5545	4.045	4.045	-8822	14264	16156	96666	61054	20629	81684		14.73	Si
SLV 13	8.55	1101.77	-28709	-20480	-6316	4.045	4.045	-18083	16117	18254	96666	61054	20629	81684		12.93	Si
SLV 13	10.65	8864.47	-26156	-18659	-5441	4.045	4.045	-16475	15795	17889	96666	61054	20629	81684		15.01	Si
SLV 15	8.55	1322.5	-28195	-20114	-7560	4.045	4.045	-17759	16052	18180	96666	61054	20629	81684		10.8	Si
SLV 15	10.65	9890.01	-26542	-18934	-6668	4.045	4.045	-16718	15844	17944	96666	61054	20629	81684		12.25	Si
SLV 14	8.55	685.01	-28841	-20574	-6490	4.045	4.045	-18166	16133	18272	96666	61054	20629	81684		12.59	Si
SLV 14	10.65	8848.17	-26271	-18741	-5616	4.045	4.045	-16547	15809	17906	96666	61054	20629	81684		14.55	Si
SLD 16	8.55	2027.42	-26684	-19036	-4917	4.045	4.045	-16807	15861	17965	96666	61054	20629	81684		16.61	Si
SLD 16	10.65	7235.51	-24300	-17335	-4337	4.045	4.045	-15306	15561	17625	96666	61054	20629	81684		18.83	Si
SLV 16	8.55	905.73	-28327	-20208	-7734	4.045	4.045	-17842	16068	18199	96666	61054	20629	81684		10.56	Si
SLV 16	10.65	9873.71	-26657	-19016	-6843	4.045	4.045	-16790	15858	17961	96666	61054	20629	81684		11.94	Si
SLD 1	8.55	5904.35	-20850	-14874	4860	4.045	4.045	-13133	15127	17132	96666	61054	20629	81684		16.81	Si
SLD 1	10.65	-2076.81	-15977	-11398	4267	4.045	4.045	-10063	14513	16437	96666	61054	20629	81684		19.14	Si
SLV 2	8.55	6609.28	-19339	-13796	7502	4.045	4.045	-12181	14936	16917	96666	61054	20629	81684		10.89	Si
SLV 2	10.65	-4731.3	-13735	-9798	6598	4.045	4.045	-8651	14230	16117	96666	61054	20629	81684		12.38	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.07 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-15020	0.46	506.64	1950.61	2763.57	2357.09	4.65	Si
SLV 2	-15134	0.46	506.64	1964.25	2780.91	2372.58	4.68	Si
SLV 3	-15263	0.46	506.64	1979.72	2800.6	2390.16	4.72	Si
SLV 4	-15377	0.46	506.64	1993.32	2817.95	2405.64	4.75	Si
SLV 5	-18775	0.46	506.64	2390.79	3331.8	2861.3	5.65	Si
SLV 6	-18852	0.46	506.64	2399.59	3343.36	2871.47	5.67	Si
SLV 7	-19587	0.46	506.64	2483.4	3454.04	2968.72	5.86	Si
SLV 8	-19663	0.46	506.64	2492.11	3465.61	2978.86	5.88	Si
SLV 9	-22222	0.46	506.64	2778.01	3850.87	3314.44	6.54	Si
SLV 10	-22298	0.46	506.64	2786.45	3862.3	3324.38	6.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-19415	-28327	396	1.018	2539.9	0.938	15.75847	7.35059	Si
SLV 15	-19394	-28195	395	1.019	2537.8	0.938	15.77356	7.35059	Si
SLV 14	-19307	-28841	-380	1.023	2528.9	0.938	15.84479	7.35059	Si
SLV 13	-19285	-28709	-381	1.024	2526.8	0.938	15.85922	7.35059	Si
SLV 4	-13589	-18825	381	1.35	1951.8	0.924	21.24297	7.35059	Si
SLV 3	-13568	-18694	380	1.352	1949.7	0.924	21.27047	7.35059	Si
SLV 2	-13480	-19339	-395	1.358	1940.9	0.924	21.36822	7.35059	Si
SLV 1	-13459	-19208	-396	1.36	1938.8	0.924	21.39493	7.35059	Si
SLV 12	-17499	-24380	1296	1.064	2346.1	0.934	16.54747	5.33016	Si
SLV 11	-17485	-24292	1296	1.064	2344.7	0.934	16.55914	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.427	SLU 43	Si
V_SLU	9.307	SLU 41	Si
PF_SLV	5.096	SLV 3	Si
V_SLV	10.561	SLV 16	Si
PPFP_SLV	4.652	SLV 1	Si
R_SLV	2.144	SLV 16	Si

Maschio 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.758	6.661	-17.718	6.661	L6	L7	2.04	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 37	9.45	274.36	-13763	-0.0000397	0.0003743	0.0035	2.04	10715.93	11787.78	11787.78	42.97	No	Si
SLU 37	11.25	682.87	-11741	-0.0000372	0.0003743	0.0035	2.04	9557.93	10254.16	10254.16	15.02	No	Si
SLU 42	9.45	185.43	-13590	-0.0000385	0.0003743	0.0035	2.04	10622.61	11689.57	11689.57	63.04	No	Si
SLU 42	11.25	712.11	-11568	-0.000037	0.0003743	0.0035	2.04	9452.35	10117.63	10117.63	14.21	No	Si
SLU 41	9.45	220.48	-13613	-0.0000388	0.0003743	0.0035	2.04	10634.8	11702.31	11702.31	53.08	No	Si
SLU 41	11.25	699.16	-11591	-0.0000369	0.0003743	0.0035	2.04	9466.13	10135.34	10135.34	14.5	No	Si
SLU 39	9.45	203.11	-12986	-0.0000369	0.0003743	0.0035	2.04	10288.02	11253.56	11253.56	55.41	No	Si
SLU 39	11.25	660.56	-10964	-0.0000348	0.0003743	0.0035	2.04	9074.91	9643.92	9643.92	14.6	No	Si
SLU 36	9.45	255.62	-14072	-0.0000405	0.0003743	0.0035	2.04	10880.47	11964.56	11964.56	46.81	No	Si
SLU 36	11.25	704.16	-12050	-0.0000383	0.0003743	0.0035	2.04	9744.41	10500.71	10500.71	14.91	No	Si
SLU 33	9.45	238.25	-13446	-0.0000385	0.0003743	0.0035	2.04	10543.79	11602.36	11602.36	48.7	No	Si
SLU 33	11.25	665.56	-11424	-0.0000362	0.0003743	0.0035	2.04	9363.29	10003.85	10003.85	15.03	No	Si
SLU 31	9.45	181.2	-12472	-0.0000352	0.0003743	0.0035	2.04	9993.44	10839.25	10839.25	59.82	No	Si
SLU 31	11.25	627.25	-10450	-0.0000331	0.0003743	0.0035	2.04	8743.9	9245.76	9245.76	14.74	No	Si
SLU 40	9.45	168.06	-12964	-0.0000365	0.0003743	0.0035	2.04	10275.34	11235.4	11235.4	66.85	No	Si
SLU 40	11.25	673.51	-10942	-0.0000349	0.0003743	0.0035	2.04	9060.64	9626.43	9626.43	14.29	No	Si
SLU 38	9.45	239.31	-13741	-0.0000394	0.0003743	0.0035	2.04	10703.87	11775	11775	49.2	No	Si
SLU 38	11.25	695.82	-11718	-0.0000373	0.0003743	0.0035	2.04	9544.27	10236.39	10236.39	14.71	No	Si
SLU 34	9.45	198.57	-13099	-0.0000372	0.0003743	0.0035	2.04	10351.51	11344.94	11344.94	57.13	No	Si
SLU 34	11.25	665.85	-11077	-0.0000352	0.0003743	0.0035	2.04	9146.41	9731.99	9731.99	14.62	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	9.45	-3180.33	-9107	-0.000049	0.0005615	0.0035	2.04		9600.47	9600.47	3.02		Si
SLV 5	11.25	2317.19	-7062	-0.0000365	0.0005615	0.0035	2.04		6969.44	6969.44	3.01		Si
SLV 1	9.45	-3523.73	-12037	-0.0000601	0.0005615	0.0035	2.04		12060.56	12060.56	3.42		Si
SLV 1	11.25	3521.43	-9978	-0.0000542	0.0005615	0.0035	2.04		9501.21	9501.21	2.7		Si
SLV 15	9.45	3377.71	-9082	-0.0000506	0.0005615	0.0035	2.04		8748.65	8748.65	2.59		Si
SLV 15	11.25	-2082.02	-7157	-0.0000349	0.0005615	0.0035	2.04		7891.05	7891.05	3.79		Si
SLV 11	9.45	3295.46	-11816	-0.0000576	0.0005615	0.0035	2.04		10859.26	10859.26	3.3		Si
SLV 11	11.25	-1089.55	-9877	-0.0000346	0.0005615	0.0035	2.04		10265.98	10265.98	9.42		Si
SLV 6	9.45	-2642.2	-8703	-0.0000436	0.0005615	0.0035	2.04		9253.01	9253.01	3.5		Si
SLV 6	11.25	1880.79	-6658	-0.000032	0.0005615	0.0035	2.04		6605.99	6605.99	3.51		Si
SLV 16	9.45	4176.99	-8482	-0.0000584	0.0005615	0.0035	2.04		8226.69	8226.69	1.97		Si
SLV 16	11.25	-2730.19	-6557	-0.0000389	0.0005615	0.0035	2.04		7354.21	7354.21	2.69		Si
SLD 16	9.45	2766.2	-9116	-0.0000457	0.0005615	0.0035	2.04		8778.65	8778.65	3.17		Si
SLD 16	11.25	-1593.55	-7163	-0.0000311	0.0005615	0.0035	2.04		7896.53	7896.53	4.96		Si
SLV 2	9.45	-2724.45	-11437	-0.0000519	0.0005615	0.0035	2.04		11562.53	11562.53	4.24		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 2	11.25	2873.26	-9378	-0.0000473	0.0005615	0.0035	2.04		9003.12	9003.12	3.13		Si
SLV 12	9.45	3833.59	-11412	-0.0000607	0.0005615	0.0035	2.04		10560.14	10560.14	2.75		Si
SLV 12	11.25	-1525.94	-9473	-0.0000369	0.0005615	0.0035	2.04		9916.67	9916.67	6.5		Si
SLV 14	9.45	2724.68	-7297	-0.0000405	0.0005615	0.0035	2.04		7179.31	7179.31	2.63		Si
SLV 14	11.25	-2161.28	-5351	-0.0000309	0.0005615	0.0035	2.04		6252.91	6252.91	2.89		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	9.45	255.62	-14072	-11718	-233	2.04	2.04	-20515	9680	5529	38062	17104	5202	8294	Si	35.62	Si
SLU 36	11.25	704.16	-12050	-10034	-233	2.04	2.04	-17567	9287	5305	38062	17104	5202	7957	Si	34.17	Si
SLU 84	9.45	306.43	-15699	-13073	-225	2.04	2.04	-22886	9996	5710	38062	17104	5202	8565	Si	38.14	Si
SLU 84	11.25	748.69	-13097	-10906	-225	2.04	2.04	-19094	9490	5421	38062	17104	5202	8131	Si	36.21	Si
SLU 42	9.45	185.43	-13590	-11317	-276	2.04	2.04	-19812	9586	5476	38062	17104	5202	8213	Si	29.73	Si
SLU 42	11.25	712.11	-11568	-9633	-276	2.04	2.04	-16864	9193	5251	38062	17104	5202	7877	Si	28.51	Si
SLU 34	9.45	198.57	-13099	-10908	-243	2.04	2.04	-19096	9491	5421	38062	17104	5202	8132	Si	33.43	Si
SLU 34	11.25	665.85	-11077	-9224	-243	2.04	2.04	-16148	9098	5197	38062	17104	5202	7795	Si	32.05	Si
SLU 40	9.45	168.06	-12964	-10795	-264	2.04	2.04	-18899	9464	5406	38062	17104	5202	8109	Si	30.66	Si
SLU 40	11.25	673.51	-10942	-9111	-264	2.04	2.04	-15951	9071	5181	38062	17104	5202	7772	Si	29.39	Si
SLU 38	9.45	239.31	-13741	-11442	-237	2.04	2.04	-20031	9615	5492	38062	17104	5202	8238	Si	34.72	Si
SLU 38	11.25	695.82	-11718	-9758	-237	2.04	2.04	-17084	9222	5268	38062	17104	5202	7902	Si	33.3	Si
SLU 33	9.45	238.25	-13446	-11197	-221	2.04	2.04	-19602	9558	5460	38062	17104	5202	8189	Si	37.05	Si
SLU 33	11.25	665.56	-11424	-9513	-221	2.04	2.04	-16654	9165	5235	38062	17104	5202	7853	Si	35.53	Si
SLU 39	9.45	203.11	-12986	-10814	-238	2.04	2.04	-18932	9469	5408	38062	17104	5202	8113	Si	34.12	Si
SLU 39	11.25	660.56	-10964	-9130	-238	2.04	2.04	-15984	9076	5184	38062	17104	5202	7776	Si	32.7	Si
SLU 41	9.45	220.48	-13613	-11335	-250	2.04	2.04	-19845	9590	5478	38062	17104	5202	8217	Si	32.92	Si
SLU 41	11.25	699.16	-11591	-9652	-250	2.04	2.04	-16897	9197	5254	38062	17104	5202	7880	Si	31.57	Si
SLU 31	9.45	181.2	-12472	-10386	-231	2.04	2.04	-18183	9369	5351	38062	17104	5202	8027	Si	34.68	Si
SLU 31	11.25	627.25	-10450	-8702	-231	2.04	2.04	-15235	8976	5127	38062	17104	5202	7690	Si	33.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	9.45	-2724.45	-11437	-9524	-3236	2.04	2.04	-16673	13751	7855	38062	25656	5202	30858		9.54	Si
SLV 2	11.25	2873.26	-9378	-7809	-2916	2.04	2.04	-13671	13151	7512	38062	25656	5202	30858		10.58	Si
SLV 14	9.45	2724.68	-7297	-6076	2895	2.04	1.9398	-10637	12544	6813	38062	25656	5202	30858		10.66	Si
SLV 14	11.25	-2161.28	-5351	-4456	2572	2.04	1.8482	-8637	12144	6285	38062	25656	5202	30858		12	Si
SLV 1	9.45	-3523.73	-12037	-10023	-4040	2.04	2.04	-17548	13926	7955	38062	25656	5202	30858		7.64	Si
SLV 1	11.25	3521.43	-9978	-8309	-3720	2.04	2.0012	-14546	13326	7467	38062	25656	5202	30858		8.3	Si
SLV 15	9.45	3377.71	-9082	-7563	3192	2.04	1.9442	-13240	13065	7112	38062	25656	5202	30858		9.67	Si
SLV 15	11.25	-2082.02	-7157	-5960	2871	2.04	2.04	-10434	12504	7142	38062	25656	5202	30858		10.75	Si
SLV 12	9.45	3833.59	-11412	-9503	3003	2.04	2.04	-16637	13744	7851	38062	25656	5202	30858		10.28	Si
SLV 12	11.25	-1525.94	-9473	-7888	2911	2.04	2.04	-13810	13179	7528	38062	25656	5202	30858		10.6	Si
SLV 16	9.45	4176.99	-8482	-7063	3996	2.04	1.5826	-12365	12890	5712	38062	25656	5202	30858		7.72	Si
SLV 16	11.25	-2730.19	-6557	-5461	3676	2.04	1.811	-10823	12581	6380	38062	25656	5202	30858		8.4	Si
SLD 1	9.45	-2112.94	-11403	-9495	-2577	2.04	2.04	-16623	13741	7849	38062	25656	5202	30858		11.98	Si
SLD 1	11.25	2384.79	-9372	-7804	-2370	2.04	2.04	-13662	13149	7511	38062	25656	5202	30858		13.02	Si
SLV 3	9.45	-2071.41	-13222	-11010	-2939	2.04	2.04	-19276	14272	8152	38062	25656	5202	30858		10.5	Si
SLV 3	11.25	2952.52	-11184	-9313	-2616	2.04	2.04	-16305	13678	7813	38062	25656	5202	30858		11.79	Si
SLD 16	9.45	2766.2	-9116	-7591	2533	2.04	2.04	-13290	13075	7468	38062	25656	5202	30858		12.18	Si
SLD 16	11.25	-1593.55	-7163	-5965	2326	2.04	2.04	-10443	12505	7143	38062	25656	5202	30858		13.27	Si
SLV 5	9.45	-3180.33	-9107	-7584	-3047	2.04	2.0124	-13277	13072	7366	38062	25656	5202	30858		10.13	Si
SLV 5	11.25	2317.19	-7062	-5881	-2955	2.04	2.04	-10296	12476	7126	38062	25656	5202	30858		10.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.46	10897	-6224	249.08	809.24	3.25	Si
SLV 10	179667	0.46	11232	-6416	249.08	832.12	3.34	Si
SLV 9	179667	0.46	11939	-6819	249.08	880.08	3.53	Si
SLV 13	179667	0.46	11947	-6824	249.08	880.66	3.54	Si
SLV 16	179667	0.46	12909	-7374	249.08	945.07	3.79	Si
SLV 6	179667	0.46	13384	-7645	249.08	976.47	3.92	Si
SLV 15	179667	0.46	13960	-7974	249.08	1014.28	4.07	Si
SLV 5	179667	0.46	14091	-8049	249.08	1022.84	4.11	Si
SLV 12	179667	0.46	17939	-10247	249.08	1266.06	5.08	Si
SLV 2	179667	0.46	18070	-10322	249.08	1274.07	5.12	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 16	-7584	-4572	-246	1.243	1057.9	0.928	19.46018	7.35059	Si
SLV 15	-7562	-5866	-246	1.246	1055.7	0.928	19.50717	7.35059	Si
SLV 4	-7361	-14302	-290	1.267	1035.5	0.927	19.86784	7.35059	Si
SLV 3	-7339	-15596	-290	1.27	1033.3	0.927	19.91704	7.35059	Si
SLV 12	-9541	-8349	-885	0.979	1255.6	0.937	15.17407	5.33016	Si
SLV 11	-9526	-9221	-885	0.98	1254.1	0.937	15.19419	5.33016	Si
SLV 8	-9475	-11269	-898	0.983	1248.9	0.937	15.24649	5.33016	Si
SLV 7	-9460	-12140	-898	0.984	1247.4	0.937	15.26683	5.33016	Si
SLV 14	-5836	-4434	289	1.512	882.3	0.917	23.95913	7.35059	Si
SLV 13	-5814	-5728	289	1.517	880.1	0.917	24.03116	7.35059	Si



Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.208	SLU 42	Si
V_SLU	28.513	SLU 42	Si
PF_SLV	1.97	SLV 16	Si
V_SLV	7.638	SLV 1	Si
PFFP_SLV	3.249	SLV 14	Si
R_SLV	2.647	SLV 16	Si

Maschio 176

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.818	6.661	-12.838	6.661	L6	L7	3.98	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{f,d}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	9.45	-1815.23	-26677	-0.0000411	0.0003743	0.0035	3.98	40605.17	48627.53	48627.53	26.79	No	Si
SLU 39	11.25	2296.53	-23034	-0.0000368	0.0003743	0.0035	3.98	36531.3	39337.56	39337.56	17.13	No	Si
SLU 82	9.45	-2103.17	-31008	-0.0000483	0.0003743	0.0035	3.98	44842.13	54181.6	54181.6	25.76	No	Si
SLU 82	11.25	2601.77	-26333	-0.0000423	0.0003743	0.0035	3.98	40240.04	44033.51	44033.51	16.92	No	Si
SLU 40	9.45	-1872.95	-26553	-0.0000411	0.0003743	0.0035	3.98	40473.66	48462.11	48462.11	25.87	No	Si
SLU 40	11.25	2347.04	-22909	-0.0000367	0.0003743	0.0035	3.98	36383.88	39139.54	39139.54	16.68	No	Si
SLU 61	9.45	-1780.38	-26919	-0.0000414	0.0003743	0.0035	3.98	40859.29	48949.99	48949.99	27.49	No	Si
SLU 61	11.25	2175.3	-22338	-0.0000355	0.0003743	0.0035	3.98	35701.06	38234.35	38234.35	17.58	No	Si
SLU 81	9.45	-2045.45	-31133	-0.0000484	0.0003743	0.0035	3.98	44954.18	54335.02	54335.02	26.56	No	Si
SLU 81	11.25	2551.26	-26457	-0.0000424	0.0003743	0.0035	3.98	40372.51	44175.99	44175.99	17.32	No	Si
SLU 19	9.45	-1550.16	-22463	-0.0000343	0.0003743	0.0035	3.98	35851.66	42815.56	42815.56	27.62	No	Si
SLU 19	11.25	1920.57	-18915	-0.00003	0.0003743	0.0035	3.98	31365.19	32926.1	32926.1	17.14	No	Si
SLU 73	9.45	-2034.8	-30007	-0.0000466	0.0003743	0.0035	3.98	43920.86	52934.54	52934.54	26.01	No	Si
SLU 73	11.25	2475.37	-25331	-0.0000405	0.0003743	0.0035	3.98	39154.5	42827.24	42827.24	17.3	No	Si
SLU 31	9.45	-1804.58	-25551	-0.0000394	0.0003743	0.0035	3.98	39395.84	47141.99	47141.99	26.12	No	Si
SLU 31	11.25	2220.64	-21908	-0.0000349	0.0003743	0.0035	3.98	35178.05	37556.08	37556.08	16.91	No	Si
SLU 10	9.45	-1481.8	-21462	-0.0000327	0.0003743	0.0035	3.98	34630.17	41394.75	41394.75	27.94	No	Si
SLU 10	11.25	1794.17	-17913	-0.0000283	0.0003743	0.0035	3.98	30019.02	31410.84	31410.84	17.51	No	Si
SLU 18	9.45	-1492.45	-22588	-0.0000344	0.0003743	0.0035	3.98	36001.02	42989.26	42989.26	28.8	No	Si
SLU 18	11.25	1870.06	-19039	-0.00003	0.0003743	0.0035	3.98	31530.05	33115.58	33115.58	17.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	9.45	-9067.7	-20117	-0.000046	0.0005615	0.0035	3.98		40901.13	40901.13	4.51		Si
SLD 1	11.25	9681.6	-16506	-0.0000421	0.0005615	0.0035	3.98		31214.01	31214.01	3.22		Si
SLV 5	9.45	-8885.15	-13109	-0.0000357	0.0005615	0.0035	3.98		28973.9	28973.9	3.26		Si
SLV 5	11.25	9262.43	-9455	-0.0000334	0.0005615	0.0035	3.98		18779.3	18779.3	2.03		Si
SLV 1	9.45	-13512.36	-19359	-0.0000543	0.0005615	0.0035	3.98		39622.28	39622.28	2.93		Si
SLV 1	11.25	14302	-15722	-0.0000527	0.0005615	0.0035	3.98		29873.27	29873.27	2.09		Si
SLV 3	9.45	-11240.82	-24396	-0.0000568	0.0005615	0.0035	3.98		47764.15	47764.15	4.25		Si
SLV 3	11.25	12039.99	-20800	-0.0000532	0.0005615	0.0035	3.98		37767.05	37767.05	3.14		Si
SLV 14	9.45	8641.31	-18217	-0.0000424	0.0005615	0.0035	3.98		34002.23	34002.23	3.93		Si
SLV 14	11.25	-8909.89	-14662	-0.0000379	0.0005615	0.0035	3.98		31670.51	31670.51	3.55		Si
SLD 2	9.45	-7438.29	-20023	-0.0000425	0.0005615	0.0035	3.98		40742.35	40742.35	5.48		Si
SLD 2	11.25	8157.72	-16412	-0.0000388	0.0005615	0.0035	3.98		31054.49	31054.49	3.81		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 2	9.45	-10959.55	-19211	-0.0000487	0.0005615	0.0035	3.98		39374.81	39374.81	3.59		Si
SLV 2	11.25	11914.51	-15575	-0.0000458	0.0005615	0.0035	3.98		29618.68	29618.68	2.49		Si
SLD 5	9.45	-6065.95	-16263	-0.0000343	0.0005615	0.0035	3.98		34461.76	34461.76	5.68		Si
SLD 5	11.25	6394.17	-12639	-0.0000299	0.0005615	0.0035	3.98		24497.06	24497.06	3.83		Si
SLV 16	9.45	10912.85	-23255	-0.0000544	0.0005615	0.0035	3.98		41390.93	41390.93	3.79		Si
SLV 16	11.25	-11171.9	-19739	-0.0000499	0.0005615	0.0035	3.98		40263.66	40263.66	3.6		Si
SLV 6	9.45	-7166.42	-13010	-0.000032	0.0005615	0.0035	3.98		28803.01	28803.01	4.02		Si
SLV 6	11.25	7655.01	-9356	-0.0000284	0.0005615	0.0035	3.98		18597.99	18597.99	2.43		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 31	9.45	-1804.58	-25551	-21277	-2110	3.98	3.98	-19093	9490	13875	38062	33370	10149	20813	Si	9.86	Si
SLU 31	11.25	2220.64	-21908	-18243	-2110	3.98	3.98	-16370	9127	12661	38062	33370	10149	18992	Si	9	Si
SLU 42	9.45	-1950.52	-27864	-23203	-2238	3.98	3.98	-20821	9721	14645	38062	33370	10149	21968	Si	9.82	Si
SLU 42	11.25	2304.37	-24220	-20168	-2238	3.98	3.98	-18098	9358	13432	38062	33370	10149	20148	Si	9	Si
SLU 83	9.45	-2123.03	-32444	-27017	-2408	3.98	3.98	-24243	10177	16171	38062	33370	10149	24256	Si	10.08	Si
SLU 83	11.25	2508.59	-27768	-23123	-2408	3.98	3.98	-20749	9711	14614	38062	33370	10149	21920	Si	9.1	Si
SLU 81	9.45	-2045.45	-31133	-25925	-2388	3.98	3.98	-23263	10046	15734	38062	33370	10149	23601	Si	9.88	Si
SLU 81	11.25	2551.26	-26457	-22031	-2388	3.98	3.98	-19770	9580	14177	38062	33370	10149	21265	Si	8.9	Si
SLU 76	9.45	-2112.38	-31318	-26079	-2359	3.98	3.98	-23402	10065	15796	38062	33370	10149	23694	Si	10.04	Si
SLU 76	11.25	2432.7	-26642	-22185	-2359	3.98	3.98	-19908	9599	14238	38062	33370	10149	21358	Si	9.05	Si
SLU 82	9.45	-2103.17	-31008	-25821	-2448	3.98	3.98	-23170	10034	15693	38062	33370	10149	23539	Si	9.61	Si
SLU 82	11.25	2601.77	-26333	-21928	-2448	3.98	3.98	-19677	9568	14135	38062	33370	10149	21203	Si	8.66	Si
SLU 84	9.45	-2180.74	-32319	-26913	-2468	3.98	3.98	-24150	10164	16129	38062	33370	10149	24194	Si	9.8	Si
SLU 84	11.25	2559.1	-27644	-23019	-2468	3.98	3.98	-20656	9699	14572	38062	33370	10149	21858	Si	8.86	Si
SLU 73	9.45	-2034.8	-30007	-24987	-2340	3.98	3.98	-22422	9934	15359	38062	33370	10149	23039	Si	9.85	Si
SLU 73	11.25	2475.37	-25331	-21094	-2340	3.98	3.98	-18928	9468	13802	38062	33370	10149	20703	Si	8.85	Si
SLU 40	9.45	-1872.95	-26553	-22111	-2219	3.98	3.98	-19841	9590	14209	38062	33370	10149	21313	Si	9.61	Si
SLU 40	11.25	2347.04	-22909	-19077	-2219	3.98	3.98	-17118	9227	12995	38062	33370	10149	19493	Si	8.79	Si
SLU 39	9.45	-1815.23	-26677	-22214	-2158	3.98	3.98	-19934	9602	14250	38062	33370	10149	21375	Si	9.9	Si
SLU 39	11.25	2296.53	-23034	-19180	-2158	3.98	3.98	-17211	9239	13037	38062	33370	10149	19555	Si	9.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	9.45	10912.85	-23255	-19365	12771	3.98	3.98	-17377	13892	15793	38062	50055	10149	53855		4.22	Si
SLV 16	11.25	-11171.9	-19739	-16437	12019	3.98	3.98	-14750	13367	14896	38062	50055	10149	52958		4.41	Si
SLV 5	9.45	-8885.15	-13109	-10916	-10075	3.98	3.9366	-9795	12376	13641	38062	50055	10149	51703		5.13	Si
SLV 5	11.25	9262.43	-9455	-7873	-9851	3.98	3.0311	-7065	11830	11196	38062	50055	10149	49258		5	Si
SLD 3	9.45	-7655.22	-23219	-19334	-8964	3.98	3.98	-17350	13887	15781	38062	50055	10149	53843		6.01	Si
SLD 3	11.25	8284.05	-19632	-16348	-8480	3.98	3.98	-14669	13351	14878	38062	50055	10149	52940		6.24	Si
SLD 1	9.45	-9067.7	-20117	-16752	-10530	3.98	3.98	-15032	13423	14959	38062	50055	10149	53021		5.04	Si
SLD 1	11.25	9681.6	-16506	-13745	-10046	3.98	3.98	-12334	12883	14357	38062	50055	10149	52419		5.22	Si
SLV 3	9.45	-11240.82	-24396	-20315	-13174	3.98	3.98	-18230	14063	16173	38062	50055	10149	54235		4.12	Si
SLV 3	11.25	12039.99	-20800	-17320	-12421	3.98	3.98	-15542	13525	15072	38062	50055	10149	53134		4.28	Si
SLV 1	9.45	-13512.36	-19359	-16120	-15699	3.98	3.876	-14959	13408	14552	38062	50055	10149	52614		3.35	Si
SLV 1	11.25	14302	-15722	-13092	-14946	3.98	3.241	-11748	12766	13284	38062	50055	10149	51346		3.44	Si
SLV 15	9.45	8360.04	-23402	-19487	10027	3.98	3.98	-17487	13914	15842	38062	50055	10149	53904		5.38	Si
SLV 15	11.25	-8784.41	-19887	-16560	9275	3.98	3.98	-14860	13389	14920	38062	50055	10149	52982		5.71	Si
SLV 2	9.45	-10959.55	-19211	-15998	-12954	3.98	3.98	-14355	13288	14808	38062	50055	10149	52870		4.08	Si
SLV 2	11.25	11914.51	-15575	-12970	-12202	3.98	3.6751	-11638	12744	13235	38062	50055	10149	51297		4.2	Si
SLV 4	9.45	-8688	-24249	-20193	-10429	3.98	3.98	-18120	14041	16124	38062	50055	10149	54186		5.2	Si
SLV 4	11.25	9652.51	-20653	-17198	-9676	3.98	3.98	-15432	13503	15048	38062	50055	10149	53110		5.49	Si
SLV 14	9.45	8641.31	-18217	-15170	10247	3.98	3.98	-13612	13139	14642	38062	50055	10149	52704		5.14	Si
SLV 14	11.25	-8909.89	-14662	-12209	9494	3.98	3.98	-10956	12608	14050	38062	50055	10149	52112		5.49	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.46	9632	-10734	485.96	1408.02	2.9	Si
SLV 9	179667	0.46	9721	-10833	485.96	1420.14	2.92	Si
SLV 6	179667	0.46	9906	-11039	485.96	1445.23	2.97	Si
SLV 5	179667	0.46	9995	-11138	485.96	1457.3	3	Si
SLV 14	179667	0.46	14674	-16352	485.96	2069.34	4.26	Si
SLV 13	179667	0.46	14806	-16499	485.96	2085.98	4.29	Si
SLV 2	179667	0.46	15585	-17368	485.96	2183.39	4.49	Si
SLV 1	179667	0.46	15717	-17515	485.96	2199.78	4.53	Si
SLV 16	179667	0.46	19287	-21493	485.96	2629	5.41	Si
SLV 15	179667	0.46	19419	-21640	485.96	2644.39	5.44	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 15	-15013	-22827	-199	1.244	2085.8	0.929	19.4639	7.35059	Si
SLV 16	-14985	-22482	-199	1.246	2083.1	0.929	19.49341	7.35059	Si
SLV 3	-14030	-26482	-222	1.31	1986.8	0.926	20.56101	7.35059	Si
SLV 4	-14002	-26137	-222	1.312	1984	0.926	20.59401	7.35059	Si
SLV 11	-19659	-29449	-691	0.981	2555.4	0.94	15.17567	5.33016	Si
SLV 12	-19640	-29216	-691	0.982	2553.5	0.94	15.1879	5.33016	Si
SLV 7	-19364	-30545	-698	0.993	2525.5	0.939	15.36852	5.33016	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-19345	-30313	-698	0.994	2523.6	0.939	15.38107	5.33016	Si
SLV 13	-10731	-18199	215	1.604	1655.8	0.915	25.48355	7.35059	Si
SLV 14	-10704	-17854	215	1.607	1653.1	0.915	25.53398	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.676	SLU 40	Si
V_SLU	8.66	SLU 82	Si
PF_SLV	2.027	SLV 5	Si
V_SLV	3.352	SLV 1	Si
PFFP_SLV	2.897	SLV 10	Si
R_SLV	2.648	SLV 15	Si

Maschio 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.938	6.661	-7.958	6.661	L6	L7	3.98	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 43	9.45	-2917.97	-23504	-0.0000388	0.0003743	0.0035	3.98	37084.04	44277.82	44277.82	15.17	No	Si
SLU 43	11.25	2388.95	-18864	-0.0000309	0.0003743	0.0035	3.98	31297.29	32848.32	32848.32	13.75	No	Si
SLU 73	9.45	-3488.87	-30043	-0.0000499	0.0003743	0.0035	3.98	43955.03	52979.94	52979.94	15.19	No	Si
SLU 73	11.25	3080.11	-25288	-0.0000418	0.0003743	0.0035	3.98	39107.2	42771.68	42771.68	13.89	No	Si
SLU 18	9.45	-2664.03	-22669	-0.000037	0.0003743	0.0035	3.98	36097.72	43102.22	43102.22	16.18	No	Si
SLU 18	11.25	2401.44	-19063	-0.0000312	0.0003743	0.0035	3.98	31560.9	33151.13	33151.13	13.8	No	Si
SLU 19	9.45	-2615.95	-22569	-0.0000368	0.0003743	0.0035	3.98	35978.37	42962.86	42962.86	16.42	No	Si
SLU 19	11.25	2385.02	-18963	-0.000031	0.0003743	0.0035	3.98	31429.43	32999.83	32999.83	13.84	No	Si
SLU 44	9.45	-2837.85	-23338	-0.0000384	0.0003743	0.0035	3.98	36889.81	44042.86	44042.86	15.52	No	Si
SLU 44	11.25	2361.58	-18698	-0.0000306	0.0003743	0.0035	3.98	31076.84	32596.79	32596.79	13.8	No	Si
SLU 60	9.45	-3221.8	-26963	-0.0000446	0.0003743	0.0035	3.98	40905.05	49008.46	49008.46	15.21	No	Si
SLU 60	11.25	2847.97	-22315	-0.0000369	0.0003743	0.0035	3.98	35672.47	38196.97	38196.97	13.41	No	Si
SLU 61	9.45	-3173.72	-26863	-0.0000444	0.0003743	0.0035	3.98	40800.73	48875.35	48875.35	15.4	No	Si
SLU 61	11.25	2831.55	-22215	-0.0000367	0.0003743	0.0035	3.98	35552.34	38040.33	38040.33	13.43	No	Si
SLU 81	9.45	-3660.14	-31247	-0.0000521	0.0003743	0.0035	3.98	45056.48	54475.47	54475.47	14.88	No	Si
SLU 81	11.25	3245.19	-26489	-0.0000439	0.0003743	0.0035	3.98	40406.44	44212.62	44212.62	13.62	No	Si
SLU 82	9.45	-3612.07	-31147	-0.0000519	0.0003743	0.0035	3.98	44967.15	54352.8	54352.8	15.05	No	Si
SLU 82	11.25	3228.77	-26390	-0.0000438	0.0003743	0.0035	3.98	40300.87	44098.84	44098.84	13.66	No	Si
SLU 52	9.45	-3050.53	-25759	-0.0000424	0.0003743	0.0035	3.98	39622.69	47414.7	47414.7	15.54	No	Si
SLU 52	11.25	2682.9	-21114	-0.0000348	0.0003743	0.0035	3.98	34197.36	36313.88	36313.88	13.54	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 1	9.45	-9695.88	-18459	-0.0000449	0.0005615	0.0035	3.98		38114.64	38114.64	3.93		Si
SLD 1	11.25	10197.68	-14877	-0.0000409	0.0005615	0.0035	3.98		28413.66	28413.66	2.79		Si
SLV 14	9.45	10197.97	-21586	-0.0000505	0.0005615	0.0035	3.98		38922.33	38922.33	3.82		Si
SLV 14	11.25	-10815.78	-17851	-0.0000464	0.0005615	0.0035	3.98		37099.1	37099.1	3.43		Si
SLV 4	9.45	-12651.9	-21045	-0.0000549	0.0005615	0.0035	3.98		42404.63	42404.63	3.35		Si
SLV 4	11.25	12322.89	-17499	-0.0000491	0.0005615	0.0035	3.98		32895.76	32895.76	2.67		Si
SLV 3	9.45	-15290.39	-20666	-0.0000602	0.0005615	0.0035	3.98		41806.69	41806.69	2.73		Si
SLV 3	11.25	15111.21	-17138	-0.0000561	0.0005615	0.0035	3.98		32287.83	32287.83	2.14		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 1	9.45	-13710.69	-16886	-0.0000518	0.00005615	0.0035	3.98		35500.63	35500.63	2.59		Si
SLV 1	11.25	14721.23	-13329	-0.0000546	0.00005615	0.0035	3.98		25711.81	25711.81	1.75		Si
SLD 3	9.45	-10660	-20796	-0.0000503	0.00005615	0.0035	3.98		42011.1	42011.1	3.94		Si
SLD 3	11.25	10431.98	-17229	-0.0000447	0.00005615	0.0035	3.98		32442.48	32442.48	3.11		Si
SLD 4	9.45	-8975.91	-21038	-0.0000472	0.00005615	0.0035	3.98		42392.91	42392.91	4.72		Si
SLD 4	11.25	8652.26	-17459	-0.0000414	0.00005615	0.0035	3.98		32829.86	32829.86	3.79		Si
SLV 5	9.45	-3992.11	-14050	-0.000027	0.00005615	0.0035	3.98		30603.99	30603.99	7.67		Si
SLV 5	11.25	5848.7	-10400	-0.0000257	0.00005615	0.0035	3.98		20491.98	20491.98	3.5		Si
SLV 2	9.45	-11072.2	-17265	-0.0000461	0.00005615	0.0035	3.98		36127.14	36127.14	3.26		Si
SLV 2	11.25	11932.92	-13690	-0.000044	0.00005615	0.0035	3.98		26343.82	26343.82	2.21		Si
SLD 2	9.45	-8011.78	-18701	-0.0000418	0.00005615	0.0035	3.98		38519.3	38519.3	4.81		Si
SLD 2	11.25	8417.96	-15107	-0.0000375	0.00005615	0.0035	3.98		28810.91	28810.91	3.42		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	9.45	-3660.14	-31247	-26020	-3743	3.98	3.98	-23349	10058	15772	38062	33370	10149	23658	Si	6.32	Si
SLU 81	11.25	3245.19	-26489	-22058	-3738	3.98	3.98	-19794	9584	14188	38062	33370	10149	21281	Si	5.69	Si
SLU 61	9.45	-3173.72	-26863	-22369	-3251	3.98	3.98	-20073	9621	14312	38062	33370	10149	21468	Si	6.6	Si
SLU 61	11.25	2831.55	-22215	-18499	-3247	3.98	3.98	-16600	9158	12764	38062	33370	10149	19146	Si	5.9	Si
SLU 60	9.45	-3221.8	-26963	-22452	-3287	3.98	3.98	-20148	9631	14345	38062	33370	10149	21518	Si	6.55	Si
SLU 60	11.25	2847.97	-22315	-18582	-3282	3.98	3.98	-16674	9168	12797	38062	33370	10149	19196	Si	5.85	Si
SLU 84	9.45	-3796.07	-32124	-26750	-3695	3.98	3.98	-24004	10145	16064	38062	33370	10149	24096	Si	6.52	Si
SLU 84	11.25	3028.29	-27363	-22786	-3692	3.98	3.98	-20447	9671	14479	38062	33370	10149	21718	Si	5.88	Si
SLU 64	9.45	-3356.32	-27789	-23140	-3325	3.98	3.98	-20764	9713	14620	38062	33370	10149	21930	Si	6.6	Si
SLU 64	11.25	2786.17	-23038	-19184	-3322	3.98	3.98	-17215	9240	13038	38062	33370	10149	19557	Si	5.89	Si
SLU 83	9.45	-3844.14	-32224	-26833	-3731	3.98	3.98	-24079	10155	16098	38062	33370	10149	24146	Si	6.47	Si
SLU 83	11.25	3044.71	-27463	-22869	-3727	3.98	3.98	-20521	9681	14512	38062	33370	10149	21768	Si	5.84	Si
SLU 82	9.45	-3612.07	-31147	-25937	-3707	3.98	3.98	-23274	10048	15739	38062	33370	10149	23608	Si	6.37	Si
SLU 82	11.25	3228.77	-26390	-21975	-3703	3.98	3.98	-19719	9574	14154	38062	33370	10149	21232	Si	5.73	Si
SLU 75	9.45	-3713.58	-31911	-26573	-3624	3.98	3.98	-23845	10124	15993	38062	33370	10149	23990	Si	6.62	Si
SLU 75	11.25	2982.77	-27150	-22608	-3621	3.98	3.98	-20288	9649	14408	38062	33370	10149	21612	Si	5.97	Si
SLU 74	9.45	-3761.65	-32011	-26656	-3660	3.98	3.98	-23919	10134	16027	38062	33370	10149	24040	Si	6.57	Si
SLU 74	11.25	2999.19	-27250	-22691	-3657	3.98	3.98	-20362	9659	14441	38062	33370	10149	21661	Si	5.92	Si
SLU 73	9.45	-3488.87	-30043	-25017	-3558	3.98	3.98	-22449	9938	15371	38062	33370	10149	23057	Si	6.48	Si
SLU 73	11.25	3080.11	-25288	-21058	-3554	3.98	3.98	-18896	9464	13788	38062	33370	10149	20681	Si	5.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	9.45	-10660	-20796	-17317	-11943	3.98	3.98	-15539	13525	15072	38062	50055	10149	53134		4.45	Si
SLD 3	11.25	10431.98	-17229	-14347	-11404	3.98	3.98	-12874	12991	14478	38062	50055	10149	52540		4.61	Si
SLD 1	9.45	-9695.88	-18459	-15371	-11344	3.98	3.98	-13793	13175	14683	38062	50055	10149	52745		4.65	Si
SLD 1	11.25	10197.68	-14877	-12388	-10785	3.98	3.9136	-11116	12640	13851	38062	50055	10149	51913		4.81	Si
SLV 3	9.45	-15290.39	-20666	-17209	-17274	3.98	3.7504	-16514	13719	14930	38062	50055	10149	52992		3.07	Si
SLV 3	11.25	15111.21	-17138	-14271	-16440	3.98	3.3248	-12806	12978	13755	38062	50055	10149	51817		3.15	Si
SLV 14	9.45	10197.97	-21586	-17975	12192	3.98	3.98	-16129	13643	15237	38062	50055	10149	53299		4.37	Si
SLV 14	11.25	-10815.78	-17851	-14865	11363	3.98	3.98	-13339	13084	14581	38062	50055	10149	52643		4.63	Si
SLD 2	9.45	-8011.78	-18701	-15573	-9409	3.98	3.98	-13974	13212	14723	38062	50055	10149	52785		5.61	Si
SLD 2	11.25	8417.96	-15107	-12580	-8863	3.98	3.98	-11289	12674	14124	38062	50055	10149	52186		5.89	Si
SLV 1	9.45	-13710.69	-16886	-14061	-16296	3.98	3.5341	-14308	13278	13671	38062	50055	10149	51733		3.17	Si
SLV 1	11.25	14721.23	-13329	-11099	-15429	3.98	2.6566	-9960	12409	12486	38062	50055	10149	50549		3.28	Si
SLV 2	9.45	-11072.2	-17265	-14377	-13265	3.98	3.98	-12901	12997	14484	38062	50055	10149	52546		3.96	Si
SLV 2	11.25	11932.92	-13690	-11400	-12417	3.98	3.355	-10229	12463	12607	38062	50055	10149	50669		4.08	Si
SLD 4	9.45	-8975.91	-21038	-17518	-10008	3.98	3.98	-15720	13561	15112	38062	50055	10149	53174		5.31	Si
SLD 4	11.25	8652.26	-17459	-14539	-9482	3.98	3.98	-13046	13026	14516	38062	50055	10149	52578		5.55	Si
SLV 4	9.45	-12651.9	-21045	-17525	-14243	3.98	3.98	-15726	13562	15113	38062	50055	10149	53175		3.73	Si
SLV 4	11.25	12322.89	-17499	-14572	-13429	3.98	3.8574	-13076	13032	14075	38062	50055	10149	52137		3.88	Si
SLV 16	9.45	8618.28	-25366	-21123	11214	3.98	3.98	-18954	14208	16496	38062	50055	10149	54558		4.87	Si
SLV 16	11.25	-10425.81	-21660	-18037	10352	3.98	3.98	-16185	13654	15261	38062	50055	10149	53323		5.15	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.46	11043	-12307	485.96	1598.34	3.29	Si
SLV 6	179667	0.46	11272	-12562	485.96	1628.83	3.35	Si
SLV 9	179667	0.46	12213	-13610	485.96	1753	3.61	Si
SLV 10	179667	0.46	12442	-13865	485.96	1782.95	3.67	Si
SLV 1	179667	0.46	13627	-15186	485.96	1936.28	3.98	Si
SLV 2	179667	0.46	13967	-15564	485.96	1979.74	4.07	Si
SLV 3	179667	0.46	17058	-19009	485.96	2364.06	4.86	Si
SLV 4	179667	0.46	17398	-19388	485.96	2405.14	4.95	Si
SLV 13	179667	0.46	17525	-19530	485.96	2420.38	4.98	Si
SLV 14	179667	0.46	17865	-19908	485.96	2461.14	5.06	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 16	-16768	-25533	-396	1.13	2263	0.933	17.59567	7.35059	Si
SLV 15	-16473	-25118	-396	1.146	2233.1	0.932	17.86057	7.35059	Si
SLV 14	-14564	-20726	445	1.26	2040.6	0.927	19.74573	7.35059	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-14268	-20311	445	1.28	2010.8	0.927	20.08174	7.35059	Si
SLV 4	-13588	-20511	-439	1.33	1942.3	0.925	20.90703	7.35059	Si
SLV 3	-13292	-20096	-439	1.353	1912.6	0.924	21.2845	7.35059	Si
SLV 12	-18179	-29316	-1391	1.013	2405.6	0.936	15.72191	5.33016	Si
SLV 11	-17980	-29037	-1391	1.022	2385.5	0.936	15.86925	5.33016	Si
SLV 8	-17224	-27810	-1404	1.057	2309.1	0.934	16.4454	5.33016	Si
SLV 7	-17025	-27530	-1404	1.067	2289	0.934	16.60711	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.412	SLU 60	Si
V_SLU	5.692	SLU 81	Si
PF_SLV	1.747	SLV 1	Si
V_SLV	3.068	SLV 3	Si
PFFP_SLV	3.289	SLV 5	Si
R_SLV	2.394	SLV 16	Si

Maschio 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.058	6.661	-5.018	6.661	L6	L7	2.04	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_{+}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 71	9.45	-786.57	-13319	-0.0000426	0.0003743	0.0035	2.04	10474.21	12425.83	12425.83	15.8	No	Si
SLU 71	11.25	-297.77	-10802	-0.0000314	0.0003743	0.0035	2.04	8971.38	10613.15	10613.15	35.64	No	Si
SLU 51	9.45	-753.4	-11219	-0.0000363	0.0003743	0.0035	2.04	9235.51	10920.45	10920.45	14.49	No	Si
SLU 51	11.25	-194.7	-8752	-0.0000248	0.0003743	0.0035	2.04	7583.21	9017.74	9017.74	46.32	No	Si
SLU 43	9.45	-675.59	-11055	-0.0000352	0.0003743	0.0035	2.04	9132.37	10801.56	10801.56	15.99	No	Si
SLU 43	11.25	-170.38	-8588	-0.0000242	0.0003743	0.0035	2.04	7465.89	8883.69	8883.69	52.14	No	Si
SLU 49	9.45	-763.47	-11702	-0.0000378	0.0003743	0.0035	2.04	9534.33	11275.01	11275.01	14.77	No	Si
SLU 49	11.25	-211.57	-9235	-0.0000263	0.0003743	0.0035	2.04	7923.87	9406.35	9406.35	44.46	No	Si
SLU 48	9.45	-811	-11682	-0.0000381	0.0003743	0.0035	2.04	9522.28	11260.39	11260.39	13.88	No	Si
SLU 48	11.25	-191.7	-9215	-0.0000261	0.0003743	0.0035	2.04	7910.12	9390.72	9390.72	48.99	No	Si
SLU 9	9.45	-593.7	-9227	-0.0000294	0.0003743	0.0035	2.04	7918.13	9399.83	9399.83	15.83	No	Si
SLU 9	11.25	-187.8	-7316	-0.0000208	0.0003743	0.0035	2.04	6523.32	7845.62	7845.62	41.78	No	Si
SLU 8	9.45	-641.23	-9207	-0.0000297	0.0003743	0.0035	2.04	7904.37	9384.18	9384.18	14.63	No	Si
SLU 8	11.25	-167.93	-7296	-0.0000206	0.0003743	0.0035	2.04	6508.23	7828.64	7828.64	46.62	No	Si
SLU 45	9.45	-748.33	-11610	-0.0000374	0.0003743	0.0035	2.04	9478.22	11207.14	11207.14	14.98	No	Si
SLU 45	11.25	-189.48	-9143	-0.0000259	0.0003743	0.0035	2.04	7859.82	9333.51	9333.51	49.26	No	Si
SLU 6	9.45	-651.31	-9691	-0.0000311	0.0003743	0.0035	2.04	8237.31	9756.97	9756.97	14.98	No	Si
SLU 6	11.25	-184.8	-7779	-0.0000221	0.0003743	0.0035	2.04	6873.58	8231.63	8231.63	44.54	No	Si
SLU 50	9.45	-800.93	-11199	-0.0000366	0.0003743	0.0035	2.04	9223.12	10906.09	10906.09	13.62	No	Si
SLU 50	11.25	-174.83	-8732	-0.0000246	0.0003743	0.0035	2.04	7569.11	9001.6	9001.6	51.49	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_{+}	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 7	9.45	-4560.22	-8026	-0.0000649	0.0005615	0.0035	2.04		8669.63	8669.63	1.9		Si
SLV 7	11.25	2026.25	-6236	-0.000032	0.0005615	0.0035	2.04		6223.26	6223.26	3.07		Si
SLV 8	9.45	-3932.54	-8651	-0.0000555	0.0005615	0.0035	2.04		9208.5	9208.5	2.34		Si
SLV 8	11.25	1554.37	-6861	-0.00003	0.0005615	0.0035	2.04		6788.97	6788.97	4.37		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 3	9.45	-3486.62	-7354	-0.0000486	0.0005615	0.0035	2.04		8067.89	8067.89	2.31		Si
SLD 3	11.25	2130.69	-5518	-0.000031	0.0005615	0.0035	2.04		5564.47	5564.47	2.61		Si
SLD 4	9.45	-2891.55	-7947	-0.0000435	0.0005615	0.0035	2.04		8599.79	8599.79	2.97		Si
SLD 4	11.25	1683.32	-6111	-0.000029	0.0005615	0.0035	2.04		6109.28	6109.28	3.63		Si
SLV 3	9.45	-5219.8	-5802	-0.0001732	0.0005615	0.0035	1.632		6673.05	6673.05	1.28		Si
SLV 3	11.25	3485.11	-4030	-0.0000972	0.0005615	0.0035	2.04		4173.4	4173.4	1.2		Si
SLV 2	9.45	-2647.79	-7119	-0.0000393	0.0005615	0.0035	2.04		7856.22	7856.22	2.97		Si
SLV 2	11.25	2115.33	-5287	-0.0000303	0.0005615	0.0035	2.04		5351.68	5351.68	2.53		Si
SLV 10	9.45	3607.69	-12106	-0.0000609	0.0005615	0.0035	2.04		11074.82	11074.82	3.07		Si
SLV 10	11.25	-2496.45	-10045	-0.0000462	0.0005615	0.0035	2.04		10410.12	10410.12	4.17		Si
SLV 14	9.45	4267.26	-14330	-0.0000728	0.0005615	0.0035	2.04		12747.76	12747.76	2.99		Si
SLV 14	11.25	-3955.31	-12251	-0.0000642	0.0005615	0.0035	2.04		12236.16	12236.16	3.09		Si
SLV 4	9.45	-4287.5	-6731	-0.0000641	0.0005615	0.0035	1.632		7509.28	7509.28	1.75		Si
SLV 4	11.25	2784.22	-4959	-0.0000387	0.0005615	0.0035	2.04		5046.46	5046.46	1.81		Si
SLV 1	9.45	-3580.08	-6189	-0.0000506	0.0005615	0.0035	1.632		7026.88	7026.88	1.96		Si
SLV 1	11.25	2816.22	-4358	-0.0000418	0.0005615	0.0035	2.04		4483.04	4483.04	1.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 49	9.45	-763.47	-11702	-9745	-315	2.04	2.04	-17060	9219	5266	38062	17104	5202	7899	Si	25.04	Si
SLU 49	11.25	-211.57	-9235	-7690	-315	2.04	2.04	-13463	8740	4992	38062	17104	5202	7488	Si	23.74	Si
SLU 50	9.45	-800.93	-11199	-9325	-357	2.04	2.04	-16326	9121	5210	38062	17104	5202	7815	Si	21.91	Si
SLU 50	11.25	-174.83	-8732	-7271	-357	2.04	2.04	-12729	8642	4936	38062	17104	5202	7404	Si	20.76	Si
SLU 51	9.45	-753.4	-11219	-9342	-319	2.04	2.04	-16355	9125	5212	38062	17104	5202	7818	Si	24.49	Si
SLU 51	11.25	-194.7	-8752	-7288	-319	2.04	2.04	-12758	8646	4938	38062	17104	5202	7408	Si	23.21	Si
SLU 46	9.45	-700.8	-11630	-9685	-282	2.04	2.04	-16955	9205	5258	38062	17104	5202	7887	Si	27.98	Si
SLU 46	11.25	-209.35	-9163	-7630	-282	2.04	2.04	-13358	8726	4984	38062	17104	5202	7476	Si	26.53	Si
SLU 8	9.45	-641.23	-9207	-7667	-270	2.04	2.04	-13422	8734	4989	38062	17104	5202	7483	Si	27.75	Si
SLU 8	11.25	-167.93	-7296	-6075	-270	2.04	2.04	-10636	8363	4777	38062	17104	5202	7165	Si	26.57	Si
SLU 45	9.45	-748.33	-11610	-9668	-319	2.04	2.04	-16926	9201	5256	38062	17104	5202	7884	Si	24.69	Si
SLU 45	11.25	-189.48	-9143	-7614	-319	2.04	2.04	-13329	8722	4982	38062	17104	5202	7473	Si	23.4	Si
SLU 6	9.45	-651.31	-9691	-8069	-266	2.04	2.04	-14127	8828	5043	38062	17104	5202	7564	Si	28.44	Si
SLU 6	11.25	-184.8	-7779	-6478	-266	2.04	2.04	-11341	8457	4830	38062	17104	5202	7246	Si	27.25	Si
SLU 48	9.45	-811	-11682	-9728	-353	2.04	2.04	-17031	9215	5264	38062	17104	5202	7896	Si	22.38	Si
SLU 48	11.25	-191.7	-9215	-7674	-353	2.04	2.04	-13434	8736	4990	38062	17104	5202	7485	Si	21.21	Si
SLU 71	9.45	-786.57	-13319	-11091	-280	2.04	2.04	-19418	9533	5446	38062	17104	5202	8168	Si	29.14	Si
SLU 71	11.25	-297.77	-10802	-8995	-280	2.04	2.04	-15747	9044	5166	38062	17104	5202	7749	Si	27.65	Si
SLU 43	9.45	-675.59	-11055	-9205	-289	2.04	2.04	-16116	9093	5194	38062	17104	5202	7791	Si	26.91	Si
SLU 43	11.25	-170.38	-8588	-7151	-289	2.04	2.04	-12519	8614	4920	38062	17104	5202	7380	Si	25.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	9.45	3334.97	-13400	-11159	3766	2.04	2.04	-19535	14324	8182	38062	25656	5202	30858		8.19	Si
SLV 13	11.25	-3254.42	-11322	-9428	3392	2.04	2.04	-16505	13718	7836	38062	25656	5202	30858		9.1	Si
SLD 3	9.45	-3486.62	-7354	-6124	-3203	2.04	1.6377	-13438	13104	6009	38062	25656	5202	30858		9.63	Si
SLD 3	11.25	2130.69	-5518	-4595	-2962	2.04	1.9016	-8045	12026	6403	38062	25656	5202	30858		10.42	Si
SLV 3	9.45	-5219.8	-5802	-4831	-4954	1.632	0.3611	0	0	0	38062	20525	4162	24687		4.98	Si
SLV 3	11.25	3485.11	-4030	-3356	-4581	2.04	0.4655	-26077	15634	3645	38062	25656	5202	30858		6.74	Si
SLV 10	9.45	3607.69	-12106	-10081	3403	2.04	2.04	-17648	13946	7966	38062	25656	5202	30858		9.07	Si
SLV 10	11.25	-2496.45	-10045	-8365	3286	2.04	2.04	-14644	13345	7623	38062	25656	5202	30858		9.39	Si
SLV 7	9.45	-4560.22	-8026	-6683	-3684	2.04	1.3554	-17757	13969	5301	38062	25656	5202	30858		8.38	Si
SLV 7	11.25	2026.25	-6236	-5192	-3568	2.04	2.04	-9090	12235	6988	38062	25656	5202	30858		8.65	Si
SLV 16	9.45	2627.55	-13942	-11610	3401	2.04	2.04	-20325	14482	8272	38062	25656	5202	30858		9.07	Si
SLV 16	11.25	-3286.42	-11922	-9928	3030	2.04	2.04	-17381	13893	7936	38062	25656	5202	30858		10.19	Si
SLV 4	9.45	-4287.5	-6731	-5605	-4047	1.632	1.1491	0	0	0	38062	20525	4162	24687		6.1	Si
SLV 4	11.25	2784.22	-4959	-4129	-3673	2.04	1.3756	-7229	11863	4569	38062	25656	5202	30858		8.4	Si
SLV 1	9.45	-3580.08	-6189	-5154	-3682	1.632	1.3247	0	0	0	38062	20525	4162	24687		6.7	Si
SLV 1	11.25	2816.22	-4358	-3629	-3311	2.04	1.1214	-6353	11687	3717	38062	25656	5202	30858		9.32	Si
SLV 14	9.45	4267.26	-14330	-11932	4673	2.04	2.04	-20890	14595	8336	38062	25656	5202	30858		6.6	Si
SLV 14	11.25	-3955.31	-12251	-10201	4299	2.04	2.04	-17860	13989	7990	38062	25656	5202	30858		7.18	Si
SLV 8	9.45	-3932.54	-8651	-7204	-3073	2.04	1.6963	-15279	13473	6399	38062	25656	5202	30858		10.04	Si
SLV 8	11.25	1554.37	-6861	-5713	-2957	2.04	2.04	-10002	12417	7093	38062	25656	5202	30858		10.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.46	8586	-4904	249.08	648.01	2.6	Si
SLV 1	179667	0.46	9198	-5254	249.08	691.28	2.78	Si
SLV 4	179667	0.46	10213	-5834	249.08	762.08	3.06	Si
SLV 2	179667	0.46	10825	-6183	249.08	804.31	3.23	Si
SLV 7	179667	0.46	12522	-7153	249.08	919.28	3.69	Si
SLV 8	179667	0.46	13618	-7778	249.08	991.87	3.98	Si
SLV 5	179667	0.46	14564	-8319	249.08	1053.58	4.23	Si
SLV 6	179667	0.46	15659	-8944	249.08	1123.83	4.51	Si
SLV 11	179667	0.46	16281	-9300	249.08	1163.16	4.67	Si
SLV 12	179667	0.46	17376	-9925	249.08	1231.44	4.94	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-7981	-16415	42	1.215	1098	0.93	18.97784	7.35059	Si
SLV 15	-7719	-14769	42	1.247	1071.6	0.929	19.5116	7.35059	Si
SLV 14	-7528	-17806	-39	1.272	1052.3	0.928	19.92716	7.35059	Si
SLV 13	-7266	-16159	-39	1.308	1025.9	0.926	20.51742	7.35059	Si
SLV 4	-5992	-3208	36	1.515	897.9	0.918	23.97877	7.35059	Si
SLV 3	-5730	-1562	36	1.567	871.6	0.917	24.83945	7.35059	Si
SLV 2	-5538	-4599	-44	1.605	852.5	0.915	25.49101	7.35059	Si
SLV 1	-5276	-2952	-44	1.663	826.3	0.913	26.46657	7.35059	Si
SLV 12	-7771	-9901	134	1.231	1076.8	0.929	19.25329	5.33016	Si
SLV 11	-7595	-8793	134	1.253	1059	0.928	19.6229	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.617	SLU 50	Si
V_SLU	20.761	SLU 50	Si
PF_SLV	1.197	SLV 3	Si
V_SLV	4.983	SLV 3	Si
PFFP_SLV	2.602	SLV 3	Si
R_SLV	2.582	SLV 16	Si

Maschio 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-3.359	-11.013	-0.737	L6	L7	2.622	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 72	8.55	1400.74	-22883	-0.0000566	0.0003743	0.0035	2.622	20815.9	23422.59	23422.59	16.72	No	Si
SLU 72	12.05	249.95	-12315	-0.0000268	0.0003743	0.0035	2.622	13485.17	14162.88	14162.88	56.66	No	Si
SLU 49	8.55	1282.98	-20400	-0.0000501	0.0003743	0.0035	2.622	19445.22	21486.13	21486.13	16.75	No	Si
SLU 49	12.05	164.86	-11060	-0.0000237	0.0003743	0.0035	2.622	12354.3	12947.32	12947.32	78.54	No	Si
SLU 50	8.55	1292.67	-20021	-0.0000493	0.0003743	0.0035	2.622	19217.12	21196.48	21196.48	16.4	No	Si
SLU 50	12.05	123.77	-10770	-0.0000229	0.0003743	0.0035	2.622	12085	12669.91	12669.91	102.36	No	Si
SLU 71	8.55	1419.12	-22786	-0.0000565	0.0003743	0.0035	2.622	20766.2	23345.47	23345.47	16.45	No	Si
SLU 71	12.05	225.22	-12261	-0.0000266	0.0003743	0.0035	2.622	13437.53	14109.92	14109.92	62.65	No	Si
SLU 45	8.55	1259.7	-19754	-0.0000485	0.0003743	0.0035	2.622	19053.24	20993.22	20993.22	16.67	No	Si
SLU 45	12.05	117.58	-10537	-0.0000223	0.0003743	0.0035	2.622	11866.36	12447.84	12447.84	105.87	No	Si
SLU 69	8.55	1427.8	-23067	-0.0000572	0.0003743	0.0035	2.622	20908.8	23568.45	23568.45	16.51	No	Si
SLU 69	12.05	241.57	-12497	-0.0000272	0.0003743	0.0035	2.622	13644.46	14341.11	14341.11	59.37	No	Si
SLU 66	8.55	1386.14	-22519	-0.0000556	0.0003743	0.0035	2.622	20628.24	23134.62	23134.62	16.69	No	Si
SLU 66	12.05	219.02	-12028	-0.000026	0.0003743	0.0035	2.622	13231.09	13882.29	13882.29	63.38	No	Si
SLU 51	8.55	1274.3	-20118	-0.0000494	0.0003743	0.0035	2.622	19276.28	21270.83	21270.83	16.69	No	Si
SLU 51	12.05	148.5	-10824	-0.0000231	0.0003743	0.0035	2.622	12135.47	12721.57	12721.57	85.67	No	Si
SLU 48	8.55	1301.36	-20302	-0.00005	0.0003743	0.0035	2.622	19387.02	21411.46	21411.46	16.45	No	Si
SLU 48	12.05	140.13	-11006	-0.0000235	0.0003743	0.0035	2.622	12304.27	12895.45	12895.45	92.03	No	Si
SLU 58	8.55	1357.34	-22007	-0.0000543	0.0003743	0.0035	2.622	20357.21	22733.43	22733.43	16.75	No	Si
SLU 58	12.05	246.98	-11386	-0.0000248	0.0003743	0.0035	2.622	12653.54	13260.82	13260.82	53.69	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 12	8.55	2329.4	-14031	-0.00004	0.0005615	0.0035	2.622		16805.34	16805.34	7.21		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 12	12.05	-598.92	-7126	-0.0000172	0.0005615	0.0035	2.622		10709.36	10709.36	17.88		Si
SLV 7	8.55	2834.18	-11115	-0.0000361	0.0005615	0.0035	2.622		13817.82	13817.82	4.88		Si
SLV 7	12.05	-1269.04	-5457	-0.0000169	0.0005615	0.0035	2.622		8721.6	8721.6	6.87		Si
SLV 15	8.55	2232.48	-17152	-0.0000463	0.0005615	0.0035	2.622		19807.52	19807.52	8.87		Si
SLV 15	12.05	166.49	-8950	-0.000019	0.0005615	0.0035	2.622		11356	11356	68.21		Si
SLD 11	8.55	2353.59	-13986	-0.00004	0.0005615	0.0035	2.622		16762.53	16762.53	7.12		Si
SLD 11	12.05	-579.11	-7102	-0.0000171	0.0005615	0.0035	2.622		10680.51	10680.51	18.44		Si
SLV 8	8.55	2795.54	-11187	-0.0000361	0.0005615	0.0035	2.622		13898.73	13898.73	4.97		Si
SLV 8	12.05	-1300.68	-5495	-0.0000171	0.0005615	0.0035	2.622		8766.81	8766.81	6.74		Si
SLV 9	8.55	-759.1	-22100	-0.00005	0.0005615	0.0035	2.622		26563.02	26563.02	34.99		Si
SLV 9	12.05	1603.6	-11620	-0.0000314	0.0005615	0.0035	2.622		14381.99	14381.99	8.97		Si
SLD 7	8.55	2124.98	-13209	-0.0000373	0.0005615	0.0035	2.622		16026.94	16026.94	7.54		Si
SLD 7	12.05	-729.31	-6629	-0.0000168	0.0005615	0.0035	2.622		10112.72	10112.72	13.87		Si
SLV 11	8.55	3190.09	-12331	-0.0000404	0.0005615	0.0035	2.622		15168.69	15168.69	4.75		Si
SLV 11	12.05	-1036.51	-6198	-0.0000174	0.0005615	0.0035	2.622		9598.78	9598.78	9.26		Si
SLV 12	8.55	3151.46	-12403	-0.0000404	0.0005615	0.0035	2.622		15242.89	15242.89	4.84		Si
SLV 12	12.05	-1068.15	-6236	-0.0000176	0.0005615	0.0035	2.622		9644.33	9644.33	9.03		Si
SLD 8	8.55	2100.8	-13254	-0.0000372	0.0005615	0.0035	2.622		16069.49	16069.49	7.65		Si
SLD 8	12.05	-749.12	-6653	-0.000017	0.0005615	0.0035	2.622		10141.44	10141.44	13.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 53	8.55	1324.36	-21740	-18103	615	2.622	2.622	-24658	10232	8072	38062	21984	6686	12109	Si	19.69	Si
SLU 53	12.05	240.79	-11153	-9287	1974	2.622	2.622	-12650	8631	6337	38062	21984	6686	9505	Si	4.82	Si
SLU 45	8.55	1259.7	-19754	-16449	746	2.622	2.622	-22405	9932	7577	38062	21984	6686	11365	Si	15.23	Si
SLU 45	12.05	117.58	-10537	-8774	2021	2.622	2.622	-11951	8538	6268	38062	21984	6686	9402	Si	4.65	Si
SLU 58	8.55	1357.34	-22007	-18326	591	2.622	2.622	-24962	10273	8139	38062	21984	6686	12209	Si	20.67	Si
SLU 58	12.05	246.98	-11386	-9481	1997	2.622	2.622	-12915	8666	6363	38062	21984	6686	9544	Si	4.78	Si
SLU 43	8.55	1209.35	-18924	-15758	884	2.622	2.622	-21464	9806	7370	38062	21984	6686	11054	Si	12.51	Si
SLU 43	12.05	78.67	-9831	-8187	2039	2.622	2.622	-11151	8431	6190	38062	21984	6686	9285	Si	4.55	Si
SLU 60	8.55	1301.72	-21762	-18121	696	2.622	2.622	-24683	10235	8078	38062	21984	6686	12117	Si	17.41	Si
SLU 60	12.05	254.68	-10712	-8920	1972	2.622	2.622	-12150	8564	6288	38062	21984	6686	9432	Si	4.78	Si
SLU 48	8.55	1301.36	-20302	-16906	666	2.622	2.622	-23027	10015	7714	38062	21984	6686	11570	Si	17.38	Si
SLU 48	12.05	140.13	-11006	-9165	2024	2.622	2.622	-12483	8609	6320	38062	21984	6686	9481	Si	4.68	Si
SLU 62	8.55	1343.39	-22310	-18578	615	2.622	2.622	-25305	10318	8215	38062	21984	6686	12322	Si	20.03	Si
SLU 62	12.05	277.24	-11181	-9311	1974	2.622	2.622	-12682	8635	6340	38062	21984	6686	9510	Si	4.82	Si
SLU 71	8.55	1419.12	-22786	-18974	473	2.622	2.622	-25845	10390	8333	38062	21984	6686	12500	Si	26.44	Si
SLU 71	12.05	225.22	-12261	-10210	2002	2.622	2.622	-13907	8799	6460	38062	21984	6686	9690	Si	4.84	Si
SLU 50	8.55	1292.67	-20021	-16672	722	2.622	2.622	-22708	9972	7643	38062	21984	6686	11465	Si	15.88	Si
SLU 50	12.05	123.77	-10770	-8968	2044	2.622	2.622	-12215	8573	6294	38062	21984	6686	9441	Si	4.62	Si
SLU 64	8.55	1335.8	-21689	-18061	634	2.622	2.622	-24600	10224	8060	38062	21984	6686	12089	Si	19.06	Si
SLU 64	12.05	180.11	-11322	-9428	1996	2.622	2.622	-12842	8657	6355	38062	21984	6686	9533	Si	4.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	8.55	3190.09	-12331	-10268	8706	2.622	2.622	-13986	13214	9701	38062	32976	6686	39663		4.56	Si
SLV 11	12.05	-1036.51	-6198	-5161	7821	2.622	2.622	-7030	11823	8680	38062	32976	6686	39663		5.07	Si
SLV 6	8.55	-1153.65	-20956	-17451	-7695	2.622	2.622	-23769	15170	11138	38062	32976	6686	39663		5.15	Si
SLV 6	12.05	1339.42	-10918	-9092	-4757	2.622	2.622	-12384	12893	9466	38062	32976	6686	39663		8.34	Si
SLV 10	8.55	-797.74	-22172	-18463	-8516	2.622	2.622	-25149	15446	11340	38062	32976	6686	39663		4.66	Si
SLV 10	12.05	1571.95	-11659	-9708	-4902	2.622	2.622	-13224	13061	9589	38062	32976	6686	39663		8.09	Si
SLV 7	8.55	2834.18	-11115	-9255	9526	2.622	2.622	-12607	12938	9499	38062	32976	6686	39663		4.16	Si
SLV 7	12.05	-1269.04	-5457	-4544	7965	2.622	2.622	-6190	11655	8556	38062	32976	6686	39663		4.98	Si
SLV 8	8.55	2795.54	-11187	-9315	9598	2.622	2.622	-12688	12954	9511	38062	32976	6686	39663		4.13	Si
SLV 8	12.05	-1300.68	-5495	-4576	7969	2.622	2.622	-6233	11663	8563	38062	32976	6686	39663		4.98	Si
SLD 7	8.55	2124.98	-13209	-10999	6076	2.622	2.622	-14982	13413	9847	38062	32976	6686	39663		6.53	Si
SLD 7	12.05	-729.31	-6629	-5520	5484	2.622	2.622	-7518	11920	8752	38062	32976	6686	39663		7.23	Si
SLV 12	8.55	3151.46	-12403	-10328	8777	2.622	2.622	-14068	13230	9713	38062	32976	6686	39663		4.52	Si
SLV 12	12.05	-1068.15	-6236	-5193	7825	2.622	2.622	-7073	11831	8686	38062	32976	6686	39663		5.07	Si
SLV 5	8.55	-1115.02	-20884	-17391	-7767	2.622	2.622	-23688	15154	11126	38062	32976	6686	39663		5.11	Si
SLV 5	12.05	1371.07	-10880	-9060	-4762	2.622	2.622	-12340	12885	9460	38062	32976	6686	39663		8.33	Si
SLV 9	8.55	-759.1	-22100	-18403	-8587	2.622	2.622	-25067	15430	11328	38062	32976	6686	39663		4.62	Si
SLV 9	12.05	1603.6	-11620	-9676	-4906	2.622	2.622	-13180	13053	9583	38062	32976	6686	39663		8.08	Si
SLD 8	8.55	2100.8	-13254	-11037	6121	2.622	2.622	-15033	13423	9855	38062	32976	6686	39663		6.48	Si
SLD 8	12.05	-749.12	-6653	-5540	5487	2.622	2.622	-7546	11926	8756	38062	32976	6686	39663		7.23	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.46	11113	-8159	328.41	1059.13	3.23	Si
SLV 7	179667	0.46	11155	-8190	328.41	1062.82	3.24	Si
SLV 4	179667	0.46	12414	-9114	328.41	1172.27	3.57	Si
SLV 3	179667	0.46	12477	-9160	328.41	1177.65	3.59	Si
SLV 12	179667	0.46	12969	-9521	328.41	1219.79	3.71	Si
SLV 11	179667	0.46	13011	-9552	328.41	1223.38	3.73	Si
SLV 2	179667	0.46	15394	-11302	328.41	1422.78	4.33	Si
SLV 1	179667	0.46	15457	-11348	328.41	1427.91	4.35	Si
SLV 16	179667	0.46	18600	-13656	328.41	1678.95	5.11	Si
SLV 15	179667	0.46	18663	-13702	328.41	1683.81	5.13	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.

- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.

- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.

- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-10634	-20190	782	1.124	1449.2	0.932	17.53891	7.35059	Si
SLV 13	-10577	-20083	783	1.129	1443.4	0.931	17.61716	7.35059	Si
SLV 16	-9007	-17259	846	1.274	1285.2	0.925	20.02821	7.35059	Si
SLV 15	-8950	-17152	847	1.281	1279.5	0.925	20.13123	7.35059	Si
SLV 2	-8166	-16135	-837	1.374	1200.6	0.921	21.69392	7.35059	Si
SLV 1	-8109	-16029	-837	1.382	1194.9	0.921	21.81637	7.35059	Si
SLV 10	-11659	-22172	141	1.091	1552.7	0.935	16.94647	5.33016	Si
SLV 9	-11620	-22100	141	1.094	1548.8	0.935	16.99342	5.33016	Si
SLV 6	-10918	-20956	-345	1.134	1477.9	0.933	17.67029	5.33016	Si
SLV 5	-10880	-20884	-345	1.137	1474	0.933	17.72289	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.397	SLU 50	Si
V_SLU	4.554	SLU 43	Si
PF_SLV	4.755	SLV 11	Si
V_SLV	4.133	SLV 8	Si
PFFP_SLV	3.225	SLV 8	Si
R_SLV	2.386	SLV 14	Si

Maschio 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-0.354	-11.013	1.046	L6	L7	1.4	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 30	8.55	564.8	-12084	-0.000059	0.0003743	0.0035	1.4	5897.64	6622.74	6622.74	11.73	No	Si
SLU 30	12.05	623.55	-7860	-0.0000416	0.0003743	0.0035	1.4	4418.31	4723.72	4723.72	7.58	No	Si
SLU 26	8.55	537.87	-11695	-0.0000568	0.0003743	0.0035	1.4	5787.73	6461.49	6461.49	12.01	No	Si
SLU 26	12.05	595.8	-7480	-0.0000395	0.0003743	0.0035	1.4	4254.82	4520.84	4520.84	7.59	No	Si
SLU 29	8.55	573.28	-12038	-0.000059	0.0003743	0.0035	1.4	5884.87	6603.52	6603.52	11.52	No	Si
SLU 29	12.05	607.25	-7804	-0.0000411	0.0003743	0.0035	1.4	4394.69	4693.89	4693.89	7.73	No	Si
SLU 28	8.55	570.07	-12276	-0.00006	0.0003743	0.0035	1.4	5950.02	6703.11	6703.11	11.76	No	Si
SLU 28	12.05	639.27	-8045	-0.0000427	0.0003743	0.0035	1.4	4496.19	4823.48	4823.48	7.55	No	Si
SLU 25	8.55	548.79	-11857	-0.0000577	0.0003743	0.0035	1.4	5834.01	6528.24	6528.24	11.9	No	Si
SLU 25	12.05	600.67	-7628	-0.0000402	0.0003743	0.0035	1.4	4319.18	4599.69	4599.69	7.66	No	Si
SLU 23	8.55	516.6	-11276	-0.0000545	0.0003743	0.0035	1.4	5663.18	6289.15	6289.15	12.17	No	Si
SLU 23	12.05	557.19	-7064	-0.0000371	0.0003743	0.0035	1.4	4069.56	4300.86	4300.86	7.72	No	Si
SLU 72	8.55	715.51	-14363	-0.0000723	0.0003743	0.0035	1.4	6435.5	7590.14	7590.14	10.61	No	Si
SLU 72	12.05	694.7	-9218	-0.0000487	0.0003743	0.0035	1.4	4962.39	5454.63	5454.63	7.85	No	Si
SLU 27	8.55	578.55	-12230	-0.0000599	0.0003743	0.0035	1.4	5937.57	6683.79	6683.79	11.55	No	Si
SLU 27	12.05	622.98	-7989	-0.0000422	0.0003743	0.0035	1.4	4472.93	4793.48	4793.48	7.69	No	Si
SLU 70	8.55	720.78	-14555	-0.0000733	0.0003743	0.0035	1.4	6472.83	7657.06	7657.06	10.62	No	Si
SLU 70	12.05	710.43	-9403	-0.0000498	0.0003743	0.0035	1.4	5031.46	5537.99	5537.99	7.8	No	Si
SLU 24	8.55	557.27	-11811	-0.0000576	0.0003743	0.0035	1.4	5820.88	6509.14	6509.14	11.68	No	Si
SLU 24	12.05	584.37	-7573	-0.0000397	0.0003743	0.0035	1.4	4295.11	4570.06	4570.06	7.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	8.55	1598.57	-9591	-0.0000646	0.0005615	0.0035	1.4		5882.2	5882.2	3.68		Si
SLV 3	12.05	209.03	-5194	-0.0000233	0.0005615	0.0035	1.4		3499.64	3499.64	16.74		Si
SLD 7	8.55	1286.75	-9378	-0.0000583	0.0005615	0.0035	1.4		5771.98	5771.98	4.49		Si
SLD 7	12.05	-97.27	-4651	-0.0000193	0.0005615	0.0035	1.4		3538.8	3538.8	36.38		Si
SLV 7	8.55	1729.77	-8863	-0.0000638	0.0005615	0.0035	1.4		5507.36	5507.36	3.18		Si
SLV 7	12.05	-417	-3619	-0.0000205	0.0005615	0.0035	1.4		2894.96	2894.96	6.94		Si
SLV 11	8.55	1274.32	-9016	-0.0000566	0.0005615	0.0035	1.4		5585.61	5585.61	4.38		Si
SLV 11	12.05	-446.09	-3833	-0.0000218	0.0005615	0.0035	1.4		3032.33	3032.33	6.8		Si
SLD 8	8.55	1294.76	-9400	-0.0000586	0.0005615	0.0035	1.4		5783.49	5783.49	4.47		Si
SLD 8	12.05	-95.33	-4666	-0.0000194	0.0005615	0.0035	1.4		3548.09	3548.09	37.22		Si
SLV 5	8.55	-154.41	-11475	-0.0000476	0.0005615	0.0035	1.4		7371.92	7371.92	47.74		Si
SLV 5	12.05	1276.85	-8848	-0.000056	0.0005615	0.0035	1.4		5499.29	5499.29	4.31		Si
SLV 6	8.55	-141.61	-11510	-0.0000475	0.0005615	0.0035	1.4		7390.05	7390.05	52.19		Si
SLV 6	12.05	1279.96	-8872	-0.0000561	0.0005615	0.0035	1.4		5511.62	5511.62	4.31		Si
SLV 8	8.55	1742.57	-8899	-0.0000642	0.0005615	0.0035	1.4		5525.61	5525.61	3.17		Si
SLV 8	12.05	-413.9	-3643	-0.0000206	0.0005615	0.0035	1.4		2910.42	2910.42	7.03		Si
SLV 12	8.55	1287.11	-9051	-0.000057	0.0005615	0.0035	1.4		5603.9	5603.9	4.35		Si
SLV 12	12.05	-442.98	-3857	-0.0000219	0.0005615	0.0035	1.4		3047.84	3047.84	6.88		Si
SLV 4	8.55	1617.58	-9644	-0.0000652	0.0005615	0.0035	1.4		5909.58	5909.58	3.65		Si
SLV 4	12.05	213.64	-5230	-0.0000235	0.0005615	0.0035	1.4		3521.45	3521.45	16.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	8.55	878.56	-15480	-12891	921	1.4	1.4	-32885	10833	4695	38062	11738	3570	7043	Si	7.65	Si
SLU 78	12.05	656.23	-10085	-8398	-2828	1.4	1.4	-21424	9801	3842	38062	11738	3570	5763	Si	2.04	Si
SLU 36	8.55	727.85	-13201	-10993	609	1.4	1.4	-28043	10684	4189	38062	11738	3570	6284	Si	10.33	Si
SLU 36	12.05	585.07	-8727	-7267	-2629	1.4	1.4	-18538	9416	3691	38062	11738	3570	5537	Si	2.11	Si
SLU 76	8.55	846.37	-14900	-12407	890	1.4	1.4	-31651	10833	4567	38062	11738	3570	6850	Si	7.7	Si
SLU 76	12.05	612.76	-9521	-7928	-2705	1.4	1.4	-20225	9641	3779	38062	11738	3570	5669	Si	2.1	Si
SLU 80	8.55	873.29	-15288	-12731	928	1.4	1.4	-32477	10833	4653	38062	11738	3570	6979	Si	7.52	Si
SLU 80	12.05	640.5	-9900	-8244	-2765	1.4	1.4	-21031	9749	3821	38062	11738	3570	5732	Si	2.07	Si
SLU 82	8.55	898.37	-14847	-12363	947	1.4	1.4	-31538	10833	4555	38062	11738	3570	6832	Si	7.22	Si
SLU 82	12.05	540.06	-9360	-7794	-2643	1.4	1.4	-19883	9595	3761	38062	11738	3570	5642	Si	2.14	Si
SLU 77	8.55	887.04	-15434	-12852	970	1.4	1.4	-32787	10833	4685	38062	11738	3570	7028	Si	7.25	Si
SLU 77	12.05	639.94	-10030	-8352	-2754	1.4	1.4	-21306	9785	3836	38062	11738	3570	5754	Si	2.09	Si
SLU 79	8.55	881.77	-15242	-12693	976	1.4	1.4	-32379	10833	4643	38062	11738	3570	6964	Si	7.13	Si
SLU 79	12.05	624.21	-9845	-8198	-2692	1.4	1.4	-20913	9733	3815	38062	11738	3570	5723	Si	2.13	Si
SLU 83	8.55	928.12	-15220	-12674	1001	1.4	1.4	-32331	10833	4638	38062	11738	3570	6956	Si	6.95	Si
SLU 83	12.05	562.37	-9721	-8095	-2678	1.4	1.4	-20649	9698	3802	38062	11738	3570	5702	Si	2.13	Si
SLU 75	8.55	857.29	-15061	-12542	915	1.4	1.4	-31994	10833	4602	38062	11738	3570	6904	Si	7.54	Si
SLU 75	12.05	617.62	-9669	-8051	-2719	1.4	1.4	-20539	9683	3796	38062	11738	3570	5694	Si	2.09	Si
SLU 84	8.55	919.64	-15266	-12712	952	1.4	1.4	-32429	10833	4648	38062	11738	3570	6972	Si	7.32	Si
SLU 84	12.05	578.67	-9776	-8141	-2751	1.4	1.4	-20767	9713	3808	38062	11738	3570	5712	Si	2.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	8.55	1742.57	-8899	-7410	5052	1.4	1.4	-18904	14197	5565	38062	17607	3570	21177		4.19	Si
SLV 8	12.05	-413.9	-3643	-3034	2976	1.4	1.4	-7739	11965	4690	38062	17607	3570	21177		7.12	Si
SLD 10	8.55	-154.04	-11148	-9283	-1884	1.4	1.4	-23682	15153	5940	38062	17607	3570	21177		11.24	Si
SLD 10	12.05	931.14	-8053	-6706	-4511	1.4	1.4	-17108	13838	5425	38062	17607	3570	21177		4.69	Si
SLV 5	8.55	-154.41	-11475	-9555	-3069	1.4	1.4	-24375	15292	5994	38062	17607	3570	21177		6.9	Si
SLV 5	12.05	1276.85	-8848	-7367	-5429	1.4	1.4	-18794	14176	5557	38062	17607	3570	21177		3.9	Si
SLV 11	8.55	1274.32	-9016	-7508	4553	1.4	1.4	-19152	14247	5585	38062	17607	3570	21177		4.65	Si
SLV 11	12.05	-446.09	-3833	-3191	2110	1.4	1.4	-8141	12045	4722	38062	17607	3570	21177		10.04	Si
SLV 7	8.55	1729.77	-8863	-7381	5026	1.4	1.4	-18828	14182	5559	38062	17607	3570	21177		4.21	Si
SLV 7	12.05	-417	-3619	-3014	2964	1.4	1.4	-7688	11954	4686	38062	17607	3570	21177		7.15	Si
SLD 9	8.55	-162.05	-11126	-9265	-1900	1.4	1.4	-23635	15144	5936	38062	17607	3570	21177		11.14	Si
SLD 9	12.05	929.2	-8038	-6694	-4519	1.4	1.4	-17076	13832	5422	38062	17607	3570	21177		4.69	Si
SLV 9	8.55	-609.86	-11627	-9682	-3542	1.4	1.4	-24699	15356	6020	38062	17607	3570	21177		5.98	Si
SLV 9	12.05	1247.77	-9061	-7545	-6283	1.4	1.4	-19248	14266	5592	38062	17607	3570	21177		3.37	Si
SLV 6	8.55	-141.61	-11510	-9585	-3043	1.4	1.4	-24451	15307	6000	38062	17607	3570	21177		6.96	Si
SLV 6	12.05	1279.96	-8872	-7387	-5417	1.4	1.4	-18846	14186	5561	38062	17607	3570	21177		3.91	Si
SLV 12	8.55	1287.11	-9051	-7537	4579	1.4	1.4	-19227	14262	5591	38062	17607	3570	21177		4.62	Si
SLV 12	12.05	-442.98	-3857	-3211	2123	1.4	1.4	-8192	12055	4726	38062	17607	3570	21177		9.98	Si
SLV 10	8.55	-597.07	-11663	-9712	-3516	1.4	1.4	-24775	15372	6026	38062	17607	3570	21177		6.02	Si
SLV 10	12.05	1250.87	-9085	-7565	-6270	1.4	1.4	-19299	14276	5596	38062	17607	3570	21177		3.38	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.46	11627	-4558	175.35	589.51	3.36	Si
SLV 8	179667	0.46	11675	-4577	175.35	591.77	3.37	Si
SLV 3	179667	0.46	14399	-5645	175.35	715.73	4.08	Si
SLV 4	179667	0.46	14472	-5673	175.35	718.95	4.1	Si
SLV 11	179667	0.46	15084	-5913	175.35	746.03	4.25	Si
SLV 12	179667	0.46	15132	-5932	175.35	748.17	4.27	Si
SLV 1	179667	0.46	20243	-7935	175.35	963.67	5.5	Si
SLV 2	179667	0.46	20315	-7963	175.35	966.58	5.51	Si
SLV 15	179667	0.46	25922	-10161	175.35	1181.13	6.74	Si
SLV 16	179667	0.46	25994	-10190	175.35	1183.74	6.75	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.



- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7510	-10935	343	0.906	959.1	0.943	13.96099	7.35059	Si
SLV 13	-7474	-10882	343	0.909	955.5	0.943	14.01871	7.35059	Si
SLV 2	-6799	-10427	-323	0.985	887.1	0.939	15.24356	7.35059	Si
SLV 1	-6763	-10374	-323	0.989	883.5	0.939	15.31201	7.35059	Si
SLV 10	-9085	-11663	183	0.789	1118.9	0.95	12.07124	5.33016	Si
SLV 9	-9061	-11627	183	0.791	1116.5	0.95	12.09937	5.33016	Si
SLV 16	-5941	-10152	280	1.104	800.4	0.934	17.18313	7.35059	Si
SLV 15	-5906	-10099	280	1.109	796.8	0.933	17.27081	7.35059	Si
SLV 6	-8872	-11510	-16	0.821	1097.2	0.949	12.57736	5.33016	Si
SLV 5	-8848	-11475	-17	0.823	1094.8	0.949	12.60707	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.545	SLU 28	Si
V_SLU	2.038	SLU 78	Si
PF_SLV	3.171	SLV 8	Si
V_SLV	3.371	SLV 9	Si
PFFP_SLV	3.362	SLV 7	Si
R_SLV	1.899	SLV 14	Si

Maschio 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-9.448	-3.359	-11.013	-3.359	L6	L7	1.565	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 83	8.55	837.98	-10770	-0.0000501	0.0003743	0.0035	1.565	6392.92	6983.97	6983.97	8.33	No	Si
SLU 83	10.65	-1685.56	-11517	-0.0000652	0.0003743	0.0035	1.565	6685.61	7998.01	7998.01	4.75	No	Si
SLU 82	8.55	848.5	-10551	-0.0000494	0.0003743	0.0035	1.565	6303.54	6883.59	6883.59	8.11	No	Si
SLU 82	10.65	-1674.17	-11274	-0.0000641	0.0003743	0.0035	1.565	6592.62	7877.22	7877.22	4.71	No	Si
SLU 39	8.55	764.76	-8735	-0.0000412	0.0003743	0.0035	1.565	5497.09	5899.28	5899.28	7.71	No	Si
SLU 39	10.65	-1486.39	-9603	-0.0000547	0.0003743	0.0035	1.565	5897.07	7004.69	7004.69	4.71	No	Si
SLU 41	8.55	765.55	-8998	-0.0000422	0.0003743	0.0035	1.565	5621.04	6064.72	6064.72	7.92	No	Si
SLU 41	10.65	-1514.93	-9906	-0.0000563	0.0003743	0.0035	1.565	6030.48	7163.16	7163.16	4.73	No	Si
SLU 42	8.55	776.87	-9043	-0.0000426	0.0003743	0.0035	1.565	5641.62	6092.54	6092.54	7.84	No	Si
SLU 42	10.65	-1532.07	-9966	-0.0000568	0.0003743	0.0035	1.565	6056.53	7194.77	7194.77	4.7	No	Si
SLU 84	8.55	849.29	-10814	-0.0000504	0.0003743	0.0035	1.565	6410.76	7004.3	7004.3	8.25	No	Si
SLU 84	10.65	-1702.71	-11577	-0.0000657	0.0003743	0.0035	1.565	6708.27	8028.03	8028.03	4.71	No	Si
SLU 40	8.55	776.08	-8780	-0.0000416	0.0003743	0.0035	1.565	5518.07	5927.02	5927.02	7.64	No	Si
SLU 40	10.65	-1503.54	-9663	-0.0000552	0.0003743	0.0035	1.565	5923.76	7035.95	7035.95	4.68	No	Si
SLU 81	8.55	837.19	-10507	-0.000049	0.0003743	0.0035	1.565	6285.3	6863.4	6863.4	8.2	No	Si
SLU 81	10.65	-1657.03	-11214	-0.0000636	0.0003743	0.0035	1.565	6569.33	7847.53	7847.53	4.74	No	Si
SLU 73	8.55	838.58	-10303	-0.0000483	0.0003743	0.0035	1.565	6200.37	6770.67	6770.67	8.07	No	Si
SLU 73	10.65	-1589.94	-10980	-0.0000617	0.0003743	0.0035	1.565	6477.08	7731.26	7731.26	4.86	No	Si
SLU 31	8.55	766.16	-8532	-0.0000405	0.0003743	0.0035	1.565	5399.52	5771.61	5771.61	7.53	No	Si
SLU 31	10.65	-1419.3	-9369	-0.0000529	0.0003743	0.0035	1.565	5791.57	6872.97	6872.97	4.84	No	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 1	8.55	3288.93	-5291	-0.0001261	0.0005615	0.0035	1.565		4026.29	4026.29	1.22		Si
SLV 1	10.65	-3412.98	-11630	-0.0000885	0.0005615	0.0035	1.565		8555.95	8555.95	2.51		Si
SLV 3	8.55	3084.7	-3341	-0.0073682	0.0005615	0.0035	1.252		2648.81	2648.81	0.86		No
SLV 3	10.65	-2942.38	-9633	-0.0000743	0.0005615	0.0035	1.565		7360.81	7360.81	2.5		Si
SLD 2	8.55	2618.18	-5755	-0.0000642	0.0005615	0.0035	1.565		4344.63	4344.63	1.66		Si
SLD 2	10.65	-2830.03	-10650	-0.0000759	0.0005615	0.0035	1.565		7975.8	7975.8	2.82		Si
SLD 4	8.55	2493.42	-4553	-0.0000712	0.0005615	0.0035	1.565		3512.41	3512.41	1.41		Si
SLD 4	10.65	-2541.32	-9422	-0.0000672	0.0005615	0.0035	1.565		7229.48	7229.48	2.84		Si
SLD 3	8.55	2178.41	-4810	-0.0000528	0.0005615	0.0035	1.565		3692.02	3692.02	1.69		Si
SLD 3	10.65	-2260.41	-8948	-0.0000615	0.0005615	0.0035	1.565		6930.4	6930.4	3.07		Si
SLV 8	8.55	1250.04	-3002	-0.0000291	0.0005615	0.0035	1.565		2403.36	2403.36	1.92		Si
SLV 8	10.65	-1105.33	-5593	-0.0000337	0.0005615	0.0035	1.565		4730.09	4730.09	4.28		Si
SLV 2	8.55	3782.46	-4888	-0.0031146	0.0005615	0.0035	1.565		3745.8	3745.8	0.99		No
SLV 2	10.65	-3853.09	-12372	-0.0000985	0.0005615	0.0035	1.565		8984.53	8984.53	2.33		Si
SLV 4	8.55	3578.23	-2938	-0.0158782	0.0005615	0.0035	1.252		2357.14	2357.14	0.66		No
SLV 4	10.65	-3382.48	-10375	-0.0000841	0.0005615	0.0035	1.565		7808.78	7808.78	2.31		Si
SLV 15	8.55	-2656.16	-9834	-0.0000704	0.0005615	0.0035	1.565		7482.19	7482.19	2.82		Si
SLV 15	10.65	1789.66	-2970	-0.0000601	0.0005615	0.0035	1.565		2380.62	2380.62	1.33		Si
SLD 1	8.55	2303.17	-6013	-0.0000546	0.0005615	0.0035	1.565		4520.48	4520.48	1.96		Si
SLD 1	10.65	-2549.12	-10176	-0.0000702	0.0005615	0.0035	1.565		7688.3	7688.3	3.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 70	8.55	798.59	-10293	-8571	1593	1.565	1.565	-19560	9552	4186	38062	13122	3991	6279	Si	3.94	Si
SLU 70	10.65	-1435.7	-10935	-9106	3542	1.565	1.565	-20780	9715	4257	38062	13122	3991	6386	Si	1.8	Si
SLU 78	8.55	839.34	-10939	-9109	1538	1.565	1.565	-20788	9716	4258	38062	13122	3991	6386	Si	4.15	Si
SLU 78	10.65	-1658.91	-11716	-9756	3592	1.565	1.565	-22264	9913	4344	38062	13122	3991	6516	Si	1.81	Si
SLU 77	8.55	828.02	-10895	-9073	1524	1.565	1.565	-20704	9705	4253	38062	13122	3991	6379	Si	4.19	Si
SLU 77	10.65	-1641.77	-11656	-9706	3558	1.565	1.565	-22150	9898	4337	38062	13122	3991	6506	Si	1.83	Si
SLU 71	8.55	780.56	-10109	-8418	1559	1.565	1.565	-19211	9506	4165	38062	13122	3991	6248	Si	4.01	Si
SLU 71	10.65	-1395.22	-10705	-8914	3454	1.565	1.565	-20342	9657	4232	38062	13122	3991	6347	Si	1.84	Si
SLU 69	8.55	787.28	-10249	-8534	1578	1.565	1.565	-19476	9541	4181	38062	13122	3991	6271	Si	3.97	Si
SLU 69	10.65	-1418.55	-10875	-9056	3508	1.565	1.565	-20666	9700	4251	38062	13122	3991	6376	Si	1.82	Si
SLU 75	8.55	838.55	-10676	-8890	1520	1.565	1.565	-20288	9650	4228	38062	13122	3991	6343	Si	4.17	Si
SLU 75	10.65	-1630.38	-11413	-9504	3519	1.565	1.565	-21688	9836	4310	38062	13122	3991	6465	Si	1.84	Si
SLU 68	8.55	798.63	-9920	-8260	1565	1.565	1.565	-18851	9458	4144	38062	13122	3991	6217	Si	3.97	Si
SLU 68	10.65	-1395.26	-10502	-8745	3437	1.565	1.565	-19956	9605	4209	38062	13122	3991	6314	Si	1.84	Si
SLU 67	8.55	797.8	-10030	-8352	1575	1.565	1.565	-19060	9486	4157	38062	13122	3991	6235	Si	3.96	Si
SLU 67	10.65	-1407.16	-10632	-8854	3469	1.565	1.565	-20205	9638	4224	38062	13122	3991	6335	Si	1.83	Si
SLU 72	8.55	791.87	-10153	-8455	1574	1.565	1.565	-19295	9517	4170	38062	13122	3991	6256	Si	3.98	Si
SLU 72	10.65	-1412.36	-10765	-8964	3488	1.565	1.565	-20456	9672	4238	38062	13122	3991	6357	Si	1.82	Si
SLU 80	8.55	832.62	-10800	-8993	1519	1.565	1.565	-20523	9681	4242	38062	13122	3991	6363	Si	4.19	Si
SLU 80	10.65	-1635.58	-11545	-9614	3538	1.565	1.565	-21940	9870	4325	38062	13122	3991	6487	Si	1.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	8.55	3288.93	-5291	-4406	6054	1.565	0.4826	-33195	16250	3284	38062	19682	3991	23673		3.91	Si
SLV 1	10.65	-3412.98	-11630	-9684	6927	1.565	1.4671	-23866	15190	6240	38062	19682	3991	23673		3.42	Si
SLV 3	8.55	3084.7	-3341	-2782	5656	1.252	0	0	0	0	38062	15746	3193	18939		3.35	Si
SLV 3	10.65	-2942.38	-9633	-8021	6171	1.565	1.4311	-20198	14456	5793	38062	19682	3991	23673		3.84	Si
SLD 4	8.55	2493.42	-4553	-3791	4568	1.565	0.7046	-8652	12147	3120	38062	19682	3991	23673		5.18	Si
SLD 4	10.65	-2541.32	-9422	-7846	5389	1.565	1.5383	-17905	13998	6029	38062	19682	3991	23673		4.39	Si
SLV 4	8.55	3578.23	-2938	-2447	6526	1.252	0	0	0	0	38062	15746	3193	18939		2.9	Si
SLV 4	10.65	-3382.48	-10375	-8640	7057	1.565	1.3695	-22724	14962	5737	38062	19682	3991	23673		3.35	Si
SLV 6	8.55	1930.8	-9501	-7911	3596	1.565	1.565	-18054	14027	6147	38062	19682	3991	23673		6.58	Si
SLV 6	10.65	-2674.01	-12249	-10200	5345	1.565	1.565	-23277	15072	6605	38062	19682	3991	23673		4.43	Si
SLV 2	8.55	3782.46	-4888	-4070	6923	1.565	0.0258	-152743	16250	3195	38062	19682	3991	23673		3.42	Si
SLV 2	10.65	-3853.09	-12372	-13003	7813	1.565	1.4132	-26397	15696	6211	38062	19682	3991	23673		3.03	Si
SLD 1	8.55	2303.17	-6013	-5007	4255	1.565	1.1983	-11426	12702	4262	38062	19682	3991	23673		5.56	Si
SLD 1	10.65	-2549.12	-10176	-8474	5286	1.565	1.565	-19338	14284	6259	38062	19682	3991	23673		4.48	Si
SLD 2	8.55	2618.18	-5755	-4793	4810	1.565	0.9828	-10937	12604	3468	38062	19682	3991	23673		4.92	Si
SLD 2	10.65	-2830.03	-10650	-8869	5852	1.565	1.5503	-20239	14464	6279	38062	19682	3991	23673		4.05	Si
SLD 3	8.55	2178.41	-4810	-4006	4013	1.565	0.989	-9141	12245	3391	38062	19682	3991	23673		5.9	Si
SLD 3	10.65	-2260.41	-8948	-7451	4823	1.565	1.565	-17004	13818	6055	38062	19682	3991	23673		4.91	Si
SLV 15	8.55	-2656.16	-9834	-8189	-4770	1.565	1.5372	-18688	14154	6092	38062	19682	3991	23673		4.96	Si
SLV 15	10.65	1789.66	-2970	-2474	-2986	1.565	0.54	-5645	11546	2769	38062	19682	3991	23673		7.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.46	7774	-3407	191.09	452.67	2.37	Si
SLV 12	179667	0.46	8684	-3805	191.09	502.44	2.63	Si
SLV 15	179667	0.46	8840	-3874	191.09	510.94	2.67	Si
SLV 16	179667	0.46	10191	-4466	191.09	583.47	3.05	Si
SLV 7	179667	0.46	11191	-4904	191.09	636.26	3.33	Si
SLV 8	179667	0.46	12101	-5303	191.09	683.53	3.58	Si
SLV 13	179667	0.46	13360	-5854	191.09	747.91	3.91	Si
SLV 14	179667	0.46	14711	-6446	191.09	815.53	4.27	Si
SLV 3	179667	0.46	20230	-8865	191.09	1076.68	5.63	Si
SLV 4	179667	0.46	21581	-9457	191.09	1136.85	5.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:



- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-5696	-11784	-237	1.257	799.3	0.927	19.69576	7.35059	Si
SLV 14	-5556	-11381	-237	1.281	785.1	0.926	20.10354	7.35059	Si
SLV 15	-5052	-9834	-81	1.403	734.5	0.922	22.10311	7.35059	Si
SLV 16	-4912	-9431	-81	1.433	720.4	0.921	22.60982	7.35059	Si
SLV 9	-5663	-11720	-309	1.252	795.9	0.927	19.63073	5.33016	Si
SLV 10	-5568	-11448	-309	1.269	786.4	0.926	19.90381	5.33016	Si
SLV 1	-3520	-5291	78	1.829	581.4	0.908	29.2733	7.35059	Si
SLV 2	-3380	-4888	78	1.882	567.5	0.907	30.16397	7.35059	Si
SLV 5	-5010	-9772	-214	1.391	730.3	0.922	21.92309	5.33016	Si
SLV 6	-4916	-9501	-214	1.411	720.8	0.921	22.26112	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.68	SLU 40	Si
V_SLU	1.803	SLU 70	Si
PF_SLV	0.659	SLV 4	No
V_SLV	2.902	SLV 4	Si
PFFP_SLV	2.369	SLV 11	Si
R_SLV	2.679	SLV 13	Si

Maschio 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	-3.359	-6.268	1.046	L6	L7	4.405	0.14	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 49	8.55	3828.84	-19343	-0.0000499	0.0004492	0.0035	4.405	31666.44	39576.35	39576.35	10.34	No	Si
SLU 49	12.05	2064.02	-10883	-0.0000273	0.0004492	0.0035	4.405	20508.21	23964.84	23964.84	11.61	No	Si
SLU 69	8.55	4230.09	-21962	-0.0000567	0.0004492	0.0035	4.405	34272.84	43656.59	43656.59	10.32	No	Si
SLU 69	12.05	2256.06	-12352	-0.0000308	0.0004492	0.0035	4.405	22745.13	26781.63	26781.63	11.87	No	Si
SLU 48	8.55	3841.71	-19309	-0.0000499	0.0004492	0.0035	4.405	31630.13	39516.27	39516.27	10.29	No	Si
SLU 48	12.05	2025.03	-10886	-0.0000272	0.0004492	0.0035	4.405	20513.1	23970.85	23970.85	11.84	No	Si
SLU 71	8.55	4179.17	-21645	-0.0000559	0.0004492	0.0035	4.405	33979.11	43166.29	43166.29	10.33	No	Si
SLU 71	12.05	2198.68	-12063	-0.0000301	0.0004492	0.0035	4.405	22316.06	26237.1	26237.1	11.93	No	Si
SLU 50	8.55	3790.79	-18992	-0.0000491	0.0004492	0.0035	4.405	31287.31	38954.39	38954.39	10.28	No	Si
SLU 50	12.05	1967.64	-10598	-0.0000264	0.0004492	0.0035	4.405	20059.34	23415.34	23415.34	11.9	No	Si
SLU 46	8.55	3687.86	-18766	-0.0000483	0.0004492	0.0035	4.405	31038.83	38552.99	38552.99	10.45	No	Si
SLU 46	12.05	1911.18	-10354	-0.0000258	0.0004492	0.0035	4.405	19671.38	22945.03	22945.03	12.01	No	Si
SLU 72	8.55	4166.3	-21679	-0.0000559	0.0004492	0.0035	4.405	34010.79	43218.71	43218.71	10.37	No	Si
SLU 72	12.05	2237.67	-12060	-0.0000302	0.0004492	0.0035	4.405	22311.39	26231.21	26231.21	11.72	No	Si
SLU 70	8.55	4217.22	-21995	-0.0000568	0.0004492	0.0035	4.405	34303.9	43709.01	43709.01	10.36	No	Si
SLU 70	12.05	2295.05	-12348	-0.0000309	0.0004492	0.0035	4.405	22740.51	26775.74	26775.74	11.67	No	Si
SLU 51	8.55	3777.92	-19026	-0.0000491	0.0004492	0.0035	4.405	31324.25	39014.46	39014.46	10.33	No	Si
SLU 51	12.05	2006.63	-10595	-0.0000265	0.0004492	0.0035	4.405	20054.41	23409.33	23409.33	11.67	No	Si
SLU 45	8.55	3700.72	-18732	-0.0000483	0.0004492	0.0035	4.405	31001.38	38492.91	38492.91	10.4	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 45	12.05	1872.19	-10357	-0.0000257	0.0004492	0.0035	4.405	19676.36	22951.04	22951.04	12.26	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 5	8.55	452.35	-18510	-0.0000381	0.0006738	0.0035	4.405		38847.77	38847.77	85.88		Si
SLV 5	12.05	3358.99	-8971	-0.0000267	0.0006738	0.0035	4.405		20448.59	20448.59	6.09		Si
SLV 6	8.55	458.4	-18540	-0.0000382	0.0006738	0.0035	4.405		38902.28	38902.28	84.87		Si
SLV 6	12.05	3414.1	-8950	-0.0000269	0.0006738	0.0035	4.405		20406.88	20406.88	5.98		Si
SLV 3	8.55	4482.35	-13289	-0.0000386	0.0006738	0.0035	4.405		28968.82	28968.82	6.46		Si
SLV 3	12.05	1386.18	-6734	-0.0000169	0.0006738	0.0035	4.405		15907.07	15907.07	11.48		Si
SLV 11	8.55	5458.23	-12837	-0.0000403	0.0006738	0.0035	4.405		28091.07	28091.07	5.15		Si
SLV 11	12.05	-593.45	-7760	-0.0000168	0.0006738	0.0035	4.405		26139.19	26139.19	44.05		Si
SLD 8	8.55	4761.83	-13419	-0.0000396	0.0006738	0.0035	4.405		29218.6	29218.6	6.14		Si
SLD 8	12.05	418.31	-7478	-0.0000158	0.0006738	0.0035	4.405		17421.53	17421.53	41.65		Si
SLV 8	8.55	5892.33	-12026	-0.0000399	0.0006738	0.0035	4.405		26503.16	26503.16	4.5		Si
SLV 8	12.05	-202.76	-6938	-0.0000141	0.0006738	0.0035	4.405		24479.14	24479.14	120.73		Si
SLV 4	8.55	4491.33	-13333	-0.0000387	0.0006738	0.0035	4.405		29052.82	29052.82	6.47		Si
SLV 4	12.05	1468.03	-6702	-0.0000171	0.0006738	0.0035	4.405		15842.96	15842.96	10.79		Si
SLV 7	8.55	5886.29	-11996	-0.0000398	0.0006738	0.0035	4.405		26445.59	26445.59	4.49		Si
SLV 7	12.05	-257.87	-6959	-0.0000143	0.0006738	0.0035	4.405		24521.38	24521.38	95.09		Si
SLD 7	8.55	4758.04	-13401	-0.0000396	0.0006738	0.0035	4.405		29183.2	29183.2	6.13		Si
SLD 7	12.05	383.81	-7491	-0.0000157	0.0006738	0.0035	4.405		17448.09	17448.09	45.46		Si
SLV 12	8.55	5464.27	-12866	-0.0000404	0.0006738	0.0035	4.405		28148.65	28148.65	5.15		Si
SLV 12	12.05	-538.34	-7740	-0.0000166	0.0006738	0.0035	4.405		26096.95	26096.95	48.48		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 47	8.55	3628.36	-18472	-10242	933	4.405	4.405	-16608	10548	7659	96666	22163	22465	11489	Si	12.31	Si
SLU 47	12.05	1879.79	-10064	-5580	1100	4.405	4.405	-9048	9540	5883	96666	22163	22465	8825	Si	8.02	Si
SLU 46	8.55	3687.86	-18766	-10405	1028	4.405	4.405	-16872	10583	7724	96666	22163	22465	11587	Si	11.27	Si
SLU 46	12.05	1911.18	-10354	-5741	1129	4.405	4.405	-9309	9575	5905	96666	22163	22465	8857	Si	7.84	Si
SLU 45	8.55	3700.72	-18732	-10386	1185	4.405	4.405	-16842	10579	7717	96666	22163	22465	11575	Si	9.77	Si
SLU 45	12.05	1872.19	-10357	-5743	1188	4.405	4.405	-9312	9575	5905	96666	22163	22465	8857	Si	7.46	Si
SLU 43	8.55	3508.81	-17839	-9891	1218	4.405	4.405	-16039	10472	7519	96666	22163	22465	11278	Si	9.26	Si
SLU 43	12.05	1661.97	-9540	-5290	1220	4.405	4.405	-8577	9477	5844	96666	22163	22465	8767	Si	7.19	Si
SLU 60	8.55	3737.97	-20380	-11300	1063	4.405	4.405	-18323	10776	8082	96666	22163	22465	12123	Si	11.41	Si
SLU 60	12.05	1686.7	-10597	-5876	1065	4.405	4.405	-9528	9604	5923	96666	22163	22465	8884	Si	8.34	Si
SLU 48	8.55	3841.71	-19309	-10706	1162	4.405	4.405	-17360	10648	7845	96666	22163	22465	11767	Si	10.12	Si
SLU 48	12.05	2025.03	-10886	-6036	1165	4.405	4.405	-9788	9638	5977	96666	22163	22465	8965	Si	7.69	Si
SLU 44	8.55	3487.37	-17896	-9922	956	4.405	4.405	-16089	10479	7531	96666	22163	22465	11297	Si	11.82	Si
SLU 44	12.05	1726.95	-9535	-5287	1122	4.405	4.405	-8572	9476	5844	96666	22163	22465	8766	Si	7.81	Si
SLU 49	8.55	3828.84	-19343	-10725	1005	4.405	4.405	-17390	10652	7852	96666	22163	22465	11778	Si	11.72	Si
SLU 49	12.05	2064.02	-10883	-6034	1107	4.405	4.405	-9785	9638	5976	96666	22163	22465	8964	Si	8.1	Si
SLU 51	8.55	3777.92	-19026	-10549	1015	4.405	4.405	-17106	10614	7782	96666	22163	22465	11673	Si	11.5	Si
SLU 51	12.05	2006.63	-10595	-5874	1117	4.405	4.405	-9526	9603	5922	96666	22163	22465	8884	Si	7.95	Si
SLU 50	8.55	3790.79	-18992	-10530	1172	4.405	4.405	-17075	10610	7774	96666	22163	22465	11662	Si	9.95	Si
SLU 50	12.05	1967.64	-10598	-5876	1175	4.405	4.405	-9528	9604	5923	96666	22163	22465	8884	Si	7.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	8.55	5464.27	-12866	-7134	10605	4.405	4.405	-11567	14813	9135	96666	33244	22465	55709		5.25	Si
SLV 12	12.05	-538.34	-7740	-4291	8462	4.405	4.405	-6958	13892	8567	96666	33244	22465	55709		6.58	Si
SLV 10	8.55	30.34	-19380	-10745	-8599	4.405	4.405	-17424	15985	9858	96666	33244	22465	55709		6.48	Si
SLV 10	12.05	3078.51	-9751	-5406	-6463	4.405	4.405	-8767	14253	8790	96666	33244	22465	55709		8.62	Si
SLV 8	8.55	5892.33	-12026	-6668	10209	4.405	4.405	-10812	14662	9042	96666	33244	22465	55709		5.46	Si
SLV 8	12.05	-202.76	-6938	-3847	8079	4.405	4.405	-6238	13748	8478	96666	33244	22465	55709		6.9	Si
SLD 12	8.55	4490.58	-13959	-7739	6859	4.405	4.405	-12550	15010	9257	96666	33244	22465	55709		8.12	Si
SLD 12	12.05	205.84	-7992	-4431	5521	4.405	4.405	-7185	13937	8595	96666	33244	22465	55709		10.09	Si
SLV 7	8.55	5886.29	-11996	-6652	10225	4.405	4.405	-10786	14657	9039	96666	33244	22465	55709		5.45	Si
SLV 7	12.05	-257.87	-6959	-3859	8094	4.405	4.405	-6257	13751	8480	96666	33244	22465	55709		6.88	Si
SLV 11	8.55	5458.23	-12837	-7117	10621	4.405	4.405	-11541	14808	9132	96666	33244	22465	55709		5.25	Si
SLV 11	12.05	-593.45	-7760	-4303	8477	4.405	4.405	-6977	13895	8569	96666	33244	22465	55709		6.57	Si
SLD 11	8.55	4486.79	-13940	-7729	6869	4.405	4.405	-12533	15007	9255	96666	33244	22465	55709		8.11	Si
SLD 11	12.05	171.34	-8005	-4438	5530	4.405	4.405	-7197	13939	8596	96666	33244	22465	55709		10.07	Si
SLV 6	8.55	458.4	-18540	-10279	-8995	4.405	4.405	-16669	15834	9765	96666	33244	22465	55709		6.19	Si
SLV 6	12.05	3414.1	-8950	-4962	-6846	4.405	4.405	-8046	14109	8701	96666	33244	22465	55709		8.14	Si
SLV 9	8.55	24.29	-19350	-10729	-8583	4.405	4.405	-17397	15979	9855	96666	33244	22465	55709		6.49	Si
SLV 9	12.05	3023.4	-9772	-5418	-6448	4.405	4.405	-8785	14257	8792	96666	33244	22465	55709		8.64	Si
SLV 5	8.55	452.35	-18510	-10263	-8979	4.405	4.405	-16642	15828	9761	96666	33244	22465	55709		6.2	Si
SLV 5	12.05	3358.99	-8971	-4974	-6831	4.405	4.405	-8065	14113	8704	96666	33244	22465	55709		8.16	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-9791	0.46	292.67	625.98	1098.38	862.18	2.95	Si
SLV 3	-9820	0.46	292.67	627.65	1100.83	864.24	2.95	Si
SLV 8	-10455	0.46	292.67	664.17	1154.81	909.49	3.11	Si
SLV 7	-10475	0.46	292.67	665.28	1156.47	910.87	3.11	Si
SLV 2	-10719	0.46	292.67	679.19	1177.25	928.22	3.17	Si
SLV 1	-10748	0.46	292.67	680.83	1179.7	930.26	3.18	Si
SLV 12	-11949	0.46	292.67	748.02	1281.59	1014.81	3.47	Si
SLV 11	-11969	0.46	292.67	749.1	1283.22	1016.16	3.47	Si



Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-13550	0.46	292.67	834.82	1416.02	1125.42	3.85	Si
SLV 5	-13570	0.46	292.67	835.85	1417.65	1126.75	3.85	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 10.3 Wa = 0.03 Ta = 0.1461

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-10008	-18044	342	2.065	1325.9	0.936	32.05587	15.01175	Si
SLV 14	-9977	-18087	342	2.07	1322.8	0.936	32.14296	15.01175	Si
SLV 15	-9404	-16089	278	2.179	1264.9	0.934	33.92253	15.01175	Si
SLV 16	-9373	-16133	278	2.185	1261.8	0.934	34.01975	15.01175	Si
SLV 1	-7337	-15243	-279	2.661	1056.5	0.924	41.86699	15.01175	Si
SLV 2	-7306	-15287	-279	2.669	1053.4	0.923	42.01449	15.01175	Si
SLV 3	-6734	-13289	-342	2.837	995.9	0.92	44.81111	15.01175	Si
SLV 4	-6702	-13333	-342	2.847	992.8	0.92	44.98019	15.01175	Si
SLV 9	-9772	-19350	199	2.118	1302.1	0.935	32.91809	7.79135	Si
SLV 10	-9751	-19380	199	2.122	1300	0.935	32.9795	7.79135	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.276	SLU 50	Si
V_SLU	7.186	SLU 43	Si
PF_SLV	4.493	SLV 7	Si
V_SLV	5.245	SLV 11	Si
PFFP_SLV	2.946	SLV 4	Si
R_SLV	2.135	SLV 13	Si

Maschio 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.413	-3.359	-8.548	-3.359	L6	L7	1.135	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	9.45	266.43	-7267	-0.0000425	0.0003743	0.0035	1.135	3197.76	3503.81	3503.81	13.15	No	Si
SLU 67	11.25	-852.69	-6165	-0.0000523	0.0003743	0.0035	1.135	2831.85	3353.2	3353.2	3.93	No	Si
SLU 26	9.45	258.51	-5909	-0.0000352	0.0003743	0.0035	1.135	2740.85	2906.27	2906.27	11.24	No	Si
SLU 26	11.25	-729.62	-5170	-0.0000438	0.0003743	0.0035	1.135	2465.21	2929.21	2929.21	4.01	No	Si
SLU 68	9.45	280.11	-7137	-0.0000422	0.0003743	0.0035	1.135	3156.79	3455.26	3455.26	12.34	No	Si
SLU 68	11.25	-848.48	-6030	-0.0000515	0.0003743	0.0035	1.135	2784.25	3297.22	3297.22	3.89	No	Si
SLU 23	9.45	262.56	-5665	-0.0000341	0.0003743	0.0035	1.135	2652.16	2799.2	2799.2	10.66	No	Si
SLU 23	11.25	-709.63	-4913	-0.0000419	0.0003743	0.0035	1.135	2364.61	2816.44	2816.44	3.97	No	Si
SLU 64	9.45	235.63	-6886	-0.0000397	0.0003743	0.0035	1.135	3076.25	3346.28	3346.28	14.2	No	Si
SLU 64	11.25	-788.97	-5719	-0.0000482	0.0003743	0.0035	1.135	2671.87	3165.98	3165.98	4.01	No	Si
SLU 72	9.45	256.63	-7377	-0.0000428	0.0003743	0.0035	1.135	3232.03	3539.46	3539.46	13.79	No	Si
SLU 72	11.25	-852.66	-6266	-0.0000529	0.0003743	0.0035	1.135	2867.34	3394.95	3394.95	3.98	No	Si
SLU 47	9.45	213.83	-6407	-0.0000366	0.0003743	0.0035	1.135	2915.86	3128.93	3128.93	14.63	No	Si
SLU 47	11.25	-720.65	-5100	-0.0000432	0.0003743	0.0035	1.135	2437.98	2898.62	2898.62	4.02	No	Si
SLU 44	9.45	217.89	-6163	-0.0000355	0.0003743	0.0035	1.135	2831.43	3019.73	3019.73	13.86	No	Si
SLU 44	11.25	-700.66	-4842	-0.0000413	0.0003743	0.0035	1.135	2336.74	2784.29	2784.29	3.97	No	Si
SLU 65	9.45	284.17	-6894	-0.000041	0.0003743	0.0035	1.135	3078.58	3349.54	3349.54	11.79	No	Si
SLU 65	11.25	-828.49	-5772	-0.0000496	0.0003743	0.0035	1.135	2691.42	3188.72	3188.72	3.85	No	Si
SLU 70	9.45	262.37	-7510	-0.0000437	0.0003743	0.0035	1.135	3272.78	3582.62	3582.62	13.65	No	Si
SLU 70	11.25	-872.68	-6422	-0.0000542	0.0003743	0.0035	1.135	2921.15	3458.37	3458.37	3.96	No	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	9.45	1920.54	-2481	-0.012859	0.0005615	0.0035	0.908		1419.8	1419.8	0.74		No
SLV 3	11.25	-1772.27	-3898	-0.0001302	0.0005615	0.0035	0.908		2405.08	2405.08	1.36		Si
SLV 1	9.45	2716.42	-3130	-0.0223096	0.0005615	0.0035	0.908		1756.17	1756.17	0.65		No
SLV 1	11.25	-2532.65	-5635	-0.0001893	0.0005615	0.0035	0.908		3247.95	3247.95	1.28		Si
SLV 4	9.45	2421.43	-2051	-0.0277699	0.0005615	0.0035	0.908		1193.93	1193.93	0.49		No
SLV 4	11.25	-2161.32	-4168	-0.0002995	0.0005615	0.0035	0.908		2539.82	2539.82	1.18		Si
SLV 2	9.45	3217.31	-2700	-0.0372264	0.0005615	0.0035	0.908		1534.64	1534.64	0.48		No
SLV 2	11.25	-2921.71	-5905	-0.000341	0.0005615	0.0035	0.908		3372.76	3372.76	1.15		Si
SLD 1	9.45	1780.62	-3896	-0.0001363	0.0005615	0.0035	1.135		2143.9	2143.9	1.2		Si
SLD 1	11.25	-1817.04	-5153	-0.0000892	0.0005615	0.0035	0.908		3018.1	3018.1	1.66		Si
SLV 11	9.45	-2072.06	-5156	-0.000118	0.0005615	0.0035	0.908		3019.88	3019.88	1.46		Si
SLV 11	11.25	1353.57	-1214	-0.014635	0.0005615	0.0035	0.908		744.82	744.82	0.55		No
SLD 4	9.45	1610.93	-3221	-0.000193	0.0005615	0.0035	1.135		1803.34	1803.34	1.12		Si
SLD 4	11.25	-1597.73	-4255	-0.0000818	0.0005615	0.0035	0.908		2583.13	2583.13	1.62		Si
SLD 2	9.45	2100.32	-3622	-0.0049102	0.0005615	0.0035	0.908		2006.28	2006.28	0.96		No
SLD 2	11.25	-2065.37	-5325	-0.000112	0.0005615	0.0035	0.908		3101.24	3101.24	1.5		Si
SLV 15	9.45	-2919.31	-7870	-0.0001571	0.0005615	0.0035	0.908		4257.05	4257.05	1.46		Si
SLV 15	11.25	1769.7	-2817	-0.0062474	0.0005615	0.0035	0.908		1595.05	1595.05	0.9		No
SLV 12	9.45	-1734.83	-4867	-0.0000855	0.0005615	0.0035	0.908		2881.24	2881.24	1.66		Si
SLV 12	11.25	1091.63	-1395	-0.0070489	0.0005615	0.0035	0.908		843.04	843.04	0.77		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	9.45	256.63	-7377	-6143	594	1.135	1.135	-19330	9522	3026	38062	9516	2894	4539	Si	7.64	Si
SLU 72	11.25	-852.66	-6266	-5218	516	1.135	1.135	-16419	9134	2903	38062	9516	2894	4354	Si	8.44	Si
SLU 66	9.45	237.31	-7263	-6048	570	1.135	1.135	-19030	9482	3013	38062	9516	2894	4520	Si	7.93	Si
SLU 66	11.25	-828.98	-6133	-5107	494	1.135	1.135	-16069	9087	2888	38062	9516	2894	4332	Si	8.77	Si
SLU 70	9.45	262.37	-7510	-6254	604	1.135	1.135	-19679	9568	3041	38062	9516	2894	4561	Si	7.56	Si
SLU 70	11.25	-872.68	-6422	-5348	527	1.135	1.135	-16827	9188	2920	38062	9516	2894	4380	Si	8.31	Si
SLU 67	9.45	266.43	-7267	-6051	611	1.135	1.135	-19041	9483	3014	38062	9516	2894	4521	Si	7.4	Si
SLU 67	11.25	-852.69	-6165	-5133	524	1.135	1.135	-16153	9098	2891	38062	9516	2894	4337	Si	8.28	Si
SLU 26	9.45	258.51	-5909	-4920	559	1.135	1.135	-15482	9009	2863	38062	9516	2894	4294	Si	7.68	Si
SLU 26	11.25	-729.62	-5170	-4305	442	1.135	1.135	-13547	8751	2781	38062	9516	2894	4171	Si	9.44	Si
SLU 25	9.45	244.83	-6039	-5029	542	1.135	1.135	-15823	9054	2877	38062	9516	2894	4316	Si	7.97	Si
SLU 25	11.25	-733.83	-5305	-4417	434	1.135	1.135	-13900	8798	2796	38062	9516	2894	4194	Si	9.67	Si
SLU 23	9.45	262.56	-5665	-4718	566	1.135	1.135	-14845	8924	2836	38062	9516	2894	4254	Si	7.52	Si
SLU 23	11.25	-709.63	-4913	-4091	439	1.135	1.135	-12872	8661	2752	38062	9516	2894	4129	Si	9.41	Si
SLU 64	9.45	235.63	-6886	-5734	567	1.135	1.135	-18044	9350	2972	38062	9516	2894	4457	Si	7.86	Si
SLU 64	11.25	-788.97	-5719	-4762	479	1.135	1.135	-14985	8942	2842	38062	9516	2894	4263	Si	8.9	Si
SLU 68	9.45	280.11	-7137	-5943	628	1.135	1.135	-18700	9438	2999	38062	9516	2894	4499	Si	7.16	Si
SLU 68	11.25	-848.48	-6030	-5021	532	1.135	1.135	-15800	9051	2876	38062	9516	2894	4315	Si	8.11	Si
SLU 65	9.45	284.17	-6894	-5740	635	1.135	1.135	-18063	9353	2972	38062	9516	2894	4458	Si	7.02	Si
SLU 65	11.25	-828.49	-5772	-4807	529	1.135	1.135	-15125	8961	2848	38062	9516	2894	4272	Si	8.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	9.45	-2418.43	-7441	-6196	-3931	0.908	0.7274	0	0	0	38062	11420	2315	13735		3.49	Si
SLV 16	11.25	1380.64	-3087	-2571	-1699	1.135	0.3609	-25786	15574	2215	38062	14275	2894	17169		10.11	Si
SLV 13	9.45	-2123.43	-8519	-7094	-3738	1.135	0.9547	-26910	15799	4223	38062	14275	2894	17169		4.59	Si
SLV 13	11.25	1009.32	-4554	-3792	-1288	1.135	1.0375	-11932	12803	3719	38062	14275	2894	17169		13.33	Si
SLV 2	9.45	3217.31	-2700	-2248	5498	0.908	0	0	0	0	38062	11420	2315	13735		2.5	Si
SLV 2	11.25	-2921.71	-5905	-4917	2776	0.908	0.2181	0	0	0	38062	11420	2315	13735		4.95	Si
SLV 11	9.45	-2072.06	-5156	-4294	-2843	0.908	0.497	0	0	0	38062	11420	2315	13735		4.83	Si
SLV 11	11.25	1353.57	-1214	-1011	-1767	0.908	0	0	0	0	38062	11420	2315	13735		7.77	Si
SLD 2	9.45	2100.32	-3622	-3016	3637	0.908	0	0	0	0	38062	11420	2315	13735		3.78	Si
SLD 2	11.25	-2065.37	-5325	-4434	1879	0.908	0.539	0	0	0	38062	11420	2315	13735		7.31	Si
SLV 15	9.45	-2919.31	-7870	-6553	-4746	0.908	0.5897	0	0	0	38062	11420	2315	13735		2.89	Si
SLV 15	11.25	1769.7	-2817	-2346	-2129	0.908	0	0	0	0	38062	11420	2315	13735		6.45	Si
SLV 4	9.45	2421.43	-2051	-1708	4489	0.908	0	0	0	0	38062	11420	2315	13735		3.06	Si
SLV 4	11.25	-2161.32	-4168	-3471	1936	0.908	0.1469	0	0	0	38062	11420	2315	13735		7.1	Si
SLV 3	9.45	1920.54	-2481	-2066	3674	0.908	0	0	0	0	38062	11420	2315	13735		3.74	Si
SLV 3	11.25	-1772.27	-3898	-3246	1505	0.908	0.3385	0	0	0	38062	11420	2315	13735		9.12	Si
SLV 6	9.45	2370.06	-5414	-4508	3594	1.135	0.3891	-14185	13254	2732	38062	14275	2894	17169		4.78	Si
SLV 6	11.25	-2505.58	-7508	-6252	2415	0.908	0.7014	0	0	0	38062	11420	2315	13735		5.69	Si
SLV 1	9.45	2716.42	-3130	-2606	4682	0.908	0	0	0	0	38062	11420	2315	13735		2.93	Si
SLV 1	11.25	-2532.65	-5635	-4692	2346	0.908	0.354	0	0	0	38062	11420	2315	13735		5.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.46	4419	-1404	138.58	190.92	1.38	Si
SLV 3	179667	0.46	5690	-1808	138.58	243.73	1.76	Si
SLV 8	179667	0.46	7100	-2256	138.58	301.22	2.17	Si
SLV 2	179667	0.46	7561	-2403	138.58	319.73	2.31	Si
SLV 7	179667	0.46	7956	-2528	138.58	335.54	2.42	Si
SLV 1	179667	0.46	8832	-2807	138.58	370.22	2.67	Si
SLV 12	179667	0.46	12362	-3929	138.58	505.49	3.65	Si
SLV 11	179667	0.46	13218	-4201	138.58	537.19	3.88	Si
SLV 6	179667	0.46	17572	-5584	138.58	691.87	4.99	Si
SLV 5	179667	0.46	18428	-5856	138.58	720.97	5.2	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:



- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-5598	-7563	-130	0.992	727.9	0.94	15.35203	7.35059	Si
SLV 1	-5287	-7218	-129	1.04	696.4	0.937	16.12142	7.35059	Si
SLV 4	-4566	-6204	98	1.175	623.6	0.931	18.32957	7.35059	Si
SLV 6	-5942	-8180	-386	0.908	762.8	0.942	14.01514	5.33016	Si
SLV 3	-4255	-5859	99	1.242	592.2	0.928	19.43603	7.35059	Si
SLV 5	-5733	-7947	-386	0.935	741.5	0.94	14.4543	5.33016	Si
SLV 10	-5249	-7396	-378	1.006	692.6	0.937	15.60223	5.33016	Si
SLV 9	-5040	-7164	-378	1.039	671.4	0.935	16.15091	5.33016	Si
SLV 14	-3289	-4952	-102	1.512	495	0.918	23.93654	7.35059	Si
SLV 13	-2978	-4607	-101	1.627	463.9	0.914	25.87193	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.849	SLU 65	Si
V_SLU	7.024	SLU 65	Si
PF_SLV	0.477	SLV 2	No
V_SLV	2.498	SLV 2	Si
PFFP_SLV	1.378	SLV 4	Si
R_SLV	2.089	SLV 2	Si

Maschio 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.046	-5.158	5.811	L6	L7	4.765	0.14	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Esterna	100	100	100	100	1	CNR DT215	0.8			0.008				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 82	8.55	-4426.94	-24358	-0.0000566	0.0004492	0.0035	4.765	40691.14	61913.01	61036.71	13.79	Si	Si
SLU 82	12.05	26.61	-14671	-0.0000271	0.0004492	0.0035	4.765	28663.13	34023.25	34023.25	1278.69	No	Si
SLU 60	8.55	-3991.45	-21542	-0.00005	0.0004492	0.0035	4.765	37759.45	56843.08	56639.18	14.19	Si	Si
SLU 60	12.05	77.24	-12918	-0.0000239	0.0004492	0.0035	4.765	25899.82	30430.61	30430.61	393.98	No	Si
SLU 52	8.55	-3954.06	-20642	-0.0000481	0.0004492	0.0035	4.765	36724.8	55126.85	55087.2	13.93	Si	Si
SLU 52	12.05	192.22	-12507	-0.0000234	0.0004492	0.0035	4.765	25225.95	29585.12	29585.12	153.91	No	Si
SLU 75	8.55	-4267.14	-24978	-0.0000575	0.0004492	0.0035	4.765	41273.91	63020.19	61910.87	14.51	Si	Si
SLU 75	12.05	333.35	-15728	-0.0000298	0.0004492	0.0035	4.765	30242.05	36150.3	36150.3	108.44	No	Si
SLU 84	8.55	-4317.07	-25456	-0.0000586	0.0004492	0.0035	4.765	41707.8	63873.62	62561.7	14.49	Si	Si
SLU 84	12.05	478.73	-15897	-0.0000305	0.0004492	0.0035	4.765	30488.69	36490.74	36490.74	76.22	No	Si
SLU 81	8.55	-4359.55	-24458	-0.0000567	0.0004492	0.0035	4.765	40786.98	62092.2	61180.47	14.03	Si	Si
SLU 81	12.05	-9.56	-14715	-0.0000271	0.0004492	0.0035	4.765	28729.05	43651.56	43093.57	4508.51	Si	Si
SLU 44	8.55	-3604.78	-18931	-0.0000439	0.0004492	0.0035	4.765	34628.47	51865.98	51865.98	14.39	No	Si
SLU 44	12.05	319.86	-11716	-0.0000222	0.0004492	0.0035	4.765	23901.63	27929.85	27929.85	87.32	No	Si
SLU 61	8.55	-4058.84	-21441	-0.0000499	0.0004492	0.0035	4.765	37646.51	56651.85	56469.77	13.91	Si	Si
SLU 61	12.05	113.4	-12875	-0.0000239	0.0004492	0.0035	4.765	25829.36	30341.8	30341.8	267.55	No	Si
SLU 65	8.55	-3972.88	-21848	-0.0000505	0.0004492	0.0035	4.765	38101.07	57427.66	57151.6	14.39	Si	Si
SLU 65	12.05	233.07	-13513	-0.0000254	0.0004492	0.0035	4.765	26857.09	31651.15	31651.15	135.8	No	Si
SLU 73	8.55	-4322.16	-23558	-0.0000548	0.0004492	0.0035	4.765	39905.8	60484.02	59858.7	13.85	Si	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 73	12.05	105.42	-14304	-0.0000266	0.0004492	0.0035	4.765	28098.35	33274.62	33274.62	315.63	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 9	8.55	-6316.99	-12968	-0.0000384	0.0006738	0.0035	4.765		40472.22	40472.22	6.41		Si
SLD 9	12.05	1048.87	-8472	-0.0000178	0.0006738	0.0035	4.765		21235.87	21235.87	20.25		Si
SLV 2	8.55	-4188.39	-11734	-0.0000311	0.0006738	0.0035	4.765		37906.19	37906.19	9.05		Si
SLV 2	12.05	1110.55	-7825	-0.0000167	0.0006738	0.0035	4.765		19812.61	19812.61	17.84		Si
SLD 10	8.55	-6141.1	-13004	-0.0000381	0.0006738	0.0035	4.765		40545.55	40545.55	6.6		Si
SLD 10	12.05	1139.41	-8497	-0.000018	0.0006738	0.0035	4.765		21289.1	21289.1	18.68		Si
SLV 1	8.55	-4605.72	-11650	-0.0000319	0.0006738	0.0035	4.765		37732.19	37732.19	8.19		Si
SLV 1	12.05	895.71	-7768	-0.0000161	0.0006738	0.0035	4.765		19686.3	19686.3	21.98		Si
SLV 10	8.55	-8108.61	-10624	-0.0000382	0.0006738	0.0035	4.765		35581.8	35581.8	4.39		Si
SLV 10	12.05	1756.52	-7367	-0.0000174	0.0006738	0.0035	4.765		18806.11	18806.11	10.71		Si
SLV 5	8.55	-8296.18	-8787	-0.0000355	0.0006738	0.0035	4.765		31631.34	31631.34	3.81		Si
SLV 5	12.05	1841.43	-6445	-0.0000159	0.0006738	0.0035	4.765		16751.85	16751.85	9.1		Si
SLV 6	8.55	-8015.21	-8843	-0.0000348	0.0006738	0.0035	4.765		31752.57	31752.57	3.96		Si
SLV 6	12.05	1986.07	-6484	-0.0000163	0.0006738	0.0035	4.765		16838.31	16838.31	8.48		Si
SLV 9	8.55	-8389.57	-10567	-0.0000388	0.0006738	0.0035	4.765		35460.57	35460.57	4.23		Si
SLV 9	12.05	1611.88	-7329	-0.000017	0.0006738	0.0035	4.765		18721.07	18721.07	11.61		Si
SLD 6	8.55	-6081	-11865	-0.0000358	0.0006738	0.0035	4.765		38178.44	38178.44	6.28		Si
SLD 6	12.05	1284.75	-7933	-0.0000173	0.0006738	0.0035	4.765		20049.26	20049.26	15.61		Si
SLD 5	8.55	-6256.88	-11829	-0.0000361	0.0006738	0.0035	4.765		38105.11	38105.11	6.09		Si
SLD 5	12.05	1194.2	-7909	-0.0000171	0.0006738	0.0035	4.765		19996.02	19996.02	16.74		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 46	8.55	-3549.76	-20351	-11284	-2506	4.765	4.765	-16914	10589	8367	96666	23974	24302	12550	Si	5.01	Si
SLU 46	12.05	547.79	-13141	-7286	-812	4.765	4.765	-10922	9790	6768	96666	23974	24302	10152	Si	12.5	Si
SLU 50	8.55	-3272.75	-21293	-11806	-2650	4.765	4.765	-17698	10693	8576	96666	23974	24302	12864	Si	4.85	Si
SLU 50	12.05	1163.82	-14240	-7896	-737	4.765	4.765	-11836	9911	7012	96666	23974	24302	10518	Si	14.26	Si
SLU 45	8.55	-3482.37	-20451	-11339	-2340	4.765	4.765	-16998	10600	8389	96666	23974	24302	12584	Si	5.38	Si
SLU 45	12.05	511.63	-13184	-7310	-629	4.765	4.765	-10958	9794	6778	96666	23974	24302	10166	Si	16.17	Si
SLU 44	8.55	-3604.78	-18931	-10497	-2479	4.765	4.765	-15735	10431	8052	96666	23974	24302	12078	Si	4.87	Si
SLU 44	12.05	319.86	-11716	-6496	-997	4.765	4.765	-9738	9632	6452	96666	23974	24302	9678	Si	9.7	Si
SLU 49	8.55	-3439.89	-21448	-11892	-2729	4.765	4.765	-17827	10710	8610	96666	23974	24302	12915	Si	4.73	Si
SLU 49	12.05	999.91	-14367	-7966	-835	4.765	4.765	-11941	9925	7040	96666	23974	24302	10560	Si	12.65	Si
SLU 51	8.55	-3340.13	-21193	-11751	-2816	4.765	4.765	-17614	10682	8554	96666	23974	24302	12831	Si	4.56	Si
SLU 51	12.05	1199.99	-14197	-7872	-921	4.765	4.765	-11800	9907	7002	96666	23974	24302	10503	Si	11.41	Si
SLU 47	8.55	-3494.92	-20029	-11105	-2703	4.765	4.765	-16647	10553	8296	96666	23974	24302	12443	Si	4.6	Si
SLU 47	12.05	771.98	-12942	-7176	-1020	4.765	4.765	-10757	9768	6724	96666	23974	24302	10086	Si	9.89	Si
SLU 48	8.55	-3372.51	-21548	-11948	-2563	4.765	4.765	-17910	10721	8633	96666	23974	24302	12949	Si	5.05	Si
SLU 48	12.05	963.75	-14410	-7990	-652	4.765	4.765	-11977	9930	7049	96666	23974	24302	10574	Si	16.23	Si
SLU 5	8.55	-2786.04	-16391	-9088	-2119	4.765	4.765	-13623	10150	7489	96666	23974	24302	11233	Si	5.3	Si
SLU 5	12.05	689.18	-10696	-5930	-732	4.765	4.765	-8890	9519	6350	96666	23974	24302	9525	Si	13.02	Si
SLU 9	8.55	-2631.26	-17555	-9733	-2232	4.765	4.765	-14591	10279	7747	96666	23974	24302	11620	Si	5.21	Si
SLU 9	12.05	1117.19	-11951	-6626	-632	4.765	4.765	-9933	9658	6504	96666	23974	24302	9756	Si	15.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	8.55	-8296.18	-8787	-4872	-12900	4.765	4.315	-8089	14118	8529	96666	35961	24302	60262		4.67	Si
SLV 5	12.05	1841.43	-6445	-3574	-11456	4.765	4.765	-5357	13571	9053	96666	35961	24302	60262		5.26	Si
SLV 10	8.55	-8108.61	-10624	-5890	-12570	4.765	4.765	-8830	14266	9517	96666	35961	24302	60262		4.79	Si
SLV 10	12.05	1756.52	-7367	-4085	-11636	4.765	4.765	-6123	13725	9156	96666	35961	24302	60262		5.18	Si
SLV 6	8.55	-8015.21	-8843	-4903	-12946	4.765	4.4284	-7935	14087	8734	96666	35961	24302	60262		4.65	Si
SLV 6	12.05	1986.07	-6484	-3595	-11608	4.765	4.765	-5389	13578	9058	96666	35961	24302	60262		5.19	Si
SLV 11	8.55	2038.07	-24722	-13707	10066	4.765	4.765	-20547	16250	11263	96666	35961	24302	60262		5.99	Si
SLV 11	12.05	-1755.03	-14078	-7806	11300	4.765	4.765	-11701	14840	9900	96666	35961	24302	60262		5.33	Si
SLV 8	8.55	2412.44	-22998	-12751	9644	4.765	4.765	-19114	16250	10881	96666	35961	24302	60262		6.25	Si
SLV 8	12.05	-1380.84	-13233	-7337	11177	4.765	4.765	-10999	14700	9806	96666	35961	24302	60262		5.39	Si
SLV 9	8.55	-8389.57	-10567	-5859	-12524	4.765	4.765	-8783	14257	9511	96666	35961	24302	60262		4.81	Si
SLV 9	12.05	1611.88	-7329	-4063	-11485	4.765	4.765	-6091	13718	9151	96666	35961	24302	60262		5.25	Si
SLV 12	8.55	2319.04	-24778	-13738	10020	4.765	4.765	-20594	16250	11276	96666	35961	24302	60262		6.01	Si
SLV 12	12.05	-1610.38	-14117	-7827	11149	4.765	4.765	-11733	14847	9904	96666	35961	24302	60262		5.41	Si
SLV 7	8.55	2131.47	-22941	-12720	9690	4.765	4.765	-19067	16250	10868	96666	35961	24302	60262		6.22	Si
SLV 7	12.05	-1525.48	-13195	-7316	11329	4.765	4.765	-10967	14693	9802	96666	35961	24302	60262		5.32	Si
SLD 5	8.55	-6256.88	-11829	-6559	-8522	4.765	4.765	-9832	14466	9651	96666	35961	24302	60262		7.07	Si
SLD 5	12.05	1194.2	-7909	-4385	-7119	4.765	4.765	-6573	13815	9216	96666	35961	24302	60262		8.47	Si
SLD 6	8.55	-6081	-11865	-6578	-8551	4.765	4.765	-9861	14472	9654	96666	35961	24302	60262		7.05	Si
SLD 6	12.05	1284.75	-7933	-4398	-7214	4.765	4.765	-6593	13819	9218	96666	35961	24302	60262		8.35	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCM D.M. 17-01-18 (N.T.C.)

quota 10.3 Ta 0.15 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 5	-9069	0.46	316.59	587.74	1060.32	824.03	2.6	Si
SLV 6	-9101	0.46	316.59	589.62	1063.04	826.33	2.61	Si
SLV 9	-9797	0.46	316.59	630.87	1122.52	876.69	2.77	Si
SLV 10	-9829	0.46	316.59	632.73	1125.21	878.97	2.78	Si
SLV 1	-11810	0.46	316.59	746.85	1293.42	1020.13	3.22	Si
SLV 2	-11857	0.46	316.59	749.5	1297.4	1023.45	3.23	Si
SLV 13	-14238	0.46	316.59	880.62	1498.05	1189.34	3.76	Si
SLV 14	-14285	0.46	316.59	883.15	1501.99	1192.57	3.77	Si



Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-14895	0.46	316.59	915.61	1553.04	1234.33	3.9	Si
SLV 4	-14942	0.46	316.59	918.1	1556.98	1237.54	3.91	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeraia = 10.3 Wa = 0.03 Ta = 0.1461

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-12794	-21915	381	1.794	1633.7	0.943	27.65299	15.01175	Si
SLV 15	-12737	-21831	381	1.801	1627.8	0.943	27.76396	15.01175	Si
SLV 14	-10770	-17669	394	2.072	1428.6	0.936	32.17156	15.01175	Si
SLV 13	-10712	-17585	394	2.081	1422.8	0.936	32.32183	15.01175	Si
SLV 4	-9850	-15980	-394	2.23	1335.7	0.932	34.75849	15.01175	Si
SLV 3	-9792	-15896	-394	2.241	1329.9	0.932	34.93383	15.01175	Si
SLV 2	-7825	-11734	-381	2.682	1131.7	0.923	42.23342	15.01175	Si
SLV 1	-7768	-11650	-381	2.698	1125.9	0.923	42.49132	15.01175	Si
SLV 12	-14117	-24778	95	1.667	1767.7	0.947	25.59427	7.79135	Si
SLV 11	-14078	-24722	95	1.671	1763.8	0.947	25.6575	7.79135	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.788	SLU 82	Si
V_SLU	4.557	SLU 51	Si
PF_SLV	3.813	SLV 5	Si
V_SLV	4.655	SLV 6	Si
PFFP_SLV	2.603	SLV 5	Si
R_SLV	1.842	SLV 16	Si

Maschio 193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.008	-3.359	-6.513	-3.359	L6	L7	0.505	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 67	10.55	-19.8	-3561	-0.0000419	0.0003743	0.0035	0.505	676.72	803.73	803.73	40.59	No	Si
SLU 67	11.35	-264.21	-3311	-0.0000725	0.0003743	0.0035	0.505	643.72	761.57	761.57	2.88	No	Si
SLU 44	10.55	-0.72	-2847	-0.0000311	0.0003743	0.0035	0.505	576.78	679.38	679.38	948.7	No	Si
SLU 44	11.35	-222.43	-2670	-0.0000587	0.0003743	0.0035	0.505	549.2	647.05	647.05	2.91	No	Si
SLU 72	10.55	-23.99	-3616	-0.0000431	0.0003743	0.0035	0.505	683.72	813.01	813.01	33.88	No	Si
SLU 72	11.35	-264.69	-3350	-0.0000731	0.0003743	0.0035	0.505	649.01	768.17	768.17	2.9	No	Si
SLU 68	10.55	-14.59	-3464	-0.0000401	0.0003743	0.0035	0.505	664.21	787.45	787.45	53.97	No	Si
SLU 68	11.35	-261.19	-3233	-0.0000711	0.0003743	0.0035	0.505	633.05	748.45	748.45	2.87	No	Si
SLU 64	10.55	-15.9	-3366	-0.0000391	0.0003743	0.0035	0.505	651.24	770.96	770.96	48.49	No	Si
SLU 64	11.35	-250.62	-3138	-0.0000684	0.0003743	0.0035	0.505	619.66	731.93	731.93	2.92	No	Si
SLU 47	10.55	-7.06	-2984	-0.0000335	0.0003743	0.0035	0.505	597.28	704.22	704.22	99.77	No	Si
SLU 47	11.35	-227.95	-2781	-0.0000608	0.0003743	0.0035	0.505	566.52	667.21	667.21	2.93	No	Si
SLU 65	10.55	-8.25	-3328	-0.0000376	0.0003743	0.0035	0.505	646	764.41	764.41	92.67	No	Si
SLU 65	11.35	-255.66	-3123	-0.0000689	0.0003743	0.0035	0.505	617.49	729.25	729.25	2.85	No	Si
SLU 70	10.55	-26.14	-3697	-0.0000444	0.0003743	0.0035	0.505	693.81	826.42	826.42	31.61	No	Si
SLU 70	11.35	-269.73	-3421	-0.0000747	0.0003743	0.0035	0.505	658.56	780.22	780.22	2.89	No	Si
SLU 66	10.55	-24.39	-3584	-0.0000428	0.0003743	0.0035	0.505	679.68	807.64	807.64	33.11	No	Si
SLU 66	11.35	-261.18	-3320	-0.0000722	0.0003743	0.0035	0.505	644.97	763.12	763.12	2.92	No	Si
SLU 73	10.55	-25.59	-3697	-0.0000443	0.0003743	0.0035	0.505	693.75	826.34	826.34	32.29	No	Si
SLU 73	11.35	-269.09	-3453	-0.000075	0.0003743	0.0035	0.505	662.75	785.57	785.57	2.92	No	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m+}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	10.55	201.74	-1859	-0.0000465	0.00005615	0.0035	0.505		452.57	452.57	2.24		Si
SLV 5	11.35	-343.12	-1859	-0.0001024	0.00005615	0.0035	0.404		499.74	499.74	1.46		Si
SLD 2	10.55	300.92	-1183	-0.001915	0.00005615	0.0035	0.404		299.78	299.78	1		No
SLD 2	11.35	-385.78	-1918	-0.0001426	0.00005615	0.0035	0.404		512.79	512.79	1.33		Si
SLV 1	10.55	385.12	-780	-0.0209029	0.00005615	0.0035	0.404		205.34	205.34	0.53		No
SLV 1	11.35	-432.22	-1687	-0.0006079	0.00005615	0.0035	0.404		462.28	462.28	1.07		Si
SLD 6	10.55	160.82	-1964	-0.0000413	0.00005615	0.0035	0.505		475.59	475.59	2.96		Si
SLD 6	11.35	-313.13	-2044	-0.0000758	0.00005615	0.0035	0.404		540.32	540.32	1.73		Si
SLD 1	10.55	238.51	-1431	-0.0000607	0.00005615	0.0035	0.505		356.62	356.62	1.5		Si
SLD 1	11.35	-343	-1947	-0.0000951	0.00005615	0.0035	0.404		519.05	519.05	1.51		Si
SLV 2	10.55	482.9	-391	-0.0414389	0.00005615	0.0035	0.404		111.62	111.62	0.23		No
SLV 2	11.35	-499.26	-1643	-0.0015624	0.00005615	0.0035	0.404		452.48	452.48	0.91		No
SLV 6	10.55	267.58	-1598	-0.0000689	0.00005615	0.0035	0.505		394.34	394.34	1.47		Si
SLV 6	11.35	-388.25	-1828	-0.0001745	0.00005615	0.0035	0.404		493.14	493.14	1.27		Si
SLV 3	10.55	309.08	-951	-0.008982	0.00005615	0.0035	0.404		245.85	245.85	0.8		No
SLV 3	11.35	-370.61	-1913	-0.0001232	0.00005615	0.0035	0.404		511.68	511.68	1.38		Si
SLV 4	10.55	406.86	-563	-0.0285834	0.00005615	0.0035	0.404		153.39	153.39	0.38		No
SLV 4	11.35	-437.65	-1868	-0.0003472	0.00005615	0.0035	0.404		501.87	501.87	1.15		Si
SLD 4	10.55	254.65	-1288	-0.0000875	0.00005615	0.0035	0.505		323.91	323.91	1.27		Si
SLD 4	11.35	-348.09	-2058	-0.0000919	0.00005615	0.0035	0.404		543.52	543.52	1.56		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 60	10.55	-33.14	-3414	-2843	-5	0.505	0.505	-20104	9625	1361	38062	4234	1288	2041	Si	408.33	Si
SLU 60	11.35	-236.57	-3157	-2629	296	0.505	0.505	-18592	9423	1332	38062	4234	1288	1999	Si	6.75	Si
SLU 74	10.55	-41.73	-3953	-3292	2	0.505	0.505	-23282	10049	1421	38062	4234	1288	2131	Si	867.77	Si
SLU 74	11.35	-274.61	-3650	-3039	310	0.505	0.505	-21495	9810	1387	38062	4234	1288	2081	Si	6.71	Si
SLU 62	10.55	-39.48	-3550	-2956	-20	0.505	0.505	-20908	9732	1376	38062	4234	1288	2064	Si	102.85	Si
SLU 62	11.35	-242.09	-3267	-2721	301	0.505	0.505	-19242	9510	1345	38062	4234	1288	2017	Si	6.69	Si
SLU 81	10.55	-40.67	-3894	-3242	-7	0.505	0.505	-22931	10002	1414	38062	4234	1288	2121	Si	318.3	Si
SLU 81	11.35	-269.81	-3610	-3006	315	0.505	0.505	-21257	9779	1383	38062	4234	1288	2074	Si	6.58	Si
SLU 82	10.55	-36.08	-3871	-3223	13	0.505	0.505	-22794	9984	1412	38062	4234	1288	2118	Si	164.31	Si
SLU 82	11.35	-272.83	-3600	-2998	311	0.505	0.505	-21203	9772	1382	38062	4234	1288	2073	Si	6.67	Si
SLU 78	10.55	-43.49	-4067	-3386	7	0.505	0.505	-23949	10138	1433	38062	4234	1288	2150	Si	309.9	Si
SLU 78	11.35	-283.16	-3751	-3124	311	0.505	0.505	-22091	9890	1398	38062	4234	1288	2098	Si	6.74	Si
SLU 77	10.55	-48.08	-4090	-3406	-13	0.505	0.505	-24086	10156	1436	38062	4234	1288	2154	Si	170.77	Si
SLU 77	11.35	-280.13	-3760	-3131	316	0.505	0.505	-22145	9897	1399	38062	4234	1288	2099	Si	6.65	Si
SLU 83	10.55	-47.02	-4030	-3356	-22	0.505	0.505	-23735	10109	1429	38062	4234	1288	2144	Si	98.65	Si
SLU 83	11.35	-275.33	-3720	-3098	321	0.505	0.505	-21907	9865	1395	38062	4234	1288	2092	Si	6.52	Si
SLU 84	10.55	-42.43	-4007	-3337	-2	0.505	0.505	-23598	10091	1427	38062	4234	1288	2140	Si	980.6	Si
SLU 84	11.35	-278.35	-3711	-3090	316	0.505	0.505	-21853	9858	1394	38062	4234	1288	2091	Si	6.61	Si
SLU 79	10.55	-45.93	-4009	-3338	-11	0.505	0.505	-23607	10092	1427	38062	4234	1288	2141	Si	202.09	Si
SLU 79	11.35	-275.1	-3689	-3072	312	0.505	0.505	-21724	9841	1392	38062	4234	1288	2087	Si	6.69	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.55	482.9	-391	-326	1985	0.404	0	0	0	0	38062	5081	1030	6111		3.08	Si
SLV 2	11.35	-499.26	-1643	-1368	-140	0.404	0	0	0	0	38062	5081	1030	6111		43.56	Si
SLV 16	10.55	-416.18	-4399	-3663	-1531	0.505	0.4737	-25907	15598	2069	38062	6351	1288	7639		4.99	Si
SLV 16	11.35	53.58	-3130	-2607	569	0.505	0.505	-18434	14103	1994	38062	6351	1288	7639		13.42	Si
SLV 3	10.55	309.08	-951	-792	1207	0.404	0	0	0	0	38062	5081	1030	6111		5.06	Si
SLV 3	11.35	-370.61	-1913	-1593	77	0.404	0.1763	0	0	0	38062	5081	1030	6111		79.08	Si
SLV 11	10.55	-298.64	-3581	-2982	-1233	0.505	0.505	-21091	14635	2069	38062	6351	1288	7639		6.2	Si
SLV 11	11.35	9.61	-2989	-2489	655	0.505	0.505	-17603	13937	1971	38062	6351	1288	7639		11.66	Si
SLV 6	10.55	267.58	-1598	-1330	1323	0.505	0.255	-9409	12298	1035	38062	6351	1288	7639		5.78	Si
SLV 6	11.35	-388.25	-1828	-1523	-232	0.404	0.1205	0	0	0	38062	5081	1030	6111		26.34	Si
SLV 1	10.55	385.12	-780	-649	1621	0.404	0	0	0	0	38062	5081	1030	6111		3.77	Si
SLV 1	11.35	-432.22	-1687	-1405	-146	0.404	0	0	0	0	38062	5081	1030	6111		41.78	Si
SLD 2	10.55	300.92	-1183	-985	1278	0.404	0	0	0	0	38062	5081	1030	6111		4.78	Si
SLD 2	11.35	-385.78	-1918	-1597	-10	0.404	0.1541	0	0	0	38062	5081	1030	6111		586.47	Si
SLV 4	10.55	406.86	-563	-469	1571	0.404	0	0	0	0	38062	5081	1030	6111		3.89	Si
SLV 4	11.35	-437.65	-1868	-1556	83	0.404	0.0547	0	0	0	38062	5081	1030	6111		73.38	Si
SLV 15	10.55	-513.96	-4788	-3987	-1895	0.505	0.4354	-33291	16250	1981	38062	6351	1288	7639		4.03	Si
SLV 15	11.35	120.62	-3175	-2644	563	0.505	0.505	-18697	14156	2002	38062	6351	1288	7639		13.57	Si
SLV 13	10.55	-437.92	-4616	-3844	-1481	0.505	0.4729	-27186	15854	2099	38062	6351	1288	7639		5.16	Si
SLV 13	11.35	59.01	-2949	-2456	340	0.505	0.505	-17369	13890	1964	38062	6351	1288	7639		22.5	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.46	7116	-1006	61.66	134.3	2.18	Si
SLV 3	179667	0.46	8057	-1139	61.66	151.09	2.45	Si
SLV 2	179667	0.46	8627	-1220	61.66	161.13	2.61	Si
SLV 8	179667	0.46	9503	-1344	61.66	176.42	2.86	Si
SLV 1	179667	0.46	9568	-1353	61.66	177.55	2.88	Si
SLV 7	179667	0.46	10137	-1433	61.66	187.35	3.04	Si
SLV 12	179667	0.46	12929	-1828	61.66	234.27	3.8	Si
SLV 11	179667	0.46	13563	-1918	61.66	244.64	3.97	Si
SLV 6	179667	0.46	14540	-2056	61.66	260.43	4.22	Si
SLV 5	179667	0.46	15174	-2146	61.66	270.54	4.39	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:



- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2080	-1727	-5	1.168	282.4	0.932	18.21156	7.35059	Si
SLV 16	-1969	-1783	-4	1.221	271.1	0.93	19.07534	7.35059	Si
SLV 13	-1937	-2300	-5	1.236	267.9	0.929	19.32874	7.35059	Si
SLV 14	-1825	-2355	-4	1.295	256.6	0.927	20.30618	7.35059	Si
SLV 11	-1752	-1064	-4	1.337	249.3	0.925	21.00134	5.33016	Si
SLV 12	-1677	-1101	-4	1.383	241.7	0.923	21.76873	5.33016	Si
SLV 7	-1344	-1059	-3	1.634	208.3	0.914	25.96245	5.33016	Si
SLV 9	-1275	-2972	-4	1.697	201.5	0.912	27.02438	5.33016	Si
SLV 8	-1268	-1097	-3	1.704	200.8	0.912	27.14482	5.33016	Si
SLV 10	-1200	-3009	-4	1.773	194	0.91	28.30701	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.852	SLU 65	Si
V_SLU	6.523	SLU 83	Si
PF_SLV	0.231	SLV 2	No
V_SLV	3.079	SLV 2	Si
PFFP_SLV	2.178	SLV 4	Si
R_SLV	2.478	SLV 15	Si

Maschio 194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-3.183	-3.359	-5.508	-3.359	L6	L7	2.325	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 23	10.55	1193.84	-11206	-0.0000337	0.0003743	0.0035	2.325	10824.51	11375.95	11375.95	9.53	No	Si
SLU 23	11.35	425.8	-9628	-0.0000251	0.0003743	0.0035	2.325	9567.04	9995.13	9995.13	23.47	No	Si
SLU 72	10.55	1480.9	-14328	-0.0000434	0.0003743	0.0035	2.325	13055.89	14229.34	14229.34	9.61	No	Si
SLU 72	11.35	604.81	-12322	-0.0000328	0.0003743	0.0035	2.325	11661.01	12377.67	12377.67	20.47	No	Si
SLU 64	10.55	1398.68	-13330	-0.0000403	0.0003743	0.0035	2.325	12379.6	13301.77	13301.77	9.51	No	Si
SLU 64	11.35	500.98	-11365	-0.0000298	0.0003743	0.0035	2.325	10946.07	11516.95	11516.95	22.99	No	Si
SLU 44	10.55	1236.63	-11506	-0.0000347	0.0003743	0.0035	2.325	11053.81	11643.14	11643.14	9.42	No	Si
SLU 44	11.35	277.04	-9614	-0.0000241	0.0003743	0.0035	2.325	9555.14	9982.69	9982.69	36.03	No	Si
SLU 73	10.55	1498.45	-14439	-0.0000438	0.0003743	0.0035	2.325	13128.65	14327.76	14327.76	9.56	No	Si
SLU 73	11.35	620.36	-12438	-0.0000332	0.0003743	0.0035	2.325	11745.58	12483.35	12483.35	20.12	No	Si
SLU 47	10.55	1270.16	-11995	-0.0000361	0.0003743	0.0035	2.325	11420.79	12081.8	12081.8	9.51	No	Si
SLU 47	11.35	343.07	-10088	-0.0000257	0.0003743	0.0035	2.325	9942.65	10393.54	10393.54	30.3	No	Si
SLU 68	10.55	1457.5	-13853	-0.000042	0.0003743	0.0035	2.325	12738.04	13786.37	13786.37	9.46	No	Si
SLU 68	11.35	519.96	-11853	-0.0000311	0.0003743	0.0035	2.325	11314.82	11953.69	11953.69	22.99	No	Si
SLU 65	10.55	1423.97	-13364	-0.0000406	0.0003743	0.0035	2.325	12402.93	13332.81	13332.81	9.36	No	Si
SLU 65	11.35	453.94	-11379	-0.0000295	0.0003743	0.0035	2.325	10956.68	11529.33	11529.33	25.4	No	Si
SLU 43	10.55	1211.34	-11473	-0.0000345	0.0003743	0.0035	2.325	11028.29	11613.15	11613.15	9.59	No	Si
SLU 43	11.35	324.09	-9600	-0.0000244	0.0003743	0.0035	2.325	9543.68	9970.71	9970.71	30.77	No	Si
SLU 67	10.55	1472.06	-14180	-0.0000429	0.0003743	0.0035	2.325	12957.52	14090.94	14090.94	9.57	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 67	11.35	565.65	-12173	-0.0000322	0.0003743	0.0035	2.325	11552.39	12243.08	12243.08	21.64	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	10.55	-167.8	-8232	-0.0000199	0.0005615	0.0035	2.325		10455.07	10455.07	62.31		Si
SLV 15	11.35	3663.28	-7842	-0.0000404	0.0005615	0.0035	2.325		8830.1	8830.1	2.41		Si
SLV 12	10.55	384.66	-6193	-0.0000164	0.0005615	0.0035	2.325		7115.5	7115.5	18.5		Si
SLV 12	11.35	1945.43	-5480	-0.000024	0.0005615	0.0035	2.325		6361.17	6361.17	3.27		Si
SLD 11	10.55	535.13	-7552	-0.0000205	0.0005615	0.0035	2.325		8531.85	8531.85	15.94		Si
SLD 11	11.35	1676.46	-6663	-0.0000252	0.0005615	0.0035	2.325		7610.91	7610.91	4.54		Si
SLV 11	10.55	214.68	-5927	-0.0000148	0.0005615	0.0035	2.325		6835.76	6835.76	31.84		Si
SLV 11	11.35	2435.25	-5396	-0.0000269	0.0005615	0.0035	2.325		6271.86	6271.86	2.58		Si
SLV 13	10.55	113.78	-10590	-0.0000252	0.0005615	0.0035	2.325		11572.67	11572.67	101.71		Si
SLV 13	11.35	3053.62	-9815	-0.000041	0.0005615	0.0035	2.325		10823.17	10823.17	3.54		Si
SLV 16	10.55	84.68	-8626	-0.0000204	0.0005615	0.0035	2.325		9631.26	9631.26	113.74		Si
SLV 16	11.35	2935.76	-7966	-0.0000358	0.0005615	0.0035	2.325		8957.73	8957.73	3.05		Si
SLV 2	10.55	2279.83	-12074	-0.0000418	0.0005615	0.0035	2.325		12834.08	12834.08	5.63		Si
SLV 2	11.35	-2875.2	-9472	-0.0000391	0.0005615	0.0035	2.325		11714.26	11714.26	4.07		Si
SLD 16	10.55	446.2	-9210	-0.0000239	0.0005615	0.0035	2.325		10218.36	10218.36	22.9		Si
SLD 16	11.35	2011.16	-8244	-0.000031	0.0005615	0.0035	2.325		9241.61	9241.61	4.6		Si
SLV 4	10.55	1998.25	-9716	-0.0000344	0.0005615	0.0035	2.325		10724.53	10724.53	5.37		Si
SLV 4	11.35	-2265.54	-7498	-0.0000307	0.0005615	0.0035	2.325		9712.87	9712.87	4.29		Si
SLD 15	10.55	285.04	-8958	-0.0000223	0.0005615	0.0035	2.325		9965.37	9965.37	34.96		Si
SLD 15	11.35	2475.53	-8165	-0.0000336	0.0005615	0.0035	2.325		9160.41	9160.41	3.7		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	10.55	1423.97	-13364	-11128	2366	2.325	2.325	-17094	9224	6005	38062	19494	5929	9007	Si	3.81	Si
SLU 65	11.35	453.94	-11379	-9475	1912	2.325	2.325	-14555	8885	5784	38062	19494	5929	8676	Si	4.54	Si
SLU 68	10.55	1457.5	-13853	-11535	2346	2.325	2.325	-17720	9307	6059	38062	19494	5929	9088	Si	3.87	Si
SLU 68	11.35	519.96	-11853	-9870	1892	2.325	2.325	-15161	8966	5837	38062	19494	5929	8755	Si	4.63	Si
SLU 47	10.55	1270.16	-11995	-9989	2241	2.325	2.325	-15343	8990	5853	38062	19494	5929	8779	Si	3.92	Si
SLU 47	11.35	343.07	-10088	-8401	1790	2.325	2.325	-12904	8665	5641	38062	19494	5929	8461	Si	4.73	Si
SLU 46	10.55	1284.72	-12322	-10261	2210	2.325	2.325	-15762	9046	5889	38062	19494	5929	8833	Si	4	Si
SLU 46	11.35	388.76	-10409	-8668	1764	2.325	2.325	-13314	8720	5677	38062	19494	5929	8515	Si	4.83	Si
SLU 64	10.55	1398.68	-13330	-11100	2244	2.325	2.325	-17051	9218	6001	38062	19494	5929	9001	Si	4.01	Si
SLU 64	11.35	500.98	-11365	-9463	1812	2.325	2.325	-14537	8883	5783	38062	19494	5929	8674	Si	4.79	Si
SLU 72	10.55	1480.9	-14328	-11931	2277	2.325	2.325	-18328	9388	6112	38062	19494	5929	9168	Si	4.03	Si
SLU 72	11.35	604.81	-12322	-10260	1833	2.325	2.325	-15761	9046	5889	38062	19494	5929	8833	Si	4.82	Si
SLU 67	10.55	1472.06	-14180	-11808	2316	2.325	2.325	-18138	9363	6095	38062	19494	5929	9143	Si	3.95	Si
SLU 67	11.35	565.65	-12173	-10137	1866	2.325	2.325	-15571	9021	5872	38062	19494	5929	8809	Si	4.72	Si
SLU 44	10.55	1236.63	-11506	-9581	2261	2.325	2.325	-14718	8907	5798	38062	19494	5929	8698	Si	3.85	Si
SLU 44	11.35	277.04	-9614	-8006	1810	2.325	2.325	-12298	8584	5588	38062	19494	5929	8382	Si	4.63	Si
SLU 70	10.55	1505.58	-14669	-12215	2296	2.325	2.325	-18764	9446	6150	38062	19494	5929	9224	Si	4.02	Si
SLU 70	11.35	631.68	-12648	-10532	1847	2.325	2.325	-16178	9102	5925	38062	19494	5929	8888	Si	4.81	Si
SLU 73	10.55	1498.45	-14439	-12024	2269	2.325	2.325	-18469	9407	6124	38062	19494	5929	9186	Si	4.05	Si
SLU 73	11.35	620.36	-12438	-10357	1844	2.325	2.325	-15910	9066	5902	38062	19494	5929	8853	Si	4.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.55	2279.83	-12074	-10054	9309	2.325	2.325	-15444	13505	8792	38062	29241	5929	35169		3.78	Si
SLV 2	11.35	-2875.2	-9472	-7887	7522	2.325	2.325	-12116	12840	8359	38062	29241	5929	35169		4.68	Si
SLV 3	10.55	1745.77	-9322	-7763	5613	2.325	2.325	-11924	12802	8334	38062	29241	5929	35169		6.27	Si
SLV 3	11.35	-1538.01	-7374	-6140	4623	2.325	2.325	-9432	12303	8009	38062	29241	5929	35169		7.61	Si
SLV 15	10.55	-167.8	-8232	-6855	-5957	2.325	2.325	-10530	12523	8152	38062	29241	5929	35169		5.9	Si
SLV 15	11.35	3663.28	-7842	-6530	-4818	2.325	2.0861	-10031	12423	7256	38062	29241	5929	35169		7.3	Si
SLD 1	10.55	1665.83	-11096	-9240	5460	2.325	2.325	-14193	13255	8629	38062	29241	5929	35169		6.44	Si
SLD 1	11.35	-1223.08	-9070	-7552	4398	2.325	2.325	-11601	12737	8292	38062	29241	5929	35169		8	Si
SLV 5	10.55	1727.37	-14113	-11752	6261	2.325	2.325	-18053	14027	9132	38062	29241	5929	35169		5.62	Si
SLV 5	11.35	-1157.35	-11834	-9854	4887	2.325	2.325	-15137	13444	8752	38062	29241	5929	35169		7.2	Si
SLD 4	10.55	1655.19	-9898	-8243	5259	2.325	2.325	-12661	12949	8430	38062	29241	5929	35169		6.69	Si
SLD 4	11.35	-1308.78	-7941	-6613	4315	2.325	2.325	-10158	12448	8104	38062	29241	5929	35169		8.15	Si
SLD 2	10.55	1826.99	-11347	-9449	6514	2.325	2.325	-14515	13320	8671	38062	29241	5929	35169		5.4	Si
SLD 2	11.35	-1687.45	-9149	-7619	5262	2.325	2.325	-11703	12757	8305	38062	29241	5929	35169		6.68	Si
SLV 6	10.55	1897.35	-14378	-11973	7373	2.325	2.325	-18392	14095	9176	38062	29241	5929	35169		4.77	Si
SLV 6	11.35	-1647.17	-11918	-9924	5799	2.325	2.325	-15244	13466	8766	38062	29241	5929	35169		6.06	Si
SLV 1	10.55	2027.35	-11680	-9726	7657	2.325	2.325	-14940	13405	8726	38062	29241	5929	35169		4.59	Si
SLV 1	11.35	-2147.67	-9347	-7784	6168	2.325	2.325	-11957	12808	8338	38062	29241	5929	35169		5.7	Si
SLV 4	10.55	1998.25	-9716	-8091	7265	2.325	2.325	-12428	12902	8399	38062	29241	5929	35169		4.84	Si
SLV 4	11.35	-2265.54	-7498	-6244	5977	2.325	2.325	-9591	12335	8030	38062	29241	5929	35169		5.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.46	9490	-6178	283.88	811.18	2.86	Si
SLV 8	179667	0.46	9624	-6265	283.88	821.83	2.89	Si
SLV 11	179667	0.46	9879	-6431	283.88	842.1	2.97	Si
SLV 12	179667	0.46	10012	-6518	283.88	852.68	3	Si
SLV 3	179667	0.46	12528	-8156	283.88	1048.15	3.69	Si
SLV 4	179667	0.46	12727	-8285	283.88	1063.24	3.75	Si
SLV 15	179667	0.46	13823	-8999	283.88	1145.81	4.04	Si
SLV 16	179667	0.46	14021	-9128	283.88	1160.59	4.09	Si
SLV 1	179667	0.46	15549	-10122	283.88	1272.82	4.48	Si



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.46	15747	-10251	283.88	1287.19	4.53	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-7629	-12219	-384	1.358	1103.6	0.923	21.38346	7.35059	Si
SLV 13	-7613	-12315	-384	1.36	1102	0.923	21.42005	7.35059	Si
SLV 2	-7088	-8468	-89	1.468	1049.3	0.92	23.19494	7.35059	Si
SLV 1	-7072	-8564	-89	1.471	1047.7	0.92	23.2371	7.35059	Si
SLV 16	-6485	-9979	88	1.569	988.9	0.916	24.88882	7.35059	Si
SLV 15	-6469	-10074	88	1.572	987.3	0.916	24.93746	7.35059	Si
SLV 10	-8772	-13535	-831	1.177	1218.7	0.929	18.42672	5.33016	Si
SLV 9	-8761	-13600	-831	1.179	1217.6	0.929	18.44558	5.33016	Si
SLV 6	-8610	-12410	-742	1.203	1202.3	0.928	18.84306	5.33016	Si
SLV 5	-8599	-12474	-742	1.204	1201.3	0.928	18.86265	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.363	SLU 65	Si
V_SLU	3.807	SLU 65	Si
PF_SLV	2.41	SLV 15	Si
V_SLV	3.778	SLV 2	Si
PFFP_SLV	2.857	SLV 7	Si
R_SLV	2.909	SLV 14	Si

Maschio 195

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-0.123	-3.359	-2.283	-3.359	L6	L7	2.16	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 41	9.45	33	-9906	-0.0000252	0.0003743	0.0035	2.16	8977.68	9408.11	9408.11	285.08	No	Si
SLU 41	11.25	1265.99	-9248	-0.0000323	0.0003743	0.0035	2.16	8487.84	8868.44	8868.44	7.01	No	Si
SLU 39	9.45	33.57	-9615	-0.0000245	0.0003743	0.0035	2.16	8763.05	9168.71	9168.71	273.14	No	Si
SLU 39	11.25	1198.63	-8891	-0.0000308	0.0003743	0.0035	2.16	8215.72	8578.62	8578.62	7.16	No	Si
SLU 35	9.45	120.03	-10138	-0.0000264	0.0003743	0.0035	2.16	9146.41	9599.69	9599.69	79.98	No	Si
SLU 35	11.25	1246.85	-9419	-0.0000326	0.0003743	0.0035	2.16	8616.16	9007.52	9007.52	7.22	No	Si
SLU 42	9.45	69.49	-9899	-0.0000255	0.0003743	0.0035	2.16	8972.27	9402.02	9402.02	135.29	No	Si
SLU 42	11.25	1239.5	-9198	-0.0000319	0.0003743	0.0035	2.16	8449.94	8827.66	8827.66	7.12	No	Si
SLU 37	9.45	109.41	-9922	-0.0000258	0.0003743	0.0035	2.16	8989.32	9421.24	9421.24	86.11	No	Si
SLU 37	11.25	1211.21	-9183	-0.0000317	0.0003743	0.0035	2.16	8438.96	8815.87	8815.87	7.28	No	Si
SLU 38	9.45	145.9	-9915	-0.000026	0.0003743	0.0035	2.16	8983.92	9415.15	9415.15	64.53	No	Si
SLU 38	11.25	1184.73	-9133	-0.0000314	0.0003743	0.0035	2.16	8400.95	8775.14	8775.14	7.41	No	Si
SLU 32	9.45	120.59	-9847	-0.0000257	0.0003743	0.0035	2.16	8934.15	9359.18	9359.18	77.61	No	Si
SLU 32	11.25	1179.5	-9061	-0.0000311	0.0003743	0.0035	2.16	8346.17	8716.7	8716.7	7.39	No	Si



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 33	9.45	157.09	-9840	-0.0000259	0.0003743	0.0035	2.16	8928.73	9353.1	9353.1	59.54	No	Si
SLU 33	11.25	1153.01	-9011	-0.0000308	0.0003743	0.0035	2.16	8307.95	8676.08	8676.08	7.52	No	Si
SLU 40	9.45	70.06	-9608	-0.0000247	0.0003743	0.0035	2.16	8757.57	9162.65	9162.65	130.78	No	Si
SLU 40	11.25	1172.14	-8841	-0.0000305	0.0003743	0.0035	2.16	8177.19	8538.14	8538.14	7.28	No	Si
SLU 36	9.45	156.52	-10131	-0.0000267	0.0003743	0.0035	2.16	9141.06	9593.57	9593.57	61.29	No	Si
SLU 36	11.25	1220.37	-9368	-0.0000323	0.0003743	0.0035	2.16	8578.56	8966.6	8966.6	7.35	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 1	9.45	2594.51	-8392	-0.0000388	0.0005615	0.0035	2.16		8683.93	8683.93	3.35		Si
SLV 1	11.25	-1903.47	-4580	-0.0000244	0.0005615	0.0035	2.16		6025.24	6025.24	3.17		Si
SLV 5	9.45	3171.73	-10784	-0.0000492	0.0005615	0.0035	2.16		10709.16	10709.16	3.38		Si
SLV 5	11.25	-1529.86	-5735	-0.0000246	0.0005615	0.0035	2.16		7156.37	7156.37	4.68		Si
SLV 16	9.45	-1953.48	-7788	-0.0000328	0.0005615	0.0035	2.16		9122.76	9122.76	4.67		Si
SLV 16	11.25	3193.48	-8896	-0.0000444	0.0005615	0.0035	2.16		9151.48	9151.48	2.87		Si
SLV 13	9.45	-1144.3	-9412	-0.0000314	0.0005615	0.0035	2.16		10631.44	10631.44	9.29		Si
SLV 13	11.25	2887.49	-9299	-0.0000433	0.0005615	0.0035	2.16		9514.49	9514.49	3.3		Si
SLV 11	9.45	-3007.42	-5325	-0.0000369	0.0005615	0.0035	2.16		6753.01	6753.01	2.25		Si
SLV 11	11.25	3298.86	-8231	-0.0000436	0.0005615	0.0035	2.16		8531.79	8531.79	2.59		Si
SLV 12	9.45	-2530.7	-5397	-0.0000314	0.0005615	0.0035	2.16		6822.96	6822.96	2.7		Si
SLV 12	11.25	2819.88	-7741	-0.0000387	0.0005615	0.0035	2.16		8070.4	8070.4	2.86		Si
SLV 2	9.45	3302.57	-8498	-0.0000442	0.0005615	0.0035	2.16		8783.24	8783.24	2.66		Si
SLV 2	11.25	-2614.91	-3853	-0.0000342	0.0005615	0.0035	1.728		5304.91	5304.91	2.03		Si
SLV 6	9.45	3648.44	-10855	-0.0000528	0.0005615	0.0035	2.16		10765.97	10765.97	2.95		Si
SLV 6	11.25	-2008.85	-5246	-0.0000267	0.0005615	0.0035	2.16		6674.9	6674.9	3.32		Si
SLV 15	9.45	-2661.55	-7683	-0.0000375	0.0005615	0.0035	2.16		9022.52	9022.52	3.39		Si
SLV 15	11.25	3904.92	-9623	-0.0000516	0.0005615	0.0035	2.16		9788.6	9788.6	2.51		Si
SLD 15	9.45	-1559.38	-7852	-0.0000302	0.0005615	0.0035	2.16		9183.24	9183.24	5.89		Si
SLD 15	11.25	2711.41	-8573	-0.0000401	0.0005615	0.0035	2.16		8852.29	8852.29	3.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	9.45	193.56	-11804	-9829	-1617	2.16	2.16	-16252	9111	5511	38062	18110	5508	8266	Si	5.11	Si
SLU 83	11.25	1298.31	-10568	-8801	-1615	2.16	2.16	-14551	8885	5373	38062	18110	5508	8060	Si	4.99	Si
SLU 39	9.45	33.57	-9615	-8007	-1567	2.16	2.16	-13239	8710	5268	38062	18110	5508	7901	Si	5.04	Si
SLU 39	11.25	1198.63	-8891	-7404	-1566	2.16	2.16	-12241	8577	5187	38062	18110	5508	7781	Si	4.97	Si
SLU 36	9.45	156.52	-10131	-8436	-1493	2.16	2.16	-13948	8804	5325	38062	18110	5508	7987	Si	5.35	Si
SLU 36	11.25	1220.37	-9368	-7801	-1482	2.16	2.16	-12899	8664	5240	38062	18110	5508	7860	Si	5.3	Si
SLU 37	9.45	109.41	-9922	-8262	-1524	2.16	2.16	-13662	8766	5302	38062	18110	5508	7952	Si	5.22	Si
SLU 37	11.25	1211.21	-9183	-7647	-1522	2.16	2.16	-12644	8630	5220	38062	18110	5508	7829	Si	5.14	Si
SLU 35	9.45	120.03	-10138	-8442	-1549	2.16	2.16	-13959	8806	5326	38062	18110	5508	7988	Si	5.16	Si
SLU 35	11.25	1246.85	-9419	-7843	-1547	2.16	2.16	-12968	8673	5246	38062	18110	5508	7869	Si	5.09	Si
SLU 40	9.45	70.06	-9608	-8001	-1511	2.16	2.16	-13229	8708	5267	38062	18110	5508	7900	Si	5.23	Si
SLU 40	11.25	1172.14	-8841	-7362	-1501	2.16	2.16	-12172	8567	5182	38062	18110	5508	7772	Si	5.18	Si
SLU 81	9.45	194.13	-11513	-9587	-1539	2.16	2.16	-15851	9058	5478	38062	18110	5508	8217	Si	5.34	Si
SLU 81	11.25	1230.95	-10211	-8503	-1538	2.16	2.16	-14059	8819	5334	38062	18110	5508	8001	Si	5.2	Si
SLU 42	9.45	69.49	-9899	-8243	-1589	2.16	2.16	-13629	8762	5299	38062	18110	5508	7949	Si	5	Si
SLU 42	11.25	1239.5	-9198	-7659	-1578	2.16	2.16	-12664	8633	5221	38062	18110	5508	7832	Si	4.96	Si
SLU 41	9.45	33	-9906	-8249	-1645	2.16	2.16	-13640	8763	5300	38062	18110	5508	7950	Si	4.83	Si
SLU 41	11.25	1265.99	-9248	-7701	-1643	2.16	2.16	-12733	8642	5227	38062	18110	5508	7840	Si	4.77	Si
SLU 84	9.45	230.05	-11796	-9823	-1561	2.16	2.16	-16242	9110	5510	38062	18110	5508	8265	Si	5.29	Si
SLU 84	11.25	1271.82	-10518	-8759	-1550	2.16	2.16	-14482	8875	5368	38062	18110	5508	8052	Si	5.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	9.45	-2530.7	-5397	-4494	-5763	2.16	1.8332	-8789	12175	6249	38062	27166	5508	32674		5.67	Si
SLV 12	11.25	2819.88	-7741	-6446	-5658	2.16	2.1472	-10658	12548	7544	38062	27166	5508	32674		5.77	Si
SLV 7	9.45	-1885.77	-5019	-4180	-4393	2.16	2.1129	-6911	11799	6980	38062	27166	5508	32674		7.44	Si
SLV 7	11.25	1861.58	-6815	-5675	-4607	2.16	2.16	-9383	12293	7435	38062	27166	5508	32674		7.09	Si
SLD 15	9.45	-1559.38	-7852	-6539	-4298	2.16	2.16	-10811	12579	7608	38062	27166	5508	32674		7.6	Si
SLD 15	11.25	2711.41	-8573	-7139	-3964	2.16	2.16	-11803	12777	7728	38062	27166	5508	32674		8.24	Si
SLV 6	9.45	3648.44	-10855	-9039	5221	2.16	2.16	-14946	13406	8108	38062	27166	5508	32674		6.26	Si
SLV 6	11.25	-2008.85	-5246	-4368	5118	2.16	2.0911	-7485	11914	6976	38062	27166	5508	32674		6.38	Si
SLD 11	9.45	-1740.03	-6410	-5337	-4378	2.16	2.16	-8825	12182	7367	38062	27166	5508	32674		7.46	Si
SLD 11	11.25	2292.28	-7693	-6406	-4308	2.16	2.16	-10592	12535	7581	38062	27166	5508	32674		7.58	Si
SLV 5	9.45	3171.73	-10784	-8980	4354	2.16	2.16	-14848	13386	8096	38062	27166	5508	32674		7.5	Si
SLV 5	11.25	-1529.86	-5735	-4776	4251	2.16	2.16	-7897	11996	7255	38062	27166	5508	32674		7.69	Si
SLV 15	9.45	-2661.55	-7683	-6397	-6390	2.16	2.16	-10578	12532	7579	38062	27166	5508	32674		5.11	Si
SLV 15	11.25	3904.92	-9623	-8014	-5874	2.16	2.0227	-13250	13067	7400	38062	27166	5508	32674		5.56	Si
SLV 16	9.45	-1953.48	-7788	-6486	-5102	2.16	2.16	-10723	12561	7597	38062	27166	5508	32674		6.4	Si
SLV 16	11.25	3193.48	-8896	-7408	-4586	2.16	2.16	-12249	12866	7782	38062	27166	5508	32674		7.12	Si
SLV 2	9.45	3302.57	-8498	-7076	4981	2.16	2.0741	-11701	12757	7409	38062	27166	5508	32674		6.56	Si
SLV 2	11.25	-2614.91	-3853	-3209	4467	1.728	1.2041	0	0	0	38062	21732	4406	26139		5.85	Si
SLV 11	9.45	-3007.42	-5325	-4434	-6630	2.16	1.5458	-10292	12475	5399	38062	27166	5508	32674		4.93	Si
SLV 11	11.25	3298.86	-8231	-6854	-6526	2.16	2.0376	-11333	12683	7236	38062	27166	5508	32674		5.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.46	9334	-5645	263.74	742.05	2.81	Si
SLV 8	179667	0.46	9834	-5947	263.74	779.02	2.95	Si
SLV 3	179667	0.46	9836	-5949	263.74	779.19	2.95	Si
SLV 7	179667	0.46	10171	-6152	263.74	803.86	3.05	Si



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.46	10425	-6305	263.74	822.44	3.12	Si
SLV 1	179667	0.46	10926	-6608	263.74	858.96	3.26	Si
SLV 12	179667	0.46	11282	-6823	263.74	884.68	3.35	Si
SLV 11	179667	0.46	11619	-7027	263.74	908.98	3.45	Si
SLV 6	179667	0.46	13468	-8146	263.74	1039.83	3.94	Si
SLV 5	179667	0.46	13806	-8350	263.74	1063.31	4.03	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-7039	-9484	369	1.364	1020.4	0.923	21.48131	7.35059	Si
SLV 13	-6906	-10753	75	1.417	1007.1	0.922	22.34073	7.35059	Si
SLV 16	-6643	-9222	369	1.425	980.6	0.92	22.50437	7.35059	Si
SLV 14	-6510	-10491	75	1.482	967.3	0.919	23.42293	7.35059	Si
SLV 1	-4759	-6508	-375	1.816	792.6	0.907	29.08151	7.35059	Si
SLV 3	-4893	-5239	-81	1.824	805.9	0.908	29.18471	7.35059	Si
SLV 2	-4363	-6246	-374	1.928	753.5	0.904	30.98416	7.35059	Si
SLV 4	-4496	-4977	-80	1.935	766.6	0.905	31.05546	7.35059	Si
SLV 11	-6378	-6474	554	1.447	954.1	0.919	22.89107	5.33016	Si
SLV 12	-6112	-6298	555	1.494	927.4	0.917	23.67513	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.005	SLU 41	Si
V_SLU	4.771	SLU 41	Si
PF_SLV	2.029	SLV 2	Si
V_SLV	4.928	SLV 11	Si
PFFP_SLV	2.814	SLV 4	Si
R_SLV	2.922	SLV 15	Si

Maschio 196

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.963	5.951	-5.018	5.951	L6	L7	2.055	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 45	9.45	54.62	-13944	-0.0000381	0.0003743	0.0035	2.055	10917.21	12010.35	12010.35	219.89	No	Si
SLU 45	11.25	-635.19	-11244	-0.0000351	0.0003743	0.0035	2.055	9335.86	11029.73	11029.73	17.36	No	Si
SLU 51	9.45	-8.34	-14437	-0.0000392	0.0003743	0.0035	2.055	11178.44	13304.39	13304.39	1595.6	No	Si
SLU 51	11.25	-621.58	-11737	-0.0000364	0.0003743	0.0035	2.055	9643.79	11394.43	11394.43	18.33	No	Si
SLU 46	9.45	37.54	-13884	-0.0000378	0.0003743	0.0035	2.055	10884.92	11976	11976	319.06	No	Si
SLU 46	11.25	-612.6	-11184	-0.0000347	0.0003743	0.0035	2.055	9297.9	10985.89	10985.89	17.93	No	Si
SLU 48	9.45	-10.93	-14762	-0.0000401	0.0003743	0.0035	2.055	11345.79	13517.99	13517.99	1236.28	No	Si
SLU 48	11.25	-641.89	-12062	-0.0000375	0.0003743	0.0035	2.055	9841.9	11637.85	11637.85	18.13	No	Si
SLU 47	9.45	45.83	-13579	-0.000037	0.0003743	0.0035	2.055	10718.58	11801.79	11801.79	257.53	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 47	11.25	-599.82	-10880	-0.0000338	0.0003743	0.0035	2.055	9102.69	10758.75	10758.75	17.94	No	Si
SLU 1	9.45	76.65	-10398	-0.0000283	0.0003743	0.0035	2.055	8787.64	9282.93	9282.93	121.11	No	Si
SLU 1	11.25	-488.3	-8310	-0.0000257	0.0003743	0.0035	2.055	7327.22	8726.03	8726.03	17.87	No	Si
SLU 50	9.45	8.75	-14497	-0.0000393	0.0003743	0.0035	2.055	11209.57	12329.63	12329.63	1409.67	No	Si
SLU 50	11.25	-644.18	-11797	-0.0000367	0.0003743	0.0035	2.055	9680.59	11439.15	11439.15	17.76	No	Si
SLU 43	9.45	139.85	-12861	-0.0000357	0.0003743	0.0035	2.055	10313.76	11239.18	11239.18	80.36	No	Si
SLU 43	11.25	-630.78	-10161	-0.000032	0.0003743	0.0035	2.055	8629.85	10202.8	10202.8	16.17	No	Si
SLU 64	9.45	22.58	-14775	-0.0000402	0.0003743	0.0035	2.055	11352.45	12491.44	12491.44	553.15	No	Si
SLU 64	11.25	-642.47	-12032	-0.0000374	0.0003743	0.0035	2.055	9823.77	11615.3	11615.3	18.08	No	Si
SLU 44	9.45	111.38	-12762	-0.0000352	0.0003743	0.0035	2.055	10256.08	11158.2	11158.2	100.18	No	Si
SLU 44	11.25	-593.12	-10062	-0.0000314	0.0003743	0.0035	2.055	8562.73	10124.37	10124.37	17.07	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	9.45	2588.97	-14119	-0.0000579	0.0005615	0.0035	2.055		12695.78	12695.78	4.9		Si
SLV 3	11.25	-2835.89	-11919	-0.0000536	0.0005615	0.0035	2.055		12057.19	12057.19	4.25		Si
SLV 9	9.45	-1075.53	-6894	-0.0000261	0.0005615	0.0035	2.055		7712.61	7712.61	7.17		Si
SLV 9	11.25	1257.58	-4795	-0.0000219	0.0005615	0.0035	2.055		4933.62	4933.62	3.92		Si
SLV 14	9.45	-2545.01	-8310	-0.0000413	0.0005615	0.0035	2.055		8985.06	8985.06	3.53		Si
SLV 14	11.25	1865.48	-6309	-0.0000306	0.0005615	0.0035	2.055		6341.23	6341.23	3.4		Si
SLV 1	9.45	2110.87	-11554	-0.0000469	0.0005615	0.0035	2.055		10762.85	10762.85	5.1		Si
SLV 1	11.25	-1973.12	-9335	-0.0000396	0.0005615	0.0035	2.055		9872.6	9872.6	5		Si
SLV 7	9.45	1669.71	-16145	-0.0000563	0.0005615	0.0035	2.055		14256.96	14256.96	8.54		Si
SLV 7	11.25	-2602.87	-14044	-0.0000578	0.0005615	0.0035	2.055		13765.81	13765.81	5.29		Si
SLV 16	9.45	-2066.92	-10875	-0.0000446	0.0005615	0.0035	2.055		11185.26	11185.26	5.41		Si
SLV 16	11.25	1002.71	-8893	-0.0000309	0.0005615	0.0035	2.055		8655.03	8655.03	8.63		Si
SLV 4	9.45	1771.73	-13211	-0.0000488	0.0005615	0.0035	2.055		12006.43	12006.43	6.78		Si
SLV 4	11.25	-2279.08	-11012	-0.0000467	0.0005615	0.0035	2.055		11298.73	11298.73	4.96		Si
SLV 13	9.45	-1727.78	-9217	-0.0000374	0.0005615	0.0035	2.055		9770.18	9770.18	5.65		Si
SLV 13	11.25	1308.67	-7216	-0.0000288	0.0005615	0.0035	2.055		7165.46	7165.46	5.48		Si
SLV 10	9.45	-1625.75	-6284	-0.0000287	0.0005615	0.0035	2.055		7163.69	7163.69	4.41		Si
SLV 10	11.25	1632.46	-4184	-0.0000232	0.0005615	0.0035	2.055		4354.7	4354.7	2.67		Si
SLD 3	9.45	1642.51	-13018	-0.0000473	0.0005615	0.0035	2.055		11860.59	11860.59	7.22		Si
SLD 3	11.25	-1972.03	-10861	-0.0000439	0.0005615	0.0035	2.055		11174	11174	5.67		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	9.45	8.75	-14497	-12072	374	2.055	2.055	-20980	9742	5605	38062	17230	5240	8408	Si	22.51	Si
SLU 50	11.25	-644.18	-11797	-9824	374	2.055	2.055	-17073	9221	5306	38062	17230	5240	7958	Si	21.31	Si
SLU 45	9.45	54.62	-13944	-11611	394	2.055	2.055	-20180	9635	5544	38062	17230	5240	8316	Si	21.11	Si
SLU 45	11.25	-635.19	-11244	-9363	394	2.055	2.055	-16272	9114	5244	38062	17230	5240	7866	Si	19.97	Si
SLU 48	9.45	-10.93	-14762	-12292	361	2.055	2.055	-21363	9793	5635	38062	17230	5240	8452	Si	23.39	Si
SLU 48	11.25	-641.89	-12062	-10044	361	2.055	2.055	-17456	9272	5335	38062	17230	5240	8003	Si	22.15	Si
SLU 44	9.45	111.38	-12762	-10627	402	2.055	2.055	-18468	9407	5413	38062	17230	5240	8119	Si	20.19	Si
SLU 44	11.25	-593.12	-10062	-8379	402	2.055	2.055	-14561	8886	5113	38062	17230	5240	7669	Si	19.07	Si
SLU 46	9.45	37.54	-13884	-11562	372	2.055	2.055	-20093	9624	5537	38062	17230	5240	8306	Si	22.33	Si
SLU 46	11.25	-612.6	-11184	-9313	372	2.055	2.055	-16186	9103	5238	38062	17230	5240	7856	Si	21.12	Si
SLU 47	9.45	45.83	-13579	-11308	369	2.055	2.055	-19652	9565	5504	38062	17230	5240	8255	Si	22.34	Si
SLU 47	11.25	-599.82	-10880	-9060	369	2.055	2.055	-15745	9044	5204	38062	17230	5240	7806	Si	21.13	Si
SLU 60	9.45	34.01	-14209	-11832	362	2.055	2.055	-20563	9686	5573	38062	17230	5240	8360	Si	23.08	Si
SLU 60	11.25	-598.63	-11509	-9584	362	2.055	2.055	-16656	9165	5274	38062	17230	5240	7911	Si	21.84	Si
SLU 52	9.45	37.29	-13705	-11412	348	2.055	2.055	-19834	9589	5517	38062	17230	5240	8276	Si	23.75	Si
SLU 52	11.25	-570.61	-11005	-9164	348	2.055	2.055	-15926	9068	5218	38062	17230	5240	7827	Si	22.46	Si
SLU 43	9.45	139.85	-12861	-10710	439	2.055	2.055	-18613	9426	5424	38062	17230	5240	8136	Si	18.54	Si
SLU 43	11.25	-630.78	-10161	-8462	439	2.055	2.055	-14706	8905	5124	38062	17230	5240	7686	Si	17.51	Si
SLU 64	9.45	22.58	-14775	-12303	380	2.055	2.055	-21382	9795	5636	38062	17230	5240	8454	Si	22.24	Si
SLU 64	11.25	-642.47	-12032	-10019	380	2.055	2.055	-17413	9266	5332	38062	17230	5240	7998	Si	21.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	9.45	-2545.01	-8310	-6920	-2571	2.055	2.055	-12026	12822	7378	38062	25845	5240	31085		12.09	Si
SLV 14	11.25	1865.48	-6309	-5253	-2246	2.055	2.055	-9130	12243	7044	38062	25845	5240	31085		13.84	Si
SLV 10	9.45	-1625.75	-6284	-5232	-1823	2.055	2.055	-9094	12235	7040	38062	25845	5240	31085		17.05	Si
SLV 10	11.25	1632.46	-4184	-3484	-1729	2.055	1.912	-6055	11628	6225	38062	25845	5240	31085		17.98	Si
SLV 3	9.45	2588.97	-14119	-11757	3151	2.055	2.055	-20433	14503	8345	38062	25845	5240	31085		9.86	Si
SLV 3	11.25	-2835.89	-11919	-9925	2826	2.055	2.055	-17249	13866	7979	38062	25845	5240	31085		11	Si
SLV 4	9.45	1771.73	-13211	-11001	2388	2.055	2.055	-19119	14241	8194	38062	25845	5240	31085		13.02	Si
SLV 4	11.25	-2279.08	-11012	-9169	2063	2.055	2.055	-15936	13604	7828	38062	25845	5240	31085		15.07	Si
SLD 3	9.45	1642.51	-13018	-10841	2103	2.055	2.055	-18840	14185	8162	38062	25845	5240	31085		14.78	Si
SLD 3	11.25	-1972.03	-10861	-9044	1892	2.055	2.055	-15718	13560	7803	38062	25845	5240	31085		16.43	Si
SLV 13	9.45	-1727.78	-9217	-7675	-1808	2.055	2.055	-13339	13085	7529	38062	25845	5240	31085		17.19	Si
SLV 13	11.25	1308.67	-7216	-6009	-1483	2.055	2.055	-10443	12505	7196	38062	25845	5240	31085		20.96	Si
SLV 7	9.45	1669.71	-16145	-13444	2403	2.055	2.055	-23365	15090	8683	38062	25845	5240	31085		12.94	Si
SLV 7	11.25	-2602.87	-14044	-11694	2309	2.055	2.055	-20324	14481	8333	38062	25845	5240	31085		13.46	Si
SLV 16	9.45	-2066.92	-10875	-9056	-1838	2.055	2.055	-15738	13564	7805	38062	25845	5240	31085		16.91	Si
SLV 16	11.25	1002.71	-8893	-7405	-1511	2.055	2.055	-12870	12991	7475	38062	25845	5240	31085		20.58	Si
SLV 8	9.45	1119.49	-15534	-12936	1889	2.055	2.055	-22481	14913	8581	38062	25845	5240	31085		16.45	Si
SLV 8	11.25	-2227.99	-13433	-11186	1795	2.055	2.055	-19440	14305	8231	38062	25845	5240	31085		17.32	Si
SLV 1	9.45	2110.87	-11554	-9621	2418	2.055	2.055	-16721	13761	7918	38062	25845	5240	31085		12.86	Si
SLV 1	11.25	-1973.12	-9335	-7773	2091	2.055	2.055	-13510	13119	7548	38062	25845	5240	31085		14.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 $\gamma M = 2$



Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 10	179667	0.46	9345	-5377	250.91	706.74	2.82	Si
SLV 9	179667	0.46	10407	-5988	250.91	781.21	3.11	Si
SLV 6	179667	0.46	10553	-6072	250.91	791.33	3.15	Si
SLV 5	179667	0.46	11614	-6683	250.91	864.45	3.45	Si
SLV 14	179667	0.46	12915	-7431	250.91	952.37	3.8	Si
SLV 13	179667	0.46	14492	-8338	250.91	1056.61	4.21	Si
SLV 2	179667	0.46	16939	-9747	250.91	1213.21	4.84	Si
SLV 16	179667	0.46	17402	-10013	250.91	1242.12	4.95	Si
SLV 1	179667	0.46	18516	-10654	250.91	1310.75	5.22	Si
SLV 15	179667	0.46	18979	-10921	250.91	1338.89	5.34	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-8546	-10749	206	1.141	1157.1	0.933	17.7866	7.35059	Si
SLV 16	-8258	-9261	206	1.173	1128.1	0.931	18.3051	7.35059	Si
SLV 3	-8019	-16522	317	1.189	1104	0.93	18.58143	7.35059	Si
SLV 4	-7731	-15034	317	1.224	1074.9	0.929	19.1544	7.35059	Si
SLV 11	-10215	-16247	855	0.935	1326	0.94	14.45273	5.33016	Si
SLV 7	-10057	-17979	888	0.944	1310	0.939	14.60296	5.33016	Si
SLV 12	-10021	-15245	855	0.949	1306.4	0.939	14.69134	5.33016	Si
SLV 8	-9864	-16977	888	0.959	1290.4	0.938	14.84749	5.33016	Si
SLV 13	-6917	-7559	-317	1.334	992.9	0.924	20.98808	7.35059	Si
SLV 14	-6629	-6071	-317	1.379	964	0.922	21.72361	7.35059	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	16.175	SLU 43	Si
V_SLU	17.512	SLU 43	Si
PF_SLV	2.668	SLV 10	Si
V_SLV	9.864	SLV 3	Si
PFFP_SLV	2.817	SLV 10	Si
R_SLV	2.42	SLV 15	Si

Maschio 197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	5.951	-2.063	5.951	L6	L7	1.94	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 34	9.45	21.13	-10252	-0.0000291	0.0003743	0.0035	1.94	8101.16	8590.12	8590.12	406.54	No	Si
SLU 34	11.25	1290.11	-9897	-0.0000394	0.0003743	0.0035	1.94	7882.07	8326.76	8326.76	6.45	No	Si
SLU 38	9.45	71.15	-10870	-0.0000314	0.0003743	0.0035	1.94	8471.74	9053.83	9053.83	127.25	No	Si
SLU 38	11.25	1352.65	-10513	-0.0000419	0.0003743	0.0035	1.94	8259.35	8785.31	8785.31	6.49	No	Si
SLU 33	9.45	47.27	-10481	-0.00003	0.0003743	0.0035	1.94	8239.58	8760.7	8760.7	185.32	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 33	11.25	1304.42	-10111	-0.0000402	0.0003743	0.0035	1.94	8014.72	8485.29	8485.29	6.51	No	Si
SLU 39	9.45	-23.53	-9965	-0.0000283	0.0003743	0.0035	1.94	7924.38	9434.44	9434.44	400.87	No	Si
SLU 39	11.25	1298.05	-9662	-0.0000388	0.0003743	0.0035	1.94	7734.55	8153.53	8153.53	6.28	No	Si
SLU 31	9.45	-7.33	-9658	-0.0000273	0.0003743	0.0035	1.94	7732.44	9209.86	9209.86	1255.96	No	Si
SLU 31	11.25	1215.6	-9272	-0.0000369	0.0003743	0.0035	1.94	7485.97	7868.59	7868.59	6.47	No	Si
SLU 40	9.45	-55.87	-9929	-0.0000285	0.0003743	0.0035	1.94	7901.87	9407.8	9407.8	168.38	No	Si
SLU 40	11.25	1316	-9674	-0.000039	0.0003743	0.0035	1.94	7742.61	8162.91	8162.91	6.2	No	Si
SLU 35	9.45	108.07	-11111	-0.0000325	0.0003743	0.0035	1.94	8612.23	9235.72	9235.72	85.46	No	Si
SLU 35	11.25	1360.98	-10723	-0.0000426	0.0003743	0.0035	1.94	8384.84	8943.04	8943.04	6.57	No	Si
SLU 41	9.45	4.93	-10559	-0.0000299	0.0003743	0.0035	1.94	8286.71	8819.48	8819.48	1789.65	No	Si
SLU 41	11.25	1372.56	-10287	-0.0000414	0.0003743	0.0035	1.94	8122.11	8615.75	8615.75	6.28	No	Si
SLU 36	9.45	75.74	-11075	-0.0000321	0.0003743	0.0035	1.94	8591.17	9208.24	9208.24	121.58	No	Si
SLU 36	11.25	1378.93	-10736	-0.0000428	0.0003743	0.0035	1.94	8392.42	8952.66	8952.66	6.49	No	Si
SLU 42	9.45	-27.41	-10523	-0.00003	0.0003743	0.0035	1.94	8264.96	9839.39	9839.39	358.97	No	Si
SLU 42	11.25	1390.52	-10299	-0.0000416	0.0003743	0.0035	1.94	8129.89	8625.28	8625.28	6.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 3	9.45	2424.65	-10037	-0.0000491	0.0005615	0.0035	1.94		8953.05	8953.05	3.69		Si
SLV 3	11.25	-1345.44	-6243	-0.0000287	0.0005615	0.0035	1.94		6721.99	6721.99	5		Si
SLV 10	9.45	-2295.56	-4253	-0.0000353	0.0005615	0.0035	1.94		4982.42	4982.42	2.17		Si
SLV 10	11.25	2486.5	-7110	-0.0000411	0.0005615	0.0035	1.94		6631.15	6631.15	2.67		Si
SLV 14	9.45	-1947.56	-6658	-0.000035	0.0005615	0.0035	1.94		7072.99	7072.99	3.63		Si
SLV 14	11.25	2892.81	-8485	-0.0000487	0.0005615	0.0035	1.94		7781.04	7781.04	2.69		Si
SLD 10	9.45	-1327.3	-5838	-0.0000274	0.0005615	0.0035	1.94		6378.52	6378.52	4.81		Si
SLD 10	11.25	1838.31	-7234	-0.0000358	0.0005615	0.0035	1.94		6736.08	6736.08	3.66		Si
SLD 14	9.45	-1136.91	-7295	-0.0000299	0.0005615	0.0035	1.94		7615.18	7615.18	6.7		Si
SLD 14	11.25	2117.29	-8082	-0.0000406	0.0005615	0.0035	1.94		7446.56	7446.56	3.52		Si
SLV 9	9.45	-1856.08	-4426	-0.0000286	0.0005615	0.0035	1.94		5133.66	5133.66	2.77		Si
SLV 9	11.25	2108	-6725	-0.0000366	0.0005615	0.0035	1.94		6304.18	6304.18	2.99		Si
SLV 7	9.45	2772.65	-12442	-0.0000594	0.0005615	0.0035	1.94		10662.24	10662.24	3.85		Si
SLV 7	11.25	-939.14	-7618	-0.0000291	0.0005615	0.0035	1.94		7890.69	7890.69	8.4		Si
SLV 6	9.45	-1527.15	-4490	-0.0000253	0.0005615	0.0035	1.94		5189.79	5189.79	3.4		Si
SLV 6	11.25	1575.98	-6471	-0.0000313	0.0005615	0.0035	1.94		6086.28	6086.28	3.86		Si
SLV 16	9.45	-789.46	-8992	-0.0000317	0.0005615	0.0035	1.94		9015.06	9015.06	11.42		Si
SLV 16	11.25	2251.82	-8945	-0.0000443	0.0005615	0.0035	1.94		8157.38	8157.38	3.62		Si
SLV 13	9.45	-1294.81	-6915	-0.0000302	0.0005615	0.0035	1.94		7290.71	7290.71	5.63		Si
SLV 13	11.25	2330.61	-7914	-0.000042	0.0005615	0.0035	1.94		7306.28	7306.28	3.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	9.45	-27.41	-10523	-8762	-1761	1.94	1.94	-16131	9095	4941	38062	16266	4947	7411	Si	4.21	Si
SLU 42	11.25	1390.52	-10299	-8576	-1760	1.94	1.94	-15789	9050	4916	38062	16266	4947	7374	Si	4.19	Si
SLU 81	9.45	107.14	-11844	-9862	-1693	1.94	1.94	-18156	9365	5087	38062	16266	4947	7631	Si	4.51	Si
SLU 81	11.25	1372.86	-11068	-9216	-1692	1.94	1.94	-16967	9207	5001	38062	16266	4947	7502	Si	4.43	Si
SLU 39	9.45	-23.53	-9965	-8298	-1664	1.94	1.94	-15276	8981	4879	38062	16266	4947	7318	Si	4.4	Si
SLU 39	11.25	1298.05	-9662	-8045	-1663	1.94	1.94	-14811	8919	4845	38062	16266	4947	7267	Si	4.37	Si
SLU 36	9.45	75.74	-11075	-9222	-1635	1.94	1.94	-16977	9208	5002	38062	16266	4947	7503	Si	4.59	Si
SLU 36	11.25	1378.93	-10736	-8940	-1634	1.94	1.94	-16458	9139	4964	38062	16266	4947	7446	Si	4.56	Si
SLU 40	9.45	-55.87	-9929	-8268	-1719	1.94	1.94	-15221	8974	4875	38062	16266	4947	7312	Si	4.25	Si
SLU 40	11.25	1316	-9674	-8056	-1718	1.94	1.94	-14831	8922	4846	38062	16266	4947	7270	Si	4.23	Si
SLU 84	9.45	103.26	-12401	-10327	-1789	1.94	1.94	-19011	9479	5149	38062	16266	4947	7724	Si	4.32	Si
SLU 84	11.25	1465.33	-11705	-9747	-1788	1.94	1.94	-17944	9337	5072	38062	16266	4947	7608	Si	4.26	Si
SLU 83	9.45	135.6	-12438	-10357	-1735	1.94	1.94	-19067	9487	5153	38062	16266	4947	7730	Si	4.45	Si
SLU 83	11.25	1447.38	-11693	-9737	-1734	1.94	1.94	-17925	9334	5070	38062	16266	4947	7606	Si	4.39	Si
SLU 82	9.45	74.8	-11808	-9832	-1747	1.94	1.94	-18101	9358	5083	38062	16266	4947	7625	Si	4.36	Si
SLU 82	11.25	1390.82	-11081	-9227	-1746	1.94	1.94	-16986	9209	5002	38062	16266	4947	7504	Si	4.3	Si
SLU 34	9.45	21.13	-10252	-8537	-1607	1.94	1.94	-15717	9040	4911	38062	16266	4947	7366	Si	4.58	Si
SLU 34	11.25	1290.11	-9897	-8241	-1606	1.94	1.94	-15172	8967	4871	38062	16266	4947	7307	Si	4.55	Si
SLU 41	9.45	4.93	-10559	-8793	-1707	1.94	1.94	-16187	9103	4945	38062	16266	4947	7417	Si	4.35	Si
SLU 41	11.25	1372.56	-10287	-8566	-1705	1.94	1.94	-15769	9047	4914	38062	16266	4947	7372	Si	4.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 10	9.45	-1327.3	-5838	-4861	-3643	1.94	1.94	-8949	12206	6631	38062	24399	4947	29346		8.06	Si
SLD 10	11.25	1838.31	-7234	-6024	-3594	1.94	1.94	-11089	12635	6863	38062	24399	4947	29346		8.16	Si
SLD 14	9.45	-1136.91	-7295	-6075	-3473	1.94	1.94	-11183	12653	6873	38062	24399	4947	29346		8.45	Si
SLD 14	11.25	2117.29	-8082	-6730	-3197	1.94	1.94	-12389	12895	7004	38062	24399	4947	29346		9.18	Si
SLV 9	9.45	-1856.08	-4426	-3686	-4606	1.94	1.6519	-7996	12016	5558	38062	24399	4947	29346		6.37	Si
SLV 9	11.25	2108	-6725	-5600	-4535	1.94	1.94	-10310	12479	6778	38062	24399	4947	29346		6.47	Si
SLV 5	9.45	-1087.67	-4663	-3883	-3051	1.94	1.94	-7148	11846	6435	38062	24399	4947	29346		9.62	Si
SLV 5	11.25	1197.47	-6086	-5068	-3246	1.94	1.94	-9330	12283	6672	38062	24399	4947	29346		9.04	Si
SLV 6	9.45	-1527.15	-4490	-3739	-3806	1.94	1.8896	-6883	11793	6240	38062	24399	4947	29346		7.71	Si
SLV 6	11.25	1575.98	-6471	-5389	-4001	1.94	1.94	-9920	12401	6736	38062	24399	4947	29346		7.34	Si
SLV 10	9.45	-2295.56	-4253	-3542	-5361	1.94	1.2909	-9838	12385	4476	38062	24399	4947	29346		5.47	Si
SLV 10	11.25	2486.5	-7110	-5921	-5290	1.94	1.8609	-10900	12597	6563	38062	24399	4947	29346		5.55	Si
SLV 7	9.45	2772.65	-12442	-10361	3670	1.94	1.94	-19073	14231	7730	38062	24399	4947	29346		8	Si
SLV 7	11.25	-939.14	-7618	-6344	3601	1.94	1.94	-11678	12752	6927	38062	24399	4947	29346		8.15	Si
SLV 13	9.45	-1294.81	-6915	-5758	-3884	1.94	1.94	-10600	12537	6810	38062	24399	4947	29346		7.56	Si
SLV 13	11.25	2330.61	-7914	-6590	-3460	1.94	1.94	-12132	12843	6976	38062	24399	4947	29346		8.48	Si
SLV 14	9.45	-1947.56	-6658	-5544	-5005	1.94	1.94	-10207	12458	6767	38062	24399	4947	29346		5.86	Si
SLV 14	11.25	2892.81	-8485	-7066	-4581	1.94	1.8872	-13008	13018	6879	38062	24399	4947	29346		6.41	Si
SLV 3	9.45	2424.65	-10037	-8358	3314	1.94	1.94	-15387	13494	7330	38062	24399	4947	29346		8.85	Si</



Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 yM = 2

Comb.	fd	Sa	α0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.46	10169	-5524	236.87	721.84	3.05	Si
SLV 6	179667	0.46	10350	-5622	236.87	733.78	3.1	Si
SLV 9	179667	0.46	10529	-5719	236.87	745.51	3.15	Si
SLV 10	179667	0.46	10710	-5818	236.87	757.39	3.2	Si
SLV 1	179667	0.46	12732	-6916	236.87	887.51	3.75	Si
SLV 2	179667	0.46	13001	-7062	236.87	904.54	3.82	Si
SLV 13	179667	0.46	13932	-7568	236.87	962.84	4.06	Si
SLV 14	179667	0.46	14201	-7714	236.87	979.55	4.14	Si
SLV 3	179667	0.46	15326	-8325	236.87	1048.56	4.43	Si
SLV 4	179667	0.46	15596	-8472	236.87	1064.9	4.5	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-6692	-9740	-99	1.333	953.7	0.925	20.94469	7.35059	Si
SLV 14	-6398	-7530	-310	1.354	924.1	0.923	21.31663	7.35059	Si
SLV 15	-6380	-9613	-100	1.383	922.3	0.923	21.77532	7.35059	Si
SLV 13	-6085	-7403	-310	1.407	892.7	0.921	22.19476	7.35059	Si
SLV 4	-6031	-8341	316	1.415	887.3	0.921	22.34106	7.35059	Si
SLV 3	-5719	-8214	316	1.473	855.9	0.919	23.31049	7.35059	Si
SLV 2	-5737	-6131	106	1.498	857.8	0.919	23.69782	7.35059	Si
SLV 1	-5424	-6004	105	1.562	826.5	0.916	24.77037	7.35059	Si
SLV 12	-6753	-11808	292	1.301	959.9	0.925	20.4321	5.33016	Si
SLV 8	-6555	-11389	417	1.316	939.9	0.924	20.69766	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.203	SLU 40	Si
V_SLU	4.19	SLU 42	Si
PF_SLV	2.17	SLV 10	Si
V_SLV	5.474	SLV 10	Si
PFFP_SLV	3.047	SLV 5	Si
R_SLV	2.849	SLV 16	Si

Maschio 198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.359	-0.123	5.951	L6	L7	9.31	0.28	3.5	3.5	3.5			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, yM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 38	8.55	3918.02	-59900	-0.0000372	0.0003743	0.0035	9.31	215903.25	236505.24	236505.24	60.36	No	Si
SLU 38	12.05	4968.83	-33552	-0.0000213	0.0003743	0.0035	9.31	136439.85	142995.8	142995.8	28.78	No	Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 28	8.55	3783.58	-55247	-0.0000342	0.0003743	0.0035	9.31	203639.75	220145.34	220145.34	58.18	No	Si
SLU 28	12.05	4849.98	-31650	-0.0000202	0.0003743	0.0035	9.31	129760.82	136598.43	136598.43	28.16	No	Si
SLU 29	8.55	4004.18	-54362	-0.0000337	0.0003743	0.0035	9.31	201222.77	216859.31	216859.31	54.16	No	Si
SLU 29	12.05	4610.25	-30939	-0.0000196	0.0003743	0.0035	9.31	127232.04	134222.38	134222.38	29.11	No	Si
SLU 72	8.55	3305.43	-64229	-0.0000397	0.0003743	0.0035	9.31	226629.92	248008.51	248008.51	75.03	No	Si
SLU 72	12.05	5171.05	-36155	-0.000023	0.0003743	0.0035	9.31	145375.85	151846.13	151846.13	29.36	No	Si
SLU 70	8.55	3344.04	-65182	-0.0000403	0.0003743	0.0035	9.31	228902.61	250569.76	250569.76	74.93	No	Si
SLU 70	12.05	5191.38	-36902	-0.0000234	0.0003743	0.0035	9.31	147893.47	154402.77	154402.77	29.74	No	Si
SLU 27	8.55	4042.79	-55315	-0.0000343	0.0003743	0.0035	9.31	203825.25	220399.52	220399.52	54.52	No	Si
SLU 27	12.05	4630.59	-31685	-0.0000201	0.0003743	0.0035	9.31	129886.22	136716.9	136716.9	29.52	No	Si
SLU 36	8.55	3956.63	-60853	-0.0000378	0.0003743	0.0035	9.31	218320.63	239018.38	239018.38	60.41	No	Si
SLU 36	12.05	4989.17	-34298	-0.0000218	0.0003743	0.0035	9.31	139025.62	145521.58	145521.58	29.17	No	Si
SLU 37	8.55	4177.23	-59969	-0.0000373	0.0003743	0.0035	9.31	216077.61	236685.05	236685.05	56.66	No	Si
SLU 37	12.05	4749.43	-33587	-0.0000213	0.0003743	0.0035	9.31	136562.88	143115.35	143115.35	30.13	No	Si
SLU 30	8.55	3744.97	-54294	-0.0000336	0.0003743	0.0035	9.31	201034.98	216605.98	216605.98	57.84	No	Si
SLU 30	12.05	4829.65	-30904	-0.0000197	0.0003743	0.0035	9.31	127105.72	134104.33	134104.33	27.77	No	Si
SLU 9	8.55	2212.83	-46053	-0.0000279	0.0003743	0.0035	9.31	177177.68	186513.37	186513.37	84.29	No	Si
SLU 9	12.05	3912.09	-26184	-0.0000166	0.0003743	0.0035	9.31	109859.76	117081.71	117081.71	29.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 5	8.55	-32408.91	-39394	-0.0000348	0.0005615	0.0035	9.31		194986.15	194986.15	6.02		Si
SLV 5	12.05	3824.3	-22667	-0.0000143	0.0005615	0.0035	9.31		104851.16	104851.16	27.42		Si
SLV 7	8.55	36823.89	-48017	-0.0000417	0.0005615	0.0035	9.31		204472.11	204472.11	5.55		Si
SLV 7	12.05	777.18	-26362	-0.0000154	0.0005615	0.0035	9.31		120456.78	120456.78	154.99		Si
SLV 10	8.55	-35277.72	-44968	-0.0000393	0.0005615	0.0035	9.31		216576.96	216576.96	6.14		Si
SLV 10	12.05	4199.95	-23650	-0.000015	0.0005615	0.0035	9.31		109037.11	109037.11	25.96		Si
SLV 12	8.55	33955.09	-53591	-0.0000441	0.0005615	0.0035	9.31		223649	223649	6.59		Si
SLV 12	12.05	1152.83	-27345	-0.0000161	0.0005615	0.0035	9.31		124570.5	124570.5	108.06		Si
SLD 8	8.55	22745.95	-47385	-0.000036	0.0005615	0.0035	9.31		202311.79	202311.79	8.89		Si
SLD 8	12.05	2310.18	-25849	-0.0000156	0.0005615	0.0035	9.31		118293.49	118293.49	51.21		Si
SLV 9	8.55	-35185.12	-45007	-0.0000393	0.0005615	0.0035	9.31		216731.23	216731.23	6.16		Si
SLV 9	12.05	2572.27	-23653	-0.0000145	0.0005615	0.0035	9.31		109048.66	109048.66	42.39		Si
SLV 8	8.55	36731.3	-47977	-0.0000417	0.0005615	0.0035	9.31		204337.1	204337.1	5.56		Si
SLV 8	12.05	2404.85	-26359	-0.000016	0.0005615	0.0035	9.31		120445.15	120445.15	50.08		Si
SLD 7	8.55	22803.91	-47410	-0.0000361	0.0005615	0.0035	9.31		202396.2	202396.2	8.88		Si
SLD 7	12.05	1291.27	-25851	-0.0000153	0.0005615	0.0035	9.31		118300.76	118300.76	91.62		Si
SLV 11	8.55	34047.68	-53630	-0.0000441	0.0005615	0.0035	9.31		223785.62	223785.62	6.57		Si
SLV 11	12.05	-474.85	-27347	-0.0000158	0.0005615	0.0035	9.31		146029.04	146029.04	307.53		Si
SLV 6	8.55	-32501.51	-39354	-0.0000349	0.0005615	0.0035	9.31		194834.56	194834.56	5.99		Si
SLV 6	12.05	5451.98	-22664	-0.0000149	0.0005615	0.0035	9.31		104839.38	104839.38	19.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	α_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	8.55	-165.64	-60412	-50306	-1625	9.31	9.31	-19298	9517	32671	38062	78059	23741	49006	Si	30.16	Si
SLU 61	12.05	2946.26	-31900	-26564	-1560	9.31	9.31	-10190	8303	23174	38062	78059	23741	34761	Si	22.28	Si
SLU 2	8.55	-146.12	-42422	-35325	-1548	9.31	9.31	-13551	8751	26679	38062	78059	23741	40018	Si	25.86	Si
SLU 2	12.05	2552.3	-22842	-19020	-1441	9.31	9.31	-7296	7917	20639	38062	78059	23741	30958	Si	21.48	Si
SLU 46	8.55	718.83	-55148	-45923	-1440	9.31	9.31	-17617	9293	30917	38062	78059	23741	46376	Si	32.2	Si
SLU 46	12.05	3520.79	-30522	-25416	-1375	9.31	9.31	-9750	8244	22715	38062	78059	23741	34073	Si	24.77	Si
SLU 10	8.55	26.93	-48028	-39994	-1532	9.31	9.31	-15342	8990	28546	38062	78059	23741	42819	Si	27.95	Si
SLU 10	12.05	2691.48	-25490	-21226	-1425	9.31	9.31	-8142	8030	21039	38062	78059	23741	31559	Si	22.14	Si
SLU 55	8.55	680.47	-59756	-49760	-1710	9.31	9.31	-19089	9490	32452	38062	78059	23741	48678	Si	28.47	Si
SLU 55	12.05	3785.91	-32401	-26981	-1603	9.31	9.31	-10350	8324	23341	38062	78059	23741	35011	Si	21.84	Si
SLU 65	8.55	946.48	-60598	-50461	-1614	9.31	9.31	-19357	9525	32733	38062	78059	23741	49099	Si	30.42	Si
SLU 65	12.05	3811.26	-32813	-27324	-1507	9.31	9.31	-10482	8342	23478	38062	78059	23741	35217	Si	23.37	Si
SLU 47	8.55	507.41	-54150	-45092	-1725	9.31	9.31	-17298	9251	30585	38062	78059	23741	45877	Si	26.59	Si
SLU 47	12.05	3646.72	-29753	-24775	-1618	9.31	9.31	-9504	8212	22459	38062	78059	23741	33688	Si	20.81	Si
SLU 73	8.55	1119.54	-66205	-55129	-1598	9.31	9.31	-21148	9764	34600	38062	78059	23741	51900	Si	32.47	Si
SLU 73	12.05	3950.44	-35462	-29530	-1491	9.31	9.31	-11328	8455	24360	38062	78059	23741	36541	Si	24.5	Si
SLU 44	8.55	-585.66	-52357	-43599	-1914	9.31	9.31	-16725	9174	29988	38062	78059	23741	44982	Si	23.5	Si
SLU 44	12.05	2893.69	-28093	-23394	-1807	9.31	9.31	-8974	8141	21906	38062	78059	23741	32859	Si	18.18	Si
SLU 52	8.55	-412.61	-57964	-48267	-1899	9.31	9.31	-18516	9413	31855	38062	78059	23741	47783	Si	25.17	Si
SLU 52	12.05	3032.88	-30742	-25599	-1792	9.31	9.31	-9820	8254	22788	38062	78059	23741	34182	Si	19.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	8.55	-35185.12	-45007	-37478	-28572	9.31	9.31	-14377	13292	34650	38062	117089	23741	72712		2.54	Si
SLV 9	12.05	2572.27	-23653	-19696	-24721	9.31	9.31	-7556	11928	31093	38062	117089	23741	69155		2.8	Si
SLD 10	8.55	-21257.74	-45575	-37951	-19873	9.31	9.31	-14558	13328	34744	38062	117089	23741	72806		3.66	Si
SLD 10	12.05	3685.86	-24160	-20119	-17466	9.31	9.31	-7718	11960	31178	38062	117089	23741	69240		3.96	Si
SLD 6	8.55	-19558.6	-42044	-35011	-20156	9.31	9.31	-13431	13103	34156	38062	117089	23741	72218		3.58	Si
SLD 6	12.05	4482.41	-23560	-19619	-17759	9.31	9.31	-7526	11922	31078	38062	117089	23741	69140		3.89	Si
SLV 8	8.55	36731.3	-47977	-39951	26994	9.31	9.31	-15326	13482	35144	38062	117089	23741	73207		2.71	Si
SLV 8	12.05	2404.85	-26359	-21949	23145	9.31	9.31	-8420	12101	31544	38062	117089	23741	69606		3.01	Si
SLV 5	8.55	-32408.91	-39394	-32804	-29014	9.31	9.31	-12584	12933	33715	38062	117089	23741	71777		2.47	Si
SLV 5	12.05	3824.3	-22667	-18875	-25183	9.31	9.31	-7241	11865	30929	38062	117089	23741	68991		2.74	Si
SLV 10	8.55	-35277.72	-44968	-37445	-31793	9.31	9.31	-14364	13290	34643	38062	117089	23741	72705		2.29	Si
SLV 10	12.05	4199.95	-23650	-19694	-27941	9.31	9.31	-7555	11928	31093	38062	117089	23741	69155		2.47	Si
SLV 6	8.55	-32501.51	-39354	-32771	-32235	9.31	9.31	-12571	12931	33708	38062	117089	23741	71770		2.23	Si
SLV 6	12.05	5451.98	-22664	-18873	-28403	9.31	9.31	-7240	11865	30929	38062	117089	23741	68991		2.43	Si
SLV 12	8.55	33955.09	-53591	-44626	27436	9.31	9.31	-17119	13840	36673	38062	117089	23741	74735		2.72	Si
SLV 12	12.05	1152.83	-27345	-22770	23607	9.31	9.31	-8735	12164	31708	38062	117089	23741	69770		2.96	Si
SLV 7	8.55	36823.89	-48017	-39984	30215	9.31	9.31	-15338	13484	35151	38062	117089	23741	73213		2.42	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 7	12.05	777.18	-26362	-21952	26366	9.31	9.31	-8421	12101	31545	38062	117089	23741	69607		2.64	Si
SLV 11	8.55	34047.68	-53630	-44659	30657	9.31	9.31	-17132	13843	36686	38062	117089	23741	74748		2.44	Si
SLV 11	12.05	-474.85	-27347	-22772	26828	9.31	9.31	-8736	12164	31709	38062	117089	23741	69771		2.6	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 10.3 Wa 0.05 denominatore 8 yM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.46	11573	-30169	1136.75	3903.61	3.43	Si
SLV 1	179667	0.46	11575	-30174	1136.75	3904.12	3.43	Si
SLV 6	179667	0.46	12144	-31657	1136.75	4079.52	3.59	Si
SLV 5	179667	0.46	12145	-31660	1136.75	4079.86	3.59	Si
SLV 4	179667	0.46	12236	-31896	1136.75	4107.62	3.61	Si
SLV 3	179667	0.46	12237	-31900	1136.75	4108.12	3.61	Si
SLV 10	179667	0.46	13295	-34657	1136.75	4429.64	3.9	Si
SLV 9	179667	0.46	13296	-34660	1136.75	4429.97	3.9	Si
SLV 8	179667	0.46	14351	-37411	1136.75	4745.37	4.17	Si
SLV 7	179667	0.46	14352	-37414	1136.75	4745.7	4.17	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 10.3 Wa = 0.05 Ta = 0.0731

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-27205	-57170	2324	1.46	4083.6	0.918	23.11145	7.35059	Si
SLV 16	-27201	-57112	2324	1.46	4083.2	0.918	23.11419	7.35059	Si
SLV 13	-26096	-54584	2319	1.506	3972.7	0.917	23.88341	7.35059	Si
SLV 14	-26092	-54525	2319	1.506	3972.2	0.917	23.88634	7.35059	Si
SLV 3	-23919	-38460	-2331	1.605	3755.1	0.913	25.54876	7.35059	Si
SLV 4	-23915	-38401	-2331	1.605	3754.7	0.913	25.55212	7.35059	Si
SLV 1	-22811	-35873	-2336	1.661	3644.7	0.911	26.48907	7.35059	Si
SLV 2	-22807	-35814	-2336	1.661	3644.3	0.911	26.49268	7.35059	Si
SLV 11	-27347	-53630	701	1.5	4097.9	0.918	23.73843	5.33016	Si
SLV 12	-27345	-53591	701	1.5	4097.6	0.918	23.74032	5.33016	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	27.767	SLU 30	Si
V_SLU	18.18	SLU 44	Si
PF_SLV	5.553	SLV 7	Si
V_SLV	2.226	SLV 6	Si
PFFP_SLV	3.434	SLV 2	Si
R_SLV	3.144	SLV 15	Si

Maschio 199

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-24.678	-3.359	-24.678	5.951	L7	L8	9.311	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε_CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, yM = 3

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 25	12.05	3350.8	-26647	-0.0000166	0.0003743	0.0035	9.3107	111598.48	118937.11	118937.11	35.5	No	Si
SLU 25	15.15	-459.85	-4528	-0.0000027	0.0003743	0.0035	9.3107	20720.09	47228.1	31080.13	67.59	Si	Si
SLU 28	12.05	3645.2	-28052	-0.0000176	0.0003743	0.0035	9.3107	116791.29	124404.91	124404.91	34.13	No	Si
SLU 28	15.15	-543.88	-5508	-0.0000033	0.0003743	0.0035	9.3107	25111.17	51610.42	37666.76	69.26	Si	Si
SLU 36	12.05	3841.76	-29982	-0.0000188	0.0003743	0.0035	9.3107	123809.01	131048.06	131048.06	34.11	No	Si
SLU 36	15.15	-596.12	-5643	-0.0000034	0.0003743	0.0035	9.3107	25710.77	52210.34	38566.15	64.7	Si	Si
SLU 31	12.05	3322.19	-26500	-0.0000165	0.0003743	0.0035	9.3107	111051.09	118351.81	118351.81	35.62	No	Si
SLU 31	15.15	-427.98	-3705	-0.0000022	0.0003743	0.0035	9.3107	17009.27	43537.55	25513.9	59.61	Si	Si
SLU 30	12.05	3538.99	-27386	-0.0000171	0.0003743	0.0035	9.3107	114337.91	121864.02	121864.02	34.43	No	Si
SLU 30	15.15	-532.56	-5527	-0.0000033	0.0003743	0.0035	9.3107	25194.67	51693.95	37792.01	70.96	Si	Si
SLU 23	12.05	3125.63	-24571	-0.0000153	0.0003743	0.0035	9.3107	103797.77	110614.59	110614.59	35.39	No	Si
SLU 23	15.15	-375.74	-3571	-0.0000022	0.0003743	0.0035	9.3107	16400.54	42931.73	24600.8	65.47	Si	Si
SLU 34	12.05	3616.59	-27905	-0.0000175	0.0003743	0.0035	9.3107	116251.15	123852.8	123852.8	34.25	No	Si
SLU 34	15.15	-512.01	-4686	-0.0000028	0.0003743	0.0035	9.3107	21428.64	47933.88	32142.96	62.78	Si	Si
SLU 38	12.05	3735.55	-29316	-0.0000183	0.0003743	0.0035	9.3107	121400.71	128838.72	128838.72	34.49	No	Si
SLU 38	15.15	-584.8	-5662	-0.0000034	0.0003743	0.0035	9.3107	25794.18	52293.82	38691.27	66.16	Si	Si
SLU 33	12.05	3547.36	-28577	-0.0000178	0.0003743	0.0035	9.3107	118711.28	126333.08	126333.08	35.61	No	Si
SLU 33	15.15	-512.09	-4663	-0.0000028	0.0003743	0.0035	9.3107	21324.31	47829.92	31986.46	62.46	Si	Si
SLU 26	12.05	3420.03	-25976	-0.0000162	0.0003743	0.0035	9.3107	109092.91	116264.6	116264.6	34	No	Si
SLU 26	15.15	-459.77	-4551	-0.0000027	0.0003743	0.0035	9.3107	20824.53	47332.11	31236.8	67.94	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 7	12.05	2145.91	-22796	-0.0000138	0.0005615	0.0035	9.3107		105412.7	105412.7	49.12		Si
SLD 7	15.15	2120.59	-3010	-0.0000025	0.0005615	0.0035	9.3107		18128.34	18128.34	8.55		Si
SLV 8	12.05	1130.68	-22974	-0.0000135	0.0005615	0.0035	9.3107		106173.88	106173.88	93.9		Si
SLV 8	15.15	3359.47	-2925	-0.0000029	0.0005615	0.0035	9.3107		17736.77	17736.77	5.28		Si
SLV 6	12.05	1274.87	-22437	-0.0000133	0.0005615	0.0035	9.3107		103875.44	103875.44	81.48		Si
SLV 6	15.15	-4167.74	-3067	-0.0000032	0.0005615	0.0035	9.3107		40633.98	40633.98	9.75		Si
SLV 10	12.05	1895.74	-21844	-0.0000132	0.0005615	0.0035	9.3107		101338.56	101338.56	53.46		Si
SLV 10	15.15	-4155.72	-3346	-0.0000034	0.0005615	0.0035	9.3107		41894.1	41894.1	10.08		Si
SLV 11	12.05	3050.71	-22429	-0.0000139	0.0005615	0.0035	9.3107		103840.58	103840.58	34.04		Si
SLV 11	15.15	3617.65	-3212	-0.0000031	0.0005615	0.0035	9.3107		19050.33	19050.33	5.27		Si
SLD 12	12.05	1724.41	-22408	-0.0000134	0.0005615	0.0035	9.3107		103753.33	103753.33	60.17		Si
SLD 12	15.15	1975.59	-3182	-0.0000025	0.0005615	0.0035	9.3107		18911.3	18911.3	9.57		Si
SLV 7	12.05	2429.84	-23022	-0.000014	0.0005615	0.0035	9.3107		106378.81	106378.81	43.78		Si
SLV 7	15.15	3605.63	-2934	-0.000003	0.0005615	0.0035	9.3107		17778.02	17778.02	4.93		Si
SLD 11	12.05	2537.67	-22438	-0.0000137	0.0005615	0.0035	9.3107		103881.9	103881.9	40.94		Si
SLD 11	15.15	2129.69	-3188	-0.0000026	0.0005615	0.0035	9.3107		18937	18937	8.89		Si
SLD 8	12.05	1332.65	-22766	-0.0000135	0.0005615	0.0035	9.3107		105284.12	105284.12	79		Si
SLD 8	15.15	1966.5	-3005	-0.0000024	0.0005615	0.0035	9.3107		18102.53	18102.53	9.21		Si
SLV 12	12.05	1751.56	-22381	-0.0000134	0.0005615	0.0035	9.3107		103635.21	103635.21	59.17		Si
SLV 12	15.15	3371.49	-3203	-0.000003	0.0005615	0.0035	9.3107		19009.26	19009.26	5.64		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	12.05	3900.33	-32848	-27353	2392	9.3107	9.3107	-10492	8343	23491	35683	78065	23742	35236	Si	14.73	Si
SLU 76	15.15	-537.52	-5341	-4448	2507	9.3107	9.3107	-1706	7172	18697	35683	78065	23742	28046	Si	11.19	Si
SLU 78	12.05	4125.5	-34925	-29082	2628	9.3107	9.3107	-11156	8432	24182	35683	78065	23742	36274	Si	13.8	Si
SLU 78	15.15	-621.63	-6298	-5245	2692	9.3107	9.3107	-2012	7213	18803	35683	78065	23742	28205	Si	10.48	Si
SLU 42	12.05	3525.39	-28737	-23930	2412	9.3107	9.3107	-9179	8168	22122	35683	78065	23742	33182	Si	13.76	Si
SLU 42	15.15	-523.16	-4739	-3946	2479	9.3107	9.3107	-1514	7146	18630	35683	78065	23742	27945	Si	11.27	Si
SLU 84	12.05	3809.14	-33681	-28046	2516	9.3107	9.3107	-10758	8379	23768	35683	78065	23742	35652	Si	14.17	Si
SLU 84	15.15	-548.68	-5394	-4492	2582	9.3107	9.3107	-1723	7174	18703	35683	78065	23742	28055	Si	10.87	Si
SLU 80	12.05	4019.29	-34259	-28528	2521	9.3107	9.3107	-10943	8403	23961	35683	78065	23742	35941	Si	14.26	Si
SLU 80	15.15	-610.31	-6317	-5260	2585	9.3107	9.3107	-2018	7213	18805	35683	78065	23742	28208	Si	10.91	Si
SLU 35	12.05	3578.61	-29989	-24973	2511	9.3107	9.3107	-9579	8222	22539	35683	78065	23742	33808	Si	13.47	Si
SLU 35	15.15	-579.26	-5636	-4693	2503	9.3107	9.3107	-1800	7184	18730	35683	78065	23742	28095	Si	11.22	Si
SLU 77	12.05	3862.35	-34933	-29089	2614	9.3107	9.3107	-11158	8432	24185	35683	78065	23742	36278	Si	13.88	Si
SLU 77	15.15	-604.78	-6291	-5239	2606	9.3107	9.3107	-2010	7212	18803	35683	78065	23742	28204	Si	10.82	Si
SLU 83	12.05	3545.98	-33688	-28053	2502	9.3107	9.3107	-10761	8379	23771	35683	78065	23742	35656	Si	14.25	Si
SLU 83	15.15	-531.82	-5387	-4486	2495	9.3107	9.3107	-1721	7174	18702	35683	78065	23742	28053	Si	11.24	Si
SLU 36	12.05	3841.76	-29982	-24966	2524	9.3107	9.3107	-9577	8221	22536	35683	78065	23742	33804	Si	13.39	Si
SLU 36	15.15	-596.12	-5643	-4699	2590	9.3107	9.3107	-1802	7185	18731	35683	78065	23742	28096	Si	10.85	Si
SLU 75	12.05	3831.11	-33520	-27912	2490	9.3107	9.3107	-10707	8372	23715	35683	78065	23742	35572	Si	14.29	Si
SLU 75	15.15	-537.6	-5318	-4428	2557	9.3107	9.3107	-1699	7171	18695	35683	78065	23742	28042	Si	10.97	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	12.05	1274.87	-22437	-18684	-7054	9.3107	9.3107	-7167	11850	30893	35683	117097	23742	66576		9.44	Si
SLV 6	15.15	-4167.74	-3067	-2554	-2364	9.3107	9.3107	-980	10613	27667	35683	117097	23742	63350		26.79	Si
SLV 12	12.05	1751.56	-22381	-18637	10730	9.3107	9.3107	-7149	11846	30884	35683	117097	23742	66567		6.2	Si
SLV 12	15.15	3371.49	-3203	-2668	6033	9.3107	9.3107	-1023	10621	27690	35683	117097	23742	63373		10.5	Si
SLV 10	12.05	1895.74	-21844	-18189	-7313	9.3107	9.3107	-6977	11812	30794	35683	117097	23742	66477		9.09	Si
SLV 10	15.15	-4155.72	-3346	-2786	-2477	9.3107	9.3107	-1069	10630	27713	35683	117097	23742	63397		25.6	Si
SLV 5	12.05	2574.02	-22485	-18724	-7898	9.3107	9.3107	-7182	11853	30901	35683	117097	23742	66584		8.43	Si
SLV 5	15.15	-3921.58	-3076	-2561	-3207	9.3107	9.3107	-983	10613	27668	35683	117097	23742	63352		19.75	Si
SLD 8	12.05	1332.65	-22766	-18958	7253	9.3107	9.3107	-7272	11871	30948	35683	117097	23742	66631		9.19	Si
SLD 8	15.15	1966.5	-3005	-2502	4256	9.3107	9.3107	-960	10609	27657	35683	117097	23742	63340		14.88	Si
SLD 12	12.05	1724.41	-22408	-18660	7086	9.3107	9.3107	-7158	11848	30888	35683	117097	23742	66571		9.39	Si
SLD 12	15.15	1975.59	-3182	-2650	4184	9.3107	9.3107	-1016	10620	27686	35683	117097	23742	63369		15.15	Si
SLV 7	12.05	2429.84	-23022	-19171	10145	9.3107	9.3107	-7354	11887	30990	35683	117097	23742	66674		6.57	Si
SLV 7	15.15	3605.63	-2934	-2443	5303	9.3107	9.3107	-937	10604	27645	35683	117097	23742	63328		11.94	Si
SLV 8	12.05	1130.68	-22974	-19131	10988	9.3107	9.3107	-7338	11884	30982	35683	117097	23742	66666		6.07	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	15.15	3359.47	-2925	-2435	6145	9.3107	9.3107	-934	10603	27643	35683	117097	23742	63326		10.31	Si
SLV 11	12.05	3050.71	-22429	-18677	9887	9.3107	9.3107	-7164	11849	30892	35683	117097	23742	66575		6.73	Si
SLV 11	15.15	3617.65	-3212	-2675	5190	9.3107	9.3107	-1026	10622	27691	35683	117097	23742	63374		12.21	Si
SLV 9	12.05	3194.9	-21892	-18229	-8156	9.3107	9.3107	-6993	11815	30802	35683	117097	23742	66485		8.15	Si
SLV 9	15.15	-3909.56	-3355	-2794	-3319	9.3107	9.3107	-1072	10631	27715	35683	117097	23742	63398		19.1	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.53	4535	-11822	1024.88	1605.94	1.57	Si
SLV 4	179667	0.53	4547	-11854	1024.88	1610.18	1.57	Si
SLV 1	179667	0.53	4552	-11867	1024.88	1611.9	1.57	Si
SLV 3	179667	0.53	4564	-11900	1024.88	1616.14	1.58	Si
SLV 6	179667	0.53	4714	-12290	1024.88	1667.51	1.63	Si
SLV 5	179667	0.53	4726	-12321	1024.88	1671.52	1.63	Si
SLV 8	179667	0.53	4756	-12398	1024.88	1681.61	1.64	Si
SLV 7	179667	0.53	4767	-12428	1024.88	1685.62	1.64	Si
SLV 10	179667	0.53	4878	-12717	1024.88	1723.56	1.68	Si
SLV 9	179667	0.53	4890	-12748	1024.88	1727.56	1.69	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-3633	-21399	1488	4.734	1667.9	0.9	76.44403	7.04479	Si
SLV 14	-3619	-21328	1488	4.74	1666.9	0.9	76.52774	7.04479	Si
SLV 15	-3590	-21560	1493	4.752	1664.7	0.9	76.70469	7.04479	Si
SLV 16	-3577	-21489	1493	4.758	1663.6	0.901	76.78882	7.04479	Si
SLV 1	-2703	-23377	-1452	5.175	1600.3	0.91	82.63467	7.04479	Si
SLV 2	-2689	-23306	-1452	5.182	1599.4	0.91	82.72784	7.04479	Si
SLV 3	-2660	-23538	-1447	5.197	1597.4	0.911	82.93958	7.04479	Si
SLV 4	-2647	-23467	-1447	5.204	1596.5	0.911	83.03318	7.04479	Si
SLV 9	-3355	-21892	454	4.954	1647	0.903	79.77368	5.51652	Si
SLV 10	-3346	-21844	454	4.958	1646.3	0.903	79.83312	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	33.995	SLU 26	Si
V_SLU	10.476	SLU 78	Si
PF_SLV	4.931	SLV 7	Si
V_SLV	6.067	SLV 8	Si
PFFP_SLV	1.567	SLV 2	Si
R_SLV	10.851	SLV 13	Si

Maschio 200

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.713	5.951	-24.678	5.951	L7	L8	1.965	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m+}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	12.95	-125	-4668	-0.0000137	0.0003743	0.0035	1.965	4203.84	5346.52	5346.52	42.77	No	Si
SLU 32	14.75	-710.72	-4159	-0.0000172	0.0003743	0.0035	1.965	3782.97	4902.83	4902.83	6.9	No	Si
SLU 77	12.95	-257.22	-6153	-0.000019	0.0003743	0.0035	1.965	5380.97	6598.24	6598.24	25.65	No	Si
SLU 77	14.75	-828.07	-5282	-0.0000214	0.0003743	0.0035	1.965	4700.04	5864.66	5864.66	7.08	No	Si
SLU 25	12.95	-244.68	-4884	-0.0000153	0.0003743	0.0035	1.965	4380.02	5529.23	5529.23	22.6	No	Si
SLU 25	14.75	-691.79	-4175	-0.0000171	0.0003743	0.0035	1.965	3796.21	4916.93	4916.93	7.11	No	Si
SLU 35	12.95	-140	-5226	-0.0000154	0.0003743	0.0035	1.965	4655.62	5817.36	5817.36	41.55	No	Si
SLU 35	14.75	-790.43	-4803	-0.0000197	0.0003743	0.0035	1.965	4314.32	5461.71	5461.71	6.91	No	Si
SLU 78	12.95	-232.96	-6151	-0.0000188	0.0003743	0.0035	1.965	5379.9	6597.11	6597.11	28.32	No	Si
SLU 78	14.75	-840.11	-5293	-0.0000215	0.0003743	0.0035	1.965	4708.75	5873.96	5873.96	6.99	No	Si
SLU 28	12.95	-259.67	-5442	-0.000017	0.0003743	0.0035	1.965	4827.56	6001.52	6001.52	23.11	No	Si
SLU 28	14.75	-771.5	-4819	-0.0000196	0.0003743	0.0035	1.965	4327.21	5474.92	5474.92	7.1	No	Si
SLU 33	12.95	-100.74	-4666	-0.0000135	0.0003743	0.0035	1.965	4202.71	5345.33	5345.33	53.06	No	Si
SLU 33	14.75	-722.75	-4170	-0.0000173	0.0003743	0.0035	1.965	3792.11	4912.57	4912.57	6.8	No	Si
SLU 74	12.95	-242.23	-5594	-0.0000173	0.0003743	0.0035	1.965	4947.34	6131.54	6131.54	25.31	No	Si
SLU 74	14.75	-748.36	-4638	-0.0000189	0.0003743	0.0035	1.965	4179.5	5321.04	5321.04	7.11	No	Si
SLU 75	12.95	-217.96	-5593	-0.0000171	0.0003743	0.0035	1.965	4946.25	6130.35	6130.35	28.13	No	Si
SLU 75	14.75	-760.4	-4649	-0.000019	0.0003743	0.0035	1.965	4188.45	5330.42	5330.42	7.01	No	Si
SLU 36	12.95	-115.74	-5225	-0.0000152	0.0003743	0.0035	1.965	4654.51	5816.18	5816.18	50.25	No	Si
SLU 36	14.75	-802.46	-4814	-0.0000198	0.0003743	0.0035	1.965	4323.22	5470.82	5470.82	6.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m+}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 5	12.95	851.24	-2726	-0.0000143	0.0005615	0.0035	1.965		2800.89	2800.89	3.29		Si
SLD 5	14.75	-1248.43	-2964	-0.0000186	0.0005615	0.0035	1.965		3874.75	3874.75	3.1		Si
SLV 9	12.95	1464.8	-2324	-0.0000233	0.0005615	0.0035	1.965		2427.3	2427.3	1.66		Si
SLV 9	14.75	-1575.21	-3102	-0.0000231	0.0005615	0.0035	1.965		4002.68	4002.68	2.54		Si
SLD 6	12.95	664.55	-2820	-0.000013	0.0005615	0.0035	1.965		2888.48	2888.48	4.35		Si
SLD 6	14.75	-1136.96	-2895	-0.0000173	0.0005615	0.0035	1.965		3811.45	3811.45	3.35		Si
SLV 8	12.95	-1934.08	-5056	-0.00003	0.0005615	0.0035	1.965		5760.95	5760.95	2.98		Si
SLV 8	14.75	800.13	-2217	-0.0000125	0.0005615	0.0035	1.965		2327.02	2327.02	2.91		Si
SLV 1	12.95	546.15	-2814	-0.000012	0.0005615	0.0035	1.965		2882.76	2882.76	5.28		Si
SLV 1	14.75	-1217.44	-2939	-0.0000182	0.0005615	0.0035	1.965		3852.32	3852.32	3.16		Si
SLV 6	12.95	1218.42	-2267	-0.000018	0.0005615	0.0035	1.965		2374.1	2374.1	1.95		Si
SLV 6	14.75	-1599.75	-3038	-0.0000236	0.0005615	0.0035	1.965		3943.23	3943.23	2.46		Si
SLV 11	12.95	-1687.71	-5113	-0.0000278	0.0005615	0.0035	1.965		5812.19	5812.19	3.44		Si
SLV 11	14.75	824.67	-2282	-0.0000129	0.0005615	0.0035	1.965		2387.62	2387.62	2.9		Si
SLV 12	12.95	-1985.95	-5264	-0.000031	0.0005615	0.0035	1.965		5947.4	5947.4	2.99		Si
SLV 12	14.75	1002.74	-2172	-0.0000147	0.0005615	0.0035	1.965		2284.37	2284.37	2.28		Si
SLV 10	12.95	1166.56	-2475	-0.0000171	0.0005615	0.0035	1.965		2567.67	2567.67	2.2		Si
SLV 10	14.75	-1397.15	-2993	-0.0000205	0.0005615	0.0035	1.965		3901.54	3901.54	2.79		Si
SLV 5	12.95	1516.66	-2117	-0.0000283	0.0005615	0.0035	1.965		2231.81	2231.81	1.47		Si
SLV 5	14.75	-1777.82	-3147	-0.0000267	0.0005615	0.0035	1.572		4044.37	4044.37	2.27		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	12.95	-217.96	-5593	-4657	1073	1.965	1.965	-8464	8073	4442	35683	16475	5011	6663	Si	6.21	Si
SLU 75	14.75	-760.4	-4649	-3871	1071	1.965	1.965	-7036	7883	4337	35683	16475	5011	6505	Si	6.07	Si
SLU 41	12.95	-27.65	-4332	-3607	1063	1.965	1.965	-6557	7819	4302	35683	16475	5011	6453	Si	6.07	Si
SLU 41	14.75	-629.24	-3831	-3190	1061	1.965	1.965	-5798	7717	4246	35683	16475	5011	6369	Si	6.01	Si
SLU 38	12.95	-80.07	-4982	-4149	1081	1.965	1.965	-7541	7950	4374	35683	16475	5011	6561	Si	6.07	Si
SLU 38	14.75	-707.71	-4488	-3737	1078	1.965	1.965	-6792	7850	4319	35683	16475	5011	6479	Si	6.01	Si
SLU 77	12.95	-257.22	-6153	-5123	1129	1.965	1.965	-9312	8186	4504	35683	16475	5011	6756	Si	5.98	Si
SLU 77	14.75	-828.07	-5282	-4398	1126	1.965	1.965	-7994	8010	4407	35683	16475	5011	6611	Si	5.87	Si
SLU 36	12.95	-115.74	-5225	-4351	1159	1.965	1.965	-7907	7999	4401	35683	16475	5011	6601	Si	5.69	Si
SLU 36	14.75	-802.46	-4814	-4009	1157	1.965	1.965	-7286	7916	4355	35683	16475	5011	6533	Si	5.65	Si
SLU 35	12.95	-140	-5226	-4352	1132	1.965	1.965	-7910	7999	4401	35683	16475	5011	6602	Si	5.83	Si
SLU 35	14.75	-790.43	-4803	-4000	1130	1.965	1.965	-7269	7914	4354	35683	16475	5011	6531	Si	5.78	Si
SLU 42	12.95	-3.39	-4331	-3606	1089	1.965	1.965	-6554	7818	4302	35683	16475	5011	6453	Si	5.92	Si
SLU 42	14.75	-641.27	-3842	-3199	1087	1.965	1.965	-5814	7720	4247	35683	16475	5011	6371	Si	5.86	Si
SLU 78	12.95	-232.96	-6151	-5122	1156	1.965	1.965	-9310	8186	4504	35683	16475	5011	6756	Si	5.85	Si
SLU 78	14.75	-840.11	-5293	-4407	1153	1.965	1.965	-8010	8012	4408	35683	16475	5011	6613	Si	5.74	Si
SLU 84	12.95	-120.61	-5257	-4378	1086	1.965	1.965	-7957	8005	4405	35683	16475	5011	6607	Si	6.08	Si
SLU 84	14.75	-678.92	-4320	-3598	1084	1.965	1.965	-6539	7816	4301	35683	16475	5011	6451	Si	5.95	Si
SLU 33	12.95	-100.74	-4666	-3886	1077	1.965	1.965	-7062	7886	4339	35683	16475	5011	6508	Si	6.04	Si
SLU 33	14.75	-722.75	-4170	-3472	1075	1.965	1.965	-6311	7786	4284	35683	16475	5011	6426	Si	5.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	12.95	373.28	-3506	-2920	963	1.965	1.965	-5307	11478	6315	35683	24713	5011	29724		30.87	Si
SLV 13	14.75	-542.09	-2789	-2322	2248	1.965	1.965	-4221	11261	6196	35683	24713	5011	29724		13.22	Si
SLD 5	12.95	851.24	-2726	-2270	2278	1.965	1.965	-4125	11242	6185	35683	24713	5011	29724		13.05	Si
SLD 5	14.75	-1248.43	-2964	-2468	2096	1.965	1.6838	-5246	11466	5406	35683	24713	5011	29724		14.18	Si
SLV 9	12.95	1464.8	-2324	-1936	3018	1.965	1.057	-3518	11120	3291	35683	24713	5011	29724		9.85	Si
SLV 9	14.75	-1575.21	-3102	-2583	3479	1.965	1.4242	-6495	11716	4672	35683	24713	5011	29724		8.54	Si
SLV 10	12.95	1166.56	-2475	-2061	2611	1.965	1.5335	-3746	11166	4794	35683	24713	5011	29724		11.38	Si
SLV 10	14.75	-1397.15	-2993	-2492	3073	1.965	1.547	-5766	11570	5012	35683	24713	5011	29724		9.67	Si
SLV 1	12.95	546.15	-2814	-2343	2146	1.965	1.965	-4259	11268	6200	35683	24713	5011	29724		13.85	Si
SLV 1	14.75	-1217.44	-2939	-2448	909	1.965	1.705	-5138	11444	5463	35683	24713	5011	29724		32.68	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	12.95	1516.66	-2117	-1763	3373	1.965	0.7979	-3204	11057	3119	35683	24713	5011	29724		8.81	Si
SLV 5	14.75	-1777.82	-3147	-2621	3078	1.572	1.2529	0	0	0	35683	19771	4009	23779		7.73	Si
SLV 8	12.95	-1934.08	-5056	-4210	-2003	1.965	1.7999	-8381	12093	6094	35683	24713	5011	29724		14.84	Si
SLV 8	14.75	800.13	-2217	-1847	-2467	1.965	1.865	-3356	11088	5790	35683	24713	5011	29724		12.05	Si
SLD 9	12.95	823.47	-2853	-2376	2059	1.965	1.965	-4318	11280	6206	35683	24713	5011	29724		14.43	Si
SLD 9	14.75	-1121.7	-2937	-2446	2349	1.965	1.8019	-4856	11388	5745	35683	24713	5011	29724		12.66	Si
SLV 12	12.95	-1985.95	-5264	-4383	-2358	1.965	1.8156	-8652	12147	6175	35683	24713	5011	29724		12.61	Si
SLV 12	14.75	1002.74	-2172	-1809	-2065	1.965	1.5627	-3288	11074	4846	35683	24713	5011	29724		14.39	Si
SLV 6	12.95	1218.42	-2267	-1888	2966	1.965	1.3353	-3431	11103	4151	35683	24713	5011	29724		10.02	Si
SLV 6	14.75	-1599.75	-3038	-2530	2671	1.965	1.3677	-6623	11741	4496	35683	24713	5011	29724		11.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 yM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.53	4718	-2596	216.3	352.21	1.63	Si
SLV 6	179667	0.53	4820	-2652	216.3	359.58	1.66	Si
SLV 9	179667	0.53	4875	-2682	216.3	363.54	1.68	Si
SLV 10	179667	0.53	4977	-2738	216.3	370.89	1.71	Si
SLV 1	179667	0.53	5320	-2927	216.3	395.53	1.83	Si
SLV 2	179667	0.53	5472	-3011	216.3	406.39	1.88	Si
SLV 13	179667	0.53	5844	-3215	216.3	432.89	2	Si
SLV 14	179667	0.53	5995	-3298	216.3	443.66	2.05	Si
SLV 3	179667	0.53	6015	-3309	216.3	445.04	2.06	Si
SLV 4	179667	0.53	6166	-3393	216.3	455.79	2.11	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2515	-3731	231	2.73	509.4	0.895	44.35152	7.04479	Si
SLV 16	-2482	-3505	231	2.753	506.2	0.894	44.73046	7.04479	Si
SLV 13	-2474	-3702	91	2.793	505.4	0.894	45.38859	7.04479	Si
SLV 14	-2440	-3476	91	2.816	502.2	0.894	45.78021	7.04479	Si
SLV 1	-2301	-4086	-252	2.875	488.8	0.893	46.79755	7.04479	Si
SLV 3	-2342	-4115	-112	2.881	492.8	0.893	46.87134	7.04479	Si
SLV 2	-2267	-3860	-252	2.9	485.6	0.893	47.21614	7.04479	Si
SLV 4	-2309	-3889	-113	2.905	489.6	0.893	47.28654	7.04479	Si
SLV 11	-2498	-3863	274	2.731	507.7	0.895	44.37599	5.51652	Si
SLV 12	-2475	-3711	274	2.747	505.6	0.894	44.6316	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.797	SLU 33	Si
V_SLU	5.648	SLU 36	Si
PF_SLV	1.472	SLV 5	Si
V_SLV	7.726	SLV 5	Si
PFFP_SLV	1.628	SLV 5	Si
R_SLV	6.296	SLV 15	Si

Maschio 202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-22.493	-3.359	-24.678	-3.359	L7	L8	2.185	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 47	12.95	-614.62	-5130	-0.0000167	0.0003743	0.0035	2.185	5143.36	6557.13	6557.13	10.67	No	Si
SLU 47	14.75	-12.81	-3585	-0.0000088	0.0003743	0.0035	2.185	3691.59	5049.53	5049.53	394.21	No	Si
SLU 2	12.95	-449.41	-3600	-0.0000118	0.0003743	0.0035	2.185	3705.73	5064.11	5064.11	11.27	No	Si
SLU 2	14.75	-75.63	-2412	-0.0000063	0.0003743	0.0035	2.185	2532.85	3858.26	3799.28	50.23	Si	Si
SLU 43	12.95	-564.67	-4593	-0.000015	0.0003743	0.0035	2.185	4647.43	6032.87	6032.87	10.68	No	Si
SLU 43	14.75	-62.88	-2928	-0.0000075	0.0003743	0.0035	2.185	3048.28	4381.28	4381.28	69.68	No	Si
SLU 4	12.95	-469.03	-4381	-0.0000138	0.0003743	0.0035	2.185	4449.54	5823.77	5823.77	12.42	No	Si
SLU 4	14.75	-163.54	-3423	-0.0000094	0.0003743	0.0035	2.185	3533.72	4886.28	4886.28	29.88	No	Si
SLU 51	12.95	-596.67	-5698	-0.000018	0.0003743	0.0035	2.185	5655.4	7088.85	7088.85	11.88	No	Si
SLU 51	14.75	14.37	-4292	-0.0000106	0.0003743	0.0035	2.185	4365.48	4701.05	4701.05	327.1	No	Si
SLU 48	12.95	-605.14	-5924	-0.0000186	0.0003743	0.0035	2.185	5856.4	7302.06	7302.06	12.07	No	Si
SLU 48	14.75	-110.53	-4617	-0.000012	0.0003743	0.0035	2.185	4670.2	6057.1	6057.1	54.8	No	Si
SLU 44	12.95	-613.17	-4572	-0.0000153	0.0003743	0.0035	2.185	4627.86	6012.07	6012.07	9.8	No	Si
SLU 44	14.75	-46.53	-2893	-0.0000073	0.0003743	0.0035	2.185	3013.95	4345.94	4345.94	93.4	No	Si
SLU 45	12.95	-603.69	-5365	-0.0000172	0.0003743	0.0035	2.185	5356.46	6777.49	6777.49	11.23	No	Si
SLU 45	14.75	-144.25	-3925	-0.0000105	0.0003743	0.0035	2.185	4017.61	5378.72	5378.72	37.29	No	Si
SLU 46	12.95	-632.79	-5352	-0.0000174	0.0003743	0.0035	2.185	5345.06	6765.75	6765.75	10.69	No	Si
SLU 46	14.75	-134.44	-3904	-0.0000104	0.0003743	0.0035	2.185	3997.75	5358.58	5358.58	39.86	No	Si
SLU 49	12.95	-634.24	-5911	-0.0000188	0.0003743	0.0035	2.185	5845.25	7290.15	7290.15	11.49	No	Si
SLU 49	14.75	-100.72	-4596	-0.0000119	0.0003743	0.0035	2.185	4650.84	6036.49	6036.49	59.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 11	12.95	1278.29	-2325	-0.0000151	0.0005615	0.0035	2.185		2747.06	2747.06	2.15		Si
SLV 11	14.75	-1380.14	-2877	-0.0000165	0.0005615	0.0035	2.185	4363.34	4363.34		3.16		Si
SLV 14	12.95	-1031.79	-4043	-0.0000167	0.0005615	0.0035	2.185		5555.18	5555.18	5.38		Si
SLV 14	14.75	966.98	-2144	-0.0000117	0.0005615	0.0035	2.185	2557.55	2557.55		2.64		Si
SLV 9	12.95	-2505.65	-5120	-0.0000302	0.0005615	0.0035	2.185	6626.43	6626.43		2.64		Si
SLV 9	14.75	1835.82	-1977	-0.0000434	0.0005615	0.0035	2.185	2380.52	2380.52		1.3		Si
SLV 10	12.95	-2145.35	-5000	-0.0000267	0.0005615	0.0035	2.185	6507.55	6507.55		3.03		Si
SLV 10	14.75	1567.25	-2141	-0.000021	0.0005615	0.0035	2.185	2554.56	2554.56		1.63		Si
SLV 5	12.95	-2250.01	-5077	-0.0000277	0.0005615	0.0035	2.185	6583.99	6583.99		2.93		Si
SLV 5	14.75	1329.69	-2279	-0.0000158	0.0005615	0.0035	2.185	2698.73	2698.73		2.03		Si
SLV 13	12.95	-1566.95	-4221	-0.0000207	0.0005615	0.0035	2.185	5734.87	5734.87		3.66		Si
SLV 13	14.75	1365.88	-1899	-0.0000179	0.0005615	0.0035	2.185	2299.11	2299.11		1.68		Si
SLD 9	12.95	-1674.06	-4547	-0.0000222	0.0005615	0.0035	2.185	6060.88	6060.88		3.62		Si
SLD 9	14.75	1080.59	-2233	-0.0000129	0.0005615	0.0035	2.185	2651.12	2651.12		2.45		Si
SLV 7	12.95	1533.94	-2282	-0.0000192	0.0005615	0.0035	2.185	2702.36	2702.36		1.76		Si
SLV 7	14.75	-1886.27	-3179	-0.0000225	0.0005615	0.0035	1.748	4674.18	4674.18		2.48		Si
SLV 8	12.95	1894.24	-2162	-0.0000357	0.0005615	0.0035	2.185	2576.38	2576.38		1.36		Si
SLV 8	14.75	-2154.84	-3344	-0.0000264	0.0005615	0.0035	1.748	4843.35	4843.35		2.25		Si
SLV 12	12.95	1638.59	-2205	-0.0000223	0.0005615	0.0035	2.185	2621.66	2621.66		1.6		Si
SLV 12	14.75	-1648.71	-3042	-0.0000195	0.0005615	0.0035	2.185	4533.25	4533.25		2.75		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	12.95	-144.47	-5108	-4253	1292	2.185	2.185	-6952	7871	4816	35683	18320	5572	7224	Si	5.59	Si
SLU 83	14.75	-295.91	-4374	-3642	1291	2.185	2.185	-5953	7738	4734	35683	18320	5572	7101	Si	5.5	Si
SLU 41	12.95	19.29	-4136	-3444	1329	2.185	2.185	-5630	7695	4708	35683	18320	5572	7062	Si	5.31	Si
SLU 41	14.75	-325.02	-3893	-3241	1327	2.185	2.185	-5298	7651	4681	35683	18320	5572	7021	Si	5.29	Si
SLU 40	12.95	-8.36	-3565	-2968	1247	2.185	2.185	-4852	7591	4644	35683	18320	5572	6967	Si	5.59	Si
SLU 40	14.75	-348.93	-3180	-2648	1234	2.185	2.185	-4328	7521	4602	35683	18320	5572	6902	Si	5.59	Si
SLU 42	12.95	-9.81	-4124	-3434	1308	2.185	2.185	-5613	7693	4706	35683	18320	5572	7060	Si	5.4	Si
SLU 42	14.75	-315.21	-3872	-3224	1295	2.185	2.185	-5270	7647	4678	35683	18320	5572	7018	Si	5.42	Si
SLU 39	12.95	20.74	-3577	-2979	1267	2.185	2.185	-4869	7594	4646	35683	18320	5572	6969	Si	5.5	Si
SLU 39	14.75	-358.74	-3200	-2665	1267	2.185	2.185	-4356	7525	4604	35683	18320	5572	6906	Si	5.45	Si
SLU 35	12.95	-108.17	-5022	-4182	1350	2.185	2.185	-6836	7856	4806	35683	18320	5572	7209	Si	5.34	Si
SLU 35	14.75	-375.97	-4884	-4067	1349	2.185	2.185	-6648	7831	4791	35683	18320	5572	7186	Si	5.33	Si
SLU 33	12.95	-135.82	-4451	-3706	1269	2.185	2.185	-6058	7752	4743	35683	18320	5572	7114	Si	5.61	Si
SLU 33	14.75	-399.88	-4171	-3474	1256	2.185	2.185	-5678	7701	4712	35683	18320	5572	7068	Si	5.63	Si
SLU 32	12.95	-106.72	-4463	-3717	1289	2.185	2.185	-6075	7754	4744	35683	18320	5572	7116	Si	5.52	Si
SLU 32	14.75	-409.69	-4192	-3491	1288	2.185	2.185	-5706	7705	4714	35683	18320	5572	7071	Si	5.49	Si
SLU 77	12.95	-271.93	-5994	-4991	1314	2.185	2.185	-8158	8032	4914	35683	18320	5572	7371	Si	5.61	Si
SLU 77	14.75	-346.87	-5366	-4468	1312	2.185	2.185	-7303	7918	4844	35683	18320	5572	7267	Si	5.54	Si
SLU 36	12.95	-137.27	-5010	-4172	1330	2.185	2.185	-6819	7854	4805	35683	18320	5572	7207	Si	5.42	Si
SLU 36	14.75	-366.16	-4864	-4050	1316	2.185	2.185	-6620	7827	4789	35683	18320	5572	7183	Si	5.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	12.95	1638.59	-2205	-1836	3483	2.185	1.048	-3001	11017	3631	35683	27480	5572	33052		9.49	Si
SLV 12	14.75	-1648.71	-3042	-2533	3852	2.185	1.6516	-5486	11514	5325	35683	27480	5572	33052		8.58	Si
SLV 10	12.95	-2145.35	-5000	-4164	-2559	2.185	1.9903	-7491	11915	6640	35683	27480	5572	33052		12.92	Si
SLV 10	14.75	1567.25	-2141	-1783	-2353	2.185	1.0818	-2915	11000	3617	35683	27480	5572	33052		14.05	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 8	12.95	1894.24	-2162	-1800	4260	2.185	0.649	-9952	12407	3621	35683	27480	5572	33052		7.76	Si
SLV 8	14.75	-2154.84	-3344	-2785	4052	1.748	1.3445	0	0	0	35683	21984	4457	26441		6.53	Si
SLV 4	12.95	955.54	-3061	-2549	3179	2.185	2.185	-4166	11250	6883	35683	27480	5572	33052		10.4	Si
SLV 4	14.75	-1684.9	-3421	-2849	2240	2.185	1.8001	-5665	11550	5821	35683	27480	5572	33052		14.75	Si
SLV 9	12.95	-2505.65	-5120	-4264	-3081	2.185	1.8094	-8447	12106	6133	35683	27480	5572	33052		10.73	Si
SLV 9	14.75	1835.82	-1977	-1646	-2875	2.185	0.4911	-12030	12823	3578	35683	27480	5572	33052		11.5	Si
SLV 11	12.95	1278.29	-2325	-1936	2960	2.185	1.628	-3164	11050	5037	35683	27480	5572	33052		11.16	Si
SLV 11	14.75	-1380.14	-2877	-2396	3330	2.185	1.8385	-4663	11349	5842	35683	27480	5572	33052		9.93	Si
SLV 7	12.95	1533.94	-2282	-1900	3738	2.185	1.261	-3106	11038	3897	35683	27480	5572	33052		8.84	Si
SLV 7	14.75	-1886.27	-3179	-2648	3530	1.748	1.4977	0	0	0	35683	21984	4457	26441		7.49	Si
SLD 8	12.95	1062.64	-2735	-2277	2867	2.185	2.1119	-3722	11161	6600	35683	27480	5572	33052		11.53	Si
SLD 8	14.75	-1399.61	-3088	-2571	2734	2.185	1.9177	-4798	11376	6108	35683	27480	5572	33052		12.09	Si
SLD 12	12.95	904.77	-2762	-2300	2378	2.185	2.185	-3760	11169	6833	35683	27480	5572	33052		13.9	Si
SLD 12	14.75	-1080.76	-2900	-2415	2610	2.185	2.1594	-3947	11206	6776	35683	27480	5572	33052		12.66	Si
SLV 5	12.95	-2250.01	-5077	-4228	-2304	2.185	1.948	-7769	11970	6529	35683	27480	5572	33052		14.35	Si
SLV 5	14.75	1329.69	-2279	-1897	-2675	2.185	1.5268	-3101	11037	4718	35683	27480	5572	33052		12.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.53	4380	-2679	240.52	364.37	1.51	Si
SLV 12	179667	0.53	4387	-2684	240.52	364.95	1.52	Si
SLV 7	179667	0.53	4403	-2694	240.52	366.25	1.52	Si
SLV 11	179667	0.53	4410	-2698	240.52	366.83	1.53	Si
SLV 4	179667	0.53	5073	-3103	240.52	420.04	1.75	Si
SLV 16	179667	0.53	5096	-3118	240.52	421.94	1.75	Si
SLV 3	179667	0.53	5107	-3125	240.52	422.81	1.76	Si
SLV 15	179667	0.53	5131	-3139	240.52	424.71	1.77	Si
SLV 2	179667	0.53	5678	-3474	240.52	468.28	1.95	Si
SLV 14	179667	0.53	5702	-3489	240.52	470.17	1.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-2301	-3255	-276	3.058	519.1	0.891	49.86982	7.04479	Si
SLV 2	-2329	-4512	164	3.065	521.7	0.891	49.98133	7.04479	Si
SLV 13	-2290	-2960	-276	3.066	518.1	0.891	50.01188	7.04479	Si
SLV 1	-2317	-4217	164	3.073	520.6	0.891	50.12086	7.04479	Si
SLV 4	-2224	-4564	290	3.113	511.9	0.891	50.7976	7.04479	Si
SLV 3	-2213	-4269	290	3.122	510.8	0.891	50.9427	7.04479	Si
SLV 16	-2197	-3307	-150	3.17	509.3	0.89	51.74178	7.04479	Si
SLV 15	-2186	-3013	-150	3.179	508.3	0.89	51.89261	7.04479	Si
SLV 10	-2430	-3586	-269	2.965	531.3	0.892	48.31684	5.51652	Si
SLV 9	-2423	-3387	-269	2.971	530.6	0.892	48.40687	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.805	SLU 44	Si
V_SLU	5.289	SLU 41	Si
PF_SLV	1.297	SLV 9	Si
V_SLV	6.525	SLV 8	Si
PFFP_SLV	1.515	SLV 8	Si
R_SLV	7.079	SLV 14	Si

Maschio 203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-19.368	-3.359	-21.593	-3.359	L7	L8	2.225	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ε_{fd}	$y_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 81	14.05	-610.91	-5002	-0.000016	0.0003743	0.0035	2.225	5125.69	6552.53	6552.53	10.73	No	Si
SLU 81	14.85	-30.55	-3177	-0.000078	0.0003743	0.0035	2.225	3357.33	4716.25	4716.25	154.38	No	Si
SLU 68	14.05	-674.4	-5755	-0.0000183	0.0003743	0.0035	2.225	5821.37	7274.8	7274.8	10.79	No	Si
SLU 68	14.85	-105.43	-3757	-0.000097	0.0003743	0.0035	2.225	3932.15	5309.84	5309.84	50.36	No	Si
SLU 65	14.05	-635.38	-5159	-0.0000165	0.0003743	0.0035	2.225	5272.97	6705.87	6705.87	10.55	No	Si
SLU 65	14.85	-23.43	-3221	-0.0000078	0.0003743	0.0035	2.225	3401.66	4762.61	4762.61	203.3	No	Si
SLU 61	14.05	-543.1	-4261	-0.0000137	0.0003743	0.0035	2.225	4421.98	5808.12	5808.12	10.69	No	Si
SLU 61	14.85	48.57	-2500	-0.000063	0.0003743	0.0035	2.225	2671.22	2966.69	2966.69	61.08	No	Si
SLU 84	14.05	-667.36	-5608	-0.0000178	0.0003743	0.0035	2.225	5687.1	7134.14	7134.14	10.69	No	Si
SLU 84	14.85	-107.09	-3710	-0.0000096	0.0003743	0.0035	2.225	3886.24	5263.92	5263.92	49.15	No	Si
SLU 82	14.05	-628.35	-5012	-0.0000161	0.0003743	0.0035	2.225	5135.63	6562.91	6562.91	10.44	No	Si
SLU 82	14.85	-25.09	-3174	-0.000077	0.0003743	0.0035	2.225	3354.87	4713.68	4713.68	187.88	No	Si
SLU 73	14.05	-638.6	-5061	-0.0000163	0.0003743	0.0035	2.225	5181.54	6610.78	6610.78	10.35	No	Si
SLU 73	14.85	-22.04	-3187	-0.000077	0.0003743	0.0035	2.225	3367.77	4727.16	4727.16	214.47	No	Si
SLU 76	14.05	-677.61	-5657	-0.000018	0.0003743	0.0035	2.225	5731.98	7181.02	7181.02	10.6	No	Si
SLU 76	14.85	-104.04	-3723	-0.0000096	0.0003743	0.0035	2.225	3898.89	5276.57	5276.57	50.72	No	Si
SLU 31	14.05	-540.83	-4246	-0.0000137	0.0003743	0.0035	2.225	4407.88	5793.56	5793.56	10.71	No	Si
SLU 31	14.85	-50.96	-2777	-0.000069	0.0003743	0.0035	2.225	2953.95	4300.01	4300.01	84.38	No	Si
SLU 52	14.05	-553.35	-4310	-0.0000139	0.0003743	0.0035	2.225	4469.18	5857.13	5857.13	10.58	No	Si
SLU 52	14.85	51.62	-2512	-0.000063	0.0003743	0.0035	2.225	2684.42	2980.12	2980.12	57.73	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 13	14.05	-1483.56	-4488	-0.0000202	0.0005615	0.0035	2.225		6110.09	6110.09	4.12		Si
SLV 13	14.85	309.14	-2231	-0.000072	0.0005615	0.0035	2.225		2706.14	2706.14	8.75		Si
SLV 8	14.05	715.83	-2527	-0.0000105	0.0005615	0.0035	2.225		3021.44	3021.44	4.22		Si
SLV 8	14.85	-300.91	-2267	-0.000073	0.0005615	0.0035	2.225		3793.57	3793.57	12.61		Si
SLD 9	14.05	-1173.6	-4528	-0.0000183	0.0005615	0.0035	2.225		6150.67	6150.67	5.24		Si
SLD 9	14.85	171.92	-2358	-0.000067	0.0005615	0.0035	2.225		2842.49	2842.49	16.53		Si
SLD 10	14.05	-1029.91	-4440	-0.0000172	0.0005615	0.0035	2.225		6060.95	6060.95	5.88		Si
SLD 10	14.85	110.8	-2392	-0.000064	0.0005615	0.0035	2.225		2878.48	2878.48	25.98		Si
SLV 14	14.05	-1142.63	-4280	-0.0000175	0.0005615	0.0035	2.225		5896.85	5896.85	5.16		Si
SLV 14	14.85	164.12	-2311	-0.000065	0.0005615	0.0035	2.225		2792.25	2792.25	17.01		Si
SLV 15	14.05	-962.49	-3844	-0.0000153	0.0005615	0.0035	2.225		5448.15	5448.15	5.66		Si
SLV 15	14.85	196.97	-2166	-0.000064	0.0005615	0.0035	2.225		2636.19	2636.19	13.38		Si
SLV 9	14.05	-1612.99	-4997	-0.0000223	0.0005615	0.0035	2.225		6621.73	6621.73	4.11		Si
SLV 9	14.85	284.03	-2379	-0.000074	0.0005615	0.0035	2.225		2864.3	2864.3	10.08		Si
SLD 13	14.05	-1099.7	-4217	-0.0000171	0.0005615	0.0035	2.225		5832.35	5832.35	5.3		Si
SLD 13	14.85	189.53	-2266	-0.000066	0.0005615	0.0035	2.225		2743.96	2743.96	14.48		Si
SLV 10	14.05	-1383.45	-4857	-0.0000205	0.0005615	0.0035	2.225		6480.38	6480.38	4.68		Si
SLV 10	14.85	186.39	-2433	-0.00007	0.0005615	0.0035	2.225		2921.79	2921.79	15.68		Si
SLV 5	14.05	-1250.6	-4817	-0.0000195	0.0005615	0.0035	2.225		6440.74	6440.74	5.15		Si
SLV 5	14.85	170.64	-2430	-0.000068	0.0005615	0.0035	2.225		2918.23	2918.23	17.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 66	14.05	-644.29	-6137	-5110	-1898	2.225	2.225	-8202	8038	5008	35683	18655	5674	7512	Si	3.96	Si
SLU 66	14.85	-138.81	-4108	-3421	-1397	2.225	2.225	-5491	7677	4783	35683	18655	5674	7174	Si	5.13	Si
SLU 69	14.05	-683.31	-6732	-5606	-1930	2.225	2.225	-8998	8144	5074	35683	18655	5674	7611	Si	3.94	Si
SLU 69	14.85	-220.82	-4644	-3867	-1408	2.225	2.225	-6207	7772	4842	35683	18655	5674	7263	Si	5.16	Si
SLU 46	14.05	-576.49	-5396	-4493	-1860	2.225	2.225	-7212	7906	4925	35683	18655	5674	7388	Si	3.97	Si
SLU 46	14.85	-59.69	-3431	-2857	-1320	2.225	2.225	-4586	7556	4707	35683	18655	5674	7061	Si	5.35	Si
SLU 68	14.05	-674.4	-5755	-4792	-1937	2.225	2.225	-7692	7970	4965	35683	18655	5674	7448	Si	3.84	Si
SLU 68	14.85	-105.43	-3757	-3129	-1420	2.225	2.225	-5022	7614	4744	35683	18655	5674	7115	Si	5.01	Si
SLU 65	14.05	-635.38	-5159	-4296	-1905	2.225	2.225	-6896	7864	4899	35683	18655	5674	7349	Si	3.86	Si
SLU 65	14.85	-23.43	-3221	-2682	-1409	2.225	2.225	-4306	7519	4684	35683	18655	5674	7026	Si	4.99	Si
SLU 67	14.05	-661.73	-6147	-5119	-1948	2.225	2.225	-8217	8040	5009	35683	18655	5674	7513	Si	3.86	Si
SLU 67	14.85	-133.35	-4106	-3419	-1430	2.225	2.225	-5488	7676	4782	35683	18655	5674	7173	Si	5.02	Si
SLU 47	14.05	-589.15	-5003	-4166	-1849	2.225	2.225	-6688	7836	4882	35683	18655	5674	7323	Si	3.96	Si
SLU 47	14.85	-31.77	-3082	-2567	-1311	2.225	2.225	-4120	7494	4669	35683	18655	5674	7003	Si	5.34	Si
SLU 49	14.05	-615.5	-5991	-4989	-1892	2.225	2.225	-8008	8012	4992	35683	18655	5674	7487	Si	3.96	Si
SLU 49	14.85	-141.69	-3967	-3303	-1331	2.225	2.225	-5302	7651	4767	35683	18655	5674	7150	Si	5.37	Si
SLU 72	14.05	-701.78	-6343	-5282	-1937	2.225	2.225	-8478	8075	5031	35683	18655	5674	7546	Si	3.9	Si
SLU 72	14.85	-191.07	-4294	-3576	-1409	2.225	2.225	-5740	7710	4803	35683	18655	5674	7205	Si	5.11	Si
SLU 70	14.05	-700.75	-6743	-5615	-1980	2.225	2.225	-9012	8146	5075	35683	18655	5674	7613	Si	3.84	Si
SLU 70	14.85	-215.35	-4642	-3865	-1441	2.225	2.225	-6204	7772	4842	35683	18655	5674	7263	Si	5.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	14.05	-1612.99	-4997	-4161	-4992	2.225	2.225	-6679	11753	7322	35683	27983	5674	33657		6.74	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	14.85	284.03	-2379	-1981	-3052	2.225	2.225	-3180	11053	6886	35683	27983	5674	33657		11.03	Si
SLV 13	14.05	-1483.56	-4488	-3738	-4407	2.225	2.225	-5999	11617	7237	35683	27983	5674	33657		7.64	Si
SLV 13	14.85	309.14	-2231	-1857	-2733	2.225	2.225	-2982	11013	6861	35683	27983	5674	33657		12.32	Si
SLD 10	14.05	-1029.91	-4440	-3698	-3166	2.225	2.225	-5935	11604	7229	35683	27983	5674	33657		10.63	Si
SLD 10	14.85	110.8	-2392	-1992	-1993	2.225	2.225	-3198	11056	6888	35683	27983	5674	33657		16.89	Si
SLV 6	14.05	-1021.07	-4677	-3894	-3258	2.225	2.225	-6251	11667	7268	35683	27983	5674	33657		10.33	Si
SLV 6	14.85	73.01	-2484	-2068	-2040	2.225	2.225	-3320	11081	6903	35683	27983	5674	33657		16.5	Si
SLD 13	14.05	-1099.7	-4217	-3512	-3271	2.225	2.225	-5637	11544	7192	35683	27983	5674	33657		10.29	Si
SLD 13	14.85	189.53	-2266	-1887	-2092	2.225	2.225	-3029	11022	6867	35683	27983	5674	33657		16.09	Si
SLD 9	14.05	-1173.6	-4528	-3771	-3619	2.225	2.225	-6053	11627	7244	35683	27983	5674	33657		9.3	Si
SLD 9	14.85	171.92	-2358	-1964	-2282	2.225	2.225	-3152	11047	6882	35683	27983	5674	33657		14.75	Si
SLD 5	14.05	-945.22	-4415	-3676	-2984	2.225	2.225	-5901	11597	7225	35683	27983	5674	33657		11.28	Si
SLD 5	14.85	101.53	-2390	-1990	-1938	2.225	2.225	-3194	11055	6888	35683	27983	5674	33657		17.37	Si
SLV 5	14.05	-1250.6	-4817	-4011	-3981	2.225	2.225	-6439	11704	7292	35683	27983	5674	33657		8.45	Si
SLV 5	14.85	170.64	-2430	-2023	-2502	2.225	2.225	-3248	11066	6894	35683	27983	5674	33657		13.45	Si
SLV 14	14.05	-1142.63	-4280	-3564	-3333	2.225	2.225	-5721	11561	7202	35683	27983	5674	33657		10.1	Si
SLV 14	14.85	164.12	-2311	-1924	-2046	2.225	2.225	-3089	11034	6874	35683	27983	5674	33657		16.45	Si
SLV 10	14.05	-1383.45	-4857	-4044	-4268	2.225	2.225	-6492	11715	7298	35683	27983	5674	33657		7.89	Si
SLV 10	14.85	186.39	-2433	-2026	-2589	2.225	2.225	-3252	11067	6895	35683	27983	5674	33657		13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 13	179667	0.53	4419	-2753	244.92	374.3	1.53	Si
SLV 15	179667	0.53	4452	-2773	244.92	376.95	1.54	Si
SLV 14	179667	0.53	4771	-2972	244.92	403.12	1.65	Si
SLV 16	179667	0.53	4803	-2992	244.92	405.76	1.66	Si
SLV 9	179667	0.53	5074	-3161	244.92	427.86	1.75	Si
SLV 11	179667	0.53	5182	-3228	244.92	436.61	1.78	Si
SLV 10	179667	0.53	5311	-3309	244.92	447.1	1.83	Si
SLV 12	179667	0.53	5418	-3376	244.92	455.83	1.86	Si
SLV 5	179667	0.53	5618	-3500	244.92	472.01	1.93	Si
SLV 7	179667	0.53	5726	-3567	244.92	480.7	1.96	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-2350	-4014	-173	3.079	529.2	0.891	50.21979	7.04479	Si
SLV 14	-2268	-4121	-173	3.141	521.5	0.891	51.25492	7.04479	Si
SLV 15	-2105	-3292	91	3.294	506.2	0.89	53.80554	7.04479	Si
SLV 1	-2062	-5352	-91	3.33	502.3	0.89	54.40834	7.04479	Si
SLV 16	-2023	-3398	91	3.365	498.6	0.889	54.97662	7.04479	Si
SLV 2	-1981	-5459	-91	3.402	494.7	0.889	55.60403	7.04479	Si
SLV 3	-1817	-4629	173	3.534	479.6	0.889	57.7804	7.04479	Si
SLV 4	-1735	-4736	173	3.616	472.2	0.889	59.12279	7.04479	Si
SLV 9	-2522	-5343	-452	2.891	545.6	0.892	47.09077	5.51652	Si
SLV 10	-2467	-5415	-452	2.928	540.3	0.892	47.71629	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.352	SLU 73	Si
V_SLU	3.844	SLU 70	Si
PF_SLV	4.105	SLV 9	Si
V_SLV	6.743	SLV 9	Si
PFFP_SLV	1.528	SLV 13	Si
R_SLV	7.129	SLV 13	Si

Maschio 204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-18.263	-3.359	-18.868	-3.359	L7	L8	0.605	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	14.05	-80.37	-1421	-0.0000196	0.0003743	0.0035	0.605	394.56	475.06	475.06	5.91	No	Si
SLU 65	14.85	166.85	-1612	-0.0000291	0.0003743	0.0035	0.605	442.04	475.37	475.37	2.85	No	Si
SLU 1	14.05	-56.02	-993	-0.0000136	0.0003743	0.0035	0.605	282.97	359.03	359.03	6.41	No	Si
SLU 1	14.85	111.09	-1087	-0.0000193	0.0003743	0.0035	0.605	307.97	334.3	334.3	3.01	No	Si
SLU 43	14.05	-71.99	-1206	-0.0000169	0.0003743	0.0035	0.605	339.21	416.9	416.9	5.79	No	Si
SLU 43	14.85	137.87	-1315	-0.0000238	0.0003743	0.0035	0.605	367.45	396.62	396.62	2.88	No	Si
SLU 23	14.05	-64.4	-1208	-0.0000163	0.0003743	0.0035	0.605	339.93	417.65	417.65	6.49	No	Si
SLU 23	14.85	140.07	-1384	-0.0000246	0.0003743	0.0035	0.605	384.94	415.01	415.01	2.96	No	Si
SLU 2	14.05	-61.96	-961	-0.0000138	0.0003743	0.0035	0.605	274.61	350.25	350.25	5.65	No	Si
SLU 2	14.85	120.98	-1099	-0.0000203	0.0003743	0.0035	0.605	311.28	337.73	337.73	2.79	No	Si
SLU 64	14.05	-74.42	-1453	-0.0000194	0.0003743	0.0035	0.605	402.41	483.45	483.45	6.5	No	Si
SLU 64	14.85	156.96	-1599	-0.0000281	0.0003743	0.0035	0.605	438.95	472.09	472.09	3.01	No	Si
SLU 73	14.05	-81.3	-1425	-0.0000198	0.0003743	0.0035	0.605	395.49	476.05	476.05	5.86	No	Si
SLU 73	14.85	157.64	-1628	-0.0000284	0.0003743	0.0035	0.605	445.93	479.5	479.5	3.04	No	Si
SLU 44	14.05	-77.93	-1174	-0.0000172	0.0003743	0.0035	0.605	331.09	408.51	408.51	5.24	No	Si
SLU 44	14.85	147.76	-1327	-0.0000248	0.0003743	0.0035	0.605	370.66	399.98	399.98	2.71	No	Si
SLU 47	14.05	-70.7	-1397	-0.0000186	0.0003743	0.0035	0.605	388.27	468.36	468.36	6.62	No	Si
SLU 47	14.85	151.64	-1549	-0.0000272	0.0003743	0.0035	0.605	426.51	458.97	458.97	3.03	No	Si
SLU 52	14.05	-78.86	-1178	-0.0000173	0.0003743	0.0035	0.605	332.05	409.5	409.5	5.19	No	Si
SLU 52	14.85	138.55	-1343	-0.0000241	0.0003743	0.0035	0.605	374.71	404.23	404.23	2.92	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	14.05	-214.3	-474	-0.0005245	0.0005615	0.0035	0.484		213.09	213.09	0.99		No
SLV 10	14.85	479.9	-1246	-0.0085677	0.0005615	0.0035	0.484		383.76	383.76	0.8		No
SLV 5	14.05	-183.76	-705	-0.0000586	0.0005615	0.0035	0.484		280.32	280.32	1.53		Si
SLV 5	14.85	402.56	-1298	-0.0017395	0.0005615	0.0035	0.484		398.26	398.26	0.99		No
SLV 14	14.05	-199.68	-416	-0.00052	0.0005615	0.0035	0.484		196.34	196.34	0.98		No
SLV 14	14.85	417.34	-1168	-0.0057718	0.0005615	0.0035	0.484		361.71	361.71	0.87		No
SLD 9	14.05	-188.57	-615	-0.0001633	0.0005615	0.0035	0.484		254.2	254.2	1.35		Si
SLD 9	14.85	393.76	-1252	-0.0019837	0.0005615	0.0035	0.484		385.37	385.37	0.98		No
SLV 8	14.05	153.57	-1784	-0.0000292	0.0005615	0.0035	0.605		531.92	531.92	3.46		Si
SLV 8	14.85	-334.7	-1042	-0.0003909	0.0005615	0.0035	0.484		376.42	376.42	1.12		Si
SLD 10	14.05	-155.24	-696	-0.000031	0.0005615	0.0035	0.484		277.61	277.61	1.79		Si
SLD 10	14.85	342.04	-1216	-0.0002297	0.0005615	0.0035	0.484		375.43	375.43	1.1		Si
SLV 15	14.05	-193.52	-509	-0.0003446	0.0005615	0.0035	0.484		223.48	223.48	1.15		Si
SLV 15	14.85	343.66	-1192	-0.0003379	0.0005615	0.0035	0.484		368.53	368.53	1.07		Si
SLV 9	14.05	-267.53	-345	-0.0011744	0.0005615	0.0035	0.484		175.39	175.39	0.66		No
SLV 9	14.85	562.52	-1303	-0.0128849	0.0005615	0.0035	0.484		399.49	399.49	0.71		No
SLD 13	14.05	-197.36	-533	-0.000333	0.0005615	0.0035	0.484		230.33	230.33	1.17		Si
SLD 13	14.85	383.08	-1220	-0.001838	0.0005615	0.0035	0.484		376.35	376.35	0.98		No
SLV 13	14.05	-278.75	-225	-0.0015817	0.0005615	0.0035	0.484		140.15	140.15	0.5		No
SLV 13	14.85	540.05	-1252	-0.0123274	0.0005615	0.0035	0.484		385.34	385.34	0.71		No

Verifica a taglio nel piano delle sezioni rinforzate con fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	14.05	-72.08	-1661	-1383	-269	0.605	0.605	-8167	8033	1361	35683	5073	1543	2041	Si	7.59	Si
SLU 84	14.85	153.61	-1851	-1541	-444	0.605	0.605	-9100	8158	1382	35683	5073	1543	2073	Si	4.67	Si
SLU 78	14.05	-60.59	-2007	-1672	-248	0.605	0.605	-9868	8260	1399	35683	5073	1543	2099	Si	8.46	Si
SLU 78	14.85	164.12	-2191	-1825	-457	0.605	0.605	-10772	8381	1420	35683	5073	1543	2130	Si	4.66	Si
SLU 82	14.05	-79.32	-1439	-1198	-288	0.605	0.605	-7075	7888	1336	35683	5073	1543	2004	Si	6.96	Si
SLU 82	14.85	149.73	-1630	-1357	-433	0.605	0.605	-8010	8012	1357	35683	5073	1543	2036	Si	4.7	Si
SLU 80	14.05	-64.45	-1882	-1567	-258	0.605	0.605	-9251	8178	1385	35683	5073	1543	2078	Si	8.07	Si
SLU 80	14.85	161.44	-2066	-1720	-450	0.605	0.605	-10156	8299	1406	35683	5073	1543	2109	Si	4.68	Si
SLU 73	14.05	-81.3	-1425	-1187	-309	0.605	0.605	-7006	7879	1335	35683	5073	1543	2002	Si	6.48	Si
SLU 73	14.85	157.64	-1628	-1355	-433	0.605	0.605	-8002	8011	1357	35683	5073	1543	2036	Si	4.7	Si
SLU 77	14.05	-57.03	-2026	-1687	-228	0.605	0.605	-9960	8272	1401	35683	5073	1543	2102	Si	9.21	Si
SLU 77	14.85	158.18	-2184	-1818	-450	0.605	0.605	-10735	8376	1419	35683	5073	1543	2128	Si	4.73	Si
SLU 83	14.05	-68.52	-1680	-1399	-249	0.605	0.605	-8259	8046	1363	35683	5073	1543	2044	Si	8.2	Si
SLU 83	14.85	147.67	-1844	-1535	-437	0.605	0.605	-9063	8153	1381	35683	5073	1543	2072	Si	4.74	Si
SLU 75	14.05	-67.82	-1785	-1487	-267	0.605	0.605	-8776	8115	1375	35683	5073	1543	2062	Si	7.72	Si
SLU 75	14.85	160.25	-1970	-1640	-446	0.605	0.605	-9682	8235	1395	35683	5073	1543	2093	Si	4.69	Si
SLU 79	14.05	-60.89	-1901	-1583	-238	0.605	0.605	-9343	8190	1387	35683	5073	1543	2081	Si	8.75	Si
SLU 79	14.85	155.5	-2058	-1714	-443	0.605	0.605	-10119	8294	1405	35683	5073	1543	2107	Si	4.76	Si
SLU 76	14.05	-74.06	-1647	-1372	-290	0.605	0.605	-8098	8024	1359	35683	5073	1543	2039	Si	7.04	Si
SLU 76	14.85	161.52	-1849	-1540	-444	0.605	0.605	-9091	8157	1382	35683	5073	1543	2073	Si	4.67	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	14.05	-183.76	-705	-587	-982	0.484	0.1261	0	0	0	35683	6087	1234	7321		7.46	Si
SLV 5	14.85	402.56	-1298	-1081	-473	0.484	0	0	0	0	35683	6087	1234	7321		15.47	Si
SLV 8	14.05	153.57	-1784	-1485	1031	0.605	0.605	-8768	12170	2062	35683	7609	1543	9152		8.87	Si
SLV 8	14.85	-334.7	-1042	-868	-52	0.484	0	0	0	0	35683	6087	1234	7321		140.61	Si
SLV 10	14.05	-214.3	-474	-395	-1226	0.484	0	0	0	0	35683	6087	1234	7321		5.97	Si
SLV 10	14.85	479.9	-1246	-1038	-459	0.484	0	0	0	0	35683	6087	1234	7321		15.96	Si
SLD 9	14.05	-188.57	-615	-512	-994	0.484	0	0	0	0	35683	6087	1234	7321		7.36	Si
SLD 9	14.85	393.76	-1252	-1042	-473	0.484	0	0	0	0	35683	6087	1234	7321		15.48	Si
SLD 10	14.05	-155.24	-696	-580	-846	0.484	0.2385	0	0	0	35683	6087	1234	7321		8.66	Si
SLD 10	14.85	342.04	-1216	-1013	-404	0.484	0.0639	0	0	0	35683	6087	1234	7321		18.11	Si
SLV 9	14.05	-267.53	-345	-287	-1463	0.484	0	0	0	0	35683	6087	1234	7321		5	Si
SLV 9	14.85	562.52	-1303	-1085	-569	0.484	0	0	0	0	35683	6087	1234	7321		12.88	Si
SLV 15	14.05	-193.52	-509	-424	-928	0.484	0	0	0	0	35683	6087	1234	7321		7.89	Si
SLV 15	14.85	343.66	-1192	-992	-504	0.484	0.0424	0	0	0	35683	6087	1234	7321		14.53	Si
SLV 14	14.05	-199.68	-416	-347	-1108	0.484	0	0	0	0	35683	6087	1234	7321		6.61	Si
SLV 14	14.85	417.34	-1168	-972	-434	0.484	0	0	0	0	35683	6087	1234	7321		16.87	Si
SLD 13	14.05	-197.36	-533	-444	-1002	0.484	0	0	0	0	35683	6087	1234	7321		7.3	Si
SLD 13	14.85	383.08	-1220	-1016	-492	0.484	0	0	0	0	35683	6087	1234	7321		14.87	Si
SLV 13	14.05	-278.75	-225	-187	-1460	0.484	0	0	0	0	35683	6087	1234	7321		5.01	Si
SLV 13	14.85	540.05	-1252	-1042	-597	0.484	0	0	0	0	35683	6087	1234	7321		12.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.53	0	-55	66.6	0	0	No, $e > t/2$
SLV 12	179667	0.53	0	-155	66.6	0	0	No, $e > t/2$
SLV 7	179667	0.53	0	-119	66.6	0	0	No, $e > t/2$
SLV 4	179667	0.53	0	-431	66.6	0	0	No, $e > t/2$
SLV 11	179667	0.53	0	-220	66.6	0	0	No, $e > t/2$
SLV 3	179667	0.53	3112	-527	66.6	72.29	1.09	Si
SLV 16	179667	0.53	4516	-765	66.6	103.93	1.56	Si
SLV 15	179667	0.53	5085	-861	66.6	116.58	1.75	Si
SLV 2	179667	0.53	5117	-867	66.6	117.29	1.76	Si
SLV 1	179667	0.53	5686	-963	66.6	129.84	1.95	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 3	-855	-1242	-35	2.594	164.7	0.897	42.0227	7.04479	Si
SLV 4	-851	-1237	-35	2.602	164.3	0.897	42.15745	7.04479	Si
SLV 15	-717	-880	0	2.92	151.3	0.893	47.51598	7.04479	Si
SLV 16	-713	-875	0	2.93	150.9	0.893	47.68104	7.04479	Si
SLV 7	-993	-893	-52	2.342	178.2	0.902	37.75757	5.51652	Si
SLV 1	-695	-1431	-10	2.966	149.2	0.892	48.3017	7.04479	Si
SLV 8	-991	-889	-52	2.347	177.9	0.901	37.8318	5.51652	Si
SLV 2	-691	-1427	-9	2.977	148.8	0.892	48.47577	7.04479	Si
SLV 11	-952	-784	-42	2.416	174.1	0.9	39.01167	5.51652	Si
SLV 12	-949	-781	-42	2.421	173.8	0.9	39.09047	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.707	SLU 44	Si
V_SLU	4.66	SLU 78	Si
PF_SLV	0.503	SLV 13	No
V_SLV	5.004	SLV 9	Si
PFFP_SLV	0	SLV 4	No
R_SLV	5.965	SLV 3	Si

Maschio 205

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-19.618	1.046	-19.618	5.811	L7	L8	4.765	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _k	f _{vk0}	f _{med10}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_{\text{M}} = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_{m}	ϵ_{m_-}	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 49	12.05	-458	-12394	-0.0000238	0.0004492	0.0035	4.7652	25039.37	40363.39	37559.05	82.01	Si	Si
SLU 49	15.15	4526.94	-3403	-0.0000187	0.0004492	0.0035	4.7652	7769.59	10084.88	10084.88	2.23	No	Si
SLU 71	12.05	-220.19	-13735	-0.0000258	0.0004492	0.0035	4.7652	27210.23	43121.49	40815.34	185.37	Si	Si
SLU 71	15.15	4826.34	-3730	-0.0000199	0.0004492	0.0035	4.7652	8481.41	10825.67	10825.67	2.24	No	Si
SLU 58	12.05	-132.6	-12934	-0.0000241	0.0004492	0.0035	4.7652	25926.69	41474.68	38890.04	293.28	Si	Si
SLU 58	15.15	4656.45	-3475	-0.0000193	0.0004492	0.0035	4.7652	7926.67	10247.79	10247.79	2.2	No	Si
SLU 8	12.05	-252.71	-10143	-0.0000191	0.0004492	0.0035	4.7652	21158.67	35733.22	31738	125.59	Si	Si
SLU 8	15.15	4079.73	-2972	-0.000017	0.0004492	0.0035	4.7652	6823.71	9110.44	9110.44	2.23	No	Si
SLU 59	12.05	-123.06	-12916	-0.000024	0.0004492	0.0035	4.7652	25897.38	41437.63	38846.08	315.66	Si	Si
SLU 59	15.15	4654.16	-3465	-0.0000193	0.0004492	0.0035	4.7652	7905.6	10225.93	10225.93	2.2	No	Si
SLU 48	12.05	-467.54	-12412	-0.0000239	0.0004492	0.0035	4.7652	25069.22	40400.44	37603.84	80.43	Si	Si
SLU 48	15.15	4529.23	-3413	-0.0000187	0.0004492	0.0035	4.7652	7790.68	10106.74	10106.74	2.23	No	Si
SLU 72	12.05	-210.64	-13717	-0.0000257	0.0004492	0.0035	4.7652	27181.76	43084.44	40772.64	193.56	Si	Si
SLU 72	15.15	4824.05	-3721	-0.0000199	0.0004492	0.0035	4.7652	8460.5	10803.81	10803.81	2.24	No	Si
SLU 50	12.05	-391.99	-12188	-0.0000233	0.0004492	0.0035	4.7652	24696.46	39939.55	37044.68	94.5	Si	Si
SLU 50	15.15	4756.45	-3439	-0.0000199	0.0004492	0.0035	4.7652	7848.7	10166.89	10166.89	2.14	No	Si
SLU 9	12.05	-243.17	-10125	-0.0000191	0.0004492	0.0035	4.7652	21126.42	35696.17	31689.64	130.32	Si	Si
SLU 9	15.15	4077.43	-2963	-0.000017	0.0004492	0.0035	4.7652	6802.37	9088.58	9088.58	2.23	No	Si
SLU 51	12.05	-382.45	-12170	-0.0000232	0.0004492	0.0035	4.7652	24666.36	39902.51	36999.55	96.74	Si	Si
SLU 51	15.15	4754.15	-3430	-0.0000199	0.0004492	0.0035	4.7652	7827.62	10145.03	10145.03	2.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_{\text{M}} = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_{m}	ϵ_{m_-}	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 13	12.05	-762.56	-6958	-0.0000144	0.0006738	0.0035	4.7652		29135.84	29135.84	38.21		Si
SLV 13	15.15	2952.96	-2038	-0.0000125	0.0006738	0.0035	4.7652		7017.2	7017.2	2.38		Si
SLD 10	12.05	-407.96	-7865	-0.0000152	0.0006738	0.0035	4.7652		31110.34	31110.34	76.26		Si
SLD 10	15.15	2372.82	-1467	-0.000011	0.0006738	0.0035	4.7652		5700.95	5700.95	2.4		Si
SLV 10	12.05	-571.88	-7035	-0.0000141	0.0006738	0.0035	4.7652		29303.59	29303.59	51.24		Si
SLV 10	15.15	2404.52	-1149	-0.0000228	0.0006738	0.0035	4.7652		4966.85	4966.85	2.07		Si
SLD 13	12.05	-540.43	-7793	-0.0000154	0.0006738	0.0035	4.7652		30953.44	30953.44	57.28		Si
SLD 13	15.15	2721.73	-2021	-0.0000112	0.0006738	0.0035	4.7652		6978.32	6978.32	2.56		Si
SLD 14	12.05	-788.33	-7607	-0.0000156	0.0006738	0.0035	4.7652		30550.88	30550.88	38.75		Si
SLD 14	15.15	3088.04	-2162	-0.000013	0.0006738	0.0035	4.7652		7301.98	7301.98	2.36		Si
SLD 16	12.05	-771.51	-8169	-0.0000166	0.0006738	0.0035	4.7652		31771.44	31771.44	41.18		Si
SLD 16	15.15	3251.88	-2555	-0.0000132	0.0006738	0.0035	4.7652		8197.14	8197.14	2.52		Si
SLV 9	12.05	-310.4	-7230	-0.0000138	0.0006738	0.0035	4.7652		29730.85	29730.85	95.78		Si
SLV 9	15.15	2018.13	-1000	-0.0000157	0.0006738	0.0035	4.7652		4623.18	4623.18	2.29		Si
SLV 6	12.05	-95.12	-8218	-0.0000151	0.0006738	0.0035	4.7652		31877	31877	335.12		Si
SLV 6	15.15	1779.73	-860	-0.0000157	0.0006738	0.0035	4.7652		4298.71	4298.71	2.42		Si
SLV 16	12.05	-1116.11	-7578	-0.0000163	0.0006738	0.0035	4.7652		30486.58	30486.58	27.32		Si
SLV 16	15.15	3783.71	-2890	-0.0000155	0.0006738	0.0035	4.7652		8962.54	8962.54	2.37		Si
SLV 14	12.05	-1150.93	-6668	-0.0000147	0.0006738	0.0035	4.7652		28496.76	28496.76	24.76		Si
SLV 14	15.15	3526.86	-2259	-0.0000158	0.0006738	0.0035	4.7652		7522.58	7522.58	2.13		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_{\text{M}} = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_{N}	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 48	12.05	-467.54	-12412	-6882	75	4.7652	4.7652	-10316	9709	6606	101952	23975	24302	9910	Si	132.63	Si
SLU 48	15.15	4529.23	-3413	-1892	-1392	4.7652	3.1663	-2836	8712	4611	101952	23975	24302	6916	Si	4.97	Si
SLU 8	12.05	-252.71	-10143	-5624	153	4.7652	4.7652	-8430	9457	6309	101952	23975	24302	9464	Si	61.81	Si
SLU 8	15.15	4079.73	-2972	-1648	-1226	4.7652	3.0301	-2470	8663	4513	101952	23975	24302	6770	Si	5.52	Si
SLU 46	12.05	-465.61	-11615	-6440	-121	4.7652	4.7652	-9653	9620	6430	101952	23975	24302	9645	Si	79.92	Si
SLU 46	15.15	3654.88	-2861	-1587	-1128	4.7652	3.3159	-2378	8650	4488	101952	23975	24302	6733	Si	5.97	Si
SLU 59	12.05	-123.06	-12916	-7161	206	4.7652	4.7652	-10735	9765	6718	101952	23975	24302	10077	Si	48.84	Si
SLU 59	15.15	4654.16	-3465	-1921	-1124	4.7652	3.1186	-2880	8717	4622	101952	23975	24302	6934	Si	6.17	Si
SLU 51	12.05	-382.45	-12170	-6748	-155	4.7652	4.7652	-10114	9682	6553	101952	23975	24302	9829	Si	63.3	Si
SLU 51	15.15	4754.15	-3430	-1902	-1691	4.7652	2.9892	-2850	8713	4614	101952	23975	24302	6922	Si	4.09	Si
SLU 49	12.05	-458	-12394	-6872	-26	4.7652	4.7652	-10301	9707	6602	101952	23975	24302	9904	Si	376.12	Si
SLU 49	15.15	4526.94	-3403	-1887	-1446	4.7652	3.157	-2828	8710	4609	101952	23975	24302	6913	Si	4.78	Si
SLU 44	12.05	-391.3	-10600	-5877	-411	4.7652	4.7652	-8810	9508	6343	101952	23975	24302	9514	Si	23.13	Si
SLU 44	15.15	3008.52	-2340	-1297	-1090	4.7652	3.2907	-1945	8593	4373	101952	23975	24302	6559	Si	6.02	Si
SLU 9	12.05	-243.17	-10125	-5614	52	4.7652	4.7652	-8415	9455	6308	101952	23975	24302	9462	Si	181.78	Si
SLU 9	15.15	4077.43	-2963	-1643	-1280	4.7652	3.019	-2462	8662	4511	101952	23975	24302	6766	Si	5.28	Si
SLU 47	12.05	-383.69	-11379	-6309	-317	4.7652	4.7652	-9457	9594	6401	101952	23975	24302	9601	Si	30.29	Si
SLU 47	15.15	3880.57	-2882	-1598	-1409	4.7652	3.1077	-2395	8653	4493	101952	23975	24302	6739	Si	4.78	Si
SLU 50	12.05	-391.99	-12188	-6758	-54	4.7652	4.7652	-10129	9684	6557	101952	23975	24302	9835	Si	181.35	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 50	15.15	4756.45	-3439	-1907	-1636	4.7652	2.9988	-2858	8714	4617	101952	23975	24302	6925	Si	4.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	12.05	-310.4	-7230	-4009	-8185	4.7652	1.0962	-6009	13702	9141	101952	35962	24302	60264		7.36	Si
SLV 9	15.15	2018.13	-1000	-555	-3856	4.7652	1.0962	-3614	13223	6003	101952	35962	24302	60264		15.63	Si
SLV 6	12.05	-95.12	-8218	-4556	-8416	4.7652	4.7652	-6830	13866	9250	101952	35962	24302	60264		7.16	Si
SLV 6	15.15	1779.73	-860	-477	-3369	4.7652	0.9405	-3612	13223	5971	101952	35962	24302	60264		17.89	Si
SLV 5	12.05	166.36	-8413	-4665	-8471	4.7652	4.7652	-6992	13898	9272	101952	35962	24302	60264		7.11	Si
SLV 5	15.15	1393.34	-712	-395	-2917	4.7652	1.2731	-2215	12943	5939	101952	35962	24302	60264		20.66	Si
SLV 7	12.05	282.43	-11446	-6346	8594	4.7652	4.7652	-9513	14403	9608	101952	35962	24302	60264		7.01	Si
SLV 7	15.15	2249.5	-2816	-1561	3845	4.7652	4.7513	-2341	12968	8626	101952	35962	24302	60264		15.67	Si
SLV 8	12.05	20.95	-11251	-6238	8648	4.7652	4.7652	-9351	14370	9587	101952	35962	24302	60264		6.97	Si
SLV 8	15.15	2635.89	-2965	-1644	3392	4.7652	4.4805	-2464	12993	8150	101952	35962	24302	60264		17.76	Si
SLD 11	12.05	-188.24	-9860	-5467	5562	4.7652	4.7652	-8195	14139	9432	101952	35962	24302	60264		10.84	Si
SLD 11	15.15	2677.08	-2682	-1487	1680	4.7652	4.1531	-2229	12946	7527	101952	35962	24302	60264		35.87	Si
SLD 12	12.05	-351.92	-9738	-5399	5596	4.7652	4.7652	-8093	14119	9419	101952	35962	24302	60264		10.77	Si
SLD 12	15.15	2918.95	-2775	-1539	1397	4.7652	3.992	-2306	12961	7244	101952	35962	24302	60264		43.14	Si
SLV 11	12.05	-194.33	-10263	-5690	8879	4.7652	4.7652	-8530	14206	9477	101952	35962	24302	60264		6.79	Si
SLV 11	15.15	2874.29	-3105	-1722	2905	4.7652	4.3707	-2581	13016	7964	101952	35962	24302	60264		20.74	Si
SLV 10	12.05	-571.88	-7035	-3900	-8131	4.7652	4.7652	-5847	13669	9119	101952	35962	24302	60264		7.41	Si
SLV 10	15.15	2404.52	-1149	-637	-4309	4.7652	0.8701	-5207	13543	6036	101952	35962	24302	60264		13.99	Si
SLV 12	12.05	-455.81	-10067	-5582	8934	4.7652	4.7652	-8367	14173	9455	101952	35962	24302	60264		6.75	Si
SLV 12	15.15	3260.68	-3254	-1804	2453	4.7652	4.1413	-2704	13041	7561	101952	35962	24302	60264		24.57	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-4879	0.53	285.42	327.92	730.45	529.19	1.85	Si
SLV 9	-4898	0.53	285.42	329.1	732.07	530.58	1.86	Si
SLV 14	-5183	0.53	285.42	347.4	757	552.2	1.93	Si
SLV 13	-5210	0.53	285.42	349.15	759.38	554.26	1.94	Si
SLV 6	-5218	0.53	285.42	349.65	760.06	554.85	1.94	Si
SLV 5	-5236	0.53	285.42	350.82	761.66	556.24	1.95	Si
SLV 16	-5785	0.53	285.42	385.77	809.51	597.64	2.09	Si
SLV 15	-5812	0.53	285.42	387.49	811.89	599.69	2.1	Si
SLV 2	-6310	0.53	285.42	418.92	855.31	637.11	2.23	Si
SLV 1	-6337	0.53	285.42	420.63	857.67	639.15	2.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-2890	-7578	191	5.624	602.3	0.894	91.4803	12.50629	Si
SLV 15	-2669	-7868	191	5.897	581.2	0.892	96.08145	12.50629	Si
SLV 14	-2259	-6668	193	6.482	542.5	0.89	105.87527	12.50629	Si
SLV 13	-2038	-6958	193	6.848	522.1	0.889	111.93883	12.50629	Si
SLV 4	-1927	-11522	-194	7.048	511.9	0.889	115.22752	12.50629	Si
SLV 3	-1706	-11813	-194	7.482	492	0.889	122.31187	12.50629	Si
SLV 2	-1296	-10612	-191	8.454	456.3	0.892	137.72296	12.50629	Si
SLV 12	-3254	-10067	53	5.253	637.4	0.896	85.1838	7.36308	Si
SLV 1	-1075	-10903	-191	9.087	438.2	0.896	147.39401	12.50629	Si
SLV 11	-3105	-10263	53	5.41	623	0.895	87.83419	7.36308	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.134	SLU 51	Si
V_SLU	4.094	SLU 51	Si
PF_SLV	2.066	SLV 10	Si
V_SLV	6.746	SLV 12	Si
PFFP_SLV	1.854	SLV 10	Si
R_SLV	7.315	SLV 16	Si

Maschio 207

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.333	-3.359	-17.363	-3.359	L7	L8	1.03	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 23	12.95	-157.99	-2488	-0.0000177	0.0003743	0.0035	1.03	1172.92	1438.57	1438.57	9.11	No	Si
SLU 23	14.75	314.92	-1620	-0.0000179	0.0003743	0.0035	1.03	788.16	867.34	867.34	2.75	No	Si
SLU 26	12.95	-151.87	-2856	-0.0000195	0.0003743	0.0035	1.03	1327.75	1604.47	1604.47	10.56	No	Si
SLU 26	14.75	345.85	-1949	-0.0000206	0.0003743	0.0035	1.03	937.06	1021.51	1021.51	2.95	No	Si
SLU 31	12.95	-120.74	-2390	-0.0000161	0.0003743	0.0035	1.03	1130.79	1394.7	1394.7	11.55	No	Si
SLU 31	14.75	283.03	-1538	-0.0000165	0.0003743	0.0035	1.03	750.62	828.67	828.67	2.93	No	Si
SLU 2	12.95	-102.38	-2238	-0.0000147	0.0003743	0.0035	1.03	1064.56	1325.26	1325.26	12.95	No	Si
SLU 2	14.75	238.13	-1271	-0.0000137	0.0003743	0.0035	1.03	626.37	701.24	701.24	2.94	No	Si
SLU 65	12.95	-158.82	-3080	-0.0000209	0.0003743	0.0035	1.03	1419.71	1701.26	1701.26	10.71	No	Si
SLU 65	14.75	352.51	-1876	-0.0000204	0.0003743	0.0035	1.03	904.25	987.62	987.62	2.8	No	Si
SLU 73	12.95	-121.58	-2982	-0.0000193	0.0003743	0.0035	1.03	1379.62	1659.14	1659.14	13.65	No	Si
SLU 73	14.75	320.62	-1794	-0.000019	0.0003743	0.0035	1.03	867.45	949.79	949.79	2.96	No	Si
SLU 44	12.95	-103.21	-2829	-0.0000179	0.0003743	0.0035	1.03	1316.55	1592.71	1592.71	15.43	No	Si
SLU 44	14.75	275.73	-1527	-0.0000162	0.0003743	0.0035	1.03	745.59	823.5	823.5	2.99	No	Si
SLU 64	12.95	-122.79	-3100	-0.0000199	0.0003743	0.0035	1.03	1427.89	1709.93	1709.93	13.93	No	Si
SLU 64	14.75	327.45	-1856	-0.0000195	0.0003743	0.0035	1.03	895.23	978.34	978.34	2.99	No	Si
SLU 68	12.95	-152.71	-3447	-0.0000227	0.0003743	0.0035	1.03	1566.91	1860.12	1860.12	12.18	No	Si
SLU 68	14.75	383.44	-2205	-0.0000231	0.0003743	0.0035	1.03	1050.2	1139.68	1139.68	2.97	No	Si
SLU 22	12.95	-121.95	-2509	-0.0000167	0.0003743	0.0035	1.03	1181.51	1447.6	1447.6	11.87	No	Si
SLU 22	14.75	289.85	-1600	-0.000017	0.0003743	0.0035	1.03	778.95	857.85	857.85	2.96	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 10	12.95	-1498.16	-1551	-0.0021321	0.0005615	0.0035	0.824		1014.15	1014.15	0.68		No
SLV 10	14.75	1228.84	-2162	-0.0043909	0.0005615	0.0035	0.824		1138	1138	0.93		No
SLV 4	12.95	1587.62	-4024	-0.0001283	0.0005615	0.0035	1.03		1995.82	1995.82	1.26		Si
SLV 4	14.75	-861.3	-824	-0.0009831	0.0005615	0.0035	0.824		658	658	0.76		No
SLV 7	12.95	1354.99	-3052	-0.0001704	0.0005615	0.0035	1.03		1555.54	1555.54	1.15		Si
SLV 7	14.75	-777.05	-493	-0.0011133	0.0005615	0.0035	0.824		493.81	493.81	0.64		No
SLV 14	12.95	-1382.43	-974	-0.0025675	0.0005615	0.0035	0.824		732.08	732.08	0.53		No
SLV 14	14.75	1075.65	-1732	-0.0054985	0.0005615	0.0035	0.824		932	932	0.87		No
SLV 13	12.95	-1730.8	-579	-0.0052304	0.0005615	0.0035	0.824		536.38	536.38	0.31		No
SLV 13	14.75	1313.09	-1831	-0.010119	0.0005615	0.0035	0.824		979.82	979.82	0.75		No
SLV 15	12.95	-1006.62	-860	-0.0013483	0.0005615	0.0035	0.824		675.74	675.74	0.67		No
SLV 15	14.75	790.67	-1349	-0.0022015	0.0005615	0.0035	0.824		746.12	746.12	0.94		No
SLV 9	12.95	-1732.71	-1285	-0.0037558	0.0005615	0.0035	0.824		884.68	884.68	0.51		No
SLV 9	14.75	1388.7	-2228	-0.0076595	0.0005615	0.0035	0.824		1169.66	1169.66	0.84		No
SLV 8	12.95	1589.53	-3318	-0.0004533	0.0005615	0.0035	0.824		1677.65	1677.65	1.06		Si
SLV 8	14.75	-936.92	-427	-0.001696	0.0005615	0.0035	0.824		460.54	460.54	0.49		No
SLD 9	12.95	-1107.82	-1660	-0.0007609	0.0005615	0.0035	0.824		1066.97	1066.97	0.96		No
SLD 9	14.75	950.71	-1886	-0.0005241	0.0005615	0.0035	0.824		1006.2	1006.2	1.06		Si
SLD 13	12.95	-1123.19	-1204	-0.0012976	0.0005615	0.0035	0.824		844.97	844.97	0.75		No
SLD 13	14.75	914.33	-1643	-0.0019286	0.0005615	0.0035	0.824		889.14	889.14	0.97		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	12.95	-158.82	-3080	-2565	-451	1.03	1.03	-8892	8130	2345	35683	8636	2627	3517	Si	7.8	Si
SLU 65	14.75	352.51	-1876	-1562	-188	1.03	0.9812	-5416	7667	2106	35683	8636	2627	3159	Si	16.85	Si
SLU 76	12.95	-115.46	-3349	-2789	-423	1.03	1.03	-9670	8234	2375	35683	8636	2627	3562	Si	8.41	Si
SLU 76	14.75	351.55	-2123	-1768	-158	1.03	1.03	-6130	7762	2239	35683	8636	2627	3358	Si	21.27	Si
SLU 26	12.95	-151.87	-2856	-2378	-433	1.03	1.03	-8246	8044	2320	35683	8636	2627	3480	Si	8.04	Si
SLU 26	14.75	345.85	-1949	-1623	-191	1.03	1.0126	-5627	7695	2182	35683	8636	2627	3273	Si	17.18	Si
SLU 68	12.95	-152.71	-3447	-2871	-455	1.03	1.03	-9954	8272	2386	35683	8636	2627	3578	Si	7.86	Si
SLU 68	14.75	383.44	-2205	-1836	-197	1.03	1.0233	-6366	7793	2233	35683	8636	2627	3349	Si	16.98	Si
SLU 67	12.95	-137.04	-3663	-3050	-440	1.03	1.03	-10576	8355	2409	35683	8636	2627	3614	Si	8.21	Si
SLU 67	14.75	392.88	-2385	-1986	-192	1.03	1.03	-6886	7863	2268	35683	8636	2627	3401	Si	17.71	Si
SLU 72	12.95	-132.18	-3823	-3183	-439	1.03	1.03	-11038	8416	2427	35683	8636	2627	3641	Si	8.29	Si
SLU 72	14.75	404.35	-2526	-2103	-194	1.03	1.03	-7293	7917	2283	35683	8636	2627	3425	Si	17.67	Si
SLU 73	12.95	-121.58	-2982	-2483	-419	1.03	1.03	-8609	8092	2334	35683	8636	2627	3501	Si	8.36	Si
SLU 73	14.75	320.62	-1794	-1494	-148	1.03	1.0088	-5180	7635	2157	35683	8636	2627	3235	Si	21.85	Si
SLU 70	12.95	-130.93	-4030	-3356	-445	1.03	1.03	-11637	8496	2450	35683	8636	2627	3675	Si	8.26	Si
SLU 70	14.75	423.81	-2714	-2260	-202	1.03	1.03	-7837	7989	2304	35683	8636	2627	3456	Si	17.12	Si
SLU 25	12.95	-136.21	-3071	-2558	-418	1.03	1.03	-8868	8127	2344	35683	8636	2627	3516	Si	8.42	Si
SLU 25	14.75	355.28	-2129	-1773	-185	1.03	1.03	-6148	7764	2239	35683	8636	2627	3359	Si	18.12	Si
SLU 23	12.95	-157.99	-2488	-2072	-428	1.03	1.03	-7185	7902	2279	35683	8636	2627	3419	Si	7.98	Si
SLU 23	14.75	314.92	-1620	-1349	-181	1.03	0.9617	-4677	7568	2038	35683	8636	2627	3057	Si	16.91	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	12.95	-1732.71	-1285	-1070	-2792	0.824	0	0	0	0	35683	10363	2101	12464		4.46	Si
SLV 9	14.75	1388.7	-2228	-1855	-1502	0.824	0	0	0	0	35683	10363	2101	12464		8.3	Si
SLD 9	12.95	-1107.82	-1660	-1382	-1844	0.824	0	0	0	0	35683	10363	2101	12464		6.76	Si
SLD 9	14.75	950.71	-1886	-1570	-971	0.824	0.0324	0	0	0	35683	10363	2101	12464		12.83	Si
SLV 5	12.95	-1058.95	-2115	-1761	-1640	0.824	0.0432	0	0	0	35683	10363	2101	12464		7.6	Si
SLV 5	14.75	964.34	-2101	-1749	-1081	1.03	0.1677	-37793	16250	1855	35683	12954	2627	15580		14.41	Si
SLV 13	12.95	-1730.8	-579	-482	-2994	0.824	0	0	0	0	35683	10363	2101	12464		4.16	Si
SLV 13	14.75	1313.09	-1831	-1525	-1275	0.824	0	0	0	0	35683	10363	2101	12464		9.78	Si
SLV 8	12.95	1589.53	-3318	-2763	2259	0.824	0.1079	0	0	0	35683	10363	2101	12464		5.52	Si
SLV 8	14.75	-936.92	-427	-355	1313	0.824	0	0	0	0	35683	10363	2101	12464		9.49	Si
SLV 15	12.95	-1006.62	-860	-716	-1937	0.824	0	0	0	0	35683	10363	2101	12464		6.43	Si
SLV 15	14.75	790.67	-1349	-1123	-617	0.824	0	0	0	0	35683	10363	2101	12464		20.22	Si
SLV 4	12.95	1587.62	-4024	-3351	2461	1.03	0.3613	-11618	12740	2282	35683	12954	2627	15580		6.33	Si
SLV 4	14.75	-861.3	-824	-686	1085	0.824	0	0	0	0	35683	10363	2101	12464		11.48	Si
SLV 14	12.95	-1382.43	-974	-811	-2435	0.824	0	0	0	0	35683	10363	2101	12464		5.12	Si
SLV 14	14.75	1075.65	-1732	-1442	-978	0.824	0	0	0	0	35683	10363	2101	12464		12.75	Si
SLD 13	12.95	-1123.19	-1204	-1002	-1997	0.824	0	0	0	0	35683	10363	2101	12464		6.24	Si
SLD 13	14.75	914.33	-1643	-1368	-841	0.824	0	0	0	0	35683	10363	2101	12464		14.82	Si
SLV 10	12.95	-1498.16	-1551	-1291	-2416	0.824	0	0	0	0	35683	10363	2101	12464		5.16	Si
SLV 10	14.75	1228.84	-2162	-1800	-1303	0.824	0	0	0	0	35683	10363	2101	12464		9.57	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.53	0	-370	113.38	0	0	No, $e > t/2$
SLV 16	179667	0.53	0	-765	113.38	0	0	No, $e > t/2$
SLV 14	179667	0.53	0	-506	113.38	0	0	No, $e > t/2$
SLV 13	179667	0.53	0	-111	113.38	0	0	No, $e > t/2$
SLV 9	179667	0.53	2907	-838	113.38	115.13	1.02	Si
SLV 10	179667	0.53	3829	-1104	113.38	150.72	1.33	Si
SLV 5	179667	0.53	5779	-1667	113.38	224.49	1.98	Si
SLV 11	179667	0.53	5910	-1704	113.38	229.38	2.02	Si
SLV 6	179667	0.53	6701	-1933	113.38	258.68	2.28	Si
SLV 12	179667	0.53	6832	-1970	113.38	263.5	2.32	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α_0	M*	e*	a_0^*	aLim	Verifica
SLV 1	-1020	-2381	-72	3.196	238.6	0.89	52.17348	7.04479	Si
SLV 2	-1015	-2093	-72	3.205	238.2	0.89	52.31765	7.04479	Si
SLV 13	-993	-4310	-27	3.269	236	0.89	53.38697	7.04479	Si
SLV 14	-988	-4022	-27	3.278	235.6	0.89	53.53646	7.04479	Si
SLV 3	-925	-1198	27	3.395	229.8	0.889	55.47072	7.04479	Si
SLV 4	-920	-910	27	3.404	229.3	0.889	55.63103	7.04479	Si
SLV 15	-898	-3127	72	3.422	227.2	0.889	55.93825	7.04479	Si
SLV 16	-893	-2839	72	3.432	226.8	0.889	56.10207	7.04479	Si
SLV 5	-1120	-4389	-173	2.98	248.1	0.892	48.57629	5.51652	Si
SLV 6	-1117	-4195	-173	2.985	247.8	0.892	48.66243	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.754	SLU 23	Si
V_SLU	7.801	SLU 65	Si
PF_SLV	0.31	SLV 13	No
V_SLV	4.163	SLV 13	Si
PFFP_SLV	0	SLV 13	No
R_SLV	7.406	SLV 1	Si

Maschio 208

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-18.448	-3.359	-18.448	1.046	L7	L8	4.406	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _k	f _{vk0}	f _{med}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 9	12.05	1947.84	-8404	-0.0000219	0.0004492	0.0035	4.4057	16447.91	19287.51	19287.51	9.9	No	Si
SLU 9	15.15	433.53	-834	-0.0000028	0.0004492	0.0035	4.4057	1816.77	3740.03	2725.15	6.29	Si	Si
SLU 29	12.05	2128.99	-9697	-0.000025	0.0004492	0.0035	4.4057	18612.28	21825.74	21825.74	10.25	No	Si
SLU 29	15.15	509.19	-988	-0.0000033	0.0004492	0.0035	4.4057	2147.75	4067.11	3221.63	6.33	Si	Si
SLU 8	12.05	1942.34	-8407	-0.0000219	0.0004492	0.0035	4.4057	16453.58	19294.09	19294.09	9.93	No	Si
SLU 8	15.15	438.04	-830	-0.0000028	0.0004492	0.0035	4.4057	1808.86	3732.24	2713.29	6.19	Si	Si
SLU 30	12.05	2134.49	-9694	-0.000025	0.0004492	0.0035	4.4057	18606.85	21819.28	21819.28	10.22	No	Si
SLU 30	15.15	504.69	-992	-0.0000033	0.0004492	0.0035	4.4057	2155.63	4074.9	3233.44	6.41	Si	Si
SLU 48	12.05	2426.24	-10445	-0.0000274	0.0004492	0.0035	4.4057	19819.35	23282.62	23282.62	9.6	No	Si
SLU 48	15.15	515.48	-1008	-0.0000033	0.0004492	0.0035	4.4057	2190.8	4109.74	3286.2	6.37	Si	Si
SLU 6	12.05	1992.86	-8675	-0.0000226	0.0004492	0.0035	4.4057	16910.79	19826.4	19826.4	9.95	No	Si
SLU 6	15.15	453.88	-886	-0.0000029	0.0004492	0.0035	4.4057	1928.23	3850.02	2892.35	6.37	Si	Si
SLU 72	12.05	2567.87	-11463	-0.0000299	0.0004492	0.0035	4.4057	21410.11	25238.38	25238.38	9.83	No	Si
SLU 72	15.15	566.29	-1114	-0.0000037	0.0004492	0.0035	4.4057	2417.44	4334.62	3626.16	6.4	Si	Si
SLU 71	12.05	2562.37	-11466	-0.0000298	0.0004492	0.0035	4.4057	21415.19	25244.73	25244.73	9.85	No	Si
SLU 71	15.15	570.79	-1110	-0.0000037	0.0004492	0.0035	4.4057	2409.59	4326.82	3614.39	6.33	Si	Si
SLU 51	12.05	2381.23	-10173	-0.0000267	0.0004492	0.0035	4.4057	19384.56	22753.29	22753.29	9.56	No	Si
SLU 51	15.15	495.13	-956	-0.0000032	0.0004492	0.0035	4.4057	2079.71	3999.75	3119.56	6.3	Si	Si
SLU 50	12.05	2375.73	-10176	-0.0000267	0.0004492	0.0035	4.4057	19389.9	22759.75	22759.75	9.58	No	Si
SLU 50	15.15	499.63	-953	-0.0000032	0.0004492	0.0035	4.4057	2071.83	3991.95	3107.74	6.22	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	12.05	1778.1	-7097	-0.0000187	0.0006738	0.0035	4.4057		16835.85	16835.85	9.47		Si
SLV 14	15.15	634.3	-608	-0.000003	0.0006738	0.0035	4.4057		3264.33	3264.33	5.15		Si
SLV 5	12.05	795.47	-9311	-0.0000205	0.0006738	0.0035	4.4057		21307.97	21307.97	26.79		Si
SLV 5	15.15	1489.22	-974	-0.0000083	0.0006738	0.0035	4.4057		4048.79	4048.79	2.72		Si
SLV 10	12.05	943.32	-8628	-0.0000195	0.0006738	0.0035	4.4057		19934.69	19934.69	21.13		Si
SLV 10	15.15	1476.91	-911	-0.000009	0.0006738	0.0035	4.4057		3915.3	3915.3	2.65		Si
SLD 9	12.05	1293.85	-8350	-0.0000199	0.0006738	0.0035	4.4057		19377.08	19377.08	14.98		Si
SLD 9	15.15	1028.74	-795	-0.000005	0.0006738	0.0035	4.4057		3665.48	3665.48	3.56		Si
SLV 6	12.05	723.23	-9306	-0.0000203	0.0006738	0.0035	4.4057		21298.1	21298.1	29.45		Si
SLV 6	15.15	1494.37	-995	-0.0000081	0.0006738	0.0035	4.4057		4094.76	4094.76	2.74		Si
SLV 9	12.05	1015.57	-8633	-0.0000197	0.0006738	0.0035	4.4057		19944.56	19944.56	19.64		Si
SLV 9	15.15	1471.76	-890	-0.0000093	0.0006738	0.0035	4.4057		3869.33	3869.33	2.63		Si
SLD 6	12.05	1109.24	-8781	-0.0000203	0.0006738	0.0035	4.4057		20242.1	20242.1	18.25		Si
SLD 6	15.15	1042.99	-862	-0.000005	0.0006738	0.0035	4.4057		3809.5	3809.5	3.65		Si
SLD 5	12.05	1154.46	-8784	-0.0000204	0.0006738	0.0035	4.4057		20248.28	20248.28	17.54		Si
SLD 5	15.15	1039.77	-849	-0.000005	0.0006738	0.0035	4.4057		3780.62	3780.62	3.64		Si
SLV 13	12.05	1885.42	-7105	-0.000019	0.0006738	0.0035	4.4057		16850.75	16850.75	8.94		Si
SLV 13	15.15	626.66	-576	-0.000003	0.0006738	0.0035	4.4057		3195.8	3195.8	5.1		Si
SLD 10	12.05	1248.62	-8347	-0.0000198	0.0006738	0.0035	4.4057		19370.9	19370.9	15.51		Si
SLD 10	15.15	1031.96	-808	-0.000005	0.0006738	0.0035	4.4057		3694.36	3694.36	3.58		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	12.05	2273.94	-10267	-5692	1056	4.4057	4.4057	-9229	9564	5899	101952	22166	22469	8848	Si	8.38	Si
SLU 55	15.15	415.28	-867	-481	1234	4.4057	4.4057	-780	8437	5204	101952	22166	22469	7806	Si	6.33	Si
SLU 43	12.05	2091.3	-9141	-5068	1276	4.4057	4.4057	-8217	9429	5816	101952	22166	22469	8724	Si	6.83	Si
SLU 43	15.15	348.25	-710	-394	1273	4.4057	4.4057	-638	8418	5192	101952	22166	22469	7789	Si	6.12	Si
SLU 52	12.05	2131.72	-9749	-5405	1126	4.4057	4.4057	-8764	9502	5861	101952	22166	22469	8791	Si	7.8	Si
SLU 52	15.15	339.59	-746	-414	1306	4.4057	4.4057	-671	8423	5195	101952	22166	22469	7793	Si	5.97	Si
SLU 47	12.05	2242.68	-9653	-5352	1073	4.4057	4.4057	-8677	9490	5854	101952	22166	22469	8780	Si	8.18	Si
SLU 47	15.15	416.44	-837	-464	1252	4.4057	4.4057	-753	8434	5202	101952	22166	22469	7803	Si	6.23	Si
SLU 44	12.05	2100.47	-9135	-5065	1144	4.4057	4.4057	-8212	9428	5815	101952	22166	22469	8723	Si	7.62	Si
SLU 44	15.15	340.75	-716	-397	1325	4.4057	4.4057	-644	8419	5193	101952	22166	22469	7789	Si	5.88	Si
SLU 60	12.05	2135.95	-10018	-5554	1251	4.4057	4.4057	-9005	9534	5881	101952	22166	22469	8821	Si	7.05	Si
SLU 60	15.15	346.59	-753	-417	1247	4.4057	4.4057	-677	8424	5196	101952	22166	22469	7793	Si	6.25	Si
SLU 73	12.05	2318.37	-11039	-6120	1040	4.4057	4.4057	-9923	9656	6011	101952	22166	22469	9017	Si	8.67	Si
SLU 73	15.15	410.75	-904	-501	1218	4.4057	4.4057	-812	8442	5207	101952	22166	22469	7810	Si	6.41	Si
SLU 65	12.05	2287.11	-10425	-5780	1058	4.4057	4.4057	-9371	9583	5911	101952	22166	22469	8866	Si	8.38	Si
SLU 65	15.15	411.91	-874	-484	1237	4.4057	4.4057	-785	8438	5205	101952	22166	22469	7807	Si	6.31	Si
SLU 63	12.05	2283.67	-10532	-5840	1101	4.4057	4.4057	-9468	9596	5919	101952	22166	22469	8878	Si	8.06	Si
SLU 63	15.15	417.78	-878	-487	1206	4.4057	4.4057	-789	8439	5205	101952	22166	22469	7807	Si	6.48	Si
SLU 61	12.05	2141.45	-10014	-5552	1172	4.4057	4.4057	-9002	9534	5880	101952	22166	22469	8820	Si	7.53	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 61	15.15	342.09	-756	-419	1278	4.4057	4.4057	-680	8424	5196	101952	22166	22469	7794	Si	6.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	12.05	723.23	-9306	-5160	-5055	4.4057	4.4057	-8366	14173	8742	101952	33249	22469	55718		11.02	Si
SLV 6	15.15	1494.37	-995	-552	-3699	4.4057	2.1052	-895	12679	5565	101952	33249	22469	55718		15.06	Si
SLV 7	12.05	2497.03	-7203	-3994	6385	4.4057	4.4057	-6475	13795	8509	101952	33249	22469	55718		8.73	Si
SLV 7	15.15	-863.6	-371	-206	4948	3.5246	0	0	0	0	101952	26599	17975	44575		9.01	Si
SLV 10	12.05	943.32	-8628	-4784	-4527	4.4057	4.4057	-7756	14051	8667	101952	33249	22469	55718		12.31	Si
SLV 10	15.15	1476.91	-911	-505	-3096	4.4057	1.7476	-819	12664	5547	101952	33249	22469	55718		18	Si
SLV 12	12.05	2644.88	-6519	-3615	6644	4.4057	4.4057	-5861	13672	8433	101952	33249	22469	55718		8.39	Si
SLV 12	15.15	-875.91	-309	-171	5282	3.5246	0	0	0	0	101952	26599	17975	44575		8.44	Si
SLD 12	12.05	2285.89	-7047	-3907	4440	4.4057	4.4057	-6335	13767	8491	101952	33249	22469	55718		12.55	Si
SLD 12	15.15	-426.46	-434	-241	3616	4.4057	3.6613	-470	12594	6455	101952	33249	22469	55718		15.41	Si
SLV 11	12.05	2717.12	-6524	-3617	6913	4.4057	4.4057	-5865	13673	8433	101952	33249	22469	55718		8.06	Si
SLV 11	15.15	-881.06	-287	-159	5551	3.5246	0	0	0	0	101952	26599	17975	44575		8.03	Si
SLD 11	12.05	2331.11	-7050	-3909	4608	4.4057	4.4057	-6337	13767	8492	101952	33249	22469	55718		12.09	Si
SLD 11	15.15	-429.69	-421	-233	3784	4.4057	3.5439	-470	12594	6248	101952	33249	22469	55718		14.72	Si
SLV 5	12.05	795.47	-9311	-5163	-4786	4.4057	4.4057	-8370	14174	8742	101952	33249	22469	55718		11.64	Si
SLV 5	15.15	1489.22	-974	-540	-3430	4.4057	2.0215	-876	12675	5561	101952	33249	22469	55718		16.24	Si
SLD 7	12.05	2191.73	-7483	-4149	4274	4.4057	4.4057	-6727	13845	8540	101952	33249	22469	55718		13.04	Si
SLD 7	15.15	-418.66	-474	-263	3401	4.4057	3.9606	-474	12595	6984	101952	33249	22469	55718		16.38	Si
SLV 8	12.05	2424.78	-7198	-3991	6116	4.4057	4.4057	-6470	13794	8508	101952	33249	22469	55718		9.11	Si
SLV 8	15.15	-858.46	-393	-218	4679	3.5246	0.0491	0	0	0	101952	26599	17975	44575		9.53	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 12	-3864	0.53	263.89	261.2	616.09	438.64	1.66	Si
SLV 11	-3920	0.53	263.89	264.89	621.09	442.99	1.68	Si
SLV 16	-4036	0.53	263.89	272.45	631.36	451.91	1.71	Si
SLV 8	-4113	0.53	263.89	277.44	638.15	457.8	1.73	Si
SLV 15	-4120	0.53	263.89	277.9	638.78	458.34	1.74	Si
SLV 7	-4170	0.53	263.89	281.11	643.15	462.13	1.75	Si
SLV 14	-4446	0.53	263.89	298.96	667.53	483.24	1.83	Si
SLV 13	-4530	0.53	263.89	304.37	674.94	489.65	1.86	Si
SLV 4	-4868	0.53	263.89	326.09	704.6	515.35	1.95	Si
SLV 3	-4952	0.53	263.89	331.46	711.92	521.69	1.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-888	-9359	-139	9.471	396.8	0.899	153.09058	12.50629	Si
SLV 1	-856	-9366	-139	9.588	394.3	0.9	154.79864	12.50629	Si
SLV 4	-707	-8726	-131	10.178	383.3	0.906	163.18764	12.50629	Si
SLV 3	-675	-8733	-131	10.314	381.1	0.908	165.05752	12.50629	Si
SLV 14	-608	-7097	131	10.611	376.5	0.912	169.07914	12.50629	Si
SLV 13	-576	-7105	131	10.758	374.4	0.914	171.03407	12.50629	Si
SLV 16	-427	-6465	139	11.498	365.3	0.926	180.41245	12.50629	Si
SLV 15	-395	-6472	140	11.672	363.5	0.929	182.50101	12.50629	Si
SLV 6	-995	-9306	-55	9.127	405.3	0.896	148.04121	7.36308	Si
SLV 5	-974	-9311	-55	9.2	403.6	0.897	149.12862	7.36308	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.194	SLU 8	Si
V_SLU	5.88	SLU 44	Si
PF_SLV	2.629	SLV 9	Si
V_SLV	8.03	SLV 11	Si
PFFP_SLV	1.662	SLV 12	Si
R_SLV	12.241	SLV 2	Si

Maschio 209

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-3.359	-15.433	-3.359	L7	L8	1.68	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	e _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?				
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 33	12.05	-1287.89	-3911	-0.0000275	0.0003743	0.0035	1.68	3016.83	3767.35	3767.35	2.93	No	Si
SLU 33	14.15	1148.77	-4089	-0.0000262	0.0003743	0.0035	1.68	3141.71	3381.82	3381.82	2.94	No	Si
SLU 23	12.05	-1092.02	-3642	-0.0000241	0.0003743	0.0035	1.68	2826.31	3571.07	3571.07	3.27	No	Si
SLU 23	14.15	997.26	-3478	-0.0000224	0.0003743	0.0035	1.68	2709.11	2927.25	2927.25	2.94	No	Si
SLU 42	12.05	-1312.47	-3601	-0.0000272	0.0003743	0.0035	1.68	2797.07	3539.59	3539.59	2.7	No	Si
SLU 42	14.15	1094.09	-3803	-0.0000246	0.0003743	0.0035	1.68	2941.15	3170.82	3170.82	2.9	No	Si
SLU 82	12.05	-1360.9	-4200	-0.0000293	0.0003743	0.0035	1.68	3218.68	3976.91	3976.91	2.92	No	Si
SLU 82	14.15	1121.18	-3961	-0.0000255	0.0003743	0.0035	1.68	3052.12	3287.48	3287.48	2.93	No	Si
SLU 41	12.05	-1294.55	-3591	-0.0000268	0.0003743	0.0035	1.68	2790.31	3532.31	3532.31	2.73	No	Si
SLU 41	14.15	1076.96	-3774	-0.0000243	0.0003743	0.0035	1.68	2920.5	3149.09	3149.09	2.92	No	Si
SLU 34	12.05	-1268.23	-3717	-0.0000267	0.0003743	0.0035	1.68	2879.87	3627.85	3627.85	2.86	No	Si
SLU 34	14.15	1101.67	-3854	-0.0000249	0.0003743	0.0035	1.68	2976.59	3208.25	3208.25	2.91	No	Si
SLU 39	12.05	-1249.45	-3259	-0.0000255	0.0003743	0.0035	1.68	2551.24	3278.24	3278.24	2.62	No	Si
SLU 39	14.15	981.54	-3326	-0.0000218	0.0003743	0.0035	1.68	2600.15	2813.48	2813.48	2.87	No	Si
SLU 40	12.05	-1267.37	-3268	-0.0000259	0.0003743	0.0035	1.68	2558.11	3285.44	3285.44	2.59	No	Si
SLU 40	14.15	998.68	-3356	-0.0000221	0.0003743	0.0035	1.68	2621.25	2835.46	2835.46	2.84	No	Si
SLU 73	12.05	-1316.66	-4316	-0.000029	0.0003743	0.0035	1.68	3299.04	4061.78	4061.78	3.08	No	Si
SLU 73	14.15	1128.75	-4011	-0.0000257	0.0003743	0.0035	1.68	3087.29	3324.46	3324.46	2.95	No	Si
SLU 31	12.05	-1223.12	-3385	-0.0000253	0.0003743	0.0035	1.68	2642.27	3374.17	3374.17	2.76	No	Si
SLU 31	14.15	1006.25	-3406	-0.0000223	0.0003743	0.0035	1.68	2657.49	2873.27	2873.27	2.86	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 13	12.05	-3351.25	-3787	-0.0004487	0.0005615	0.0035	1.344		3720.45	3720.45	1.11		Si
SLV 13	14.15	3150.11	-4907	-0.0000925	0.0005615	0.0035	1.68		4068.5	4068.5	1.29		Si
SLV 8	12.05	920.64	-2164	-0.0000184	0.0005615	0.0035	1.68		1939.5	1939.5	2.11		Si
SLV 8	14.15	-1067.39	-897	-0.0002473	0.0005615	0.0035	1.344		1438.7	1438.7	1.35		Si
SLV 9	12.05	-2619.62	-4594	-0.0000619	0.0005615	0.0035	1.344		4342.72	4342.72	1.66		Si
SLV 9	14.15	2636.36	-4979	-0.0000583	0.0005615	0.0035	1.68		4122.78	4122.78	1.56		Si
SLV 3	12.05	1171.94	-2928	-0.0000236	0.0005615	0.0035	1.68		2544.84	2544.84	2.17		Si
SLV 3	14.15	-1150.56	-1424	-0.0000862	0.0005615	0.0035	1.344		1864.08	1864.08	1.62		Si
SLD 15	12.05	-2059.95	-3186	-0.0000593	0.0005615	0.0035	1.344		3259.86	3259.86	1.58		Si
SLD 15	14.15	1854.54	-3626	-0.0000395	0.0005615	0.0035	1.68		3089.6	3089.6	1.67		Si
SLV 16	12.05	-2257.76	-3104	-0.0000969	0.0005615	0.0035	1.344		3196.21	3196.21	1.42		Si
SLV 16	14.15	2019.42	-3553	-0.0000471	0.0005615	0.0035	1.68		3032.77	3032.77	1.5		Si
SLV 15	12.05	-2738.09	-3061	-0.0003664	0.0005615	0.0035	1.344		3163.07	3163.07	1.16		Si
SLV 15	14.15	2450	-4007	-0.000064	0.0005615	0.0035	1.68		3383.97	3383.97	1.38		Si
SLV 4	12.05	1652.27	-2971	-0.0000374	0.0005615	0.0035	1.68		2578.35	2578.35	1.56		Si
SLV 4	14.15	-1581.15	-969	-0.0005401	0.0005615	0.0035	1.344		1497.09	1497.09	0.95		No
SLV 14	12.05	-2870.92	-3830	-0.0001467	0.0005615	0.0035	1.344		3753.13	3753.13	1.31		Si
SLV 14	14.15	2719.52	-4453	-0.0000713	0.0005615	0.0035	1.68		3724.4	3724.4	1.37		Si
SLD 13	12.05	-2440.31	-3630	-0.0000785	0.0005615	0.0035	1.344		3600.37	3600.37	1.48		Si
SLD 13	14.15	2288.18	-4185	-0.0000516	0.0005615	0.0035	1.68		3521.25	3521.25	1.54		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 77	12.05	-1408.62	-5165	-4301	-2295	1.68	1.68	-9143	8164	3840	35683	14086	4284	5760	Si	2.51	Si
SLU 77	14.15	1349.55	-5113	-4258	-2298	1.68	1.68	-9052	8151	3834	35683	14086	4284	5752	Si	2.5	Si
SLU 84	12.05	-1406.01	-4532	-3774	-2202	1.68	1.5893	-8023	8014	3566	35683	14086	4284	5350	Si	2.43	Si
SLU 84	14.15	1216.59	-4409	-3671	-2204	1.68	1.68	-7805	7985	3756	35683	14086	4284	5634	Si	2.56	Si
SLU 42	12.05	-1312.47	-3601	-2998	-2006	1.68	1.4264	-7546	7951	3175	35683	14086	4284	4763	Si	2.37	Si
SLU 42	14.15	1094.09	-3803	-3167	-2007	1.68	1.657	-6733	7842	3638	35683	14086	4284	5458	Si	2.72	Si
SLU 36	12.05	-1333	-4243	-3533	-2124	1.68	1.5775	-7511	7946	3510	35683	14086	4284	5265	Si	2.48	Si
SLU 36	14.15	1244.18	-4537	-3778	-2126	1.68	1.68	-8032	8015	3770	35683	14086	4284	5656	Si	2.66	Si
SLU 40	12.05	-1267.37	-3268	-2722	-1893	1.68	1.3567	-7199	7904	3003	35683	14086	4284	4504	Si	2.38	Si
SLU 40	14.15	998.68	-3356	-2794	-1894	1.68	1.6272	-5940	7736	3525	35683	14086	4284	5287	Si	2.79	Si
SLU 82	12.05	-1360.9	-4200	-3497	-2089	1.68	1.548	-8111	8026	3479	35683	14086	4284	5218	Si	2.5	Si
SLU 82	14.15	1121.18	-3961	-3298	-2091	1.68	1.6709	-7012	7879	3686	35683	14086	4284	5529	Si	2.65	Si
SLU 39	12.05	-1249.45	-3259	-2714	-1869	1.68	1.3698	-7109	7892	3027	35683	14086	4284	4541	Si	2.43	Si
SLU 39	14.15	981.54	-3326	-2770	-1869	1.68	1.6348	-5889	7730	3538	35683	14086	4284	5307	Si	2.84	Si
SLU 41	12.05	-1294.55	-3591	-2990	-1982	1.68	1.4385	-7463	7939	3198	35683	14086	4284	4797	Si	2.42	Si
SLU 41	14.15	1076.96	-3774	-3143	-1983	1.68	1.664	-6681	7835	3651	35683	14086	4284	5476	Si	2.76	Si
SLU 83	12.05	-1388.09	-4523	-3766	-2178	1.68	1.5993	-8006	8012	3588	35683	14086	4284	5382	Si	2.47	Si
SLU 83	14.15	1199.46	-4380	-3647	-2179	1.68	1.68	-7753	7978	3753	35683	14086	4284	5629	Si	2.58	Si
SLU 78	12.05	-1426.53	-5175	-4309	-2320	1.68	1.68	-9160	8166	3841	35683	14086	4284	5762	Si	2.48	Si
SLU 78	14.15	1366.68	-5142	-4282	-2322	1.68	1.68	-9103	8158	3838	35683	14086	4284	5756	Si	2.48	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 9	12.05	-1958.85	-4123	-3434	-2759	1.344	1.0948	0	0	0	35683	16903	3427	20330		7.37	Si
SLD 9	14.15	1942.78	-4213	-3508	-2597	1.68	1.1364	-7457	11908	3789	35683	21129	4284	25413		9.79	Si
SLV 16	12.05	-2257.76	-3104	-2585	-3231	1.344	0.3379	0	0	0	35683	16903	3427	20330		6.29	Si
SLV 16	14.15	2019.42	-3553	-2958	-2597	1.68	0.8147	-6289	11674	3053	35683	21129	4284	25413		9.79	Si
SLV 14	12.05	-2870.92	-3830	-3189	-3972	1.344	0.2711	0	0	0	35683	16903	3427	20330		5.12	Si
SLV 14	14.15	2719.52	-4453	-3708	-3301	1.68	0.6877	-7882	11993	3253	35683	21129	4284	25413		7.7	Si
SLV 13	12.05	-3351.25	-3787	-3154	-4605	1.344	0	0	0	0	35683	16903	3427	20330		4.42	Si
SLV 13	14.15	3150.11	-4907	-4086	-3934	1.68	0.5942	-8687	12154	3354	35683	21129	4284	25413		6.46	Si
SLD 14	12.05	-2133.73	-3657	-3046	-3024	1.344	0.7698	0	0	0	35683	16903	3427	20330		6.72	Si
SLD 14	14.15	2013.35	-3895	-3244	-2596	1.68	0.9693	-6895	11796	3201	35683	21129	4284	25413		9.79	Si
SLD 13	12.05	-2440.31	-3630	-3023	-3428	1.344	0.5034	0	0	0	35683	16903	3427	20330		5.93	Si
SLD 13	14.15	2288.18	-4185	-3485	-3000	1.68	0.8798	-7409	11898	3194	35683	21129	4284	25413		8.47	Si
SLV 9	12.05	-2619.62	-4594	-3826	-3582	1.344	0.8095	0	0	0	35683	16903	3427	20330		5.67	Si
SLV 9	14.15	2636.36	-4979	-4146	-3327	1.68	0.9315	-8814	12179	3370	35683	21129	4284	25413		7.64	Si
SLD 15	12.05	-2059.95	-3186	-2653	-2966	1.344	0.5803	0	0	0	35683	16903	3427	20330		6.85	Si
SLD 15	14.15	1854.54	-3626	-3019	-2562	1.68	0.9857	-6419	11700	3229	35683	21129	4284	25413		9.92	Si
SLV 10	12.05	-2296.23	-4623	-3850	-3157	1.344	1.0299	0	0	0	35683	16903	3427	20330		6.44	Si
SLV 10	14.15	2346.46	-4673	-3891	-2901	1.68	1.0136	-8272	12071	3426	35683	21129	4284	25413		8.76	Si
SLV 15	12.05	-2738.09	-3061	-2549	-3864	1.344	0	0	0	0	35683	16903	3427	20330		5.26	Si
SLV 15	14.15	2450	-4007	-3337	-3229	1.68	0.6857	-7093	11835	3154	35683	21129	4284	25413		7.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.53	3018	-1420	184.93	194.85	1.05	Si
SLV 4	179667	0.53	3259	-1533	184.93	210.03	1.14	Si
SLV 7	179667	0.53	3482	-1638	184.93	224.07	1.21	Si
SLV 3	179667	0.53	3947	-1857	184.93	253.22	1.37	Si
SLV 12	179667	0.53	4320	-2032	184.93	276.43	1.49	Si
SLV 11	179667	0.53	4783	-2250	184.93	305.13	1.65	Si
SLV 2	179667	0.53	4862	-2287	184.93	310.02	1.68	Si
SLV 1	179667	0.53	5551	-2611	184.93	352.27	1.9	Si
SLV 16	179667	0.53	7596	-3573	184.93	475.38	2.57	Si
SLV 15	179667	0.53	8285	-3897	184.93	516	2.79	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 2	-1763	-3697	-246	3.053	398.5	0.891	49.79987	7.04479	Si
SLV 1	-1632	-3654	-246	3.187	386.2	0.89	52.03141	7.04479	Si
SLV 4	-1524	-2971	-151	3.34	376.2	0.889	54.56806	7.04479	Si
SLV 3	-1394	-2928	-151	3.499	364.2	0.889	57.19489	7.04479	Si
SLV 6	-1431	-4583	-218	3.427	367.6	0.889	56.01506	5.51652	Si
SLV 5	-1344	-4554	-217	3.539	359.6	0.889	57.85567	5.51652	Si
SLV 10	-927	-4623	-98	4.241	322.9	0.892	69.1174	5.51652	Si
SLV 9	-839	-4594	-98	4.413	315.6	0.894	71.75984	5.51652	Si
SLV 8	-636	-2164	99	4.867	299.5	0.901	78.50801	5.51652	Si
SLV 14	-82	-3830	152	6.745	268.5	0.973	100.74744	7.04479	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.592	SLU 40	Si
V_SLU	2.374	SLU 42	Si
PF_SLV	0.947	SLV 4	No
V_SLV	4.415	SLV 13	Si
PFFP_SLV	1.054	SLV 8	Si
R_SLV	7.069	SLV 2	Si

Maschio 211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-15.058	2.206	-15.058	6.661	L7	L8	4.455	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _k	f _{vk0}	f _{med10}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 78	12.05	5393.1	-16665	-0.0000479	0.0004492	0.0035	4.455	29003.34	35383.72	35383.72	6.56	No	Si
SLU 78	14.15	-2868.68	-6877	-0.000021	0.0004492	0.0035	4.455	13935.54	25729.61	20903.31	7.29	Si	Si
SLU 36	12.05	4922.74	-14452	-0.000042	0.0004492	0.0035	4.455	26086.86	31284.37	31284.37	6.36	No	Si
SLU 36	14.15	-2545.47	-5995	-0.0000184	0.0004492	0.0035	4.455	12302.71	23939.94	18454.06	7.25	Si	Si
SLU 42	12.05	4852.69	-14346	-0.0000416	0.0004492	0.0035	4.455	25940.68	31087.42	31087.42	6.41	No	Si
SLU 42	14.15	-2566.92	-5779	-0.000018	0.0004492	0.0035	4.455	11896.33	23502.12	17844.5	6.95	Si	Si
SLU 41	12.05	4855.34	-14326	-0.0000416	0.0004492	0.0035	4.455	25912.23	31048.57	31048.57	6.39	No	Si
SLU 41	14.15	-2687.9	-5828	-0.0000184	0.0004492	0.0035	4.455	11988.57	23601.24	17982.86	6.69	Si	Si
SLU 33	12.05	4652.82	-14001	-0.0000403	0.0004492	0.0035	4.455	25457.62	30432.3	30432.3	6.54	No	Si
SLU 33	14.15	-2438.92	-5698	-0.0000175	0.0004492	0.0035	4.455	11743.9	23338.65	17615.85	7.22	Si	Si
SLU 77	12.05	5395.75	-16644	-0.0000479	0.0004492	0.0035	4.455	28977.67	35346.34	35346.34	6.55	No	Si
SLU 77	14.15	-2989.66	-6925	-0.0000214	0.0004492	0.0035	4.455	14024.64	25828.73	21036.96	7.04	Si	Si
SLU 37	12.05	4809.05	-14169	-0.0000411	0.0004492	0.0035	4.455	25692.76	30750.02	30750.02	6.39	No	Si
SLU 37	14.15	-2623.16	-5901	-0.0000184	0.0004492	0.0035	4.455	12125.89	23749.09	18188.84	6.93	Si	Si
SLU 38	12.05	4806.4	-14189	-0.0000411	0.0004492	0.0035	4.455	25721.4	30788.86	30788.86	6.41	No	Si
SLU 38	14.15	-2502.18	-5852	-0.000018	0.0004492	0.0035	4.455	12033.86	23649.97	18050.79	7.21	Si	Si
SLU 35	12.05	4925.39	-14431	-0.000042	0.0004492	0.0035	4.455	26058.54	31246.27	31246.27	6.34	No	Si
SLU 35	14.15	-2666.46	-6043	-0.0000188	0.0004492	0.0035	4.455	12394.33	24039.06	18591.49	6.97	Si	Si
SLU 32	12.05	4655.47	-13981	-0.0000403	0.0004492	0.0035	4.455	25428.76	30393.46	30393.46	6.53	No	Si
SLU 32	14.15	-2559.91	-5747	-0.0000179	0.0004492	0.0035	4.455	11836.37	23437.76	17754.55	6.94	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 9	12.05	2847.89	-11741	-0.0000305	0.0006738	0.0035	4.455		26468.56	26468.56	9.29		Si
SLD 9	14.15	2943.14	-2355	-0.0000138	0.0006738	0.0035	4.455		7106.74	7106.74	2.41		Si
SLV 9	12.05	2688.9	-12390	-0.0000314	0.0006738	0.0035	4.455		27746.18	27746.18	10.32		Si
SLV 9	14.15	5893.95	-1147	-0.0012964	0.0006738	0.0035	3.564		4509.5	4509.5	0.77		No
SLV 11	12.05	3620.54	-8213	-0.0000255	0.0006738	0.0035	4.455		19362.47	19362.47	5.35		Si
SLV 11	14.15	-9948.62	-7466	-0.0000487	0.0006738	0.0035	3.564		27070.54	27070.54	2.72		Si
SLD 6	12.05	2763.14	-12332	-0.0000315	0.0006738	0.0035	4.455		27632.44	27632.44	10		Si
SLD 6	14.15	3216.44	-2372	-0.0000157	0.0006738	0.0035	4.455		7143.97	7143.97	2.22		Si
SLV 5	12.05	2638.87	-13355	-0.0000332	0.0006738	0.0035	4.455		29642.65	29642.65	11.23		Si
SLV 5	14.15	6360.42	-1177	-0.0015117	0.0006738	0.0035	3.564		4574.11	4574.11	0.72		No
SLV 6	12.05	2554.85	-13313	-0.0000329	0.0006738	0.0035	4.455		29559.59	29559.59	11.57		Si
SLV 6	14.15	6321.47	-1174	-0.0014936	0.0006738	0.0035	3.564		4567.37	4567.37	0.72		No
SLD 10	12.05	2795.29	-11715	-0.0000303	0.0006738	0.0035	4.455		26415.7	26415.7	9.45		Si
SLD 10	14.15	2918.75	-2353	-0.0000137	0.0006738	0.0035	4.455		7102.58	7102.58	2.43		Si
SLV 12	12.05	3536.52	-8170	-0.0000252	0.0006738	0.0035	4.455		19276.65	19276.65	5.45		Si
SLV 12	14.15	-9987.56	-7463	-0.000049	0.0006738	0.0035	3.564		27064.19	27064.19	2.71		Si
SLD 5	12.05	2815.73	-12359	-0.0000316	0.0006738	0.0035	4.455		27684.44	27684.44	9.83		Si
SLD 5	14.15	3240.82	-2374	-0.0000158	0.0006738	0.0035	4.455		7148.13	7148.13	2.21		Si
SLV 10	12.05	2604.88	-12348	-0.0000311	0.0006738	0.0035	4.455		27663.13	27663.13	10.62		Si
SLV 10	14.15	5855	-1144	-0.0012792	0.0006738	0.0035	3.564		4502.75	4502.75	0.77		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.05	5393.1	-16665	-9240	-2902	4.455	4.455	-14815	10309	7299	101952	22414	22720	10948	Si	3.77	Si
SLU 78	14.15	-2868.68	-6877	-3813	-2908	4.455	4.455	-6113	9148	5706	101952	22414	22720	8559	Si	2.94	Si
SLU 84	12.05	5323.05	-16559	-9181	-3042	4.455	4.455	-14721	10296	7275	101952	22414	22720	10913	Si	3.59	Si
SLU 84	14.15	-2890.12	-6661	-3693	-3048	4.455	4.455	-5921	9123	5690	101952	22414	22720	8535	Si	2.8	Si
SLU 74	12.05	5125.83	-16193	-8979	-2785	4.455	4.455	-14396	10253	7194	101952	22414	22720	10791	Si	3.87	Si
SLU 74	14.15	-2883.12	-6629	-3676	-2791	4.455	4.455	-5893	9119	5688	101952	22414	22720	8531	Si	3.06	Si
SLU 76	12.05	5005.08	-15965	-8852	-2955	4.455	4.455	-14192	10226	7144	101952	22414	22720	10715	Si	3.63	Si
SLU 76	14.15	-2638.18	-6405	-3551	-2961	4.455	4.455	-5694	9093	5671	101952	22414	22720	8506	Si	2.87	Si
SLU 75	12.05	5123.19	-16214	-8990	-2918	4.455	4.455	-14414	10255	7199	101952	22414	22720	10798	Si	3.7	Si
SLU 75	14.15	-2762.13	-6580	-3648	-2924	4.455	4.455	-5850	9113	5684	101952	22414	22720	8526	Si	2.92	Si
SLU 80	12.05	5276.76	-16402	-9094	-2851	4.455	4.455	-14581	10277	7240	101952	22414	22720	10861	Si	3.81	Si
SLU 80	14.15	-2825.38	-6734	-3734	-2857	4.455	4.455	-5986	9131	5695	101952	22414	22720	8543	Si	2.99	Si
SLU 83	12.05	5325.7	-16539	-9170	-2909	4.455	4.455	-14703	10294	7271	101952	22414	22720	10906	Si	3.75	Si
SLU 83	14.15	-3011.11	-6710	-3720	-2916	4.455	4.455	-5965	9129	5694	101952	22414	22720	8540	Si	2.93	Si
SLU 73	12.05	4735.16	-15514	-8602	-2970	4.455	4.455	-13792	10172	7044	101952	22414	22720	10565	Si	3.56	Si
SLU 73	14.15	-2531.63	-6109	-3387	-2976	4.455	4.455	-5430	9057	5649	101952	22414	22720	8474	Si	2.85	Si
SLU 81	12.05	5055.79	-16088	-8920	-2925	4.455	4.455	-14302	10240	7171	101952	22414	22720	10756	Si	3.68	Si
SLU 81	14.15	-2904.56	-6413	-3556	-2931	4.455	4.455	-5701	9094	5672	101952	22414	22720	8507	Si	2.9	Si
SLU 82	12.05	5053.14	-16108	-8931	-3057	4.455	4.455	-14320	10243	7175	101952	22414	22720	10763	Si	3.52	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	14.15	-2783.57	-6365	-3529	-3064	4.455	4.455	-5658	9088	5668	101952	22414	22720	8502	Si	2.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	12.05	3536.52	-8170	-4530	9166	4.455	4.455	-7263	13953	8702	101952	33621	22720	56342		6.15	Si
SLV 12	14.15	-9987.56	-7463	-4138	7629	3.564	2.6678	0	0	0	101952	26897	18176	45073		5.91	Si
SLV 6	12.05	2554.85	-13313	-7381	-12786	4.455	4.455	-11835	14867	9273	101952	33621	22720	56342		4.41	Si
SLV 6	14.15	6321.47	-1174	-651	-11257	3.564	0	0	0	0	101952	26897	18176	45073		4	Si
SLV 8	12.05	3486.49	-9135	-5065	7933	4.455	4.455	-8121	14124	8809	101952	33621	22720	56342		7.1	Si
SLV 8	14.15	-9521.09	-7493	-4155	6394	3.564	2.8706	0	0	0	101952	26897	18176	45073		7.05	Si
SLV 7	12.05	3570.51	-9177	-5088	7913	4.455	4.455	-8159	14132	8814	101952	33621	22720	56342		7.12	Si
SLV 7	14.15	-9482.14	-7496	-4156	6374	3.564	2.8878	0	0	0	101952	26897	18176	45073		7.07	Si
SLD 6	12.05	2763.14	-12332	-6838	-8604	4.455	4.455	-10963	14693	9164	101952	33621	22720	56342		6.55	Si
SLD 6	14.15	3216.44	-2372	-1315	-7647	4.455	2.6153	-2109	12922	5931	101952	33621	22720	56342		7.37	Si
SLV 11	12.05	3620.54	-8213	-4554	9146	4.455	4.455	-7301	13960	8707	101952	33621	22720	56342		6.16	Si
SLV 11	14.15	-9948.62	-7466	-4140	7609	3.564	2.6851	0	0	0	101952	26897	18176	45073		5.92	Si
SLV 9	12.05	2688.9	-12390	-6870	-11573	4.455	4.455	-11015	14703	9170	101952	33621	22720	56342		4.87	Si
SLV 9	14.15	5893.95	-1147	-636	-10042	3.564	0	0	0	0	101952	26897	18176	45073		4.49	Si
SLV 10	12.05	2604.88	-12348	-6846	-11553	4.455	4.455	-10977	14695	9166	101952	33621	22720	56342		4.88	Si
SLV 10	14.15	5855	-1144	-634	-10022	3.564	0	0	0	0	101952	26897	18176	45073		4.5	Si
SLD 5	12.05	2815.73	-12359	-6852	-8616	4.455	4.455	-10987	14697	9167	101952	33621	22720	56342		6.54	Si
SLD 5	14.15	3240.82	-2374	-1317	-7659	4.455	2.5878	-2111	12922	5931	101952	33621	22720	56342		7.36	Si
SLV 5	12.05	2638.87	-13355	-7405	-12806	4.455	4.455	-11872	14874	9277	101952	33621	22720	56342		4.4	Si
SLV 5	14.15	6360.42	-1177	-652	-11277	3.564	0	0	0	0	101952	26897	18176	45073		4	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRCC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 10	-2852	0.53	266.85	0	526.69	263.35	0.99	No
SLV 9	-2858	0.53	266.85	0	527.23	263.62	0.99	No
SLV 6	-3023	0.53	266.85	0	541.93	270.96	1.02	Si
SLV 5	-3029	0.53	266.85	0	542.47	271.23	1.02	Si
SLV 14	-4430	0.53	266.85	298.05	666.61	482.33	1.81	Si
SLV 13	-4438	0.53	266.85	298.63	667.4	483.01	1.81	Si
SLV 2	-4997	0.53	266.85	334.5	716.38	525.44	1.97	Si
SLV 1	-5006	0.53	266.85	335.07	717.16	526.12	1.97	Si
SLV 16	-5953	0.53	266.85	395.01	799.57	597.29	2.24	Si
SLV 15	-5962	0.53	266.85	395.57	800.35	597.96	2.24	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-749	-11775	-226	10	390.1	0.905	160.61701	12.50629	Si
SLV 4	-744	-11713	-226	10.022	389.7	0.905	160.92712	12.50629	Si
SLV 15	-634	-8560	225	10.482	382	0.911	167.2577	12.50629	Si
SLV 16	-629	-8497	225	10.507	381.7	0.911	167.58612	12.50629	Si
SLV 1	-546	-13029	-225	10.889	376.2	0.917	172.63396	12.50629	Si
SLV 2	-540	-12966	-225	10.915	375.9	0.917	172.97346	12.50629	Si
SLV 13	-431	-9813	226	11.463	369.3	0.926	179.85156	12.50629	Si
SLV 14	-425	-9750	226	11.493	369	0.927	180.20635	12.50629	Si
SLV 7	-946	-9177	-69	9.328	405	0.898	151.0324	7.36308	Si
SLV 8	-942	-9135	-69	9.341	404.7	0.898	151.22258	7.36308	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.344	SLU 35	Si
V_SLU	2.775	SLU 82	Si
PF_SLV	0.719	SLV 5	No
V_SLV	3.997	SLV 5	Si
PFFP_SLV	0.987	SLV 10	No
R_SLV	12.843	SLV 3	Si

Maschio 212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-13.753	-3.359	-13.753	-0.228	L7	L8	3.131	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 42	12.05	-1330.41	-10625	-0.0000227	0.0003743	0.0035	3.1314	14655.55	17965.21	17965.21	13.5	No	Si
SLU 42	14.15	1785.42	-4906	-0.0000141	0.0003743	0.0035	3.1314	7259.53	7827.47	7827.47	4.38	No	Si
SLU 33	12.05	-1226.68	-10815	-0.0000227	0.0003743	0.0035	3.1314	14881.51	18209.14	18209.14	14.84	No	Si
SLU 33	14.15	1820.05	-5121	-0.0000146	0.0003743	0.0035	3.1314	7557.43	8137.07	8137.07	4.47	No	Si
SLU 31	12.05	-1074.91	-10076	-0.0000209	0.0003743	0.0035	3.1314	13995	17264.52	17264.52	16.06	No	Si
SLU 31	14.15	1743.48	-4539	-0.0000133	0.0003743	0.0035	3.1314	6745.03	7297.96	7297.96	4.19	No	Si
SLU 26	12.05	-715.08	-10366	-0.0000202	0.0003743	0.0035	3.1314	14344.71	17633.21	17633.21	24.66	No	Si
SLU 26	14.15	1769.07	-4898	-0.0000141	0.0003743	0.0035	3.1314	7247.78	7815.29	7815.29	4.42	No	Si
SLU 41	12.05	-1324.83	-10532	-0.0000225	0.0003743	0.0035	3.1314	14544.73	17846.37	17846.37	13.47	No	Si
SLU 41	14.15	1699.39	-4833	-0.0000137	0.0003743	0.0035	3.1314	7157.65	7721.99	7721.99	4.54	No	Si
SLU 23	12.05	-641.58	-9851	-0.0000191	0.0003743	0.0035	3.1314	13721.36	16977.57	16977.57	26.46	No	Si
SLU 23	14.15	1691.88	-4499	-0.0000131	0.0003743	0.0035	3.1314	6688.76	7240.52	7240.52	4.28	No	Si
SLU 38	12.05	-1218.19	-11043	-0.0000231	0.0003743	0.0035	3.1314	15151.47	18503.49	18503.49	15.19	No	Si
SLU 38	14.15	1840.49	-5288	-0.000015	0.0003743	0.0035	3.1314	7789.19	8375.81	8375.81	4.55	No	Si
SLU 40	12.05	-1256.91	-10110	-0.0000216	0.0003743	0.0035	3.1314	14036.89	17308.43	17308.43	13.77	No	Si
SLU 40	14.15	1708.24	-4507	-0.0000132	0.0003743	0.0035	3.1314	6700.64	7252.64	7252.64	4.25	No	Si
SLU 39	12.05	-1251.33	-10018	-0.0000214	0.0003743	0.0035	3.1314	13924.4	17190.7	17190.7	13.74	No	Si
SLU 39	14.15	1622.2	-4434	-0.0000128	0.0003743	0.0035	3.1314	6597.74	7147.34	7147.34	4.41	No	Si
SLU 34	12.05	-1148.41	-10591	-0.0000221	0.0003743	0.0035	3.1314	14614.28	17920.89	17920.89	15.6	No	Si
SLU 34	14.15	1820.67	-4938	-0.0000143	0.0003743	0.0035	3.1314	7303.49	7873.08	7873.08	4.32	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 14	12.05	-3012.17	-10707	-0.0000282	0.0005615	0.0035	3.1314		18481.87	18481.87	6.14		Si
SLV 14	14.15	4548.33	-4603	-0.0000283	0.0005615	0.0035	3.1314		7473.2	7473.2	1.64		Si
SLV 7	12.05	2184.34	-3720	-0.0000134	0.0005615	0.0035	3.1314		6161.14	6161.14	2.82		Si
SLV 7	14.15	-5681.88	631	0.0314414	0.0005615	0.0035	2.5051		0	0	0		No
SLD 8	12.05	1248.88	-5468	-0.0000133	0.0005615	0.0035	3.1314		8746.81	8746.81	7		Si
SLD 8	14.15	-3131.36	-1115	-0.0002324	0.0005615	0.0035	2.5051		4605.46	4605.46	1.47		Si
SLV 13	12.05	-3181.49	-11072	-0.0000294	0.0005615	0.0035	3.1314		18979.38	18979.38	5.97		Si
SLV 13	14.15	4664.23	-4470	-0.0000305	0.0005615	0.0035	3.1314		7277.29	7277.29	1.56		Si
SLV 9	12.05	-3174.88	-13937	-0.0000344	0.0005615	0.0035	3.1314		22834.41	22834.41	7.19		Si
SLV 9	14.15	8011.38	-8072	-0.0000509	0.0005615	0.0035	3.1314		12508.01	12508.01	1.56		Si
SLV 11	12.05	961.48	-4150	-0.0000101	0.0005615	0.0035	3.1314		6800.48	6800.48	7.07		Si
SLV 11	14.15	-4741.29	983	0.0502671	0.0005615	0.0035	2.5051		0	0	0		No
SLV 8	12.05	2298.34	-3475	-0.0000135	0.0005615	0.0035	3.1314		5795.44	5795.44	2.52		Si
SLV 8	14.15	-5759.92	541	0.0252788	0.0005615	0.0035	2.5051		0	0	0		No
SLD 7	12.05	1177.52	-5622	-0.0000133	0.0005615	0.0035	3.1314		8972.44	8972.44	7.62		Si
SLD 7	14.15	-3082.51	-1059	-0.0002353	0.0005615	0.0035	2.5051		4520.57	4520.57	1.47		Si
SLV 12	12.05	1075.48	-3904	-0.00001	0.0005615	0.0035	3.1314		6434.87	6434.87	5.98		Si
SLV 12	14.15	-4819.33	894	0.0459109	0.0005615	0.0035	2.5051		0	0	0		No
SLV 10	12.05	-3060.88	-13691	-0.0000336	0.0005615	0.0035	3.1314		22514.3	22514.3	7.36		Si
SLV 10	14.15	7933.34	-8161	-0.0000496	0.0005615	0.0035	3.1314		12635.06	12635.06	1.59		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	12.05	-90.97	-10179	-8476	587	3.1314	3.1314	-9667	8233	7611	35683	26255	7985	11417	Si	19.43	Si
SLU 43	14.15	1006.79	-4257	-3545	586	3.1314	3.1314	-4043	7484	6561	35683	26255	7985	9842	Si	16.8	Si
SLU 47	12.05	-173.76	-10848	-9034	554	3.1314	3.1314	-10303	8318	7834	35683	26255	7985	11751	Si	21.22	Si
SLU 47	14.15	1227.37	-4778	-3979	552	3.1314	3.1314	-4538	7549	6619	35683	26255	7985	9929	Si	17.97	Si
SLU 46	12.05	-252.03	-11073	-9221	548	3.1314	3.1314	-10516	8347	7909	35683	26255	7985	11863	Si	21.65	Si
SLU 46	14.15	1226.76	-4961	-4131	546	3.1314	3.1314	-4711	7573	6640	35683	26255	7985	9959	Si	18.23	Si
SLU 50	12.05	-237.96	-11208	-9333	617	3.1314	3.1314	-10645	8364	7954	35683	26255	7985	11931	Si	19.35	Si
SLU 50	14.15	1161.16	-5055	-4209	615	3.1314	3.1314	-4801	7585	6650	35683	26255	7985	9975	Si	16.23	Si
SLU 44	12.05	-100.26	-10334	-8605	539	3.1314	3.1314	-9814	8253	7663	35683	26255	7985	11494	Si	21.31	Si
SLU 44	14.15	1150.18	-4379	-3646	538	3.1314	3.1314	-4159	7499	6575	35683	26255	7985	9862	Si	18.33	Si
SLU 45	12.05	-246.46	-10980	-9143	577	3.1314	3.1314	-10428	8335	7878	35683	26255	7985	11817	Si	20.48	Si
SLU 45	14.15	1140.72	-4888	-4070	575	3.1314	3.1314	-4642	7563	6631	35683	26255	7985	9947	Si	17.29	Si
SLU 48	12.05	-319.95	-11495	-9572	591	3.1314	3.1314	-10917	8400	8049	35683	26255	7985	12074	Si	20.41	Si
SLU 48	14.15	1217.9	-5287	-4402	590	3.1314	3.1314	-5021	7614	6676	35683	26255	7985	10014	Si	16.99	Si
SLU 58	12.05	-671.3	-11433	-9521	523	3.1314	3.1314	-10859	8392	8029	35683	26255	7985	12043	Si	23.03	Si
SLU 58	14.15	1212.76	-5095	-4243	522	3.1314	3.1314	-4839	7590	6655	35683	26255	7985	9982	Si	19.12	Si
SLU 49	12.05	-325.53	-11588	-9649	563	3.1314	3.1314	-11005	8412	8080	35683	26255	7985	12120	Si	21.55	Si
SLU 49	14.15	1303.94	-5360	-4463	561	3.1314	3.1314	-5090	7623	6684	35683	26255	7985	10026	Si	17.88	Si
SLU 51	12.05	-243.54	-11301	-9411	588	3.1314	3.1314	-10733	8376	7985	35683	26255	7985	11977	Si	20.38	Si
SLU 51	14.15	1247.2	-5128	-4270	586	3.1314	3.1314	-4870	7594	6658	35683	26255	7985	9987	Si	17.04	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 12	12.05	1075.48	-3904	-3251	4269	3.1314	3.1314	-3708	11158	9783	35683	39382	7985	45467		10.65	Si
SLV 12	14.15	-4819.33	894	744	2853	2.5051	0	0	0	0	35683	31506	6388	35683		12.51	Si
SLD 7	12.05	1177.52	-5622	-4681	3168	3.1314	3.1314	-5339	11485	10069	35683	39382	7985	45753		14.44	Si
SLD 7	14.15	-3082.51	-1059	-882	2235	2.5051	0	0	0	0	35683	31506	6388	35683		15.97	Si
SLD 8	12.05	1248.88	-5468	-4553	3069	3.1314	3.1314	-5193	11455	10044	35683	39382	7985	45727		14.9	Si
SLD 8	14.15	-3131.36	-1115	-928	2136	2.5051	0	0	0	0	35683	31506	6388	35683		16.71	Si
SLV 7	12.05	2184.34	-3720	-3098	4943	3.1314	2.9356	-3533	11123	9143	35683	39382	7985	44826		9.07	Si
SLV 7	14.15	-5681.88	631	525	3429	2.5051	0	0	0	0	35683	31506	6388	35683		10.41	Si
SLV 6	12.05	-1838.02	-13262	-11043	-3755	3.1314	3.1314	-12595	12936	11342	35683	39382	7985	47025		12.52	Si
SLV 6	14.15	6992.76	-8514	-7089	-2341	3.1314	2.233	-8086	12034	9167	35683	39382	7985	44850		19.16	Si
SLV 8	12.05	2298.34	-3475	-2893	4785	3.1314	2.7127	-3300	11077	8413	35683	39382	7985	44097		9.22	Si
SLV 8	14.15	-5759.92	541	451	3271	2.5051	0	0	0	0	35683	31506	6388	35683		10.91	Si
SLV 10	12.05	-3060.88	-13691	-11401	-4270	3.1314	3.1314	-13003	13017	11413	35683	39382	7985	47097		11.03	Si
SLV 10	14.15	7933.34	-8161	-6796	-2759	3.1314	1.7809	-7751	11967	9050	35683	39382	7985	44733		16.22	Si
SLV 5	12.05	-1952.02	-13507	-11248	-3597	3.1314	3.1314	-12828	12982	11383	35683	39382	7985	47066		13.08	Si
SLV 5	14.15	7070.79	-8424	-7015	-2183	3.1314	2.1791	-8001	12017	9137	35683	39382	7985	44820		20.54	Si
SLV 11	12.05	961.48	-4150	-3456	4428	3.1314	3.1314	-3941	11205	9824	35683	39382	7985	45508		10.28	Si
SLV 11	14.15	-4741.29	983	818	3011	2.5051	0	0	0	0	35683	31506	6388	35683		11.85	Si
SLV 9	12.05	-3174.88	-13937	-11605	-4112	3.1314	3.1314	-13236	13064	11454	35683	39382	7985	47137		11.46	Si
SLV 9	14.15	8011.38	-8072	-6722	-2601	3.1314	1.7197	-7666	11950	9020	35683	39382	7985	44703		17.19	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.53	0	-861	353.58	0	0	No, $e > t/2$
SLV 8	179667	0.53	0	-1047	353.58	0	0	No, $e > t/2$
SLV 7	179667	0.53	0	-1045	353.58	0	0	No, $e > t/2$
SLV 12	179667	0.53	0	-862	353.58	0	0	No, $e > t/2$
SLV 15	179667	0.53	4241	-3718	353.58	506.13	1.43	Si
SLV 16	179667	0.53	4243	-3720	353.58	506.38	1.43	Si
SLV 3	179667	0.53	4943	-4334	353.58	587.07	1.66	Si
SLV 4	179667	0.53	4945	-4335	353.58	587.31	1.66	Si
SLV 13	179667	0.53	7245	-6353	353.58	847.19	2.4	Si
SLV 14	179667	0.53	7248	-6355	353.58	847.43	2.4	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 2	-2119	-9276	-574	3.796	635.7	0.889	62.0348	7.04479	Si
SLV 1	-2057	-9640	-574	3.848	630.2	0.89	62.86949	7.04479	Si
SLV 4	-1646	-6339	-514	4.245	595	0.893	69.11197	7.04479	Si
SLV 3	-1583	-6704	-513	4.31	589.8	0.893	70.11338	7.04479	Si
SLV 6	-2210	-13262	-260	3.79	643.8	0.889	61.95642	5.51652	Si
SLV 5	-2168	-13507	-260	3.825	640	0.889	62.5075	5.51652	Si
SLV 14	-831	-10707	526	5.286	533	0.914	84.08668	7.04479	Si
SLV 13	-768	-11072	526	5.387	528.9	0.917	85.41782	7.04479	Si
SLV 10	-1824	-13691	70	4.174	610	0.891	68.08028	5.51652	Si
SLV 9	-1782	-13937	71	4.215	606.4	0.891	68.72335	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.186	SLU 31	Si
V_SLU	16.226	SLU 50	Si
PF_SLV	0	SLV 7	No
V_SLV	9.069	SLV 7	Si
PFFP_SLV	0	SLV 7	No
R_SLV	8.806	SLV 2	Si

Maschio 213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	0.672	-13.753	1.046	L7	L8	0.374	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	12.05	-144.64	-3250	-0.0000864	0.0003743	0.0035	0.3743	422.96	493.69	493.69	3.41	No	Si
SLU 35	14.15	105.32	-1095	-0.000044	0.0003743	0.0035	0.3743	183.97	190.6	190.6	1.81	No	Si
SLU 34	12.05	-136.74	-3000	-0.0000799	0.0003743	0.0035	0.3743	403.6	468.46	468.46	3.43	No	Si
SLU 34	14.15	97.36	-926	-0.0000411	0.0003743	0.0035	0.3743	158.28	165.96	165.96	1.7	No	Si
SLU 31	12.05	-124.54	-2768	-0.0000727	0.0003743	0.0035	0.3743	383.67	445.95	445.95	3.58	No	Si
SLU 31	14.15	86.96	-842	-0.0000364	0.0003743	0.0035	0.3743	145.09	153.16	153.16	1.76	No	Si
SLU 38	12.05	-143.86	-3185	-0.0000851	0.0003743	0.0035	0.3743	418.16	487.07	487.07	3.39	No	Si
SLU 38	14.15	103.94	-1032	-0.0000436	0.0003743	0.0035	0.3743	174.39	181.49	181.49	1.75	No	Si
SLU 36	12.05	-152.27	-3320	-0.0000897	0.0003743	0.0035	0.3743	428	500.95	500.95	3.29	No	Si
SLU 36	14.15	111.06	-1064	-0.0000472	0.0003743	0.0035	0.3743	179.27	186.1	186.1	1.68	No	Si
SLU 28	12.05	-141.22	-3231	-0.0000852	0.0003743	0.0035	0.3743	421.57	491.75	491.75	3.48	No	Si
SLU 28	14.15	103.79	-1126	-0.0000433	0.0003743	0.0035	0.3743	188.55	195.04	195.04	1.88	No	Si
SLU 40	12.05	-124.19	-2760	-0.0000724	0.0003743	0.0035	0.3743	382.89	445.12	445.12	3.58	No	Si
SLU 40	14.15	86.25	-836	-0.0000361	0.0003743	0.0035	0.3743	144.18	152.28	152.28	1.77	No	Si
SLU 33	12.05	-140.06	-3088	-0.0000823	0.0003743	0.0035	0.3743	410.67	477.23	477.23	3.41	No	Si
SLU 33	14.15	100.66	-979	-0.0000424	0.0003743	0.0035	0.3743	166.49	173.89	173.89	1.73	No	Si
SLU 42	12.05	-136.4	-2991	-0.0000796	0.0003743	0.0035	0.3743	402.89	467.61	467.61	3.43	No	Si
SLU 42	14.15	96.65	-920	-0.0000408	0.0003743	0.0035	0.3743	157.39	165.09	165.09	1.71	No	Si
SLU 41	12.05	-128.77	-2921	-0.0000764	0.0003743	0.0035	0.3743	397.05	460.72	460.72	3.58	No	Si
SLU 41	14.15	90.91	-952	-0.0000377	0.0003743	0.0035	0.3743	162.25	169.79	169.79	1.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 12	12.05	468.26	2462	1.6851497	0.0005615	0.0035	0.2994		0	0	0		No
SLV 12	14.15	-297.85	-2962	-0.0001317	0.0005615	0.0035	0.2994		504	504	1.69		Si
SLV 6	12.05	-602.16	-6752	-0.0003092	0.0005615	0.0035	0.2994		888.1	888.1	1.47		Si
SLV 6	14.15	386.83	1029	0.5039976	0.0005615	0.0035	0.2994		0	0	0		No
SLV 8	12.05	514.48	2455	1.6578444	0.0005615	0.0035	0.2994		0	0	0		No
SLV 8	14.15	-326.52	-3428	-0.0001453	0.0005615	0.0035	0.2994		565.89	565.89	1.73		Si
SLV 9	12.05	-643.86	-6714	-0.0003393	0.0005615	0.0035	0.2994		885.11	885.11	1.37		Si
SLV 9	14.15	411.36	1468	0.9196511	0.0005615	0.0035	0.2994		0	0	0		No
SLD 12	12.05	263.65	706	0.3490089	0.0005615	0.0035	0.2994		0	0	0		No
SLD 12	14.15	-167.06	-2196	-0.0000727	0.0005615	0.0035	0.3743		393.76	393.76	2.36		Si
SLV 7	12.05	519.01	2486	1.6800706	0.0005615	0.0035	0.2994		0	0	0		No
SLV 7	14.15	-330.67	-3455	-0.0001474	0.0005615	0.0035	0.2994		569.33	569.33	1.72		Si
SLV 14	12.05	-312.58	-3522	-0.0001386	0.0005615	0.0035	0.2994		577.89	577.89	1.85		Si
SLV 14	14.15	200.3	484	0.1931745	0.0005615	0.0035	0.2994		0	0	0		No
SLV 5	12.05	-597.64	-6721	-0.000306	0.0005615	0.0035	0.2994		885.65	885.65	1.48		Si
SLV 5	14.15	382.69	1002	0.4778413	0.0005615	0.0035	0.2994		0	0	0		No
SLV 10	12.05	-648.38	-6745	-0.0003428	0.0005615	0.0035	0.2994		887.55	887.55	1.37		Si
SLV 10	14.15	415.51	1495	0.9397098	0.0005615	0.0035	0.2994		0	0	0		No
SLV 11	12.05	472.78	2493	1.7072565	0.0005615	0.0035	0.2994		0	0	0		No
SLV 11	14.15	-301.99	-2990	-0.0001339	0.0005615	0.0035	0.2994		507.62	507.62	1.68		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 38	12.05	-143.86	-3185	-2652	-271	0.3743	0.3743	-25306	10319	1081	35683	3138	954	1622	Si	5.98	Si
SLU 38	14.15	103.94	-1032	-859	-276	0.3743	0.2592	-8196	8037	583	35683	3138	954	875	Si	3.17	Si
SLU 33	12.05	-140.06	-3088	-2571	-264	0.3743	0.3743	-24534	10216	1071	35683	3138	954	1606	Si	6.08	Si
SLU 33	14.15	100.66	-979	-816	-268	0.3743	0.2532	-7782	7982	566	35683	3138	954	849	Si	3.17	Si
SLU 31	12.05	-124.54	-2768	-2305	-234	0.3743	0.3743	-21994	9877	1035	35683	3138	954	1553	Si	6.63	Si
SLU 31	14.15	86.96	-842	-701	-237	0.3743	0.2515	-6687	7836	552	35683	3138	954	828	Si	3.49	Si
SLU 34	12.05	-136.74	-3000	-2498	-258	0.3743	0.3743	-23835	10122	1061	35683	3138	954	1591	Si	6.17	Si
SLU 34	14.15	97.36	-926	-771	-262	0.3743	0.2461	-7358	7926	546	35683	3138	954	819	Si	3.13	Si
SLU 35	12.05	-144.64	-3250	-2706	-273	0.3743	0.3743	-25819	10387	1089	35683	3138	954	1633	Si	5.99	Si
SLU 35	14.15	105.32	-1095	-912	-277	0.3743	0.273	-8703	8105	620	35683	3138	954	929	Si	3.35	Si
SLU 37	12.05	-136.24	-3115	-2594	-256	0.3743	0.3743	-24749	10244	1074	35683	3138	954	1611	Si	6.29	Si
SLU 37	14.15	98.19	-1063	-885	-260	0.3743	0.2843	-8446	8071	643	35683	3138	954	964	Si	3.7	Si
SLU 36	12.05	-152.27	-3320	-2764	-288	0.3743	0.3743	-26376	10461	1096	35683	3138	954	1645	Si	5.71	Si
SLU 36	14.15	111.06	-1064	-886	-293	0.3743	0.2483	-8453	8072	573	35683	3138	954	859	Si	2.94	Si
SLU 28	12.05	-141.22	-3231	-2690	-266	0.3743	0.3743	-25669	10367	1087	35683	3138	954	1630	Si	6.12	Si
SLU 28	14.15	103.79	-1126	-938	-270	0.3743	0.285	-8949	8138	649	35683	3138	954	974	Si	3.61	Si
SLU 40	12.05	-124.19	-2760	-2298	-233	0.3743	0.3743	-21925	9868	1034	35683	3138	954	1551	Si	6.66	Si
SLU 40	14.15	86.25	-836	-696	-237	0.3743	0.2519	-6641	7830	552	35683	3138	954	828	Si	3.5	Si
SLU 42	12.05	-136.4	-2991	-2491	-257	0.3743	0.3743	-23767	10113	1060	35683	3138	954	1590	Si	6.19	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	14.15	96.65	-920	-766	-261	0.3743	0.2464	-7312	7919	546	35683	3138	954	820	Si	3.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	12.05	-602.16	-6752	-5623	-1137	0.2994	0.2939	0	0	0	35683	3766	764	4530		3.99	Si
SLV 6	14.15	386.83	1029	857	-935	0.2994	0	0	0	0	35683	3766	764	4530		4.84	Si
SLV 8	12.05	514.48	2455	2044	990	0.2994	0	0	0	0	35683	3766	764	4530		4.57	Si
SLV 8	14.15	-326.52	-3428	-2854	774	0.2994	0.2757	0	0	0	35683	3766	764	4530		5.85	Si
SLV 7	12.05	519.01	2486	2070	1000	0.2994	0	0	0	0	35683	3766	764	4530		4.53	Si
SLV 7	14.15	-330.67	-3455	-2877	784	0.2994	0.2743	0	0	0	35683	3766	764	4530		5.78	Si
SLV 11	12.05	472.78	2493	2076	903	0.2994	0	0	0	0	35683	3766	764	4530		5.02	Si
SLV 11	14.15	-301.99	-2990	-2489	700	0.2994	0.2584	0	0	0	35683	3766	764	4530		6.48	Si
SLV 10	12.05	-648.38	-6745	-5617	-1233	0.2994	0.2731	0	0	0	35683	3766	764	4530		3.67	Si
SLV 10	14.15	415.51	1495	1245	-1020	0.2994	0	0	0	0	35683	3766	764	4530		4.44	Si
SLD 10	12.05	-425.14	-4978	-4145	-803	0.3743	0.3053	-39554	16250	1610	35683	4708	954	5662		7.05	Si
SLD 10	14.15	272.8	550	458	-676	0.2994	0	0	0	0	35683	3766	764	4530		6.7	Si
SLV 9	12.05	-643.86	-6714	-5591	-1224	0.2994	0.2738	0	0	0	35683	3766	764	4530		3.7	Si
SLV 9	14.15	411.36	1468	1222	-1010	0.2994	0	0	0	0	35683	3766	764	4530		4.48	Si
SLV 5	12.05	-597.64	-6721	-5597	-1127	0.2994	0.2947	0	0	0	35683	3766	764	4530		4.02	Si
SLV 5	14.15	382.69	1002	834	-926	0.2994	0	0	0	0	35683	3766	764	4530		4.89	Si
SLD 9	12.05	-422.31	-4959	-4129	-798	0.3743	0.306	-39398	16250	1606	35683	4708	954	5662		7.1	Si
SLD 9	14.15	270.2	533	444	-670	0.2994	0	0	0	0	35683	3766	764	4530		6.76	Si
SLV 12	12.05	468.26	2462	2050	894	0.2994	0	0	0	0	35683	3766	764	4530		5.07	Si
SLV 12	14.15	-297.85	-2962	-2467	690	0.2994	0.2598	0	0	0	35683	3766	764	4530		6.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.53	0	-63	42.27	0	0	No, e>t/2
SLV 5	179667	0.53	0	-8	42.27	0	0	No, e>t/2
SLV 13	179667	0.53	0	-89	42.27	0	0	No, e>t/2
SLV 6	179667	0.53	0	10	42.27	0	0	No, Trazione
SLV 9	179667	0.53	0	414	42.27	0	0	No, Trazione
SLV 10	179667	0.53	0	432	42.27	0	0	No, Trazione
SLV 16	179667	0.53	8712	-913	42.27	120.53	2.85	Si
SLV 15	179667	0.53	8965	-940	42.27	123.82	2.93	Si
SLV 2	179667	0.53	14031	-1470	42.27	186.95	4.42	Si
SLV 1	179667	0.53	14284	-1497	42.27	189.98	4.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-811	-3545	9	1.955	129.6	0.911	31.18014	7.04479	Si
SLV 1	-808	-3499	9	1.96	129.4	0.911	31.25873	7.04479	Si
SLV 4	-767	-783	10	2.032	125.3	0.909	32.48827	7.04479	Si
SLV 3	-765	-737	10	2.037	125	0.909	32.57356	7.04479	Si
SLV 6	-672	-6752	2	2.236	115.9	0.904	35.93298	5.51652	Si
SLV 5	-671	-6721	2	2.24	115.7	0.904	36.00269	5.51652	Si
SLV 8	-528	2455	4	2.619	101.8	0.897	42.43174	5.51652	Si, Trazione
SLV 7	-526	2486	4	2.625	101.6	0.897	42.52815	5.51652	Si, Trazione
SLV 10	-511	-6745	-4	2.674	100.1	0.896	43.3606	5.51652	Si
SLV 9	-509	-6714	-4	2.68	99.9	0.896	43.46149	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.676	SLU 36	Si
V_SLU	2.936	SLU 36	Si
PF_SLV	0	SLD 5	No
V_SLV	3.674	SLV 10	Si
PFFP_SLV	0	SLV 10	No
R_SLV	4.426	SLV 2	Si

Maschio 214

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-20.668	1.046	-24.678	1.046	L7	L8	4.01	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?			
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 51	12.05	-2836.14	-13125	-0.0000214	0.0004492	0.0035	4.01	23797.94	33743.24	33743.24	11.9	No	Si
SLU 51	14.15	-2657.85	-7491	-0.000014	0.0004492	0.0035	4.01	14199.04	23568.56	21298.56	8.01	Si	Si
SLU 30	12.05	-2065.77	-10850	-0.0000171	0.0004492	0.0035	4.01	20033.98	29712.08	29712.08	14.38	No	Si
SLU 30	14.15	-2574.64	-7740	-0.0000142	0.0004492	0.0035	4.01	14642.86	24023.93	21964.29	8.53	Si	Si
SLU 50	12.05	-2827.96	-13121	-0.0000214	0.0004492	0.0035	4.01	23790.9	33735.7	33735.7	11.93	No	Si
SLU 50	14.15	-2678.5	-7500	-0.0000141	0.0004492	0.0035	4.01	14216.19	23586.12	21324.28	7.96	Si	Si
SLU 6	12.05	-2351.7	-11302	-0.0000182	0.0004492	0.0035	4.01	20794.07	30538.89	30538.89	12.99	No	Si
SLU 6	14.15	-2569.34	-7529	-0.0000139	0.0004492	0.0035	4.01	14267.05	23638.22	21400.57	8.33	Si	Si
SLU 16	12.05	-1745.87	-9308	-0.0000146	0.0004492	0.0035	4.01	17396.05	26891.53	26094.08	14.95	Si	Si
SLU 16	14.15	-2101.13	-6035	-0.0000112	0.0004492	0.0035	4.01	11568.41	20906.64	17352.61	8.26	Si	Si
SLU 7	12.05	-2359.88	-11307	-0.0000182	0.0004492	0.0035	4.01	20801.35	30546.83	30546.83	12.94	No	Si
SLU 7	14.15	-2548.7	-7519	-0.0000139	0.0004492	0.0035	4.01	14249.91	23620.66	21374.87	8.39	Si	Si
SLU 9	12.05	-2131.14	-10416	-0.0000167	0.0004492	0.0035	4.01	19297.68	28917.29	28917.29	13.57	No	Si
SLU 9	14.15	-2391.89	-6339	-0.0000121	0.0004492	0.0035	4.01	12121.85	21461.49	18182.77	7.6	Si	Si
SLU 17	12.05	-1754.05	-9312	-0.0000146	0.0004492	0.0035	4.01	17403.58	26899.47	26105.37	14.88	Si	Si
SLU 17	14.15	-2080.48	-6026	-0.0000112	0.0004492	0.0035	4.01	11550.85	20889.08	17326.27	8.33	Si	Si
SLU 29	12.05	-2057.59	-10846	-0.0000171	0.0004492	0.0035	4.01	20026.64	29704.14	29704.14	14.44	No	Si
SLU 29	14.15	-2595.28	-7749	-0.0000142	0.0004492	0.0035	4.01	14659.94	24041.49	21989.91	8.47	Si	Si
SLU 8	12.05	-2122.96	-10411	-0.0000167	0.0004492	0.0035	4.01	19290.3	28909.35	28909.35	13.62	No	Si
SLU 8	14.15	-2412.54	-6348	-0.0000122	0.0004492	0.0035	4.01	12139.32	21479.05	18208.98	7.55	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 3	12.05	-1741.13	-10879	-0.0000165	0.0006738	0.0035	4.01		30005.22	30005.22	17.23		Si
SLD 3	14.15	-3639.62	-7506	-0.0000158	0.0006738	0.0035	4.01		23732.23	23732.23	6.52		Si
SLV 13	12.05	-2668.62	-6851	-0.0000132	0.0006738	0.0035	4.01		22503.22	22503.22	8.43		Si
SLV 13	14.15	-2950.94	-3019	-0.0000095	0.0006738	0.0035	4.01		7632.14	7632.14	2.59		Si
SLV 15	12.05	-2536.18	-6990	-0.0000131	0.0006738	0.0035	4.01		22763.47	22763.47	8.98		Si
SLV 15	14.15	-2361.55	-3371	-0.0000084	0.0006738	0.0035	4.01		8315.95	8315.95	3.52		Si
SLV 2	12.05	-1761.61	-11684	-0.0000175	0.0006738	0.0035	4.01		31480.63	31480.63	17.87		Si
SLV 2	14.15	-4478.79	-8134	-0.0000181	0.0006738	0.0035	4.01		24913.19	24913.19	5.56		Si
SLV 14	12.05	-2819.53	-6893	-0.0000135	0.0006738	0.0035	4.01		22581.82	22581.82	8.01		Si
SLV 14	14.15	-3038.43	-2965	-0.0000098	0.0006738	0.0035	4.01		7527.95	7527.95	2.48		Si
SLV 1	12.05	-1610.7	-11642	-0.0000172	0.0006738	0.0035	4.01		31403.94	31403.94	19.5		Si
SLV 1	14.15	-4566.28	-8188	-0.0000183	0.0006738	0.0035	4.01		25013.92	25013.92	5.48		Si
SLV 4	12.05	-1629.17	-11823	-0.0000174	0.0006738	0.0035	4.01		31734.58	31734.58	19.48		Si
SLV 4	14.15	-5068.18	-8486	-0.0000196	0.0006738	0.0035	4.01		25568.61	25568.61	5.04		Si
SLV 16	12.05	-2687.09	-7032	-0.0000135	0.0006738	0.0035	4.01		22842.07	22842.07	8.5		Si
SLV 16	14.15	-2449.05	-3317	-0.0000085	0.0006738	0.0035	4.01		8211.76	8211.76	3.35		Si
SLV 3	12.05	-1478.27	-11781	-0.0000171	0.0006738	0.0035	4.01		31657.89	31657.89	21.42		Si
SLV 3	14.15	-5155.67	-8540	-0.0000199	0.0006738	0.0035	4.01		25668.19	25668.19	4.98		Si
SLD 14	12.05	-2556.66	-7795	-0.0000142	0.0006738	0.0035	4.01		24275.51	24275.51	9.49		Si
SLD 14	14.15	-1522.38	-4000	-0.0000076	0.0006738	0.0035	4.01		9527.85	9527.85	6.26		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	12.05	-1680.5	-9742	-6950	2476	4.01	4.01	-6190	9159	10283	101952	40351	20451	15425	Si	6.23	Si
SLU 37	14.15	-2283.87	-7436	-5305	2481	4.01	4.01	-4725	8963	10064	101952	40351	20451	15096	Si	6.08	Si
SLU 36	12.05	-1917.42	-10638	-7589	2691	4.01	4.01	-6759	9235	10368	101952	40351	20451	15553	Si	5.78	Si
SLU 36	14.15	-2420.03	-8607	-6140	2696	4.01	4.01	-5469	9063	10175	101952	40351	20451	15263	Si	5.66	Si
SLU 42	12.05	-1603.25	-8832	-6301	2424	4.01	4.01	-5612	9082	10197	101952	40351	20451	15295	Si	6.31	Si
SLU 42	14.15	-1471.18	-6839	-4879	2430	4.01	4.01	-4345	8913	10007	101952	40351	20451	15011	Si	6.18	Si
SLU 41	12.05	-1595.07	-8828	-6298	2451	4.01	4.01	-5609	9081	10196	101952	40351	20451	15295	Si	6.24	Si
SLU 41	14.15	-1491.83	-6849	-4886	2457	4.01	4.01	-4352	8914	10008	101952	40351	20451	15012	Si	6.11	Si
SLU 35	12.05	-1909.24	-10633	-7586	2718	4.01	4.01	-6756	9234	10368	101952	40351	20451	15552	Si	5.72	Si
SLU 35	14.15	-2440.67	-8617	-6147	2723	4.01	4.01	-5475	9063	10176	101952	40351	20451	15264	Si	5.61	Si
SLU 33	12.05	-1993.6	-10196	-7274	2330	4.01	4.01	-6478	9197	10327	101952	40351	20451	15490	Si	6.65	Si
SLU 33	14.15	-1761.45	-8154	-5817	2335	4.01	4.01	-5181	9024	10132	101952	40351	20451	15198	Si	6.51	Si
SLU 77	12.05	-2614.25	-13343	-9518	2225	4.01	4.01	-8477	9464	10626	101952	40351	20451	15939	Si	7.16	Si
SLU 77	14.15	-2706.63	-9769	-6969	2232	4.01	4.01	-6207	9161	10286	101952	40351	20451	15429	Si	6.91	Si
SLU 38	12.05	-1688.68	-9747	-6953	2449	4.01	4.01	-6193	9159	10284	101952	40351	20451	15426	Si	6.3	Si
SLU 38	14.15	-2263.22	-7427	-5298	2454	4.01	4.01	-4719	8962	10063	101952	40351	20451	15095	Si	6.15	Si
SLU 78	12.05	-2622.43	-13347	-9522	2198	4.01	4.01	-8480	9464	10626	101952	40351	20451	15939	Si	7.25	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	14.15	-2685.99	-9760	-6962	2205	4.01	4.01	-6201	9160	10285	101952	40351	20451	15427	Si	7	Si
SLU 32	12.05	-1985.42	-10192	-7271	2357	4.01	4.01	-6475	9197	10326	101952	40351	20451	15489	Si	6.57	Si
SLU 32	14.15	-1782.1	-8164	-5824	2362	4.01	4.01	-5187	9025	10133	101952	40351	20451	15200	Si	6.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	12.05	-1478.27	-11781	-8404	4029	4.01	4.01	-7485	13997	15716	101952	60526	20451	80977		20.1	Si
SLV 3	14.15	-5155.67	-8540	-6092	1516	4.01	4.01	-5426	13585	15253	101952	60526	20451	80977		53.41	Si
SLD 4	12.05	-1837.45	-10906	-7780	2499	4.01	4.01	-6929	13886	15591	101952	60526	20451	80977		32.41	Si
SLD 4	14.15	-3583.77	-7471	-5330	930	4.01	4.01	-4747	13449	15101	101952	60526	20451	80977		87.03	Si
SLV 4	12.05	-1629.17	-11823	-8434	3824	4.01	4.01	-7512	14002	15722	101952	60526	20451	80977		21.18	Si
SLV 4	14.15	-5068.18	-8486	-6054	1311	4.01	4.01	-5392	13578	15246	101952	60526	20451	80977		61.75	Si
SLD 3	12.05	-1741.13	-10879	-7761	2629	4.01	4.01	-6912	13882	15587	101952	60526	20451	80977		30.8	Si
SLD 3	14.15	-3639.62	-7506	-5354	1061	4.01	4.01	-4769	13454	15106	101952	60526	20451	80977		76.32	Si
SLV 16	12.05	-2687.09	-7032	-5016	-2841	4.01	4.01	-4468	13394	15038	101952	60526	20451	80977		28.5	Si
SLV 16	14.15	2449.05	-3317	-2367	-315	4.01	3.8003	-2108	12922	13750	101952	60526	20451	80977		257.08	Si
SLV 15	12.05	-2536.18	-6990	-4986	-2637	4.01	4.01	-4441	13388	15032	101952	60526	20451	80977		30.71	Si
SLV 15	14.15	2361.55	-3371	-2405	-110	4.01	3.9134	-2142	12928	14166	101952	60526	20451	80977		733.67	Si
SLV 1	12.05	-1610.7	-11642	-8305	3488	4.01	4.01	-7397	13979	15696	101952	60526	20451	80977		23.22	Si
SLV 1	14.15	-4566.28	-8188	-5841	970	4.01	4.01	-5202	13540	15203	101952	60526	20451	80977		83.5	Si
SLV 14	12.05	-2819.53	-6893	-4917	-3382	4.01	4.01	-4380	13376	15018	101952	60526	20451	80977		23.94	Si
SLV 14	14.15	3038.43	-2965	-2115	-861	4.01	2.9412	-1884	12877	10605	101952	60526	20451	80977		94.02	Si
SLV 13	12.05	-2668.62	-6851	-4887	-3177	4.01	4.01	-4353	13371	15012	101952	60526	20451	80977		25.49	Si
SLV 13	14.15	2950.94	-3019	-2154	-657	4.01	3.0827	-1918	12884	11121	101952	60526	20451	80977		123.32	Si
SLV 2	12.05	-1761.61	-11684	-8335	3283	4.01	4.01	-7424	13985	15702	101952	60526	20451	80977		24.66	Si
SLV 2	14.15	-4478.79	-8134	-5803	765	4.01	4.01	-5168	13534	15196	101952	60526	20451	80977		105.83	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 14	-4143	0.53	452.79	568.29	1141.71	855	1.89	Si
SLV 13	-4166	0.53	452.79	571.39	1145.33	858.36	1.9	Si
SLV 16	-4432	0.53	452.79	607.15	1187.23	897.19	1.98	Si
SLV 15	-4455	0.53	452.79	610.23	1190.85	900.54	1.99	Si
SLV 10	-5723	0.53	452.79	778.88	1389.46	1084.17	2.39	Si
SLV 9	-5738	0.53	452.79	780.93	1391.88	1086.4	2.4	Si
SLV 12	-6688	0.53	452.79	905.87	1539.39	1222.63	2.7	Si
SLV 11	-6703	0.53	452.79	907.9	1541.8	1224.85	2.71	Si
SLV 6	-7363	0.53	452.79	993.95	1644.16	1319.06	2.91	Si
SLV 5	-7379	0.53	452.79	995.97	1646.56	1321.27	2.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-4028	-11781	218	3.18	934.3	0.89	51.90098	7.04479	Si
SLV 4	-4024	-11823	218	3.182	933.9	0.89	51.93384	7.04479	Si
SLV 1	-3987	-11642	-165	3.206	930.4	0.89	52.32758	7.04479	Si
SLV 2	-3983	-11684	-165	3.208	930	0.89	52.36053	7.04479	Si
SLV 15	-3116	-6990	165	3.646	850	0.889	59.61791	7.04479	Si
SLV 16	-3111	-7032	165	3.649	849.6	0.889	59.66015	7.04479	Si
SLV 13	-3074	-6851	-218	3.662	846.3	0.889	59.86813	7.04479	Si
SLV 14	-3070	-6893	-218	3.664	845.9	0.889	59.91037	7.04479	Si
SLV 7	-3756	-10273	646	3.242	908.9	0.89	52.95134	5.51652	Si
SLV 8	-3753	-10301	646	3.243	908.6	0.89	52.97466	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.548	SLU 8	Si
V_SLU	5.606	SLU 35	Si
PF_SLV	2.478	SLV 14	Si
V_SLV	20.101	SLV 3	Si
PFFP_SLV	1.888	SLV 14	Si
R_SLV	7.367	SLV 3	Si

Maschio 215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.283	1.046	-19.868	1.046	L7	L8	7.585	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?				
									αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 39	12.05	-5978.67	-32450	-0.0000243	0.0004492	0.0035	7.585	107677.19	146922.09	146922.09	24.57	No	Si
SLU 39	14.55	-1860.77	-29540	-0.0000202	0.0004492	0.0035	7.585	99276.91	137386.2	137386.2	73.83	No	Si
SLU 73	12.05	-7266.17	-41794	-0.0000313	0.0004492	0.0035	7.585	132975.07	176230.92	176230.92	24.25	No	Si
SLU 73	14.55	-3013.34	-35778	-0.0000225	0.0004492	0.0035	7.585	116981.12	157586.47	157586.47	52.3	No	Si
SLU 81	12.05	-7028.93	-41108	-0.0000307	0.0004492	0.0035	7.585	131205.46	174105.8	174105.8	24.77	No	Si
SLU 81	14.55	-2667.12	-35662	-0.0000247	0.0004492	0.0035	7.585	116661.29	157225.8	157225.8	58.95	No	Si
SLU 31	12.05	-6215.9	-33136	-0.0000249	0.0004492	0.0035	7.585	109620.31	149168.79	149168.79	24	No	Si
SLU 31	14.55	-2206.99	-29656	-0.0000205	0.0004492	0.0035	7.585	99617.56	137767.5	137767.5	62.42	No	Si
SLU 23	12.05	-6314.22	-34801	-0.0000261	0.0004492	0.0035	7.585	114282.65	154557.26	154557.26	24.48	No	Si
SLU 23	14.55	-3081.02	-30076	-0.0000212	0.0004492	0.0035	7.585	100844.47	139144.54	139144.54	45.16	No	Si
SLU 65	12.05	-7364.49	-43459	-0.0000325	0.0004492	0.0035	7.585	137215.96	181392.52	181392.52	24.63	No	Si
SLU 65	14.55	-3887.37	-36198	-0.0000257	0.0004492	0.0035	7.585	118132.83	158888.99	158888.99	40.87	No	Si
SLU 64	12.05	-7169.38	-43487	-0.0000324	0.0004492	0.0035	7.585	137286.75	181479.52	181479.52	25.31	No	Si
SLU 64	14.55	-3915.73	-36262	-0.0000258	0.0004492	0.0035	7.585	118307.05	159086.54	159086.54	40.63	No	Si
SLU 82	12.05	-7146	-41091	-0.0000308	0.0004492	0.0035	7.585	131161.82	174053.6	174053.6	24.36	No	Si
SLU 82	14.55	-2650.11	-35624	-0.0000247	0.0004492	0.0035	7.585	116556.1	157107.27	157107.27	59.28	No	Si
SLU 40	12.05	-6095.73	-32433	-0.0000244	0.0004492	0.0035	7.585	107629.29	146866.9	146866.9	24.09	No	Si
SLU 40	14.55	-1843.75	-29502	-0.0000202	0.0004492	0.0035	7.585	99164.87	137260.89	137260.89	74.45	No	Si
SLU 22	12.05	-6119.12	-34829	-0.000026	0.0004492	0.0035	7.585	114360.54	154644.26	154644.26	25.27	No	Si
SLU 22	14.55	-3109.38	-30140	-0.0000213	0.0004492	0.0035	7.585	101030.1	139353.39	139353.39	44.82	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	12.05	-1938.45	-40069	-0.0000271	0.0006738	0.0035	7.585		174283.49	174283.49	89.91		Si
SLV 3	14.55	-32736.05	-36315	-0.0000407	0.0006738	0.0035	7.585		161840.77	161840.77	4.94		Si
SLV 2	12.05	-5302.54	-39161	-0.0000282	0.0006738	0.0035	7.585		171385.28	171385.28	32.32		Si
SLV 2	14.55	-31372.01	-35371	-0.0000394	0.0006738	0.0035	7.585		158674.19	158674.19	5.06		Si
SLV 13	12.05	-8314.52	-24700	-0.0000202	0.0006738	0.0035	7.585		122840.25	122840.25	14.77		Si
SLV 13	14.55	27326.3	-17119	-0.0000255	0.0006738	0.0035	7.585		68217.61	68217.61	2.5		Si
SLD 13	12.05	-7103.82	-27450	-0.0000214	0.0006738	0.0035	7.585		132096.55	132096.55	18.6		Si
SLD 13	14.55	16488.48	-20600	-0.0000218	0.0006738	0.0035	7.585		80511.98	80511.98	4.88		Si
SLV 1	12.05	-5118.95	-39202	-0.0000282	0.0006738	0.0035	7.585		171516.73	171516.73	33.51		Si
SLV 1	14.55	-31343.47	-35254	-0.0000393	0.0006738	0.0035	7.585		158280.14	158280.14	5.05		Si
SLV 14	12.05	-8498.12	-24658	-0.0000203	0.0006738	0.0035	7.585		122697.76	122697.76	14.44		Si
SLV 14	14.55	27297.76	-17236	-0.0000256	0.0006738	0.0035	7.585		68632.32	68632.32	2.51		Si
SLV 4	12.05	-2122.05	-40028	-0.0000271	0.0006738	0.0035	7.585		174152.04	174152.04	82.07		Si
SLV 4	14.55	-32764.59	-36432	-0.0000408	0.0006738	0.0035	7.585		162234.82	162234.82	4.95		Si
SLV 16	12.05	-5317.62	-25525	-0.0000192	0.0006738	0.0035	7.585		125635.54	125635.54	23.63		Si
SLV 16	14.55	25905.17	-18298	-0.0000252	0.0006738	0.0035	7.585		72379.74	72379.74	2.79		Si
SLV 15	12.05	-5134.03	-25566	-0.0000192	0.0006738	0.0035	7.585		125773.65	125773.65	24.5		Si
SLV 15	14.55	25933.72	-18180	-0.0000252	0.0006738	0.0035	7.585		71965.02	71965.02	2.77		Si
SLD 14	12.05	-7221	-27424	-0.0000215	0.0006738	0.0035	7.585		132008.39	132008.39	18.28		Si
SLD 14	14.55	16470.26	-20675	-0.0000218	0.0006738	0.0035	7.585		80776.69	80776.69	4.9		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 64	12.05	-7169.38	-43487	-31023	-1051	7.585	7.585	-14607	10281	24677	101952	76324	38684	37016	Si	35.22	Si
SLU 64	14.55	-3915.73	-36262	-25869	-227	7.585	7.585	-12180	9957	22616	101952	76324	38684	33924	Si	149.51	Si
SLU 14	12.05	-4595.94	-38444	-27425	428	7.585	7.585	-12913	10055	23238	101952	76324	38684	34857	Si	81.41	Si
SLU 14	14.55	-2200.17	-35288	-25174	899	7.585	7.585	-11853	9914	22338	101952	76324	38684	33507	Si	37.27	Si
SLU 43	12.05	-5947.54	-40702	-29036	-918	7.585	7.585	-13672	10156	23882	101952	76324	38684	35824	Si	39.01	Si
SLU 43	14.55	-3719.02	-31720	-22628	-184	7.585	7.585	-10655	9754	21320	101952	76324	38684	31980	Si	173.73	Si
SLU 73	12.05	-7266.17	-41794	-29815	-985	7.585	7.585	-14038	10205	24194	101952	76324	38684	36291	Si	36.83	Si
SLU 73	14.55	-3013.34	-35778	-25523	-140	7.585	7.585	-12018	9936	22478	101952	76324	38684	33716	Si	241.31	Si
SLU 23	12.05	-6314.22	-34801	-24826	-1192	7.585	7.585	-11689	9892	22199	101952	76324	38684	33298	Si	27.93	Si
SLU 23	14.55	-3081.02	-30076	-21456	-503	7.585	7.585	-10103	9680	20851	101952	76324	38684	31276	Si	62.17	Si
SLU 65	12.05	-7364.49	-43459	-31003	-1369	7.585	7.585	-14598	10280	24669	101952	76324	38684	37004	Si	27.03	Si
SLU 65	14.55	-3887.37	-36198	-25823	-534	7.585	7.585	-12159	9955	22598	101952	76324	38684	33896	Si	63.45	Si
SLU 22	12.05	-6119.12	-34829	-24846	-874	7.585	7.585	-11699	9893	22207	101952	76324	38684	33310	Si	38.1	Si
SLU 22	14.55	-3109.38	-30140	-21501	-196	7.585	7.585	-10124	9683	20869	101952	76324	38684	31303	Si	159.95	Si
SLU 44	12.05	-6142.65	-40674	-29016	-1236	7.585	7.585	-13662	10155	23874	101952	76324	38684	35812	Si	28.97	Si
SLU 44	14.55	-3690.65	-31656	-22583	-491	7.585	7.585	-10633	9751	21301	101952	76324	38684	31952	Si	65.02	Si
SLU 2	12.05	-5092.38	-32016	-22839	-1059	7.585	7.585	-10754	9767	21404	101952	76324	38684	32106	Si	30.31	Si
SLU 2	14.55	-2884.3	-25534	-18216	-460	7.585	7.585	-8577	9477	20127	101952	76324	38684	30191	Si	65.6	Si
SLU 16	12.05	-4307.85	-36837	-26279	461	7.585	7.585	-12373	9983	22780	101952	76324	38684	34170	Si	74.05	Si
SLU 16	14.55	-1955.37	-33334	-23780	837	7.585	7.585	-11197	9826	21780	101952	76324	38684	32670	Si	39.03	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 10	12.05	-11060.25	-28730	-20496	-17262	7.585	7.585	-9650	14430	30647	101952	114486	38684	132599		7.68	Si
SLV 10	14.55	8392.69	-22326	-15927	-15097	7.585	7.585	-7499	14000	29733	101952	114486	38684	131685		8.72	Si
SLV 15	12.05	-5134.03	-25566	-18238	-15189	7.585	7.585	-8587	14217	30195	101952	114486	38684	132147		8.7	Si
SLV 15	14.55	25933.72	-18180	-12969	-10658	7.585	7.098	-6107	13721	27271	101952	114486	38684	129223		12.12	Si
SLV 9	12.05	-10936.64	-28758	-20515	-17120	7.585	7.585	-9660	14432	30651	101952	114486	38684	132603		7.75	Si
SLV 9	14.55	8411.91	-22247	-15871	-14980	7.585	7.585	-7473	13995	29722	101952	114486	38684	131674		8.79	Si
SLV 14	12.05	-8498.12	-24658	-17591	-22080	7.585	7.585	-8283	14157	30066	101952	114486	38684	132018		5.98	Si
SLV 14	14.55	27297.76	-17236	-12296	-17316	7.585	6.6263	-5790	13658	25341	101952	114486	38684	127293		7.35	Si
SLV 16	12.05	-5317.62	-25525	-18209	-15400	7.585	7.585	-8574	14215	30189	101952	114486	38684	132141		8.58	Si
SLV 16	14.55	25905.17	-18298	-13053	-10833	7.585	7.1302	-6146	13729	27410	101952	114486	38684	129362		11.94	Si
SLV 3	12.05	-1938.45	-40069	-28584	20740	7.585	7.585	-13459	15192	32264	101952	114486	38684	134216		6.47	Si
SLV 3	14.55	-32736.05	-36315	-25906	17211	7.585	7.585	-12198	14940	31729	101952	114486	38684	133681		7.77	Si
SLV 4	12.05	-2122.05	-40028	-28555	20529	7.585	7.585	-13445	15189	32258	101952	114486	38684	134210		6.54	Si
SLV 4	14.55	-32764.59	-36432	-25990	17037	7.585	7.585	-12237	14947	31745	101952	114486	38684	133697		7.85	Si
SLV 13	12.05	-8314.52	-24700	-17620	-21869	7.585	7.585	-8297	14159	30072	101952	114486	38684	132024		6.04	Si
SLV 13	14.55	27326.3	-17119	-12212	-17141	7.585	6.5887	-5750	13650	25182	101952	114486	38684	127134		7.42	Si
SLV 8	12.05	500.07	-35969	-25659	15781	7.585	7.585	-12082	14916	31679	101952	114486	38684	133631		8.47	Si
SLV 8	14.55	-13850.2	-31304	-22332	14875	7.585	7.585	-10515	14603	31014	101952	114486	38684	132966		8.94	Si
SLV 7	12.05	623.68	-35997	-25679	15923	7.585	7.585	-12091	14918	31683	101952	114486	38684	133635		8.39	Si
SLV 7	14.55	-13830.98	-31225	-22275	14992	7.585	7.585	-10488	14598	31003	101952	114486	38684	132955		8.87	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 13	-21147	0.53	856.47	2799.79	4221.82	3510.8	4.1	Si
SLV 14	-21253	0.53	856.47	2812.92	4237.89	3525.41	4.12	Si
SLV 15	-21834	0.53	856.47	2885.3	4326.65	3605.97	4.21	Si
SLV 16	-21939	0.53	856.47	2898.39	4342.73	3620.56	4.23	Si
SLV 9	-25630	0.53	856.47	3351.93	4906.4	4129.16	4.82	Si
SLV 10	-25701	0.53	856.47	3360.55	4917.2	4138.87	4.83	Si
SLV 11	-27919	0.53	856.47	3628.29	5254.2	4441.24	5.19	Si
SLV 12	-27990	0.53	856.47	3636.79	5264.93	4450.86	5.2	Si
SLV 5	-30144	0.53	856.47	3893.35	5590.85	4742.1	5.54	Si
SLV 6	-30215	0.53	856.47	3901.74	5601.56	4751.65	5.55	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-31759	-40028	800	1.162	4169.2	0.938	18.00065	7.04479	Si
SLV 3	-31649	-40069	798	1.165	4158	0.938	18.05477	7.04479	Si
SLV 2	-30805	-39161	-1013	1.185	4072.7	0.937	18.38378	7.04479	Si
SLV 1	-30695	-39202	-1014	1.188	4061.5	0.936	18.43947	7.04479	Si
SLV 8	-28080	-35969	2963	1.219	3797.2	0.933	18.98753	5.51652	Si
SLV 7	-28005	-35997	2962	1.221	3789.7	0.933	19.03024	5.51652	Si
SLV 6	-24901	-33081	-3079	1.336	3476.4	0.928	20.92478	5.51652	Si
SLV 5	-24826	-33109	-3080	1.339	3468.9	0.928	20.97606	5.51652	Si
SLV 12	-23988	-31618	3005	1.378	3384.5	0.926	21.61678	5.51652	Si
SLV 11	-23913	-31646	3004	1.381	3377	0.926	21.67238	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	23.998	SLV 31	Si
V_SLV	27.029	SLV 65	Si
PF_SLV	2.496	SLV 13	Si
V_SLV	5.979	SLV 14	Si
PFFP_SLV	4.099	SLV 13	Si
R_SLV	2.555	SLV 4	Si

Maschio 216

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-10.466	1.046	-11.163	1.046	L7	L8	0.696	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 31	12.05	186.55	-3065	-0.0000335	0.0004492	0.0035	0.6964	929.78	1042.45	1042.45	5.59	No	Si
SLU 31	14.55	-100.64	-5509	-0.0000465	0.0004492	0.0035	0.6964	1474.59	1826.51	1826.51	18.15	No	Si
SLU 42	12.05	206.26	-3282	-0.0000364	0.0004492	0.0035	0.6964	985.31	1106.73	1106.73	5.37	No	Si
SLU 42	14.55	-111.4	-6096	-0.0000517	0.0004492	0.0035	0.6964	1579.42	1978.6	1978.6	17.76	No	Si
SLU 39	12.05	185.84	-2966	-0.0000328	0.0004492	0.0035	0.6964	904.09	1012.87	1012.87	5.45	No	Si
SLU 39	14.55	-96.72	-5441	-0.0000457	0.0004492	0.0035	0.6964	1461.74	1808.81	1808.81	18.7	No	Si
SLU 34	12.05	204.84	-3364	-0.0000369	0.0004492	0.0035	0.6964	1005.97	1131.05	1131.05	5.52	No	Si
SLU 34	14.55	-113.9	-6102	-0.0000519	0.0004492	0.0035	0.6964	1580.38	1979.98	1979.98	17.38	No	Si
SLU 40	12.05	187.97	-2982	-0.000033	0.0004492	0.0035	0.6964	908.41	1017.85	1017.85	5.41	No	Si
SLU 40	14.55	-98.14	-5503	-0.0000463	0.0004492	0.0035	0.6964	1473.54	1825.06	1825.06	18.6	No	Si
SLU 35	12.05	221.41	-3764	-0.000041	0.0004492	0.0035	0.6964	1103.51	1247.29	1247.29	5.63	No	Si
SLU 35	14.55	-123.05	-6861	-0.0000585	0.0004492	0.0035	0.6964	1700.89	2166.87	2166.87	17.61	No	Si
SLU 38	12.05	221.72	-3653	-0.0000402	0.0004492	0.0035	0.6964	1076.86	1215.08	1215.08	5.48	No	Si
SLU 38	14.55	-126.21	-6652	-0.000051	0.0004492	0.0035	0.6964	1669.5	2115.59	2115.59	16.76	No	Si
SLU 36	12.05	223.53	-3781	-0.0000413	0.0004492	0.0035	0.6964	1107.44	1252.08	1252.08	5.6	No	Si
SLU 36	14.55	-124.48	-6923	-0.0000591	0.0004492	0.0035	0.6964	1710.08	2182.3	2182.3	17.53	No	Si
SLU 37	12.05	219.59	-3636	-0.0000399	0.0004492	0.0035	0.6964	1072.87	1210.29	1210.29	5.51	No	Si
SLU 37	14.55	-124.79	-6590	-0.0000565	0.0004492	0.0035	0.6964	1659.81	2100.16	2100.16	16.83	No	Si
SLU 41	12.05	204.13	-3265	-0.0000362	0.0004492	0.0035	0.6964	981.14	1101.84	1101.84	5.4	No	Si
SLU 41	14.55	-109.98	-6033	-0.0000511	0.0004492	0.0035	0.6964	1568.71	1962.39	1962.39	17.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 4	12.05	1359.01	-2390	-0.0125982	0.0006738	0.0035	0.5571		849.78	849.78	0.63		No
SLV 4	14.55	-967.81	-2689	-0.0006531	0.0006738	0.0035	0.5571		1044.19	1044.19	1.08		Si
SLV 3	12.05	1359.58	-2356	-0.0127586	0.0006738	0.0035	0.5571		839.05	839.05	0.62		No
SLV 3	14.55	-968.73	-2721	-0.0006222	0.0006738	0.0035	0.5571		1054.35	1054.35	1.09		Si
SLD 1	12.05	970.16	-2750	-0.0021637	0.0006738	0.0035	0.5571		963.3	963.3	0.99		No
SLD 1	14.55	-683.04	-4898	-0.0000793	0.0006738	0.0035	0.6964		1709.51	1709.51	2.5		Si
SLD 3	12.05	921.34	-2593	-0.002071	0.0006738	0.0035	0.5571		914.19	914.19	0.99		No
SLD 3	14.55	-649.21	-3420	-0.0000727	0.0006738	0.0035	0.6964		1269.85	1269.85	1.96		Si
SLV 15	12.05	-1155.42	-3379	-0.0006522	0.0006738	0.0035	0.5571		1257.34	1257.34	1.09		Si
SLV 15	14.55	862.62	-4093	-0.0001021	0.0006738	0.0035	0.6964		1373.75	1373.75	1.59		Si
SLD 2	12.05	969.8	-2771	-0.0019568	0.0006738	0.0035	0.5571		970.03	970.03	1		Si
SLD 2	14.55	-682.45	-4877	-0.0000791	0.0006738	0.0035	0.6964		1703.51	1703.51	2.5		Si
SLD 4	12.05	920.98	-2614	-0.0018764	0.0006738	0.0035	0.5571		921	921	1		Si
SLD 4	14.55	-648.62	-3399	-0.0000727	0.0006738	0.0035	0.6964		1263.61	1263.61	1.95		Si
SLV 1	12.05	1439.37	-2606	-0.0130513	0.0006738	0.0035	0.5571		918.33	918.33	0.64		No
SLV 1	14.55	-1024.37	-5119	-0.0001197	0.0006738	0.0035	0.5571		1773.1	1773.1	1.73		Si
SLV 2	12.05	1438.8	-2640	-0.0128891	0.0006738	0.0035	0.5571		928.88	928.88	0.65		No
SLV 2	14.55	-1023.46	-5087	-0.0001198	0.0006738	0.0035	0.5571		1764.09	1764.09	1.72		Si
SLV 16	12.05	-1155.99	-3412	-0.0006158	0.0006738	0.0035	0.5571		1267.63	1267.63	1.1		Si
SLV 16	14.55	863.54	-4061	-0.0001027	0.0006738	0.0035	0.6964		1364.26	1364.26	1.58		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	12.05	239.57	-4465	-3185	497	0.6964	0.6964	-16337	10512	2050	101952	7007	3551	3074	Si	6.18	Si
SLU 79	14.55	-136.97	-7507	-5355	491	0.6964	0.6964	-27466	10833	2179	101952	7007	3551	3268	Si	6.66	Si
SLU 36	12.05	223.53	-3781	-2697	473	0.6964	0.6964	-13832	10178	1984	101952	7007	3551	2977	Si	6.29	Si
SLU 36	14.55	-124.48	-6923	-4939	466	0.6964	0.6964	-25330	10833	2112	101952	7007	3551	3168	Si	6.8	Si
SLU 84	12.05	226.24	-4111	-2933	479	0.6964	0.6964	-15040	10339	2016	101952	7007	3551	3024	Si	6.32	Si
SLU 84	14.55	-123.58	-7013	-5003	467	0.6964	0.6964	-25659	10833	2112	101952	7007	3551	3168	Si	6.78	Si
SLU 77	12.05	241.39	-4593	-3277	509	0.6964	0.6964	-16804	10574	2062	101952	7007	3551	3093	Si	6.08	Si
SLU 77	14.55	-135.23	-7778	-5549	503	0.6964	0.6964	-28457	10833	2230	101952	7007	3551	3346	Si	6.66	Si
SLU 38	12.05	221.72	-3653	-2606	462	0.6964	0.6964	-13365	10115	1972	101952	7007	3551	2958	Si	6.41	Si
SLU 38	14.55	-126.21	-6652	-4746	454	0.6964	0.6964	-24339	10833	2112	101952	7007	3551	3168	Si	6.97	Si
SLU 78	12.05	243.51	-4609	-3288	514	0.6964	0.6964	-16865	10582	2063	101952	7007	3551	3095	Si	6.02	Si
SLU 78	14.55	-136.66	-7841	-5593	508	0.6964	0.6964	-28686	10833	2242	101952	7007	3551	3364	Si	6.63	Si
SLU 75	12.05	225.22	-4310	-3075	478	0.6964	0.6964	-15768	10436	2035	101952	7007	3551	3052	Si	6.39	Si
SLU 75	14.55	-123.4	-7248	-5171	472	0.6964	0.6964	-26518	10833	2130	101952	7007	3551	3195	Si	6.77	Si
SLU 83	12.05	224.11	-4094	-2921	473	0.6964	0.6964	-14980	10331	2014	101952	7007	3551	3021	Si	6.38	Si
SLU 83	14.55	-122.16	-6951	-4958	462	0.6964	0.6964	-25430	10833	2112	101952	7007	3551	3168	Si	6.85	Si
SLU 35	12.05	221.41	-3764	-2685	468	0.6964	0.6964	-13771	10169	1983	101952	7007	3551	2974	Si	6.36	Si
SLU 35	14.55	-123.05	-6861	-4894	461	0.6964	0.6964	-25101	10833	2112	101952	7007	3551	3168	Si	6.87	Si
SLU 80	12.05	241.7	-4482	-3197	503	0.6964	0.6964	-16397	10520	2051	101952	7007	3551	3077	Si	6.12	Si
SLU 80	14.55	-138.39	-7570	-5400	496	0.6964	0.6964	-27695	10833	2191	101952	7007	3551	3286	Si	6.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	12.05	921.34	-2593	-1850	892	0.5571	0	0	0	0	101952	8409	2841	11250		12.61	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 3	14.55	-649.21	-3420	-2439	635	0.6964	0.475	-18494	16199	2155	101952	10511	3551	14062		22.14	Si
SLV 15	12.05	-1155.42	-3379	-2410	-856	0.5571	0.0186	0	0	0	101952	8409	2841	11250		13.14	Si
SLV 15	14.55	862.62	-4093	-2920	-462	0.6964	0.4123	-14974	15495	1905	101952	10511	3551	14062		30.44	Si
SLV 2	12.05	1438.8	-2640	-1883	1439	0.5571	0	0	0	0	101952	8409	2841	11250		7.82	Si
SLV 2	14.55	-1023.46	-5087	-3629	1043	0.5571	0.441	0	0	0	101952	8409	2841	11250		10.78	Si
SLD 4	12.05	920.98	-2614	-1865	888	0.5571	0	0	0	0	101952	8409	2841	11250		12.66	Si
SLD 4	14.55	-648.62	-3399	-2425	631	0.6964	0.4721	-18496	16199	2141	101952	10511	3551	14062		22.27	Si
SLV 1	12.05	1439.37	-2606	-1859	1445	0.5571	0	0	0	0	101952	8409	2841	11250		7.79	Si
SLV 1	14.55	-1024.37	-5119	-3652	1049	0.5571	0.4443	0	0	0	101952	8409	2841	11250		10.72	Si
SLD 2	12.05	969.8	-2771	-1977	1022	0.5571	0	0	0	0	101952	8409	2841	11250		11.01	Si
SLD 2	14.55	-682.45	-4877	-3479	768	0.6964	0.6248	-17845	16069	2811	101952	10511	3551	14062		18.3	Si
SLV 3	12.05	1359.58	-2356	-1681	1228	0.5571	0	0	0	0	101952	8409	2841	11250		9.16	Si
SLV 3	14.55	-968.73	-2721	-1941	826	0.5571	0	0	0	0	101952	8409	2841	11250		13.62	Si
SLD 1	12.05	970.16	-2750	-1962	1025	0.5571	0	0	0	0	101952	8409	2841	11250		10.97	Si
SLD 1	14.55	-683.04	-4898	-3494	772	0.6964	0.6262	-17920	16084	2820	101952	10511	3551	14062		18.21	Si
SLV 16	12.05	-1155.99	-3412	-2434	-862	0.5571	0.0283	0	0	0	101952	8409	2841	11250		13.05	Si
SLV 16	14.55	863.54	-4061	-2897	-468	0.6964	0.4066	-14857	15471	1899	101952	10511	3551	14062		30.06	Si
SLV 4	12.05	1359.01	-2390	-1705	1222	0.5571	0	0	0	0	101952	8409	2841	11250		9.2	Si
SLV 4	14.55	-967.81	-2689	-1918	820	0.5571	0	0	0	0	101952	8409	2841	11250		13.71	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 8	-981	0.53	78.63	133.58	207.84	170.71	2.17	Si
SLV 7	-984	0.53	78.63	133.92	208.24	171.08	2.18	Si
SLV 12	-1257	0.53	78.63	169.76	250.68	210.22	2.67	Si
SLV 11	-1259	0.53	78.63	170.09	251.08	210.59	2.68	Si
SLV 4	-2378	0.53	78.63	310.79	423.55	367.17	4.67	Si
SLV 3	-2382	0.53	78.63	311.25	424.14	367.69	4.68	Si
SLV 16	-3297	0.53	78.63	419.01	563.66	491.34	6.25	Si
SLV 15	-3301	0.53	78.63	419.44	564.24	491.84	6.26	Si
SLV 2	-3852	0.53	78.63	481.14	647.49	564.32	7.18	Si
SLV 1	-3856	0.53	78.63	481.56	648.07	564.81	7.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 9	-6425	-3567	-235	0.576	739.3	0.965	8.67438	5.51652	Si
SLV 10	-6404	-3590	-235	0.578	737.2	0.965	8.6996	5.51652	Si
SLV 13	-5007	-3628	-95	0.737	595	0.958	11.18498	7.04479	Si
SLV 14	-4976	-3662	-95	0.741	591.8	0.957	11.24719	7.04479	Si
SLV 5	-5908	-3261	-224	0.621	686.6	0.963	9.36693	5.51652	Si
SLV 6	-5887	-3283	-224	0.622	684.5	0.963	9.39658	5.51652	Si
SLV 1	-3281	-2606	-57	1.059	419.7	0.943	16.33627	7.04479	Si
SLV 15	-3269	-3379	36	1.068	418.5	0.942	16.47024	7.04479	Si
SLV 2	-3250	-2640	-57	1.068	416.6	0.942	16.47224	7.04479	Si
SLV 16	-3238	-3412	36	1.076	415.4	0.942	16.6071	7.04479	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.366	SLU 42	Si
V_SLU	6.023	SLU 78	Si
PF_SLV	0.617	SLV 3	No
V_SLV	7.787	SLV 1	Si
PFFP_SLV	2.171	SLV 8	Si
R_SLV	1.572	SLV 9	Si

Maschio 217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-7.278	1.046	-9.386	1.046	L7	L8	2.109	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 65	12.05	1571.44	-13951	-0.0000442	0.0004492	0.0035	2.1086	11864.32	13288.85	13288.85	8.46	No	Si
SLU 65	14.55	-128.02	-8685	-0.0000212	0.0004492	0.0035	2.1086	8054.41	10969.56	10969.56	85.69	No	Si
SLU 42	12.05	1330.7	-11410	-0.0000362	0.0004492	0.0035	2.1086	10126.93	11322.96	11322.96	8.51	No	Si
SLU 42	14.55	-92.1	-7339	-0.0000178	0.0004492	0.0035	2.1086	6950.42	9740.51	9740.51	105.76	No	Si
SLU 82	12.05	1508.28	-13095	-0.0000416	0.0004492	0.0035	2.1086	11299.94	12626.38	12626.38	8.37	No	Si
SLU 82	14.55	-132.02	-8050	-0.0000197	0.0004492	0.0035	2.1086	7540.02	10389.55	10389.55	78.7	No	Si
SLU 73	12.05	1551.22	-13363	-0.0000426	0.0004492	0.0035	2.1086	11479.29	12834.19	12834.19	8.27	No	Si
SLU 73	14.55	-142.79	-8241	-0.0000203	0.0004492	0.0035	2.1086	7696.48	10564.57	10564.57	73.99	No	Si
SLU 40	12.05	1294.69	-10317	-0.0000332	0.0004492	0.0035	2.1086	9321.78	10403.1	10403.1	8.04	No	Si
SLU 40	14.55	-168.95	-6379	-0.000016	0.0004492	0.0035	2.1086	6130.7	8863.95	8863.95	52.46	No	Si
SLU 26	12.05	1393.86	-12266	-0.0000387	0.0004492	0.0035	2.1086	10733.48	11985.43	11985.43	8.6	No	Si
SLU 26	14.55	-88.09	-7974	-0.0000193	0.0004492	0.0035	2.1086	7478.01	10320.52	10320.52	117.16	No	Si
SLU 31	12.05	1337.63	-10586	-0.0000342	0.0004492	0.0035	2.1086	9522.95	10640.46	10640.46	7.95	No	Si
SLU 31	14.55	-179.72	-6571	-0.0000165	0.0004492	0.0035	2.1086	6296.52	9038.97	9038.97	50.3	No	Si
SLU 23	12.05	1357.86	-11173	-0.0000358	0.0004492	0.0035	2.1086	9955.69	11140.07	11140.07	8.2	No	Si
SLU 23	14.55	-164.95	-7014	-0.0000175	0.0004492	0.0035	2.1086	6676.11	9443.96	9443.96	57.25	No	Si
SLU 39	12.05	1243.28	-10292	-0.0000328	0.0004492	0.0035	2.1086	9302.85	10380.89	10380.89	8.35	No	Si
SLU 39	14.55	-143.3	-6377	-0.0000158	0.0004492	0.0035	2.1086	6128.63	8861.77	8861.77	61.84	No	Si
SLU 34	12.05	1373.64	-11678	-0.0000371	0.0004492	0.0035	2.1086	10319.51	11530.77	11530.77	8.39	No	Si
SLU 34	14.55	-102.86	-7531	-0.0000183	0.0004492	0.0035	2.1086	7110.87	9915.53	9915.53	96.39	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	12.05	4109.83	-6334	-0.000052	0.0006738	0.0035	2.1086		6853.3	6853.3	1.67		Si
SLV 3	14.55	-3888.31	-1509	-0.0003729	0.0006738	0.0035	1.6869	4144.39	4144.39	4144.39	1.07		Si
SLV 6	12.05	4943.62	-10438	-0.0000601	0.0006738	0.0035	2.1086		10734.74	10734.74	2.17		Si
SLV 6	14.55	-3136.63	-4957	-0.0000388	0.0006738	0.0035	1.6869	7564.07	7564.07	7564.07	2.41		Si
SLV 1	12.05	5741.69	-7052	-0.0001006	0.0006738	0.0035	2.1086	7545.15	7545.15	7545.15	1.31		Si
SLV 1	14.55	-4959.89	-1521	-0.0005179	0.0006738	0.0035	1.6869	4156.4	4156.4	4156.4	0.84		No
SLD 3	12.05	3031.38	-7788	-0.0000387	0.0006738	0.0035	2.1086	8250.05	8250.05	8250.05	2.72		Si
SLD 3	14.55	-2507.75	-3269	-0.0000372	0.0006738	0.0035	1.6869	5903.62	5903.62	5903.62	2.35		Si
SLV 5	12.05	4956.96	-10443	-0.0000602	0.0006738	0.0035	2.1086	10739.07	10739.07	10739.07	2.17		Si
SLV 5	14.55	-3147.45	-4956	-0.000039	0.0006738	0.0035	1.6869	7563.24	7563.24	7563.24	2.4		Si
SLV 4	12.05	4090.02	-6327	-0.0000516	0.0006738	0.0035	2.1086	6846.47	6846.47	6846.47	1.67		Si
SLV 4	14.55	-3872.24	-1510	-0.0003708	0.0006738	0.0035	1.6869	4145.67	4145.67	4145.67	1.07		Si
SLD 2	12.05	4026.25	-8229	-0.0000484	0.0006738	0.0035	2.1086	8668.09	8668.09	8668.09	2.15		Si
SLD 2	14.55	-3164.07	-3279	-0.0000923	0.0006738	0.0035	1.6869	5913.51	5913.51	5913.51	1.87		Si
SLV 16	12.05	-3582.38	-13627	-0.0000566	0.0006738	0.0035	2.1086	15601.58	15601.58	15601.58	4.36		Si
SLV 16	14.55	4870.58	-11286	-0.0000606	0.0006738	0.0035	2.1086	11511.04	11511.04	11511.04	2.36		Si
SLD 1	12.05	4038.9	-8233	-0.0000485	0.0006738	0.0035	2.1086	8672.32	8672.32	8672.32	2.15		Si
SLD 1	14.55	-3174.33	-3278	-0.000094	0.0006738	0.0035	1.6869	5912.71	5912.71	5912.71	1.86		Si
SLV 2	12.05	5721.88	-7045	-0.0000996	0.0006738	0.0035	2.1086	7538.42	7538.42	7538.42	1.32		Si
SLV 2	14.55	-4943.82	-1522	-0.0005156	0.0006738	0.0035	1.6869	4157.67	4157.67	4157.67	0.84		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	12.05	1590.83	-16097	-11483	1351	2.1086	2.1086	-19450	10833	6396	101952	21218	10754	9594	Si	7.1	Si
SLU 78	14.55	51.05	-10677	-7617	797	2.1086	2.1086	-12901	10053	5936	101952	21218	10754	8904	Si	11.17	Si
SLU 68	12.05	1607.45	-15044	-10732	1402	2.1086	2.1086	-18177	10757	6351	101952	21218	10754	9527	Si	6.8	Si
SLU 68	14.55	-51.16	-9645	-6881	776	2.1086	2.1086	-11654	9887	5838	101952	21218	10754	8756	Si	11.29	Si
SLU 71	12.05	1557.77	-16095	-11482	1371	2.1086	2.1086	-19446	10833	6396	101952	21218	10754	9594	Si	7	Si
SLU 71	14.55	68.44	-10601	-7563	746	2.1086	2.1086	-12809	10041	5928	101952	21218	10754	8893	Si	11.93	Si
SLU 70	12.05	1611.05	-16685	-11903	1426	2.1086	2.1086	-20160	10833	6396	101952	21218	10754	9594	Si	6.73	Si
SLU 70	14.55	65.82	-11121	-7933	770	2.1086	2.1086	-13437	10125	5978	101952	21218	10754	8967	Si	11.65	Si
SLU 69	12.05	1559.64	-16660	-11885	1383	2.1086	2.1086	-20129	10833	6396	101952	21218	10754	9594	Si	6.94	Si
SLU 69	14.55	91.46	-11118	-7932	742	2.1086	2.1086	-13434	10125	5978	101952	21218	10754	8967	Si	12.08	Si
SLU 67	12.05	1575.04	-15592	-11123	1385	2.1086	2.1086	-18839	10833	6396	101952	21218	10754	9594	Si	6.93	Si
SLU 67	14.55	-11.04	-10161	-7248	754	2.1086	2.1086	-12277	9970	5887	101952	21218	10754	8830	Si	11.71	Si
SLU 72	12.05	1609.18	-16120	-11499	1414	2.1086	2.1086	-19477	10833	6396	101952	21218	10754	9594	Si	6.79	Si
SLU 72	14.55	42.79	-10604	-7564	773	2.1086	2.1086	-12812	10042	5929	101952	21218	10754	8893	Si	11.51	Si
SLU 76	12.05	1587.22	-14456	-10313	1327	2.1086	2.1086	-17467	10662	6295	101952	21218	10754	9443	Si	7.12	Si
SLU 76	14.55	-65.93	-9202	-6564	803	2.1086	2.1086	-11118	9816	5795	101952	21218	10754	8693	Si	10.83	Si
SLU 65	12.05	1571.44	-13951	-9952	1361	2.1086	2.1086	-16856	10581	6247	101952	21218	10754	9371	Si	6.88	Si
SLU 65	14.55	-128.02	-8685	-6196	760	2.1086	2.1086	-10494	9733	5746	101952	21218	10754	8619	Si	11.34	Si
SLU 66	12.05	1523.63	-15567	-11105	1343	2.1086	2.1086	-18809	10833	6396	101952	21218	10754	9594	Si	7.15	Si
SLU 66	14.55	14.61	-10158	-7247	727	2.1086	2.1086	-12274	9970	5886	101952	21218	10754	8830	Si	12.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	12.05	4090.02	-6327	-4514	4559	2.1086	1.2237	-7645	14029	4807	101952	31827	10754	42581		9.34	Si
SLV 4	14.55	-3872.24	-1510	-1077	2963	1.6869	0	0	0	0	101952	25462	8603	34065		11.5	Si
SLV 2	12.05	5721.88	-7045	-5026	5947	2.1086	0.7263	-8512	14202	4847	101952	31827	10754	42581		7.16	Si
SLV 2	14.55	-4943.82	-1522	-1086	3989	1.6869	0	0	0	0	101952	25462	8603	34065		8.54	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	12.05	-3582.38	-13627	-9721	-4106	2.1086	2.1086	-16465	15793	9324	101952	31827	10754	42581		10.37	Si
SLV 16	14.55	4870.58	-11286	-8051	-2968	2.1086	1.8682	-13636	15227	7966	101952	31827	10754	42581		14.35	Si
SLD 1	12.05	4038.9	-8233	-5874	4130	2.1086	1.6913	-9948	14490	6862	101952	31827	10754	42581		10.31	Si
SLD 1	14.55	-3174.33	-3278	-2338	2727	1.6869	0.2578	0	0	0	101952	25462	8603	34065		12.49	Si
SLD 2	12.05	4026.25	-8229	-5870	4117	2.1086	1.6951	-9943	14489	6877	101952	31827	10754	42581		10.34	Si
SLD 2	14.55	-3164.07	-3279	-2339	2722	1.6869	0.2679	0	0	0	101952	25462	8603	34065		12.51	Si
SLV 3	12.05	4109.83	-6334	-4519	4578	2.1086	1.2165	-7653	14031	4779	101952	31827	10754	42581		9.3	Si
SLV 3	14.55	-3888.31	-1509	-1076	2971	1.6869	0	0	0	0	101952	25462	8603	34065		11.47	Si
SLV 15	12.05	-3562.58	-13634	-9726	-4087	2.1086	2.1086	-16473	15795	9325	101952	31827	10754	42581		10.42	Si
SLV 15	14.55	4854.51	-11285	-8050	-2960	2.1086	1.8724	-13635	15227	7983	101952	31827	10754	42581		14.38	Si
SLV 5	12.05	4956.96	-10443	-7450	4550	2.1086	1.7389	-12618	15024	7315	101952	31827	10754	42581		9.36	Si
SLV 5	14.55	-3147.45	-4956	-3536	3116	1.6869	1.2578	0	0	0	101952	25462	8603	34065		10.93	Si
SLV 6	12.05	4943.62	-10438	-7446	4537	2.1086	1.7421	-12612	15022	7328	101952	31827	10754	42581		9.39	Si
SLV 6	14.55	-3136.63	-4957	-3536	3111	1.6869	1.2647	0	0	0	101952	25462	8603	34065		10.95	Si
SLV 1	12.05	5741.69	-7052	-5031	5966	2.1086	0.7203	-8520	14204	4849	101952	31827	10754	42581		7.14	Si
SLV 1	14.55	-4959.89	-1521	-1085	3997	1.6869	0	0	0	0	101952	25462	8603	34065		8.52	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 4	-4877	0.53	238.1	651.98	1024.36	838.17	3.52	Si
SLV 3	-4884	0.53	238.1	652.88	1025.45	839.16	3.52	Si
SLV 2	-5541	0.53	238.1	736.01	1126.54	931.28	3.91	Si
SLV 1	-5548	0.53	238.1	736.9	1127.62	932.26	3.92	Si
SLV 8	-6499	0.53	238.1	855.25	1273.6	1064.42	4.47	Si
SLV 7	-6504	0.53	238.1	855.83	1274.32	1065.08	4.47	Si
SLV 12	-8553	0.53	238.1	1102.8	1586.93	1344.86	5.65	Si
SLV 11	-8558	0.53	238.1	1103.35	1587.65	1345.5	5.65	Si
SLV 6	-8713	0.53	238.1	1121.62	1611.21	1366.42	5.74	Si
SLV 5	-8718	0.53	238.1	1122.18	1611.93	1367.05	5.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-8967	-14351	222	1.147	1173	0.938	17.76518	7.04479	Si
SLV 14	-8960	-14344	222	1.148	1172.3	0.938	17.77702	7.04479	Si
SLV 15	-8737	-13634	-112	1.182	1149.7	0.937	18.32747	7.04479	Si
SLV 16	-8730	-13627	-112	1.183	1149	0.937	18.33964	7.04479	Si
SLV 9	-7011	-12633	567	1.356	975.4	0.928	21.22842	5.51652	Si
SLV 10	-7007	-12628	567	1.357	974.9	0.928	21.24019	5.51652	Si
SLV 11	-6244	-10241	-545	1.486	898.2	0.924	23.38676	5.51652	Si
SLV 12	-6240	-10236	-545	1.487	897.7	0.924	23.40074	5.51652	Si
SLV 5	-5106	-10443	529	1.732	784	0.916	27.48763	5.51652	Si
SLV 6	-5101	-10438	529	1.733	783.6	0.916	27.50731	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.955	SLV 31	Si
V_SLV	6.73	SLV 70	Si
PF_SLV	0.838	SLV 1	No
V_SLV	7.137	SLV 1	Si
PFFP_SLV	3.52	SLV 4	Si
R_SLV	2.522	SLV 13	Si

Maschio 218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-4.968	1.046	-6.478	1.046	L7	L8	1.51	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 2	12.05	349.04	-5888	-0.0000239	0.0004492	0.0035	1.51	3938.58	4379.51	4379.51	12.55	No	Si
SLU 2	14.15	-44.33	-5395	-0.0000182	0.0004492	0.0035	1.51	3647.91	5055.23	5055.23	114.03	No	Si
SLU 23	12.05	303.9	-6215	-0.0000244	0.0004492	0.0035	1.51	4127.54	4593.31	4593.31	15.11	No	Si
SLU 23	14.15	11.93	-6333	-0.0000209	0.0004492	0.0035	1.51	4195.12	4669.8	4669.8	391.54	No	Si
SLU 44	12.05	453.04	-7543	-0.0000309	0.0004492	0.0035	1.51	4863.41	5445.34	5445.34	12.02	No	Si
SLU 44	14.15	-64.78	-6705	-0.0000229	0.0004492	0.0035	1.51	4405.12	5912.93	5912.93	91.28	No	Si
SLU 47	12.05	388.87	-8225	-0.0000324	0.0004492	0.0035	1.51	5221.02	5827.77	5827.77	14.99	No	Si
SLU 47	14.15	37.71	-7501	-0.0000252	0.0004492	0.0035	1.51	4840.97	5418.67	5418.67	143.71	No	Si
SLU 1	12.05	295.08	-5891	-0.0000232	0.0004492	0.0035	1.51	3940.58	4381.78	4381.78	14.85	No	Si
SLU 1	14.15	-3.86	-5437	-0.0000178	0.0004492	0.0035	1.51	3673.01	5082.78	5082.78	1316.71	No	Si
SLU 37	12.05	13.4	-7048	-0.0000233	0.0004492	0.0035	1.51	4595.44	5130.59	5130.59	382.77	No	Si
SLU 37	14.15	358.53	-7936	-0.000031	0.0004492	0.0035	1.51	5071.34	5667.21	5667.21	15.81	No	Si
SLU 65	12.05	407.9	-7870	-0.0000314	0.0004492	0.0035	1.51	5036.55	5630.26	5630.26	13.8	No	Si
SLU 65	14.15	-8.52	-7642	-0.0000253	0.0004492	0.0035	1.51	4916.43	6494.81	6494.81	762.34	No	Si
SLU 43	12.05	399.07	-7546	-0.0000302	0.0004492	0.0035	1.51	4865.25	5447.53	5447.53	13.65	No	Si
SLU 43	14.15	-24.31	-6747	-0.0000225	0.0004492	0.0035	1.51	4428.61	5939.04	5939.04	244.34	No	Si
SLU 64	12.05	353.94	-7873	-0.0000307	0.0004492	0.0035	1.51	5038.36	5632.17	5632.17	15.91	No	Si
SLU 64	14.15	31.95	-7684	-0.0000257	0.0004492	0.0035	1.51	4938.78	5527.13	5527.13	172.99	No	Si
SLU 52	12.05	344.85	-7010	-0.0000276	0.0004492	0.0035	1.51	4574.28	5106.09	5106.09	14.81	No	Si
SLU 52	14.15	36.39	-6674	-0.0000224	0.0004492	0.0035	1.51	4387.7	4890.37	4890.37	134.38	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	12.05	1875.7	-4780	-0.0000437	0.0006738	0.0035	1.51		3696.54	3696.54	1.97		Si
SLV 4	14.15	-1677.28	-4656	-0.0000389	0.0006738	0.0035	1.51		4615.16	4615.16	2.75		Si
SLD 1	12.05	1969.54	-5023	-0.0000459	0.0006738	0.0035	1.51		3864.33	3864.33	1.96		Si
SLD 1	14.15	-1576.87	-4455	-0.0000366	0.0006738	0.0035	1.51		4475.93	4475.93	2.84		Si
SLV 16	12.05	-2464.64	-7096	-0.0000581	0.0006738	0.0035	1.51		6254.42	6254.42	2.54		Si
SLV 16	14.15	2595.05	-7644	-0.0000616	0.0006738	0.0035	1.51		5628.31	5628.31	2.17		Si
SLV 1	12.05	2967.18	-4569	-0.0001527	0.0006738	0.0035	1.51		3551.26	3551.26	1.2		Si
SLV 1	14.15	-2512.81	-3748	-0.0001302	0.0006738	0.0035	1.208		3985.87	3985.87	1.59		Si
SLV 6	12.05	2686.71	-5125	-0.0000749	0.0006738	0.0035	1.51		3934.38	3934.38	1.46		Si
SLV 6	14.15	-1919.42	-3623	-0.0000532	0.0006738	0.0035	1.208		3897.96	3897.96	2.03		Si
SLV 15	12.05	-2447.3	-7100	-0.0000578	0.0006738	0.0035	1.51		6257	6257	2.56		Si
SLV 15	14.15	2558.68	-7700	-0.0000609	0.0006738	0.0035	1.51		5665.07	5665.07	2.21		Si
SLV 3	12.05	1893.04	-4783	-0.0000441	0.0006738	0.0035	1.51		3699.19	3699.19	1.95		Si
SLV 3	14.15	-1713.65	-4712	-0.0000398	0.0006738	0.0035	1.51		4653.72	4653.72	2.72		Si
SLV 2	12.05	2949.84	-4565	-0.0001476	0.0006738	0.0035	1.51		3548.58	3548.58	1.2		Si
SLV 2	14.15	-2476.44	-3692	-0.0001284	0.0006738	0.0035	1.208		3946.81	3946.81	1.59		Si
SLD 2	12.05	1958.47	-5021	-0.0000456	0.0006738	0.0035	1.51		3862.64	3862.64	1.97		Si
SLD 2	14.15	-1553.65	-4419	-0.0000361	0.0006738	0.0035	1.51		4451.32	4451.32	2.87		Si
SLV 5	12.05	2698.39	-5128	-0.0000756	0.0006738	0.0035	1.51		3936.16	3936.16	1.46		Si
SLV 5	14.15	-1943.91	-3660	-0.0000541	0.0006738	0.0035	1.208		3924.26	3924.26	2.02		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	12.05	45.23	-7358	-5249	-206	1.51	1.51	-12415	9989	4223	101952	15194	7701	6335	Si	30.75	Si
SLU 36	14.15	332.72	-8387	-5983	-206	1.51	1.51	-14151	10220	4321	101952	15194	7701	6482	Si	31.45	Si
SLU 65	12.05	407.9	-7870	-5614	199	1.51	1.51	-13278	10104	4272	101952	15194	7701	6408	Si	32.2	Si
SLU 65	14.15	-8.52	-7642	-5452	199	1.51	1.51	-12895	10053	4250	101952	15194	7701	6375	Si	32.04	Si
SLU 2	12.05	349.04	-5888	-4200	215	1.51	1.51	-9934	9658	4083	101952	15194	7701	6125	Si	28.46	Si
SLU 2	14.15	-44.33	-5395	-3849	215	1.51	1.51	-9103	9547	4036	101952	15194	7701	6055	Si	28.13	Si
SLU 43	12.05	399.07	-7546	-5383	218	1.51	1.51	-12733	10031	4241	101952	15194	7701	6362	Si	29.21	Si
SLU 43	14.15	-24.31	-6747	-4813	218	1.51	1.51	-11384	9851	4165	101952	15194	7701	6248	Si	28.69	Si
SLU 38	12.05	45.78	-7046	-5027	-192	1.51	1.51	-11889	9919	4194	101952	15194	7701	6290	Si	32.78	Si
SLU 38	14.15	334.25	-7911	-5643	-192	1.51	1.51	-13348	10113	4276	101952	15194	7701	6414	Si	33.42	Si
SLU 44	12.05	453.04	-7543	-5381	289	1.51	1.51	-12727	10030	4241	101952	15194	7701	6361	Si	21.99	Si
SLU 44	14.15	-64.78	-6705	-4783	289	1.51	1.51	-11313	9842	4161	101952	15194	7701	6242	Si	21.57	Si
SLU 41	12.05	31.21	-6138	-4379	-224	1.51	1.51	-10357	9714	4107	101952	15194	7701	6161	Si	27.55	Si
SLU 41	14.15	299.4	-7127	-5084	-224	1.51	1.51	-12024	9937	4201	101952	15194	7701	6302	Si	28.17	Si
SLU 35	12.05	12.85	-7360	-5250	-249	1.51	1.51	-12418	9989	4223	101952	15194	7701	6335	Si	25.45	Si
SLU 35	14.15	357	-8412	-6001	-249	1.51	1.51	-14194	10226	4323	101952	15194	7701	6485	Si	26.04	Si
SLU 47	12.05	388.87	-8225	-5867	217	1.51	1.51	-13877	10184	4306	101952	15194	7701	6458	Si	29.79	Si
SLU 47	14.15	37.71	-7501	-5351	217	1.51	1.51	-12656	10021	4237	101952	15194	7701	6355	Si	29.31	Si
SLU 37	12.05	13.4	-7048	-5028	-235	1.51	1.51	-11892	9919	4194	101952	15194	7701	6291	Si	26.79	Si
SLU 37	14.15	358.53	-7936	-5661	-235	1.51	1.51	-13390	10119	4278	101952	15194	7701	6417	Si	27.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	12.05	2967.18	-4569	-3259	3630	1.51	0.3166	-37365	16250	3311	101952	22792	7701	30493		8.4	Si
SLV 1	14.15	-2512.81	-3748	-2674	2983	1.208	0.2538	0	0	0	101952	18233	6161	24394		8.18	Si
SLV 11	12.05	-2184.18	-6539	-4665	-3580	1.51	1.2629	-13268	15154	5359	101952	22792	7701	30493		8.52	Si
SLV 11	14.15	2001.66	-7770	-5543	-3356	1.51	1.4921	-13110	15122	6318	101952	22792	7701	30493		9.09	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	12.05	2949.84	-4565	-3256	3542	1.51	0.3263	-36208	16250	3311	101952	22792	7701	30493		8.61	Si
SLV 2	14.15	-2476.44	-3692	-2634	2895	1.208	0.253	0	0	0	101952	18233	6161	24394		8.43	Si
SLV 16	12.05	-2464.64	-7096	-5062	-3476	1.51	1.223	-14878	15476	5299	101952	22792	7701	30493		8.77	Si
SLV 16	14.15	2595.05	-7644	-5453	-2829	1.51	1.2465	-12898	15080	5263	101952	22792	7701	30493		10.78	Si
SLD 5	12.05	1775.64	-5385	-3842	2387	1.51	1.2758	-9086	14317	5115	101952	22792	7701	30493		12.78	Si
SLD 5	14.15	-1199.23	-4418	-3152	2244	1.51	1.4507	-7785	14057	5710	101952	22792	7701	30493		13.59	Si
SLV 9	12.05	1396.28	-5823	-4154	2208	1.51	1.51	-9824	14465	6116	101952	22792	7701	30493		13.81	Si
SLV 9	14.15	-662.21	-4557	-3251	2367	1.51	1.51	-7688	14038	5935	101952	22792	7701	30493		12.88	Si
SLV 15	12.05	-2447.3	-7100	-5065	-3388	1.51	1.2309	-14790	15458	5328	101952	22792	7701	30493		9	Si
SLV 15	14.15	2558.68	-7700	-5493	-2741	1.51	1.2681	-12992	15098	5361	101952	22792	7701	30493		11.12	Si
SLV 5	12.05	2698.39	-5128	-3658	3793	1.51	0.6863	-8652	14230	3418	101952	22792	7701	30493		8.04	Si
SLV 5	14.15	-1943.91	-3660	-2611	3569	1.208	0.6717	0	0	0	101952	18233	6161	24394		6.84	Si
SLV 6	12.05	2686.71	-5125	-3656	3734	1.51	0.6924	-8648	14230	3417	101952	22792	7701	30493		8.17	Si
SLV 6	14.15	-1919.42	-3623	-2584	3510	1.208	0.6755	0	0	0	101952	18233	6161	24394		6.95	Si
SLV 12	12.05	-2195.85	-6536	-4663	-3639	1.51	1.2572	-13324	15165	5338	101952	22792	7701	30493		8.38	Si
SLV 12	14.15	2026.14	-7732	-5516	-3415	1.51	1.4789	-13046	15109	6256	101952	22792	7701	30493		8.93	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 2	-3767	0.53	170.5	501.78	772.94	637.36	3.74	Si
SLV 1	-3810	0.53	170.5	507.2	779.52	643.36	3.77	Si
SLV 6	-3850	0.53	170.5	512.24	785.65	648.95	3.81	Si
SLV 5	-3879	0.53	170.5	515.88	790.09	652.98	3.83	Si
SLV 4	-4482	0.53	170.5	591.24	882.73	736.98	4.32	Si
SLV 3	-4525	0.53	170.5	596.55	889.31	742.93	4.36	Si
SLV 10	-4630	0.53	170.5	609.5	905.4	757.45	4.44	Si
SLV 9	-4659	0.53	170.5	613.06	909.83	761.45	4.47	Si
SLV 8	-6234	0.53	170.5	802.53	1150.17	976.35	5.73	Si
SLV 7	-6263	0.53	170.5	805.92	1154.55	980.24	5.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-6513	-7100	29	1.151	849.3	0.939	17.81139	7.04479	Si
SLV 16	-6483	-7096	29	1.155	846.2	0.939	17.88347	7.04479	Si
SLV 13	-5638	-6885	86	1.284	760.8	0.933	20.00211	7.04479	Si
SLV 14	-5608	-6881	86	1.29	757.7	0.933	20.09392	7.04479	Si
SLV 11	-6660	-6539	-75	1.124	864.2	0.94	17.38395	5.51652	Si
SLV 12	-6640	-6536	-75	1.127	862.1	0.94	17.42851	5.51652	Si
SLV 7	-5916	-5844	-107	1.233	788.8	0.935	19.162	5.51652	Si
SLV 8	-5895	-5842	-107	1.236	786.8	0.935	19.2167	5.51652	Si
SLV 3	-4031	-4783	-77	1.668	598.9	0.919	26.36953	7.04479	Si
SLV 4	-4001	-4780	-78	1.678	595.9	0.919	26.52523	7.04479	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.02	SLU 44	Si
V_SLU	21.573	SLU 44	Si
PF_SLV	1.197	SLV 1	Si
V_SLV	6.835	SLV 5	Si
PFFP_SLV	3.738	SLV 2	Si
R_SLV	2.528	SLV 15	Si

Maschio 219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	1.046	-4.168	1.046	L7	L8	4.045	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 8	12.05	1518.29	-10943	-0.0000161	0.0004492	0.0035	4.045	20381.58	22624.74	22624.74	14.9	No	Si
SLU 8	14.15	1773.49	-7049	-0.0000117	0.0004492	0.0035	4.045	13531.19	15403.11	15403.11	8.69	No	Si
SLU 50	12.05	2066.19	-13692	-0.0000205	0.0004492	0.0035	4.045	24953.01	27601.23	27601.23	13.36	No	Si
SLU 50	14.15	2006.63	-8365	-0.0000138	0.0004492	0.0035	4.045	15896.09	17865.56	17865.56	8.9	No	Si
SLU 9	12.05	1536.08	-10950	-0.0000161	0.0004492	0.0035	4.045	20394.66	22638.82	22638.82	14.74	No	Si
SLU 9	14.15	1734.18	-7035	-0.0000116	0.0004492	0.0035	4.045	13504.44	15375.21	15375.21	8.87	No	Si
SLU 27	12.05	1503.49	-12300	-0.0000177	0.0004492	0.0035	4.045	22666.16	25093.24	25093.24	16.69	No	Si
SLU 27	14.15	2331.93	-9670	-0.000016	0.0004492	0.0035	4.045	18191.71	20293.33	20293.33	8.7	No	Si
SLU 48	12.05	2265.5	-14576	-0.000022	0.0004492	0.0035	4.045	26375.51	29170.26	29170.26	12.88	No	Si
SLU 48	14.15	2285.03	-9552	-0.0000157	0.0004492	0.0035	4.045	17985.32	20076.17	20076.17	8.79	No	Si
SLU 29	12.05	1304.17	-11416	-0.0000163	0.0004492	0.0035	4.045	21184.86	23492.81	23492.81	18.01	No	Si
SLU 29	14.15	2053.53	-8484	-0.000014	0.0004492	0.0035	4.045	16106.59	18086.41	18086.41	8.81	No	Si
SLU 69	12.05	2051.38	-15050	-0.0000222	0.0004492	0.0035	4.045	27128.48	30008.91	30008.91	14.63	No	Si
SLU 69	14.15	2565.07	-10986	-0.000018	0.0004492	0.0035	4.045	20455.8	22704.65	22704.65	8.85	No	Si
SLU 6	12.05	1717.61	-11827	-0.0000175	0.0004492	0.0035	4.045	21875.12	24239.88	24239.88	14.11	No	Si
SLU 6	14.15	2051.89	-8236	-0.0000137	0.0004492	0.0035	4.045	15666.06	17624.72	17624.72	8.59	No	Si
SLU 7	12.05	1735.4	-11834	-0.0000176	0.0004492	0.0035	4.045	21888	24253.71	24253.71	13.98	No	Si
SLU 7	14.15	2012.58	-8221	-0.0000136	0.0004492	0.0035	4.045	15639.82	17597.28	17597.28	8.74	No	Si
SLU 28	12.05	1521.28	-12308	-0.0000178	0.0004492	0.0035	4.045	22678.94	25107.08	25107.08	16.5	No	Si
SLU 28	14.15	2292.62	-9656	-0.0000159	0.0004492	0.0035	4.045	18166.08	20266.35	20266.35	8.84	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	12.05	1414.51	-11805	-0.0000168	0.0006738	0.0035	4.045		24514.09	24514.09	17.33		Si
SLV 14	14.15	5236.26	-7817	-0.0000189	0.0006738	0.0035	4.045		16998.51	16998.51	3.25		Si
SLV 12	12.05	345.33	-10293	-0.0000131	0.0006738	0.0035	4.045		21684.14	21684.14	62.79		Si
SLV 12	14.15	4722.78	-7975	-0.0000181	0.0006738	0.0035	4.045		17300	17300	3.66		Si
SLV 13	12.05	1567.23	-11809	-0.0000171	0.0006738	0.0035	4.045		24520.67	24520.67	15.65		Si
SLV 13	14.15	5156.28	-7765	-0.0000187	0.0006738	0.0035	4.045		16898.97	16898.97	3.28		Si
SLD 16	12.05	1070.8	-10994	-0.0000152	0.0006738	0.0035	4.045		23004.65	23004.65	21.48		Si
SLD 16	14.15	4540.67	-7682	-0.0000174	0.0006738	0.0035	4.045		16739.13	16739.13	3.69		Si
SLV 16	12.05	860.92	-11855	-0.0000159	0.0006738	0.0035	4.045		24606.79	24606.79	28.58		Si
SLV 16	14.15	6528.51	-8466	-0.0000221	0.0006738	0.0035	4.045		18239.1	18239.1	2.79		Si
SLD 15	12.05	1168.28	-10996	-0.0000154	0.0006738	0.0035	4.045		23008.92	23008.92	19.69		Si
SLD 15	14.15	4489.61	-7648	-0.0000173	0.0006738	0.0035	4.045		16675.6	16675.6	3.71		Si
SLV 2	12.05	1715.4	-7173	-0.0000117	0.0006738	0.0035	4.045		15766.55	15766.55	9.19		Si
SLV 2	14.15	-4193.12	-4276	-0.0000134	0.0006738	0.0035	4.045		17766.89	17766.89	4.24		Si
SLV 1	12.05	1868.13	-7177	-0.000012	0.0006738	0.0035	4.045		15773.33	15773.33	8.44		Si
SLV 1	14.15	-4273.11	-4224	-0.0000136	0.0006738	0.0035	4.045		17667.25	17667.25	4.13		Si
SLV 15	12.05	1013.65	-11859	-0.0000162	0.0006738	0.0035	4.045		24613.37	24613.37	24.28		Si
SLV 15	14.15	6448.53	-8414	-0.0000219	0.0006738	0.0035	4.045		18139.57	18139.57	2.81		Si
SLV 11	12.05	448.15	-10295	-0.0000132	0.0006738	0.0035	4.045		21688.64	21688.64	48.4		Si
SLV 11	14.15	4668.93	-7940	-0.000018	0.0006738	0.0035	4.045		17232.99	17232.99	3.69		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 83	12.05	1104.21	-11914	-8499	-2896	4.045	4.045	-7504	9334	10572	101952	40703	20629	15857	Si	5.48	Si
SLU 83	14.15	1701.12	-8837	-6304	-2939	4.045	4.045	-5566	9075	10279	101952	40703	20629	15418	Si	5.25	Si
SLU 36	12.05	975.62	-11164	-7964	-3158	4.045	4.045	-7032	9271	10500	101952	40703	20629	15750	Si	4.99	Si
SLU 36	14.15	2119.45	-9340	-6663	-3205	4.045	4.045	-5883	9118	10327	101952	40703	20629	15490	Si	4.83	Si
SLU 41	12.05	556.31	-9165	-6538	-3224	4.045	4.045	-5772	9103	10310	101952	40703	20629	15465	Si	4.8	Si
SLU 41	14.15	1467.99	-7521	-5365	-3261	4.045	4.045	-4737	8965	10154	101952	40703	20629	15231	Si	4.67	Si
SLU 33	12.05	1007.27	-10546	-7524	-3086	4.045	4.045	-6643	9219	10441	101952	40703	20629	15662	Si	5.07	Si
SLU 33	14.15	1781.29	-8828	-6298	-3123	4.045	4.045	-5560	9075	10278	101952	40703	20629	15417	Si	4.94	Si
SLU 32	12.05	989.48	-10539	-7518	-3135	4.045	4.045	-6638	9218	10441	101952	40703	20629	15661	Si	5	Si
SLU 32	14.15	1820.6	-8843	-6308	-3171	4.045	4.045	-5570	9076	10279	101952	40703	20629	15419	Si	4.86	Si
SLU 42	12.05	574.1	-9172	-6543	-3175	4.045	4.045	-5777	9104	10311	101952	40703	20629	15466	Si	4.87	Si
SLU 42	14.15	1428.68	-7506	-5355	-3213	4.045	4.045	-4728	8964	10152	101952	40703	20629	15228	Si	4.74	Si
SLU 40	12.05	605.76	-8555	-6103	-3103	4.045	4.045	-5388	9052	10252	101952	40703	20629	15378	Si	4.96	Si
SLU 40	14.15	1090.52	-6994	-4989	-3131	4.045	4.045	-4405	8921	10104	101952	40703	20629	15155	Si	4.84	Si
SLU 37	12.05	758.51	-10272	-7328	-2878	4.045	4.045	-6470	9196	10415	101952	40703	20629	15623	Si	5.43	Si
SLU 37	14.15	1880.36	-8168	-5827	-2926	4.045	4.045	-5145	9019	10215	101952	40703	20629	15323	Si	5.24	Si
SLU 39	12.05	587.97	-8547	-6097	-3152	4.045	4.045	-5383	9051	10251	101952	40703	20629	15377	Si	4.88	Si
SLU 39	14.15	1129.82	-7009	-5000	-3179	4.045	4.045	-4414	8922	10105	101952	40703	20629	15157	Si	4.77	Si
SLU 35	12.05	957.83	-11156	-7959	-3207	4.045	4.045	-7027	9270	10499	101952	40703	20629	15749	Si	4.91	Si
SLU 35	14.15	2158.76	-9355	-6673	-3254	4.045	4.045	-5892	9119	10328	101952	40703	20629	15492	Si	4.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.05	448.15	-10295	-7344	-4345	4.045	4.045	-6484	13797	15626	101952	61054	20629	81684		18.8	Si
SLV 11	14.15	4668.93	-7940	-5664	-3668	4.045	4.045	-5001	13500	15290	101952	61054	20629	81684		22.27	Si
SLV 12	12.05	345.33	-10293	-7343	-4456	4.045	4.045	-6483	13797	15626	101952	61054	20629	81684		18.33	Si
SLV 12	14.15	4722.78	-7975	-5689	-3778	4.045	4.045	-5023	13505	15295	101952	61054	20629	81684		21.62	Si



Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	12.05	860.92	-11855	-8457	-4928	4.045	4.045	-7467	13993	15849	101952	61054	20629	81684		16.57	Si
SLV 16	14.15	6528.51	-8466	-6039	-2577	4.045	3.7541	-5332	13566	14260	101952	61054	20629	81684		31.7	Si
SLV 14	12.05	1414.51	-11805	-8421	-3487	4.045	4.045	-7435	13987	15842	101952	61054	20629	81684		23.42	Si
SLV 14	14.15	5236.26	-7817	-5577	-1129	4.045	4.045	-4924	13485	15273	101952	61054	20629	81684		72.38	Si
SLV 7	12.05	538.42	-8905	-6353	-2522	4.045	4.045	-5609	13622	15428	101952	61054	20629	81684		32.39	Si
SLV 7	14.15	1840.12	-6878	-4906	-3272	4.045	4.045	-4332	13366	15139	101952	61054	20629	81684		24.96	Si
SLV 13	12.05	1567.23	-11809	-8424	-3323	4.045	4.045	-7438	13988	15842	101952	61054	20629	81684		24.58	Si
SLV 13	14.15	5156.28	-7765	-5540	-964	4.045	4.045	-4891	13478	15265	101952	61054	20629	81684		84.72	Si
SLV 15	12.05	1013.65	-11859	-8460	-4764	4.045	4.045	-7469	13994	15849	101952	61054	20629	81684		17.15	Si
SLV 15	14.15	6448.53	-8414	-6002	-2413	4.045	3.7683	-5300	13560	14307	101952	61054	20629	81684		33.86	Si
SLV 8	12.05	435.6	-8903	-6351	-2633	4.045	4.045	-5608	13622	15428	101952	61054	20629	81684		31.02	Si
SLV 8	14.15	1893.97	-6913	-4931	-3383	4.045	4.045	-4354	13371	15144	101952	61054	20629	81684		24.15	Si
SLD 16	12.05	1070.8	-10994	-7843	-3472	4.045	4.045	-6924	13885	15726	101952	61054	20629	81684		23.52	Si
SLD 16	14.15	4540.67	-7682	-5480	-2019	4.045	4.045	-4838	13468	15253	101952	61054	20629	81684		40.45	Si
SLD 15	12.05	1168.28	-10996	-7844	-3367	4.045	4.045	-6926	13885	15726	101952	61054	20629	81684		24.26	Si
SLD 15	14.15	4489.61	-7648	-5456	-1914	4.045	4.045	-4817	13463	15249	101952	61054	20629	81684		42.67	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.06 Wa 0.05 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 1	-4959	0.53	456.75	677.67	1270.26	973.97	2.13	Si
SLV 2	-5000	0.53	456.75	683.16	1276.72	979.94	2.15	Si
SLV 3	-5502	0.53	456.75	749.8	1355.25	1052.53	2.3	Si
SLV 4	-5543	0.53	456.75	755.26	1361.69	1058.47	2.32	Si
SLV 5	-5657	0.53	456.75	770.41	1379.56	1074.99	2.35	Si
SLV 6	-5685	0.53	456.75	774.08	1383.89	1078.99	2.36	Si
SLV 9	-6792	0.53	456.75	919.81	1555.97	1237.89	2.71	Si
SLV 10	-6820	0.53	456.75	923.44	1560.28	1241.86	2.72	Si
SLV 7	-7466	0.53	456.75	1007.6	1660.43	1334.02	2.92	Si
SLV 8	-7493	0.53	456.75	1011.2	1664.74	1337.97	2.93	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-3845	-7223	185	3.283	922	0.89	53.61636	7.04479	Si
SLV 3	-3840	-7227	185	3.285	921.6	0.89	53.65338	7.04479	Si
SLV 2	-3795	-7173	-178	3.307	917.4	0.89	54.01942	7.04479	Si
SLV 1	-3790	-7177	-178	3.309	916.9	0.89	54.05653	7.04479	Si
SLV 16	-3597	-11855	177	3.403	899	0.889	55.61098	7.04479	Si
SLV 15	-3592	-11859	177	3.405	898.5	0.889	55.65055	7.04479	Si
SLV 14	-3547	-11805	-186	3.426	894.4	0.889	56.00193	7.04479	Si
SLV 13	-3542	-11809	-186	3.429	893.9	0.889	56.04161	7.04479	Si
SLV 8	-3815	-8903	606	3.236	919.2	0.89	52.85836	5.51652	Si
SLV 7	-3812	-8905	606	3.238	918.9	0.89	52.88301	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.59	SLU 6	Si
V_SLU	4.67	SLU 41	Si
PF_SLV	2.794	SLV 16	Si
V_SLV	16.575	SLV 16	Si
PFFP_SLV	2.132	SLV 1	Si
R_SLV	7.611	SLV 4	Si

Maschio 221

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-16.818	6.661	-12.838	6.661	L7	L8	3.98	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 82	12.95	-2178.66	-9073	-0.0000166	0.0003743	0.0035	3.98	16611.09	21510.55	21510.55	9.87	No	Si
SLU 82	14.75	276.2	-8189	-0.0000115	0.0003743	0.0035	3.98	15119.23	16199.51	16199.51	58.65	No	Si
SLU 31	12.95	-1884.69	-7549	-0.0000139	0.0003743	0.0035	3.98	14022.58	18780.77	18780.77	9.96	No	Si
SLU 31	14.75	245.23	-7138	-0.00001	0.0003743	0.0035	3.98	13311.36	14317	14317	58.38	No	Si
SLU 41	12.95	-2145.84	-8811	-0.0000162	0.0003743	0.0035	3.98	16171.6	21035.92	21035.92	9.8	No	Si
SLU 41	14.75	8.81	-8710	-0.0000117	0.0003743	0.0035	3.98	16002.99	17125.08	17125.08	1942.78	No	Si
SLU 84	12.95	-2424.94	-10524	-0.0000191	0.0003743	0.0035	3.98	18999.85	23992.15	23992.15	9.89	No	Si
SLU 84	14.75	19.72	-9784	-0.0000132	0.0003743	0.0035	3.98	17790.48	19009.45	19009.45	964.18	No	Si
SLU 34	12.95	-2130.97	-9000	-0.0000164	0.0003743	0.0035	3.98	16488.92	21378.18	21378.18	10.03	No	Si
SLU 34	14.75	-11.26	-8733	-0.0000117	0.0003743	0.0035	3.98	16041.37	20896.11	20896.11	1856.1	No	Si
SLU 83	12.95	-2370.45	-10576	-0.0000191	0.0003743	0.0035	3.98	19084.07	24080.59	24080.59	10.16	No	Si
SLU 83	14.75	1.57	-9796	-0.0000132	0.0003743	0.0035	3.98	17811.18	19031.18	19031.18	12148.92	No	Si
SLU 39	12.95	-1899.56	-7360	-0.0000137	0.0003743	0.0035	3.98	13695.64	18446.55	18446.55	9.71	No	Si
SLU 39	14.75	265.3	-7115	-0.00001	0.0003743	0.0035	3.98	13271.7	14275.77	14275.77	53.81	No	Si
SLU 81	12.95	-2124.17	-9125	-0.0000166	0.0003743	0.0035	3.98	16697.96	21604.89	21604.89	10.17	No	Si
SLU 81	14.75	258.05	-8201	-0.0000115	0.0003743	0.0035	3.98	15140.64	16221.95	16221.95	62.86	No	Si
SLU 40	12.95	-1954.05	-7308	-0.0000137	0.0003743	0.0035	3.98	13605.54	18354.83	18354.83	9.39	No	Si
SLU 40	14.75	283.45	-7103	-0.0000101	0.0003743	0.0035	3.98	13249.82	14253.03	14253.03	50.28	No	Si
SLU 42	12.95	-2200.33	-8759	-0.0000162	0.0003743	0.0035	3.98	16084.15	20942	20942	9.52	No	Si
SLU 42	14.75	26.96	-8698	-0.0000117	0.0003743	0.0035	3.98	15981.81	17103.01	17103.01	634.29	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	12.95	-6518.44	-7590	-0.0000238	0.0005615	0.0035	3.98		19080.52	19080.52	2.93		Si
SLV 3	14.75	2776.44	-6347	-0.000014	0.0005615	0.0035	3.98		13037.54	13037.54	4.7		Si
SLD 1	12.95	-6065.76	-6135	-0.0000216	0.0005615	0.0035	3.98		16379.24	16379.24	2.7		Si
SLD 1	14.75	2271.79	-5975	-0.0000125	0.0005615	0.0035	3.98		12342	12342	5.43		Si
SLV 2	12.95	-6877.6	-5463	-0.0000265	0.0005615	0.0035	3.184		15122.3	15122.3	2.2		Si
SLV 2	14.75	2815.56	-5939	-0.0000135	0.0005615	0.0035	3.98		12274.58	12274.58	4.36		Si
SLD 6	12.95	-4327.62	-4953	-0.0000156	0.0005615	0.0035	3.98		14164.21	14164.21	3.27		Si
SLD 6	14.75	1232.19	-5628	-0.0000099	0.0005615	0.0035	3.98		11689.72	11689.72	9.49		Si
SLV 16	12.95	6101.32	-9149	-0.0000245	0.0005615	0.0035	3.98		18219.35	18219.35	2.99		Si
SLV 16	14.75	-3343.94	-6092	-0.0000148	0.0005615	0.0035	3.98		16299.42	16299.42	4.87		Si
SLD 5	12.95	-5139.69	-4945	-0.0000183	0.0005615	0.0035	3.98		14149.56	14149.56	2.75		Si
SLD 5	14.75	1531.19	-5630	-0.0000105	0.0005615	0.0035	3.98		11693.71	11693.71	7.64		Si
SLV 6	12.95	-6116.8	-3496	-0.0000477	0.0005615	0.0035	3.184		11406.02	11406.02	1.86		Si
SLV 6	14.75	1910.97	-5383	-0.000011	0.0005615	0.0035	3.98		11228.25	11228.25	5.88		Si
SLV 9	12.95	-4206.17	-3946	-0.000015	0.0005615	0.0035	3.98		12260.15	12260.15	2.91		Si
SLV 9	14.75	765.33	-5311	-0.0000086	0.0005615	0.0035	3.98		11093.2	11093.2	14.49		Si
SLV 1	12.95	-8804.41	-5445	-0.0000514	0.0005615	0.0035	3.184		15087.6	15087.6	1.71		Si
SLV 1	14.75	3525.01	-5944	-0.0000149	0.0005615	0.0035	3.98		12284.01	12284.01	3.48		Si
SLV 5	12.95	-7414.06	-3484	-0.0001499	0.0005615	0.0035	3.184		11382.32	11382.32	1.54		Si
SLV 5	14.75	2388.61	-5386	-0.0000119	0.0005615	0.0035	3.98		11234.64	11234.64	4.7		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 84	12.95	-2424.94	-10524	-8763	-1907	3.98	3.98	-7864	7993	8907	35683	33370	10149	13361	Si	7.01	Si
SLU 84	14.75	19.72	-9784	-8147	-1907	3.98	3.98	-7311	7919	8825	35683	33370	10149	13238	Si	6.94	Si
SLU 40	12.95	-1954.05	-7308	-6085	-1718	3.98	3.98	-5460	7673	8550	35683	33370	10149	12825	Si	7.47	Si
SLU 40	14.75	283.45	-7103	-5915	-1718	3.98	3.98	-5307	7652	8528	35683	33370	10149	12791	Si	7.45	Si
SLU 76	12.95	-2355.58	-10765	-8964	-1821	3.98	3.98	-8044	8017	8950	35683	33370	10149	13425	Si	7.37	Si
SLU 76	14.75	-18.51	-9819	-8176	-1821	3.98	3.98	-7337	7923	8829	35683	33370	10149	13244	Si	7.27	Si
SLU 81	12.95	-2124.17	-9125	-7598	-1849	3.98	3.98	-6818	7854	8752	35683	33370	10149	13128	Si	7.1	Si
SLU 81	14.75	258.05	-8201	-6829	-1849	3.98	3.98	-6128	7762	8649	35683	33370	10149	12974	Si	7.02	Si
SLU 75	12.95	-2300.72	-11456	-9540	-1825	3.98	3.98	-8560	8086	9180	35683	33370	10149	13771	Si	7.55	Si
SLU 75	14.75	25.93	-10582	-8812	-1825	3.98	3.98	-7907	7999	8914	35683	33370	10149	13371	Si	7.33	Si
SLU 74	12.95	-2246.24	-11508	-9583	-1779	3.98	3.98	-8599	8091	9198	35683	33370	10149	13797	Si	7.75	Si
SLU 74	14.75	7.78	-10595	-8822	-1779	3.98	3.98	-7917	8000	8915	35683	33370	10149	13373	Si	7.52	Si
SLU 42	12.95	-2200.33	-8759	-7293	-1730	3.98	3.98	-6545	7817	8711	35683	33370	10149	13067	Si	7.55	Si
SLU 42	14.75	26.96	-8698	-7243	-1730	3.98	3.98	-6499	7811	8705	35683	33370	10149	13057	Si	7.55	Si
SLU 83	12.95	-2370.45	-10576	-8807	-1862	3.98	3.98	-7903	7998	8913	35683	33370	10149	13370	Si	7.18	Si
SLU 83	14.75	1.57	-9796	-8157	-1862	3.98	3.98	-7320	7920	8827	35683	33370	10149	13240	Si	7.11	Si
SLU 82	12.95	-2178.66	-9073	-7555	-1895	3.98	3.98	-6779	7848	8746	35683	33370	10149	13119	Si	6.92	Si
SLU 82	14.75	276.2	-8189	-6819	-1894	3.98	3.98	-6119	7760	8648	35683	33370	10149	12972	Si	6.85	Si
SLU 73	12.95	-2109.3	-9314	-7756	-1808	3.98	3.98	-6960	7872	8773	35683	33370	10149	13160	Si	7.28	Si
SLU 73	14.75	237.98	-8224	-6848	-1808	3.98	3.98	-6145	7764	8652	35683	33370	10149	12978	Si	7.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	12.95	-6877.6	-5463	-4549	-6449	3.184	2.1934	0	0	0	35683	40044	8119	35683		5.53	Si
SLV 2	14.75	2815.56	-5939	-4946	-5421	3.98	3.98	-4438	11304	12597	35683	50055	10149	48281		8.91	Si
SLV 5	12.95	-7414.06	-3484	-2901	-6368	3.184	0	0	0	0	35683	40044	8119	35683		5.6	Si
SLV 5	14.75	2388.61	-5386	-4485	-6001	3.98	3.98	-4025	11222	12505	35683	50055	10149	48189		8.03	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 2	12.95	-4835.92	-6146	-5118	-4494	3.98	3.6096	-5071	11431	11553	35683	50055	10149	47236		10.51	Si
SLD 2	14.75	1818.96	-5972	-4973	-3838	3.98	3.98	-4462	11309	12603	35683	50055	10149	48286		12.58	Si
SLV 3	12.95	-6518.44	-7590	-6321	-5986	3.98	3.3937	-6671	11751	11166	35683	50055	10149	46849		7.83	Si
SLV 3	14.75	2776.44	-6347	-5285	-4997	3.98	3.98	-4742	11365	12665	35683	50055	10149	48349		9.68	Si
SLV 16	12.95	6101.32	-9149	-7618	5655	3.98	3.9693	-6836	11784	13097	35683	50055	10149	48780		8.63	Si
SLV 16	14.75	-3343.94	-6092	-5073	4628	3.98	3.98	-4552	11327	12623	35683	50055	10149	48306		10.44	Si
SLV 1	12.95	-8804.41	-5445	-4534	-7916	3.184	1.119	0	0	0	35683	40044	8119	35683		4.51	Si
SLV 1	14.75	3525.01	-5944	-4950	-6889	3.98	3.98	-4442	11305	12598	35683	50055	10149	48281		7.01	Si
SLD 1	12.95	-6065.76	-6135	-5108	-5430	3.98	3.0036	-6085	11634	10090	35683	50055	10149	45773		8.43	Si
SLD 1	14.75	2271.79	-5975	-4976	-4775	3.98	3.98	-4465	11310	12603	35683	50055	10149	48287		10.11	Si
SLV 4	12.95	-4591.63	-7609	-6336	-4518	3.98	3.98	-5686	11554	12876	35683	50055	10149	48559		10.75	Si
SLV 4	14.75	2066.99	-6342	-5281	-3529	3.98	3.98	-4739	11364	12664	35683	50055	10149	48348		13.7	Si
SLD 5	12.95	-5139.69	-4945	-4118	-4404	3.98	2.852	-5166	11450	9694	35683	50055	10149	45377		10.3	Si
SLD 5	14.75	1531.19	-5630	-4688	-4170	3.98	3.98	-4207	11258	12546	35683	50055	10149	48229		11.56	Si
SLV 6	12.95	-6116.8	-3496	-2911	-5380	3.184	0.7213	0	0	0	35683	40044	8119	35683		6.63	Si
SLV 6	14.75	1910.97	-5383	-4482	-5013	3.98	3.98	-4022	11221	12505	35683	50055	10149	48188		9.61	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 yM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.53	4699	-5236	438.1	710.49	1.62	Si
SLV 6	179667	0.53	4701	-5239	438.1	710.89	1.62	Si
SLV 9	179667	0.53	4857	-5413	438.1	733.68	1.67	Si
SLV 10	179667	0.53	4860	-5416	438.1	734.07	1.68	Si
SLV 1	179667	0.53	5747	-6404	438.1	862.83	1.97	Si
SLV 2	179667	0.53	5751	-6408	438.1	863.4	1.97	Si
SLV 13	179667	0.53	6275	-6993	438.1	938.78	2.14	Si
SLV 14	179667	0.53	6279	-6997	438.1	939.36	2.14	Si
SLV 3	179667	0.53	6804	-7582	438.1	1014.25	2.32	Si
SLV 4	179667	0.53	6808	-7587	438.1	1014.82	2.32	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-4745	-8622	-1	2.909	998.2	0.893	47.33734	7.04479	Si
SLV 15	-4743	-10015	4	2.91	998	0.893	47.3454	7.04479	Si
SLV 4	-4740	-8609	-1	2.911	997.8	0.893	47.36643	7.04479	Si
SLV 16	-4738	-10001	4	2.911	997.5	0.893	47.37437	7.04479	Si
SLV 1	-4631	-4824	-15	2.95	987.3	0.893	48.02138	7.04479	Si
SLV 13	-4628	-6216	-10	2.951	987	0.893	48.04767	7.04479	Si
SLV 2	-4626	-4810	-15	2.952	986.8	0.893	48.05128	7.04479	Si
SLV 14	-4624	-6202	-10	2.953	986.6	0.893	48.0776	7.04479	Si
SLV 7	-4877	-13540	17	2.86	1010.8	0.894	46.50669	5.51652	Si
SLV 11	-4876	-13957	19	2.86	1010.8	0.894	46.50782	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.393	SLU 40	Si
V_SLU	6.847	SLU 82	Si
PF_SLV	1.535	SLV 5	Si
V_SLV	4.507	SLV 1	Si
PFFP_SLV	1.622	SLV 5	Si
R_SLV	6.719	SLV 3	Si

Maschio 222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.938	6.661	-7.958	6.661	L7	L8	3.98	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / ε _c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _s fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche, γ_M = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 82	12.95	-1358.93	-12257	-0.0000193	0.0003743	0.0035	3.98	21756.92	26981.13	26981.13	19.85	No	Si
SLU 82	14.75	642.35	-7561	-0.0000114	0.0003743	0.0035	3.98	14043.95	15078.37	15078.37	23.47	No	Si
SLU 18	12.95	-1009.1	-8545	-0.0000135	0.0003743	0.0035	3.98	15723.4	20556.32	20556.32	20.37	No	Si
SLU 18	14.75	499.31	-4985	-0.0000076	0.0003743	0.0035	3.98	9484.02	10375.81	10375.81	20.78	No	Si
SLU 83	12.95	-1374.62	-13442	-0.0000021	0.0003743	0.0035	3.98	23579.77	28901.49	28901.49	21.03	No	Si
SLU 83	14.75	332.03	-8745	-0.0000124	0.0003743	0.0035	3.98	16061.89	17186.51	17186.51	51.76	No	Si
SLU 61	12.95	-1193.46	-10551	-0.0000166	0.0003743	0.0035	3.98	19043.67	24038.14	24038.14	20.14	No	Si
SLU 61	14.75	584.63	-5959	-0.0000091	0.0003743	0.0035	3.98	11234.99	12171.26	12171.26	20.82	No	Si
SLU 40	12.95	-1159.19	-10237	-0.0000161	0.0003743	0.0035	3.98	18533.43	23505.39	23505.39	20.28	No	Si
SLU 40	14.75	555.09	-6573	-0.0000099	0.0003743	0.0035	3.98	12322.57	13292.5	13292.5	23.95	No	Si
SLU 19	12.95	-993.72	-8530	-0.0000134	0.0003743	0.0035	3.98	15699.23	20530.58	20530.58	20.66	No	Si
SLU 19	14.75	497.38	-4971	-0.0000076	0.0003743	0.0035	3.98	9458.06	10349.23	10349.23	20.81	No	Si
SLU 39	12.95	-1174.57	-10251	-0.0000162	0.0003743	0.0035	3.98	18556.74	23529.6	23529.6	20.03	No	Si
SLU 39	14.75	557.03	-6587	-0.0000099	0.0003743	0.0035	3.98	12347.72	13318.34	13318.34	23.91	No	Si
SLU 81	12.95	-1374.31	-12272	-0.0000194	0.0003743	0.0035	3.98	21779.23	27005.43	27005.43	19.65	No	Si
SLU 81	14.75	644.28	-7575	-0.0000114	0.0003743	0.0035	3.98	14068.61	15103.97	15103.97	23.44	No	Si
SLU 60	12.95	-1208.84	-10565	-0.0000167	0.0003743	0.0035	3.98	19066.83	24062.46	24062.46	19.91	No	Si
SLU 60	14.75	586.57	-5973	-0.0000091	0.0003743	0.0035	3.98	11260.45	12197.58	12197.58	20.79	No	Si
SLU 73	12.95	-1302.42	-12290	-0.0000193	0.0003743	0.0035	3.98	21807.68	27036.42	27036.42	20.76	No	Si
SLU 73	14.75	598.3	-7594	-0.0000114	0.0003743	0.0035	3.98	14100.07	15136.48	15136.48	25.3	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, γ_M = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 3	12.95	-4468.39	-9021	-0.000021	0.0005615	0.0035	3.98		21661.7	21661.7	4.85		Si
SLD 3	14.75	2562.84	-5436	-0.0000123	0.0005615	0.0035	3.98		11327.87	11327.87	4.42		Si
SLV 16	12.95	4175.77	-9847	-0.0000216	0.0005615	0.0035	3.98		19493.63	19493.63	4.67		Si
SLV 16	14.75	-3034.05	-6289	-0.0000144	0.0005615	0.0035	3.98		16667.69	16667.69	5.49		Si
SLD 2	12.95	-3386.41	-8749	-0.0000185	0.0005615	0.0035	3.98		21173.38	21173.38	6.25		Si
SLD 2	14.75	2069.43	-5140	-0.0000109	0.0005615	0.0035	3.98		10767.37	10767.37	5.2		Si
SLV 3	12.95	-6510.7	-8959	-0.0000251	0.0005615	0.0035	3.98		21550.48	21550.48	3.31		Si
SLV 3	14.75	3792.73	-5377	-0.0000147	0.0005615	0.0035	3.98		11216.87	11216.87	2.96		Si
SLV 4	12.95	-5262.65	-9034	-0.0000226	0.0005615	0.0035	3.98		21684.22	21684.22	4.12		Si
SLV 4	14.75	2973.82	-5452	-0.0000132	0.0005615	0.0035	3.98		11357.59	11357.59	3.82		Si
SLD 1	12.95	-4183.01	-8701	-0.00002	0.0005615	0.0035	3.98		21088.18	21088.18	5.04		Si
SLD 1	14.75	2592.13	-5092	-0.0000119	0.0005615	0.0035	3.98		10676.95	10676.95	4.12		Si
SLV 13	12.95	3396.6	-9255	-0.0000192	0.0005615	0.0035	3.98		18413.65	18413.65	5.42		Si
SLV 13	14.75	-2170.22	-5658	-0.0000118	0.0005615	0.0035	3.98		15487.74	15487.74	7.14		Si
SLV 2	12.95	-4793.77	-8517	-0.000021	0.0005615	0.0035	3.98		20759	20759	4.33		Si
SLV 2	14.75	3018.72	-4895	-0.0000125	0.0005615	0.0035	3.98		10303.22	10303.22	3.41		Si
SLV 1	12.95	-6041.82	-8442	-0.0000234	0.0005615	0.0035	3.98		20625.74	20625.74	3.41		Si
SLV 1	14.75	3837.64	-4821	-0.0000142	0.0005615	0.0035	3.98		10161.78	10161.78	2.65		Si
SLV 14	12.95	4644.65	-9330	-0.0000218	0.0005615	0.0035	3.98		18550.08	18550.08	3.99		Si
SLV 14	14.75	-2989.14	-5733	-0.0000136	0.0005615	0.0035	3.98		15627.56	15627.56	5.23		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γ_M = 3

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 40	12.95	-1159.19	-10237	-8524	-951	3.98	3.98	-7649	7964	8875	35683	33370	10149	13313	Si	14	Si
SLU 40	14.75	555.09	-6573	-5473	-951	3.98	3.98	-4912	7599	8469	35683	33370	10149	12703	Si	13.36	Si
SLU 82	12.95	-1358.93	-12257	-10207	-1110	3.98	3.98	-9159	8166	9447	35683	33370	10149	14171	Si	12.76	Si
SLU 82	14.75	642.35	-7561	-6296	-1110	3.98	3.98	-5650	7698	8578	35683	33370	10149	12868	Si	11.59	Si
SLU 60	12.95	-1208.84	-10565	-8798	-996	3.98	3.98	-7895	7997	8912	35683	33370	10149	13368	Si	13.42	Si
SLU 60	14.75	586.57	-5973	-4974	-996	3.98	3.98	-4463	7540	8402	35683	33370	10149	12603	Si	12.65	Si
SLU 73	12.95	-1302.42	-12290	-10234	-1054	3.98	3.98	-9183	8169	9458	35683	33370	10149	14187	Si	13.46	Si
SLU 73	14.75	598.3	-7594	-6323	-1054	3.98	3.98	-5674	7701	8582	35683	33370	10149	12873	Si	12.21	Si
SLU 39	12.95	-1174.57	-10251	-8536	-961	3.98	3.98	-7660	7966	8877	35683	33370	10149	13316	Si	13.86	Si
SLU 39	14.75	557.03	-6587	-5485	-961	3.98	3.98	-4922	7601	8470	35683	33370	10149	12705	Si	13.23	Si
SLU 65	12.95	-1194.48	-12388	-10316	-939	3.98	3.98	-9257	8179	9491	35683	33370	10149	14236	Si	15.16	Si
SLU 65	14.75	498.54	-7692	-6405	-939	3.98	3.98	-5748	7711	8593	35683	33370	10149	12889	Si	13.73	Si
SLU 61	12.95	-1193.46	-10551	-8786	-986	3.98	3.98	-7884	7996	8910	35683	33370	10149	13365	Si	13.55	Si
SLU 61	14.75	584.63	-5959	-4962	-986	3.98	3.98	-4452	7538	8400	35683	33370	10149	12601	Si	12.78	Si
SLU 81	12.95	-1374.31	-12272	-10219	-1120	3.98	3.98	-9170	8167	9452	35683	33370	10149	14178	Si	12.66	Si
SLU 81	14.75	644.28	-7575	-6308	-1120	3.98	3.98	-5661	7699	8580	35683	33370	10149	12870	Si	11.49	Si
SLU 64	12.95	-1220.12	-12412	-10336	-955	3.98	3.98	-9275	8181	9499	35683	33370	10149	14248	Si	14.92	Si
SLU 64	14.75	501.77	-7716	-6425	-955	3.98	3.98	-5765	7713	8596	35683	33370	10149	12893	Si	13.5	Si
SLU 52	12.95	-1136.95	-10583	-8813	-930	3.98	3.98	-7908	7999	8914	35683	33370	10149	13371	Si	14.37	Si
SLU 52	14.75	540.58	-5991	-4989	-930	3.98	3.98	-4477	7541	8404	35683	33370	10149	12606	Si	13.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γ_M = 2

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	12.95	-6510.7	-8959	-7461	-6204	3.98	3.7899	-7052	11827	12551	35683	50055	10149	48234		7.77	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	14.75	3792.73	-5377	-4477	-5080	3.98	3.8539	-4018	11220	12108	35683	50055	10149	47791		9.41	Si
SLV 14	12.95	4644.65	-9330	-7769	4723	3.98	3.98	-6971	11811	13162	35683	50055	10149	48845		10.34	Si
SLV 14	14.75	-2989.14	-5733	-4774	3599	3.98	3.98	-4284	11273	12563	35683	50055	10149	48246		13.41	Si
SLV 1	12.95	-6041.82	-8442	-7030	-5965	3.98	3.823	-6586	11734	12560	35683	50055	10149	48244		8.09	Si
SLV 1	14.75	3837.64	-4821	-4014	-4829	3.98	3.5817	-3602	11137	11169	35683	50055	10149	46852		9.7	Si
SLV 16	12.95	4175.77	-9847	-8199	4484	3.98	3.98	-7358	11888	13248	35683	50055	10149	48931		10.91	Si
SLV 16	14.75	-3034.05	-6289	-5237	3349	3.98	3.98	-4700	11357	12656	35683	50055	10149	48339		14.44	Si
SLD 3	12.95	-4468.39	-9021	-7512	-4213	3.98	3.98	-6741	11765	13111	35683	50055	10149	48794		11.58	Si
SLD 3	14.75	2562.84	-5436	-4526	-3495	3.98	3.98	-4062	11229	12514	35683	50055	10149	48197		13.79	Si
SLV 2	12.95	-4793.77	-8517	-7092	-4817	3.98	3.98	-6364	11689	13027	35683	50055	10149	48710		10.11	Si
SLV 2	14.75	3018.72	-4895	-4076	-3681	3.98	3.98	-3658	11148	12424	35683	50055	10149	48107		13.07	Si
SLD 1	12.95	-4183.01	-8701	-7246	-4069	3.98	3.98	-6502	11717	13057	35683	50055	10149	48741		11.98	Si
SLD 1	14.75	2592.13	-5092	-4240	-3344	3.98	3.98	-3805	11178	12456	35683	50055	10149	48140		14.4	Si
SLV 4	12.95	-5262.65	-9034	-7523	-5056	3.98	3.98	-6751	11767	13113	35683	50055	10149	48796		9.65	Si
SLV 4	14.75	2973.82	-5452	-4540	-3931	3.98	3.98	-4074	11231	12516	35683	50055	10149	48199		12.26	Si
SLD 4	12.95	-3671.79	-9069	-7552	-3480	3.98	3.98	-6777	11772	13119	35683	50055	10149	48802		14.02	Si
SLD 4	14.75	2040.14	-5483	-4566	-2762	3.98	3.98	-4097	11236	12522	35683	50055	10149	48205		17.45	Si
SLV 13	12.95	3396.6	-9255	-7707	3575	3.98	3.98	-6916	11800	13150	35683	50055	10149	48833		13.66	Si
SLV 13	14.75	-2170.22	-5658	-4712	2451	3.98	3.98	-4228	11262	12551	35683	50055	10149	48234		19.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 5	179667	0.53	6342	-7067	438.1	948.31	2.16	Si
SLV 6	179667	0.53	6387	-7117	438.1	954.76	2.18	Si
SLV 9	179667	0.53	6574	-7326	438.1	981.53	2.24	Si
SLV 10	179667	0.53	6619	-7377	438.1	987.95	2.26	Si
SLV 1	179667	0.53	6641	-7401	438.1	991.07	2.26	Si
SLV 2	179667	0.53	6708	-7476	438.1	1000.6	2.28	Si
SLV 3	179667	0.53	7140	-7957	438.1	1061.85	2.42	Si
SLV 4	179667	0.53	7207	-8031	438.1	1071.32	2.45	Si
SLV 13	179667	0.53	7416	-8265	438.1	1100.89	2.51	Si
SLV 14	179667	0.53	7483	-8339	438.1	1110.32	2.53	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-4470	-11480	-151	2.993	972	0.892	48.76597	7.04479	Si
SLV 15	-4458	-11308	-151	2.998	970.9	0.892	48.84213	7.04479	Si
SLV 14	-4338	-9784	174	3.042	959.5	0.892	49.59351	7.04479	Si
SLV 13	-4327	-9612	173	3.047	958.3	0.892	49.67281	7.04479	Si
SLV 4	-4321	-9102	-177	3.049	957.8	0.892	49.70188	7.04479	Si
SLV 3	-4310	-8931	-177	3.054	956.7	0.891	49.78089	7.04479	Si
SLV 2	-4190	-7406	147	3.107	945.4	0.891	50.6783	7.04479	Si
SLV 1	-4178	-7234	147	3.112	944.3	0.891	50.7608	7.04479	Si
SLV 12	-4570	-12598	-539	2.905	981.5	0.892	47.29897	5.51652	Si
SLV 11	-4562	-12483	-539	2.907	980.7	0.892	47.34808	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.65	SLU 81	Si
V_SLU	11.493	SLU 81	Si
PF_SLV	2.648	SLV 1	Si
V_SLV	7.775	SLV 3	Si
PFFP_SLV	2.165	SLV 5	Si
R_SLV	6.922	SLV 16	Si

Maschio 228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-9.448	-3.359	-11.013	-3.359	L7	L8	1.565	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_m = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 39	12.05	1075.44	-2896	-0.0000252	0.0003743	0.0035	1.5649	2118.77	2292.44	2292.44	2.13	No	Si
SLU 39	14.15	-1046.94	-3802	-0.0000269	0.0003743	0.0035	1.5649	2720.96	3432.52	3432.52	3.28	No	Si
SLU 32	12.05	1078.14	-3357	-0.0000261	0.0003743	0.0035	1.5649	2429.04	2616.28	2616.28	2.43	No	Si
SLU 32	14.15	-1163.05	-4378	-0.0000305	0.0003743	0.0035	1.5649	3089.32	3822.02	3822.02	3.29	No	Si
SLU 34	12.05	1079.79	-3243	-0.0000258	0.0003743	0.0035	1.5649	2352.84	2536.96	2536.96	2.35	No	Si
SLU 34	14.15	-1140.75	-4245	-0.0000297	0.0003743	0.0035	1.5649	3005.37	3731.45	3731.45	3.27	No	Si
SLU 31	12.05	1054.97	-2972	-0.0000249	0.0003743	0.0035	1.5649	2170.78	2346.73	2346.73	2.22	No	Si
SLU 31	14.15	-1063.64	-3836	-0.0000272	0.0003743	0.0035	1.5649	2743.06	3455.31	3455.31	3.25	No	Si
SLU 81	12.05	1189.13	-3736	-0.0000289	0.0003743	0.0035	1.5649	2678.08	2878.27	2878.27	2.42	No	Si
SLU 81	14.15	-1199.51	-4498	-0.0000314	0.0003743	0.0035	1.5649	3164.39	3903.97	3903.97	3.25	No	Si
SLU 82	12.05	1200.56	-3742	-0.0000291	0.0003743	0.0035	1.5649	2682.05	2882.48	2882.48	2.4	No	Si
SLU 82	14.15	-1214.47	-4525	-0.0000317	0.0003743	0.0035	1.5649	3181.55	3922.82	3922.82	3.23	No	Si
SLU 40	12.05	1086.87	-2902	-0.0000255	0.0003743	0.0035	1.5649	2122.91	2296.76	2296.76	2.11	No	Si
SLU 40	14.15	-1061.91	-3829	-0.0000272	0.0003743	0.0035	1.5649	2738.8	3450.91	3450.91	3.25	No	Si
SLU 33	12.05	1089.57	-3363	-0.0000263	0.0003743	0.0035	1.5649	2433.08	2620.5	2620.5	2.41	No	Si
SLU 33	14.15	-1178.01	-4406	-0.0000308	0.0003743	0.0035	1.5649	3106.59	3840.8	3840.8	3.26	No	Si
SLU 41	12.05	1100.26	-3166	-0.0000261	0.0003743	0.0035	1.5649	2301.55	2483.85	2483.85	2.26	No	Si
SLU 41	14.15	-1124.06	-4211	-0.0000294	0.0003743	0.0035	1.5649	2983.77	3708.31	3708.31	3.3	No	Si
SLU 42	12.05	1111.69	-3172	-0.0000263	0.0003743	0.0035	1.5649	2305.64	2488.07	2488.07	2.24	No	Si
SLU 42	14.15	-1139.02	-4238	-0.0000297	0.0003743	0.0035	1.5649	3001.21	3726.98	3726.98	3.27	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_m = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 4	12.05	2808.73	-695	-0.0259506	0.0005615	0.0035	1.2519		680.94	680.94	0.24	No	No
SLV 4	14.15	-2627.23	-5499	-0.0000659	0.0005615	0.0035	1.2519		4664.85	4664.85	1.78	No	Si
SLD 1	12.05	2029.62	-2025	-0.0057032	0.0005615	0.0035	1.2519		1684.63	1684.63	0.83	No	No
SLD 1	14.15	-2023.07	-4918	-0.0000478	0.0005615	0.0035	1.5649		4266.79	4266.79	2.11	No	Si
SLV 2	12.05	3137.22	-1205	-0.0250951	0.0005615	0.0035	1.2519		1069	1069	0.34	No	No
SLV 2	14.15	-3067.12	-6384	-0.0000779	0.0005615	0.0035	1.2519		5267.36	5267.36	1.72	No	Si
SLD 2	12.05	2281.06	-1835	-0.0102037	0.0005615	0.0035	1.2519		1542.53	1542.53	0.68	No	No
SLD 2	14.15	-2261.6	-5254	-0.0000541	0.0005615	0.0035	1.2519		4496.56	4496.56	1.99	No	Si
SLV 16	12.05	1179.67	-4430	-0.0000305	0.0005615	0.0035	1.5649		3929.11	3929.11	3.33	No	Si
SLV 16	14.15	984.08	-721	-0.0038786	0.0005615	0.0035	1.2519		701.25	701.25	0.71	No	No
SLD 4	12.05	2080.23	-1520	-0.0104598	0.0005615	0.0035	1.2519		1307.32	1307.32	0.63	No	No
SLD 4	14.15	-1992	-4710	-0.0000472	0.0005615	0.0035	1.2519		4125.2	4125.2	2.07	No	Si
SLV 1	12.05	2743.29	-1504	-0.0180541	0.0005615	0.0035	1.2519		1295.14	1295.14	0.47	No	No
SLV 1	14.15	-2693.4	-5858	-0.0000663	0.0005615	0.0035	1.2519		4913.28	4913.28	1.82	No	Si
SLV 15	12.05	1573.6	-4728	-0.0000376	0.0005615	0.0035	1.5649		4137.56	4137.56	2.63	No	Si
SLV 15	14.15	1357.8	-195	-0.0136609	0.0005615	0.0035	1.2519		297.41	297.41	0.22	No	No
SLD 3	12.05	1828.79	-1710	-0.0059337	0.0005615	0.0035	1.2519		1449.71	1449.71	0.79	No	No
SLD 3	14.15	-1753.46	-4374	-0.0000411	0.0005615	0.0035	1.5649		3889.12	3889.12	2.22	No	Si
SLV 3	12.05	2414.8	-993	-0.0186583	0.0005615	0.0035	1.2519		908.31	908.31	0.38	No	No
SLV 3	14.15	-2253.52	-4972	-0.0000547	0.0005615	0.0035	1.2519		4303.93	4303.93	1.91	No	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_m = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	12.05	1189.13	-3736	-3111	2221	1.5649	1.3923	-7099	7891	3076	35683	13121	3990	4614	Si	2.08	Si
SLU 81	14.15	-1199.51	-4498	-3745	2231	1.5649	1.5472	-8548	8084	3502	35683	13121	3990	5253	Si	2.35	Si
SLU 84	12.05	1225.38	-4012	-3341	2334	1.5649	1.431	-7625	7961	3190	35683	13121	3990	4785	Si	2.05	Si
SLU 84	14.15	-1291.59	-4935	-4109	2363	1.5649	1.5621	-9378	8195	3584	35683	13121	3990	5376	Si	2.28	Si
SLU 31	12.05	1054.97	-2972	-2475	1941	1.5649	1.2826	-5649	7698	2764	35683	13121	3990	4147	Si	2.14	Si
SLU 31	14.15	-1063.64	-3836	-3194	1979	1.5649	1.5154	-7289	7916	3359	35683	13121	3990	5038	Si	2.55	Si
SLU 41	12.05	1100.26	-3166	-2637	2070	1.5649	1.3048	-6017	7747	2830	35683	13121	3990	4245	Si	2.05	Si
SLU 41	14.15	-1124.06	-4211	-3507	2079	1.5649	1.5465	-8003	8011	3469	35683	13121	3990	5204	Si	2.5	Si
SLU 39	12.05	1075.44	-2896	-2411	1970	1.5649	1.2332	-5504	7678	2651	35683	13121	3990	3977	Si	2.02	Si
SLU 39	14.15	-1046.94	-3802	-3166	1979	1.5649	1.5211	-7225	7908	3368	35683	13121	3990	5052	Si	2.55	Si
SLU 83	12.05	1213.95	-4006	-3336	2321	1.5649	1.4382	-7613	7960	3205	35683	13121	3990	4808	Si	2.07	Si
SLU 83	14.15	-1276.62	-4907	-4086	2331	1.5649	1.5649	-9326	8188	3588	35683	13121	3990	5381	Si	2.31	Si
SLU 40	12.05	1086.87	-2902	-2417	1983	1.5649	1.2237	-5515	7680	2631	35683	13121	3990	3947	Si	1.99	Si
SLU 40	14.15	-1061.91	-3829	-3188	2010	1.5649	1.5153	-7277	7915	3358	35683	13121	3990	5037	Si	2.51	Si
SLU 82	12.05	1200.56	-3742	-3116	2234	1.5649	1.3847	-7111	7893	3060	35683	13121	3990	4590	Si	2.05	Si
SLU 82	14.15	-1214.47	-4525	-3768	2263	1.5649	1.5422	-8600	8091	3494	35683	13121	3990	5241	Si	2.32	Si
SLU 78	12.05	1228.09	-4473	-3725	2434	1.5649	1.5237	-8501	8078	3446	35683	13121	3990	5169	Si	2.12	Si
SLU 78	14.15	-1407.69	-5511	-4589	2462	1.5649	1.5649	-10474	8341	3655	35683	13121	3990	5482	Si	2.23	Si
SLU 42	12.05	1111.69	-3172	-2642	2083	1.5649	1.296	-6029	7748	2812	35683	13121	3990	4218	Si	2.02	Si
SLU 42	14.15	-1139.02	-4238	-3529	2111	1.5649	1.5411	-8055	8018	3460	35683	13121	3990	5190	Si	2.46	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	12.05	2743.29	-1504	-1252	5172	1.2519	0	0	0	0	35683	15745	3192	18937		3.66	Si
SLV 1	14.15	-2693.4	-5858	-4878	4344	1.2519	0.968	0	0	0	35683	15745	3192	18937		4.36	Si
SLV 6	12.05	2060.17	-3157	-2629	3723	1.5649	0.3896	-24391	15296	2810	35683	19681	3990	23671		6.36	Si
SLV 6	14.15	-2255.3	-5659	-4713	3544	1.5649	1.1518	-14715	13360	4308	35683	19681	3990	23671		6.68	Si
SLV 2	12.05	3137.22	-1205	-1004	5844	1.2519	0	0	0	0	35683	15745	3192	18937		3.24	Si
SLV 2	14.15	-3067.12	-6384	-5316	5017	1.2519	0.906	0	0	0	35683	15745	3192	18937		3.77	Si
SLV 3	12.05	2414.8	-993	-827	4653	1.2519	0	0	0	0	35683	15745	3192	18937		4.07	Si
SLV 3	14.15	-2253.52	-4972	-4141	3783	1.2519	0.9877	0	0	0	35683	15745	3192	18937		5.01	Si
SLD 3	12.05	1828.79	-1710	-1424	3524	1.2519	0	0	0	0	35683	15745	3192	18937		5.37	Si
SLD 3	14.15	-1753.46	-4374	-3643	2973	1.5649	1.1447	-11423	12701	4071	35683	19681	3990	23671		7.96	Si
SLD 4	12.05	2080.23	-1520	-1266	3953	1.2519	0	0	0	0	35683	15745	3192	18937		4.79	Si
SLD 4	14.15	-1992	-4710	-3922	3403	1.2519	1.0785	0	0	0	35683	15745	3192	18937		5.57	Si
SLD 2	12.05	2281.06	-1835	-1528	4270	1.2519	0	0	0	0	35683	15745	3192	18937		4.43	Si
SLD 2	14.15	-2261.6	-5254	-4375	3746	1.2519	1.0559	0	0	0	35683	15745	3192	18937		5.06	Si
SLD 1	12.05	2029.62	-2025	-1686	3841	1.2519	0	0	0	0	35683	15745	3192	18937		4.93	Si
SLD 1	14.15	-2023.07	-4918	-4095	3316	1.5649	1.1132	-13218	13061	4071	35683	19681	3990	23671		7.14	Si
SLV 4	12.05	2808.73	-695	-579	5325	1.2519	0	0	0	0	35683	15745	3192	18937		3.56	Si
SLV 4	14.15	-2627.23	-5499	-4579	4456	1.2519	0.9139	0	0	0	35683	15745	3192	18937		4.25	Si
SLV 5	12.05	1794.94	-3358	-2796	3271	1.5649	0.7437	-6382	11693	2855	35683	19681	3990	23671		7.24	Si
SLV 5	14.15	-2003.69	-5305	-4418	3091	1.5649	1.2142	-13069	13031	4430	35683	19681	3990	23671		7.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.53	0	-970	172.25	0	0	No, $e > t/2$
SLV 11	179667	0.53	2929	-1283	172.25	176.24	1.02	Si
SLV 16	179667	0.53	3127	-1370	172.25	187.88	1.09	Si
SLV 12	179667	0.53	3544	-1553	172.25	212.33	1.23	Si
SLV 13	179667	0.53	4141	-1815	172.25	247.16	1.43	Si
SLV 14	179667	0.53	5054	-2214	172.25	299.77	1.74	Si
SLV 7	179667	0.53	5342	-2340	172.25	316.21	1.84	Si
SLV 8	179667	0.53	5956	-2610	172.25	351.11	2.04	Si
SLV 9	179667	0.53	9353	-4098	172.25	538.62	3.13	Si
SLV 10	179667	0.53	9968	-4367	172.25	571.54	3.32	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	-936	-1205	131	4.082	307	0.891	66.60643	7.04479	Si
SLV 1	-916	-1504	131	4.12	305.2	0.891	67.21515	7.04479	Si
SLV 4	-765	-695	188	4.402	292.5	0.894	71.5436	7.04479	Si
SLV 3	-744	-993	188	4.447	290.9	0.895	72.23211	7.04479	Si
SLV 14	-510	-4940	-189	5.043	272.9	0.906	80.89412	7.04479	Si
SLV 13	-489	-5239	-189	5.102	271.4	0.907	81.716	7.04479	Si
SLV 6	-984	-3157	-47	4.033	311.1	0.89	65.8533	5.51652	Si
SLV 5	-970	-3358	-47	4.058	309.9	0.89	66.24837	5.51652	Si
SLV 10	-856	-4278	-143	4.232	300.1	0.892	68.95812	5.51652	Si
SLV 9	-842	-4479	-143	4.26	299	0.892	69.38864	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.113	SLU 40	Si
V_SLU	1.99	SLU 40	Si
PF_SLV	0.219	SLV 15	No
V_SLV	3.24	SLV 2	Si
PFFP_SLV	0	SLV 15	No
R_SLV	9.455	SLV 2	Si

Maschio 229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-6.268	-3.359	-6.268	1.046	L7	L8	4.405	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	12.05	2045.2	-10885	-0.0000272	0.0004492	0.0035	4.405	20511.15	24128.67	24128.67	11.8	No	Si
SLU 81	15.15	570.95	-980	-0.0000034	0.0004492	0.0035	4.405	2129.43	4048.07	3194.14	5.59	Si	Si
SLU 83	12.05	2206.02	-11399	-0.0000287	0.0004492	0.0035	4.405	21308.46	25111.88	25111.88	11.38	No	Si
SLU 83	15.15	639.8	-1103	-0.0000038	0.0004492	0.0035	4.405	2394.3	4310.75	3591.45	5.61	Si	Si
SLU 41	12.05	1749.78	-9647	-0.0000239	0.0004492	0.0035	4.405	18527.83	21725.12	21725.12	12.42	No	Si
SLU 41	15.15	568.84	-976	-0.0000034	0.0004492	0.0035	4.405	2120.83	4039.56	3181.24	5.59	Si	Si
SLU 58	12.05	2313.02	-10494	-0.0000272	0.0004492	0.0035	4.405	19894.43	23374.64	23374.64	10.11	No	Si
SLU 58	15.15	595.34	-1037	-0.0000036	0.0004492	0.0035	4.405	2252.09	4169.61	3378.14	5.67	Si	Si
SLU 18	12.05	1495.55	-7927	-0.0000197	0.0004492	0.0035	4.405	15623.03	18338.98	18338.98	12.26	No	Si
SLU 18	15.15	404.02	-678	-0.0000024	0.0004492	0.0035	4.405	1478.86	3406.63	2218.3	5.49	Si	Si
SLU 60	12.05	1951.78	-9679	-0.0000245	0.0004492	0.0035	4.405	18579.8	21786.94	21786.94	11.16	No	Si
SLU 60	15.15	474.98	-805	-0.0000028	0.0004492	0.0035	4.405	1754.56	3677.82	2631.85	5.54	Si	Si
SLU 62	12.05	2112.6	-10193	-0.000026	0.0004492	0.0035	4.405	19413.35	22788.18	22788.18	10.79	No	Si
SLU 62	15.15	543.83	-929	-0.0000033	0.0004492	0.0035	4.405	2020.7	3940.5	3031.05	5.57	Si	Si
SLU 16	12.05	1856.78	-8742	-0.0000223	0.0004492	0.0035	4.405	17021.13	19955.35	19955.35	10.75	No	Si
SLU 16	15.15	524.38	-909	-0.0000032	0.0004492	0.0035	4.405	1978.12	3898.42	2967.18	5.66	Si	Si
SLU 20	12.05	1656.36	-8441	-0.0000212	0.0004492	0.0035	4.405	16509.22	19358.3	19358.3	11.69	No	Si
SLU 20	15.15	472.87	-801	-0.0000028	0.0004492	0.0035	4.405	1745.92	3669.31	2618.88	5.54	Si	Si
SLU 39	12.05	1588.97	-9133	-0.0000224	0.0004492	0.0035	4.405	17677.88	20723.88	20723.88	13.04	No	Si
SLU 39	15.15	499.99	-852	-0.0000003	0.0004492	0.0035	4.405	1855.03	3776.88	2782.54	5.57	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 5	12.05	1002.96	-8426	-0.0000193	0.0006738	0.0035	4.405		19526.22	19526.22	19.47		Si
SLV 5	15.15	1520.38	-1100	-0.0000077	0.0006738	0.0035	4.405		4317.72	4317.72	2.84		Si
SLV 9	12.05	870.26	-9094	-0.0000202	0.0006738	0.0035	4.405		20867.38	20867.38	23.98		Si
SLV 9	15.15	1804.35	-1301	-0.0000091	0.0006738	0.0035	4.405		4746.82	4746.82	2.63		Si
SLD 10	12.05	1214.78	-8559	-0.0000201	0.0006738	0.0035	4.405		19792.32	19792.32	16.29		Si
SLD 10	15.15	1204.94	-1051	-0.0000057	0.0006738	0.0035	4.405		4212.88	4212.88	3.5		Si
SLV 14	12.05	1262.06	-9129	-0.0000214	0.0006738	0.0035	4.405		20937.53	20937.53	16.59		Si
SLV 14	15.15	1195.29	-1173	-0.0000057	0.0006738	0.0035	4.405		4472	4472	3.74		Si
SLV 10	12.05	940.56	-9089	-0.0000204	0.0006738	0.0035	4.405		20857.24	20857.24	22.18		Si
SLV 10	15.15	1752.43	-1299	-0.0000087	0.0006738	0.0035	4.405		4741.91	4741.91	2.71		Si
SLD 5	12.05	1253	-8134	-0.0000194	0.0006738	0.0035	4.405		18937.72	18937.72	15.11		Si
SLD 5	15.15	1056.01	-924	-0.0000005	0.0006738	0.0035	4.405		3941.68	3941.68	3.73		Si
SLD 6	12.05	1297	-8130	-0.0000195	0.0006738	0.0035	4.405		18931.38	18931.38	14.6		Si
SLD 6	15.15	1023.5	-923	-0.0000048	0.0006738	0.0035	4.405		3938.61	3938.61	3.85		Si
SLD 9	12.05	1170.78	-8562	-0.00002	0.0006738	0.0035	4.405		19798.66	19798.66	16.91		Si
SLD 9	15.15	1237.44	-1053	-0.0000059	0.0006738	0.0035	4.405		4215.95	4215.95	3.41		Si
SLV 13	12.05	1157.65	-9136	-0.0000211	0.0006738	0.0035	4.405		20952.58	20952.58	18.1		Si
SLV 13	15.15	1272.41	-1176	-0.0000006	0.0006738	0.0035	4.405		4479.29	4479.29	3.52		Si
SLV 6	12.05	1073.26	-8421	-0.0000194	0.0006738	0.0035	4.405		19516.09	19516.09	18.18		Si
SLV 6	15.15	1468.45	-1098	-0.0000073	0.0006738	0.0035	4.405		4312.81	4312.81	2.94		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 44	12.05	2098.97	-8970	-4973	205	4.405	4.405	-8064	9409	5802	101952	22163	22466	8703	Si	42.53	Si
SLU 44	15.15	377.01	-762	-423	393	4.405	4.405	-685	8425	5196	101952	22163	22466	7793	Si	19.82	Si
SLU 36	12.05	2013.6	-10228	-5671	-347	4.405	4.405	-9196	9559	5895	101952	22163	22466	8843	Si	25.48	Si
SLU 36	15.15	626.79	-1154	-640	-229	4.405	4.405	-1037	8472	5224	101952	22163	22466	7837	Si	34.16	Si
SLU 46	12.05	2308	-9763	-5413	145	4.405	4.405	-8778	9504	5861	101952	22163	22466	8791	Si	60.75	Si
SLU 46	15.15	492.46	-946	-525	261	4.405	4.405	-851	8447	5209	101952	22163	22466	7814	Si	29.9	Si
SLU 2	12.05	1642.73	-7218	-4002	75	4.405	4.405	-6489	9199	5673	101952	22163	22466	8509	Si	112.84	Si
SLU 2	15.15	306.05	-635	-352	263	4.405	4.405	-571	8409	5186	101952	22163	22466	7779	Si	29.58	Si
SLU 52	12.05	2006.56	-9466	-5249	106	4.405	4.405	-8511	9468	5839	101952	22163	22466	8758	Si	82.83	Si
SLU 52	15.15	417.48	-799	-443	294	4.405	4.405	-719	8429	5198	101952	22163	22466	7797	Si	26.5	Si
SLU 47	12.05	2259.78	-9484	-5258	155	4.405	4.405	-8526	9470	5840	101952	22163	22466	8760	Si	56.4	Si
SLU 47	15.15	445.86	-886	-491	346	4.405	4.405	-797	8440	5205	101952	22163	22466	7807	Si	22.58	Si
SLU 33	12.05	1852.78	-9714	-5386	-298	4.405	4.405	-8734	9498	5857	101952	22163	22466	8786	Si	29.51	Si
SLU 33	15.15	557.94	-1030	-571	-182	4.405	4.405	-926	8457	5215	101952	22163	22466	7823	Si	43	Si
SLU 35	12.05	2004.49	-10228	-5671	-281	4.405	4.405	-9196	9559	5895	101952	22163	22466	8843	Si	31.49	Si
SLU 35	15.15	650.88	-1148	-636	-273	4.405	4.405	-1032	8471	5224	101952	22163	22466	7836	Si	28.66	Si
SLU 51	12.05	2414.53	-9997	-5543	150	4.405	4.405	-8988	9532	5878	101952	22163	22466	8817	Si	58.71	Si
SLU 51	15.15	530.78	-1006	-558	269	4.405	4.405	-904	8454	5214	101952	22163	22466	7820	Si	29.08	Si
SLU 43	12.05	2083.79	-8969	-4973	315	4.405	4.405	-8064	9409	5802	101952	22163	22466	8703	Si	27.62	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	15.15	417.17	-753	-417	320	4.405	4.405	-677	8424	5195	101952	22163	22466	7792	Si	24.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 9	12.05	870.26	-9094	-5042	-4442	4.405	4.405	-8176	14135	8717	101952	33244	22466	55709		12.54	Si
SLV 9	15.15	1804.35	-1301	-722	-2648	4.405	2.4479	-1170	12734	5632	101952	33244	22466	55709		21.04	Si
SLV 6	12.05	1073.26	-8421	-4669	-4281	4.405	4.405	-7571	14014	8643	101952	33244	22466	55709		13.01	Si
SLV 6	15.15	1468.45	-1098	-609	-2459	4.405	2.5959	-987	12697	5587	101952	33244	22466	55709		22.65	Si
SLV 11	12.05	2182.42	-6987	-3874	4474	4.405	4.405	-6282	13756	8484	101952	33244	22466	55709		12.45	Si
SLV 11	15.15	-698.07	-272	-151	2660	3.524	0	0	0	0	101952	26595	17972	44568		16.76	Si
SLD 12	12.05	2002.69	-7275	-4033	2923	4.405	4.405	-6540	13808	8515	101952	33244	22466	55709		19.06	Si
SLD 12	15.15	-285.63	-446	-247	1842	4.405	4.405	-401	12580	7758	101952	33244	22466	55709		30.24	Si
SLV 12	12.05	2252.72	-6982	-3871	4736	4.405	4.405	-6277	13755	8483	101952	33244	22466	55709		11.76	Si
SLV 12	15.15	-750	-270	-150	2921	3.524	0	0	0	0	101952	26595	17972	44568		15.26	Si
SLD 8	12.05	2084.9	-6846	-3796	2859	4.405	4.405	-6155	13731	8468	101952	33244	22466	55709		19.49	Si
SLD 8	15.15	-467.06	-318	-176	1796	3.524	2.1957	0	0	0	101952	26595	17972	44568		24.81	Si
SLV 8	12.05	2385.42	-6314	-3501	4635	4.405	4.405	-5677	13635	8409	101952	33244	22466	55709		12.02	Si
SLV 8	15.15	-1033.98	-69	-38	2849	3.524	0	0	0	0	101952	26595	17972	44568		15.64	Si
SLV 10	12.05	940.56	-9089	-5039	-4180	4.405	4.405	-8171	14134	8717	101952	33244	22466	55709		13.33	Si
SLV 10	15.15	1752.43	-1299	-720	-2387	4.405	2.5605	-1168	12734	5632	101952	33244	22466	55709		23.34	Si
SLV 7	12.05	2315.12	-6319	-3504	4373	4.405	4.405	-5681	13636	8409	101952	33244	22466	55709		12.74	Si
SLV 7	15.15	-982.05	-71	-40	2587	3.524	0	0	0	0	101952	26595	17972	44568		17.23	Si
SLV 5	12.05	1002.96	-8426	-4672	-4543	4.405	4.405	-7576	14015	8643	101952	33244	22466	55709		12.26	Si
SLV 5	15.15	1520.38	-1100	-610	-2721	4.405	2.4627	-989	12698	5588	101952	33244	22466	55709		20.48	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRMC D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 3	-3480	0.53	263.85	0	582.14	291.07	1.1	Si
SLV 4	-3508	0.53	263.85	0	584.56	292.28	1.11	Si
SLV 1	-3808	0.53	263.85	257.59	611.19	434.39	1.65	Si
SLV 2	-3836	0.53	263.85	259.38	613.61	436.5	1.65	Si
SLV 7	-3887	0.53	263.85	262.71	618.12	440.42	1.67	Si
SLV 8	-3905	0.53	263.85	263.91	619.76	441.83	1.67	Si
SLV 11	-4559	0.53	263.85	306.27	677.54	491.91	1.86	Si
SLV 12	-4578	0.53	263.85	307.46	679.17	493.32	1.87	Si
SLV 5	-4980	0.53	263.85	333.24	714.35	523.8	1.99	Si
SLV 6	-4999	0.53	263.85	334.42	715.95	525.19	1.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 13.6 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-1176	-9136	135	8.531	420	0.892	138.93675	12.50629	Si
SLV 14	-1173	-9129	135	8.541	419.7	0.892	139.09276	12.50629	Si
SLV 15	-867	-8504	64	9.574	395.2	0.9	154.6388	12.50629	Si
SLV 16	-864	-8497	64	9.586	394.9	0.9	154.82314	12.50629	Si
SLV 1	-506	-6911	-64	11.121	369.9	0.919	175.83038	12.50629	Si
SLV 2	-503	-6904	-64	11.138	369.7	0.92	176.04617	12.50629	Si
SLV 3	-198	-6279	-135	12.871	354.6	0.956	195.69874	12.50629	Si
SLV 4	-194	-6272	-135	12.893	354.4	0.956	195.92656	12.50629	Si
SLV 9	-1301	-9094	148	8.174	430.6	0.891	133.36094	7.36308	Si
SLV 10	-1299	-9089	148	8.18	430.4	0.891	133.45905	7.36308	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.491	SLU 18	Si
V_SLU	19.817	SLU 44	Si
PF_SLV	2.631	SLV 9	Si
V_SLV	11.763	SLV 12	Si
PFFP_SLV	1.103	SLV 3	Si
R_SLV	11.109	SLV 13	Si

Maschio 231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-5.158	1.046	-5.158	5.811	L7	L8	4.765	0.14	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _k	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{v,lim}	E	G	FC
600000			517500	13500	30000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200						CRM / Fibrenet?				
									αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Entrambi	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 50	12.05	940.84	-13737	-0.0000275	0.0004492	0.0035	4.765	27213.04	32283.89	32283.89	34.31	No	Si
SLU 50	15.15	7504.97	-4485	-0.0000371	0.0004492	0.0035	4.765	10098.37	12510.39	12510.39	1.67	No	Si
SLU 49	12.05	782.01	-13859	-0.0000274	0.0004492	0.0035	4.765	27405.62	32533.2	32533.2	41.6	No	Si
SLU 49	15.15	7133.09	-4400	-0.0000339	0.0004492	0.0035	4.765	9917.65	12320.93	12320.93	1.73	No	Si
SLU 71	12.05	1193.38	-15316	-0.0000311	0.0004492	0.0035	4.765	29633.33	35484.83	35484.83	29.73	No	Si
SLU 71	15.15	7743.98	-4831	-0.0000364	0.0004492	0.0035	4.765	10826.95	13278.75	13278.75	1.71	No	Si
SLU 59	12.05	1156.69	-14324	-0.0000291	0.0004492	0.0035	4.765	28129.5	33480.65	33480.65	28.95	No	Si
SLU 59	15.15	7314.84	-4456	-0.0000353	0.0004492	0.0035	4.765	10035.4	12444.33	12444.33	1.7	No	Si
SLU 58	12.05	1158.68	-14360	-0.0000292	0.0004492	0.0035	4.765	28185.07	33554.07	33554.07	28.96	No	Si
SLU 58	15.15	7328.49	-4470	-0.0000353	0.0004492	0.0035	4.765	10066.8	12477.27	12477.27	1.7	No	Si
SLU 8	12.05	958.38	-11541	-0.0000234	0.0004492	0.0035	4.765	23603.31	27750.26	27750.26	28.96	No	Si
SLU 8	15.15	6573.95	-3918	-0.0000325	0.0004492	0.0035	4.765	8886.48	11248.29	11248.29	1.71	No	Si
SLU 9	12.05	956.39	-11505	-0.0000233	0.0004492	0.0035	4.765	23541.81	27675.51	27675.51	28.94	No	Si
SLU 9	15.15	6560.31	-3903	-0.0000325	0.0004492	0.0035	4.765	8854.6	11215.35	11215.35	1.71	No	Si
SLU 51	12.05	938.85	-13701	-0.0000274	0.0004492	0.0035	4.765	27156.16	32210.47	32210.47	34.31	No	Si
SLU 51	15.15	7491.32	-4471	-0.0000371	0.0004492	0.0035	4.765	10066.98	12477.45	12477.45	1.67	No	Si
SLU 48	12.05	784	-13895	-0.0000274	0.0004492	0.0035	4.765	27462.16	32606.62	32606.62	41.59	No	Si
SLU 48	15.15	7146.73	-4415	-0.0000339	0.0004492	0.0035	4.765	9949.1	12353.87	12353.87	1.73	No	Si
SLU 72	12.05	1191.38	-15280	-0.000031	0.0004492	0.0035	4.765	29579.77	35412.75	35412.75	29.72	No	Si
SLU 72	15.15	7730.33	-4816	-0.0000364	0.0004492	0.0035	4.765	10795.86	13245.81	13245.81	1.71	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 3	12.05	879.86	-9291	-0.0000189	0.0006738	0.0035	4.765		23237.85	23237.85	26.41		Si
SLD 3	15.15	4966.11	-3260	-0.0000219	0.0006738	0.0035	4.765		9804.38	9804.38	1.97		Si
SLV 9	12.05	-922.95	-7355	-0.0000155	0.0006738	0.0035	4.765		30002.46	30002.46	32.51		Si
SLV 9	15.15	2520.28	-1103	-0.0000518	0.0006738	0.0035	4.765		4860.97	4860.97	1.93		Si
SLV 6	12.05	-427.23	-6475	-0.0000127	0.0006738	0.0035	4.765		28071.96	28071.96	65.71		Si
SLV 6	15.15	3070.78	-1411	-0.0000388	0.0006738	0.0035	4.765		5572.79	5572.79	1.81		Si
SLV 2	12.05	758.94	-7405	-0.0000152	0.0006738	0.0035	4.765		19104.46	19104.46	25.17		Si
SLV 2	15.15	4660.48	-2766	-0.0000229	0.0006738	0.0035	4.765		8677.77	8677.77	1.86		Si
SLV 5	12.05	-557.01	-6443	-0.0000129	0.0006738	0.0035	4.765		27999.54	27999.54	50.27		Si
SLV 5	15.15	3642.47	-1638	-0.0000566	0.0006738	0.0035	4.765		6095.87	6095.87	1.67		Si
SLD 2	12.05	627.06	-8273	-0.0000165	0.0006738	0.0035	4.765		21020.89	21020.89	33.52		Si
SLD 2	15.15	4203.85	-2634	-0.0000193	0.0006738	0.0035	4.765		8377.08	8377.08	1.99		Si
SLV 3	12.05	1189.96	-9059	-0.0000192	0.0006738	0.0035	4.765		22733.07	22733.07	19.1		Si
SLV 3	15.15	5868.94	-3776	-0.0000264	0.0006738	0.0035	4.765		10981.86	10981.86	1.87		Si
SLD 1	12.05	504.03	-8242	-0.0000161	0.0006738	0.0035	4.765		20952.94	20952.94	41.57		Si
SLD 1	15.15	4745.84	-2849	-0.000023	0.0006738	0.0035	4.765		8867.71	8867.71	1.87		Si
SLD 5	12.05	-185.79	-7704	-0.0000144	0.0006738	0.0035	4.765		30759.68	30759.68	165.56		Si
SLD 5	15.15	3563.39	-1936	-0.0000206	0.0006738	0.0035	4.765		6781.92	6781.92	1.9		Si
SLV 1	12.05	566.18	-7356	-0.0000146	0.0006738	0.0035	4.765		18996.33	18996.33	33.55		Si
SLV 1	15.15	5509.62	-3103	-0.0000296	0.0006738	0.0035	4.765		9446.44	9446.44	1.71		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 72	12.05	1191.38	-15280	-8472	-1355	4.765	4.765	-12700	10027	7242	101952	23974	24301	10863	Si	8.02	Si
SLU 72	15.15	7730.33	-4816	-2670	-2995	4.765	2.3319	-4003	8867	4922	101952	23974	24301	7383	Si	2.47	Si
SLU 58	12.05	1158.68	-14360	-7962	-1366	4.765	4.765	-11935	9925	7038	101952	23974	24301	10557	Si	7.73	Si
SLU 58	15.15	7328.49	-4470	-2479	-2889	4.765	2.2296	-3716	8829	4845	101952	23974	24301	7268	Si	2.52	Si
SLU 50	12.05	940.84	-13737	-7617	-1693	4.765	4.765	-11418	9856	6900	101952	23974	24301	10350	Si	6.11	Si
SLU 50	15.15	7504.97	-4485	-2487	-3540	4.765	2.1279	-3728	8830	4848	101952	23974	24301	7273	Si	2.05	Si
SLU 8	12.05	958.38	-11541	-6399	-1358	4.765	4.765	-9592	9612	6413	101952	23974	24301	9620	Si	7.08	Si
SLU 8	15.15	6573.95	-3918	-2172	-3003	4.765	2.1142	-3257	8768	4723	101952	23974	24301	7084	Si	2.36	Si
SLU 59	12.05	1156.69	-14324	-7942	-1450	4.765	4.765	-11905	9921	7030	101952	23974	24301	10545	Si	7.27	Si
SLU 59	15.15	7314.84	-4456	-2470	-2916	4.765	2.2224	-3703	8827	4842	101952	23974	24301	7263	Si	2.49	Si
SLU 71	12.05	1193.38	-15316	-8492	-1271	4.765	4.765	-12730	10031	7250	101952	23974	24301	10875	Si	8.56	Si
SLU 71	15.15	7743.98	-4831	-2678	-2968	4.765	2.3382	-4015	8869	4925	101952	23974	24301	7387	Si	2.49	Si
SLU 49	12.05	782.01	-13859	-7684	-1551	4.765	4.765	-11519	9869	6927	101952	23974	24301	10391	Si	6.7	Si
SLU 49	15.15	7133.09	-4400	-2440	-3183	4.765	2.2843	-3657	8821	4830	101952	23974	24301	7244	Si	2.28	Si
SLU 9	12.05	956.39	-11505	-6379	-1443	4.765	4.765	-9562	9608	6410	101952	23974	24301	9615	Si	6.66	Si
SLU 9	15.15	6560.31	-3903	-2164	-3030	4.765	2.1056	-3244	8766	4719	101952	23974	24301	7079	Si	2.34	Si
SLU 48	12.05	784	-13895	-7704	-1466	4.765	4.765	-11549	9873	6935	101952	23974	24301	10403	Si	7.09	Si
SLU 48	15.15	7146.73	-4415	-2448	-3156	4.765	2.2913	-3670	8823	4833	101952	23974	24301	7249	Si	2.3	Si
SLU 51	12.05	938.85	-13701	-7597	-1778	4.765	4.765	-11388	9852	6892	101952	23974	24301	10338	Si	5.82	Si
SLU 51	15.15	7491.32	-4471	-2479	-3567	4.765	2.1204	-3716	8829	4845	101952	23974	24301	7268	Si	2.04	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.05	1156.34	-13031	-7225	6601	4.765	4.765	-10831	14666	9784	101952	35961	24301	60262		9.13	Si
SLV 11	15.15	3718.01	-3348	-1856	1685	4.765	3.8155	-2782	13056	6974	101952	35961	24301	60262		35.76	Si
SLV 9	12.05	-922.95	-7355	-4078	-7958	4.765	4.765	-6113	13723	9154	101952	35961	24301	60262		7.57	Si
SLV 9	15.15	2520.28	-1103	-612	-2652	4.765	0.2954	-11391	14842	6025	101952	35961	24301	60262		22.72	Si
SLV 6	12.05	-427.23	-6475	-3590	-7440	4.765	4.765	-5382	13576	9057	101952	35961	24301	60262		8.1	Si
SLV 6	15.15	3070.78	-1411	-782	-3260	4.765	0.6198	-8771	14265	6094	101952	35961	24301	60262		18.48	Si
SLV 12	12.05	1286.12	-13064	-7244	6698	4.765	4.765	-10858	14672	9787	101952	35961	24301	60262		9	Si
SLV 12	15.15	3146.32	-3121	-1730	2321	4.765	4.1228	-2594	13019	7514	101952	35961	24301	60262		25.96	Si
SLD 9	12.05	-419.14	-8287	-4595	-5074	4.765	4.765	-6888	13878	9258	101952	35961	24301	60262		11.88	Si
SLD 9	15.15	2849.04	-1596	-885	-1914	4.765	1.7914	-1326	12765	6134	101952	35961	24301	60262		31.48	Si
SLV 8	12.05	1652.06	-12151	-6737	7119	4.765	4.765	-10100	14520	9686	101952	35961	24301	60262		8.46	Si
SLV 8	15.15	4268.51	-3655	-2027	1077	4.765	3.6443	-3038	13108	6688	101952	35961	24301	60262		55.96	Si
SLV 10	12.05	-793.17	-7388	-4097	-7861	4.765	4.765	-6141	13728	9158	101952	35961	24301	60262		7.67	Si
SLV 10	15.15	1948.59	-877	-486	-2016	4.765	0.4781	-6734	13863	5975	101952	35961	24301	60262		29.89	Si
SLD 10	12.05	-337.89	-8308	-4606	-5013	4.765	4.765	-6905	13881	9260	101952	35961	24301	60262		12.02	Si
SLD 10	15.15	2491.16	-1454	-806	-1516	4.765	2.0066	-1208	12742	6103	101952	35961	24301	60262		39.75	Si
SLV 5	12.05	-557.01	-6443	-3572	-7537	4.765	4.765	-5355	13571	9053	101952	35961	24301	60262		8	Si
SLV 5	15.15	3642.47	-1638	-908	-3896	4.765	0.477	-12629	15057	6144	101952	35961	24301	60262		15.47	Si
SLV 7	12.05	1522.28	-12119	-6719	7022	4.765	4.765	-10072	14514	9683	101952	35961	24301	60262		8.58	Si
SLV 7	15.15	4840.2	-3882	-2153	441	4.765	3.4073	-3227	13145	6642	101952	35961	24301	60262		136.69	Si

Verifica a pressoflessione fuori piano muratura rinforzata con FRM D.M. 17-01-18 (N.T.C.)

quota 13.6 Ta 0.11 Wa 0.03 denominatore 8

Comb.	N	Sa	M	M0d	M1d	MRd	Coeff.s.	Verifica
SLV 6	-5529	0.53	285.41	369.54	787.25	578.39	2.03	Si
SLV 5	-5550	0.53	285.41	370.87	789.07	579.97	2.03	Si
SLV 10	-5883	0.53	285.41	392	818.09	605.04	2.12	Si
SLV 9	-5904	0.53	285.41	393.32	819.91	606.61	2.13	Si
SLV 2	-5921	0.53	285.41	394.41	821.42	607.92	2.13	Si
SLV 1	-5952	0.53	285.41	396.37	824.12	610.25	2.14	Si
SLV 4	-6615	0.53	285.41	438.02	881.74	659.88	2.31	Si
SLV 3	-6646	0.53	285.41	439.96	884.43	662.19	2.32	Si
SLV 14	-7101	0.53	285.41	468.17	923.77	695.97	2.44	Si
SLV 13	-7132	0.53	285.41	470.09	926.46	698.27	2.45	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.03 Ta = 0.1146

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-3776	-9059	-286	4.727	688.2	0.9	76.30251	12.50629	Si
SLV 4	-3439	-9108	-286	5.027	655.3	0.898	81.37626	12.50629	Si
SLV 1	-3103	-7356	-276	5.367	622.7	0.895	87.14869	12.50629	Si
SLV 2	-2766	-7405	-276	5.757	590.4	0.893	93.72527	12.50629	Si
SLV 15	-1993	-12102	277	6.905	518	0.889	112.8876	12.50629	Si
SLV 16	-1656	-12151	277	7.565	487.6	0.889	123.6383	12.50629	Si
SLV 7	-3882	-12119	-100	4.672	698.7	0.901	75.34423	7.36308	Si
SLV 8	-3655	-12151	-100	4.864	676.5	0.899	78.58809	7.36308	Si
SLV 13	-1320	-10399	287	8.359	458.4	0.892	136.22838	12.50629	Si
SLV 11	-3348	-13031	69	5.156	646.5	0.897	83.53525	7.36308	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.666	SLU 51	Si
V_SLU	2.038	SLU 51	Si
PF_SLV	1.674	SLV 5	Si
V_SLV	7.573	SLV 9	Si
PFFP_SLV	2.027	SLV 6	Si
R_SLV	6.101	SLV 3	Si

Maschio 234

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-6.008	-3.359	-6.513	-3.359	L7	L8	0.505	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 73	14.05	43.94	-1201	-0.0000183	0.0003743	0.0035	0.505	277.85	298.54	298.54	6.79	No	Si
SLU 73	14.85	-134.01	-1406	-0.0000323	0.0003743	0.0035	0.505	320.39	392.68	392.68	2.93	No	Si
SLU 44	14.05	50.64	-973	-0.0000166	0.0003743	0.0035	0.505	229.14	247.28	247.28	4.88	No	Si
SLU 44	14.85	-123.69	-1153	-0.0000285	0.0003743	0.0035	0.505	267.84	336.23	336.23	2.72	No	Si
SLU 65	14.05	49.13	-1187	-0.0000188	0.0003743	0.0035	0.505	275.1	295.61	295.61	6.02	No	Si
SLU 65	14.85	-139.78	-1395	-0.0000331	0.0003743	0.0035	0.505	318.2	390.38	390.38	2.79	No	Si
SLU 68	14.05	41.1	-1383	-0.0000199	0.0003743	0.0035	0.505	315.72	338.63	338.63	8.24	No	Si
SLU 68	14.85	-146.84	-1595	-0.000036	0.0003743	0.0035	0.505	358.16	432.56	432.56	2.95	No	Si
SLU 2	14.05	40.24	-798	-0.0000134	0.0003743	0.0035	0.505	190.25	206.94	206.94	5.14	No	Si
SLU 2	14.85	-100.96	-949	-0.0000232	0.0003743	0.0035	0.505	223.88	290.76	290.76	2.88	No	Si
SLU 23	14.05	38.72	-1012	-0.0000155	0.0003743	0.0035	0.505	237.53	256.06	256.06	6.61	No	Si
SLU 23	14.85	-117.06	-1192	-0.0000277	0.0003743	0.0035	0.505	275.97	344.83	344.83	2.95	No	Si
SLU 43	14.05	43.36	-1006	-0.0000161	0.0003743	0.0035	0.505	236.24	254.71	254.71	5.87	No	Si
SLU 43	14.85	-116.87	-1160	-0.0000274	0.0003743	0.0035	0.505	269.39	337.87	337.87	2.89	No	Si
SLU 64	14.05	41.84	-1220	-0.0000182	0.0003743	0.0035	0.505	281.95	302.92	302.92	7.24	No	Si
SLU 64	14.85	-132.96	-1403	-0.0000321	0.0003743	0.0035	0.505	319.69	391.94	391.94	2.95	No	Si
SLU 47	14.05	42.62	-1169	-0.0000178	0.0003743	0.0035	0.505	271.23	291.49	291.49	6.84	No	Si
SLU 47	14.85	-130.74	-1353	-0.0000313	0.0003743	0.0035	0.505	309.5	380.91	380.91	2.91	No	Si
SLU 52	14.05	45.46	-986	-0.0000161	0.0003743	0.0035	0.505	231.99	250.26	250.26	5.5	No	Si
SLU 52	14.85	-117.92	-1164	-0.0000276	0.0003743	0.0035	0.505	270.12	338.64	338.64	2.87	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em ₋	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 5	14.05	215.42	-274	-0.0155951	0.0005615	0.0035	0.404		82.76	82.76	0.38		No
SLV 5	14.85	-277.55	-805	-0.0008278	0.0005615	0.0035	0.404		260.24	260.24	0.94		No
SLV 6	14.05	265.39	-136	-0.0249369	0.0005615	0.0035	0.404		48.83	48.83	0.18		No
SLV 6	14.85	-324.51	-858	-0.0012242	0.0005615	0.0035	0.404		272.64	272.64	0.84		No
SLD 4	14.05	142	-479	-0.0017913	0.0005615	0.0035	0.404		133.13	133.13	0.94		No
SLD 4	14.85	-196.99	-1011	-0.0000633	0.0005615	0.0035	0.404		308.32	308.32	1.57		Si
SLV 2	14.05	297.03	41	-0.0336969	0.0005615	0.0035	0.404		0	0	0		No
SLV 2	14.85	-345.19	-907	-0.0013596	0.0005615	0.0035	0.404		284.13	284.13	0.82		No
SLD 6	14.05	176.41	-423	-0.0075474	0.0005615	0.0035	0.404		119.42	119.42	0.68		No
SLD 6	14.85	-238.14	-923	-0.0002919	0.0005615	0.0035	0.404		287.97	287.97	1.21		Si
SLV 1	14.05	222.82	-163	-0.0194829	0.0005615	0.0035	0.404		55.3	55.3	0.25		No
SLV 1	14.85	-275.44	-829	-0.0007629	0.0005615	0.0035	0.404		265.72	265.72	0.96		No
SLD 2	14.05	199.01	-301	-0.0130976	0.0005615	0.0035	0.404		89.43	89.43	0.45		No
SLD 2	14.85	-253.72	-951	-0.0003654	0.0005615	0.0035	0.404		294.44	294.44	1.16		Si
SLV 4	14.05	204.26	-249	-0.015044	0.0005615	0.0035	0.404		76.63	76.63	0.38		No
SLV 4	14.85	-252.9	-1005	-0.0002759	0.0005615	0.0035	0.404		306.98	306.98	1.21		Si
SLD 1	14.05	151.64	-431	-0.0043671	0.0005615	0.0035	0.404		121.31	121.31	0.8		No
SLD 1	14.85	-209.2	-901	-0.000138	0.0005615	0.0035	0.404		282.7	282.7	1.35		Si
SLV 10	14.05	155.89	-550	-0.00158	0.0005615	0.0035	0.404		150.36	150.36	0.96		No
SLV 10	14.85	-224.26	-925	-0.0001941	0.0005615	0.0035	0.404		288.44	288.44	1.29		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	14.05	43.36	-1006	-838	153	0.505	0.505	-5924	7734	1094	35683	4234	1288	1640	Si	10.73	Si
SLU 43	14.85	-116.87	-1160	-966	128	0.505	0.4554	-7611	7959	1015	35683	4234	1288	1522	Si	11.91	Si
SLU 59	14.05	26.49	-1391	-1158	79	0.505	0.505	-8192	8037	1136	35683	4234	1288	1705	Si	21.56	Si
SLU 59	14.85	-129.31	-1566	-1304	165	0.505	0.505	-9224	8174	1156	35683	4234	1288	1734	Si	10.51	Si
SLU 44	14.05	50.64	-973	-810	184	0.505	0.505	-5732	7709	1090	35683	4234	1288	1635	Si	8.89	Si
SLU 44	14.85	-123.69	-1153	-960	127	0.505	0.4357	-7914	8000	976	35683	4234	1288	1464	Si	11.54	Si
SLU 56	14.05	17.96	-1521	-1267	46	0.505	0.505	-8960	8139	1151	35683	4234	1288	1726	Si	37.21	Si
SLU 56	14.85	-129.59	-1682	-1401	169	0.505	0.505	-9907	8265	1169	35683	4234	1288	1753	Si	10.39	Si
SLU 57	14.05	22.33	-1502	-1251	65	0.505	0.505	-8844	8124	1149	35683	4234	1288	1723	Si	26.52	Si
SLU 57	14.85	-133.68	-1678	-1397	168	0.505	0.505	-9881	8262	1168	35683	4234	1288	1752	Si	10.42	Si
SLU 55	14.05	37.43	-1182	-984	122	0.505	0.505	-6962	7873	1113	35683	4234	1288	1670	Si	13.71	Si
SLU 55	14.85	-124.98	-1364	-1136	152	0.505	0.4826	-8031	8015	1083	35683	4234	1288	1624	Si	10.7	Si
SLU 63	14.05	32.3	-1201	-1000	96	0.505	0.505	-7072	7887	1115	35683	4234	1288	1673	Si	17.46	Si
SLU 63	14.85	-119.78	-1371	-1142	157	0.505	0.4954	-8075	8021	1113	35683	4234	1288	1669	Si	10.61	Si
SLU 58	14.05	22.12	-1411	-1175	60	0.505	0.505	-8307	8052	1139	35683	4234	1288	1708	Si	28.23	Si
SLU 58	14.85	-125.22	-1571	-1308	166	0.505	0.505	-9250	8178	1156	35683	4234	1288	1735	Si	10.48	Si
SLU 61	14.05	40.33	-1005	-837	126	0.505	0.505	-5918	7734	1094	35683	4234	1288	1640	Si	13	Si
SLU 61	14.85	-112.72	-1171	-975	144	0.505	0.4688	-6899	7864	1032	35683	4234	1288	1549	Si	10.72	Si
SLU 65	14.05	49.13	-1187	-989	184	0.505	0.505	-6993	7877	1114	35683	4234	1288	1671	Si	9.08	Si
SLU 65	14.85	-139.78	-1395	-1162	123	0.505	0.457	-9131	8162	1044	35683	4234	1288	1567	Si	12.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	14.05	151.64	-431	-359	712	0.404	0	0	0	0	35683	5081	1030	6111		8.59	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 1	14.85	-209.2	-901	-750	-163	0.404	0.0607	0	0	0	35683	5081	1030	6111		37.51	Si
SLV 15	14.05	-234.96	-1832	-1525	-1143	0.505	0.3727	-14719	13361	1394	35683	6351	1288	7639		6.68	Si
SLV 15	14.85	151	-1151	-958	507	0.505	0.3639	-6778	11772	1200	35683	6351	1288	7639		15.06	Si
SLV 1	14.05	222.82	-163	-135	1065	0.404	0	0	0	0	35683	5081	1030	6111		5.74	Si
SLV 1	14.85	-275.44	-829	-690	-314	0.404	0	0	0	0	35683	5081	1030	6111		19.46	Si
SLV 6	14.05	265.39	-136	-114	1226	0.404	0	0	0	0	35683	5081	1030	6111		4.98	Si
SLV 6	14.85	-324.51	-858	-714	-215	0.404	0	0	0	0	35683	5081	1030	6111		28.39	Si
SLV 5	14.05	215.42	-274	-228	1027	0.404	0	0	0	0	35683	5081	1030	6111		5.95	Si
SLV 5	14.85	-277.55	-805	-670	-219	0.404	0	0	0	0	35683	5081	1030	6111		27.84	Si
SLV 11	14.05	-203.31	-1654	-1377	-1009	0.505	0.3887	-12723	12961	1411	35683	6351	1288	7639		7.57	Si
SLV 11	14.85	130.32	-1200	-999	415	0.505	0.4317	-7066	11830	1430	35683	6351	1288	7639		18.42	Si
SLD 2	14.05	199.01	-301	-250	900	0.404	0	0	0	0	35683	5081	1030	6111		6.79	Si
SLD 2	14.85	-253.72	-951	-792	-159	0.404	0	0	0	0	35683	5081	1030	6111		38.44	Si
SLV 2	14.05	297.03	41	34	1360	0.404	0	0	0	0	35683	5081	1030	6111		4.49	Si
SLV 2	14.85	-345.19	-907	-755	-308	0.404	0	0	0	0	35683	5081	1030	6111		19.86	Si
SLD 6	14.05	176.41	-423	-352	802	0.404	0	0	0	0	35683	5081	1030	6111		7.62	Si
SLD 6	14.85	-238.14	-923	-769	-95	0.404	0	0	0	0	35683	5081	1030	6111		64.06	Si
SLV 4	14.05	204.26	-249	-207	907	0.404	0	0	0	0	35683	5081	1030	6111		6.74	Si
SLV 4	14.85	-252.9	-1005	-837	-180	0.404	0.0026	0	0	0	35683	5081	1030	6111		33.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 16	179667	0.53	0	-228	55.59	0	0	No, e>t/2
SLV 11	179667	0.53	0	48	55.59	0	0	No, Trazione
SLV 15	179667	0.53	0	-106	55.59	0	0	No, e>t/2
SLV 8	179667	0.53	0	-291	55.59	0	0	No, e>t/2
SLV 12	179667	0.53	0	-34	55.59	0	0	No, e>t/2
SLV 7	179667	0.53	0	-209	55.59	0	0	No, e>t/2
SLV 13	179667	0.53	3624	-512	55.59	70.04	1.26	Si
SLV 14	179667	0.53	4488	-635	55.59	86.23	1.55	Si
SLV 3	179667	0.53	6807	-962	55.59	128.74	2.32	Si
SLV 4	179667	0.53	7670	-1085	55.59	144.21	2.59	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-853	-831	-30	2.309	151	0.902	37.19198	7.04479	Si
SLV 16	-833	-857	-30	2.347	149	0.902	37.82267	7.04479	Si
SLV 13	-696	-1023	19	2.645	135.7	0.897	42.88591	7.04479	Si
SLV 14	-676	-1048	19	2.695	133.7	0.896	43.7222	7.04479	Si
SLV 11	-891	-594	-85	2.2	154.8	0.904	35.36754	5.51652	Si
SLV 12	-877	-611	-86	2.223	153.4	0.903	35.75716	5.51652	Si
SLV 7	-769	-578	-84	2.426	142.8	0.899	39.2093	5.51652	Si
SLV 8	-756	-596	-84	2.454	141.5	0.899	39.6858	5.51652	Si
SLV 3	-448	-779	-24	3.405	112.1	0.889	55.64879	7.04479	Si
SLV 4	-428	-805	-24	3.488	110.3	0.889	57.01101	7.04479	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.718	SLU 44	Si
V_SLU	8.892	SLU 44	Si
PF_SLV	0	SLV 2	No
V_SLV	4.493	SLV 2	Si
PFFP_SLV	0	SLV 11	No
R_SLV	5.279	SLV 15	Si

Maschio 235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-3.183	-3.359	-5.508	-3.359	L7	L8	2.325	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	εu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	elim,conv / e,CNR DT-200							CRM / Fibrenet?			
									α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 73	14.05	820.33	-5011	-0.0000164	0.0003743	0.0035	2.325	5385.18	5763.45	5763.45	7.03	No	Si
SLU 73	14.85	13.12	-3560	-0.0000082	0.0003743	0.0035	2.325	3915.73	4236.98	4236.98	323.03	No	Si
SLU 61	14.05	711.17	-4177	-0.0000138	0.0003743	0.0035	2.325	4549.55	4892.55	4892.55	6.88	No	Si
SLU 61	14.85	-31.88	-2797	-0.0000066	0.0003743	0.0035	2.325	3114.75	4680.57	4672.12	146.54	Si	Si
SLU 43	14.05	719.59	-4317	-0.0000141	0.0003743	0.0035	2.325	4691.24	5039.21	5039.21	7	No	Si
SLU 43	14.85	-85.45	-2868	-0.0000007	0.0003743	0.0035	2.325	3190.28	4756.96	4756.96	55.67	No	Si
SLU 44	14.05	759.67	-4336	-0.0000144	0.0003743	0.0035	2.325	4711.25	5059.95	5059.95	6.66	No	Si
SLU 44	14.85	-107.38	-2871	-0.0000072	0.0003743	0.0035	2.325	3193.33	4760.06	4760.06	44.33	No	Si
SLU 52	14.05	736.94	-4230	-0.000014	0.0003743	0.0035	2.325	4603.77	4948.63	4948.63	6.72	No	Si
SLU 52	14.85	-60.67	-2820	-0.0000068	0.0003743	0.0035	2.325	3139.2	4705.27	4705.27	77.55	No	Si
SLU 65	14.05	843.06	-5117	-0.0000168	0.0003743	0.0035	2.325	5489.75	5873.44	5873.44	6.97	No	Si
SLU 65	14.85	-33.59	-3610	-0.0000084	0.0003743	0.0035	2.325	3968.55	5561.04	5561.04	165.56	No	Si
SLU 2	14.05	615.6	-3546	-0.0000117	0.0003743	0.0035	2.325	3901.95	4222.71	4222.71	6.86	No	Si
SLU 2	14.85	-68.2	-2404	-0.0000059	0.0003743	0.0035	2.325	2693.64	4260.2	4040.46	59.25	Si	Si
SLU 60	14.05	687.12	-4165	-0.0000136	0.0003743	0.0035	2.325	4537.48	4879.97	4879.97	7.1	No	Si
SLU 60	14.85	-18.73	-2796	-0.0000065	0.0003743	0.0035	2.325	3112.91	4678.72	4669.36	249.35	Si	Si
SLU 10	14.05	592.87	-3440	-0.0000113	0.0003743	0.0035	2.325	3791.54	4108.69	4108.69	6.93	No	Si
SLU 10	14.85	-21.49	-2353	-0.0000055	0.0003743	0.0035	2.325	2638.67	4205.14	3958.01	184.17	Si	Si
SLU 47	14.05	798.23	-4934	-0.0000161	0.0003743	0.0035	2.325	5308.43	5682.86	5682.86	7.12	No	Si
SLU 47	14.85	-40.09	-3443	-0.0000081	0.0003743	0.0035	2.325	3794.87	5379.8	5379.8	134.2	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 6	14.05	2034.15	-4993	-0.0000234	0.0005615	0.0035	2.325		5841.06	5841.06	2.87		Si
SLV 6	14.85	-723.34	-3067	-0.0000112	0.0005615	0.0035	2.325		5009.9	5009.9	6.93		Si
SLV 2	14.05	2096.12	-4649	-0.0000231	0.0005615	0.0035	2.325		5470.81	5470.81	2.61		Si
SLV 2	14.85	-558.26	-2936	-0.0000099	0.0005615	0.0035	2.325		4865.9	4865.9	8.72		Si
SLD 6	14.05	1485.8	-4504	-0.000019	0.0005615	0.0035	2.325		5314.54	5314.54	3.58		Si
SLD 6	14.85	-449.08	-2889	-0.0000092	0.0005615	0.0035	2.325		4813.56	4813.56	10.72		Si
SLV 11	14.05	-848.43	-2446	-0.0000105	0.0005615	0.0035	2.325		4325.68	4325.68	5.1		Si
SLV 11	14.85	699.65	-2129	-0.0000089	0.0005615	0.0035	2.325		2701.21	2701.21	3.86		Si
SLV 4	14.05	1494.42	-4021	-0.0000179	0.0005615	0.0035	2.325		4791	4791	3.21		Si
SLV 4	14.85	-226.72	-2698	-0.0000074	0.0005615	0.0035	2.325		4603.38	4603.38	20.3		Si
SLD 2	14.05	1539.92	-4302	-0.0000188	0.0005615	0.0035	2.325		5095.73	5095.73	3.31		Si
SLD 2	14.85	-352.29	-2811	-0.0000084	0.0005615	0.0035	2.325		4727.42	4727.42	13.42		Si
SLD 1	14.05	1274.05	-4162	-0.000017	0.0005615	0.0035	2.325		4944.04	4944.04	3.88		Si
SLD 1	14.85	-199.26	-2791	-0.0000075	0.0005615	0.0035	2.325		4705.86	4705.86	23.62		Si
SLV 10	14.05	1437.67	-4689	-0.0000191	0.0005615	0.0035	2.325		5514.04	5514.04	3.84		Si
SLV 10	14.85	-566.87	-2945	-0.00001	0.0005615	0.0035	2.325		4875.4	4875.4	8.6		Si
SLV 5	14.05	1753.7	-4845	-0.0000214	0.0005615	0.0035	2.325		5681.79	5681.79	3.24		Si
SLV 5	14.85	-561.92	-3046	-0.0000102	0.0005615	0.0035	2.325		4987.14	4987.14	8.88		Si
SLV 1	14.05	1679.57	-4430	-0.00002	0.0005615	0.0035	2.325		5233.62	5233.62	3.12		Si
SLV 1	14.85	-318.5	-2906	-0.0000085	0.0005615	0.0035	2.325		4832.11	4832.11	15.17		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 68	14.05	881.62	-5715	-4759	1579	2.325	2.325	-7310	7919	5155	35683	19494	5929	7733	Si	4.9	Si
SLU 68	14.85	33.7	-4182	-3483	1365	2.325	2.325	-5350	7658	4985	35683	19494	5929	7478	Si	5.48	Si
SLU 72	14.05	904.15	-6304	-5249	1537	2.325	2.325	-8064	8020	5221	35683	19494	5929	7831	Si	5.09	Si
SLU 72	14.85	109.76	-4753	-3958	1329	2.325	2.325	-6080	7755	5049	35683	19494	5929	7573	Si	5.7	Si
SLU 44	14.05	759.67	-4336	-3611	1551	2.325	2.325	-5547	7684	5002	35683	19494	5929	7503	Si	4.84	Si
SLU 44	14.85	-107.38	-2871	-2391	1311	2.325	2.325	-3673	7434	4840	35683	19494	5929	7259	Si	5.54	Si
SLU 47	14.05	798.23	-4934	-4108	1550	2.325	2.325	-6311	7786	5069	35683	19494	5929	7603	Si	4.9	Si
SLU 47	14.85	-40.09	-3443	-2867	1308	2.325	2.325	-4404	7532	4903	35683	19494	5929	7355	Si	5.62	Si
SLU 67	14.05	861.82	-6122	-5098	1577	2.325	2.325	-7830	7988	5201	35683	19494	5929	7801	Si	4.95	Si
SLU 67	14.85	41.35	-4567	-3803	1362	2.325	2.325	-5842	7723	5028	35683	19494	5929	7542	Si	5.54	Si
SLU 70	14.05	900.37	-6719	-5595	1576	2.325	2.325	-8594	8090	5267	35683	19494	5929	7900	Si	5.01	Si
SLU 70	14.85	108.64	-5139	-4279	1360	2.325	2.325	-6573	7821	5091	35683	19494	5929	7637	Si	5.62	Si
SLU 46	14.05	778.42	-5341	-4447	1548	2.325	2.325	-6831	7855	5114	35683	19494	5929	7671	Si	4.96	Si
SLU 46	14.85	-32.44	-3828	-3187	1306	2.325	2.325	-4896	7597	4946	35683	19494	5929	7419	Si	5.68	Si
SLU 49	14.05	816.98	-5938	-4944	1547	2.325	2.325	-7595	7957	5180	35683	19494	5929	7770	Si	5.02	Si
SLU 49	14.85	34.85	-4400	-3664	1304	2.325	2.325	-5628	7695	5009	35683	19494	5929	7514	Si	5.76	Si
SLU 65	14.05	843.06	-5117	-4261	1580	2.325	2.325	-6546	7817	5089	35683	19494	5929	7634	Si	4.83	Si
SLU 65	14.85	-33.59	-3610	-3006	1367	2.325	2.325	-4618	7560	4922	35683	19494	5929	7383	Si	5.4	Si
SLU 51	14.05	820.75	-5523	-4599	1508	2.325	2.325	-7065	7886	5134	35683	19494	5929	7701	Si	5.11	Si
SLU 51	14.85	35.97	-4014	-3343	1273	2.325	2.325	-5135	7629	4967	35683	19494	5929	7450	Si	5.85	Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	14.05	1679.57	-4430	-3689	3639	2.325	2.325	-5666	11550	7519	35683	29241	5929	35169		9.66	Si
SLV 1	14.85	-318.5	-2906	-2420	2646	2.325	2.325	-3717	11160	7265	35683	29241	5929	35169		13.29	Si
SLD 5	14.05	1310.24	-4412	-3674	3048	2.325	2.325	-5643	11545	7516	35683	29241	5929	35169		11.54	Si
SLD 5	14.85	-348.04	-2876	-2395	2356	2.325	2.325	-3679	11152	7260	35683	29241	5929	35169		14.93	Si
SLV 5	14.05	1753.7	-4845	-4034	4273	2.325	2.325	-6197	11656	7588	35683	29241	5929	35169		8.23	Si
SLV 5	14.85	-561.92	-3046	-2537	3236	2.325	2.325	-3897	11196	7289	35683	29241	5929	35169		10.87	Si
SLV 6	14.05	2034.15	-4993	-4158	5031	2.325	2.2652	-6386	11694	7417	35683	29241	5929	35169		6.99	Si
SLV 6	14.85	-723.34	-3067	-2554	3832	2.325	2.325	-3923	11201	7292	35683	29241	5929	35169		9.18	Si
SLD 2	14.05	1539.92	-4302	-3582	3394	2.325	2.325	-5503	11517	7498	35683	29241	5929	35169		10.36	Si
SLD 2	14.85	-352.29	-2811	-2340	2567	2.325	2.325	-3595	11136	7249	35683	29241	5929	35169		13.7	Si
SLD 6	14.05	1485.8	-4504	-3751	3523	2.325	2.325	-5762	11569	7531	35683	29241	5929	35169		9.98	Si
SLD 6	14.85	-449.08	-2889	-2406	2729	2.325	2.325	-3695	11156	7262	35683	29241	5929	35169		12.89	Si
SLV 10	14.05	1437.67	-4689	-3905	3679	2.325	2.325	-5998	11616	7562	35683	29241	5929	35169		9.56	Si
SLV 10	14.85	-566.87	-2945	-2452	2930	2.325	2.325	-3767	11170	7272	35683	29241	5929	35169		12	Si
SLV 2	14.05	2096.12	-4649	-3871	4765	2.325	2.1349	-5947	11606	6938	35683	29241	5929	35169		7.38	Si
SLV 2	14.85	-558.26	-2936	-2445	3531	2.325	2.325	-3756	11168	7270	35683	29241	5929	35169		9.96	Si
SLV 4	14.05	1494.42	-4021	-3348	3026	2.325	2.325	-5143	11445	7451	35683	29241	5929	35169		11.62	Si
SLV 4	14.85	-226.72	-2698	-2246	2247	2.325	2.325	-3451	11107	7231	35683	29241	5929	35169		15.65	Si
SLV 9	14.05	1157.22	-4541	-3782	2920	2.325	2.325	-5809	11578	7538	35683	29241	5929	35169		12.04	Si
SLV 9	14.85	-405.46	-2924	-2435	2334	2.325	2.325	-3741	11165	7268	35683	29241	5929	35169		15.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 2	179667	0.53	3856	-2510	255.93	342.54	1.34	Si
SLV 4	179667	0.53	3988	-2596	255.93	353.94	1.38	Si
SLV 1	179667	0.53	4262	-2775	255.93	377.6	1.48	Si
SLV 3	179667	0.53	4394	-2860	255.93	388.94	1.52	Si
SLV 6	179667	0.53	4576	-2979	255.93	404.59	1.58	Si
SLV 5	179667	0.53	4850	-3157	255.93	427.98	1.67	Si
SLV 8	179667	0.53	5016	-3265	255.93	442.15	1.73	Si
SLV 10	179667	0.53	5269	-3430	255.93	463.65	1.81	Si
SLV 7	179667	0.53	5290	-3443	255.93	465.39	1.82	Si
SLV 9	179667	0.53	5543	-3608	255.93	486.81	1.9	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 2	-2151	-3878	-156	3.318	524.5	0.89	54.20935	7.04479	Si
SLV 1	-2128	-4040	-156	3.338	522.3	0.89	54.53368	7.04479	Si
SLV 4	-2034	-3323	112	3.429	513.7	0.889	56.03997	7.04479	Si
SLV 3	-2011	-3484	112	3.45	511.5	0.889	56.38366	7.04479	Si
SLV 14	-1948	-5460	-113	3.506	505.8	0.889	57.31273	7.04479	Si
SLV 13	-1925	-5621	-113	3.528	503.6	0.889	57.67093	7.04479	Si
SLV 16	-1832	-4904	155	3.605	495.1	0.889	58.93997	7.04479	Si
SLV 15	-1808	-5065	155	3.628	493	0.889	59.31765	7.04479	Si
SLV 6	-2213	-5107	-454	3.194	530.2	0.89	52.17163	5.51652	Si
SLV 5	-2197	-5215	-454	3.207	528.7	0.89	52.37861	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.661	SLU 44	Si
V_SLU	4.832	SLU 65	Si
PF_SLV	2.61	SLV 2	Si
V_SLV	6.99	SLV 6	Si
PFFP_SLV	1.338	SLV 2	Si
R_SLV	7.695	SLV 2	Si

Maschio 236

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.359	-2.283	-3.359	L7	L8	2.16	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _k	f _{vk0}	f _{med}	τ_0	f _{v0}	μ	ϕ	f _{v,lim}	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche, $\gamma_M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 41	12.95	-504.35	-3948	-0.0000132	0.0003743	0.0035	2.16	3990.32	5340.78	5340.78	10.59	No	Si
SLU 41	14.75	648.25	-3593	-0.0000133	0.0003743	0.0035	2.16	3654.47	3956.84	3956.84	6.1	No	Si
SLU 31	12.95	-322.6	-3660	-0.0000112	0.0003743	0.0035	2.16	3717.68	5065.92	5065.92	15.7	No	Si
SLU 31	14.75	504.24	-3024	-0.0000109	0.0003743	0.0035	2.16	3105.64	3392.15	3392.15	6.73	No	Si
SLU 39	12.95	-493.33	-3565	-0.0000121	0.0003743	0.0035	2.16	3627.55	4974.43	4974.43	10.08	No	Si
SLU 39	14.75	579.62	-3061	-0.0000115	0.0003743	0.0035	2.16	3142	3429.47	3429.47	5.92	No	Si
SLU 32	12.95	-366.96	-4308	-0.0000131	0.0003743	0.0035	2.16	4326.73	5687.18	5687.18	15.5	No	Si
SLU 32	14.75	696.87	-3923	-0.0000144	0.0003743	0.0035	2.16	3967.23	4281.06	4281.06	6.14	No	Si
SLU 36	12.95	-343.89	-4685	-0.0000139	0.0003743	0.0035	2.16	4674.69	6055.84	6055.84	17.61	No	Si
SLU 36	14.75	747.62	-4438	-0.0000161	0.0003743	0.0035	2.16	4447.46	4781.93	4781.93	6.4	No	Si
SLU 37	12.95	-401.43	-4434	-0.0000137	0.0003743	0.0035	2.16	4443.72	5810.15	5810.15	14.47	No	Si
SLU 37	14.75	671.29	-4117	-0.0000148	0.0003743	0.0035	2.16	4149.34	4470.38	4470.38	6.66	No	Si
SLU 40	12.95	-459.25	-3560	-0.0000119	0.0003743	0.0035	2.16	3622.49	4969.22	4969.22	10.82	No	Si
SLU 40	14.75	561.75	-3044	-0.0000113	0.0003743	0.0035	2.16	3124.98	3411.99	3411.99	6.07	No	Si
SLU 35	12.95	-377.97	-4690	-0.0000142	0.0003743	0.0035	2.16	4679.54	6061.04	6061.04	16.04	No	Si
SLU 35	14.75	765.5	-4455	-0.0000163	0.0003743	0.0035	2.16	4463.62	4798.75	4798.75	6.27	No	Si
SLU 33	12.95	-332.87	-4302	-0.0000129	0.0003743	0.0035	2.16	4321.81	5682.03	5682.03	17.07	No	Si
SLU 33	14.75	678.99	-3906	-0.0000143	0.0003743	0.0035	2.16	3950.74	4263.9	4263.9	6.28	No	Si
SLU 42	12.95	-470.27	-3943	-0.0000129	0.0003743	0.0035	2.16	3985.34	5335.71	5335.71	11.35	No	Si
SLU 42	14.75	630.37	-3576	-0.0000131	0.0003743	0.0035	2.16	3637.78	3939.61	3939.61	6.25	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	ϵ_m	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 7	12.95	-2131.03	-2351	-0.0000468	0.0005615	0.0035	1.728		3778.1	3778.1	1.77		Si
SLV 7	14.75	1564.15	-3023	-0.000019	0.0005615	0.0035	2.16		3427.28	3427.28	2.19		Si
SLV 12	12.95	-2175.69	-2263	-0.0000619	0.0005615	0.0035	1.728		3687.9	3687.9	1.7		Si
SLV 12	14.75	1995.45	-2876	-0.0000264	0.0005615	0.0035	2.16		3276.78	3276.78	1.64		Si
SLV 11	12.95	-2554.5	-2148	-0.0001994	0.0005615	0.0035	1.728		3569.77	3569.77	1.4		Si
SLV 11	14.75	2266.79	-3021	-0.0000327	0.0005615	0.0035	2.16		3425.45	3425.45	1.51		Si
SLD 15	12.95	-1059.8	-3105	-0.0000148	0.0005615	0.0035	2.16		4547.82	4547.82	4.29		Si
SLD 15	14.75	1447.98	-2678	-0.0000175	0.0005615	0.0035	2.16		3073.42	3073.42	2.12		Si
SLV 15	12.95	-1669.83	-2796	-0.0000204	0.0005615	0.0035	1.728		4233.41	4233.41	2.54		Si
SLV 15	14.75	2121.2	-2767	-0.0000314	0.0005615	0.0035	2.16		3164.58	3164.58	1.49		Si
SLD 12	12.95	-1358.37	-2798	-0.0000166	0.0005615	0.0035	2.16		4235.12	4235.12	3.12		Si
SLD 12	14.75	1345.04	-2749	-0.0000164	0.0005615	0.0035	2.16		3145.69	3145.69	2.34		Si
SLV 16	12.95	-1107.19	-2966	-0.0000148	0.0005615	0.0035	2.16		4407.28	4407.28	3.98		Si
SLV 16	14.75	1718.18	-2552	-0.0000222	0.0005615	0.0035	2.16		2943.51	2943.51	1.71		Si
SLD 11	12.95	-1595.5	-2726	-0.0000194	0.0005615	0.0035	1.728		4161.64	4161.64	2.61		Si
SLD 11	14.75	1514.9	-2839	-0.0000183	0.0005615	0.0035	2.16		3238.82	3238.82	2.14		Si
SLV 8	12.95	-1752.23	-2466	-0.0000236	0.0005615	0.0035	1.728		3895.39	3895.39	2.22		Si
SLV 8	14.75	1292.81	-2878	-0.0000161	0.0005615	0.0035	2.16		3278.61	3278.61	2.54		Si
SLV 6	12.95	2449.57	-5071	-0.0000302	0.0005615	0.0035	2.16		5487.13	5487.13	2.24		Si
SLV 6	14.75	-1653.44	-2058	-0.0000262	0.0005615	0.0035	1.728		3476.3	3476.3	2.1		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	12.95	-470.27	-3943	-3283	-1714	2.16	2.16	-5428	7668	4638	35683	18110	5508	6957	Si	4.06	Si
SLU 42	14.75	630.37	-3576	-2978	-1731	2.16	2.16	-4924	7601	4597	35683	18110	5508	6896	Si	3.98	Si
SLU 78	12.95	-254.62	-5650	-4705	-1801	2.16	2.16	-7779	7982	4827	35683	18110	5508	7241	Si	4.02	Si
SLU 78	14.75	739.68	-4898	-4079	-1829	2.16	2.16	-6744	7844	4744	35683	18110	5508	7116	Si	3.89	Si
SLU 36	12.95	-343.89	-4685	-3901	-1778	2.16	2.16	-6450	7804	4720	35683	18110	5508	7080	Si	3.98	Si
SLU 36	14.75	747.62	-4438	-3695	-1802	2.16	2.16	-6110	7759	4693	35683	18110	5508	7039	Si	3.91	Si
SLU 84	12.95	-380.99	-4907	-4086	-1737	2.16	2.16	-6757	7845	4745	35683	18110	5508	7117	Si	4.1	Si
SLU 84	14.75	622.44	-4036	-3361	-1758	2.16	2.16	-5557	7685	4648	35683	18110	5508	6972	Si	3.97	Si
SLU 35	12.95	-377.97	-4690	-3906	-1809	2.16	2.16	-6458	7805	4721	35683	18110	5508	7081	Si	3.92	Si
SLU 35	14.75	765.5	-4455	-3710	-1844	2.16	2.16	-6134	7762	4695	35683	18110	5508	7042	Si	3.82	Si
SLU 77	12.95	-288.7	-5655	-4709	-1832	2.16	2.16	-7786	7983	4828	35683	18110	5508	7242	Si	3.95	Si
SLU 77	14.75	757.56	-4915	-4093	-1872	2.16	2.16	-6768	7847	4746	35683	18110	5508	7119	Si	3.8	Si
SLU 83	12.95	-415.08	-4913	-4091	-1768	2.16	2.16	-6764	7846	4745	35683	18110	5508	7118	Si	4.03	Si
SLU 83	14.75	640.31	-4054	-3375	-1801	2.16	2.16	-5581	7689	4650	35683	18110	5508	6975	Si	3.87	Si
SLU 41	12.95	-504.35	-3948	-3287	-1745	2.16	2.16	-5436	7669	4638	35683	18110	5508	6957	Si	3.99	Si
SLU 41	14.75	648.25	-3593	-2992	-1773	2.16	2.16	-4948	7604	4599	35683	18110	5508	6898	Si	3.89	Si
SLU 79	12.95	-312.16	-5399	-4495	-1743	2.16	2.16	-7433	7936	4799	35683	18110	5508	7199	Si	4.13	Si
SLU 79	14.75	663.35	-4577	-3812	-1784	2.16	2.16	-6302	7785	4708	35683	18110	5508	7062	Si	3.96	Si
SLU 37	12.95	-401.43	-4434	-3692	-1720	2.16	2.16	-6105	7758	4692	35683	18110	5508	7038	Si	4.09	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 37	14.75	671.29	-4117	-3429	-1757	2.16	2.16	-5669	7700	4657	35683	18110	5508	6986	Si	3.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 11	12.95	-2554.5	-2148	-1789	-4571	1.728	0	0	0	0	35683	21732	4406	26139		5.72	Si
SLV 11	14.75	2266.79	-3021	-2516	-4541	2.16	0.989	-4159	11249	3744	35683	27166	5508	32674		7.19	Si
SLV 6	12.95	2449.57	-5071	-4223	2852	2.16	1.7908	-6982	11813	5923	35683	27166	5508	32674		11.46	Si
SLV 6	14.75	-1653.44	-2058	-1714	2786	1.728	0.8295	0	0	0	35683	21732	4406	26139		9.38	Si
SLV 16	12.95	-1107.19	-2966	-2470	-3006	2.16	2.1202	-4084	11233	6669	35683	27166	5508	32674		10.87	Si
SLV 16	14.75	1718.18	-2552	-2125	-2633	2.16	1.2201	-3514	11119	3799	35683	27166	5508	32674		12.41	Si
SLV 7	12.95	-2131.03	-2351	-1958	-3585	1.728	0.5207	0	0	0	35683	21732	4406	26139		7.29	Si
SLV 7	14.75	1564.15	-3023	-2517	-3804	2.16	1.6876	-4162	11249	5316	35683	27166	5508	32674		8.59	Si
SLV 5	12.95	2070.77	-4956	-4127	2335	2.16	1.9866	-6824	11781	6553	35683	27166	5508	32674		13.99	Si
SLV 5	14.75	-1382.1	-2203	-1834	2269	1.728	1.3575	0	0	0	35683	21732	4406	26139		11.52	Si
SLV 8	12.95	-1752.23	-2466	-2053	-3069	1.728	1.108	0	0	0	35683	21732	4406	26139		8.52	Si
SLV 8	14.75	1292.81	-2878	-2397	-3288	2.16	1.8924	-3963	11209	5939	35683	27166	5508	32674		9.94	Si
SLV 15	12.95	-1669.83	-2796	-2328	-3774	1.728	1.4483	0	0	0	35683	21732	4406	26139		6.93	Si
SLV 15	14.75	2121.2	-2767	-2304	-3401	2.16	0.9402	-3810	11179	3685	35683	27166	5508	32674		9.61	Si
SLD 12	12.95	-1358.37	-2798	-2330	-2819	2.16	1.7833	-4674	11351	5668	35683	27166	5508	32674		11.59	Si
SLD 12	14.75	1345.04	-2749	-2289	-2806	2.16	1.7719	-3784	11174	5544	35683	27166	5508	32674		11.64	Si
SLV 12	12.95	-2175.69	-2263	-1884	-4054	1.728	0.3557	0	0	0	35683	21732	4406	26139		6.45	Si
SLV 12	14.75	1995.45	-2876	-2395	-4025	2.16	1.1587	-3960	11209	3710	35683	27166	5508	32674		8.12	Si
SLD 11	12.95	-1595.5	-2726	-2270	-3143	1.728	1.484	0	0	0	35683	21732	4406	26139		8.32	Si
SLD 11	14.75	1514.9	-2839	-2364	-3130	2.16	1.6393	-3909	11199	5140	35683	27166	5508	32674		10.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.53	4586	-2774	237.76	376.67	1.58	Si
SLV 11	179667	0.53	4600	-2782	237.76	377.73	1.59	Si
SLV 8	179667	0.53	4708	-2847	237.76	386.35	1.62	Si
SLV 7	179667	0.53	4721	-2855	237.76	387.41	1.63	Si
SLV 16	179667	0.53	4920	-2975	237.76	403.14	1.7	Si
SLV 15	179667	0.53	4939	-2987	237.76	404.7	1.7	Si
SLV 4	179667	0.53	5326	-3221	237.76	435.2	1.83	Si
SLV 14	179667	0.53	5330	-3223	237.76	435.54	1.83	Si
SLV 3	179667	0.53	5345	-3233	237.76	436.75	1.84	Si
SLV 13	179667	0.53	5350	-3235	237.76	437.09	1.84	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 1	-2344	-3390	-315	2.996	519.7	0.892	48.8339	7.04479	Si
SLV 2	-2331	-3152	-314	3.005	518.5	0.891	48.99697	7.04479	Si
SLV 13	-2260	-4622	194	3.089	511.7	0.891	50.39068	7.04479	Si
SLV 14	-2246	-4384	194	3.099	510.5	0.891	50.56037	7.04479	Si
SLV 3	-2220	-3269	-187	3.122	508	0.891	50.93155	7.04479	Si
SLV 4	-2207	-3031	-187	3.132	506.8	0.891	51.10638	7.04479	Si
SLV 15	-2136	-4502	321	3.154	500.1	0.89	51.49648	7.04479	Si
SLV 16	-2123	-4264	321	3.165	498.9	0.89	51.67479	7.04479	Si
SLV 5	-2457	-3922	-285	2.923	530.4	0.892	47.6019	5.51652	Si
SLV 6	-2448	-3762	-285	2.929	529.6	0.892	47.70622	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.917	SLU 39	Si
V_SLU	3.804	SLU 77	Si
PF_SLV	1.397	SLV 11	Si
V_SLV	5.719	SLV 11	Si
PFFP_SLV	1.584	SLV 12	Si
R_SLV	6.932	SLV 1	Si

Maschio 237

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2.963	5.951	-5.018	5.951	L7	L8	2.055	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2



Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 64	12.95	-171.27	-6155	-0.0000174	0.0003743	0.0035	2.055	5659.55	6914.99	6914.99	40.38	No	Si
SLU 64	14.75	-587.3	-3542	-0.0000136	0.0003743	0.0035	2.055	3419.6	4554.69	4554.69	7.76	No	Si
SLU 60	12.95	-132.93	-5205	-0.0000146	0.0003743	0.0035	2.055	4873.25	6068.75	6068.75	45.65	No	Si
SLU 60	14.75	-440.42	-2638	-0.0000101	0.0003743	0.0035	2.055	2588.42	3698.85	3698.85	8.4	No	Si
SLU 1	12.95	-69.75	-4321	-0.0000117	0.0003743	0.0035	2.055	4112.44	5274.43	5274.43	75.62	No	Si
SLU 1	14.75	-456.17	-2334	-0.0000094	0.0003743	0.0035	2.055	2302.92	3408.54	3408.54	7.47	No	Si
SLU 2	12.95	-101.94	-4310	-0.000012	0.0003743	0.0035	2.055	4102.41	5263.7	5263.7	51.63	No	Si
SLU 2	14.75	-427.28	-2323	-0.0000092	0.0003743	0.0035	2.055	2292.09	3397.64	3397.64	7.95	No	Si
SLU 45	12.95	-151.31	-6544	-0.0000183	0.0003743	0.0035	2.055	5973.21	7244.95	7244.95	47.88	No	Si
SLU 45	14.75	-591.15	-3977	-0.0000148	0.0003743	0.0035	2.055	3808.99	4953.8	4953.8	8.38	No	Si
SLU 65	12.95	-203.46	-6143	-0.0000176	0.0003743	0.0035	2.055	5650.25	6905.16	6905.16	33.94	No	Si
SLU 65	14.75	-558.4	-3531	-0.0000134	0.0003743	0.0035	2.055	3409.25	4544.24	4544.24	8.14	No	Si
SLU 43	12.95	-48.63	-5337	-0.0000143	0.0003743	0.0035	2.055	4984.29	6185.93	6185.93	127.21	No	Si
SLU 43	14.75	-596	-2770	-0.0000116	0.0003743	0.0035	2.055	2711.34	3825.6	3825.6	6.42	No	Si
SLU 44	12.95	-80.82	-5326	-0.0000145	0.0003743	0.0035	2.055	4974.67	6175.73	6175.73	76.41	No	Si
SLU 44	14.75	-567.11	-2758	-0.0000114	0.0003743	0.0035	2.055	2700.68	3814.57	3814.57	6.73	No	Si
SLU 46	12.95	-170.62	-6538	-0.0000184	0.0003743	0.0035	2.055	5967.73	7239.13	7239.13	42.43	No	Si
SLU 46	14.75	-573.81	-3970	-0.0000146	0.0003743	0.0035	2.055	3802.89	4947.46	4947.46	8.62	No	Si
SLU 52	12.95	-139.83	-5233	-0.0000147	0.0003743	0.0035	2.055	4896.96	6093.69	6093.69	43.58	No	Si
SLU 52	14.75	-458.2	-2666	-0.0000103	0.0003743	0.0035	2.055	2614.67	3725.83	3725.83	8.13	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLD 4	12.95	-138.71	-3994	-0.0000113	0.0005615	0.0035	2.055		5029.13	5029.13	36.26		Si
SLD 4	14.75	-1240.19	-2105	-0.0000169	0.0005615	0.0035	1.644		3207.31	3207.31	2.59		Si
SLV 4	12.95	-121.81	-3698	-0.0000104	0.0005615	0.0035	2.055		4748.18	4748.18	38.98		Si
SLV 4	14.75	-1723.25	-1884	-0.0000543	0.0005615	0.0035	1.644		2989.86	2989.86	1.74		Si
SLD 1	12.95	-418.59	-3299	-0.0000116	0.0005615	0.0035	2.055		4366.63	4366.63	10.43		Si
SLD 1	14.75	-1652.91	-1374	-0.0001733	0.0005615	0.0035	1.644		2486.95	2486.95	1.5		Si
SLV 3	12.95	169.48	-3259	-0.0000097	0.0005615	0.0035	2.055		3466.52	3466.52	20.45		Si
SLV 3	14.75	-2620.08	-1445	-0.0005318	0.0005615	0.0035	1.644		2557.72	2557.72	0.98		No
SLD 2	12.95	-604.52	-3579	-0.0000138	0.0005615	0.0035	2.055		4635.28	4635.28	7.67		Si
SLD 2	14.75	-1080.48	-1654	-0.0000155	0.0005615	0.0035	1.644		2763.52	2763.52	2.56		Si
SLV 1	12.95	-589.83	-2574	-0.000011	0.0005615	0.0035	2.055		3664.46	3664.46	6.21		Si
SLV 1	14.75	-2366.64	-701	-0.0007024	0.0005615	0.0035	1.644		1818.63	1818.63	0.77		No
SLV 5	12.95	-1359.36	-2822	-0.0000182	0.0005615	0.0035	2.055		3905.35	3905.35	2.87		Si
SLV 5	14.75	-788.77	-770	-0.0000457	0.0005615	0.0035	1.644		1887.71	1887.71	2.39		Si
SLV 14	12.95	-412.78	-5798	-0.0000181	0.0005615	0.0035	2.055		6718.21	6718.21	16.28		Si
SLV 14	14.75	1774.96	-3612	-0.0000239	0.0005615	0.0035	2.055		3808.34	3808.34	2.15		Si
SLV 2	12.95	-881.12	-3013	-0.0000143	0.0005615	0.0035	2.055		4090.37	4090.37	4.64		Si
SLV 2	14.75	-1469.81	-1140	-0.0001777	0.0005615	0.0035	1.644		2255.54	2255.54	1.53		Si
SLD 3	12.95	47.21	-3714	-0.0000099	0.0005615	0.0035	2.055		3906.04	3906.04	82.74		Si
SLD 3	14.75	-1812.62	-1825	-0.0000916	0.0005615	0.0035	1.644		2931.93	2931.93	1.62		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 65	12.95	-203.46	-6143	-5116	159	2.055	2.055	-8890	8130	4678	35683	17230	5240	7017	Si	44.18	Si
SLU 65	14.75	-558.4	-3531	-2940	159	2.055	2.055	-5110	7626	4388	35683	17230	5240	6582	Si	41.45	Si
SLU 37	12.95	-354.6	-6875	-5725	-174	2.055	2.055	-9949	8271	4759	35683	17230	5240	7139	Si	41.08	Si
SLU 37	14.75	-94.4	-4843	-4033	-174	2.055	2.055	-7009	7879	4534	35683	17230	5240	6800	Si	39.13	Si
SLU 46	12.95	-170.62	-6538	-5444	185	2.055	2.055	-9461	8206	4722	35683	17230	5240	7083	Si	38.28	Si
SLU 46	14.75	-573.81	-3970	-3306	185	2.055	2.055	-5746	7711	4437	35683	17230	5240	6655	Si	35.97	Si
SLU 43	12.95	-48.63	-5337	-4444	265	2.055	2.055	-7724	7974	4588	35683	17230	5240	6883	Si	25.96	Si
SLU 43	14.75	-596	-2770	-2306	265	2.055	2.055	-4008	7479	4303	35683	17230	5240	6455	Si	24.35	Si
SLU 2	12.95	-101.94	-4310	-3589	151	2.055	2.055	-6237	7776	4474	35683	17230	5240	6711	Si	44.47	Si
SLU 2	14.75	-427.28	-2323	-1934	151	2.055	2.055	-3362	7393	4254	35683	17230	5240	6381	Si	42.28	Si
SLU 44	12.95	-80.82	-5326	-4435	231	2.055	2.055	-7707	7972	4587	35683	17230	5240	6881	Si	29.76	Si
SLU 44	14.75	-567.11	-2758	-2297	231	2.055	2.055	-3992	7477	4302	35683	17230	5240	6453	Si	27.91	Si
SLU 64	12.95	-171.27	-6155	-5125	193	2.055	2.055	-8907	8132	4679	35683	17230	5240	7019	Si	36.42	Si
SLU 64	14.75	-587.3	-3542	-2950	193	2.055	2.055	-5126	7628	4389	35683	17230	5240	6584	Si	34.16	Si
SLU 38	12.95	-373.92	-6868	-5719	-194	2.055	2.055	-9939	8270	4758	35683	17230	5240	7138	Si	36.76	Si
SLU 38	14.75	-77.07	-4836	-4027	-194	2.055	2.055	-6999	7878	4533	35683	17230	5240	6799	Si	35.02	Si
SLU 1	12.95	-69.75	-4321	-3598	185	2.055	2.055	-6253	7778	4476	35683	17230	5240	6713	Si	36.32	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 1	14.75	-456.17	-2334	-1944	185	2.055	2.055	-3378	7395	4255	35683	17230	5240	6383	Si	34.53	Si
SLU 45	12.95	-151.31	-6544	-5450	205	2.055	2.055	-9471	8207	4722	35683	17230	5240	7084	Si	34.49	Si
SLU 45	14.75	-591.15	-3977	-3312	205	2.055	2.055	-5756	7712	4437	35683	17230	5240	6656	Si	32.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	12.95	169.48	-3259	-2714	1786	2.055	2.055	-4716	11360	6536	35683	25845	5240	31085		17.4	Si
SLV 3	14.75	-2620.08	-1445	-1203	1314	1.644	0	0	0	0	35683	20676	4192	24868		18.93	Si
SLV 14	12.95	-412.78	-5798	-4828	-1511	2.055	2.055	-8391	12095	6959	35683	25845	5240	31085		20.57	Si
SLV 14	14.75	1774.96	-3612	-3008	-1039	2.055	1.6085	-5228	11462	5162	35683	25845	5240	31085		29.92	Si
SLD 3	12.95	47.21	-3714	-3092	1173	2.055	2.055	-5375	11492	6612	35683	25845	5240	31085		26.51	Si
SLD 3	14.75	-1812.62	-1825	-1520	875	1.644	0.1031	0	0	0	35683	20676	4192	24868		28.43	Si
SLV 8	12.95	975.56	-5399	-4496	1207	2.055	2.055	-7814	11979	6893	35683	25845	5240	31085		25.75	Si
SLV 8	14.75	-1029.78	-3545	-2952	1190	2.055	2.055	-5131	11443	6584	35683	25845	5240	31085		26.13	Si
SLV 10	12.95	-1414.98	-3953	-3292	-1377	2.055	2.0086	-5721	11561	6502	35683	25845	5240	31085		22.58	Si
SLV 10	14.75	788.46	-1808	-1505	-1359	2.055	1.774	-2616	10940	5434	35683	25845	5240	31085		22.87	Si
SLV 7	12.95	1171.68	-5104	-4250	1652	2.055	2.055	-7386	11894	6844	35683	25845	5240	31085		18.82	Si
SLV 7	14.75	-1633.59	-3250	-2706	1634	2.055	1.5744	-6151	11647	5134	35683	25845	5240	31085		19.02	Si
SLV 4	12.95	-121.81	-3698	-3079	1126	2.055	2.055	-5351	11487	6610	35683	25845	5240	31085		27.6	Si
SLV 4	14.75	-1723.25	-1884	-1569	654	1.644	0.3386	0	0	0	35683	20676	4192	24868		38.03	Si
SLV 1	12.95	-589.83	-2574	-2143	1195	2.055	2.055	-3725	11162	6422	35683	25845	5240	31085		26.01	Si
SLV 1	14.75	-2366.64	-701	-584	641	1.644	0	0	0	0	35683	20676	4192	24868		38.79	Si
SLD 7	12.95	668.97	-4863	-4049	1077	2.055	2.055	-7037	11824	6804	35683	25845	5240	31085		28.85	Si
SLD 7	14.75	-1184.92	-2952	-2458	1061	2.055	1.8783	-4681	11353	5971	35683	25845	5240	31085		29.31	Si
SLV 11	12.95	1312.18	-5939	-4946	1038	2.055	2.055	-8595	12136	6983	35683	25845	5240	31085		29.95	Si
SLV 11	14.75	-660.16	-3991	-3324	1328	2.055	2.055	-5776	11572	6658	35683	25845	5240	31085		23.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 1	179667	0.53	3396	-1954	226.21	267.45	1.18	Si
SLV 5	179667	0.53	3747	-2156	226.21	294.45	1.3	Si
SLV 2	179667	0.53	4159	-2393	226.21	325.89	1.44	Si
SLV 6	179667	0.53	4261	-2452	226.21	333.67	1.48	Si
SLV 3	179667	0.53	4572	-2631	226.21	357.26	1.58	Si
SLV 9	179667	0.53	5118	-2945	226.21	398.46	1.76	Si
SLV 4	179667	0.53	5335	-3070	226.21	414.76	1.83	Si
SLV 10	179667	0.53	5632	-3241	226.21	436.94	1.93	Si
SLV 7	179667	0.53	7668	-4412	226.21	586.69	2.59	Si
SLV 13	179667	0.53	7965	-4583	226.21	608.15	2.69	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 67475 quota mezzera = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 16	-3654	-6269	245	26.375	632.7	0.904	423.95773	7.04479	Si
SLV 14	-3209	-4930	-199	28.822	588.9	0.9	465.42945	7.04479	Si
SLV 15	-3036	-6349	245	29.884	572	0.898	483.44853	7.04479	Si
SLV 13	-2590	-5010	-199	33.065	528.9	0.894	537.29574	7.04479	Si
SLV 12	-3163	-7400	746	28.984	584.4	0.9	468.27712	5.51652	Si
SLV 11	-2746	-7454	746	31.754	543.9	0.896	515.21188	5.51652	Si
SLV 8	-2382	-7020	733	34.651	508.9	0.893	564.15826	5.51652	Si
SLV 7	-1966	-7074	732	38.687	469.6	0.89	631.81465	5.51652	Si
SLV 4	-1053	-5003	199	52.157	388.2	0.893	848.67289	7.04479	Si
SLV 10	-1677	-2939	-732	42.084	442.9	0.889	688.04241	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.419	SLU 43	Si
V_SLU	24.347	SLU 43	Si
PF_SLV	0.768	SLV 1	No
V_SLV	17.403	SLV 3	Si
PFFP_SLV	1.182	SLV 1	Si
R_SLV	60.18	SLV 16	Si

Maschio 238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-0.123	5.951	-2.063	5.951	L7	L8	1.94	0.28	3.1	3.1	3.1			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti



fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 32	12.95	-440.73	-4760	-0.0000169	0.0003743	0.0035	1.94	4220.05	5356.32	5356.32	12.15	No	Si
SLU 32	14.75	1013.86	-4239	-0.0000203	0.0003743	0.0035	1.94	3796.62	4063.45	4063.45	4.01	No	Si
SLU 40	12.95	-601.29	-3845	-0.0000157	0.0003743	0.0035	1.94	3469.93	4566.63	4566.63	7.59	No	Si
SLU 40	14.75	858.18	-3337	-0.0000164	0.0003743	0.0035	1.94	3041.34	3276.17	3276.17	3.82	No	Si
SLU 35	12.95	-419.63	-5310	-0.0000183	0.0003743	0.0035	1.94	4656.41	5813.24	5813.24	13.85	No	Si
SLU 35	14.75	1132.8	-4806	-0.000023	0.0003743	0.0035	1.94	4256.77	4547.97	4547.97	4.01	No	Si
SLU 34	12.95	-494.57	-4495	-0.0000166	0.0003743	0.0035	1.94	4006	5132.27	5132.27	10.38	No	Si
SLU 34	14.75	946.2	-3903	-0.0000188	0.0003743	0.0035	1.94	3518.94	3771.95	3771.95	3.99	No	Si
SLU 39	12.95	-579.11	-3852	-0.0000155	0.0003743	0.0035	1.94	3475.81	4572.75	4572.75	7.9	No	Si
SLU 39	14.75	845.65	-3330	-0.0000163	0.0003743	0.0035	1.94	3035.25	3269.92	3269.92	3.87	No	Si
SLU 42	12.95	-580.2	-4395	-0.0000171	0.0003743	0.0035	1.94	3923.96	5045.87	5045.87	8.7	No	Si
SLU 42	14.75	977.12	-3904	-0.0000191	0.0003743	0.0035	1.94	3519.44	3772.47	3772.47	3.86	No	Si
SLU 41	12.95	-558.02	-4402	-0.0000169	0.0003743	0.0035	1.94	3929.7	5051.93	5051.93	9.05	No	Si
SLU 41	14.75	964.58	-3897	-0.0000189	0.0003743	0.0035	1.94	3513.5	3766.26	3766.26	3.9	No	Si
SLU 31	12.95	-515.66	-3945	-0.0000152	0.0003743	0.0035	1.94	3553.91	4654.28	4654.28	9.03	No	Si
SLU 31	14.75	827.26	-3336	-0.0000162	0.0003743	0.0035	1.94	3040.82	3275.64	3275.64	3.96	No	Si
SLU 33	12.95	-462.91	-4753	-0.0000171	0.0003743	0.0035	1.94	4214.4	5350.53	5350.53	11.56	No	Si
SLU 33	14.75	1026.4	-4246	-0.0000205	0.0003743	0.0035	1.94	3802.48	4069.65	4069.65	3.96	No	Si
SLU 36	12.95	-441.81	-5303	-0.0000185	0.0003743	0.0035	1.94	4650.89	5807.32	5807.32	13.14	No	Si
SLU 36	14.75	1145.33	-4813	-0.0000231	0.0003743	0.0035	1.94	4262.49	4554.01	4554.01	3.98	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 10	12.95	-1728.08	-2180	-0.0000429	0.0005615	0.0035	1.552		3110.54	3110.54	1.8		Si
SLV 10	14.75	1867.6	-2966	-0.000031	0.0005615	0.0035	1.94		2980.76	2980.76	1.6		Si
SLD 10	12.95	-1135.28	-2817	-0.0000175	0.0005615	0.0035	1.94		3694.63	3694.63	3.25		Si
SLD 10	14.75	1369.17	-2895	-0.0000206	0.0005615	0.0035	1.94		2915.33	2915.33	2.13		Si
SLV 9	12.95	-1438.2	-2319	-0.0000234	0.0005615	0.0035	1.552		3237.94	3237.94	2.25		Si
SLV 9	14.75	1691.09	-2876	-0.0000267	0.0005615	0.0035	1.94		2897.91	2897.91	1.71		Si
SLD 6	12.95	-1096.17	-3057	-0.0000176	0.0005615	0.0035	1.94		3913.14	3913.14	3.57		Si
SLD 6	14.75	1145.08	-2906	-0.0000178	0.0005615	0.0035	1.94		2925.18	2925.18	2.55		Si
SLV 13	12.95	-495.84	-2863	-0.000012	0.0005615	0.0035	1.94		3736.58	3736.58	7.54		Si
SLV 13	14.75	1344.49	-2739	-0.0000202	0.0005615	0.0035	1.94		2771.82	2771.82	2.06		Si
SLD 14	12.95	-641.45	-3092	-0.0000138	0.0005615	0.0035	1.94		3944.79	3944.79	6.15		Si
SLD 14	14.75	1219.15	-2831	-0.0000185	0.0005615	0.0035	1.94		2856.78	2856.78	2.34		Si
SLV 5	12.95	-1369.08	-2700	-0.0000206	0.0005615	0.0035	1.94		3587.4	3587.4	2.62		Si
SLV 5	14.75	1334.81	-2886	-0.0000201	0.0005615	0.0035	1.94		2907.16	2907.16	2.18		Si
SLV 14	12.95	-926.4	-2658	-0.000015	0.0005615	0.0035	1.94		3549.05	3549.05	3.83		Si
SLV 14	14.75	1606.67	-2873	-0.0000248	0.0005615	0.0035	1.94		2894.93	2894.93	1.8		Si
SLD 9	12.95	-953.81	-2904	-0.0000159	0.0005615	0.0035	1.94		3773.66	3773.66	3.96		Si
SLD 9	14.75	1258.67	-2839	-0.000019	0.0005615	0.0035	1.94		2863.46	2863.46	2.27		Si
SLV 6	12.95	-1658.97	-2561	-0.0000282	0.0005615	0.0035	1.552		3460.66	3460.66	2.09		Si
SLV 6	14.75	1511.33	-2977	-0.0000228	0.0005615	0.0035	1.94		2990	2990	1.98		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 42	12.95	-580.2	-4395	-3659	-1583	1.94	1.94	-6737	7843	4260	35683	16266	4947	6390	Si	4.04	Si
SLU 42	14.75	977.12	-3904	-3251	-1608	1.94	1.94	-5985	7742	4206	35683	16266	4947	6308	Si	3.92	Si
SLU 78	12.95	-403.83	-6268	-5220	-1648	1.94	1.94	-9609	8226	4468	35683	16266	4947	6702	Si	4.07	Si
SLU 78	14.75	1209.06	-5323	-4433	-1682	1.94	1.94	-8160	8033	4363	35683	16266	4947	6545	Si	3.89	Si
SLU 36	12.95	-541.13	-5303	-4416	-1598	1.94	1.94	-8130	8028	4361	35683	16266	4947	6542	Si	4.09	Si
SLU 36	14.75	1145.33	-4813	-4008	-1628	1.94	1.94	-7379	7928	4307	35683	16266	4947	6460	Si	3.97	Si
SLU 84	12.95	-542.21	-5360	-4463	-1633	1.94	1.94	-8216	8040	4367	35683	16266	4947	6551	Si	4.01	Si
SLU 84	14.75	1040.85	-4414	-3676	-1662	1.94	1.94	-6766	7847	4262	35683	16266	4947	6393	Si	3.85	Si
SLU 81	12.95	-541.13	-4817	-4011	-1545	1.94	1.94	-7384	7929	4307	35683	16266	4947	6461	Si	4.18	Si
SLU 81	14.75	909.37	-3840	-3197	-1568	1.94	1.94	-5886	7729	4199	35683	16266	4947	6298	Si	4.02	Si
SLU 41	12.95	-558.02	-4402	-3665	-1556	1.94	1.94	-6747	7844	4261	35683	16266	4947	6391	Si	4.11	Si
SLU 41	14.75	964.58	-3897	-3245	-1581	1.94	1.94	-5974	7741	4205	35683	16266	4947	6307	Si	3.99	Si
SLU 75	12.95	-424.92	-5718	-4762	-1587	1.94	1.94	-8766	8113	4407	35683	16266	4947	6611	Si	4.17	Si
SLU 75	14.75	1090.12	-4756	-3961	-1615	1.94	1.94	-7291	7917	4300	35683	16266	4947	6450	Si	3.99	Si
SLU 82	12.95	-563.31	-4810	-4005	-1572	1.94	1.94	-7373	7928	4306	35683	16266	4947	6459	Si	4.11	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	14.75	921.91	-3847	-3203	-1595	1.94	1.94	-5897	7731	4199	35683	16266	4947	6299	Si	3.95	Si
SLU 77	12.95	-381.64	-6275	-5226	-1621	1.94	1.94	-9620	8227	4469	35683	16266	4947	6703	Si	4.14	Si
SLU 77	14.75	1196.52	-5316	-4427	-1656	1.94	1.94	-8150	8031	4362	35683	16266	4947	6544	Si	3.95	Si
SLU 83	12.95	-520.03	-5367	-4469	-1606	1.94	1.94	-8227	8041	4368	35683	16266	4947	6552	Si	4.08	Si
SLU 83	14.75	1028.31	-4407	-3670	-1635	1.94	1.94	-6755	7845	4262	35683	16266	4947	6392	Si	3.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, γM = 2

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 5	12.95	-1369.08	-2700	-2248	-2480	1.94	1.3885	-5795	11576	4501	35683	24399	4947	29346		11.83	Si
SLV 5	14.75	1334.81	-2886	-2403	-2760	1.94	1.5226	-4424	11302	4818	35683	24399	4947	29346		10.63	Si
SLD 5	12.95	-914.71	-3144	-2618	-1834	1.94	1.94	-4819	11381	6182	35683	24399	4947	29346		16	Si
SLD 5	14.75	1034.58	-2849	-2373	-2016	1.94	1.8207	-4368	11290	5756	35683	24399	4947	29346		14.56	Si
SLD 6	12.95	-1096.17	-3057	-2546	-2073	1.94	1.8343	-4966	11410	5860	35683	24399	4947	29346		14.15	Si
SLD 6	14.75	1145.08	-2906	-2420	-2255	1.94	1.7278	-4455	11308	5470	35683	24399	4947	29346		13.01	Si
SLV 13	12.95	-495.84	-2863	-2384	-2108	1.94	1.94	-4389	11295	6135	35683	24399	4947	29346		13.92	Si
SLV 13	14.75	1344.49	-2739	-2281	-1575	1.94	1.4372	-4198	11256	4530	35683	24399	4947	29346		18.64	Si
SLD 9	12.95	-953.81	-2904	-2418	-2180	1.94	1.9246	-4452	11307	6093	35683	24399	4947	29346		13.46	Si
SLD 9	14.75	1258.67	-2839	-2364	-2144	1.94	1.5797	-4351	11287	4993	35683	24399	4947	29346		13.69	Si
SLV 14	12.95	-926.4	-2658	-2213	-2676	1.94	1.8642	-4247	11266	5881	35683	24399	4947	29346		10.97	Si
SLV 14	14.75	1606.67	-2873	-2392	-2143	1.94	1.2322	-4404	11297	3898	35683	24399	4947	29346		13.7	Si
SLV 6	12.95	-1658.97	-2561	-2133	-2863	1.552	0.9667	0	0	0	35683	19519	3958	23477		8.2	Si
SLV 6	14.75	1511.33	-2977	-2479	-3142	1.94	1.3868	-4563	11329	4399	35683	24399	4947	29346		9.34	Si
SLV 9	12.95	-1438.2	-2319	-1931	-3033	1.552	1.0494	0	0	0	35683	19519	3958	23477		7.74	Si
SLV 9	14.75	1691.09	-2876	-2395	-2966	1.94	1.1461	-4409	11298	3626	35683	24399	4947	29346		9.89	Si
SLD 10	12.95	-1135.28	-2817	-2346	-2419	1.94	1.7011	-4935	11404	5432	35683	24399	4947	29346		12.13	Si
SLD 10	14.75	1369.17	-2895	-2411	-2383	1.94	1.4912	-4438	11304	4720	35683	24399	4947	29346		12.31	Si
SLV 10	12.95	-1728.08	-2180	-1816	-3415	1.552	0.5323	0	0	0	35683	19519	3958	23477		6.87	Si
SLV 10	14.75	1867.6	-2966	-2470	-3348	1.94	1.0213	-4548	11326	3274	35683	24399	4947	29346		8.76	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 14	179667	0.53	5136	-2790	213.55	377.48	1.77	Si
SLV 10	179667	0.53	5150	-2798	213.55	378.45	1.77	Si
SLV 9	179667	0.53	5205	-2827	213.55	382.33	1.79	Si
SLV 13	179667	0.53	5218	-2834	213.55	383.24	1.79	Si
SLV 16	179667	0.53	5793	-3147	213.55	423.85	1.98	Si
SLV 6	179667	0.53	5807	-3155	213.55	424.84	1.99	Si
SLV 5	179667	0.53	5862	-3184	213.55	428.68	2.01	Si
SLV 15	179667	0.53	5875	-3191	213.55	429.56	2.01	Si
SLV 2	179667	0.53	7327	-3980	213.55	530.47	2.48	Si
SLV 12	179667	0.53	7339	-3987	213.55	531.33	2.49	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 67475 quota mezzzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-2342	-4458	146	33.959	489.4	0.893	552.3975	7.04479	Si
SLV 3	-2308	-4253	146	34.258	486.1	0.893	557.44092	7.04479	Si
SLV 16	-2270	-4399	-31	34.633	482.5	0.893	563.7432	7.04479	Si
SLV 2	-2259	-4144	28	34.74	481.4	0.893	565.55369	7.04479	Si
SLV 15	-2236	-4194	-32	34.943	479.3	0.893	568.97732	7.04479	Si
SLV 1	-2225	-3939	28	35.053	478.2	0.892	570.82047	7.04479	Si
SLV 14	-2187	-4085	-150	35.38	474.5	0.892	576.3488	7.04479	Si
SLV 13	-2153	-3880	-150	35.704	471.3	0.892	581.80814	7.04479	Si
SLV 8	-2409	-4771	223	33.363	495.8	0.894	542.3489	5.51652	Si
SLV 7	-2386	-4633	222	33.557	493.6	0.894	545.62196	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.818	SLU 40	Si
V_SLU	3.846	SLU 84	Si
PF_SLV	1.596	SLV 10	Si
V_SLV	6.874	SLV 10	Si
PFFP_SLV	1.768	SLV 14	Si
R_SLV	78.412	SLV 4	Si

Maschio 239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-0.123	-3.359	-0.123	5.951	L7	L8	9.31	0.28	3.1	3.1	3.1			



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	12.05	5256.63	-32457	-0.0000208	0.0003743	0.0035	9.31	132609.82	139305.36	139305.36	26.5	No	Si
SLU 35	15.15	-688.86	-7700	-0.0000046	0.0003743	0.0035	9.31	34803.63	61289.69	52205.45	75.79	Si	Si
SLU 36	12.05	5422.98	-32425	-0.0000208	0.0003743	0.0035	9.31	132497.45	139197.98	139197.98	25.67	No	Si
SLU 36	15.15	-672.99	-7697	-0.0000046	0.0003743	0.0035	9.31	34789.74	61275.89	52184.61	77.54	Si	Si
SLU 30	12.05	5206.39	-29578	-0.0000191	0.0003743	0.0035	9.31	122340.58	129694.86	129694.86	24.91	No	Si
SLU 30	15.15	-642.59	-7622	-0.0000046	0.0003743	0.0035	9.31	34460.04	60948.36	51690.06	80.44	Si	Si
SLU 37	12.05	5230.03	-31768	-0.0000204	0.0003743	0.0035	9.31	130178.41	136993.18	136993.18	26.19	No	Si
SLU 37	15.15	-688.43	-7779	-0.0000047	0.0003743	0.0035	9.31	35151.46	61635.35	52727.19	76.59	Si	Si
SLU 27	12.05	5066.65	-30299	-0.0000194	0.0003743	0.0035	9.31	124939.72	132089.45	132089.45	26.07	No	Si
SLU 27	15.15	-658.89	-7545	-0.0000045	0.0003743	0.0035	9.31	34125.68	60616.3	51188.53	77.69	Si	Si
SLU 28	12.05	5232.99	-30267	-0.0000195	0.0003743	0.0035	9.31	124824.93	131983.17	131983.17	25.22	No	Si
SLU 28	15.15	-643.02	-7542	-0.0000045	0.0003743	0.0035	9.31	34111.78	60602.49	51167.66	79.57	Si	Si
SLU 38	12.05	5396.37	-31736	-0.0000204	0.0003743	0.0035	9.31	130065.27	136886.16	136886.16	25.37	No	Si
SLU 38	15.15	-672.56	-7776	-0.0000047	0.0003743	0.0035	9.31	35137.58	61621.55	52706.37	78.37	Si	Si
SLU 70	12.05	5566.7	-35513	-0.0000227	0.0003743	0.0035	9.31	143191.24	149650.54	149650.54	26.88	No	Si
SLU 70	15.15	-668.38	-8338	-0.0000005	0.0003743	0.0035	9.31	37593.46	64065.77	56390.19	84.37	Si	Si
SLU 29	12.05	5040.05	-29610	-0.000019	0.0003743	0.0035	9.31	122456.14	129800.79	129800.79	25.75	No	Si
SLU 29	15.15	-658.46	-7625	-0.0000046	0.0003743	0.0035	9.31	34473.94	60962.17	51710.91	78.53	Si	Si
SLU 72	12.05	5540.1	-34824	-0.0000223	0.0003743	0.0035	9.31	140833.69	147304.5	147304.5	26.59	No	Si
SLU 72	15.15	-667.95	-8417	-0.0000005	0.0003743	0.0035	9.31	37939.51	64410.66	56909.27	85.2	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 6	12.05	-897.86	-22162	-0.000013	0.0005615	0.0035	9.31		124083.33	124083.33	138.2		Si
SLV 6	15.15	-5098.78	-3542	-0.0000038	0.0005615	0.0035	9.31		42776.77	42776.77	8.39		Si
SLV 5	12.05	-1850.18	-22162	-0.0000133	0.0005615	0.0035	9.31		124084.76	124084.76	67.07		Si
SLV 5	15.15	-5364.01	-3537	-0.0000039	0.0005615	0.0035	9.31		42755.75	42755.75	7.97		Si
SLD 12	12.05	5249.02	-25120	-0.0000163	0.0005615	0.0035	9.31		115218.24	115218.24	21.95		Si
SLD 12	15.15	2830.73	-4235	-0.0000034	0.0005615	0.0035	9.31		23699.81	23699.81	8.37		Si
SLV 7	12.05	7551.1	-25062	-0.0000171	0.0005615	0.0035	9.31		114975.07	114975.07	15.23		Si
SLV 7	15.15	4632.26	-4336	-0.0000041	0.0005615	0.0035	9.31		24155.94	24155.94	5.21		Si
SLV 12	12.05	7192.72	-25817	-0.0000174	0.0005615	0.0035	9.31		118155.93	118155.93	16.43		Si
SLV 12	15.15	4810.29	-4387	-0.0000042	0.0005615	0.0035	9.31		24388.71	24388.71	5.07		Si
SLD 8	12.05	6073.85	-24661	-0.0000163	0.0005615	0.0035	9.31		113285.17	113285.17	18.65		Si
SLD 8	15.15	2886.53	-4205	-0.0000034	0.0005615	0.0035	9.31		23563.09	23563.09	8.16		Si
SLV 8	12.05	8503.42	-25062	-0.0000175	0.0005615	0.0035	9.31		114973.63	114973.63	13.52		Si
SLV 8	15.15	4897.5	-4340	-0.0000042	0.0005615	0.0035	9.31		24177.07	24177.07	4.94		Si
SLV 10	12.05	-2208.56	-22916	-0.0000139	0.0005615	0.0035	9.31		127254.16	127254.16	57.62		Si
SLV 10	15.15	-5185.99	-3589	-0.0000039	0.0005615	0.0035	9.31		42987.35	42987.35	8.29		Si
SLV 11	12.05	6240.4	-25817	-0.0000171	0.0005615	0.0035	9.31		118157.37	118157.37	18.93		Si
SLV 11	15.15	4545.06	-4382	-0.0000041	0.0005615	0.0035	9.31		24367.58	24367.58	5.36		Si
SLV 9	12.05	-3160.88	-22917	-0.0000142	0.0005615	0.0035	9.31		127255.6	127255.6	40.26		Si
SLV 9	15.15	-5451.22	-3584	-0.0000004	0.0005615	0.0035	9.31		42966.33	42966.33	7.88		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vtf	Vtc	Vtc.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	12.05	5400.35	-35545	-29598	3837	9.31	9.31	-11354	8458	24388	35683	78059	23740	36582	Si	9.54	Si
SLU 69	15.15	-684.25	-8341	-6946	3842	9.31	9.31	-2664	7300	19029	35683	78059	23740	28543	Si	7.43	Si
SLU 38	12.05	5396.37	-31736	-26427	3734	9.31	9.31	-10138	8296	23119	35683	78059	23740	34679	Si	9.29	Si
SLU 38	15.15	-672.56	-7776	-6475	3814	9.31	9.31	-2484	7276	18966	35683	78059	23740	28449	Si	7.46	Si
SLU 79	12.05	5563.73	-37013	-30822	3991	9.31	9.31	-11824	8521	24877	35683	78059	23740	37316	Si	9.35	Si
SLU 79	15.15	-713.79	-8575	-7140	3996	9.31	9.31	-2739	7310	19055	35683	78059	23740	28582	Si	7.15	Si
SLU 72	12.05	5540.1	-34824	-28998	3774	9.31	9.31	-11124	8428	24148	35683	78059	23740	36222	Si	9.6	Si
SLU 72	15.15	-667.95	-8417	-7009	3854	9.31	9.31	-2689	7303	19037	35683	78059	23740	28556	Si	7.41	Si
SLU 77	12.05	5590.34	-37703	-31395	4005	9.31	9.31	-12044	8550	25107	35683	78059	23740	37660	Si	9.4	Si
SLU 77	15.15	-714.22	-8496	-7074	4011	9.31	9.31	-2714	7306	19046	35683	78059	23740	28569	Si	7.12	Si
SLU 78	12.05	5756.68	-37671	-31369	3957	9.31	9.31	-12033	8549	25096	35683	78059	23740	37644	Si	9.51	Si



Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	15.15	-698.35	-8492	-7072	4037	9.31	9.31	-2713	7306	19046	35683	78059	23740	28569	Si	7.08	Si
SLU 71	12.05	5373.75	-34855	-29025	3822	9.31	9.31	-11134	8429	24158	35683	78059	23740	36238	Si	9.48	Si
SLU 71	15.15	-683.82	-8420	-7012	3828	9.31	9.31	-2690	7303	19038	35683	78059	23740	28557	Si	7.46	Si
SLU 70	12.05	5566.7	-35513	-29572	3789	9.31	9.31	-11344	8457	24377	35683	78059	23740	36566	Si	9.65	Si
SLU 70	15.15	-668.38	-8338	-6943	3868	9.31	9.31	-2663	7300	19029	35683	78059	23740	28543	Si	7.38	Si
SLU 36	12.05	5422.98	-32425	-27001	3748	9.31	9.31	-10358	8325	23349	35683	78059	23740	35023	Si	9.34	Si
SLU 36	15.15	-672.99	-7697	-6409	3828	9.31	9.31	-2459	7272	18957	35683	78059	23740	28436	Si	7.43	Si
SLU 80	12.05	5730.08	-36981	-30795	3943	9.31	9.31	-11813	8520	24867	35683	78059	23740	37300	Si	9.46	Si
SLU 80	15.15	-697.92	-8572	-7138	4023	9.31	9.31	-2738	7310	19054	35683	78059	23740	28582	Si	7.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	oN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 7	12.05	5477.7	-24661	-20536	8987	9.31	9.31	-7878	11992	31261	35683	117089	23740	66944		7.45	Si
SLD 7	15.15	2720.49	-4202	-3499	6119	9.31	9.31	-1342	10685	27854	35683	117089	23740	63537		10.38	Si
SLD 11	12.05	4652.87	-25120	-20918	9017	9.31	9.31	-8024	12022	31338	35683	117089	23740	67021		7.43	Si
SLD 11	15.15	2664.7	-4232	-3524	6248	9.31	9.31	-1352	10687	27859	35683	117089	23740	63542		10.17	Si
SLV 8	12.05	8503.42	-25062	-20870	12735	9.31	9.31	-8006	12018	31328	35683	117089	23740	67011		5.26	Si
SLV 8	15.15	4897.5	-4340	-3614	8094	9.31	9.31	-1386	10694	27877	35683	117089	23740	63560		7.85	Si
SLV 10	12.05	-2208.56	-22916	-19083	-10043	9.31	9.31	-7320	11881	30971	35683	117089	23740	66654		6.64	Si
SLV 10	15.15	-5185.99	-3589	-2988	-5398	9.31	9.31	-1146	10646	27752	35683	117089	23740	63435		11.75	Si
SLV 5	12.05	-1850.18	-22162	-18454	-9158	9.31	9.31	-7079	11833	30845	35683	117089	23740	66528		7.26	Si
SLV 5	15.15	-5364.01	-3537	-2946	-4669	9.31	9.31	-1130	10643	27743	35683	117089	23740	63426		13.58	Si
SLV 9	12.05	-3160.88	-22917	-19083	-9112	9.31	9.31	-7320	11881	30971	35683	117089	23740	66654		7.31	Si
SLV 9	15.15	-5451.22	-3584	-2984	-4468	9.31	9.31	-1145	10646	27751	35683	117089	23740	63434		14.2	Si
SLV 12	12.05	7192.72	-25817	-21498	12781	9.31	9.31	-8247	12066	31454	35683	117089	23740	67137		5.25	Si
SLV 12	15.15	4810.29	-4387	-3653	8295	9.31	9.31	-1401	10697	27885	35683	117089	23740	63568		7.66	Si
SLV 6	12.05	-897.86	-22162	-18454	-10089	9.31	9.31	-7079	11833	30845	35683	117089	23740	66528		6.59	Si
SLV 6	15.15	-5098.78	-3542	-2949	-5599	9.31	9.31	-1131	10643	27744	35683	117089	23740	63427		11.33	Si
SLV 11	12.05	6240.4	-25817	-21498	13711	9.31	9.31	-8247	12066	31454	35683	117089	23740	67137		4.9	Si
SLV 11	15.15	4545.06	-4382	-3649	9225	9.31	9.31	-1400	10697	27884	35683	117089	23740	63567		6.89	Si
SLV 7	12.05	7551.1	-25062	-20870	13665	9.31	9.31	-8006	12018	31328	35683	117089	23740	67011		4.9	Si
SLV 7	15.15	4632.26	-4336	-3610	9024	9.31	9.31	-1385	10694	27876	35683	117089	23740	63559		7.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.6 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	o0	N	M	Mc	Coeff.s.	Verifica
SLV 9	179667	0.53	4902	-12780	1024.81	1731.72	1.69	Si
SLV 10	179667	0.53	4902	-12780	1024.81	1731.74	1.69	Si
SLV 13	179667	0.53	4936	-12867	1024.81	1743.15	1.7	Si
SLV 14	179667	0.53	4936	-12867	1024.81	1743.19	1.7	Si
SLV 5	179667	0.53	5014	-13071	1024.81	1769.91	1.73	Si
SLV 6	179667	0.53	5014	-13072	1024.81	1769.93	1.73	Si
SLV 15	179667	0.53	5077	-13234	1024.81	1791.12	1.75	Si
SLV 16	179667	0.53	5077	-13234	1024.81	1791.15	1.75	Si
SLV 1	179667	0.53	5309	-13840	1024.81	1870.18	1.82	Si
SLV 2	179667	0.53	5309	-13840	1024.81	1870.21	1.82	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.6 Wa = 0.05 Ta = 0.0573

Comb.	N top	N base	V orto	o0	M*	e*	a0*	aLim	Verifica
SLV 16	-4163	-25682	2258	4.449	1709.3	0.896	72.14548	7.04479	Si
SLV 15	-4156	-25683	2258	4.452	1708.7	0.896	72.18554	7.04479	Si
SLV 4	-4008	-23166	-1922	4.54	1696.9	0.897	73.53204	7.04479	Si
SLV 14	-3924	-24812	2260	4.543	1690.3	0.898	73.5419	7.04479	Si
SLV 3	-4001	-23167	-1923	4.542	1696.4	0.897	73.57273	7.04479	Si
SLV 13	-3917	-24812	2260	4.546	1689.8	0.898	73.58316	7.04479	Si
SLV 2	-3768	-22296	-1921	4.637	1678.2	0.899	74.97102	7.04479	Si
SLV 1	-3761	-22297	-1921	4.64	1677.7	0.899	75.01294	7.04479	Si
SLV 12	-4387	-25817	793	4.49	1727.3	0.895	72.91638	5.51652	Si
SLV 11	-4382	-25817	793	4.492	1726.9	0.895	72.94335	5.51652	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	24.911	SLU 30	Si
V_SLU	7.077	SLU 78	Si
PF_SLV	4.937	SLV 8	Si
V_SLV	4.896	SLV 11	Si
PFFP_SLV	1.69	SLV 9	Si
R_SLV	10.241	SLV 16	Si

Maschio 243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.763	-4.784	-13.763	-3.509	L7	F1	1.274	0.28	2.715	2.375	3.055			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 35	12.05	-557.69	-2290	-0.0000207	0.0003743	0.0035	1.2743	1367.33	1755.83	1755.83	3.15	No	Si
SLU 35	14.43	679.63	-2265	-0.000024	0.0003743	0.0035	1.2743	1353.05	1468.69	1468.69	2.16	No	Si
SLU 28	12.05	-488.15	-2303	-0.0000192	0.0003743	0.0035	1.2743	1374.15	1762.91	1762.91	3.61	No	Si
SLU 28	14.43	630.64	-2153	-0.0000223	0.0003743	0.0035	1.2743	1290.5	1403.61	1403.61	2.23	No	Si
SLU 77	12.05	-590.04	-2900	-0.0000239	0.0003743	0.0035	1.2743	1700.16	2103.38	2103.38	3.56	No	Si
SLU 77	14.43	726.78	-2526	-0.0000259	0.0003743	0.0035	1.2743	1497.61	1618.35	1618.35	2.23	No	Si
SLU 27	12.05	-489.15	-2349	-0.0000195	0.0003743	0.0035	1.2743	1399.98	1789.83	1789.83	3.66	No	Si
SLU 27	14.43	638.48	-2174	-0.0000226	0.0003743	0.0035	1.2743	1302	1415.58	1415.58	2.22	No	Si
SLU 32	12.05	-521.11	-2229	-0.0000196	0.0003743	0.0035	1.2743	1333.16	1720.46	1720.46	3.3	No	Si
SLU 32	14.43	608.65	-2065	-0.0000215	0.0003743	0.0035	1.2743	1241	1352.28	1352.28	2.22	No	Si
SLU 78	12.05	-589.05	-2853	-0.0000237	0.0003743	0.0035	1.2743	1675.23	2077.29	2077.29	3.53	No	Si
SLU 78	14.43	718.94	-2506	-0.0000256	0.0003743	0.0035	1.2743	1486.36	1606.61	1606.61	2.23	No	Si
SLU 37	12.05	-530.33	-2261	-0.00002	0.0003743	0.0035	1.2743	1350.96	1738.85	1738.85	3.28	No	Si
SLU 37	14.43	635.62	-2143	-0.0000224	0.0003743	0.0035	1.2743	1284.69	1397.57	1397.57	2.2	No	Si
SLU 38	12.05	-529.34	-2215	-0.0000198	0.0003743	0.0035	1.2743	1324.98	1712.03	1712.03	3.23	No	Si
SLU 38	14.43	627.78	-2122	-0.0000222	0.0003743	0.0035	1.2743	1273.16	1385.6	1385.6	2.21	No	Si
SLU 33	12.05	-520.12	-2183	-0.0000195	0.0003743	0.0035	1.2743	1307.13	1693.68	1693.68	3.26	No	Si
SLU 33	14.43	600.81	-2045	-0.0000212	0.0003743	0.0035	1.2743	1229.41	1340.31	1340.31	2.23	No	Si
SLU 36	12.05	-556.7	-2244	-0.0000205	0.0003743	0.0035	1.2743	1341.4	1728.97	1728.97	3.11	No	Si
SLU 36	14.43	671.79	-2244	-0.0000237	0.0003743	0.0035	1.2743	1341.6	1456.88	1456.88	2.17	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 14	12.05	-1130.93	-686	-0.0009403	0.0005615	0.0035	1.0194		804.77	804.77	0.71		No
SLV 14	14.43	1016.35	-2725	-0.0000369	0.0005615	0.0035	1.2743		1760.97	1760.97	1.73		Si
SLD 13	12.05	-921.63	-1039	-0.0003996	0.0005615	0.0035	1.0194		1020.88	1020.88	1.11		Si
SLD 13	14.43	830.42	-2358	-0.0000294	0.0005615	0.0035	1.2743		1543.39	1543.39	1.86		Si
SLV 13	12.05	-1268.59	-421	-0.001463	0.0005615	0.0035	1.0194		640.93	640.93	0.51		No
SLV 13	14.43	1092.82	-2885	-0.00004	0.0005615	0.0035	1.2743		1854.3	1854.3	1.7		Si
SLD 14	12.05	-833.76	-1208	-0.0002002	0.0005615	0.0035	1.0194		1124.2	1124.2	1.35		Si
SLD 14	14.43	781.6	-2256	-0.0000276	0.0005615	0.0035	1.2743		1482.8	1482.8	1.9		Si
SLV 15	12.05	-1129.06	-508	-0.0010966	0.0005615	0.0035	1.0194		694.84	694.84	0.62		No
SLV 15	14.43	1018.27	-2893	-0.0000363	0.0005615	0.0035	1.2743		1858.78	1858.78	1.83		Si
SLV 9	12.05	-838.13	-1433	-0.0000844	0.0005615	0.0035	1.0194		1260.76	1260.76	1.5		Si
SLV 9	14.43	711.26	-1876	-0.0000258	0.0005615	0.0035	1.2743		1255.54	1255.54	1.77		Si
SLD 15	12.05	-835.54	-1092	-0.0002703	0.0005615	0.0035	1.0194		1053.27	1053.27	1.26		Si
SLD 15	14.43	784.55	-2363	-0.0000275	0.0005615	0.0035	1.2743		1546.42	1546.42	1.97		Si
SLV 2	12.05	499.84	-3742	-0.0000255	0.0005615	0.0035	1.2743		2350.13	2350.13	4.7		Si
SLV 2	14.43	-286.65	57	0.007604	0.0005615	0.0035	1.0194		190.9	190.9	0.67		No
SLV 16	12.05	-991.39	-773	-0.0006614	0.0005615	0.0035	1.0194		858.27	858.27	0.87		No
SLV 16	14.43	941.79	-2733	-0.0000333	0.0005615	0.0035	1.2743		1765.45	1765.45	1.87		Si
SLV 4	12.05	639.38	-3829	-0.0000287	0.0005615	0.0035	1.2743		2399.94	2399.94	3.75		Si
SLV 4	14.43	-361.21	49	-0.0014341	0.0005615	0.0035	1.0194		294.66	294.66	0.82		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	12.05	-562.68	-2871	-2390	-942	1.2743	1.2743	-6699	7838	2796	30925	10684	3249	4195	Si	4.45	Si
SLU 79	14.43	682.76	-2404	-2002	-945	1.2743	1.0594	-5611	7693	2282	30925	10684	3249	3423	Si	3.62	Si
SLU 80	12.05	-561.69	-2824	-2352	-927	1.2743	1.2743	-6591	7823	2791	30925	10684	3249	4187	Si	4.52	Si
SLU 80	14.43	674.92	-2384	-1985	-954	1.2743	1.062	-5563	7686	2286	30925	10684	3249	3428	Si	3.59	Si
SLU 36	12.05	-556.7	-2244	-1869	-921	1.2743	1.1672	-5237	7643	2498	30925	10684	3249	3747	Si	4.07	Si
SLU 36	14.43	671.79	-2244	-1869	-948	1.2743	1.0134	-5238	7643	2169	30925	10684	3249	3253	Si	3.43	Si
SLU 75	12.05	-552.46	-2792	-2325	-899	1.2743	1.2743	-6516	7813	2788	30925	10684	3249	4182	Si	4.65	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 75	14.43	647.95	-2306	-1920	-927	1.2743	1.0685	-5382	7662	2292	30925	10684	3249	3438	Si	3.71	Si
SLU 78	12.05	-589.05	-2853	-2376	-981	1.2743	1.2743	-6659	7832	2795	30925	10684	3249	4192	Si	4.27	Si
SLU 78	14.43	718.94	-2506	-2087	-1009	1.2743	1.0507	-5848	7724	2272	30925	10684	3249	3409	Si	3.38	Si
SLU 37	12.05	-530.33	-2261	-1883	-881	1.2743	1.2078	-5277	7648	2586	30925	10684	3249	3880	Si	4.4	Si
SLU 37	14.43	635.62	-2143	-1784	-884	1.2743	1.0215	-5001	7611	2177	30925	10684	3249	3265	Si	3.69	Si
SLU 77	12.05	-590.04	-2900	-2415	-997	1.2743	1.2743	-6768	7847	2800	30925	10684	3249	4200	Si	4.21	Si
SLU 77	14.43	726.78	-2526	-2104	-1000	1.2743	1.0483	-5896	7731	2269	30925	10684	3249	3404	Si	3.4	Si
SLU 35	12.05	-557.69	-2290	-1907	-936	1.2743	1.181	-5346	7657	2532	30925	10684	3249	3798	Si	4.06	Si
SLU 35	14.43	679.63	-2265	-1886	-939	1.2743	1.0112	-5286	7649	2166	30925	10684	3249	3249	Si	3.46	Si
SLU 38	12.05	-529.34	-2215	-1844	-866	1.2743	1.1944	-5168	7634	2553	30925	10684	3249	3829	Si	4.42	Si
SLU 38	14.43	627.78	-2122	-1767	-893	1.2743	1.024	-4953	7605	2180	30925	10684	3249	3271	Si	3.66	Si
SLU 74	12.05	-553.46	-2839	-2364	-915	1.2743	1.2743	-6625	7828	2793	30925	10684	3249	4189	Si	4.58	Si
SLU 74	14.43	655.79	-2327	-1937	-918	1.2743	1.0658	-5430	7668	2288	30925	10684	3249	3433	Si	3.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	12.05	-835.54	-1092	-909	-1244	1.0194	0	0	0	0	30925	12821	2600	15421		12.4	Si
SLD 15	14.43	784.55	-2363	-1968	-1420	1.2743	0.9155	-5515	11520	2953	30925	16026	3249	19276		13.57	Si
SLV 13	12.05	-1268.59	-421	-351	-2025	1.0194	0	0	0	0	30925	12821	2600	15421		7.61	Si
SLV 13	14.43	1092.82	-2885	-2402	-1619	1.2743	0.7751	-6733	11763	2553	30925	16026	3249	19276		11.91	Si
SLV 10	12.05	-745.44	-1611	-1342	-1435	1.0194	0.5233	0	0	0	30925	12821	2600	15421		10.75	Si
SLV 10	14.43	659.77	-1769	-1473	-265	1.2743	0.7923	-4128	11242	2494	30925	16026	3249	19276		72.85	Si
SLD 13	12.05	-921.63	-1039	-865	-1474	1.0194	0	0	0	0	30925	12821	2600	15421		10.46	Si
SLD 13	14.43	830.42	-2358	-1964	-1223	1.2743	0.855	-5503	11517	2757	30925	16026	3249	19276		15.77	Si
SLD 14	12.05	-833.76	-1208	-1006	-1343	1.0194	0	0	0	0	30925	12821	2600	15421		11.48	Si
SLD 14	14.43	781.6	-2256	-1879	-1092	1.2743	0.8721	-5265	11470	2801	30925	16026	3249	19276		17.65	Si
SLV 14	12.05	-1130.93	-686	-572	-1821	1.0194	0	0	0	0	30925	12821	2600	15421		8.47	Si
SLV 14	14.43	1016.35	-2725	-2269	-1415	1.2743	0.7926	-6360	11689	2594	30925	16026	3249	19276		13.63	Si
SLV 9	12.05	-838.13	-1433	-1193	-1572	1.0194	0.1562	0	0	0	30925	12821	2600	15421		9.81	Si
SLV 9	14.43	711.26	-1876	-1562	-402	1.2743	0.7742	-4379	11292	2448	30925	16026	3249	19276		47.96	Si
SLV 16	12.05	-991.39	-773	-644	-1446	1.0194	0	0	0	0	30925	12821	2600	15421		10.66	Si
SLV 16	14.43	941.79	-2733	-2276	-1732	1.2743	0.8776	-6378	11692	2873	30925	16026	3249	19276		11.13	Si
SLV 15	12.05	-1129.06	-508	-423	-1651	1.0194	0	0	0	0	30925	12821	2600	15421		9.34	Si
SLV 15	14.43	1018.27	-2893	-2409	-1936	1.2743	0.8554	-6751	11767	2818	30925	16026	3249	19276		9.96	Si
SLD 9	12.05	-643.11	-1688	-1406	-1173	1.0194	0.7687	0	0	0	30925	12821	2600	15421		13.14	Si
SLD 9	14.43	583.54	-1711	-1424	-451	1.2743	0.888	-3992	11215	2789	30925	16026	3249	19276		42.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 13.238 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.52	4640	-1655	106.07	224.72	2.12	Si
SLV 7	179667	0.52	4654	-1661	106.07	225.4	2.12	Si
SLV 12	179667	0.52	4775	-1704	106.07	231.06	2.18	Si
SLV 11	179667	0.52	4789	-1709	106.07	231.74	2.18	Si
SLV 4	179667	0.52	4853	-1731	106.07	234.7	2.21	Si
SLV 3	179667	0.52	4874	-1739	106.07	235.7	2.22	Si
SLV 2	179667	0.52	5173	-1846	106.07	249.66	2.35	Si
SLV 1	179667	0.52	5195	-1853	106.07	250.66	2.36	Si
SLV 16	179667	0.52	5303	-1892	106.07	255.7	2.41	Si
SLV 15	179667	0.52	5325	-1900	106.07	256.7	2.42	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 13.238 Wa = 0.05 Ta = 0.044

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 15	-2893	-508	263	1.895	434	0.918	29.99147	6.13923	Si
SLV 13	-2885	-421	264	1.898	433.2	0.918	30.04813	6.13923	Si
SLV 16	-2733	-773	263	1.977	418	0.916	31.36311	6.13923	Si
SLV 14	-2725	-686	264	1.98	417.2	0.916	31.42536	6.13923	Si
SLV 11	-1902	-1723	78	2.62	335.5	0.903	42.18207	5.11594	Si
SLV 9	-1876	-1433	83	2.642	333	0.902	42.55782	5.11594	Si
SLV 12	-1794	-1901	78	2.724	324.9	0.901	43.94136	5.11594	Si
SLV 10	-1769	-1611	83	2.748	322.4	0.9	44.34952	5.11594	Si
SLV 7	-1067	-2639	-78	3.726	255	0.89	60.8465	5.11594	Si
SLV 5	-1042	-2349	-73	3.777	252.6	0.89	61.70728	5.11594	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.161	SLU 35	Si
V_SLU	3.377	SLU 78	Si
PF_SLV	0.505	SLV 13	No
V_SLV	7.615	SLV 13	Si
PFFP_SLV	2.119	SLV 8	Si
R_SLV	4.885	SLV 15	Si



Maschio 248

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.753	-4.784	-13.143	-4.784	L3	Z medio 333 cm	0.611	0.3	3.01	3.01	3.01			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 79	0.32	1309.44	-11449	-0.0002802	0.0003743	0.0035	0.6106	1349.64	1999.39	1999.39	1.53	No	Si
SLU 79	2.82	453.01	-10089	-0.0001417	0.0003743	0.0035	0.6106	1413.9	1916.48	1916.48	4.23	No	Si
SLU 83	0.32	1374.38	-11916	-0.0003035	0.0003743	0.0035	0.6106	1313.61	2028.27	1970.42	1.43	Si	Si
SLU 83	2.82	471.32	-10479	-0.0001488	0.0003743	0.0035	0.6106	1401.66	1939.71	1939.71	4.12	No	Si
SLU 82	0.32	1376.99	-11959	-0.0003049	0.0003743	0.0035	0.6106	1309.92	2030.99	1964.88	1.43	Si	Si
SLU 82	2.82	472.86	-10502	-0.0001493	0.0003743	0.0035	0.6106	1400.78	1941.1	1941.1	4.11	No	Si
SLU 80	0.32	1320.94	-11585	-0.000285	0.0003743	0.0035	0.6106	1339.83	2007.75	2007.75	1.52	No	Si
SLU 80	2.82	457.58	-10206	-0.0001437	0.0003743	0.0035	0.6106	1410.78	1923.33	1923.33	4.2	No	Si
SLU 77	0.32	1314.48	-11507	-0.0002823	0.0003743	0.0035	0.6106	1345.51	2002.96	2002.96	1.52	No	Si
SLU 77	2.82	456.37	-10156	-0.0001429	0.0003743	0.0035	0.6106	1412.16	1920.42	1920.42	4.21	No	Si
SLU 76	0.32	1319.71	-11583	-0.0002847	0.0003743	0.0035	0.6106	1340.01	2007.6	2007.6	1.52	No	Si
SLU 76	2.82	457.6	-10190	-0.0001435	0.0003743	0.0035	0.6106	1411.22	1922.41	1922.41	4.2	No	Si
SLU 75	0.32	1317.09	-11550	-0.0002836	0.0003743	0.0035	0.6106	1342.4	2005.6	2005.6	1.52	No	Si
SLU 75	2.82	457.91	-10179	-0.0001434	0.0003743	0.0035	0.6106	1411.52	1921.78	1921.78	4.2	No	Si
SLU 81	0.32	1365.48	-11822	-0.0002996	0.0003743	0.0035	0.6106	1321.4	2022.41	1982.1	1.45	Si	Si
SLU 81	2.82	468.29	-10386	-0.0001472	0.0003743	0.0035	0.6106	1405.03	1934.11	1934.11	4.13	No	Si
SLU 78	0.32	1325.99	-11644	-0.0002872	0.0003743	0.0035	0.6106	1335.45	2011.35	2003.17	1.51	Si	Si
SLU 78	2.82	460.94	-10272	-0.0001449	0.0003743	0.0035	0.6106	1408.78	1927.3	1927.3	4.18	No	Si
SLU 84	0.32	1385.89	-12052	-0.000309	0.0003743	0.0035	0.6106	1301.72	2036.91	1952.58	1.41	Si	Si
SLU 84	2.82	475.89	-10595	-0.0001508	0.0003743	0.0035	0.6106	1397.05	1946.75	1946.75	4.09	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 8	0.32	-193.87	1878	0.7407442	0.0005615	0.0035	0.4885		0	0	0		No
SLV 8	2.82	475.62	-1695	-0.0002734	0.0005615	0.0035	0.4885		514.27	514.27	1.08		Si
SLV 16	0.32	1778.85	-10339	-0.0003339	0.0005615	0.0035	0.6106		2303.16	2303.16	1.29		Si
SLV 16	2.82	-805.54	-800	-0.0072644	0.0005615	0.0035	0.4885		310.62	310.62	0.39		No
SLV 13	0.32	2353.02	-15792	-0.0005274	0.0005615	0.0035	0.6106		2846.14	2846.14	1.21		Si
SLV 13	2.82	-865.62	-4014	-0.0001658	0.0005615	0.0035	0.4885		1163.88	1163.88	1.34		Si
SLV 15	0.32	1956.29	-11104	-0.0003904	0.0005615	0.0035	0.6106		2399.33	2399.33	1.23		Si
SLV 15	2.82	-1015.48	46	-0.0139686	0.0005615	0.0035	0.4885		0	0	0		No
SLV 3	0.32	-411.16	-530	-0.0021531	0.0005615	0.0035	0.4885		231.7	231.7	0.56		No
SLV 3	2.82	1277.26	-8830	-0.0002122	0.0005615	0.0035	0.6106		2071.53	2071.53	1.62		Si
SLV 12	0.32	516.37	-1294	-0.0094297	0.0005615	0.0035	0.4885		402.05	402.05	0.78		No
SLV 12	2.82	-212.21	968	0.3844365	0.0005615	0.0035	0.4885		0	0	0		No
SLV 11	0.32	635.83	-1809	-0.0082496	0.0005615	0.0035	0.4885		545.88	545.88	0.86		No
SLV 11	2.82	-353.55	1538	0.6110979	0.0005615	0.0035	0.4885		0	0	0		No
SLV 7	0.32	-74.4	1363	0	0.0005615	0.0035	0.4885		0	0	0		No
SLV 7	2.82	334.27	-1125	-0.0004312	0.0005615	0.0035	0.4885		353.85	353.85	1.06		Si
SLV 14	0.32	2175.58	-15027	-0.0004515	0.0005615	0.0035	0.6106		2794.17	2794.17	1.28		Si
SLV 14	2.82	-655.69	-4860	-0.0001004	0.0005615	0.0035	0.6106		1362.32	1362.32	2.08		Si
SLV 4	0.32	-588.6	235	0.0803735	0.0005615	0.0035	0.4885		0	0	0		No
SLV 4	2.82	1487.2	-9676	-0.000256	0.0005615	0.0035	0.6106		2219.87	2219.87	1.49		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, γM = 3

Comb.	Quota	M	N	Nmur	V	df	l'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 62	0.32	1246.78	-10768	-9068	2959	0.6106	0.5685	-49501	10833	3006	33304	5485	1557	4509	Si	1.52	Si
SLU 62	2.82	430.57	-9440	-7949	-1315	0.6106	0.6106	-43395	10833	2708	33304	5485	1557	4061	Si	3.09	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	0.32	1365.48	-11822	-9955	3246	0.6106	0.5694	-54347	10833	3243	33304	5485	1557	4864	Si	1.5	Si
SLU 81	2.82	468.29	-10386	-8746	-1424	0.6106	0.6106	-47747	10833	2920	33304	5485	1557	4380	Si	3.08	Si
SLU 82	0.32	1376.99	-11959	-10070	3272	0.6106	0.5705	-54975	10833	3273	33304	5485	1557	4910	Si	1.5	Si
SLU 82	2.82	472.86	-10502	-8844	-1437	0.6106	0.6106	-48280	10833	2946	33304	5485	1557	4419	Si	3.08	Si
SLU 60	0.32	1237.88	-10674	-8989	2939	0.6106	0.568	-49071	10833	2985	33304	5485	1557	4477	Si	1.52	Si
SLU 60	2.82	427.54	-9347	-7871	-1307	0.6106	0.6106	-42968	10833	2687	33304	5485	1557	4030	Si	3.08	Si
SLU 79	0.32	1309.44	-11449	-9641	3110	0.6106	0.5728	-52631	10833	3159	33304	5485	1557	4738	Si	1.52	Si
SLU 79	2.82	453.01	-10089	-8496	-1380	0.6106	0.6106	-46382	10833	2854	33304	5485	1557	4280	Si	3.1	Si
SLU 84	0.32	1385.89	-12052	-10149	3292	0.6106	0.5709	-55405	10833	3294	33304	5485	1557	4941	Si	1.5	Si
SLU 84	2.82	475.89	-10595	-8922	-1446	0.6106	0.6106	-48708	10833	2967	33304	5485	1557	4451	Si	3.08	Si
SLU 61	0.32	1249.39	-10811	-9104	2965	0.6106	0.5692	-49699	10833	3016	33304	5485	1557	4523	Si	1.53	Si
SLU 61	2.82	432.11	-9463	-7969	-1319	0.6106	0.6106	-43501	10833	2713	33304	5485	1557	4069	Si	3.08	Si
SLU 74	0.32	1305.58	-11414	-9612	3101	0.6106	0.5727	-52470	10833	3151	33304	5485	1557	4726	Si	1.52	Si
SLU 74	2.82	453.35	-10063	-8474	-1382	0.6106	0.6106	-46262	10833	2848	33304	5485	1557	4271	Si	3.09	Si
SLU 77	0.32	1314.48	-11507	-9690	3121	0.6106	0.5732	-52900	10833	3172	33304	5485	1557	4758	Si	1.52	Si
SLU 77	2.82	456.37	-10156	-8553	-1391	0.6106	0.6106	-46690	10833	2869	33304	5485	1557	4303	Si	3.09	Si
SLU 83	0.32	1374.38	-11916	-10034	3266	0.6106	0.5699	-54777	10833	3264	33304	5485	1557	4895	Si	1.5	Si
SLU 83	2.82	471.32	-10479	-8825	-1433	0.6106	0.6106	-48174	10833	2941	33304	5485	1557	4412	Si	3.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 16	0.32	1778.85	-10339	-8706	4571	0.6106	0.3997	-47529	16250	3203	33304	8228	1557	9785		2.14	Si
SLV 16	2.82	-805.54	-800	-674	2627	0.4885	0	0	0	0	33304	6582	1246	7828		2.98	Si
SLV 4	0.32	-588.6	235	198	-1735	0.4885	0	0	0	0	33304	6582	1246	7828		4.51	Si
SLV 4	2.82	1487.2	-9676	-8148	-4859	0.6106	0.4548	-44483	16250	3055	33304	8228	1557	9785		2.01	Si
SLV 1	0.32	-14.43	-5218	-4394	-378	0.6106	0.6106	-23988	15214	2787	33304	8228	1557	9785		25.86	Si
SLV 1	2.82	1427.12	-12890	-10854	-4533	0.6106	0.5838	-59255	16250	3776	33304	8228	1557	9785		2.16	Si
SLV 13	0.32	2353.02	-15792	-13299	5928	0.6106	0.4689	-72597	16250	4428	33304	8228	1557	9785		1.65	Si
SLV 13	2.82	-865.62	-4014	-3380	2953	0.4885	0.2689	0	0	0	33304	6582	1246	7828		2.65	Si
SLV 15	0.32	1956.29	-11104	-9351	5027	0.6106	0.3874	-51047	16250	3375	33304	8228	1557	9785		1.95	Si
SLV 15	2.82	-1015.48	46	39	3334	0.4885	0	0	0	0	33304	6582	1246	7828		2.35	Si
SLV 10	0.32	1838.82	-16920	-14248	4391	0.6106	0.5899	-77782	16250	4681	33304	8228	1557	9785		2.23	Si
SLV 10	2.82	287.31	-12565	-10581	-704	0.6106	0.6106	-57764	16250	3703	33304	8228	1557	9785		13.91	Si
SLV 9	0.32	1958.29	-17435	-14682	4698	0.6106	0.579	-80151	16250	4797	33304	8228	1557	9785		2.08	Si
SLV 9	2.82	145.96	-11995	-10101	-228	0.6106	0.6106	-55143	16250	3575	33304	8228	1557	9785		42.99	Si
SLD 13	0.32	1820.28	-12860	-10830	4542	0.6106	0.4913	-59120	16250	3770	33304	8228	1557	9785		2.15	Si
SLD 13	2.82	-444.17	-4985	-4198	1553	0.6106	0.6106	-22915	15000	2748	33304	8228	1557	9785		6.3	Si
SLV 14	0.32	2175.58	-15027	-12654	5473	0.6106	0.4816	-69079	16250	4256	33304	8228	1557	9785		1.79	Si
SLV 14	2.82	-655.69	-4860	-4093	2246	0.6106	0.5112	-27068	15830	2428	33304	8228	1557	9785		4.36	Si
SLV 2	0.32	-191.86	-4453	-3750	-834	0.6106	0.6106	-20470	14511	2658	33304	8228	1557	9785		11.73	Si
SLV 2	2.82	1637.06	-13736	-11567	-5240	0.6106	0.5584	-63147	16250	3966	33304	8228	1557	9785		1.87	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.825 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 12	179667	0.28	0	417	36.35	0	0	No, Trazione
SLV 8	179667	0.28	0	1030	36.35	0	0	No, Trazione
SLV 11	179667	0.28	0	315	36.35	0	0	No, Trazione
SLV 7	179667	0.28	0	929	36.35	0	0	No, Trazione
SLV 4	179667	0.28	17579	-3220	36.35	427.41	11.76	Si
SLV 3	179667	0.28	18402	-3371	36.35	444.71	12.23	Si
SLV 16	179667	0.28	28748	-5266	36.35	641.22	17.64	Si
SLV 15	179667	0.28	29571	-5417	36.35	655.2	18.02	Si
SLV 2	179667	0.28	40934	-7498	36.35	823.27	22.65	Si
SLV 1	179667	0.28	41757	-7649	36.35	833.65	22.93	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.825 Wa = 0.05 Ta = 0.0504

Comb.	N top	N base	V orto	α_0	M*	e*	α_0^*	aLim	Verifica
SLV 2	-9506	-4453	23	0.393	1045.5	0.977	5.84471	4.11834	Si
SLV 1	-9003	-5218	23	0.411	994.3	0.976	6.12268	4.11834	Si
SLV 6	-10980	-13748	46	0.347	1195.7	0.98	5.14481	3.33128	Si
SLV 5	-10641	-14263	46	0.356	1161.2	0.979	5.28226	3.33128	Si
SLV 10	-9427	-16920	44	0.394	1037.5	0.977	5.85516	3.33128	Si
SLV 9	-9088	-17435	44	0.406	1002.9	0.976	6.04098	3.33128	Si
SLV 4	-6619	235	1	0.535	751.5	0.969	8.03025	4.11834	Si, Trazione
SLV 3	-6116	-530	1	0.572	700.3	0.966	8.60419	4.11834	Si
SLV 14	-4329	-15027	16	0.762	518.5	0.956	11.59267	4.11834	Si
SLV 13	-3826	-15792	16	0.846	467.4	0.952	12.91311	4.11834	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.409	SLU 84	Si
V_SLU	1.499	SLU 81	Si
PF_SLV	0	SLV 4	No
V_SLV	1.651	SLV 13	Si
PFFP_SLV	0	SLV 12	No



Stato limite	Coeff.s.	Comb.	Verifica
R_SLV	1.419	SLV 2	Si

Maschio 249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.743	-4.784	-11.013	-4.784	L3	Z medio 333 cm	0.73	0.3	3.01	3.01	3.01			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 77	0.32	-548.87	-12010	-0.0001337	0.0003743	0.0035	0.73	2022.43	2791.95	2791.95	5.09	No	Si
SLU 77	2.82	-1116.89	-14169	-0.0002057	0.0003743	0.0035	0.73	1885.21	2936.5	2827.81	2.53	Si	Si
SLU 79	0.32	-549.37	-11957	-0.0001331	0.0003743	0.0035	0.73	2023.89	2788.75	2788.75	5.08	No	Si
SLU 79	2.82	-1111.08	-14084	-0.000204	0.0003743	0.0035	0.73	1893.48	2930.34	2840.22	2.56	Si	Si
SLU 83	0.32	-605.52	-12534	-0.0001436	0.0003743	0.0035	0.73	2003.17	2824.37	2824.37	4.66	No	Si
SLU 83	2.82	-1156.89	-14634	-0.0002158	0.0003743	0.0035	0.73	1835.72	2961.59	2753.57	2.38	Si	Si
SLU 75	0.32	-557.96	-12085	-0.0001351	0.0003743	0.0035	0.73	2020.22	2796.47	2796.47	5.01	No	Si
SLU 75	2.82	-1113.4	-14189	-0.0002057	0.0003743	0.0035	0.73	1883.29	2937.91	2824.93	2.54	Si	Si
SLU 80	0.32	-555.65	-12107	-0.0001352	0.0003743	0.0035	0.73	2019.54	2797.8	2797.8	5.04	No	Si
SLU 80	2.82	-1119.32	-14243	-0.0002069	0.0003743	0.0035	0.73	1877.82	2941.89	2816.74	2.52	Si	Si
SLU 84	0.32	-611.79	-12684	-0.0001457	0.0003743	0.0035	0.73	1995.97	2834.08	2834.08	4.63	No	Si
SLU 84	2.82	-1165.13	-14792	-0.0002188	0.0003743	0.0035	0.73	1817.2	2963.4	2725.81	2.34	Si	Si
SLU 76	0.32	-562.65	-12132	-0.000136	0.0003743	0.0035	0.73	2018.75	2799.31	2799.31	4.98	No	Si
SLU 76	2.82	-1113.09	-14209	-0.0002059	0.0003743	0.0035	0.73	1881.2	2939.43	2821.81	2.54	Si	Si
SLU 78	0.32	-555.15	-12161	-0.0001357	0.0003743	0.0035	0.73	2017.81	2801.07	2801.07	5.05	No	Si
SLU 78	2.82	-1125.13	-14328	-0.0002086	0.0003743	0.0035	0.73	1869.11	2948.15	2803.66	2.49	Si	Si
SLU 81	0.32	-608.34	-12458	-0.000143	0.0003743	0.0035	0.73	2006.5	2819.57	2819.57	4.63	No	Si
SLU 81	2.82	-1145.17	-14495	-0.0002128	0.0003743	0.0035	0.73	1851.29	2957.18	2776.94	2.42	Si	Si
SLU 82	0.32	-614.61	-12609	-0.0001451	0.0003743	0.0035	0.73	1999.67	2829.19	2829.19	4.6	No	Si
SLU 82	2.82	-1153.4	-14653	-0.0002157	0.0003743	0.0035	0.73	1833.5	2962.11	2750.25	2.38	Si	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 4	0.32	-1958.69	-11833	-0.0002331	0.0005615	0.0035	0.73		3279.11	3279.11	1.67		Si
SLV 4	2.82	-1117.2	-1924	-0.0191103	0.0005615	0.0035	0.584		702.08	702.08	0.63		No
SLD 15	0.32	796.51	-2548	-0.0001826	0.0005615	0.0035	0.73		907.01	907.01	1.14		Si
SLD 15	2.82	-1738.32	-10949	-0.0002034	0.0005615	0.0035	0.73		3123.92	3123.92	1.8		Si
SLV 11	0.32	545.15	2320	0.5803639	0.0005615	0.0035	0.584		0	0	0		No
SLV 11	2.82	-778.12	-2008	-0.0005884	0.0005615	0.0035	0.584		822.34	822.34	1.06		Si
SLV 12	0.32	381.75	1694	0.4245668	0.0005615	0.0035	0.584		0	0	0		No
SLV 12	2.82	-591.31	-1496	-0.0004441	0.0005615	0.0035	0.584		652.91	652.91	1.1		Si
SLV 15	0.32	1449.04	657	-0.0561611	0.0005615	0.0035	0.584		0	0	0		No
SLV 15	2.82	-2291.17	-11655	-0.0002845	0.0005615	0.0035	0.73		3247.32	3247.32	1.42		Si
SLV 7	0.32	-404.35	-1149	-0.0001619	0.0005615	0.0035	0.584		534.28	534.28	1.32		Si
SLV 7	2.82	161.15	683	0.1708475	0.0005615	0.0035	0.584		0	0	0		No
SLV 8	0.32	-567.76	-1774	-0.0001318	0.0005615	0.0035	0.584		745.25	745.25	1.31		Si
SLV 8	2.82	347.96	1195	0.29548	0.0005615	0.0035	0.584		0	0	0		No
SLV 16	0.32	1206.33	-272	-0.0474916	0.0005615	0.0035	0.584		131.27	131.27	0.11		No
SLV 16	2.82	-2013.71	-10895	-0.0002388	0.0005615	0.0035	0.73		3114.51	3114.51	1.55		Si
SLV 3	0.32	-1715.98	-10904	-0.0002008	0.0005615	0.0035	0.73		3116.08	3116.08	1.82		Si
SLV 3	2.82	839.74	-2684	-0.0001955	0.0005615	0.0035	0.73		950.95	950.95	1.13		Si
SLV 13	0.32	1240.3	-4366	-0.0002074	0.0005615	0.0035	0.73		1451.49	1451.49	1.17		Si
SLV 13	2.82	-2609.95	-17125	-0.0003525	0.0005615	0.0035	0.73		3990.44	3990.44	1.53		Si



Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	α_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 69	0.32	-424.45	-10488	-8832	21	0.73	0.73	-40327	10833	3058	33304	6558	1862	4587	Si	213.35	Si
SLU 69	2.82	-982.66	-12562	-10579	1413	0.73	0.73	-48304	10833	3524	33304	6558	1862	5286	Si	3.74	Si
SLU 71	0.32	-424.95	-10434	-8787	14	0.73	0.73	-40121	10833	3046	33304	6558	1862	4569	Si	331.63	Si
SLU 71	2.82	-976.85	-12477	-10507	1404	0.73	0.73	-47977	10833	3505	33304	6558	1862	5257	Si	3.74	Si
SLU 77	0.32	-548.87	-12010	-10114	-133	0.73	0.73	-46182	10833	3400	33304	6558	1862	5100	Si	38.42	Si
SLU 77	2.82	-1116.89	-14169	-11932	1568	0.73	0.73	-54484	10833	3885	33304	6558	1862	5827	Si	3.72	Si
SLU 83	0.32	-605.52	-12534	-10555	-223	0.73	0.73	-48195	10833	3517	33304	6558	1862	5276	Si	23.63	Si
SLU 83	2.82	-1156.89	-14634	-11860	1608	0.73	0.73	-56270	10833	3989	33304	6558	1862	5983	Si	3.72	Si
SLU 74	0.32	-551.69	-11935	-10050	-149	0.73	0.73	-45892	10833	3383	33304	6558	1862	5074	Si	33.96	Si
SLU 74	2.82	-1105.17	-14030	-11815	1550	0.73	0.73	-53948	10833	3853	33304	6558	1862	5780	Si	3.73	Si
SLU 84	0.32	-611.79	-12684	-10682	-225	0.73	0.73	-48774	10833	3551	33304	6558	1862	5327	Si	23.71	Si
SLU 84	2.82	-1165.13	-14792	-12457	1615	0.73	0.73	-56880	10833	4025	33304	6558	1862	6037	Si	3.74	Si
SLU 79	0.32	-549.37	-11957	-10069	-140	0.73	0.73	-45976	10833	3388	33304	6558	1862	5082	Si	36.17	Si
SLU 79	2.82	-1111.08	-14084	-11860	1560	0.73	0.73	-54157	10833	3866	33304	6558	1862	5798	Si	3.72	Si
SLU 81	0.32	-608.34	-12458	-10491	-240	0.73	0.73	-47905	10833	3500	33304	6558	1862	5251	Si	21.89	Si
SLU 81	2.82	-1145.17	-14495	-12206	1589	0.73	0.73	-55735	10833	3958	33304	6558	1862	5936	Si	3.74	Si
SLU 80	0.32	-555.65	-12107	-10196	-142	0.73	0.73	-46555	10833	3422	33304	6558	1862	5132	Si	36.17	Si
SLU 80	2.82	-1119.32	-14243	-11994	1567	0.73	0.73	-54767	10833	3901	33304	6558	1862	5852	Si	3.73	Si
SLU 78	0.32	-555.15	-12161	-10241	-134	0.73	0.73	-46761	10833	3434	33304	6558	1862	5150	Si	38.39	Si
SLU 78	2.82	-1125.13	-14328	-12066	1575	0.73	0.73	-55093	10833	3920	33304	6558	1862	5880	Si	3.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	α_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 13	0.32	1240.3	-4366	-3677	4016	0.73	0.2428	-52081	16250	2035	33304	9837	1862	11698		2.91	Si
SLV 13	2.82	-2609.95	-17125	-14421	4837	0.73	0.6378	-79764	16250	4900	33304	9837	1862	11698		2.42	Si
SLD 15	0.32	796.51	-2548	-2146	2611	0.73	0.1573	-46624	16250	1626	33304	9837	1862	11698		4.48	Si
SLD 15	2.82	-1738.32	-10949	-9220	3333	0.73	0.6187	-51205	16250	3513	33304	9837	1862	11698		3.51	Si
SLV 1	0.32	-1924.72	-15927	-13412	-3680	0.73	0.73	-61244	16250	4631	33304	9837	1862	11698		3.18	Si
SLV 1	2.82	520.97	-8155	-6867	-1862	0.73	0.73	-31357	16250	3559	33304	9837	1862	11698		6.28	Si
SLV 16	0.32	1206.33	-272	-229	3551	0.584	0	0	0	0	33304	7869	1489	9359		2.64	Si
SLV 16	2.82	-2013.71	-10895	-9175	3986	0.73	0.5405	-58678	16250	3501	33304	9837	1862	11698		2.93	Si
SLD 13	0.32	668.02	-5650	-4758	2552	0.73	0.73	-21725	14762	3233	33304	9837	1862	11698		4.58	Si
SLD 13	2.82	-1936.03	-14330	-12067	3477	0.73	0.6897	-60593	16250	4272	33304	9837	1862	11698		3.36	Si
SLV 2	0.32	-2167.43	-16857	-14195	-4242	0.73	0.7093	-69907	16250	4839	33304	9837	1862	11698		2.76	Si
SLV 2	2.82	798.43	-7395	-6227	-2482	0.73	0.73	-28436	16104	3527	33304	9837	1862	11698		4.71	Si
SLV 3	0.32	-1715.98	-10904	-9182	-3583	0.73	0.6229	-50632	16250	3503	33304	9837	1862	11698		3.26	Si
SLV 3	2.82	839.74	-2684	-2260	-2092	0.73	0.1564	-49492	16250	1657	33304	9837	1862	11698		5.59	Si
SLV 4	0.32	-1958.69	-11833	-9965	-4145	0.73	0.5984	-57484	16250	3711	33304	9837	1862	11698		2.82	Si
SLV 4	2.82	1117.2	-1924	-1620	-2712	0.584	0	0	0	0	33304	7869	1489	9359		3.45	Si
SLV 14	0.32	997.59	-5295	-4459	3454	0.73	0.5298	-20362	14489	2303	33304	9837	1862	11698		3.39	Si
SLV 14	2.82	-2332.48	-16366	-13782	4217	0.73	0.6674	-72286	16250	4729	33304	9837	1862	11698		2.77	Si
SLV 15	0.32	1449.04	657	554	4113	0.584	0	0	0	0	33304	7869	1489	9359		2.28	Si
SLV 15	2.82	-2291.17	-11655	-9814	4606	0.73	0.5052	-67681	16250	3671	33304	9837	1862	11698		2.54	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1.825 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	α_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.28	0	1416	43.46	0	0	No, Trazione
SLV 11	179667	0.28	0	1142	43.46	0	0	No, Trazione
SLV 8	179667	0.28	0	1431	43.46	0	0	No, Trazione
SLV 12	179667	0.28	0	1157	43.46	0	0	No, Trazione
SLV 4	179667	0.28	25682	-5624	43.46	701.78	16.15	Si
SLV 3	179667	0.28	25785	-5647	43.46	704.03	16.2	Si
SLV 16	179667	0.28	29846	-6536	43.46	788.83	18.15	Si
SLV 15	179667	0.28	29950	-6559	43.46	790.9	18.2	Si
SLV 2	179667	0.28	54559	-11949	43.46	1151.98	26.5	Si
SLV 1	179667	0.28	54663	-11971	43.46	1152.94	26.53	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 1.825 Wa = 0.05 Ta = 0.0504

Comb.	N top	N base	V orto	α_0	M*	e*	a0*	aLim	Verifica
SLV 9	-14123	-14425	82	0.325	1531	0.981	4.8136	3.33128	Si
SLV 10	-13939	-15051	82	0.328	1512.2	0.981	4.86657	3.33128	Si
SLV 13	-10791	-4366	30	0.41	1191.5	0.976	6.1052	4.11834	Si
SLV 14	-10517	-5295	30	0.419	1163.6	0.975	6.24113	4.11834	Si
SLV 5	-13074	-17893	80	0.346	1424.1	0.98	5.13512	3.33128	Si
SLV 6	-12890	-18519	80	0.35	1405.3	0.979	5.19675	3.33128	Si
SLV 1	-7294	-15927	25	0.57	835.4	0.966	8.5755	4.11834	Si
SLV 2	-7021	-16857	25	0.589	807.6	0.965	8.86702	4.11834	Si
SLV 15	-6847	657	-15	0.603	789.9	0.965	9.08335	4.11834	Si, Trazione
SLV 16	-6574	-272	-15	0.624	762.1	0.963	9.41226	4.11834	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.339	SLU 84	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	3.715	SLV 77	Si
PF_SLV	0	SLV 7	No
V_SLV	2.276	SLV 15	Si
PFFP_SLV	0	SLV 12	No
R_SLV	1.445	SLV 9	Si

Maschio 252

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.784	-12.933	-4.784	Z medio 333 cm	Z medio 676 cm	0.68	0.3	3.43	3.43	3.43			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 83	4.28	705.16	-7907	-0.0001175	0.0003743	0.0035	0.68	1665.05	1973.11	1973.11	2.8	No	Si
SLU 83	6.28	82.11	-7833	-0.0000684	0.0003743	0.0035	0.68	1658.92	1963.19	1963.19	23.91	No	Si
SLU 80	4.28	690.54	-7737	-0.0001146	0.0003743	0.0035	0.68	1650.78	1950.51	1950.51	2.82	No	Si
SLU 80	6.28	82.9	-7649	-0.0000668	0.0003743	0.0035	0.68	1643.01	1938.71	1938.71	23.39	No	Si
SLU 82	4.28	700.32	-7880	-0.0001168	0.0003743	0.0035	0.68	1662.86	1969.53	1969.53	2.81	No	Si
SLU 82	6.28	84.83	-7802	-0.0000683	0.0003743	0.0035	0.68	1656.3	1959.06	1959.06	23.09	No	Si
SLU 84	4.28	709.28	-7970	-0.0001185	0.0003743	0.0035	0.68	1670.07	1981.36	1981.36	2.79	No	Si
SLU 84	6.28	84.7	-7888	-0.0000691	0.0003743	0.0035	0.68	1663.46	1970.51	1970.51	23.26	No	Si
SLU 79	4.28	686.43	-7674	-0.0001136	0.0003743	0.0035	0.68	1645.28	1942.22	1942.22	2.83	No	Si
SLU 79	6.28	80.31	-7594	-0.0000661	0.0003743	0.0035	0.68	1638.03	1930.64	1930.64	24.04	No	Si
SLU 81	4.28	696.2	-7818	-0.0001158	0.0003743	0.0035	0.68	1657.65	1961.17	1961.17	2.82	No	Si
SLU 81	6.28	82.24	-7747	-0.0000676	0.0003743	0.0035	0.68	1651.6	1951.77	1951.77	23.73	No	Si
SLU 78	4.28	695.39	-7793	-0.0001155	0.0003743	0.0035	0.68	1655.6	1957.95	1957.95	2.82	No	Si
SLU 78	6.28	83.92	-7712	-0.0000675	0.0003743	0.0035	0.68	1648.56	1947.14	1947.14	23.2	No	Si
SLU 74	4.28	682.31	-7641	-0.0001129	0.0003743	0.0035	0.68	1642.29	1937.56	1937.56	2.84	No	Si
SLU 74	6.28	81.45	-7571	-0.000066	0.0003743	0.0035	0.68	1635.89	1927.13	1927.13	23.66	No	Si
SLU 77	4.28	691.28	-7731	-0.0001146	0.0003743	0.0035	0.68	1650.21	1949.63	1949.63	2.82	No	Si
SLU 77	6.28	81.32	-7657	-0.0000668	0.0003743	0.0035	0.68	1643.7	1939.83	1939.83	23.85	No	Si
SLU 75	4.28	686.43	-7704	-0.0001139	0.0003743	0.0035	0.68	1647.86	1946.09	1946.09	2.84	No	Si
SLU 75	6.28	84.04	-7626	-0.0000667	0.0003743	0.0035	0.68	1640.9	1935.32	1935.32	23.03	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	4.28	1542.01	-7951	-0.0002097	0.0005615	0.0035	0.68		2188.98	2188.98	1.42		Si
SLV 15	6.28	-1478.19	1641	0.6709246	0.0005615	0.0035	0.544		0	0	0		No
SLV 3	4.28	-598.75	-664	-0.0035447	0.0005615	0.0035	0.544		299.79	299.79	0.5		No
SLV 3	6.28	1288.49	-8890	-0.0001698	0.0005615	0.0035	0.68		2375.59	2375.59	1.84		Si
SLV 12	4.28	420.82	-2019	-0.000052	0.0005615	0.0035	0.68		678.78	678.78	1.61		Si
SLV 12	6.28	-381.06	-307	-0.0019604	0.0005615	0.0035	0.544		182.35	182.35	0.48		No
SLV 16	4.28	1351.13	-7331	-0.0001764	0.0005615	0.0035	0.68		2067.71	2067.71	1.53		Si
SLV 16	6.28	-1234.75	711	0.2797851	0.0005615	0.0035	0.544		0	0	0		No
SLV 8	4.28	-221.41	167	0.0690024	0.0005615	0.0035	0.544		0	0	0		No
SLV 8	6.28	448.94	-3466	-0.000056	0.0005615	0.0035	0.68		1105.07	1105.07	2.46		Si
SLV 11	4.28	549.33	-2436	-0.0000733	0.0005615	0.0035	0.68		805.66	805.66	1.47		Si
SLV 11	6.28	-544.96	320	0.1261318	0.0005615	0.0035	0.544		0	0	0		No
SLV 4	4.28	-789.63	-43	-0.0090685	0.0005615	0.0035	0.544		94.82	94.82	0.12		No
SLV 4	6.28	1531.93	-9820	-0.0002047	0.0005615	0.0035	0.68		2564.37	2564.37	1.67		Si
SLV 13	4.28	1723.92	-10405	-0.000235	0.0005615	0.0035	0.68		2684.76	2684.76	1.56		Si
SLV 13	6.28	-1414.01	-516	-0.0146891	0.0005615	0.0035	0.544		251.26	251.26	0.18		No
SLV 14	4.28	1533.04	-9784	-0.0002048	0.0005615	0.0035	0.68		2557.03	2557.03	1.67		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 14	6.28	-1170.57	-1445	-0.008526	0.0005615	0.0035	0.544		549.98	549.98	0.47		No
SLD 15	4.28	1157.71	-7000	-0.0001465	0.0005615	0.0035	0.68		1999.14	1999.14	1.73		Si
SLD 15	6.28	-924.24	-836	-0.0074231	0.0005615	0.0035	0.544		356.06	356.06	0.39		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 76	4.28	684.32	-7689	-6475	1176	0.68	0.68	-31740	10833	2381	38062	6109	1734	3572	Si	3.04	Si
SLU 76	6.28	84.76	-7600	-6400	-515	0.68	0.68	-31369	10833	2361	38062	6109	1734	3542	Si	6.87	Si
SLU 79	4.28	686.43	-7674	-6463	1178	0.68	0.68	-31678	10833	2378	38062	6109	1734	3567	Si	3.03	Si
SLU 79	6.28	80.31	-7594	-6395	-505	0.68	0.68	-31346	10833	2360	38062	6109	1734	3540	Si	7.01	Si
SLU 77	4.28	691.28	-7731	-6510	1186	0.68	0.68	-31910	10833	2391	38062	6109	1734	3586	Si	3.02	Si
SLU 77	6.28	81.32	-7657	-6448	-511	0.68	0.68	-31605	10833	2374	38062	6109	1734	3561	Si	6.97	Si
SLU 80	4.28	690.54	-7737	-6516	1187	0.68	0.68	-31937	10833	2392	38062	6109	1734	3588	Si	3.02	Si
SLU 80	6.28	82.9	-7649	-6441	-513	0.68	0.68	-31573	10833	2372	38062	6109	1734	3558	Si	6.93	Si
SLU 82	4.28	700.32	-7880	-6636	1206	0.68	0.68	-32528	10833	2424	38062	6109	1734	3636	Si	3.02	Si
SLU 82	6.28	84.83	-7802	-6570	-514	0.68	0.68	-32204	10833	2407	38062	6109	1734	3610	Si	7.02	Si
SLU 81	4.28	696.2	-7818	-6583	1196	0.68	0.68	-32269	10833	2410	38062	6109	1734	3615	Si	3.02	Si
SLU 81	6.28	82.24	-7747	-6524	-506	0.68	0.68	-31977	10833	2394	38062	6109	1734	3591	Si	7.1	Si
SLU 75	4.28	686.43	-7704	-6487	1178	0.68	0.68	-31799	10833	2385	38062	6109	1734	3577	Si	3.04	Si
SLU 75	6.28	84.04	-7626	-6422	-516	0.68	0.68	-31477	10833	2367	38062	6109	1734	3551	Si	6.89	Si
SLU 83	4.28	705.16	-7907	-6659	1213	0.68	0.68	-32639	10833	2430	38062	6109	1734	3645	Si	3	Si
SLU 83	6.28	82.11	-7833	-6596	-509	0.68	0.68	-32332	10833	2414	38062	6109	1734	3620	Si	7.11	Si
SLU 78	4.28	695.39	-7793	-6563	1195	0.68	0.68	-32169	10833	2405	38062	6109	1734	3607	Si	3.02	Si
SLU 78	6.28	83.92	-7712	-6494	-519	0.68	0.68	-31832	10833	2386	38062	6109	1734	3580	Si	6.9	Si
SLU 84	4.28	709.28	-7970	-6712	1223	0.68	0.68	-32898	10833	2444	38062	6109	1734	3667	Si	3	Si
SLU 84	6.28	84.7	-7888	-6642	-517	0.68	0.68	-32559	10833	2426	38062	6109	1734	3639	Si	7.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	αN	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	4.28	-598.75	-664	-559	-2281	0.544	0	0	0	0	38062	7331	1387	8718		3.82	Si
SLV 3	6.28	1288.49	-8890	-7487	-4202	0.68	0.5852	-36697	16250	2978	38062	9163	1734	10898		2.59	Si
SLV 2	4.28	-607.72	-2497	-2103	-2499	0.544	0.2899	0	0	0	38062	7331	1387	8718		3.49	Si
SLV 2	6.28	1596.11	-11977	-10086	-5169	0.68	0.6202	-49438	16250	3672	38062	9163	1734	10898		2.11	Si
SLD 2	4.28	-223.42	-3448	-2903	-1320	0.68	0.68	-14231	13263	2706	38062	9163	1734	10898		8.25	Si
SLD 2	6.28	1042.16	-9500	-8000	-3439	0.68	0.68	-39212	16250	3315	38062	9163	1734	10898		3.17	Si
SLV 4	4.28	-789.63	-43	-36	-2870	0.544	0	0	0	0	38062	7331	1387	8718		3.04	Si
SLV 4	6.28	1531.93	-9820	-8270	-4952	0.68	0.5521	-40535	16250	3187	38062	9163	1734	10898		2.2	Si
SLV 1	4.28	-416.84	-3117	-2625	-1911	0.68	0.6189	-12867	12990	2412	38062	9163	1734	10898		5.7	Si
SLV 1	6.28	1352.67	-11047	-9303	-4419	0.68	0.6527	-45600	16250	3463	38062	9163	1734	10898		2.47	Si
SLD 15	4.28	1157.71	-7000	-5895	2897	0.68	0.5239	-28895	16196	2554	38062	9163	1734	10898		3.76	Si
SLD 15	6.28	-924.24	-836	-704	2700	0.544	0	0	0	0	38062	7331	1387	8718		3.23	Si
SLV 13	4.28	1723.92	-10405	-8762	4446	0.68	0.523	-42948	16250	3318	38062	9163	1734	10898		2.45	Si
SLV 13	6.28	-1414.01	-516	-434	4213	0.544	0	0	0	0	38062	7331	1387	8718		2.07	Si
SLV 16	4.28	1351.13	-7331	-6173	3487	0.68	0.4671	-30259	16250	2628	38062	9163	1734	10898		3.12	Si
SLV 16	6.28	-1234.75	711	599	3680	0.544	0	0	0	0	38062	7331	1387	8718		2.37	Si
SLV 14	4.28	1533.04	-9784	-8239	3858	0.68	0.55	-40388	16250	3179	38062	9163	1734	10898		2.82	Si
SLV 14	6.28	-1170.57	-1445	-1217	3463	0.544	0	0	0	0	38062	7331	1387	8718		2.52	Si
SLV 15	4.28	1542.01	-7951	-6696	4076	0.68	0.4382	-32820	16250	2767	38062	9163	1734	10898		2.67	Si
SLV 15	6.28	-1478.19	1641	1382	4430	0.544	0	0	0	0	38062	7331	1387	8718		1.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.045 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	179667	0.35	6020	-1228	64.98	176.96	2.72	Si
SLV 7	179667	0.35	6231	-1271	64.98	182.89	2.81	Si
SLV 12	179667	0.35	7863	-1604	64.98	228.24	3.51	Si
SLV 11	179667	0.35	8074	-1647	64.98	234.02	3.6	Si
SLV 4	179667	0.35	16672	-3401	64.98	454.49	6.99	Si
SLV 3	179667	0.35	16985	-3465	64.98	461.96	7.11	Si
SLV 16	179667	0.35	22817	-4655	64.98	593.91	9.14	Si
SLV 15	179667	0.35	23130	-4719	64.98	600.61	9.24	Si
SLV 2	179667	0.35	27690	-5649	64.98	693.71	10.68	Si
SLV 1	179667	0.35	28003	-5713	64.98	699.8	10.77	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.045 Wa = 0.05 Ta = 0.0655

Comb.	N top	N base	V orto	M*	e*	a0*	aLim	Verifica
SLV 2	-7957	-7640	-3	0.491	908.7	0.967	7.38458	5.54319
SLV 1	-7453	-7313	-3	0.519	857.3	0.965	7.81887	5.54319
SLV 4	-6402	-5177	-15	0.589	750.4	0.961	8.90469	5.54319
SLV 3	-5897	-4850	-16	0.631	699.1	0.958	9.56735	5.54319
SLV 6	-7669	-9317	19	0.505	879.3	0.966	7.59678	4.17261
SLV 5	-7329	-9097	19	0.525	844.7	0.965	7.90361	4.17261
SLV 10	-5936	-8336	26	0.626	703	0.958	9.48781	4.17261
SLV 9	-5597	-8116	26	0.657	668.5	0.957	9.98964	4.17261
SLV 14	-2182	-4372	19	1.405	322.8	0.92	22.19362	5.54319
SLV 8	-2483	-1106	-22	1.273	353	0.925	19.98915	4.17261

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita



dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.793	SLU 84	Si
V_SLU	2.999	SLU 84	Si
PF_SLV	0	SLV 8	No
V_SLV	1.968	SLV 15	Si
PFFP_SLV	2.723	SLV 8	Si
R_SLV	1.332	SLV 2	Si

Maschio 253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.933	-4.784	-11.153	-4.784	Z medio 333 cm	Z medio 676 cm	0.78	0.3	3.43	3.43	3.43			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 75	4.28	17.66	-9541	-0.0000676	0.0003743	0.0035	0.78	2230.7	2671.3	2671.3	151.27	No	Si
SLU 75	6.28	-488.28	-10001	-0.000099	0.0003743	0.0035	0.78	2263	2820.82	2820.82	5.78	No	Si
SLU 81	4.28	31.46	-9650	-0.0000692	0.0003743	0.0035	0.78	2238.98	2687.65	2687.65	85.44	No	Si
SLU 81	6.28	-509.67	-10203	-0.0001021	0.0003743	0.0035	0.78	2274.98	2847.77	2847.77	5.59	No	Si
SLU 79	4.28	23.9	-9478	-0.0000675	0.0003743	0.0035	0.78	2225.79	2661.87	2661.87	111.38	No	Si
SLU 79	6.28	-492.83	-9995	-0.0000993	0.0003743	0.0035	0.78	2262.58	2819.94	2819.94	5.72	No	Si
SLU 78	4.28	18.02	-9644	-0.0000684	0.0003743	0.0035	0.78	2238.57	2686.83	2686.83	149.07	No	Si
SLU 78	6.28	-493.78	-10122	-0.0001004	0.0003743	0.0035	0.78	2270.29	2836.81	2836.81	5.75	No	Si
SLU 84	4.28	27.31	-9848	-0.0000706	0.0003743	0.0035	0.78	2253.03	2717.63	2717.63	99.51	No	Si
SLU 84	6.28	-513.77	-10376	-0.0001038	0.0003743	0.0035	0.78	2284.16	2871.16	2871.16	5.59	No	Si
SLU 83	4.28	31.82	-9753	-0.0000701	0.0003743	0.0035	0.78	2246.47	2703.27	2703.27	84.95	No	Si
SLU 83	6.28	-515.17	-10324	-0.0001035	0.0003743	0.0035	0.78	2281.48	2864.02	2864.02	5.56	No	Si
SLU 77	4.28	22.54	-9549	-0.0000679	0.0003743	0.0035	0.78	2231.38	2672.61	2672.61	118.58	No	Si
SLU 77	6.28	-495.18	-10069	-0.0001	0.0003743	0.0035	0.78	2267.16	2829.81	2829.81	5.71	No	Si
SLU 82	4.28	26.94	-9744	-0.0000697	0.0003743	0.0035	0.78	2245.85	2701.94	2701.94	100.28	No	Si
SLU 82	6.28	-508.27	-10256	-0.0001025	0.0003743	0.0035	0.78	2277.87	2854.84	2854.84	5.62	No	Si
SLU 74	4.28	22.17	-9446	-0.0000671	0.0003743	0.0035	0.78	2223.2	2656.98	2656.98	119.83	No	Si
SLU 74	6.28	-489.68	-9949	-0.0000987	0.0003743	0.0035	0.78	2259.66	2813.89	2813.89	5.75	No	Si
SLU 80	4.28	19.39	-9573	-0.0000679	0.0003743	0.0035	0.78	2233.19	2676.13	2676.13	138.05	No	Si
SLU 80	6.28	-491.44	-10047	-0.0000996	0.0003743	0.0035	0.78	2265.83	2826.9	2826.9	5.75	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 15	4.28	1815.14	-6	-0.0672825	0.0005615	0.0035	0.624		41.05	41.05	0.02		No
SLV 15	6.28	-2122.44	-11296	-0.0002166	0.0005615	0.0035	0.78	3475.21	3475.21	3475.21	1.64		Si
SLV 4	4.28	-1666.92	-9469	-0.0001641	0.0005615	0.0035	0.78		3102.78	3102.78	1.86		Si
SLV 4	6.28	1458.58	129	-0.0560964	0.0005615	0.0035	0.624		0	0	0		No
SLV 1	4.28	-1510.84	-12109	-0.0001701	0.0005615	0.0035	0.78		3631.13	3631.13	2.4		Si
SLV 1	6.28	1175.66	-3105	-0.0030185	0.0005615	0.0035	0.624		1167.44	1167.44	0.99		No
SLV 2	4.28	-1799.24	-12958	-0.0001966	0.0005615	0.0035	0.78		3798.52	3798.52	2.11		Si
SLV 2	6.28	1464.85	-2232	-0.0230477	0.0005615	0.0035	0.624		864.33	864.33	0.59		No
SLV 12	4.28	610.45	339	-0.0036843	0.0005615	0.0035	0.624		0	0	0		No
SLV 12	6.28	-735.67	-4119	-0.0000668	0.0005615	0.0035	0.78		1596.48	1596.48	2.17		Si
SLV 16	4.28	1526.74	-854	-0.0431388	0.0005615	0.0035	0.624		363.73	363.73	0.24		No
SLV 16	6.28	-1833.24	-10423	-0.0001834	0.0005615	0.0035	0.78		3311.98	3311.98	1.81		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 15	4.28	1163.35	-2378	-0.0111058	0.0005615	0.0035	0.624		915.81	915.81	0.79		No
SLD 15	6.28	-1477.02	-9695	-0.0001495	0.0005615	0.0035	0.78		3156.49	3156.49	2.14		Si
SLV 13	4.28	1682.82	-3495	-0.015675	0.0005615	0.0035	0.624		1298.53	1298.53	0.77		No
SLV 13	6.28	-2116.16	-13656	-0.0002272	0.0005615	0.0035	0.78		3938.39	3938.39	1.86		Si
SLV 3	4.28	-1378.51	-8621	-0.0001357	0.0005615	0.0035	0.78		2893.25	2893.25	2.1		Si
SLV 3	6.28	1169.38	-745	-0.0316888	0.0005615	0.0035	0.624		322.62	322.62	0.28		No
SLV 11	4.28	804.62	910	0.1807402	0.0005615	0.0035	0.624		0	0	0		No
SLV 11	6.28	-930.37	-4707	-0.0000851	0.0005615	0.0035	0.78		1782.81	1782.81	1.92		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 79	4.28	23.9	-9478	-7981	115	0.78	0.78	-34109	10833	2879	38062	7007	1989	4319	Si	37.51	Si
SLU 79	6.28	-492.83	-9995	-8416	1400	0.78	0.78	-35968	10833	2995	38062	7007	1989	4493	Si	3.21	Si
SLU 60	4.28	29.1	-8639	-7275	136	0.78	0.78	-31089	10833	2691	38062	7007	1989	4036	Si	29.63	Si
SLU 60	6.28	-462.16	-9150	-7706	1327	0.78	0.78	-32931	10833	2806	38062	7007	1989	4209	Si	3.17	Si
SLU 81	4.28	31.46	-9650	-8126	118	0.78	0.78	-34727	10833	2918	38062	7007	1989	4377	Si	37.14	Si
SLU 81	6.28	-509.67	-10203	-8592	1441	0.78	0.78	-36720	10833	3042	38062	7007	1989	4563	Si	3.17	Si
SLU 62	4.28	29.46	-8742	-7362	138	0.78	0.78	-31461	10833	2714	38062	7007	1989	4071	Si	29.48	Si
SLU 62	6.28	-467.66	-9271	-7807	1345	0.78	0.78	-33364	10833	2833	38062	7007	1989	4249	Si	3.16	Si
SLU 63	4.28	24.95	-8837	-7442	117	0.78	0.78	-31803	10833	2735	38062	7007	1989	4103	Si	35.12	Si
SLU 63	6.28	-466.26	-9323	-7851	1343	0.78	0.78	-33553	10833	2845	38062	7007	1989	4267	Si	3.18	Si
SLU 83	4.28	31.82	-9753	-8213	120	0.78	0.78	-35100	10833	2941	38062	7007	1989	4412	Si	36.84	Si
SLU 83	6.28	-515.17	-10324	-8694	1459	0.78	0.78	-37154	10833	3069	38062	7007	1989	4604	Si	3.16	Si
SLU 84	4.28	27.31	-9848	-8293	98	0.78	0.78	-35441	10833	2962	38062	7007	1989	4444	Si	45.12	Si
SLU 84	6.28	-513.77	-10376	-8738	1457	0.78	0.78	-37343	10833	3081	38062	7007	1989	4622	Si	3.17	Si
SLU 82	4.28	26.94	-9744	-8206	97	0.78	0.78	-35068	10833	2939	38062	7007	1989	4409	Si	45.65	Si
SLU 82	6.28	-508.27	-10256	-8637	1439	0.78	0.78	-36909	10833	3054	38062	7007	1989	4581	Si	3.18	Si
SLU 61	4.28	24.58	-8733	-7354	115	0.78	0.78	-31430	10833	2712	38062	7007	1989	4068	Si	35.4	Si
SLU 61	6.28	-460.76	-9203	-7750	1325	0.78	0.78	-33120	10833	2818	38062	7007	1989	4226	Si	3.19	Si
SLU 77	4.28	22.54	-9549	-8041	112	0.78	0.78	-34366	10833	2895	38062	7007	1989	4343	Si	38.73	Si
SLU 77	6.28	-495.18	-10069	-8479	1408	0.78	0.78	-36236	10833	3012	38062	7007	1989	4518	Si	3.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 3	4.28	-1378.51	-8621	-7259	-3022	0.78	0.6903	-35751	16250	3365	38062	10510	1989	12499		4.14	Si
SLV 3	6.28	1169.38	-745	-627	-3423	0.624	0	0	0	0	38062	8408	1591	9999		2.92	Si
SLV 14	4.28	1394.42	-4343	-3657	3186	0.78	0.2068	-61227	16250	2102	38062	10510	1989	12499		3.92	Si
SLV 14	6.28	-1826.97	-12783	-10765	5302	0.78	0.7412	-46003	16250	3997	38062	10510	1989	12499		2.36	Si
SLV 15	4.28	1815.14	-6	-5	4480	0.624	0	0	0	0	38062	8408	1591	9999		2.23	Si
SLV 15	6.28	-2122.44	-11296	-9513	6099	0.78	0.6063	-54038	16250	3663	38062	10510	1989	12499		2.05	Si
SLD 13	4.28	1082.39	-4527	-3812	2527	0.78	0.4527	-16291	13675	2143	38062	10510	1989	12499		4.95	Si
SLD 13	6.28	-1473.61	-11149	-9389	4271	0.78	0.7735	-40122	16250	3771	38062	10510	1989	12499		2.93	Si
SLV 4	4.28	-1666.92	-9469	-7974	-3723	0.78	0.6419	-42409	16250	3253	38062	10510	1989	12499		3.36	Si
SLV 4	6.28	1458.58	129	108	-4264	0.624	0	0	0	0	38062	8408	1591	9999		2.35	Si
SLV 16	4.28	1526.74	-854	-720	3779	0.624	0	0	0	0	38062	8408	1591	9999		2.65	Si
SLV 16	6.28	-1833.24	-10423	-8777	5258	0.78	0.6423	-46792	16250	3467	38062	10510	1989	12499		2.38	Si
SLV 2	4.28	-1799.24	-12958	-10912	-4316	0.78	0.7534	-46632	16250	4036	38062	10510	1989	12499		2.9	Si
SLV 2	6.28	1464.85	-2232	-1879	-4220	0.624	0	0	0	0	38062	8408	1591	9999		2.37	Si
SLV 1	4.28	-1510.84	-12109	-10197	-3614	0.78	0.78	-43579	16250	3846	38062	10510	1989	12499		3.46	Si
SLV 1	6.28	1175.66	-3105	-2615	-3379	0.624	0.0342	0	0	0	38062	8408	1591	9999		2.96	Si
SLD 15	4.28	1163.35	-2378	-2002	2890	0.624	0	0	0	0	38062	8408	1591	9999		3.46	Si
SLD 15	6.28	-1477.02	-9695	-8164	4244	0.78	0.7129	-39013	16250	3476	38062	10510	1989	12499		2.95	Si
SLV 13	4.28	1682.82	-3495	-2943	3888	0.624	0	0	0	0	38062	8408	1591	9999		2.57	Si
SLV 13	6.28	-2116.16	-13656	-11500	6143	0.78	0.7051	-56277	16250	4193	38062	10510	1989	12499		2.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.045 Wa 0.05 denominatore 8 $\gamma M = 2$

Comb.	fd	Sa	$\sigma 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.35	6973	-1632	74.53	233.56	3.13	Si
SLV 12	179667	0.35	7373	-1725	74.53	246.28	3.3	Si
SLV 7	179667	0.35	8281	-1938	74.53	274.88	3.69	Si
SLV 8	179667	0.35	8681	-2031	74.53	287.37	3.86	Si
SLV 15	179667	0.35	18830	-4406	74.53	579.44	7.77	Si
SLV 16	179667	0.35	19424	-4545	74.53	595.07	7.98	Si
SLV 3	179667	0.35	23190	-5426	74.53	690.36	9.26	Si
SLV 4	179667	0.35	23784	-5565	74.53	704.8	9.46	Si
SLV 13	179667	0.35	30385	-7110	74.53	854.31	11.46	Si
SLV 14	179667	0.35	30979	-7249	74.53	866.78	11.63	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.045 Wa = 0.05 Ta = 0.0655

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 13	-9471	-8389	-2	0.476	1077.3	0.968	7.15215	5.54319	Si
SLV 14	-8980	-8263	-2	0.498	1027.3	0.967	7.4917	5.54319	Si
SLV 15	-7611	-5219	-10	0.572	888	0.962	8.64356	5.54319	Si
SLV 16	-7120	-5093	-10	0.605	838.1	0.96	9.16259	5.54319	Si
SLV 9	-9414	-11399	13	0.478	1071.4	0.968	7.17443	4.17261	Si
SLV 10	-9084	-11314	12	0.492	1037.8	0.967	7.40156	4.17261	Si
SLV 5	-7574	-10826	17	0.574	884.2	0.962	8.66677	4.17261	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 6	-7243	-10741	17	0.596	850.6	0.96	9.01191	4.17261	Si
SLV 1	-3337	-6481	14	1.127	454.2	0.932	17.58039	5.54319	Si
SLV 2	-2846	-6354	14	1.276	404.8	0.925	20.04575	5.54319	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.559	SLU 83	Si
V_SLU	3.156	SLU 83	Si
PF_SLV	0	SLV 4	No
V_SLV	2.035	SLV 13	Si
PFFP_SLV	3.134	SLV 11	Si
R_SLV	1.29	SLV 13	Si

Maschio 258

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-13.613	-4.784	-12.933	-4.784	Z medio 676 cm	Z medio 1024 cm	0.68	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 84	7.71	337.93	-7303	-0.0000829	0.0003743	0.0035	0.68	1610.09	1882.09	1882.09	5.57	No	Si
SLU 84	9.71	-30.96	-4290	-0.0000347	0.0003743	0.0035	0.68	1157.39	1322.13	1322.13	42.7	No	Si
SLU 79	7.71	329.2	-7101	-0.0000803	0.0003743	0.0035	0.68	1589.07	1839.37	1839.37	5.59	No	Si
SLU 79	9.71	-28.87	-4196	-0.0000338	0.0003743	0.0035	0.68	1138.47	1299.46	1299.46	45.01	No	Si
SLU 82	7.71	332.51	-7198	-0.0000815	0.0003743	0.0035	0.68	1599.37	1859.91	1859.91	5.59	No	Si
SLU 82	9.71	-29.94	-4227	-0.0000341	0.0003743	0.0035	0.68	1144.81	1307.26	1307.26	43.66	No	Si
SLU 81	7.71	331.98	-7168	-0.0000812	0.0003743	0.0035	0.68	1596.16	1853.43	1853.43	5.58	No	Si
SLU 81	9.71	-31.2	-4213	-0.0000341	0.0003743	0.0035	0.68	1142.03	1303.85	1303.85	41.78	No	Si
SLU 75	7.71	327.19	-7096	-0.0000801	0.0003743	0.0035	0.68	1588.52	1838.28	1838.28	5.62	No	Si
SLU 75	9.71	-26.56	-4193	-0.0000336	0.0003743	0.0035	0.68	1137.96	1298.82	1298.82	48.89	No	Si
SLU 78	7.71	332.61	-7200	-0.0000815	0.0003743	0.0035	0.68	1599.58	1860.34	1860.34	5.59	No	Si
SLU 78	9.71	-27.59	-4256	-0.0000342	0.0003743	0.0035	0.68	1150.61	1314.21	1314.21	47.64	No	Si
SLU 77	7.71	332.08	-7170	-0.0000812	0.0003743	0.0035	0.68	1596.38	1853.87	1853.87	5.58	No	Si
SLU 77	9.71	-28.85	-4242	-0.0000342	0.0003743	0.0035	0.68	1147.84	1310.99	1310.99	45.44	No	Si
SLU 80	7.71	329.73	-7132	-0.0000807	0.0003743	0.0035	0.68	1592.35	1845.82	1845.82	5.6	No	Si
SLU 80	9.71	-27.61	-4210	-0.0000338	0.0003743	0.0035	0.68	1141.26	1302.91	1302.91	47.19	No	Si
SLU 74	7.71	326.66	-7065	-0.0000798	0.0003743	0.0035	0.68	1585.21	1831.84	1831.84	5.61	No	Si
SLU 74	9.71	-27.83	-4179	-0.0000336	0.0003743	0.0035	0.68	1135.16	1295.34	1295.34	46.55	No	Si
SLU 83	7.71	337.4	-7272	-0.0000825	0.0003743	0.0035	0.68	1606.98	1875.58	1875.58	5.56	No	Si
SLU 83	9.71	-32.23	-4276	-0.0000347	0.0003743	0.0035	0.68	1154.64	1318.91	1318.91	40.93	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 14	7.71	1089.87	-8957	-0.0001504	0.0005615	0.0035	0.68		2389.13	2389.13	2.19		Si
SLV 14	9.71	-1058.62	1234	0.5036035	0.0005615	0.0035	0.544		0	0	0		No
SLV 13	7.71	1258.47	-9640	-0.0001717	0.0005615	0.0035	0.68		2527.64	2527.64	2.01		Si
SLV 13	9.71	-1266.95	2066	0.834925	0.0005615	0.0035	0.544		0	0	0		No
SLD 15	7.71	863.46	-6986	-0.000115	0.0005615	0.0035	0.68		1996.15	1996.15	2.31		Si
SLD 15	9.71	-838.83	671	0.2780595	0.0005615	0.0035	0.544		0	0	0		No
SLD 13	7.71	886.01	-7891	-0.0001244	0.0005615	0.0035	0.68		2177.25	2177.25	2.46		Si



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLD 13	9.71	-816.98	298	0.1009775	0.0005615	0.0035	0.544		0	0	0		No
SLV 15	7.71	1222.72	-8169	-0.0001584	0.0005615	0.0035	0.68		2231.96	2231.96	1.83		Si
SLV 15	9.71	-1303.95	2686	1.0803128	0.0005615	0.0035	0.544		0	0	0		No
SLV 11	7.71	499.3	-3722	-0.0000618	0.0005615	0.0035	0.68		1171.94	1171.94	2.35		Si
SLV 11	9.71	-496.32	-113	-0.0046105	0.0005615	0.0035	0.544		118.1	118.1	0.24		No
SLV 4	7.71	-814.94	-6	-0.0096082	0.0005615	0.0035	0.544		82.12	82.12	0.1		No
SLV 4	9.71	1237.98	-7824	-0.0001589	0.0005615	0.0035	0.68		2164.23	2164.23	1.75		Si
SLV 16	7.71	1054.13	-7486	-0.0001362	0.0005615	0.0035	0.68		2098.01	2098.01	1.99		Si
SLV 16	9.71	-1095.62	1855	0.7489932	0.0005615	0.0035	0.544		0	0	0		No
SLD 16	7.71	755.85	-6550	-0.0001029	0.0005615	0.0035	0.68		1887.06	1887.06	2.5		Si
SLD 16	9.71	-705.85	141	-0.0035437	0.0005615	0.0035	0.544		0	0	0		No
SLD 14	7.71	778.4	-7455	-0.0001125	0.0005615	0.0035	0.68		2091.99	2091.99	2.69		Si
SLD 14	9.71	-684.01	-233	-0.0066209	0.0005615	0.0035	0.544		157.95	157.95	0.23		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 78	7.71	332.61	-7200	-6064	1714	0.68	0.68	-29721	10833	2272	38062	6109	1734	3407	Si	1.99	Si
SLU 78	9.71	-27.59	-4256	-3584	-42	0.68	0.68	-17567	9287	1895	38062	6109	1734	2842	Si	67.36	Si
SLU 79	7.71	329.2	-7101	-5980	1696	0.68	0.68	-29311	10833	2249	38062	6109	1734	3374	Si	1.99	Si
SLU 79	9.71	-28.87	-4196	-3533	-35	0.68	0.68	-17319	9254	1888	38062	6109	1734	2832	Si	80.69	Si
SLU 74	7.71	326.66	-7065	-5950	1686	0.68	0.68	-29164	10833	2241	38062	6109	1734	3362	Si	1.99	Si
SLU 74	9.71	-27.83	-4179	-3520	-38	0.68	0.68	-17251	9245	1886	38062	6109	1734	2829	Si	74.46	Si
SLU 82	7.71	332.51	-7198	-6062	1737	0.68	0.68	-29713	10833	2271	38062	6109	1734	3407	Si	1.96	Si
SLU 82	9.71	-29.94	-4227	-3560	-26	0.68	0.68	-17448	9271	1891	38062	6109	1734	2837	Si	107.79	Si
SLU 84	7.71	337.93	-7303	-6150	1760	0.68	0.68	-30143	10833	2295	38062	6109	1734	3442	Si	1.96	Si
SLU 84	9.71	-30.96	-4290	-3613	-25	0.68	0.68	-17707	9305	1898	38062	6109	1734	2848	Si	112.27	Si
SLU 80	7.71	329.73	-7132	-6006	1702	0.68	0.68	-29438	10833	2256	38062	6109	1734	3384	Si	1.99	Si
SLU 80	9.71	-27.61	-4210	-3545	-40	0.68	0.68	-17376	9261	1889	38062	6109	1734	2834	Si	70.43	Si
SLU 77	7.71	332.08	-7170	-6038	1709	0.68	0.68	-29595	10833	2265	38062	6109	1734	3397	Si	1.99	Si
SLU 77	9.71	-28.85	-4242	-3572	-37	0.68	0.68	-17510	9279	1893	38062	6109	1734	2840	Si	76.66	Si
SLU 75	7.71	327.19	-7096	-5976	1692	0.68	0.68	-29290	10833	2248	38062	6109	1734	3372	Si	1.99	Si
SLU 75	9.71	-26.56	-4193	-3531	-43	0.68	0.68	-17308	9252	1888	38062	6109	1734	2831	Si	65.62	Si
SLU 81	7.71	331.98	-7168	-6036	1731	0.68	0.68	-29586	10833	2264	38062	6109	1734	3396	Si	1.96	Si
SLU 81	9.71	-31.2	-4213	-3548	-21	0.68	0.68	-17391	9263	1890	38062	6109	1734	2835	Si	133.9	Si
SLU 83	7.71	337.4	-7272	-6124	1754	0.68	0.68	-30017	10833	2288	38062	6109	1734	3432	Si	1.96	Si
SLU 83	9.71	-32.23	-4276	-3601	-20	0.68	0.68	-17650	9298	1897	38062	6109	1734	2845	Si	140.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 4	7.71	-814.94	-6	-5	-2971	0.544	0	0	0	0	38062	7331	1387	8718		2.93	Si
SLV 4	9.71	1237.98	-7824	-6589	-4330	0.68	0.5454	-32297	16250	2739	38062	9164	1734	10898		2.52	Si
SLV 3	7.71	-646.34	-689	-580	-2309	0.544	0	0	0	0	38062	7331	1387	8718		3.78	Si
SLV 3	9.71	1029.64	-6993	-5889	-3622	0.68	0.5783	-28864	16189	2809	38062	9164	1734	10898		3.01	Si
SLV 13	7.71	1258.47	-9640	-8118	5233	0.68	0.6284	-39793	16250	3147	38062	9164	1734	10898		2.08	Si
SLV 13	9.71	-1266.95	2066	1739	4225	0.544	0	0	0	0	38062	7331	1387	8718		2.06	Si
SLV 2	7.71	-779.19	-1477	-1244	-2717	0.544	0	0	0	0	38062	7331	1387	8718		3.21	Si
SLV 2	9.71	1274.97	-8445	-7112	-4440	0.68	0.5672	-34859	16250	2879	38062	9164	1734	10898		2.45	Si
SLV 15	7.71	1222.72	-8169	-6879	4979	0.68	0.571	-33718	16250	2816	38062	9164	1734	10898		2.19	Si
SLV 15	9.71	-1303.95	2686	2262	4336	0.544	0	0	0	0	38062	7331	1387	8718		2.01	Si
SLV 14	7.71	1089.87	-8957	-7543	4571	0.68	0.655	-36973	16250	3193	38062	9164	1734	10898		2.38	Si
SLV 14	9.71	-1058.62	1234	1039	3517	0.544	0	0	0	0	38062	7331	1387	8718		2.48	Si
SLV 1	7.71	-610.6	-2160	-1819	-2054	0.544	0.1722	0	0	0	38062	7331	1387	8718		4.24	Si
SLV 1	9.71	1066.64	-7613	-6411	-3732	0.68	0.5998	-31426	16250	2924	38062	9164	1734	10898		2.92	Si
SLV 16	7.71	1054.13	-7486	-6304	4316	0.68	0.5976	-30899	16250	2913	38062	9164	1734	10898		2.52	Si
SLV 16	9.71	-1095.62	1855	1562	3628	0.544	0	0	0	0	38062	7331	1387	8718		2.4	Si
SLD 15	7.71	863.46	-6986	-5883	3597	0.68	0.6493	-28836	16184	3152	38062	9164	1734	10898		3.03	Si
SLD 15	9.71	-838.83	671	565	2752	0.544	0	0	0	0	38062	7331	1387	8718		3.17	Si
SLD 13	7.71	886.01	-7891	-6645	3755	0.68	0.68	-32571	16250	3315	38062	9164	1734	10898		2.9	Si
SLD 13	9.71	-816.98	298	251	2688	0.544	0	0	0	0	38062	7331	1387	8718		3.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.42	4821	-984	80.6	142.88	1.77	Si
SLV 8	179667	0.42	5648	-1152	80.6	166.44	2.07	Si
SLV 3	179667	0.42	6442	-1314	80.6	188.83	2.34	Si
SLV 7	179667	0.42	6739	-1375	80.6	197.13	2.45	Si
SLV 2	179667	0.42	10010	-2042	80.6	286.25	3.55	Si
SLV 12	179667	0.42	11318	-2309	80.6	320.69	3.98	Si
SLV 1	179667	0.42	11631	-2373	80.6	328.83	4.08	Si
SLV 11	179667	0.42	12409	-2532	80.6	348.9	4.33	Si
SLV 6	179667	0.42	22944	-4681	80.6	596.66	7.4	Si
SLV 16	179667	0.42	23723	-4840	80.6	613.19	7.61	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.5 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	σ_0	M*	e*	a0*	aLim	Verifica
SLV 2	-5133	-5093	-1	0.709	622.9	0.953	10.81866	6.50554	Si
SLV 4	-4769	-3851	-13	0.752	585.9	0.95	11.50028	6.50554	Si



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 1	-4709	-4954	-1	0.762	579.7	0.95	11.66209	6.50554	Si
SLV 3	-4344	-3712	-14	0.812	542.8	0.947	12.46788	6.50554	Si
SLV 6	-3720	-5929	19	0.921	479.5	0.941	14.22841	4.85107	Si
SLV 5	-3434	-5835	19	0.983	450.5	0.938	15.23215	4.85107	Si
SLV 8	-2505	-1790	-22	1.26	356.7	0.925	19.79325	4.85107	Si
SLV 7	-2219	-1697	-22	1.382	328	0.92	21.82098	4.85107	Si
SLV 10	-2203	-5423	24	1.388	326.4	0.92	21.93318	4.85107	Si
SLV 9	-1918	-5330	24	1.539	297.8	0.914	24.45815	4.85107	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.559	SLU 83	Si
V_SLU	1.956	SLU 84	Si
PF_SLV	0	SLD 13	No
V_SLV	2.011	SLV 15	Si
PFFP_SLV	1.773	SLV 4	Si
R_SLV	1.663	SLV 2	Si

Maschio 259

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.933	-4.784	-11.153	-4.784	Z medio 676 cm	Z medio 1024 cm	0.78	0.3	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	μ	ϕ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ϵ_{fd}	γF_d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, $\gamma M = 3$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLU 81	7.71	64.28	-6359	-0.0000462	0.0003743	0.0035	0.78	1818	2006.98	2006.98	31.22	No	Si
SLU 81	9.71	-465.74	-6671	-0.0000705	0.0003743	0.0035	0.78	1873.13	2216.37	2216.37	4.76	No	Si
SLU 84	7.71	61.94	-6503	-0.0000471	0.0003743	0.0035	0.78	1843.72	2038.8	2038.8	32.92	No	Si
SLU 84	9.71	-470.48	-6784	-0.0000717	0.0003743	0.0035	0.78	1892.24	2240.08	2240.08	4.76	No	Si
SLU 61	7.71	52.49	-5720	-0.000041	0.0003743	0.0035	0.78	1695.1	1867.74	1867.74	35.58	No	Si
SLU 61	9.71	-420.66	-5992	-0.0000628	0.0003743	0.0035	0.78	1749.13	2049.28	2049.28	4.87	No	Si
SLU 77	7.71	50.88	-6417	-0.0000459	0.0003743	0.0035	0.78	1828.43	2019.77	2019.77	39.7	No	Si
SLU 77	9.71	-453.87	-6669	-0.0000698	0.0003743	0.0035	0.78	1872.7	2215.75	2215.75	4.88	No	Si
SLU 62	7.71	54.22	-5773	-0.0000414	0.0003743	0.0035	0.78	1705.75	1879.08	1879.08	34.66	No	Si
SLU 62	9.71	-426.83	-6087	-0.0000639	0.0003743	0.0035	0.78	1767.26	2073.2	2073.2	4.86	No	Si
SLU 83	7.71	63.97	-6457	-0.0000469	0.0003743	0.0035	0.78	1835.66	2028.72	2028.72	31.71	No	Si
SLU 83	9.71	-471.19	-6775	-0.0000716	0.0003743	0.0035	0.78	1890.7	2238.23	2238.23	4.75	No	Si
SLU 63	7.71	52.18	-5818	-0.0000416	0.0003743	0.0035	0.78	1714.82	1888.83	1888.83	36.2	No	Si
SLU 63	9.71	-426.11	-6096	-0.0000639	0.0003743	0.0035	0.78	1769.01	2075.51	2075.51	4.87	No	Si
SLU 79	7.71	51.89	-6350	-0.0000455	0.0003743	0.0035	0.78	1816.27	2004.89	2004.89	38.64	No	Si
SLU 79	9.71	-451.09	-6604	-0.0000692	0.0003743	0.0035	0.78	1861.44	2199.76	2199.76	4.88	No	Si
SLU 60	7.71	54.52	-5675	-0.0000407	0.0003743	0.0035	0.78	1685.88	1856.54	1856.54	34.05	No	Si
SLU 60	9.71	-421.37	-5983	-0.0000628	0.0003743	0.0035	0.78	1747.36	2046.96	2046.96	4.86	No	Si
SLU 82	7.71	62.25	-6404	-0.0000464	0.0003743	0.0035	0.78	1826.19	2017.01	2017.01	32.4	No	Si
SLU 82	9.71	-465.02	-6680	-0.0000706	0.0003743	0.0035	0.78	1874.7	2218.62	2218.62	4.77	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche, $\gamma M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵm	ϵm_{-}	ϵm_u	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	7.71	-975.58	-7099	-0.0000989	0.0005615	0.0035	0.78		2489.9	2489.9	2.55		Si
SLV 3	9.71	929.9	95	-0.0358732	0.0005615	0.0035	0.624		0	0	0		No



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 11	7.71	549.1	409	0.0363532	0.0005615	0.0035	0.624		0	0	0		No
SLV 11	9.71	-787.25	-4919	-0.0000737	0.0005615	0.0035	0.78		1849.63	1849.63	2.35		Si
SLV 16	7.71	1094.59	358	-0.0426908	0.0005615	0.0035	0.624		0	0	0		No
SLV 16	9.71	-1530.13	-8303	-0.0001476	0.0005615	0.0035	0.78		2812.85	2812.85	1.84		Si
SLV 4	7.71	-1177.96	-7865	-0.0001168	0.0005615	0.0035	0.78		2697.66	2697.66	2.29		Si
SLV 4	9.71	1172.1	887	0.0835621	0.0005615	0.0035	0.624		0	0	0		No
SLV 2	7.71	-1247.03	-9826	-0.0001353	0.0005615	0.0035	0.78		3187.68	3187.68	2.56		Si
SLV 2	9.71	1172.33	176	-0.0460172	0.0005615	0.0035	0.624		0	0	0		No
SLV 13	7.71	1227.89	-837	-0.0325042	0.0005615	0.0035	0.624		357.24	357.24	0.29		No
SLV 13	9.71	-1772.1	-9806	-0.0001753	0.0005615	0.0035	0.78		3182.79	3182.79	1.8		Si
SLV 15	7.71	1296.97	1124	0.1571148	0.0005615	0.0035	0.624		0	0	0		No
SLV 15	9.71	-1772.33	-9095	-0.0001743	0.0005615	0.0035	0.78		3011.98	3011.98	1.7		Si
SLV 1	7.71	-1044.66	-9060	-0.0001176	0.0005615	0.0035	0.78		3003.38	3003.38	2.87		Si
SLV 1	9.71	930.13	-616	-0.0248253	0.0005615	0.0035	0.624		274.03	274.03	0.29		No
SLV 12	7.71	412.85	-106	-0.0132968	0.0005615	0.0035	0.624		79.75	79.75	0.19		No
SLV 12	9.71	-624.18	-4386	-0.0000604	0.0005615	0.0035	0.78		1681.74	1681.74	2.69		Si
SLD 15	7.71	838.09	-875	-0.018004	0.0005615	0.0035	0.624		371.59	371.59	0.44		No
SLD 15	9.71	-1242.16	-7439	-0.0001192	0.0005615	0.0035	0.78		2582.85	2582.85	2.08		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 82	7.71	62.25	-6404	-5393	60	0.78	0.78	-23049	10018	2344	38062	7007	1989	3516	Si	58.4	Si
SLU 82	9.71	-465.02	-6680	-5626	1284	0.78	0.78	-24042	10150	2375	38062	7007	1989	3563	Si	2.77	Si
SLU 74	7.71	51.19	-6319	-5321	46	0.78	0.78	-22741	9977	2334	38062	7007	1989	3502	Si	75.76	Si
SLU 74	9.71	-448.41	-6565	-5529	1248	0.78	0.78	-23628	10095	2362	38062	7007	1989	3543	Si	2.84	Si
SLU 84	7.71	61.94	-6503	-5476	63	0.78	0.78	-23402	10065	2355	38062	7007	1989	3533	Si	56.23	Si
SLU 84	9.71	-470.48	-6784	-5713	1301	0.78	0.78	-24414	10200	2387	38062	7007	1989	3580	Si	2.75	Si
SLU 79	7.71	51.89	-6350	-5347	50	0.78	0.78	-22852	9991	2338	38062	7007	1989	3507	Si	69.45	Si
SLU 79	9.71	-451.09	-6604	-5561	1257	0.78	0.78	-23765	10113	2366	38062	7007	1989	3550	Si	2.82	Si
SLU 83	7.71	63.97	-6457	-5438	75	0.78	0.78	-23239	10043	2350	38062	7007	1989	3525	Si	47.07	Si
SLU 83	9.71	-471.19	-6775	-5705	1305	0.78	0.78	-24381	10195	2386	38062	7007	1989	3578	Si	2.74	Si
SLU 77	7.71	50.88	-6417	-5404	49	0.78	0.78	-23094	10024	2345	38062	7007	1989	3518	Si	72.03	Si
SLU 77	9.71	-453.87	-6669	-5616	1266	0.78	0.78	-24000	10144	2374	38062	7007	1989	3561	Si	2.81	Si
SLU 80	7.71	49.86	-6395	-5385	38	0.78	0.78	-23015	10013	2343	38062	7007	1989	3514	Si	91.43	Si
SLU 80	9.71	-450.37	-6613	-5569	1253	0.78	0.78	-23798	10118	2367	38062	7007	1989	3551	Si	2.83	Si
SLU 81	7.71	64.28	-6359	-5355	72	0.78	0.78	-22886	9996	2339	38062	7007	1989	3508	Si	48.55	Si
SLU 81	9.71	-465.74	-6671	-5618	1287	0.78	0.78	-24009	10146	2374	38062	7007	1989	3561	Si	2.77	Si
SLU 78	7.71	48.85	-6462	-5442	37	0.78	0.78	-23257	10045	2351	38062	7007	1989	3526	Si	95.85	Si
SLU 78	9.71	-453.15	-6678	-5623	1262	0.78	0.78	-24033	10149	2375	38062	7007	1989	3562	Si	2.82	Si
SLU 75	7.71	49.15	-6364	-5359	34	0.78	0.78	-22904	9998	2340	38062	7007	1989	3509	Si	102.72	Si
SLU 75	9.71	-447.69	-6574	-5536	1245	0.78	0.78	-23661	10099	2363	38062	7007	1989	3545	Si	2.85	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 14	7.71	1025.51	-1603	-1350	3785	0.624	0	0	0	0	38062	8408	1591	9999		2.64	Si
SLV 14	9.71	-1529.9	-9014	-7591	4627	0.78	0.6608	-39134	16250	3221	38062	10510	1989	12499		2.7	Si
SLV 13	7.71	1227.89	-837	-705	4590	0.624	0	0	0	0	38062	8408	1591	9999		2.18	Si
SLV 13	9.71	-1772.1	-9806	-8258	5399	0.78	0.6278	-44974	16250	3328	38062	10510	1989	12499		2.31	Si
SLD 13	7.71	796.36	-2076	-1749	2949	0.624	0.0194	0	0	0	38062	8408	1591	9999		3.39	Si
SLD 13	9.71	-1242.12	-7870	-6628	3764	0.78	0.6965	-32276	16250	3395	38062	10510	1989	12499		3.32	Si
SLV 16	7.71	1094.59	358	302	4239	0.624	0	0	0	0	38062	8408	1591	9999		2.36	Si
SLV 16	9.71	-1530.13	-8303	-6992	4888	0.78	0.6171	-38567	16250	3008	38062	10510	1989	12499		2.56	Si
SLV 2	7.71	-1247.03	-9826	-8275	-5029	0.78	0.78	-35364	16250	3802	38062	10510	1989	12499		2.49	Si
SLV 2	9.71	1172.33	176	148	-3970	0.624	0	0	0	0	38062	8408	1591	9999		2.52	Si
SLV 15	7.71	1296.97	1124	947	5045	0.624	0	0	0	0	38062	8408	1591	9999		1.98	Si
SLV 15	9.71	-1772.33	-9095	-7659	5660	0.78	0.5853	-44749	16250	3169	38062	10510	1989	12499		2.21	Si
SLV 3	7.71	-975.58	-7099	-5978	-3770	0.78	0.7577	-25548	15526	3529	38062	10510	1989	12499		3.32	Si
SLV 3	9.71	929.9	95	80	-2938	0.624	0	0	0	0	38062	8408	1591	9999		3.4	Si
SLV 4	7.71	-1177.96	-7865	-6623	-4575	0.78	0.7206	-28305	16078	3476	38062	10510	1989	12499		2.73	Si
SLV 4	9.71	1172.1	887	747	-3710	0.624	0	0	0	0	38062	8408	1591	9999		2.7	Si
SLD 15	7.71	838.09	-875	-737	3226	0.624	0	0	0	0	38062	8408	1591	9999		3.1	Si
SLD 15	9.71	-1242.16	-7439	-6264	3920	0.78	0.669	-31747	16250	3261	38062	10510	1989	12499		3.19	Si
SLV 1	7.71	-1044.66	-9060	-7630	-4224	0.78	0.78	-32607	16250	3802	38062	10510	1989	12499		2.96	Si
SLV 1	9.71	930.13	-616	-519	-3198	0.624	0	0	0	0	38062	8408	1591	9999		3.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.5 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.42	4701	-1100	92.44	159.91	1.73	Si
SLV 12	179667	0.42	5632	-1318	92.44	190.37	2.06	Si
SLV 15	179667	0.42	6281	-1470	92.44	211.39	2.29	Si
SLV 16	179667	0.42	7664	-1793	92.44	255.5	2.76	Si
SLV 7	179667	0.42	9094	-2128	92.44	300.18	3.25	Si
SLV 8	179667	0.42	10025	-2346	92.44	328.77	3.56	Si
SLV 13	179667	0.42	12223	-2860	92.44	394.67	4.27	Si
SLV 14	179667	0.42	13606	-3184	92.44	435	4.71	Si
SLV 3	179667	0.42	20926	-4896	92.44	633.83	6.86	Si
SLV 4	179667	0.42	22309	-5220	92.44	668.63	7.23	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.



Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.5 Wa = 0.05 Ta = 0.0674

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 13	-6195	-6441	-7	0.679	745.6	0.955	10.33557	6.50554	Si
SLV 14	-5773	-6284	-7	0.72	702.8	0.952	10.9909	6.50554	Si
SLV 15	-5682	-4810	-19	0.728	693.6	0.952	11.11462	6.50554	Si
SLV 16	-5261	-4653	-19	0.776	650.7	0.949	11.88485	6.50554	Si
SLV 9	-4994	-7527	18	0.811	623.7	0.947	12.43771	4.85107	Si
SLV 10	-4710	-7421	18	0.851	594.9	0.945	13.08289	4.85107	Si
SLV 5	-3511	-6847	26	1.077	473.5	0.933	16.76667	4.85107	Si
SLV 11	-3285	-2088	-23	1.135	450.7	0.931	17.73274	4.85107	Si
SLV 6	-3227	-6741	26	1.151	444.8	0.93	17.988	4.85107	Si
SLV 12	-3001	-1982	-24	1.219	422.1	0.927	19.10621	4.85107	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.75	SLU 83	Si
V_SLU	2.742	SLU 83	Si
PF_SLV	0	SLV 2	No
V_SLV	1.982	SLV 15	Si
PFFP_SLV	1.73	SLV 11	Si
R_SLV	1.589	SLV 13	Si

Maschio 266

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-13.613	-4.784	-12.933	-4.784	Z medio 1024 cm	F1	0.68	0.3	4.185	4.185	4.184			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 74	11.19	226.64	-3570	-0.0000423	0.0003743	0.0035	0.68	1005.23	1060.18	1060.18	4.68	No	Si
SLU 74	13.19	-72.31	-1171	-0.0000132	0.0003743	0.0035	0.68	375.76	459.62	459.62	6.36	No	Si
SLU 77	11.19	230.91	-3645	-0.0000432	0.0003743	0.0035	0.68	1021.88	1079.25	1079.25	4.67	No	Si
SLU 77	13.19	-74.88	-1201	-0.0000136	0.0003743	0.0035	0.68	384.89	469.09	469.09	6.26	No	Si
SLU 81	11.19	227.22	-3537	-0.0000421	0.0003743	0.0035	0.68	997.88	1051.84	1051.84	4.63	No	Si
SLU 81	13.19	-74.05	-1119	-0.000013	0.0003743	0.0035	0.68	360.13	443.2	443.2	5.99	No	Si
SLU 84	11.19	231.18	-3616	-0.000043	0.0003743	0.0035	0.68	1015.39	1071.78	1071.78	4.64	No	Si
SLU 84	13.19	-76.46	-1160	-0.0000134	0.0003743	0.0035	0.68	372.49	456.17	456.17	5.97	No	Si
SLU 62	11.19	209.19	-3253	-0.0000385	0.0003743	0.0035	0.68	932.97	980.6	980.6	4.69	No	Si
SLU 62	13.19	-64.7	-1050	-0.0000118	0.0003743	0.0035	0.68	338.89	421.03	421.03	6.51	No	Si
SLU 82	11.19	226.9	-3541	-0.0000421	0.0003743	0.0035	0.68	998.67	1052.74	1052.74	4.64	No	Si
SLU 82	13.19	-73.89	-1130	-0.000013	0.0003743	0.0035	0.68	363.33	446.55	446.55	6.04	No	Si
SLU 80	11.19	227.98	-3598	-0.0000426	0.0003743	0.0035	0.68	1011.59	1067.43	1067.43	4.68	No	Si
SLU 80	13.19	-72.86	-1191	-0.0000134	0.0003743	0.0035	0.68	381.74	465.86	465.86	6.39	No	Si
SLU 79	11.19	228.3	-3595	-0.0000426	0.0003743	0.0035	0.68	1010.8	1066.52	1066.52	4.67	No	Si
SLU 79	13.19	-73.02	-1180	-0.0000134	0.0003743	0.0035	0.68	378.56	462.57	462.57	6.33	No	Si
SLU 78	11.19	230.6	-3649	-0.0000432	0.0003743	0.0035	0.68	1022.67	1080.16	1080.16	4.68	No	Si
SLU 78	13.19	-74.72	-1212	-0.0000137	0.0003743	0.0035	0.68	388.05	472.3	472.3	6.32	No	Si
SLU 83	11.19	231.5	-3612	-0.000043	0.0003743	0.0035	0.68	1014.6	1070.88	1070.88	4.63	No	Si
SLU 83	13.19	-76.62	-1150	-0.0000134	0.0003743	0.0035	0.68	369.31	452.82	452.82	5.91	No	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche, γM = 2

Verifica condotta secondo CNR-DT 215



Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLV 13	11.19	912.36	-5433	-0.0001122	0.0005615	0.0035	0.68		1598.49	1598.49	1.75		Si
SLV 13	13.19	-681.16	1601	0.6424178	0.0005615	0.0035	0.544		0	0	0		No
SLV 2	11.19	-624.94	576	0.2373982	0.0005615	0.0035	0.544		0	0	0		No
SLV 2	13.19	649.57	-3360	-0.0000793	0.0005615	0.0035	0.68		1075.75	1075.75	1.66		Si
SLV 4	11.19	-600.97	499	0.2066832	0.0005615	0.0035	0.544		0	0	0		No
SLV 4	13.19	595.89	-3281	-0.0000713	0.0005615	0.0035	0.68		1053.73	1053.73	1.77		Si
SLV 11	11.19	449.16	-3592	-0.0000569	0.0005615	0.0035	0.68		1139.72	1139.72	2.54		Si
SLV 11	13.19	-347.56	95	0.0146005	0.0005615	0.0035	0.544		0	0	0		No
SLD 16	11.19	576.13	-4085	-0.0000706	0.0005615	0.0035	0.68		1260.61	1260.61	2.19		Si
SLD 16	13.19	-430.03	568	0.2308608	0.0005615	0.0035	0.544		0	0	0		No
SLD 14	11.19	561.93	-4040	-0.0000691	0.0005615	0.0035	0.68		1249.59	1249.59	2.22		Si
SLD 14	13.19	-397.32	521	0.2119239	0.0005615	0.0035	0.544		0	0	0		No
SLV 1	11.19	-502.15	65	-0.0054083	0.0005615	0.0035	0.544		0	0	0		No
SLV 1	13.19	564.68	-3041	-0.0000676	0.0005615	0.0035	0.68		984.78	984.78	1.74		Si
SLD 15	11.19	654.5	-4411	-0.0000797	0.0005615	0.0035	0.68		1341.2	1341.2	2.05		Si
SLD 15	13.19	-484.22	771	0.3119186	0.0005615	0.0035	0.544		0	0	0		No
SLV 15	11.19	936.33	-5511	-0.0001155	0.0005615	0.0035	0.68		1618.15	1618.15	1.73		Si
SLV 15	13.19	-734.84	1680	0.6744039	0.0005615	0.0035	0.544		0	0	0		No
SLV 14	11.19	789.57	-4922	-0.0000962	0.0005615	0.0035	0.68		1469.07	1469.07	1.86		Si
SLV 14	13.19	-596.26	1283	0.5154195	0.0005615	0.0035	0.544		0	0	0		No

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 81	11.19	227.22	-3537	-2979	1287	0.68	0.68	-14600	8891	1814	47578	6109	1734	2721	Si	2.11	Si
SLU 81	13.19	-74.05	-1119	-943	176	0.68	0.68	-4621	7561	1542	47578	6109	1734	2314	Si	13.15	Si
SLU 79	11.19	228.3	-3595	-3027	1261	0.68	0.68	-14839	8923	1820	47578	6109	1734	2731	Si	2.16	Si
SLU 79	13.19	-73.02	-1180	-994	173	0.68	0.68	-4872	7594	1549	47578	6109	1734	2324	Si	13.47	Si
SLU 80	11.19	227.98	-3598	-3030	1256	0.68	0.68	-14853	8925	1821	47578	6109	1734	2731	Si	2.17	Si
SLU 80	13.19	-72.86	-1191	-1003	171	0.68	0.68	-4916	7600	1550	47578	6109	1734	2326	Si	13.62	Si
SLU 77	11.19	230.91	-3645	-3069	1270	0.68	0.68	-15045	8950	1826	47578	6109	1734	2739	Si	2.16	Si
SLU 77	13.19	-74.88	-1201	-1012	178	0.68	0.68	-4959	7606	1552	47578	6109	1734	2327	Si	13.06	Si
SLU 75	11.19	226.32	-3573	-3009	1249	0.68	0.68	-14750	8911	1818	47578	6109	1734	2727	Si	2.18	Si
SLU 75	13.19	-72.15	-1182	-995	169	0.68	0.68	-4878	7595	1549	47578	6109	1734	2324	Si	13.76	Si
SLU 78	11.19	230.6	-3649	-3072	1265	0.68	0.68	-15060	8952	1826	47578	6109	1734	2740	Si	2.17	Si
SLU 78	13.19	-74.72	-1212	-1021	177	0.68	0.68	-5003	7611	1553	47578	6109	1734	2329	Si	13.19	Si
SLU 84	11.19	231.18	-3616	-3045	1298	0.68	0.68	-14924	8934	1823	47578	6109	1734	2734	Si	2.11	Si
SLU 84	13.19	-76.46	-1160	-977	182	0.68	0.68	-4789	7583	1547	47578	6109	1734	2321	Si	12.76	Si
SLU 74	11.19	226.64	-3570	-3006	1254	0.68	0.68	-14736	8909	1818	47578	6109	1734	2726	Si	2.17	Si
SLU 74	13.19	-72.31	-1171	-986	171	0.68	0.68	-4834	7589	1548	47578	6109	1734	2322	Si	13.61	Si
SLU 83	11.19	231.5	-3612	-3042	1303	0.68	0.68	-14909	8932	1822	47578	6109	1734	2733	Si	2.1	Si
SLU 83	13.19	-76.62	-1150	-968	184	0.68	0.68	-4746	7577	1546	47578	6109	1734	2319	Si	12.63	Si
SLU 82	11.19	226.9	-3541	-2982	1282	0.68	0.68	-14614	8893	1814	47578	6109	1734	2721	Si	2.12	Si
SLU 82	13.19	-73.89	-1130	-952	174	0.68	0.68	-4664	7566	1544	47578	6109	1734	2315	Si	13.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 13	11.19	640.31	-4366	-3677	3215	0.68	0.5801	-18021	14021	2440	47578	9164	1734	10898		3.39	Si
SLD 13	13.19	-451.51	724	610	966	0.544	0	0	0	0	47578	7331	1387	8718		9.03	Si
SLD 15	11.19	654.5	-4411	-3714	3338	0.68	0.5749	-18206	14058	2425	47578	9164	1734	10898		3.26	Si
SLD 15	13.19	-484.22	771	649	1019	0.544	0	0	0	0	47578	7331	1387	8718		8.56	Si
SLV 14	11.19	789.57	-4922	-4145	3872	0.68	0.5389	-20318	14480	2341	47578	9164	1734	10898		2.81	Si
SLV 14	13.19	-596.26	1283	1080	1305	0.544	0	0	0	0	47578	7331	1387	8718		6.68	Si
SLV 2	11.19	-624.94	576	485	-3052	0.544	0	0	0	0	47578	7331	1387	8718		2.86	Si
SLV 2	13.19	649.57	-3360	-2829	-1366	0.68	0.4401	-13869	13190	1741	47578	9164	1734	10898		7.98	Si
SLV 13	11.19	912.36	-5433	-4576	4542	0.68	0.5163	-22428	14902	2308	47578	9164	1734	10898		2.4	Si
SLV 13	13.19	-681.16	1601	1348	1459	0.544	0	0	0	0	47578	7331	1387	8718		5.98	Si
SLV 15	11.19	936.33	-5511	-4640	4747	0.68	0.5103	-22746	14966	2291	47578	9164	1734	10898		2.3	Si
SLV 15	13.19	-734.84	1680	1415	1546	0.544	0	0	0	0	47578	7331	1387	8718		5.64	Si
SLV 16	11.19	813.54	-5000	-4210	4077	0.68	0.5319	-20636	14544	2321	47578	9164	1734	10898		2.67	Si
SLV 16	13.19	-649.95	1362	1147	1392	0.544	0	0	0	0	47578	7331	1387	8718		6.26	Si
SLV 4	11.19	-600.97	499	420	-2847	0.544	0	0	0	0	47578	7331	1387	8718		3.06	Si
SLV 4	13.19	595.89	-3281	-2763	-1279	0.68	0.4752	-13543	13125	1871	47578	9164	1734	10898		8.52	Si
SLV 1	11.19	-502.15	65	55	-2383	0.544	0	0	0	0	47578	7331	1387	8718		3.66	Si
SLV 1	13.19	564.68	-3041	-2561	-1212	0.68	0.4631	-12553	12927	1796	47578	9164	1734	10898		8.99	Si
SLD 16	11.19	576.13	-4085	-3440	2911	0.68	0.5969	-16860	13789	2469	47578	9164	1734	10898		3.74	Si
SLD 16	13.19	-430.03	568	478	920	0.544	0	0	0	0	47578	7331	1387	8718		9.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.332 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 15	179667	0.5	0	-438	138.51	0	0	No, $e > t/2$
SLV 14	179667	0.5	0	-638	138.51	0	0	No, $e > t/2$
SLV 16	179667	0.5	0	-600	138.51	0	0	No, $e > t/2$
SLV 13	179667	0.5	0	-476	138.51	0	0	No, $e > t/2$
SLV 11	179667	0.5	5055	-1031	138.51	149.58	1.08	Si
SLV 12	179667	0.5	5587	-1140	138.51	164.72	1.19	Si
SLV 9	179667	0.5	5675	-1158	138.51	167.22	1.21	Si
SLV 10	179667	0.5	6207	-1266	138.51	182.23	1.32	Si
SLV 7	179667	0.5	7621	-1555	138.51	221.59	1.6	Si
SLV 8	179667	0.5	8153	-1663	138.51	236.19	1.71	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.



- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.332 Wa = 0.05 Ta = 0.0975

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 3	-170	-2330	-6	4.128	162	0.931	64.4524	10.0854	Si
SLV 4	-163	-2405	-6	4.16	161.6	0.933	64.82152	10.0854	Si
SLV 15	-127	-1196	-2	4.332	159.8	0.943	66.78242	10.0854	Si
SLV 16	-119	-1270	-2	4.367	159.5	0.945	67.1579	10.0854	Si
SLV 1	-118	-2540	2	4.375	159.5	0.945	67.24833	10.0854	Si
SLV 2	-111	-2614	2	4.41	159.2	0.948	67.62378	10.0854	Si
SLV 13	-74	-1405	6	4.595	157.9	0.961	69.46168	10.0854	Si
SLV 14	-67	-1479	6	4.634	157.7	0.964	69.83341	10.0854	Si
SLV 7	-215	-1701	-15	3.934	164.5	0.921	62.05491	6.46426	Si
SLV 8	-210	-1751	-14	3.953	164.2	0.922	62.29543	6.46426	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.626	SLU 83	Si
V_SLU	2.098	SLU 83	Si
PF_SLV	0	SLD 13	No
V_SLV	2.296	SLV 15	Si
PFFP_SLV	0	SLV 13	No
R_SLV	6.391	SLV 3	Si

Maschio 267

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-11.933	-4.784	-11.153	-4.784	Z medio 1024 cm	F1	0.78	0.3	4.183	4.183	4.183			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche, γM = 3

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	em	em_	emu	df	M0d	M1d	MRd	c.s.	Incremento > 50%	Verifica
SLU 61	11.19	101.33	-2492	-0.0000212	0.0003743	0.0035	0.78	870.14	933.7	933.7	9.21	No	Si
SLU 61	13.19	-166.26	-1931	-0.0000207	0.0003743	0.0035	0.78	691.97	840.07	840.07	5.05	No	Si
SLU 55	11.19	85.04	-2546	-0.0000207	0.0003743	0.0035	0.78	886.93	951.72	951.72	11.19	No	Si
SLU 55	13.19	-154.85	-1921	-0.00002	0.0003743	0.0035	0.78	688.68	836.64	836.64	5.4	No	Si
SLU 82	11.19	111.44	-2827	-0.0000239	0.0003743	0.0035	0.78	971.63	1043.95	1043.95	9.37	No	Si
SLU 82	13.19	-173.41	-2142	-0.0000224	0.0003743	0.0035	0.78	760.35	911.69	911.69	5.26	No	Si
SLU 60	11.19	103.4	-2481	-0.0000212	0.0003743	0.0035	0.78	866.83	930.15	930.15	9	No	Si
SLU 60	13.19	-167.33	-1938	-0.0000208	0.0003743	0.0035	0.78	694.37	842.56	842.56	5.04	No	Si
SLU 19	11.19	90.56	-2034	-0.0000176	0.0003743	0.0035	0.78	725.43	779.5	779.5	8.61	No	Si
SLU 19	13.19	-135.87	-1581	-0.0000168	0.0003743	0.0035	0.78	575.63	719.13	719.13	5.29	No	Si
SLU 62	11.19	102.05	-2563	-0.0000217	0.0003743	0.0035	0.78	891.86	957.01	957.01	9.38	No	Si
SLU 62	13.19	-164.88	-1987	-0.000021	0.0003743	0.0035	0.78	710.31	859.16	859.16	5.21	No	Si
SLU 81	11.19	113.52	-2816	-0.000024	0.0003743	0.0035	0.78	968.45	1040.42	1040.42	9.17	No	Si
SLU 81	13.19	-174.48	-2150	-0.0000225	0.0003743	0.0035	0.78	762.7	914.17	914.17	5.24	No	Si
SLU 18	11.19	92.63	-2023	-0.0000176	0.0003743	0.0035	0.78	721.96	775.84	775.84	8.38	No	Si
SLU 18	13.19	-136.94	-1588	-0.0000169	0.0003743	0.0035	0.78	578.12	721.74	721.74	5.27	No	Si
SLU 63	11.19	99.98	-2573	-0.0000216	0.0003743	0.0035	0.78	895.14	960.53	960.53	9.61	No	Si
SLU 63	13.19	-163.81	-1980	-0.0000209	0.0003743	0.0035	0.78	707.91	856.67	856.67	5.23	No	Si
SLU 52	11.19	86.39	-2465	-0.0000202	0.0003743	0.0035	0.78	861.86	924.82	924.82	10.7	No	Si
SLU 52	13.19	-157.3	-1872	-0.0000198	0.0003743	0.0035	0.78	672.63	819.93	819.93	5.21	No	Si



Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche, $\gamma_M = 2$

Verifica condotta secondo CNR-DT 215

Comb.	Quota	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	c.s.	incremento > 50%	Verifica
SLV 3	11.19	-678.37	-4487	-0.0000643	0.0005615	0.0035	0.78		1713.43	1713.43	2.53		Si
SLV 3	13.19	563.87	346	0.0065414	0.0005615	0.0035	0.624		0	0	0		No
SLV 1	11.19	-752.26	-5074	-0.0000723	0.0005615	0.0035	0.78		1897.97	1897.97	2.52		Si
SLV 1	13.19	620.37	456	0.0382816	0.0005615	0.0035	0.624		0	0	0		No
SLV 2	11.19	-897.2	-5617	-0.0000847	0.0005615	0.0035	0.78		2062.81	2062.81	2.3		Si
SLV 2	13.19	728.18	752	0.1376442	0.0005615	0.0035	0.624		0	0	0		No
SLV 15	11.19	1015.97	1560	0.3569948	0.0005615	0.0035	0.624		0	0	0		No
SLV 15	13.19	-962.17	-3761	-0.0000984	0.0005615	0.0035	0.624		1480.01	1480.01	1.54		Si
SLV 13	11.19	942.08	973	0.1778841	0.0005615	0.0035	0.624		0	0	0		No
SLV 13	13.19	-905.67	-3651	-0.0000897	0.0005615	0.0035	0.624		1443.34	1443.34	1.59		Si
SLV 14	11.19	797.14	430	-0.0081804	0.0005615	0.0035	0.624		0	0	0		No
SLV 14	13.19	-797.87	-3355	-0.0000761	0.0005615	0.0035	0.624		1344.25	1344.25	1.68		Si
SLD 15	11.19	669.98	256	-0.0241402	0.0005615	0.0035	0.624		0	0	0		No
SLD 15	13.19	-656.26	-2946	-0.0000601	0.0005615	0.0035	0.78		1206.9	1206.9	1.84		Si
SLV 4	11.19	-823.31	-5029	-0.0000768	0.0005615	0.0035	0.78		1884.07	1884.07	2.29		Si
SLV 4	13.19	671.68	642	0.1067047	0.0005615	0.0035	0.624		0	0	0		No
SLV 11	11.19	485.47	41	-0.0184114	0.0005615	0.0035	0.624		0	0	0		No
SLV 11	13.19	-476.36	-2404	-0.0000422	0.0005615	0.0035	0.78		1018.54	1018.54	2.14		Si
SLV 16	11.19	871.03	1018	0.2067092	0.0005615	0.0035	0.624		0	0	0		No
SLV 16	13.19	-854.36	-3465	-0.0000839	0.0005615	0.0035	0.624		1381.18	1381.18	1.62		Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 55	11.19	85.04	-2546	-2144	216	0.78	0.78	-9164	8166	1911	47578	7007	1989	2866	Si	13.26	Si
SLU 55	13.19	-154.85	-1921	-1617	244	0.78	0.78	-6913	7866	1841	47578	7007	1989	2761	Si	11.32	Si
SLU 60	11.19	103.4	-2481	-2089	268	0.78	0.78	-8929	8135	1904	47578	7007	1989	2855	Si	10.66	Si
SLU 60	13.19	-167.33	-1938	-1632	259	0.78	0.78	-6975	7874	1843	47578	7007	1989	2764	Si	10.66	Si
SLU 63	11.19	99.98	-2573	-2167	257	0.78	0.78	-9261	8179	1914	47578	7007	1989	2871	Si	11.17	Si
SLU 63	13.19	-163.81	-1980	-1667	251	0.78	0.78	-7125	7894	1847	47578	7007	1989	2771	Si	11.06	Si
SLU 54	11.19	85.28	-2593	-2184	218	0.78	0.78	-9332	8189	1916	47578	7007	1989	2874	Si	13.2	Si
SLU 54	13.19	-154.27	-1958	-1649	241	0.78	0.78	-7046	7884	1845	47578	7007	1989	2767	Si	11.48	Si
SLU 52	11.19	86.39	-2465	-2076	219	0.78	0.78	-8871	8127	1902	47578	7007	1989	2853	Si	13.05	Si
SLU 52	13.19	-157.3	-1872	-1576	251	0.78	0.78	-6736	7843	1835	47578	7007	1989	2753	Si	10.95	Si
SLU 43	11.19	58.23	-2368	-1994	150	0.78	0.78	-8522	8081	1891	47578	7007	1989	2836	Si	18.93	Si
SLU 43	13.19	-139.84	-1758	-1480	240	0.78	0.78	-6326	7788	1822	47578	7007	1989	2733	Si	11.4	Si
SLU 62	11.19	102.05	-2563	-2158	265	0.78	0.78	-9222	8174	1913	47578	7007	1989	2869	Si	10.81	Si
SLU 62	13.19	-164.88	-1987	-1673	252	0.78	0.78	-7151	7898	1848	47578	7007	1989	2772	Si	11.01	Si
SLU 44	11.19	54.77	-2386	-2009	136	0.78	0.78	-8586	8089	1893	47578	7007	1989	2839	Si	20.88	Si
SLU 44	13.19	-138.06	-1746	-1470	238	0.78	0.78	-6282	7782	1821	47578	7007	1989	2731	Si	11.49	Si
SLU 53	11.19	87.35	-2582	-2175	226	0.78	0.78	-9293	8184	1915	47578	7007	1989	2872	Si	12.7	Si
SLU 53	13.19	-155.34	-1965	-1655	242	0.78	0.78	-7072	7887	1846	47578	7007	1989	2768	Si	11.42	Si
SLU 61	11.19	101.33	-2492	-2098	259	0.78	0.78	-8968	8140	1905	47578	7007	1989	2857	Si	11.01	Si
SLU 61	13.19	-166.26	-1931	-1626	258	0.78	0.78	-6949	7871	1842	47578	7007	1989	2763	Si	10.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 15	11.19	669.98	256	216	2855	0.624	0	0	0	0	47578	8408	1591	9999		3.5	Si
SLD 15	13.19	-656.26	-2946	-2481	1249	0.78	0.5017	-16612	13739	2068	47578	10510	1989	12499		10.01	Si
SLV 2	11.19	-897.2	-5617	-4730	-4148	0.78	0.6908	-23039	15024	3113	47578	10510	1989	12499		3.01	Si
SLV 2	13.19	728.18	752	634	-1497	0.624	0	0	0	0	47578	8408	1591	9999		6.68	Si
SLV 16	11.19	871.03	1018	857	3679	0.624	0	0	0	0	47578	8408	1591	9999		2.72	Si
SLV 16	13.19	-854.36	-3465	-2918	1678	0.624	0.4303	0	0	0	47578	8408	1591	9999		5.96	Si
SLV 13	11.19	942.08	973	819	4088	0.624	0	0	0	0	47578	8408	1591	9999		2.45	Si
SLV 13	13.19	-905.67	-3651	-3075	1775	0.624	0.4258	0	0	0	47578	8408	1591	9999		5.63	Si
SLV 1	11.19	-752.26	-5074	-4273	-3426	0.78	0.7252	-18262	14069	3061	47578	10510	1989	12499		3.65	Si
SLV 1	13.19	620.37	456	384	-1319	0.624	0	0	0	0	47578	8408	1591	9999		7.58	Si
SLV 4	11.19	-823.31	-5029	-4235	-3835	0.78	0.6788	-21018	14620	2977	47578	10510	1989	12499		3.26	Si
SLV 4	13.19	671.68	642	541	-1416	0.624	0	0	0	0	47578	8408	1591	9999		7.06	Si
SLV 15	11.19	1015.97	1560	1314	4401	0.624	0	0	0	0	47578	8408	1591	9999		2.27	Si
SLV 15	13.19	-962.17	-3761	-3167	1855	0.624	0.4025	0	0	0	47578	8408	1591	9999		5.39	Si
SLD 13	11.19	625.35	-98	-83	2667	0.624	0	0	0	0	47578	8408	1591	9999		3.75	Si
SLD 13	13.19	-622.11	-2878	-2424	1200	0.78	0.5216	-15605	13538	2118	47578	10510	1989	12499		10.41	Si
SLV 14	11.19	797.14	430	362	3367	0.624	0	0	0	0	47578	8408	1591	9999		2.97	Si
SLV 14	13.19	-797.87	-3355	-2825	1597	0.624	0.4565	0	0	0	47578	8408	1591	9999		6.26	Si
SLV 3	11.19	-678.37	-4487	-3778	-3114	0.78	0.7164	-16147	13646	2933	47578	10510	1989	12499		4.01	Si
SLV 3	13.19	563.87	346	291	-1239	0.624	0	0	0	0	47578	8408	1591	9999		8.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.332 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 4	179667	0.5	5679	-1329	158.75	191.93	1.21	Si
SLV 2	179667	0.5	5770	-1350	158.75	194.87	1.23	Si
SLV 3	179667	0.5	6180	-1446	158.75	208.12	1.31	Si
SLV 1	179667	0.5	6271	-1467	158.75	211.05	1.33	Si
SLV 8	179667	0.5	7158	-1675	158.75	239.45	1.51	Si
SLV 6	179667	0.5	7460	-1746	158.75	249.06	1.57	Si
SLV 7	179667	0.5	7495	-1754	158.75	250.14	1.58	Si
SLV 5	179667	0.5	7797	-1825	158.75	259.7	1.64	Si
SLV 12	179667	0.5	8446	-1976	158.75	280.04	1.76	Si
SLV 10	179667	0.5	8748	-2047	158.75	289.47	1.82	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:



- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 12.332 Wa = 0.05 Ta = 0.0974

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 4	-210	-1576	-22	4.06	186.5	0.928	63.59454	10.07801	Si
SLV 3	-195	-1670	-22	4.116	185.7	0.931	64.25644	10.07801	Si
SLV 2	-172	-2004	-15	4.213	184.5	0.936	65.41101	10.07801	Si
SLV 1	-157	-2099	-15	4.273	183.8	0.94	66.08486	10.07801	Si
SLV 16	-130	-2848	15	4.387	182.6	0.947	67.32794	10.07801	Si
SLV 15	-115	-2942	15	4.452	182	0.951	68.00365	10.07801	Si
SLV 14	-92	-3277	23	4.55	181.2	0.959	68.94761	10.07801	Si
SLV 13	-77	-3371	23	4.62	180.8	0.964	69.61686	10.07801	Si
SLV 8	-224	-1536	-18	4.013	187.3	0.925	63.0419	6.4618	Si
SLV 7	-214	-1600	-18	4.05	186.7	0.927	63.48395	6.4618	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.035	SLV 60	Si
V_SLV	10.658	SLV 60	Si
PF_SLV	0	SLD 15	No
V_SLV	2.272	SLV 15	Si
PFFP_SLV	1.209	SLV 4	Si
R_SLV	6.31	SLV 4	Si

Maschio 270

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-11.013	-4.784	-11.013	-3.509	Z medio 333 cm	Z medio 676 cm	1.275	0.28	3.43	3.43	3.43			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8	1.5		0.009	1.5	Laterizio	Si	No			

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 41	3.33	-15249	-149.05	42715	5642.77	37.858	Si
SLU 41	6.76	-11171	340.87	31290	4932.64	14.471	Si
SLU 42	3.33	-15412	-171.87	43170	5658.99	32.926	Si
SLU 42	6.76	-11250	350.56	31512	4951.99	14.126	Si
SLU 83	3.33	-17855	-154.32	50015	5790.97	37.527	Si
SLU 83	6.76	-13020	345.31	36469	5326.88	15.426	Si
SLU 40	3.33	-15218	-174.7	42626	5639.52	32.281	Si
SLU 40	6.76	-11071	341.96	31010	4907.89	14.352	Si
SLU 21	3.33	-13585	-152.11	38053	5423.47	35.655	Si
SLU 21	6.76	-9871	296.25	27650	4583.81	15.473	Si
SLU 19	3.33	-13391	-154.94	37509	5391.56	34.798	Si
SLU 19	6.76	-9692	287.66	27148	4531.03	15.751	Si
SLU 82	3.33	-17824	-179.96	49927	5790.6	32.177	Si
SLU 82	6.76	-12919	346.4	36189	5308.61	15.325	Si
SLU 81	3.33	-17661	-157.14	49471	5788.15	36.833	Si
SLU 81	6.76	-12840	336.72	35967	5293.9	15.722	Si
SLU 39	3.33	-15055	-151.88	42171	5622.19	37.017	Si
SLU 39	6.76	-10991	332.27	30788	4888.04	14.711	Si
SLU 84	3.33	-18018	-177.13	50471	5792.32	32.7	Si
SLU 84	6.76	-13099	355	36691	5341.09	15.045	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo in FRCM.



Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRCC non venga condotta come sezione rinforzata possono essere:

- La sezione è tutta compressa.
- Per la sezione inferiore o superiore non è presente l'ancoraggio delle barre verticali.

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 12	3.33	-2757	1048.09	7721	1668.46	1.592	Si
SLV 12	6.76	-3740	-496.93	10475	2220.55	4.468	Si
SLD 11	3.33	-6231	661.53	17453	3518.06	5.318	Si
SLD 11	6.76	-5571	-295.08	15605	3188.57	10.806	Si
SLV 11	3.33	-2773	1103.68	7768	1677.99	1.52	Si
SLV 11	6.76	-3734	-549.78	10461	2217.64	4.034	Si
SLV 6	3.33	-20803	-1232.03	58270	8201.54	6.657	Si
SLV 6	6.76	-13281	814.99	37201	6404.07	7.858	Si
SLD 12	3.33	-6220	626.73	17423	3512.94	5.605	Si
SLD 12	6.76	-5574	-262	15614	3190.25	12.177	Si
SLV 8	3.33	-2271	735.42	6361	1387.48	1.887	Si
SLV 8	6.76	-3383	-285.75	9475	2022.69	7.079	Si
SLV 15	3.33	-9830	793.35	27534	5136.64	6.475	Si
SLV 15	6.76	-7614	-423.72	21328	4176.02	9.856	Si
SLV 2	3.33	-13746	-921.69	38504	6553.67	7.11	Si
SLV 2	6.76	-9401	688.93	26334	4959.81	7.199	Si
SLV 5	3.33	-20819	-1176.44	58317	8204.05	6.974	Si
SLV 5	6.76	-13275	762.14	37186	6402.34	8.4	Si
SLV 7	3.33	-2288	791.01	6408	1397.19	1.766	Si
SLV 7	6.76	-3377	-338.59	9461	2019.74	5.965	Si

Per la verifica della tabella precedente non è stato considerato il rinforzo in FRCC.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRCC non venga condotta come sezione rinforzata possono essere:

- La sezione è tutta compressa.
- Per la sezione inferiore o superiore non è presente l'ancoraggio delle barre verticali.

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 43	3.33	-45.39	-13382		12	1.275	1.275	-37483	10833	4714	38062	10690		7071	Si	579.18	Si
SLU 43	6.76	81.31	-9588		710	1.275	1.275	-26857	10525	3758	38062	10690		5636	Si	7.94	Si
SLU 44	3.33	-83.42	-13653		-158	1.275	1.275	-38243	10833	4786	38062	10690		7179	Si	45.52	Si
SLU 44	6.76	97.46	-9720		615	1.275	1.275	-27227	10575	3775	38062	10690		5663	Si	9.2	Si
SLU 46	3.33	-65.62	-13856		-99	1.275	1.275	-38813	10833	4841	38062	10690		7261	Si	73.27	Si
SLU 46	6.76	103.06	-9955		641	1.275	1.275	-27884	10662	3806	38062	10690		5710	Si	8.91	Si
SLU 45	3.33	-42.8	-13694		3	1.275	1.275	-38357	10833	4797	38062	10690		7196	Si	2526.44	Si
SLU 45	6.76	93.37	-9875		698	1.275	1.275	-27662	10633	3796	38062	10690		5694	Si	8.16	Si
SLU 48	3.33	-39.98	-13888		-1	1.275	1.275	-38901	10833	4849	38062	10690		7273	Si	5287.63	Si
SLU 48	6.76	101.96	-10055		691	1.275	1.275	-28164	10700	3827	38062	10690		5740	Si	8.31	Si
SLU 51	3.33	-62.55	-13933		-98	1.275	1.275	-39027	10833	4861	38062	10690		7291	Si	74.26	Si
SLU 51	6.76	108.19	-10026		639	1.275	1.275	-28083	10689	3819	38062	10690		5729	Si	8.97	Si
SLU 64	3.33	-65.15	-15209		-115	1.275	1.275	-42601	10833	5201	38062	10690		7802	Si	67.91	Si
SLU 64	6.76	135.61	-10967		671	1.275	1.275	-30719	10833	4070	38062	10690		6105	Si	9.1	Si
SLU 50	3.33	-39.73	-13770		4	1.275	1.275	-38571	10833	4818	38062	10690		7226	Si	1921.29	Si
SLU 50	6.76	98.5	-9946		696	1.275	1.275	-27861	10659	3805	38062	10690		5708	Si	8.21	Si
SLU 47	3.33	-80.59	-13847		-162	1.275	1.275	-38787	10833	4838	38062	10690		7257	Si	44.82	Si
SLU 47	6.76	106.05	-9899		608	1.275	1.275	-27729	10642	3799	38062	10690		5699	Si	9.37	Si
SLU 49	3.33	-62.79	-14050		-103	1.275	1.275	-39357	10833	4892	38062	10690		7339	Si	71.02	Si
SLU 49	6.76	111.65	-10134		634	1.275	1.275	-28386	10729	3848	38062	10690		5772	Si	9.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 6	3.33	-1232.03	-20803		-5349	1.275	1.275	-58270	16250	7266	38062	16035		16035		3	Si
SLV 6	6.76	814.99	-13281		-4693	1.275	1.275	-37201	16250	5801	38062	16035		16035		3.42	Si
SLV 10	3.33	-919.35	-21288		-3832	1.275	1.275	-59630	16250	7395	38062	16035		16035		4.18	Si
SLV 10	6.76	603.8	-13638		-2768	1.275	1.275	-38201	16250	5801	38062	16035		16035		5.79	Si
SLV 15	3.33	793.35	-9830		3915	1.275	1.275	-27534	15924	5685	38062	16035		16035		4.1	Si
SLV 15	6.76	-423.72	-7614		5208	1.275	1.275	-21328	14682	5242	38062	16035		16035		3.08	Si
SLV 2	3.33	-921.69	-13746		-4165	1.275	1.275	-38504	16250	5801	38062	16035		16035		3.85	Si
SLV 2	6.76	688.93	-9401		-4217	1.275	1.275	-26334	15683	5599	38062	16035		16035		3.8	Si
SLV 5	3.33	-1176.44	-20819		-5058	1.275	1.275	-58317	16250	7270	38062	16035		16035		3.17	Si
SLV 5	6.76	762.14	-13275		-4292	1.275	1.275	-37186	16250	5801	38062	16035		16035		3.74	Si
SLV 7	3.33	791.01	-2288		3582	1.275	0.8752	-6408	11698	2867	38062	16035		16035		4.48	Si
SLV 7	6.76	-338.59	-3377		3760	1.275	1.275	-9461	12309	4394	38062	16035		16035		4.26	Si
SLV 16	3.33	710.78	-9805		3483	1.275	1.275	-27465	15910	5680	38062	16035		16035		4.6	Si
SLV 16	6.76	-345.24	-7622		4614	1.275	1.275	-21350	14687	5243	38062	16035		16035		3.48	Si
SLV 12	3.33	1048.09	-2757		4808	1.275	0.7719	-7721	11961	2585	38062	16035		16035		3.34	Si
SLV 12	6.76	-496.93	-3740		5284	1.275	1.275	-10475	12512	4467	38062	16035		16035		3.03	Si
SLV 11	3.33	1103.68	-2773		5099	1.275	0.7186	-7768	11970	2458	38062	16035		16035		3.14	Si
SLV 11	6.76	-549.78	-3734		5684	1.275	1.275	-10461	12509	4466	38062	16035		16035		2.82	Si
SLV 1	3.33	-839.13	-13771		-3733	1.275	1.275	-38573	16250	5801	38062	16035		16035		4.3	Si
SLV 1	6.76	610.44	-9393		-3622	1.275	1.275	-26312	15679	5597	38062	16035		16035		4.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 5.045 Wa 0.05 denominatore 8 $\gamma_M = 2$

Comb.	fd	Sa	σ_0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.35	10745	-3836	113.99	499.25	4.38	Si
SLV 8	179667	0.35	10871	-3881	113.99	504.65	4.43	Si
SLV 11	179667	0.35	11505	-4107	113.99	531.72	4.66	Si
SLV 12	179667	0.35	11631	-4152	113.99	537.05	4.71	Si



Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 3	179667	0.35	22928	-8185	113.99	973.91	8.54	Si
SLV 4	179667	0.35	23115	-8252	113.99	980.44	8.6	Si
SLV 15	179667	0.35	25463	-9090	113.99	1060.45	9.3	Si
SLV 16	179667	0.35	25650	-9157	113.99	1066.66	9.36	Si
SLV 1	179667	0.35	34158	-12194	113.99	1325.36	11.63	Si
SLV 2	179667	0.35	34345	-12261	113.99	1330.51	11.67	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.
Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:
- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 5.045 Wa = 0.05 Ta = 0.0702

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-10591	-15364	-27	0.655	1250.9	0.959	9.92296	5.80389	Si
SLV 13	-10583	-15389	-27	0.655	1250.1	0.959	9.92919	5.80389	Si
SLV 10	-13638	-21288	-34	0.527	1560.9	0.967	7.93079	4.26948	Si
SLV 9	-13632	-21305	-34	0.528	1560.3	0.967	7.93337	4.26948	Si
SLV 6	-13281	-20803	-24	0.54	1524.5	0.966	8.12877	4.26948	Si
SLV 2	-9401	-13746	5	0.726	1129.9	0.955	11.0532	5.80389	Si
SLV 5	-13275	-20819	-24	0.54	1524	0.966	8.13148	4.26948	Si
SLV 1	-9393	-13771	5	0.727	1129.1	0.955	11.06164	5.80389	Si
SLV 16	-7622	-9805	-11	0.866	949.2	0.948	13.27426	5.80389	Si
SLV 15	-7614	-9830	-12	0.866	948.4	0.948	13.28583	5.80389	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.126	SLU 42	Si
V_SLU	7.939	SLU 43	Si
PF_SLV	1.52	SLV 11	Si
V_SLV	2.821	SLV 11	Si
PFFP_SLV	4.38	SLV 7	Si
R_SLV	1.71	SLV 14	Si

Maschio 271

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.784	-11.013	-3.509	Z medio 1024 cm	F1	1.274	0.28	4.523	4.183	4.863			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim.conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8	1.5		0.009	1.5	Laterizio	Si	No			

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 70	10.24	-6636	69.7	18599	3455.83	49.579	Si
SLU 70	14.42	-1795	339.89	5031	1087.27	3.199	Si
SLU 36	10.24	-5893	-63.02	16516	3145.64	49.915	Si
SLU 36	14.42	-1622	312.82	4545	987.07	3.155	Si
SLU 7	10.24	-4843	67.78	13573	2674.32	39.457	Si
SLU 7	14.42	-1358	263.06	3807	833.11	3.167	Si
SLU 35	10.24	-5873	-56.32	16461	3137.23	55.708	Si
SLU 35	14.42	-1621	312.47	4543	986.7	3.158	Si
SLU 30	10.24	-5465	41.21	15315	2958.05	71.774	Si
SLU 30	14.42	-1504	289.53	4215	918.6	3.173	Si
SLU 29	10.24	-5445	47.92	15261	2949.35	61.55	Si
SLU 29	14.42	-1503	289.18	4213	918.23	3.175	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 6	10.24	-4823	74.48	13518	2665.2	35.783	Si
SLU 6	14.42	-1358	262.71	3805	832.74	3.17	Si
SLU 69	10.24	-6617	76.41	18544	3447.94	45.126	Si
SLU 69	14.42	-1795	339.54	5029	1086.91	3.201	Si
SLU 28	10.24	-5556	40.8	15570	2998.4	73.488	Si
SLU 28	14.42	-1593	313.62	4464	970.28	3.094	Si
SLU 27	10.24	-5536	47.51	15515	2989.76	62.935	Si
SLU 27	14.42	-1592	313.27	4462	969.91	3.096	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo in FRM.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRM non venga condotta come sezione rinforzata possono essere:

- La sezione é tutta compressa.
- Per la sezione inferiore o superiore non é presente l'ancoraggio delle barre verticali.

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 2	10.24	-4788	-813.07	13418	2782.44	3.422	Si
SLV 2	14.42	-1106	96.48	3099	690.25	7.155	Si
SLD 16	10.24	-4700	490.42	13171	2736.07	5.579	Si
SLD 16	14.42	-981	194.24	2750	613.97	3.161	Si
SLV 15	10.24	-4645	869.35	13019	2707.38	3.114	Si
SLV 15	14.42	-930	222.7	2607	582.57	2.616	Si
SLV 13	10.24	-5486	670.32	15376	3143.67	4.69	Si
SLV 13	14.42	-996	228.76	2792	623.18	2.724	Si
SLV 16	10.24	-4669	755.14	13085	2719.87	3.602	Si
SLV 16	14.42	-959	213.44	2689	600.57	2.814	Si
SLD 13	10.24	-5198	442.34	14567	2995.85	6.773	Si
SLD 13	14.42	-1003	203.68	2810	627.08	3.079	Si
SLV 14	10.24	-5510	556.11	15442	3155.7	5.675	Si
SLV 14	14.42	-1026	219.51	2874	641.14	2.921	Si
SLV 11	10.24	-3415	603.67	9571	2039.43	3.378	Si
SLV 11	14.42	-886	171.05	2483	555.33	3.247	Si
SLD 15	10.24	-4684	563.32	13129	2728.11	4.843	Si
SLD 15	14.42	-963	200.14	2698	602.49	3.01	Si
SLD 14	10.24	-5213	369.44	14610	3003.63	8.13	Si
SLD 14	14.42	-1021	197.77	2862	638.54	3.229	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo in FRM.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRM non venga condotta come sezione rinforzata possono essere:

- La sezione é tutta compressa.
- Per la sezione inferiore o superiore non é presente l'ancoraggio delle barre verticali.

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 27	10.24	47.51	-5536		-243	1.2743	1.2743	-15515	9013	3216	52335	10684		4824	Si	19.85	Si
SLU 27	14.42	313.27	-1592		-787	1.2743	1.2743	-4462	7539	2690	52335	10684		4035	Si	5.13	Si
SLU 35	10.24	-56.32	-5873		-380	1.2743	1.2743	-16461	9139	3261	52335	10684		4891	Si	12.88	Si
SLU 35	14.42	312.47	-1621		-842	1.2743	1.2743	-4543	7550	2694	52335	10684		4041	Si	4.8	Si
SLU 28	10.24	40.8	-5556		-293	1.2743	1.2743	-15570	9020	3219	52335	10684		4828	Si	16.48	Si
SLU 28	14.42	313.62	-1593		-785	1.2743	1.2743	-4464	7540	2690	52335	10684		4035	Si	5.14	Si
SLU 70	10.24	69.7	-6636		-237	1.2743	1.2743	-18599	9424	3363	52335	10684		5044	Si	21.26	Si
SLU 70	14.42	339.89	-1795		-753	1.2743	1.2743	-5031	7615	2717	52335	10684		4076	Si	5.41	Si
SLU 38	10.24	-62.61	-5802		-408	1.2743	1.2743	-16261	9113	3251	52335	10684		4877	Si	11.97	Si
SLU 38	14.42	288.74	-1533		-761	1.2743	1.2743	-4296	7517	2682	52335	10684		4023	Si	5.28	Si
SLU 69	10.24	76.41	-6617		-187	1.2743	1.2743	-18544	9417	3360	52335	10684		5040	Si	26.91	Si
SLU 69	14.42	339.54	-1795		-756	1.2743	1.2743	-5029	7615	2717	52335	10684		4076	Si	5.39	Si
SLU 37	10.24	-55.9	-5783		-358	1.2743	1.2743	-16206	9105	3249	52335	10684		4873	Si	13.63	Si
SLU 37	14.42	288.39	-1532		-764	1.2743	1.2743	-4294	7517	2682	52335	10684		4023	Si	5.27	Si
SLU 77	10.24	-27.41	-6954		-324	1.2743	1.2743	-19490	9543	3405	52335	10684		5108	Si	15.76	Si
SLU 77	14.42	338.75	-1823		-810	1.2743	1.2743	-5110	7626	2721	52335	10684		4081	Si	5.04	Si
SLU 36	10.24	-63.02	-5893		-430	1.2743	1.2743	-16516	9147	3264	52335	10684		4895	Si	11.39	Si
SLU 36	14.42	312.82	-1622		-839	1.2743	1.2743	-4545	7550	2694	52335	10684		4041	Si	4.81	Si
SLU 78	10.24	-34.12	-6974		-374	1.2743	1.2743	-19544	9550	3408	52335	10684		5111	Si	13.67	Si
SLU 78	14.42	339.1	-1824		-808	1.2743	1.2743	-5112	7626	2721	52335	10684		4082	Si	5.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	10.24	-813.07	-4788		-3727	1.2743	1.2743	-13418	13100	4674	52335	16027		16027		4.3	Si
SLV 2	14.42	96.48	-1106		-1909	1.2743	1.2743	-3099	11036	3938	52335	16027		16027		8.39	Si
SLV 6	10.24	-547.39	-6018		-3400	1.2743	1.2743	-16866	13790	4920	52335	16027		16027		4.71	Si
SLV 6	14.42	148.12	-1150		-1192	1.2743	1.2743	-3223	11061	3947	52335	16027		16027		13.45	Si
SLV 12	10.24	526.78	-3431		2907	1.2743	1.2743	-9615	12340	4403	52335	16027		16027		5.51	Si
SLV 12	14.42	164.82	-906		452	1.2743	1.2743	-2538	10924	3898	52335	16027		16027		35.48	Si
SLV 5	10.24	-470.5	-6002		-3077	1.2743	1.2743	-16821	13781	4917	52335	16027		16027		5.21	Si
SLV 5	14.42	154.35	-1130		-1017	1.2743	1.2743	-3168	11050	3943	52335	16027		16027		15.77	Si
SLV 16	10.24	755.14	-4669		3078	1.2743	1.2743	-13085	13034	4650	52335	16027		16027		5.21	Si
SLV 16	14.42	213.44	-959		1084	1.2743	1.2441	-2689	10954	3816	52335	16027		16027		14.78	Si
SLV 11	10.24	603.67	-3415		3230	1.2743	1.2743	-9571	12331	4400	52335	16027		16027		4.96	Si
SLV 11	14.42	171.05	-886		627	1.2743	1.2743	-2483	10913	3894	52335	16027		16027		25.56	Si
SLV 15	10.24	869.35	-4645		3557	1.2743	1.2743	-13019	13020	4646	52335	16027		16027		4.51	Si
SLV 15	14.42	222.7	-930		1345	1.2743	1.1932	-2607	10938	3655	52335	16027		16027		11.92	Si
SLD 2	10.24	-507.04	-4748		-2397	1.2743	1.2743	-13308	13078	4666	52335	16027		16027		6.69	Si
SLD 2	14.42	119.03	-1073		-1318	1.2743	1.2743	-3008	11018	3931	52335	16027		16027		12.16	Si
SLV 4	10.24	-614.04	-3946		-2321	1.2743	1.2743	-11061	12629	4506	52335	16027		16027		6.91	Si
SLV 4	14.42	90.41	-1040		-1664	1.2743	1.2743	-2914	10999	3925	52335	16027		16027		9.63	Si
SLV 1	10.24	-698.86	-4764		-3248	1.2743	1.2743	-13352	13087	4670	52335	16027		16027		4.93	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 1	14.42	105.73	-1077		-1649	1.2743	1.2743	-3017	11020	3932	52335	16027		16027		9.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 12.331 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 11	179667	0.5	6418	-2290	291	307.12	1.06	Si
SLV 12	179667	0.5	6628	-2365	291	316.7	1.09	Si
SLV 15	179667	0.5	6804	-2428	291	324.74	1.12	Si
SLV 7	179667	0.5	6828	-2436	291	325.84	1.12	Si
SLV 8	179667	0.5	7038	-2511	291	335.37	1.15	Si
SLV 16	179667	0.5	7116	-2539	291	338.88	1.16	Si
SLV 13	179667	0.5	7589	-2708	291	360.26	1.24	Si
SLV 14	179667	0.5	7900	-2819	291	374.24	1.29	Si
SLV 3	179667	0.5	8172	-2916	291	386.36	1.33	Si
SLV 4	179667	0.5	8483	-3027	291	400.23	1.38	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non é atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzera = 12.331 Wa = 0.05 Ta = 0.122

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 2	-1106	-4788	-43	2.83	364.1	0.891	46.17141	12.90996	Si
SLV 1	-1077	-4764	-43	2.862	361.6	0.891	46.68353	12.90996	Si
SLV 4	-1040	-3946	-18	2.914	358.5	0.892	47.49692	12.90996	Si
SLV 14	-1026	-5510	8	2.934	357.3	0.892	47.81708	12.90996	Si
SLV 3	-1010	-3923	-18	2.948	356	0.892	48.03286	12.90996	Si
SLV 13	-996	-5486	9	2.969	354.8	0.892	48.3525	12.90996	Si
SLV 16	-959	-4669	33	3.003	351.8	0.893	48.87922	12.90996	Si
SLV 15	-930	-4645	34	3.04	349.4	0.894	49.43578	12.90996	Si
SLV 6	-1150	-6018	-54	2.778	368	0.89	45.35165	7.34426	Si
SLV 5	-1130	-6002	-54	2.799	366.3	0.89	45.68537	7.34426	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.094	SLU 28	Si
V_SLU	4.799	SLU 35	Si
PF_SLV	2.616	SLV 15	Si
V_SLV	4.3	SLV 2	Si
PFFP_SLV	1.055	SLV 11	Si
R_SLV	3.576	SLV 2	Si

Maschio 272

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-11.013	-4.784	-11.013	-3.359	Z medio 676 cm	Z medio 1024 cm	1.425	0.28	3.48	3.48	3.48			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
600000			431200	11200	25000	0.58	0.77	32500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8	1.5		0.009	1.5	Laterizio	Si	No			

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	6.76	-13236	-453.8	33173	6357.94	14.01	Si
SLU 84	10.24	-9046	658.77	22673	5010.19	7.605	Si



Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLU 21	6.76	-9832	-410.65	24643	5309.93	12.931	Si
SLU 21	10.24	-6820	542.9	17092	4043.38	7.448	Si
SLU 39	6.76	-10932	-453.8	27399	5693.01	12.545	Si
SLU 39	10.24	-7570	614.38	18973	4388.59	7.143	Si
SLU 18	6.76	-9552	-395.86	23940	5205.45	13.15	Si
SLU 18	10.24	-6608	519.72	16562	3942.4	7.586	Si
SLU 41	6.76	-11134	-449.17	27906	5758.8	12.821	Si
SLU 41	10.24	-7754	630.92	19434	4470.27	7.085	Si
SLU 19	6.76	-9630	-415.28	24136	5234.91	12.606	Si
SLU 19	10.24	-6636	526.36	16631	3955.66	7.515	Si
SLU 40	6.76	-11011	-473.22	27595	5718.69	12.085	Si
SLU 40	10.24	-7598	621.02	19042	4400.92	7.087	Si
SLU 83	6.76	-13158	-434.37	32977	6338.38	14.592	Si
SLU 83	10.24	-9019	652.13	22604	4999.26	7.666	Si
SLU 20	6.76	-9754	-391.23	24446	5281.02	13.499	Si
SLU 20	10.24	-6792	536.26	17023	4030.29	7.515	Si
SLU 42	6.76	-11213	-468.59	28102	5783.92	12.343	Si
SLU 42	10.24	-7782	637.56	19503	4482.42	7.031	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo in FRCM.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRCM non venga condotta come sezione rinforzata possono essere:

- La sezione é tutta compressa.
- Per la sezione inferiore o superiore non é presente l'ancoraggio delle barre verticali.

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	σ_0	Mu	c.s.	Verifica
SLV 7	6.76	-3718	660.45	9319	2487.63	3.767	Si
SLV 7	10.24	-3819	-315.98	9572	2550.68	8.072	Si
SLV 15	6.76	-8517	1207.03	21346	5220.1	4.325	Si
SLV 15	10.24	-5638	-175.73	14130	3645.3	20.744	Si
SLV 5	6.76	-13634	-1338.85	34170	7540.6	5.632	Si
SLV 5	10.24	-7624	965.13	19107	4752.25	4.924	Si
SLV 2	6.76	-9409	-1425.54	23581	5668.59	3.976	Si
SLV 2	10.24	-6059	723.9	15185	3887.61	5.37	Si
SLV 6	6.76	-13598	-1442.58	34081	7526.58	5.217	Si
SLV 6	10.24	-7650	1002.21	19172	4766.1	4.756	Si
SLV 1	6.76	-9462	-1271.48	23713	5694.58	4.479	Si
SLV 1	10.24	-6020	668.81	15088	3865.6	5.78	Si
SLV 12	6.76	-4292	1120.35	10756	2842.48	2.537	Si
SLV 12	10.24	-4073	-416.95	10208	2707.98	6.495	Si
SLV 11	6.76	-4327	1224.07	10845	2864.25	2.34	Si
SLV 11	10.24	-4047	-454.04	10143	2691.97	5.929	Si
SLV 16	6.76	-8464	1052.98	21213	5192.94	4.932	Si
SLV 16	10.24	-5676	-120.64	14226	3667.65	30.402	Si
SLV 8	6.76	-3683	556.73	9230	2465.36	4.428	Si
SLV 8	10.24	-3845	-278.89	9637	2566.84	9.204	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo in FRCM.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo di tipo FRCM non venga condotta come sezione rinforzata possono essere:

- La sezione é tutta compressa.
- Per la sezione inferiore o superiore non é presente l'ancoraggio delle barre verticali.

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni non sismiche secondo metodo CNR DT215, $\gamma_M = 3$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLU 36	6.76	-350.31	-11167		-483	1.425	1.425	-27987	10676	4260	38062	11948		6390	Si	13.22	Si
SLU 36	10.24	559.86	-7684		-345	1.425	1.425	-19258	9512	3795	38062	11948		5693	Si	16.52	Si
SLU 31	6.76	-372.49	-10694		-504	1.425	1.425	-26802	10518	4197	38062	11948		6295	Si	12.5	Si
SLU 31	10.24	523.19	-7228		-277	1.425	1.425	-18116	9360	3735	38062	11948		5602	Si	20.21	Si
SLU 40	6.76	-473.22	-11011		-549	1.425	1.425	-27595	10624	4239	38062	11948		6358	Si	11.59	Si
SLU 40	10.24	621.02	-7598		-353	1.425	1.425	-19042	9483	3784	38062	11948		5676	Si	16.08	Si
SLU 84	6.76	-453.8	-13236		-485	1.425	1.425	-33173	10833	4810	38062	11948		7215	Si	14.89	Si
SLU 84	10.24	658.77	-9046		-274	1.425	1.425	-22673	9967	3977	38062	11948		5966	Si	21.78	Si
SLU 34	6.76	-367.86	-10896		-521	1.425	1.425	-27309	10586	4224	38062	11948		6335	Si	12.15	Si
SLU 34	10.24	539.74	-7412		-307	1.425	1.425	-18577	9421	3759	38062	11948		5639	Si	18.38	Si
SLU 33	6.76	-354.94	-10965		-466	1.425	1.425	-27480	10608	4233	38062	11948		6349	Si	13.64	Si
SLU 33	10.24	543.31	-7500		-315	1.425	1.425	-18797	9451	3771	38062	11948		5656	Si	17.96	Si
SLU 41	6.76	-449.17	-11134		-464	1.425	1.425	-27906	10665	4255	38062	11948		6383	Si	13.75	Si
SLU 41	10.24	630.92	-7754		-360	1.425	1.425	-19434	9536	3805	38062	11948		5707	Si	15.86	Si
SLU 42	6.76	-468.59	-11213		-566	1.425	1.425	-28102	10691	4270	38062	11948		6406	Si	11.31	Si
SLU 42	10.24	637.56	-7782		-383	1.425	1.425	-19503	9545	3808	38062	11948		5713	Si	14.93	Si
SLU 39	6.76	-453.8	-10932		-447	1.425	1.425	-27399	10598	4228	38062	11948		6343	Si	14.2	Si
SLU 39	10.24	614.38	-7570		-330	1.425	1.425	-18973	9474	3780	38062	11948		5670	Si	17.17	Si
SLU 38	6.76	-350.28	-11046		-471	1.425	1.425	-27684	10636	4244	38062	11948		6365	Si	13.52	Si
SLU 38	10.24	551.86	-7578		-321	1.425	1.425	-18992	9477	3781	38062	11948		5672	Si	17.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con rete a fibra in combinazioni sismiche secondo metodo CNR DT215, $\gamma_M = 2$

Comb.	Quota	M	N	Nmur	V	df	I'	σ_N	fvd	Vt	Vt,f	Vt,c	Vt,c.int.	Vt,R	res. > 50%	c.s.	Verifica
SLV 2	6.76	-1425.54	-9409		-5547	1.425	1.425	-23581	15133	6038	38062	17922		17922		3.23	Si
SLV 2	10.24	723.9	-6059		-4244	1.425	1.425	-15185	13454	5368	38062	17922		17922		4.22	Si
SLV 12	6.76	1120.35	-4292		5400	1.425	1.3544	-10756	12568	4766	38062	17922		17922		3.32	Si
SLV 12	10.24	-416.95	-4073		3903	1.425	1.425	-10208	12458	4971	38062	17922		17922		4.59	Si
SLV 16	6.76	1052.98	-8464		4798	1.425	1.425	-21213	14659	5849	38062	17922		17922		3.74	Si
SLV 16	10.24	-120.64	-5676		3762	1.425	1.425	-14226	13262	5292	38062	17922		17922		4.76	Si
SLD 11	6.76	718.11	-6111		3637	1.425	1.425	-15317	13480	5379	38062	17922		17922		4.93	Si
SLD 11	10.24	-177.2	-4749		2676	1.425	1.425	-11902	12797	5106	38062	17922		17922		6.7	Si
SLD 6	6.76	-936.62	-11814		-3698	1.425	1.425	-29609	16250	6484	38062	17922		17922		4.85	Si



Comb.	Quota	M	N	Nmur	V	df	I'	σN	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	res. > 50%	c.s.	Verifica
SLD 6	10.24	725.37	-6948		-2592	1.425	1.425	-17412	13899	5546	38062	17922		17922		6.91	Si
SLV 6	6.76	-1442.58	-13598		-5924	1.425	1.425	-34081	16250	6484	38062	17922		17922		3.03	Si
SLV 6	10.24	1002.21	-7650		-4200	1.425	1.425	-19172	14251	5686	38062	17922		17922		4.27	Si
SLV 15	6.76	1207.03	-8517		5486	1.425	1.425	-21346	14686	5860	38062	17922		17922		3.27	Si
SLV 15	10.24	-175.73	-5638		4328	1.425	1.425	-14130	13243	5284	38062	17922		17922		4.14	Si
SLV 1	6.76	-1271.48	-9462		-4860	1.425	1.425	-23713	15159	6049	38062	17922		17922		3.69	Si
SLV 1	10.24	668.81	-6020		-3678	1.425	1.425	-15088	13434	5360	38062	17922		17922		4.87	Si
SLV 11	6.76	1224.07	-4327		5863	1.425	1.2889	-10845	12586	4542	38062	17922		17922		3.06	Si
SLV 11	10.24	-454.04	-4047		4284	1.425	1.425	-10143	12445	4966	38062	17922		17922		4.18	Si
SLV 5	6.76	-1338.85	-13634		-5461	1.425	1.425	-34170	16250	6484	38062	17922		17922		3.28	Si
SLV 5	10.24	965.13	-7624		-3819	1.425	1.425	-19107	14238	5681	38062	17922		17922		4.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 8.5 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 7	179667	0.42	10174	-4059	162.09	530.44	3.27	Si
SLV 8	179667	0.42	10254	-4092	162.09	534.35	3.3	Si
SLV 11	179667	0.42	10684	-4263	162.09	555.06	3.42	Si
SLV 12	179667	0.42	10765	-4295	162.09	558.95	3.45	Si
SLV 3	179667	0.42	15930	-6356	162.09	797.05	4.92	Si
SLV 4	179667	0.42	16051	-6404	162.09	802.35	4.95	Si
SLV 15	179667	0.42	17633	-7035	162.09	871.23	5.38	Si
SLV 16	179667	0.42	17753	-7083	162.09	876.39	5.41	Si
SLV 1	179667	0.42	21392	-8536	162.09	1027.59	6.34	Si
SLV 2	179667	0.42	21512	-8583	162.09	1032.41	6.37	Si

Per la verifica della tabella precedente non é stato considerato il rinforzo predisposto.

Le motivazioni per cui la sezione di verifica nonostante abbia un rinforzo non venga condotta come sezione rinforzata possono essere:

- Il rinforzo predisposto non è atto ad essere utilizzato per queste tipologie di verifiche.
- Non sono stati predisposti rinforzi di tipo rete e betoncino oppure FRP sia orizzontali che verticali.
- Non sono stati predisposti rinforzi di tipo rete e betoncino, FRP oppure FRCM su entrambi i lati.
- Si sono predisposti solamente FRP Diagonali che sono validi solo per la resistenza a taglio.

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 5617 quota mezzeria = 8.5 Wa = 0.05 Ta = 0.0722

Comb.	N top	N base	V orto	α0	M*	e*	a0*	aLim	Verifica
SLV 14	-6818	-11439	-80	1.029	891.4	0.939	15.92921	6.82199	Si
SLV 13	-6779	-11492	-81	1.033	887.5	0.938	16.00539	6.82199	Si
SLV 2	-6059	-9409	25	1.139	814.6	0.934	17.72453	6.82199	Si
SLV 1	-6020	-9462	25	1.145	810.7	0.934	17.82128	6.82199	Si
SLV 16	-5676	-8464	-46	1.196	776	0.931	18.67416	6.82199	Si
SLV 15	-5638	-8517	-47	1.203	772.1	0.931	18.77943	6.82199	Si
SLV 10	-7877	-14207	-83	0.914	998.7	0.944	14.06351	4.96739	Si
SLV 9	-7851	-14243	-83	0.916	996.1	0.944	14.10306	4.96739	Si
SLV 6	-7650	-13598	-51	0.94	975.7	0.943	14.47945	4.96739	Si
SLV 5	-7624	-13634	-51	0.942	973	0.943	14.52132	4.96739	Si

Per la verifica della tabella precedente non si considerano i rinforzi predisposti ma qualora la sezione di verifica sia in trazione si ipotizza che tale componente sia assorbita dal rinforzo e la verifica viene effettuata conteggiando la forza di aggancio al piano definita.

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.031	SLU 42	Si
V_SLU	11.309	SLU 42	Si
PF_SLV	2.34	SLV 11	Si
V_SLV	3.025	SLV 6	Si
PFFP_SLV	3.272	SLV 7	Si
R_SLV	2.335	SLV 14	Si

1.7 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [m, daN] ove non espressamente specificato.

X ini.: coordinata punto iniziale. [m]

Y ini.: coordinata punto iniziale. [m]

Z ini.inf.: coordinata punto iniziale. [m]

Z ini.sup.: coordinata punto iniziale. [m]

H ini.: altezza della sezione iniziale. [m]

X fin.: coordinata punto finale. [m]

Y fin.: coordinata punto finale. [m]

Z fin.inf.: coordinata punto finale. [m]

Z fin.sup.: coordinata punto finale. [m]

H fin.: altezza della sezione finale. [m]

Luce: lunghezza della trave. [m]

Spessore: spessore. [m]

R. Trazione: resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]

f_b : resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/m²]

f_{hk}: resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]



f_{vk0}: resistenza caratteristica a taglio in assenza di carichi verticali. [daN/m²]
f_{hmedio}: resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/m²]
τ₀: resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/m²]
f_{vd}: resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/m²]
μ: coefficiente di attrito [C8.7.1.17].
φ: coefficiente di ammorsamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.
f_{vk,lim}: valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/m²]
E: modulo di elasticità longitudinale della muratura utilizzato. [daN/m²]
G: modulo di elasticità tangenziale della muratura utilizzato. [daN/m²]
FC: fattore di confidenza della muratura.
Materiale: descrizione del materiale.
Fu Verticale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
Fu Orizzontale: carico di rottura a trazione per unità di lunghezza della maglia verticale. [daN/m]
t_{fv}: spessore di calcolo equivalente verticale di uno strato di rinforzo.
t_{fo}: spessore di calcolo equivalente orizzontale di uno strato di rinforzo.
E: modulo di elasticità longitudinale. [daN/m²]
ε_u: dilatazione a rottura.
Tipo fibra: natura della fibra.
materiale: materiale fibra del rinforzo.
lato applicazione: lato di applicazione del rinforzo.
esposizione: condizione di esposizione secondo CNR-DT 215 §3.2.
ancoraggio verticale iniziale: grado di ancoraggio iniziale dei rinforzi verticali.
ancoraggio verticale finale: grado di ancoraggio finale dei rinforzi verticali.
ancoraggio orizzontale iniziale: grado di ancoraggio iniziale dei rinforzi orizzontali.
ancoraggio orizzontale finale: grado di ancoraggio finale dei rinforzi orizzontali.
strati: numero strati del rinforzo.
verifica taglio: tipo di verifica a taglio.
elim,conv / ε, CNR DT-200: dati relativi ai parametri per il calcolo della deformazione di progetto.
α_t: coefficiente che tiene conto della ridotta capacità estensionale delle fibre sollecitate a taglio secondo CNR-DT 215 §4.1.1.
α: coefficiente amplificativo tensione di distacco secondo CNR-DT 215 §3.1 ovvero secondo CNR-DT 200 R1/2013 §5.3.3.
elim,conv: deformazione limite convenzionale del rinforzo FRM.
ε_{f,d}: deformazione di progetto del rinforzo FRM ovvero CRM.
γ_{f,d}: fattore parziali di sicurezza per stato limite di distacco secondo CNR-DT 200 R1/2013 §3.4.1.
connettori: presenza di connettori per la prevenzione del distacco del rinforzo.
tipo di muratura: tipo di muratura per stato limite di distacco di estremità secondo CNR-DT 200 R1/2013 §5.3.2.
CRM / Fibrenet?: dati relativi ai parametri per il calcolo secondo metodo Fibrenet? ovvero se il materiale è di tipo CRM.
CRM: stabilisce se il rinforzo è di tipo CRM secondo le Linee Guida del C.S.L.P. Ottobre 2019.
intonaco: materiale intonaco FRM ovvero CRM.
spessore intonaco: spessore intonaco. [m]
tipo blocco fibrenet: tipo blocco muratura per verifica a taglio tipo Fibrenet.
Comb.: combinazione.
Sez.: sezione di verifica.
M: momento flettente nel piano. [daN*m]
N: sforzo normale. [daN]
ε_m: deformazione della muratura.
ε_m: deformazione elastica della muratura.
ε_{mu}: deformazione ultima della muratura.
d_f: distanza tra il lembo compresso e la fibra tesa più lontana. [m]
M_{0d}: momento resistente della sezione non rinforzata. [daN*m]
M_{1d}: momento resistente della sezione rinforzata. [daN*m]
M_{Rd}: momento resistente della sezione. [daN*m]
incremento > 50%: incremento resistenza superiore al 50% della resistenza non rinforzata in condizioni non sismiche.
c.s.: coefficiente di sicurezza.
Verifica: stato di verifica.
V: taglio nel piano. [daN]
d_f: distanza tra lembo compresso e baricentro dell'armatura tesa. [m]
f_{vd}: resistenza a taglio di calcolo. [daN/m²]
V_t: resistenza a taglio della muratura non rinforzata. [daN]
V_{t,f}: resistenza a taglio del rinforzo (CNR DT215 4.1a). [daN]
V_{t,c}: resistenza a taglio per schiacciamento delle bielle (CNR DT215 4.1b). [daN]
V_{t,c int.}: contributo di resistenza a taglio delle bielle dell'intonaco se considerato. [daN]
V_{t,R}: resistenza a taglio della sezione rinforzata. [daN]
Stato limite: p_{F_SLV}=Presso flessione per azioni sismiche; V_SLV=Taglio per azioni sismiche.
Coeff.s.: coefficiente di sicurezza.

Trave di accoppiamento 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.763	5.876	-1.3	0.7	2	-22.763	5.876	-1.3	0.7	2	1	0.45	3500



Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	308.39	-6480	-0.0000309	0.0001872	0.0035	2		10722.86	4848.93	Si	15.72	Si
SLU 79	fin.	2933.93	-6800	-0.0003363	0.0001872	0.0035	2		10722.86	4848.93	Si	1.65	Si
SLU 75	ini.	330.89	-6319	-0.0000332	0.0001872	0.0035	2		10722.86	4848.93	Si	14.65	Si
SLU 75	fin.	2894.68	-6625	-0.000331	0.0001872	0.0035	2		10722.86	4848.93	Si	1.68	Si
SLU 81	ini.	334.75	-6497	-0.0000335	0.0001872	0.0035	2		10722.86	4848.93	Si	14.49	Si
SLU 81	fin.	2950.29	-6798	-0.0003385	0.0001872	0.0035	2		10722.86	4848.93	Si	1.64	Si
SLU 80	ini.	339.51	-6368	-0.000034	0.0001872	0.0035	2		10722.86	4848.93	Si	14.28	Si
SLU 80	fin.	2909.54	-6672	-0.000333	0.0001872	0.0035	2		10722.86	4848.93	Si	1.67	Si
SLU 74	ini.	299.76	-6431	-0.00003	0.0001872	0.0035	2		10722.86	4848.93	Si	16.18	Si
SLU 74	fin.	2919.07	-6753	-0.0003343	0.0001872	0.0035	2		10722.86	4848.93	Si	1.66	Si
SLU 83	ini.	348.59	-6604	-0.000035	0.0001872	0.0035	2		10722.86	4848.93	Si	13.91	Si
SLU 83	fin.	2985.75	-6905	-0.0003433	0.0001872	0.0035	2		10722.86	4848.93	Si	1.62	Si
SLU 84	ini.	379.71	-6493	-0.0000381	0.0001872	0.0035	2		10722.86	4848.93	Si	12.77	Si
SLU 84	fin.	2961.37	-6776	-0.00034	0.0001872	0.0035	2		10722.86	4848.93	Si	1.64	Si
SLU 77	ini.	313.6	-6539	-0.0000314	0.0001872	0.0035	2		10722.86	4848.93	Si	15.46	Si
SLU 77	fin.	2954.54	-6860	-0.0003391	0.0001872	0.0035	2		10722.86	4848.93	Si	1.64	Si
SLU 82	ini.	365.87	-6385	-0.0000367	0.0001872	0.0035	2		10722.86	4848.93	Si	13.25	Si
SLU 82	fin.	2925.9	-6669	-0.0003352	0.0001872	0.0035	2		10722.86	4848.93	Si	1.66	Si
SLU 78	ini.	344.73	-6427	-0.0000346	0.0001872	0.0035	2		10722.86	4848.93	Si	14.07	Si
SLU 78	fin.	2930.15	-6732	-0.0003358	0.0001872	0.0035	2		10722.86	4848.93	Si	1.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	313.6	1415	2	0	6250	7930	13475	5100	9375	Si	6.63	Si
SLU 77	fin.	2954.54	4963	2	0	6250	7930	13475	5100	9375	Si	1.89	Si
SLU 82	ini.	365.87	1307	2	0	6250	7930	13475	5100	9375	Si	7.17	Si
SLU 82	fin.	2925.9	4833	2	0	6250	7930	13475	5100	9375	Si	1.94	Si
SLU 79	ini.	308.39	1417	2	0	6250	7930	13475	5100	9375	Si	6.62	Si
SLU 79	fin.	2933.93	4925	2	0	6250	7930	13475	5100	9375	Si	1.9	Si
SLU 78	ini.	344.73	1368	2	0	6250	7930	13475	5100	9375	Si	6.85	Si
SLU 78	fin.	2930.15	4861	2	0	6250	7930	13475	5100	9375	Si	1.93	Si
SLU 74	ini.	299.76	1428	2	0	6250	7930	13475	5100	9375	Si	6.56	Si
SLU 74	fin.	2919.07	4904	2	0	6250	7930	13475	5100	9375	Si	1.91	Si
SLU 81	ini.	334.75	1353	2	0	6250	7930	13475	5100	9375	Si	6.93	Si
SLU 81	fin.	2950.29	4935	2	0	6250	7930	13475	5100	9375	Si	1.9	Si
SLU 75	ini.	330.89	1382	2	0	6250	7930	13475	5100	9375	Si	6.79	Si
SLU 75	fin.	2894.68	4802	2	0	6250	7930	13475	5100	9375	Si	1.95	Si
SLU 80	ini.	339.51	1370	2	0	6250	7930	13475	5100	9375	Si	6.84	Si
SLU 80	fin.	2909.54	4824	2	0	6250	7930	13475	5100	9375	Si	1.94	Si
SLU 84	ini.	379.71	1293	2	0	6250	7930	13475	5100	9375	Si	7.25	Si
SLU 84	fin.	2961.37	4892	2	0	6250	7930	13475	5100	9375	Si	1.92	Si
SLU 83	ini.	348.59	1340	2	0	6250	7930	13475	5100	9375	Si	7	Si
SLU 83	fin.	2985.75	4994	2	0	6250	7930	13475	5100	9375	Si	1.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1034.96	-11509	-0.0001055	0.0002807	0.0035	2		15648.46	15648.46		15.12	Si
SLV 7	fin.	3310.44	-12375	-0.0003684	0.0002807	0.0035	2		15635.95	15635.95		4.72	Si
SLV 8	ini.	-1457.73	-11725	-0.0001506	0.0002807	0.0035	2		15648.46	15648.46		10.73	Si
SLV 8	fin.	3517.53	-12945	-0.0003952	0.0002807	0.0035	2		15635.95	15635.95		4.45	Si
SLV 16	ini.	-2187.39	-3552	-0.000232	0.0002807	0.0035	2		15648.46	15648.46		7.15	Si
SLV 16	fin.	3687.86	-6141	-0.0004176	0.0002807	0.0035	2		15635.95	15635.95		4.24	Si
SLD 11	ini.	-1140.87	-7691	-0.0001167	0.0002807	0.0035	2		15648.46	15648.46		13.72	Si
SLD 11	fin.	3201.96	-8967	-0.0003546	0.0002807	0.0035	2		15635.95	15635.95		4.88	Si
SLV 12	ini.	-2331.81	-9986	-0.0002487	0.0002807	0.0035	2		15648.46	15648.46		6.71	Si
SLV 12	fin.	4113.23	-12206	-0.0004751	0.0002807	0.0035	2		15635.95	15635.95		3.8	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-1333.31	-3794	-0.0001372	0.0002807	0.0035	2		15648.46	15648.46		11.74	Si
SLD 16	fin.	3078.59	-5549	-0.0003391	0.0002807	0.0035	2		15635.95	15635.95		5.08	Si
SLV 11	ini.	-1909.05	-9770	-0.0002004	0.0002807	0.0035	2		15648.46	15648.46		8.2	Si
SLV 11	fin.	3906.14	-11636	-0.0004468	0.0002807	0.0035	2		15635.95	15635.95		4	Si
SLD 12	ini.	-1405.52	-7826	-0.000145	0.0002807	0.0035	2		15648.46	15648.46		11.13	Si
SLD 12	fin.	3331.6	-9324	-0.0003712	0.0002807	0.0035	2		15635.95	15635.95		4.69	Si
SLD 8	ini.	-852.1	-8948	-0.0000864	0.0002807	0.0035	2		15648.46	15648.46		18.36	Si
SLD 8	fin.	2953.98	-9803	-0.0003236	0.0002807	0.0035	2		15635.95	15635.95		5.29	Si
SLV 15	ini.	-1559.46	-3231	-0.0001617	0.0002807	0.0035	2		15648.46	15648.46		10.03	Si
SLV 15	fin.	3380.27	-5294	-0.0003774	0.0002807	0.0035	2		15635.95	15635.95		4.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-2331.81	6143	2	0	6643	7930	20213	5100	14573		2.37	Si
SLV 12	fin.	4113.23	11053	2	0	6643	7930	20213	5100	14573		1.32	Si
SLV 15	ini.	-1559.46	6049	2	0	6643	7930	20213	5100	14573		2.41	Si
SLV 15	fin.	3380.27	7285	2	0	6643	7930	20213	5100	14573		2	Si
SLV 11	ini.	-1909.05	5207	2	0	6643	7930	20213	5100	14573		2.8	Si
SLV 11	fin.	3906.14	10030	2	0	6643	7930	20213	5100	14573		1.45	Si
SLD 16	ini.	-1333.31	5203	2	0	6643	7930	20213	5100	14573		2.8	Si
SLD 16	fin.	3078.59	6879	2	0	6643	7930	20213	5100	14573		2.12	Si
SLV 16	ini.	-2187.39	7440	2	0	6643	7930	20213	5100	14573		1.96	Si
SLV 16	fin.	3687.86	8805	2	0	6643	7930	20213	5100	14573		1.66	Si
SLD 12	ini.	-1405.52	4320	2	0	6643	7930	20213	5100	14573		3.37	Si
SLD 12	fin.	3331.6	8193	2	0	6643	7930	20213	5100	14573		1.78	Si
SLD 11	ini.	-1140.87	3734	2	0	6643	7930	20213	5100	14573		3.9	Si
SLD 11	fin.	3201.96	7552	2	0	6643	7930	20213	5100	14573		1.93	Si
SLD 8	ini.	-852.1	2557	2	0	6643	7930	20213	5100	14573		5.7	Si
SLD 8	fin.	2953.98	7127	2	0	6643	7930	20213	5100	14573		2.04	Si
SLV 7	ini.	-1034.96	2461	2	0	6643	7930	20213	5100	14573		5.92	Si
SLV 7	fin.	3310.44	8403	2	0	6643	7930	20213	5100	14573		1.73	Si
SLV 8	ini.	-1457.73	3397	2	0	6643	7930	20213	5100	14573		4.29	Si
SLV 8	fin.	3517.53	9426	2	0	6643	7930	20213	5100	14573		1.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.801	SLV 12	Si
V_SLV	1.318	SLV 12	Si
PF_SLU	1.624	SLU 83	Si
V_SLU	1.877	SLU 83	Si

Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.763	5.876	1.1	1.59	0.49	-22.763	5.876	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-698.15	-2199	-0.0021106	0.0001872	0.0035	0.49		671.54	671.54	No	0.96	No
SLU 84	fin.	-65.16	395	-0.0001122	0.0001872	0.0035	0.49		671.54	671.54	No	10.31	Si
SLU 81	ini.	-699.34	-2206	-0.0021174	0.0001872	0.0035	0.49		671.54	671.54	No	0.96	No
SLU 81	fin.	-60.81	411	-0.0001043	0.0001872	0.0035	0.49		671.54	671.54	No	11.04	Si
SLU 80	ini.	-679.07	-2161	-0.0020044	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 80	fin.	-53.64	402	-0.0000915	0.0001872	0.0035	0.49		671.54	671.54	No	12.52	Si
SLU 78	ini.	-682.99	-2176	-0.0020257	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-53.85	402	-0.0000919	0.0001872	0.0035	0.49		671.54	671.54	No	12.47	Si
SLU 75	ini.	-676.27	-2151	-0.0019894	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 75	fin.	-52.91	404	-0.0000903	0.0001872	0.0035	0.49		671.54	671.54	No	12.69	Si
SLU 82	ini.	-691.43	-2173	-0.0020724	0.0001872	0.0035	0.49		671.54	671.54	No	0.97	No
SLU 82	fin.	-64.22	397	-0.0001105	0.0001872	0.0035	0.49		671.54	671.54	No	10.46	Si
SLU 83	ini.	-706.06	-2232	-0.0021565	0.0001872	0.0035	0.49		671.54	671.54	No	0.95	No
SLU 83	fin.	-61.75	409	-0.000106	0.0001872	0.0035	0.49		671.54	671.54	No	10.87	Si
SLU 74	ini.	-684.18	-2183	-0.0020322	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No
SLU 74	fin.	-49.5	419	-0.0000842	0.0001872	0.0035	0.49		671.54	671.54	No	13.57	Si
SLU 79	ini.	-686.98	-2194	-0.0020476	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No
SLU 79	fin.	-50.23	416	-0.0000855	0.0001872	0.0035	0.49		671.54	671.54	No	13.37	Si
SLU 77	ini.	-690.9	-2209	-0.0020695	0.0001872	0.0035	0.49		671.54	671.54	No	0.97	No
SLU 77	fin.	-50.44	416	-0.0000859	0.0001872	0.0035	0.49		671.54	671.54	No	13.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-679.07	3465	0.49	0	1180	3886	3301	1250	1770	Si	0.51	No
SLU 80	fin.	-53.64	-949	0.49	0	1180	3886	3301	1250	1770	Si	1.87	Si
SLU 78	ini.	-682.99	3483	0.49	0	1180	3886	3301	1250	1770	Si	0.51	No
SLU 78	fin.	-53.85	-952	0.49	0	1180	3886	3301	1250	1770	Si	1.86	Si
SLU 75	ini.	-676.27	3452	0.49	0	1180	3886	3301	1250	1770	Si	0.51	No
SLU 75	fin.	-52.91	-944	0.49	0	1180	3886	3301	1250	1770	Si	1.88	Si
SLU 83	ini.	-706.06	3612	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 83	fin.	-61.75	-1020	0.49	0	1180	3886	3301	1250	1770	Si	1.74	Si
SLU 81	ini.	-699.34	3580	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 81	fin.	-60.81	-1011	0.49	0	1180	3886	3301	1250	1770	Si	1.75	Si
SLU 84	ini.	-698.15	3578	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 84	fin.	-65.16	-1031	0.49	0	1180	3886	3301	1250	1770	Si	1.72	Si
SLU 82	ini.	-691.43	3546	0.49	0	1180	3886	3301	1250	1770	Si	0.5	No
SLU 82	fin.	-64.22	-1023	0.49	0	1180	3886	3301	1250	1770	Si	1.73	Si
SLU 79	ini.	-686.98	3499	0.49	0	1180	3886	3301	1250	1770	Si	0.51	No
SLU 79	fin.	-50.23	-938	0.49	0	1180	3886	3301	1250	1770	Si	1.89	Si
SLU 74	ini.	-684.18	3486	0.49	0	1180	3886	3301	1250	1770	Si	0.51	No
SLU 74	fin.	-49.5	-933	0.49	0	1180	3886	3301	1250	1770	Si	1.9	Si
SLU 77	ini.	-690.9	3517	0.49	0	1180	3886	3301	1250	1770	Si	0.5	No
SLU 77	fin.	-50.44	-941	0.49	0	1180	3886	3301	1250	1770	Si	1.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-821.13	-3214	-0.0026943	0.0002807	0.0035	0.49		947.39	947.39		1.15	Si
SLV 7	fin.	77.39	865	-0.0001329	0.0002807	0.0035	0.49		944.29	944.29		12.2	Si
SLV 8	ini.	-886.9	-3485	-0.0032175	0.0002807	0.0035	0.49		947.39	947.39		1.07	Si
SLV 8	fin.	137.57	1112	-0.0002449	0.0002807	0.0035	0.49		944.29	944.29		6.86	Si
SLD 16	ini.	-723.7	-2628	-0.0020774	0.0002807	0.0035	0.49		947.39	947.39		1.31	Si
SLD 16	fin.	251.93	1468	-0.0004879	0.0002807	0.0035	0.49		944.29	944.29		3.75	Si
SLD 11	ini.	-769.26	-2919	-0.0023432	0.0002807	0.0035	0.49		947.39	947.39		1.23	Si
SLD 11	fin.	158.73	1152	-0.0002865	0.0002807	0.0035	0.49		944.29	944.29		5.95	Si
SLD 12	ini.	-810.43	-3089	-0.0026173	0.0002807	0.0035	0.49		947.39	947.39		1.17	Si
SLD 12	fin.	196.4	1307	-0.0003644	0.0002807	0.0035	0.49		944.29	944.29		4.81	Si
SLV 15	ini.	-773.5	-2868	-0.0023699	0.0002807	0.0035	0.49		947.39	947.39		1.22	Si
SLV 15	fin.	316.33	1748	-0.0006436	0.0002807	0.0035	0.49		944.29	944.29		2.99	Si
SLD 8	ini.	-727.95	-2741	-0.0021007	0.0002807	0.0035	0.49		947.39	947.39		1.3	Si
SLD 8	fin.	76.26	815	-0.0001309	0.0002807	0.0035	0.49		944.29	944.29		12.38	Si
SLV 16	ini.	-871.19	-3270	-0.0030876	0.0002807	0.0035	0.49		947.39	947.39		1.09	Si
SLV 16	fin.	405.72	2116	-0.0008825	0.0002807	0.0035	0.49		944.29	944.29		2.33	Si
SLV 11	ini.	-950.86	-3761	-0.0037223	0.0002807	0.0035	0.49		947.39	947.39		1	No
SLV 11	fin.	265.02	1635	-0.0005185	0.0002807	0.0035	0.49		944.29	944.29		3.56	Si
SLV 12	ini.	-1016.63	-4032	-0.0041933	0.0002807	0.0035	0.49		947.39	947.39		0.93	No
SLV 12	fin.	325.2	1882	-0.0006661	0.0002807	0.0035	0.49		944.29	944.29		2.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-810.43	3893	0.49	0	1358	3886	4952	1250	5244		1.35	Si
SLD 12	fin.	196.4	492	0.49	0	1358	3886	4952	1250	5244		10.66	Si
SLD 8	ini.	-727.95	3566	0.49	0	1358	3886	4952	1250	5244		1.47	Si
SLD 8	fin.	76.26	-17	0.49	0	1358	3886	4952	1250	5244		300.35	Si
SLV 11	ini.	-950.86	4530	0.49	0	1358	3886	4952	1250	5244		1.16	Si
SLV 11	fin.	265.02	875	0.49	0	1358	3886	4952	1250	5244		5.99	Si
SLD 16	ini.	-723.7	3438	0.49	0	1358	3886	4952	1250	5244		1.53	Si
SLD 16	fin.	251.93	617	0.49	0	1358	3886	4952	1250	5244		8.5	Si
SLV 16	ini.	-871.19	4052	0.49	0	1358	3886	4952	1250	5244		1.29	Si
SLV 16	fin.	405.72	1288	0.49	0	1358	3886	4952	1250	5244		4.07	Si
SLV 8	ini.	-886.9	4281	0.49	0	1358	3886	4952	1250	5244		1.22	Si
SLV 8	fin.	137.57	317	0.49	0	1358	3886	4952	1250	5244		16.56	Si
SLV 15	ini.	-773.5	3656	0.49	0	1358	3886	4952	1250	5244		1.43	Si
SLV 15	fin.	316.33	936	0.49	0	1358	3886	4952	1250	5244		5.6	Si
SLD 11	ini.	-769.26	3726	0.49	0	1358	3886	4952	1250	5244		1.41	Si
SLD 11	fin.	158.73	343	0.49	0	1358	3886	4952	1250	5244		15.28	Si
SLV 12	ini.	-1016.63	4796	0.49	0	1358	3886	4952	1250	5244		1.09	Si
SLV 12	fin.	325.2	1112	0.49	0	1358	3886	4952	1250	5244		4.71	Si
SLV 7	ini.	-821.13	4015	0.49	0	1358	3886	4952	1250	5244		1.31	Si
SLV 7	fin.	77.39	79	0.49	0	1358	3886	4952	1250	5244		66.2	Si



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.932	SLV 12	No
V_SLV	1.093	SLV 12	Si
PF_SLU	0.951	SLU 83	No
V_SLU	0.49	SLU 83	No

Trave di accoppiamento 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-19.618	1.271	0.7	1.59	0.89	-19.618	2.071	0.7	1.59	0.89	0.8	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	810.53	-1646	-0.0004877	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.26	Si
SLU 75	fin.	-1785.23	-4076	-0.0013509	0.0002246	0.0035	0.89		2966.77	1834.97	Si	1.03	Si
SLU 79	ini.	828.68	-1693	-0.0005009	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.21	Si
SLU 79	fin.	-1841.13	-4195	-0.0014131	0.0002246	0.0035	0.89		2966.77	1834.97	Si	1	No
SLU 78	ini.	822.22	-1671	-0.0004962	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.23	Si
SLU 78	fin.	-1811.67	-4137	-0.00138	0.0002246	0.0035	0.89		2966.77	1834.97	Si	1.01	Si
SLU 77	ini.	835.07	-1707	-0.0005056	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.2	Si
SLU 77	fin.	-1855.8	-4229	-0.0014298	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.99	No
SLU 81	ini.	842.18	-1718	-0.0005108	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.18	Si
SLU 81	fin.	-1869.47	-4258	-0.0014454	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.98	No
SLU 84	ini.	841.02	-1706	-0.00051	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.18	Si
SLU 84	fin.	-1851.77	-4227	-0.0014252	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.99	No
SLU 82	ini.	829.33	-1682	-0.0005014	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.21	Si
SLU 82	fin.	-1825.33	-4166	-0.0013953	0.0002246	0.0035	0.89		2966.77	1834.97	Si	1.01	Si
SLU 80	ini.	815.83	-1657	-0.0004916	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.25	Si
SLU 80	fin.	-1796.99	-4103	-0.0013638	0.0002246	0.0035	0.89		2966.77	1834.97	Si	1.02	Si
SLU 83	ini.	853.87	-1743	-0.0005195	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.15	Si
SLU 83	fin.	-1895.9	-4319	-0.0014761	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.97	No
SLU 74	ini.	823.38	-1682	-0.0004971	0.0002246	0.0035	0.89		2961.25	1834.97	Si	2.23	Si
SLU 74	fin.	-1829.37	-4168	-0.0013998	0.0002246	0.0035	0.89		2966.77	1834.97	Si	1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	828.68	-2093	0.89	0	2225	6344	4798	2270	3338	Si	1.59	Si
SLU 79	fin.	-1841.13	-7319	0.89	0	2225	6344	4798	2270	3338	Si	0.46	No
SLU 84	ini.	841.02	-2076	0.89	0	2225	6344	4798	2270	3338	Si	1.61	Si
SLU 84	fin.	-1851.77	-7414	0.89	0	2225	6344	4798	2270	3338	Si	0.45	No
SLU 83	ini.	853.87	-2155	0.89	0	2225	6344	4798	2270	3338	Si	1.55	Si
SLU 83	fin.	-1895.9	-7539	0.89	0	2225	6344	4798	2270	3338	Si	0.44	No
SLU 78	ini.	822.22	-2034	0.89	0	2225	6344	4798	2270	3338	Si	1.64	Si
SLU 78	fin.	-1811.67	-7248	0.89	0	2225	6344	4798	2270	3338	Si	0.46	No
SLU 77	ini.	835.07	-2113	0.89	0	2225	6344	4798	2270	3338	Si	1.58	Si
SLU 77	fin.	-1855.8	-7373	0.89	0	2225	6344	4798	2270	3338	Si	0.45	No
SLU 81	ini.	842.18	-2119	0.89	0	2225	6344	4798	2270	3338	Si	1.57	Si
SLU 81	fin.	-1869.47	-7441	0.89	0	2225	6344	4798	2270	3338	Si	0.45	No
SLU 74	ini.	823.38	-2077	0.89	0	2225	6344	4798	2270	3338	Si	1.61	Si
SLU 74	fin.	-1829.37	-7275	0.89	0	2225	6344	4798	2270	3338	Si	0.46	No
SLU 82	ini.	829.33	-2040	0.89	0	2225	6344	4798	2270	3338	Si	1.64	Si
SLU 82	fin.	-1825.33	-7316	0.89	0	2225	6344	4798	2270	3338	Si	0.46	No
SLU 75	ini.	810.53	-1998	0.89	0	2225	6344	4798	2270	3338	Si	1.67	Si
SLU 75	fin.	-1785.23	-7150	0.89	0	2225	6344	4798	2270	3338	Si	0.47	No
SLU 80	ini.	815.83	-2014	0.89	0	2225	6344	4798	2270	3338	Si	1.66	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-1796.99	-7194	0.89	0	2225	6344	4798	2270	3338	Si	0.46	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1281.43	-3457	-0.000809	0.0003369	0.0035	0.89		2925.37	2925.37		2.28	Si
SLV 8	fin.	-3825.96	-8276	-0.0049625	0.0003369	0.0035	0.89		2931.13	2931.13		0.77	No
SLV 12	ini.	1140.96	-3245	-0.0006987	0.0003369	0.0035	0.89		2925.37	2925.37		2.56	Si
SLV 12	fin.	-3621.55	-7797	-0.0045728	0.0003369	0.0035	0.89		2931.13	2931.13		0.81	No
SLV 11	ini.	1106.27	-3145	-0.0006724	0.0003369	0.0035	0.89		2925.37	2925.37		2.64	Si
SLV 11	fin.	-3501.22	-7550	-0.0043359	0.0003369	0.0035	0.89		2931.13	2931.13		0.84	No
SLV 4	ini.	1005.72	-2209	-0.0005981	0.0003369	0.0035	0.89		2925.37	2925.37		2.91	Si
SLV 4	fin.	-2389.66	-5317	-0.0019999	0.0003369	0.0035	0.89		2931.13	2931.13		1.23	Si
SLD 11	ini.	892.79	-2378	-0.0005182	0.0003369	0.0035	0.89		2925.37	2925.37		3.28	Si
SLD 11	fin.	-2633.07	-5735	-0.0024214	0.0003369	0.0035	0.89		2931.13	2931.13		1.11	Si
SLV 3	ini.	954.2	-2061	-0.0005612	0.0003369	0.0035	0.89		2925.37	2925.37		3.07	Si
SLV 3	fin.	-2210.93	-4949	-0.0017441	0.0003369	0.0035	0.89		2931.13	2931.13		1.33	Si
SLD 8	ini.	1004.3	-2577	-0.0005971	0.0003369	0.0035	0.89		2925.37	2925.37		2.91	Si
SLD 8	fin.	-2839.35	-6197	-0.0028581	0.0003369	0.0035	0.89		2931.13	2931.13		1.03	Si
SLV 7	ini.	1246.74	-3357	-0.0007812	0.0003369	0.0035	0.89		2925.37	2925.37		2.35	Si
SLV 7	fin.	-3705.62	-8029	-0.0047348	0.0003369	0.0035	0.89		2931.13	2931.13		0.79	No
SLD 12	ini.	914.51	-2441	-0.0005333	0.0003369	0.0035	0.89		2925.37	2925.37		3.2	Si
SLD 12	fin.	-2708.4	-5890	-0.0025716	0.0003369	0.0035	0.89		2931.13	2931.13		1.08	Si
SLD 7	ini.	982.58	-2515	-0.0005815	0.0003369	0.0035	0.89		2925.37	2925.37		2.98	Si
SLD 7	fin.	-2764.02	-6042	-0.0026892	0.0003369	0.0035	0.89		2931.13	2931.13		1.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	1004.3	-4204	0.89	0	3337	6344	7196	2270	9466		2.25	Si
SLD 8	fin.	-2839.35	-9562	0.89	0	3337	6344	7196	2270	9466		0.99	No
SLV 11	ini.	1106.27	-5459	0.89	0	3337	6344	7196	2270	9466		1.73	Si
SLV 11	fin.	-3501.22	-11224	0.89	0	3337	6344	7196	2270	9466		0.84	No
SLD 12	ini.	914.51	-4034	0.89	0	3337	6344	7196	2270	9466		2.35	Si
SLD 12	fin.	-2708.4	-9018	0.89	0	3337	6344	7196	2270	9466		1.05	Si
SLV 3	ini.	954.2	-2955	0.89	0	3337	6344	7196	2270	9466		3.2	Si
SLV 3	fin.	-2210.93	-8148	0.89	0	3337	6344	7196	2270	9466		1.16	Si
SLD 11	ini.	892.79	-3900	0.89	0	3337	6344	7196	2270	9466		2.43	Si
SLD 11	fin.	-2633.07	-8808	0.89	0	3337	6344	7196	2270	9466		1.07	Si
SLD 7	ini.	982.58	-4070	0.89	0	3337	6344	7196	2270	9466		2.33	Si
SLD 7	fin.	-2764.02	-9352	0.89	0	3337	6344	7196	2270	9466		1.01	Si
SLV 7	ini.	1246.74	-5724	0.89	0	3337	6344	7196	2270	9466		1.65	Si
SLV 7	fin.	-3705.62	-12073	0.89	0	3337	6344	7196	2270	9466		0.78	No
SLV 4	ini.	1005.72	-3273	0.89	0	3337	6344	7196	2270	9466		2.89	Si
SLV 4	fin.	-2389.66	-8646	0.89	0	3337	6344	7196	2270	9466		1.09	Si
SLV 8	ini.	1281.43	-5938	0.89	0	3337	6344	7196	2270	9466		1.59	Si
SLV 8	fin.	-3825.96	-12408	0.89	0	3337	6344	7196	2270	9466		0.76	No
SLV 12	ini.	1140.96	-5673	0.89	0	3337	6344	7196	2270	9466		1.67	Si
SLV 12	fin.	-3621.55	-11559	0.89	0	3337	6344	7196	2270	9466		0.82	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.766	SLV 8	No
V_SLV	0.763	SLV 8	No
PF_SLU	0.968	SLU 83	No
V_SLU	0.443	SLU 83	No

Trave di accoppiamento 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.543	-3.284	-1.3	0.7	2	-22.543	-3.284	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmed	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica



									elim_conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim_conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-444.86	-4294	-0.0000447	0.0001872	0.0035	2		10737.13	4848.93	Si	10.9	Si
SLU 81	fin.	2295.15	-5621	-0.0002533	0.0001872	0.0035	2		10722.86	4848.93	Si	2.11	Si
SLU 83	ini.	-450.26	-4338	-0.0000453	0.0001872	0.0035	2		10737.13	4848.93	Si	10.77	Si
SLU 83	fin.	2318.57	-5680	-0.0002562	0.0001872	0.0035	2		10722.86	4848.93	Si	2.09	Si
SLU 84	ini.	-504.71	-4512	-0.0000509	0.0001872	0.0035	2		10737.13	4848.93	Si	9.61	Si
SLU 84	fin.	2349.32	-5895	-0.0002601	0.0001872	0.0035	2		10722.86	4848.93	Si	2.06	Si
SLU 82	ini.	-499.31	-4469	-0.0000503	0.0001872	0.0035	2		10737.13	4848.93	Si	9.71	Si
SLU 82	fin.	2325.89	-5837	-0.0002571	0.0001872	0.0035	2		10722.86	4848.93	Si	2.08	Si
SLU 75	ini.	-515.49	-4362	-0.000052	0.0001872	0.0035	2		10737.13	4848.93	Si	9.41	Si
SLU 75	fin.	2300.48	-5742	-0.0002539	0.0001872	0.0035	2		10722.86	4848.93	Si	2.11	Si
SLU 80	ini.	-516.84	-4379	-0.0000521	0.0001872	0.0035	2		10737.13	4848.93	Si	9.38	Si
SLU 80	fin.	2309.03	-5763	-0.000255	0.0001872	0.0035	2		10722.86	4848.93	Si	2.1	Si
SLU 73	ini.	-542.33	-4408	-0.0000548	0.0001872	0.0035	2		10737.13	4848.93	Si	8.94	Si
SLU 73	fin.	2282.67	-5790	-0.0002517	0.0001872	0.0035	2		10722.86	4848.93	Si	2.12	Si
SLU 77	ini.	-466.44	-4231	-0.0000469	0.0001872	0.0035	2		10737.13	4848.93	Si	10.4	Si
SLU 77	fin.	2293.16	-5585	-0.000253	0.0001872	0.0035	2		10722.86	4848.93	Si	2.11	Si
SLU 78	ini.	-520.89	-4406	-0.0000525	0.0001872	0.0035	2		10737.13	4848.93	Si	9.31	Si
SLU 78	fin.	2323.91	-5801	-0.0002569	0.0001872	0.0035	2		10722.86	4848.93	Si	2.09	Si
SLU 76	ini.	-547.73	-4452	-0.0000553	0.0001872	0.0035	2		10737.13	4848.93	Si	8.85	Si
SLU 76	fin.	2306.1	-5848	-0.0002546	0.0001872	0.0035	2		10722.86	4848.93	Si	2.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-450.26	321	2	0	6250	7930	13475	5100	9375	Si	29.2	Si
SLU 83	fin.	2318.57	5984	2	0	6250	7930	13475	5100	9375	Si	1.57	Si
SLU 80	ini.	-516.84	523	2	0	6250	7930	13475	5100	9375	Si	17.91	Si
SLU 80	fin.	2309.03	6021	2	0	6250	7930	13475	5100	9375	Si	1.56	Si
SLU 82	ini.	-499.31	402	2	0	6250	7930	13475	5100	9375	Si	23.29	Si
SLU 82	fin.	2325.89	6069	2	0	6250	7930	13475	5100	9375	Si	1.54	Si
SLU 81	ini.	-444.86	310	2	0	6250	7930	13475	5100	9375	Si	30.19	Si
SLU 81	fin.	2295.15	5919	2	0	6250	7930	13475	5100	9375	Si	1.58	Si
SLU 76	ini.	-547.73	574	2	0	6250	7930	13475	5100	9375	Si	16.33	Si
SLU 76	fin.	2306.1	6057	2	0	6250	7930	13475	5100	9375	Si	1.55	Si
SLU 77	ini.	-466.44	440	2	0	6250	7930	13475	5100	9375	Si	21.32	Si
SLU 77	fin.	2293.16	5913	2	0	6250	7930	13475	5100	9375	Si	1.59	Si
SLU 78	ini.	-520.89	532	2	0	6250	7930	13475	5100	9375	Si	17.63	Si
SLU 78	fin.	2323.91	6064	2	0	6250	7930	13475	5100	9375	Si	1.55	Si
SLU 73	ini.	-542.33	564	2	0	6250	7930	13475	5100	9375	Si	16.63	Si
SLU 73	fin.	2282.67	5992	2	0	6250	7930	13475	5100	9375	Si	1.56	Si
SLU 84	ini.	-504.71	413	2	0	6250	7930	13475	5100	9375	Si	22.7	Si
SLU 84	fin.	2349.32	6134	2	0	6250	7930	13475	5100	9375	Si	1.53	Si
SLU 75	ini.	-515.49	521	2	0	6250	7930	13475	5100	9375	Si	17.99	Si
SLU 75	fin.	2300.48	5999	2	0	6250	7930	13475	5100	9375	Si	1.56	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2813.01	-8213	-0.000306	0.0002807	0.0035	2		15648.46	15648.46		5.56	Si
SLV 9	fin.	3172.83	-11373	-0.0003509	0.0002807	0.0035	2		15635.95	15635.95		4.93	Si
SLD 13	ini.	-1759.63	-2710	-0.0001837	0.0002807	0.0035	2		15648.46	15648.46		8.89	Si
SLD 13	fin.	2895.94	-5438	-0.0003164	0.0002807	0.0035	2		15635.95	15635.95		5.4	Si
SLV 14	ini.	-2098.19	-2196	-0.0002218	0.0002807	0.0035	2		15648.46	15648.46		7.46	Si
SLV 14	fin.	3446.47	-5511	-0.000386	0.0002807	0.0035	2		15635.95	15635.95		4.54	Si
SLV 16	ini.	-973.02	1301	-0.000099	0.0002807	0.0035	2		15648.46	15648.46		16.08	Si
SLV 16	fin.	2837.6	-1172	-0.0003093	0.0002807	0.0035	2		15635.95	15635.95		5.51	Si
SLV 13	ini.	-2569.68	-2692	-0.0002767	0.0002807	0.0035	2		15648.46	15648.46		6.09	Si
SLV 13	fin.	3643.79	-6432	-0.0004118	0.0002807	0.0035	2		15635.95	15635.95		4.29	Si
SLV 15	ini.	-1444.52	805	-0.0001492	0.0002807	0.0035	2		15648.46	15648.46		10.83	Si
SLV 15	fin.	3034.92	-2093	-0.0003336	0.0002807	0.0035	2		15635.95	15635.95		5.15	Si
SLD 14	ini.	-1458.68	-2393	-0.0001507	0.0002807	0.0035	2		15648.46	15648.46		10.73	Si
SLD 14	fin.	2769.99	-4850	-0.000301	0.0002807	0.0035	2		15635.95	15635.95		5.64	Si
SLV 10	ini.	-2495.57	-7879	-0.0002679	0.0002807	0.0035	2		15648.46	15648.46		6.27	Si
SLV 10	fin.	3039.98	-10753	-0.0003343	0.0002807	0.0035	2		15635.95	15635.95		5.14	Si
SLD 15	ini.	-1065.45	-550	-0.0001087	0.0002807	0.0035	2		15648.46	15648.46		14.69	Si
SLD 15	fin.	2518.02	-2757	-0.0002708	0.0002807	0.0035	2		15635.95	15635.95		6.21	Si
SLD 9	ini.	-1882.55	-6155	-0.0001974	0.0002807	0.0035	2		15648.46	15648.46		8.31	Si
SLD 9	fin.	2584.06	-8495	-0.0002787	0.0002807	0.0035	2		15635.95	15635.95		6.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1962.44	590	2	0	6643	7930	20213	5100	14573		24.69	Si
SLV 5	fin.	2187.91	8837	2	0	6643	7930	20213	5100	14573		1.65	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-1882.55	2835	2	0	6643	7930	20213	5100	14573		5.14	Si
SLD 9	fin.	2584.06	8574	2	0	6643	7930	20213	5100	14573		1.7	Si
SLD 10	ini.	-1683.83	2416	2	0	6643	7930	20213	5100	14573		6.03	Si
SLD 10	fin.	2500.9	8088	2	0	6643	7930	20213	5100	14573		1.8	Si
SLD 13	ini.	-1759.63	4984	2	0	6643	7930	20213	5100	14573		2.92	Si
SLD 13	fin.	2895.94	8131	2	0	6643	7930	20213	5100	14573		1.79	Si
SLD 14	ini.	-1458.68	4348	2	0	6643	7930	20213	5100	14573		3.35	Si
SLD 14	fin.	2769.99	7395	2	0	6643	7930	20213	5100	14573		1.97	Si
SLV 6	ini.	-1645	-80	2	0	6643	7930	20213	5100	14573		182.15	Si
SLV 6	fin.	2055.06	8061	2	0	6643	7930	20213	5100	14573		1.81	Si
SLV 14	ini.	-2098.19	6551	2	0	6643	7930	20213	5100	14573		2.22	Si
SLV 14	fin.	3446.47	9292	2	0	6643	7930	20213	5100	14573		1.57	Si
SLV 13	ini.	-2569.68	7547	2	0	6643	7930	20213	5100	14573		1.93	Si
SLV 13	fin.	3643.79	10446	2	0	6643	7930	20213	5100	14573		1.4	Si
SLV 10	ini.	-2495.57	3582	2	0	6643	7930	20213	5100	14573		4.07	Si
SLV 10	fin.	3039.98	10521	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 9	ini.	-2813.01	4252	2	0	6643	7930	20213	5100	14573		3.43	Si
SLV 9	fin.	3172.83	11298	2	0	6643	7930	20213	5100	14573		1.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.291	SLV 13	Si
V_SLV	1.29	SLV 9	Si
PF_SLU	2.064	SLU 84	Si
V_SLU	1.528	SLU 84	Si

Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.543	-3.284	1.1	1.59	0.49	-22.543	-3.284	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	190000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-573.36	-2682	-0.0015163	0.0001872	0.0035	0.49		671.54	671.54	No	1.17	Si
SLU 77	fin.	5.06	270	-0.0000084	0.0001872	0.0035	0.49		668.05	668.05	No	132.12	Si
SLU 81	ini.	-584.11	-2715	-0.0015599	0.0001872	0.0035	0.49		671.54	671.54	No	1.15	Si
SLU 81	fin.	-6.66	258	-0.000011	0.0001872	0.0035	0.49		671.54	671.54	No	100.81	Si
SLU 84	ini.	-590.16	-2764	-0.0015849	0.0001872	0.0035	0.49		671.54	671.54	No	1.14	Si
SLU 84	fin.	8.12	274	-0.0000135	0.0001872	0.0035	0.49		668.05	668.05	No	82.26	Si
SLU 83	ini.	-588.99	-2739	-0.00158	0.0001872	0.0035	0.49		671.54	671.54	No	1.14	Si
SLU 83	fin.	-5.83	260	-0.0000096	0.0001872	0.0035	0.49		671.54	671.54	No	115.09	Si
SLU 75	ini.	-569.66	-2683	-0.0015016	0.0001872	0.0035	0.49		671.54	671.54	No	1.18	Si
SLU 75	fin.	18.19	282	-0.0000304	0.0001872	0.0035	0.49		668.05	668.05	No	36.73	Si
SLU 79	ini.	-570.32	-2667	-0.0015042	0.0001872	0.0035	0.49		671.54	671.54	No	1.18	Si
SLU 79	fin.	4.45	269	-0.0000074	0.0001872	0.0035	0.49		668.05	668.05	No	150.19	Si
SLU 78	ini.	-574.53	-2707	-0.001521	0.0001872	0.0035	0.49		671.54	671.54	No	1.17	Si
SLU 78	fin.	19.01	284	-0.0000318	0.0001872	0.0035	0.49		668.05	668.05	No	35.14	Si
SLU 74	ini.	-568.48	-2658	-0.0014969	0.0001872	0.0035	0.49		671.54	671.54	No	1.18	Si
SLU 74	fin.	4.23	268	-0.000007	0.0001872	0.0035	0.49		668.05	668.05	No	157.94	Si
SLU 82	ini.	-585.29	-2740	-0.0015647	0.0001872	0.0035	0.49		671.54	671.54	No	1.15	Si
SLU 82	fin.	7.3	272	-0.0000121	0.0001872	0.0035	0.49		668.05	668.05	No	91.58	Si
SLU 80	ini.	-571.5	-2692	-0.0015089	0.0001872	0.0035	0.49		671.54	671.54	No	1.18	Si
SLU 80	fin.	18.4	283	-0.0000308	0.0001872	0.0035	0.49		668.05	668.05	No	36.3	Si



Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-569.66	4343	0.49	0	1180	3886	3301	1250	1770	Si	0.41	No
SLU 75	fin.	18.19	-685	0.49	0	1180	3886	3301	1250	1770	Si	2.58	Si
SLU 81	ini.	-584.11	4539	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 81	fin.	-6.66	-826	0.49	0	1180	3886	3301	1250	1770	Si	2.14	Si
SLU 74	ini.	-568.48	4387	0.49	0	1180	3886	3301	1250	1770	Si	0.4	No
SLU 74	fin.	4.23	-756	0.49	0	1180	3886	3301	1250	1770	Si	2.34	Si
SLU 83	ini.	-588.99	4572	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 83	fin.	-5.83	-826	0.49	0	1180	3886	3301	1250	1770	Si	2.14	Si
SLU 82	ini.	-585.29	4496	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 82	fin.	7.3	-755	0.49	0	1180	3886	3301	1250	1770	Si	2.35	Si
SLU 77	ini.	-573.36	4420	0.49	0	1180	3886	3301	1250	1770	Si	0.4	No
SLU 77	fin.	5.06	-757	0.49	0	1180	3886	3301	1250	1770	Si	2.34	Si
SLU 80	ini.	-571.5	4356	0.49	0	1180	3886	3301	1250	1770	Si	0.41	No
SLU 80	fin.	18.4	-686	0.49	0	1180	3886	3301	1250	1770	Si	2.58	Si
SLU 79	ini.	-570.32	4399	0.49	0	1180	3886	3301	1250	1770	Si	0.4	No
SLU 79	fin.	4.45	-757	0.49	0	1180	3886	3301	1250	1770	Si	2.34	Si
SLU 84	ini.	-590.16	4529	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 84	fin.	8.12	-755	0.49	0	1180	3886	3301	1250	1770	Si	2.34	Si
SLU 78	ini.	-574.53	4377	0.49	0	1180	3886	3301	1250	1770	Si	0.4	No
SLU 78	fin.	19.01	-686	0.49	0	1180	3886	3301	1250	1770	Si	2.58	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-771.79	-4163	-0.0023591	0.0002807	0.0035	0.49		947.39	947.39		1.23	Si
SLV 13	fin.	613.68	1527	-0.0015752	0.0002807	0.0035	0.49		944.29	944.29		1.54	Si
SLD 13	ini.	-631.42	-3314	-0.0016392	0.0002807	0.0035	0.49		947.39	947.39		1.5	Si
SLD 13	fin.	396.64	1050	-0.000857	0.0002807	0.0035	0.49		944.29	944.29		2.38	Si
SLV 14	ini.	-709.36	-3774	-0.0020011	0.0002807	0.0035	0.49		947.39	947.39		1.34	Si
SLV 14	fin.	526.37	1328	-0.0012548	0.0002807	0.0035	0.49		944.29	944.29		1.79	Si
SLD 9	ini.	-675.3	-3400	-0.0018328	0.0002807	0.0035	0.49		947.39	947.39		1.4	Si
SLD 9	fin.	294.86	746	-0.0005902	0.0002807	0.0035	0.49		944.29	944.29		3.2	Si
SLV 5	ini.	-702.41	-3409	-0.0019653	0.0002807	0.0035	0.49		947.39	947.39		1.35	Si
SLV 5	fin.	179.65	419	-0.0003292	0.0002807	0.0035	0.49		944.29	944.29		5.26	Si
SLV 6	ini.	-660.38	-3147	-0.0017642	0.0002807	0.0035	0.49		947.39	947.39		1.43	Si
SLV 6	fin.	120.87	285	-0.0002129	0.0002807	0.0035	0.49		944.29	944.29		7.81	Si
SLD 10	ini.	-648.99	-3236	-0.0017139	0.0002807	0.0035	0.49		947.39	947.39		1.46	Si
SLD 10	fin.	258.06	662	-0.0005021	0.0002807	0.0035	0.49		944.29	944.29		3.66	Si
SLV 10	ini.	-804.99	-4078	-0.002579	0.0002807	0.0035	0.49		947.39	947.39		1.18	Si
SLV 10	fin.	403.59	931	-0.0008765	0.0002807	0.0035	0.49		944.29	944.29		2.34	Si
SLV 9	ini.	-847.02	-4340	-0.0028912	0.0002807	0.0035	0.49		947.39	947.39		1.12	Si
SLV 9	fin.	462.37	1065	-0.0010492	0.0002807	0.0035	0.49		944.29	944.29		2.04	Si
SLD 14	ini.	-591.58	-3066	-0.0014812	0.0002807	0.0035	0.49		947.39	947.39		1.6	Si
SLD 14	fin.	340.91	923	-0.0007066	0.0002807	0.0035	0.49		944.29	944.29		2.77	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 5	ini.	-583.38	4054	0.49	0	1358	3886	4952	1250	5244		1.29	Si
SLD 5	fin.	113.87	-731	0.49	0	1358	3886	4952	1250	5244		7.18	Si
SLV 6	ini.	-660.38	4488	0.49	0	1358	3886	4952	1250	5244		1.17	Si
SLV 6	fin.	120.87	-1041	0.49	0	1358	3886	4952	1250	5244		5.04	Si
SLD 9	ini.	-675.3	4507	0.49	0	1358	3886	4952	1250	5244		1.16	Si
SLD 9	fin.	294.86	-57	0.49	0	1358	3886	4952	1250	5244		92.38	Si
SLV 13	ini.	-771.79	4922	0.49	0	1358	3886	4952	1250	5244		1.07	Si
SLV 13	fin.	613.68	1438	0.49	0	1358	3886	4952	1250	5244		3.65	Si
SLD 10	ini.	-648.99	4374	0.49	0	1358	3886	4952	1250	5244		1.2	Si
SLD 10	fin.	258.06	-174	0.49	0	1358	3886	4952	1250	5244		30.18	Si
SLD 13	ini.	-631.42	4207	0.49	0	1358	3886	4952	1250	5244		1.25	Si
SLD 13	fin.	396.64	747	0.49	0	1358	3886	4952	1250	5244		7.02	Si
SLV 5	ini.	-702.41	4700	0.49	0	1358	3886	4952	1250	5244		1.12	Si
SLV 5	fin.	179.65	-854	0.49	0	1358	3886	4952	1250	5244		6.14	Si
SLV 10	ini.	-804.99	5203	0.49	0	1358	3886	4952	1250	5244		1.01	Si
SLV 10	fin.	403.59	12	0.49	0	1358	3886	4952	1250	5244		444.55	Si
SLV 9	ini.	-847.02	5415	0.49	0	1358	3886	4952	1250	5244		0.97	No
SLV 9	fin.	462.37	199	0.49	0	1358	3886	4952	1250	5244		26.4	Si
SLV 14	ini.	-709.36	4607	0.49	0	1358	3886	4952	1250	5244		1.14	Si
SLV 14	fin.	526.37	1160	0.49	0	1358	3886	4952	1250	5244		4.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.119	SLV 9	Si
V_SLV	0.968	SLV 9	No
PF_SLU	1.138	SLU 84	Si
V_SLU	0.387	SLU 83	No

Trave di accoppiamento 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.284	-1.3	0.7	2	-18.313	-3.284	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	ε _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 53	ini.	234.96	-15603	-0.0000235	0.0001872	0.0035	2		10722.86	4848.93	Si	20.64	Si
SLU 53	fin.	-643.11	-9074	-0.0000652	0.0001872	0.0035	2		10737.13	4848.93	Si	7.54	Si
SLU 48	ini.	33.97	-13953	-0.0000034	0.0001872	0.0035	2		10722.86	4848.93	Si	142.74	Si
SLU 48	fin.	-628.88	-8088	-0.0000637	0.0001872	0.0035	2		10737.13	4848.93	Si	7.71	Si
SLU 45	ini.	44.01	-13839	-0.0000044	0.0001872	0.0035	2		10722.86	4848.93	Si	110.17	Si
SLU 45	fin.	-629.25	-8008	-0.0000638	0.0001872	0.0035	2		10737.13	4848.93	Si	7.71	Si
SLU 81	ini.	348.88	-17877	-0.000035	0.0001872	0.0035	2		10722.86	4848.93	Si	13.9	Si
SLU 81	fin.	-634.62	-10562	-0.0000643	0.0001872	0.0035	2		10737.13	4848.93	Si	7.64	Si
SLU 56	ini.	224.92	-15717	-0.0000224	0.0001872	0.0035	2		10722.86	4848.93	Si	21.56	Si
SLU 56	fin.	-642.75	-9154	-0.0000652	0.0001872	0.0035	2		10737.13	4848.93	Si	7.54	Si
SLU 58	ini.	230.57	-15644	-0.000023	0.0001872	0.0035	2		10722.86	4848.93	Si	21.03	Si
SLU 58	fin.	-642.41	-9107	-0.0000651	0.0001872	0.0035	2		10737.13	4848.93	Si	7.55	Si
SLU 43	ini.	59.7	-13653	-0.0000059	0.0001872	0.0035	2		10722.86	4848.93	Si	81.21	Si
SLU 43	fin.	-629.28	-7880	-0.0000638	0.0001872	0.0035	2		10737.13	4848.93	Si	7.71	Si
SLU 60	ini.	332.49	-16172	-0.0000333	0.0001872	0.0035	2		10722.86	4848.93	Si	14.58	Si
SLU 60	fin.	-649.08	-9404	-0.0000658	0.0001872	0.0035	2		10737.13	4848.93	Si	7.47	Si
SLU 62	ini.	322.45	-16286	-0.0000323	0.0001872	0.0035	2		10722.86	4848.93	Si	15.04	Si
SLU 62	fin.	-648.72	-9484	-0.0000658	0.0001872	0.0035	2		10737.13	4848.93	Si	7.47	Si
SLU 83	ini.	338.84	-17991	-0.000034	0.0001872	0.0035	2		10722.86	4848.93	Si	14.31	Si
SLU 83	fin.	-634.25	-10642	-0.0000643	0.0001872	0.0035	2		10737.13	4848.93	Si	7.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 75	ini.	208.6	-8597	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 75	fin.	-600.96	-8213	2	0	6250	7930	13475	5100	9375	Si	1.14	Si
SLU 82	ini.	306.13	-8989	2	0	6250	7930	13475	5100	9375	Si	1.04	Si
SLU 82	fin.	-606.93	-8529	2	0	6250	7930	13475	5100	9375	Si	1.1	Si
SLU 80	ini.	204.21	-8604	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 80	fin.	-600.25	-8216	2	0	6250	7930	13475	5100	9375	Si	1.14	Si
SLU 77	ini.	241.31	-8650	2	0	6250	7930	13475	5100	9375	Si	1.08	Si
SLU 77	fin.	-628.28	-8282	2	0	6250	7930	13475	5100	9375	Si	1.13	Si
SLU 79	ini.	246.96	-8625	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 79	fin.	-627.94	-8266	2	0	6250	7930	13475	5100	9375	Si	1.13	Si
SLU 74	ini.	251.35	-8617	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 74	fin.	-628.64	-8263	2	0	6250	7930	13475	5100	9375	Si	1.13	Si
SLU 83	ini.	338.84	-9042	2	0	6250	7930	13475	5100	9375	Si	1.04	Si
SLU 83	fin.	-634.25	-8598	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 81	ini.	348.88	-9009	2	0	6250	7930	13475	5100	9375	Si	1.04	Si
SLU 81	fin.	-634.62	-8579	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 84	ini.	296.08	-9022	2	0	6250	7930	13475	5100	9375	Si	1.04	Si
SLU 84	fin.	-606.56	-8548	2	0	6250	7930	13475	5100	9375	Si	1.1	Si
SLU 78	ini.	198.56	-8630	2	0	6250	7930	13475	5100	9375	Si	1.09	Si
SLU 78	fin.	-600.59	-8233	2	0	6250	7930	13475	5100	9375	Si	1.14	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	4402.52	-8949	-0.0005154	0.0002807	0.0035	2		15635.95	15635.95		3.55	Si
SLV 8	fin.	-3670.74	-485	-0.000415	0.0002807	0.0035	2		15648.46	15648.46		4.26	Si
SLV 10	ini.	-3847.71	-15333	-0.0004385	0.0002807	0.0035	2		15648.46	15648.46		4.07	Si
SLV 10	fin.	2457.18	-13094	-0.0002636	0.0002807	0.0035	2		15635.95	15635.95		6.36	Si
SLV 4	ini.	4616.99	-15961	-0.0005459	0.0002807	0.0035	2		15635.95	15635.95		3.39	Si
SLV 4	fin.	-3460.68	-2987	-0.0003874	0.0002807	0.0035	2		15648.46	15648.46		4.52	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	4066.69	-8553	-0.0004687	0.0002807	0.0035	2		15635.95	15635.95		3.84	Si
SLV 7	fin.	-3417.32	-911	-0.0003818	0.0002807	0.0035	2		15648.46	15648.46		4.58	Si
SLD 4	ini.	2974.1	-14549	-0.0003261	0.0002807	0.0035	2		15635.95	15635.95		5.26	Si
SLD 4	fin.	-2375.77	-4468	-0.0002538	0.0002807	0.0035	2		15648.46	15648.46		6.59	Si
SLV 9	ini.	-4183.54	-14937	-0.0004843	0.0002807	0.0035	2		15648.46	15648.46		3.74	Si
SLV 9	fin.	2710.6	-13520	-0.0002938	0.0002807	0.0035	2		15635.95	15635.95		5.77	Si
SLD 8	ini.	2789.75	-10130	-0.0003034	0.0002807	0.0035	2		15635.95	15635.95		5.6	Si
SLD 8	fin.	-2475.75	-2949	-0.0002656	0.0002807	0.0035	2		15648.46	15648.46		6.32	Si
SLV 3	ini.	4118.17	-15373	-0.0004758	0.0002807	0.0035	2		15635.95	15635.95		3.8	Si
SLV 3	fin.	-3084.26	-3618	-0.0003395	0.0002807	0.0035	2		15648.46	15648.46		5.07	Si
SLV 13	ini.	-4398.01	-7925	-0.0005142	0.0002807	0.0035	2		15648.46	15648.46		3.56	Si
SLV 13	fin.	2500.54	-11018	-0.0002687	0.0002807	0.0035	2		15635.95	15635.95		6.25	Si
SLV 14	ini.	-3899.19	-8513	-0.0004455	0.0002807	0.0035	2		15648.46	15648.46		4.01	Si
SLV 14	fin.	2124.12	-10387	-0.000225	0.0002807	0.0035	2		15635.95	15635.95		7.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	4616.99	-20983	2	0	6643	7930	20213	5100	14573		0.69	No
SLV 4	fin.	-3460.68	-21259	2	0	6643	7930	20213	5100	14573		0.69	No
SLD 4	ini.	2974.1	-15536	2	0	6643	7930	20213	5100	14573		0.94	No
SLD 4	fin.	-2375.77	-15663	2	0	6643	7930	20213	5100	14573		0.93	No
SLV 2	ini.	2739.39	-17917	2	0	6643	7930	20213	5100	14573		0.81	No
SLV 2	fin.	-1992.82	-17089	2	0	6643	7930	20213	5100	14573		0.85	No
SLD 2	ini.	1811.35	-13626	2	0	6643	7930	20213	5100	14573		1.07	Si
SLD 2	fin.	-1463.45	-13071	2	0	6643	7930	20213	5100	14573		1.11	Si
SLV 1	ini.	2240.58	-15854	2	0	6643	7930	20213	5100	14573		0.92	No
SLV 1	fin.	-1616.41	-15000	2	0	6643	7930	20213	5100	14573		0.97	No
SLV 8	ini.	4402.52	-15477	2	0	6643	7930	20213	5100	14573		0.94	No
SLV 8	fin.	-3670.74	-17170	2	0	6643	7930	20213	5100	14573		0.85	No
SLV 7	ini.	4066.69	-14088	2	0	6643	7930	20213	5100	14573		1.03	Si
SLV 7	fin.	-3417.32	-15764	2	0	6643	7930	20213	5100	14573		0.92	No
SLD 3	ini.	2655.72	-14220	2	0	6643	7930	20213	5100	14573		1.02	Si
SLD 3	fin.	-2135.52	-14330	2	0	6643	7930	20213	5100	14573		1.02	Si
SLV 3	ini.	4118.17	-18920	2	0	6643	7930	20213	5100	14573		0.77	No
SLV 3	fin.	-3084.26	-19170	2	0	6643	7930	20213	5100	14573		0.76	No
SLD 8	ini.	2789.75	-11942	2	0	6643	7930	20213	5100	14573		1.22	Si
SLD 8	fin.	-2475.75	-12949	2	0	6643	7930	20213	5100	14573		1.13	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.387	SLV 4	Si
V_SLV	0.686	SLV 4	No
PF_SLU	7.47	SLU 60	Si
V_SLU	1.037	SLU 83	Si

Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.284	1.1	1.59	0.49	-18.313	-3.284	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-80.96	-866	-0.0001411	0.0001872	0.0035	0.49		671.54	671.54	No	8.3	Si
SLU 82	fin.	-246.92	-2606	-0.0005026	0.0001872	0.0035	0.49		671.54	671.54	No	2.72	Si
SLU 78	ini.	-77.27	-849	-0.0001343	0.0001872	0.0035	0.49		671.54	671.54	No	8.69	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-232.41	-2488	-0.0004671	0.0001872	0.0035	0.49		671.54	671.54	No	2.89	Si
SLU 81	ini.	-68.71	-824	-0.0001186	0.0001872	0.0035	0.49		671.54	671.54	No	9.77	Si
SLU 81	fin.	-250.94	-2650	-0.0005126	0.0001872	0.0035	0.49		671.54	671.54	No	2.68	Si
SLU 84	ini.	-83.1	-880	-0.0001451	0.0001872	0.0035	0.49		671.54	671.54	No	8.08	Si
SLU 84	fin.	-247.14	-2614	-0.0005032	0.0001872	0.0035	0.49		671.54	671.54	No	2.72	Si
SLU 80	ini.	-76.3	-842	-0.0001325	0.0001872	0.0035	0.49		671.54	671.54	No	8.8	Si
SLU 80	fin.	-232.09	-2482	-0.0004663	0.0001872	0.0035	0.49		671.54	671.54	No	2.89	Si
SLU 79	ini.	-64.05	-800	-0.0001102	0.0001872	0.0035	0.49		671.54	671.54	No	10.48	Si
SLU 79	fin.	-236.1	-2526	-0.0004761	0.0001872	0.0035	0.49		671.54	671.54	No	2.84	Si
SLU 77	ini.	-65.03	-807	-0.0001119	0.0001872	0.0035	0.49		671.54	671.54	No	10.33	Si
SLU 77	fin.	-236.43	-2532	-0.0004769	0.0001872	0.0035	0.49		671.54	671.54	No	2.84	Si
SLU 75	ini.	-75.13	-835	-0.0001303	0.0001872	0.0035	0.49		671.54	671.54	No	8.94	Si
SLU 75	fin.	-232.2	-2480	-0.0004666	0.0001872	0.0035	0.49		671.54	671.54	No	2.89	Si
SLU 83	ini.	-70.85	-838	-0.0001225	0.0001872	0.0035	0.49		671.54	671.54	No	9.48	Si
SLU 83	fin.	-251.15	-2657	-0.0005131	0.0001872	0.0035	0.49		671.54	671.54	No	2.67	Si
SLU 74	ini.	-62.89	-793	-0.0001081	0.0001872	0.0035	0.49		671.54	671.54	No	10.68	Si
SLU 74	fin.	-236.22	-2524	-0.0004763	0.0001872	0.0035	0.49		671.54	671.54	No	2.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-70.85	3723	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 83	fin.	-251.15	-5018	0.49	0	1180	3886	3301	1250	1770	Si	0.35	No
SLU 82	ini.	-80.96	3751	0.49	0	1180	3886	3301	1250	1770	Si	0.47	No
SLU 82	fin.	-246.92	-4995	0.49	0	1180	3886	3301	1250	1770	Si	0.35	No
SLU 78	ini.	-77.27	3695	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 78	fin.	-232.41	-4827	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 74	ini.	-62.89	3591	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 74	fin.	-236.22	-4792	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 77	ini.	-65.03	3629	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 77	fin.	-236.43	-4821	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 81	ini.	-68.71	3685	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 81	fin.	-250.94	-4989	0.49	0	1180	3886	3301	1250	1770	Si	0.35	No
SLU 79	ini.	-64.05	3607	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 79	fin.	-236.1	-4803	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 80	ini.	-76.3	3673	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 80	fin.	-232.09	-4809	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 84	ini.	-83.1	3789	0.49	0	1180	3886	3301	1250	1770	Si	0.47	No
SLU 84	fin.	-247.14	-5024	0.49	0	1180	3886	3301	1250	1770	Si	0.35	No
SLU 75	ini.	-75.13	3657	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 75	fin.	-232.2	-4798	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-616.04	-2630	-0.0015764	0.0002807	0.0035	0.49		947.39	947.39		1.54	Si
SLD 9	fin.	157.04	611	-0.0002832	0.0002807	0.0035	0.49		944.29	944.29		6.01	Si
SLV 4	ini.	833.46	2229	-0.0028074	0.0002807	0.0035	0.49		944.29	944.29		1.13	Si
SLV 4	fin.	-789.34	-5994	-0.0024726	0.0002807	0.0035	0.49		947.39	947.39		1.2	Si
SLV 7	ini.	820.98	2610	-0.0027133	0.0002807	0.0035	0.49		944.29	944.29		1.15	Si
SLV 7	fin.	-605.06	-5047	-0.001533	0.0002807	0.0035	0.49		947.39	947.39		1.57	Si
SLV 14	ini.	-748.8	-2770	-0.0022193	0.0002807	0.0035	0.49		947.39	947.39		1.27	Si
SLV 14	fin.	382.58	1933	-0.000818	0.0002807	0.0035	0.49		944.29	944.29		2.47	Si
SLV 8	ini.	915.3	2918	-0.0034727	0.0002807	0.0035	0.49		944.29	944.29		1.03	Si
SLV 8	fin.	-664.24	-5459	-0.0017817	0.0002807	0.0035	0.49		947.39	947.39		1.43	Si
SLV 13	ini.	-888.9	-3228	-0.003234	0.0002807	0.0035	0.49		947.39	947.39		1.07	Si
SLV 13	fin.	470.48	2545	-0.0010742	0.0002807	0.0035	0.49		944.29	944.29		2.01	Si
SLV 9	ini.	-970.74	-3917	-0.0038689	0.0002807	0.0035	0.49		947.39	947.39		0.98	No
SLV 9	fin.	345.38	2010	-0.0007183	0.0002807	0.0035	0.49		944.29	944.29		2.73	Si
SLV 3	ini.	693.37	1771	-0.0019314	0.0002807	0.0035	0.49		944.29	944.29		1.36	Si
SLV 3	fin.	-701.44	-5382	-0.0019604	0.0002807	0.0035	0.49		947.39	947.39		1.35	Si
SLV 5	ini.	-626.32	-2915	-0.0016181	0.0002807	0.0035	0.49		947.39	947.39		1.51	Si
SLV 5	fin.	53.03	94	-0.0000899	0.0002807	0.0035	0.49		944.29	944.29		17.81	Si
SLV 10	ini.	-876.42	-3609	-0.0031308	0.0002807	0.0035	0.49		947.39	947.39		1.08	Si
SLV 10	fin.	286.2	1598	-0.0005691	0.0002807	0.0035	0.49		944.29	944.29		3.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	833.46	-467	0.49	0	1358	3886	4952	1250	5244		11.23	Si
SLV 4	fin.	-789.34	-6203	0.49	0	1358	3886	4952	1250	5244		0.85	No
SLD 4	ini.	519.34	609	0.49	0	1358	3886	4952	1250	5244		8.61	Si
SLD 4	fin.	-560.93	-5141	0.49	0	1358	3886	4952	1250	5244		1.02	Si
SLV 6	ini.	-532	5420	0.49	0	1358	3886	4952	1250	5244		0.97	No
SLV 6	fin.	-6.15	-3402	0.49	0	1358	3886	4952	1250	5244		1.54	Si
SLV 1	ini.	259.18	2103	0.49	0	1358	3886	4952	1250	5244		2.49	Si
SLV 1	fin.	-504.01	-5309	0.49	0	1358	3886	4952	1250	5244		0.99	No
SLV 13	ini.	-888.9	5361	0.49	0	1358	3886	4952	1250	5244		0.98	No
SLV 13	fin.	470.48	-313	0.49	0	1358	3886	4952	1250	5244		16.78	Si
SLV 3	ini.	693.37	-57	0.49	0	1358	3886	4952	1250	5244		91.68	Si
SLV 3	fin.	-701.44	-5762	0.49	0	1358	3886	4952	1250	5244		0.91	No
SLV 9	ini.	-970.74	6673	0.49	0	1358	3886	4952	1250	5244		0.79	No
SLV 9	fin.	345.38	-1605	0.49	0	1358	3886	4952	1250	5244		3.27	Si
SLV 2	ini.	399.27	1693	0.49	0	1358	3886	4952	1250	5244		3.1	Si
SLV 2	fin.	-591.91	-5751	0.49	0	1358	3886	4952	1250	5244		0.91	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-876.42	6397	0.49	0	1358	3886	4952	1250	5244		0.82	No
SLV 10	fin.	286.2	-1903	0.49	0	1358	3886	4952	1250	5244		2.76	Si
SLV 5	ini.	-626.32	5696	0.49	0	1358	3886	4952	1250	5244		0.92	No
SLV 5	fin.	53.03	-3104	0.49	0	1358	3886	4952	1250	5244		1.69	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.976	SLV 9	No
V_SLV	0.786	SLV 9	No
PF_SLU	2.674	SLU 83	Si
V_SLU	0.352	SLU 84	No

Trave di accoppiamento 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-14.223	-3.284	0.8	1.59	0.79	-16.523	-3.284	0.8	1.59	0.79	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_u	f_hk	f_vk0	f_hmedio	τ0	f_v0	μ	φ	f_vk_lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	310.57	1124	-0.0002158	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.39	Si
SLU 84	fin.	-1935.9	-6881	-0.0023957	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.86	No
SLU 79	ini.	301.34	1049	-0.0002087	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.55	Si
SLU 79	fin.	-1844.3	-6541	-0.0021741	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.91	No
SLU 80	ini.	306.51	1051	-0.0002126	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.46	Si
SLU 80	fin.	-1852.86	-6594	-0.0021938	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.9	No
SLU 75	ini.	305.14	1053	-0.0002116	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.48	Si
SLU 75	fin.	-1848.2	-6575	-0.0021831	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.91	No
SLU 83	ini.	305.4	1121	-0.0002118	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.48	Si
SLU 83	fin.	-1927.34	-6828	-0.002374	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.87	No
SLU 82	ini.	306.69	1125	-0.0002128	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.45	Si
SLU 82	fin.	-1922.98	-6830	-0.0023629	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.87	No
SLU 81	ini.	301.52	1123	-0.0002088	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.55	Si
SLU 81	fin.	-1914.42	-6777	-0.0023415	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.87	No
SLU 77	ini.	303.86	1049	-0.0002106	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.5	Si
SLU 77	fin.	-1852.57	-6573	-0.0021931	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.9	No
SLU 76	ini.	306.07	1055	-0.0002123	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.46	Si
SLU 76	fin.	-1845.64	-6578	-0.0021772	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.91	No
SLU 78	ini.	309.03	1051	-0.0002146	0.0001872	0.0035	0.79		1732.61	1672.68	Si	5.41	Si
SLU 78	fin.	-1861.13	-6626	-0.002213	0.0001872	0.0035	0.79		1738.32	1672.68	Si	0.9	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	306.07	2193	0.79	0	970	6264	5323	2015	1455	Si	0.66	No
SLU 76	fin.	-1845.64	-7884	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 80	ini.	306.51	2199	0.79	0	970	6264	5323	2015	1455	Si	0.66	No
SLU 80	fin.	-1852.86	-7903	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 82	ini.	306.69	2325	0.79	0	970	6264	5323	2015	1455	Si	0.63	No
SLU 82	fin.	-1922.98	-8272	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 79	ini.	301.34	2201	0.79	0	970	6264	5323	2015	1455	Si	0.66	No
SLU 79	fin.	-1844.3	-7868	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 81	ini.	301.52	2327	0.79	0	970	6264	5323	2015	1455	Si	0.63	No
SLU 81	fin.	-1914.42	-8237	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 77	ini.	303.86	2203	0.79	0	970	6264	5323	2015	1455	Si	0.66	No
SLU 77	fin.	-1852.57	-7894	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 78	ini.	309.03	2201	0.79	0	970	6264	5323	2015	1455	Si	0.66	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-1861.13	-7929	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 83	ini.	305.4	2331	0.79	0	970	6264	5323	2015	1455	Si	0.62	No
SLU 83	fin.	-1927.34	-8279	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 75	ini.	305.14	2197	0.79	0	970	6264	5323	2015	1455	Si	0.66	No
SLU 75	fin.	-1848.2	-7887	0.79	0	970	6264	5323	2015	1455	Si	0.18	No
SLU 84	ini.	310.57	2330	0.79	0	970	6264	5323	2015	1455	Si	0.62	No
SLU 84	fin.	-1935.9	-8313	0.79	0	970	6264	5323	2015	1455	Si	0.17	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	512.67	1256	-0.0003653	0.0002807	0.0035	0.79		2453.97	2453.97		4.79	Si
SLD 3	fin.	-1920.28	-5938	-0.0021583	0.0002807	0.0035	0.79		2458.94	2458.94		1.28	Si
SLV 2	ini.	903.16	1684	-0.0007219	0.0002807	0.0035	0.79		2453.97	2453.97		2.72	Si
SLV 2	fin.	-2657.34	-8524	-0.0042275	0.0002807	0.0035	0.79		2458.94	2458.94		0.93	No
SLV 4	ini.	712.31	1678	-0.0005386	0.0002807	0.0035	0.79		2453.97	2453.97		3.45	Si
SLV 4	fin.	-2406.97	-6932	-0.0035275	0.0002807	0.0035	0.79		2458.94	2458.94		1.02	Si
SLV 5	ini.	693.85	953	-0.0005217	0.0002807	0.0035	0.79		2453.97	2453.97		3.54	Si
SLV 5	fin.	-1995.68	-7984	-0.0023306	0.0002807	0.0035	0.79		2458.94	2458.94		1.23	Si
SLD 1	ini.	629.64	1260	-0.0004645	0.0002807	0.0035	0.79		2453.97	2453.97		3.9	Si
SLD 1	fin.	-2074.14	-6920	-0.0025268	0.0002807	0.0035	0.79		2458.94	2458.94		1.19	Si
SLD 2	ini.	653.81	1331	-0.0004858	0.0002807	0.0035	0.79		2453.97	2453.97		3.75	Si
SLD 2	fin.	-2148.86	-7026	-0.0027311	0.0002807	0.0035	0.79		2458.94	2458.94		1.14	Si
SLV 6	ini.	719.35	1028	-0.000545	0.0002807	0.0035	0.79		2453.97	2453.97		3.41	Si
SLV 6	fin.	-2074.49	-8096	-0.0025277	0.0002807	0.0035	0.79		2458.94	2458.94		1.19	Si
SLD 4	ini.	536.84	1328	-0.0003853	0.0002807	0.0035	0.79		2453.97	2453.97		4.57	Si
SLD 4	fin.	-1995	-6044	-0.002329	0.0002807	0.0035	0.79		2458.94	2458.94		1.23	Si
SLV 3	ini.	674.44	1567	-0.0005042	0.0002807	0.0035	0.79		2453.97	2453.97		3.64	Si
SLV 3	fin.	-2289.91	-6765	-0.0031634	0.0002807	0.0035	0.79		2458.94	2458.94		1.07	Si
SLV 1	ini.	865.28	1573	-0.0006841	0.0002807	0.0035	0.79		2453.97	2453.97		2.84	Si
SLV 1	fin.	-2540.28	-8357	-0.0039113	0.0002807	0.0035	0.79		2458.94	2458.94		0.97	No

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	653.81	663	0.79	0	1047	6264	7984	2015	7312		11.03	Si
SLD 2	fin.	-2148.86	-6870	0.79	0	1047	6264	7984	2015	7312		1.06	Si
SLV 6	ini.	719.35	944	0.79	0	1047	6264	7984	2015	7312		7.74	Si
SLV 6	fin.	-2074.49	-7524	0.79	0	1047	6264	7984	2015	7312		0.97	No
SLV 2	ini.	903.16	217	0.79	0	1047	6264	7984	2015	7312		33.62	Si
SLV 2	fin.	-2657.34	-7791	0.79	0	1047	6264	7984	2015	7312		0.94	No
SLD 6	ini.	529.8	1128	0.79	0	1047	6264	7984	2015	7312		6.48	Si
SLD 6	fin.	-1767.19	-6671	0.79	0	1047	6264	7984	2015	7312		1.1	Si
SLV 4	ini.	712.31	303	0.79	0	1047	6264	7984	2015	7312		24.15	Si
SLV 4	fin.	-2406.97	-6818	0.79	0	1047	6264	7984	2015	7312		1.07	Si
SLV 3	ini.	674.44	363	0.79	0	1047	6264	7984	2015	7312		20.12	Si
SLV 3	fin.	-2289.91	-6668	0.79	0	1047	6264	7984	2015	7312		1.1	Si
SLD 1	ini.	629.64	702	0.79	0	1047	6264	7984	2015	7312		10.42	Si
SLD 1	fin.	-2074.14	-6775	0.79	0	1047	6264	7984	2015	7312		1.08	Si
SLV 5	ini.	693.85	985	0.79	0	1047	6264	7984	2015	7312		7.42	Si
SLV 5	fin.	-1995.68	-7424	0.79	0	1047	6264	7984	2015	7312		0.98	No
SLV 1	ini.	865.28	278	0.79	0	1047	6264	7984	2015	7312		26.3	Si
SLV 1	fin.	-2540.28	-7642	0.79	0	1047	6264	7984	2015	7312		0.96	No
SLD 5	ini.	513.84	1154	0.79	0	1047	6264	7984	2015	7312		6.34	Si
SLD 5	fin.	-1717.85	-6608	0.79	0	1047	6264	7984	2015	7312		1.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.925	SLV 2	No
V_SLV	0.938	SLV 2	No
PF_SLU	0.864	SLU 84	No
V_SLU	0.175	SLU 84	No

Trave di accoppiamento 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.838	1.046	0.8	1.59	0.79	-19.638	1.046	0.8	1.59	0.79	0.8	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio



Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-1833.07	-6585	-0.00020713	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.94	No
SLU 78	fin.	-345.77	-6126	-0.0002388	0.0002246	0.0035	0.79		1729.09	1729.09	No	5	Si
SLU 82	ini.	-1877.49	-6703	-0.0021683	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.92	No
SLU 82	fin.	-339.46	-6177	-0.0002339	0.0002246	0.0035	0.79		1729.09	1729.09	No	5.09	Si
SLU 84	ini.	-1889.07	-6765	-0.0021945	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.92	No
SLU 84	fin.	-346.59	-6261	-0.0002394	0.0002246	0.0035	0.79		1729.09	1729.09	No	4.99	Si
SLU 77	ini.	-1806.72	-6561	-0.0020162	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.96	No
SLU 77	fin.	-366.63	-6181	-0.0002548	0.0002246	0.0035	0.79		1729.09	1729.09	No	4.72	Si
SLU 81	ini.	-1851.14	-6679	-0.0021101	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.93	No
SLU 81	fin.	-360.32	-6231	-0.0002499	0.0002246	0.0035	0.79		1729.09	1729.09	No	4.8	Si
SLU 83	ini.	-1862.72	-6741	-0.0021355	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.93	No
SLU 83	fin.	-367.45	-6315	-0.0002555	0.0002246	0.0035	0.79		1729.09	1729.09	No	4.71	Si
SLU 73	ini.	-1819.1	-6440	-0.0020418	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.95	No
SLU 73	fin.	-314.02	-5877	-0.0002147	0.0002246	0.0035	0.79		1729.09	1729.09	No	5.51	Si
SLU 75	ini.	-1821.49	-6523	-0.0020469	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.95	No
SLU 75	fin.	-338.64	-6042	-0.0002333	0.0002246	0.0035	0.79		1729.09	1729.09	No	5.11	Si
SLU 76	ini.	-1830.68	-6502	-0.0020662	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.94	No
SLU 76	fin.	-321.15	-5962	-0.0002201	0.0002246	0.0035	0.79		1729.09	1729.09	No	5.38	Si
SLU 80	ini.	-1824.68	-6547	-0.0020535	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.95	No
SLU 80	fin.	-342.19	-6082	-0.000236	0.0002246	0.0035	0.79		1729.09	1729.09	No	5.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-1795.14	7127	0.79	0	2899	6264	6388	2015	4349	Si	0.61	No
SLU 74	fin.	-359.5	-11376	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 77	ini.	-1806.72	7180	0.79	0	2899	6264	6388	2015	4349	Si	0.61	No
SLU 77	fin.	-366.63	-11546	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 80	ini.	-1824.68	7257	0.79	0	2899	6264	6388	2015	4349	Si	0.6	No
SLU 80	fin.	-342.19	-11428	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 79	ini.	-1798.33	7145	0.79	0	2899	6264	6388	2015	4349	Si	0.61	No
SLU 79	fin.	-363.06	-11460	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 78	ini.	-1833.07	7292	0.79	0	2899	6264	6388	2015	4349	Si	0.6	No
SLU 78	fin.	-345.77	-11514	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 83	ini.	-1862.72	7392	0.79	0	2899	6264	6388	2015	4349	Si	0.59	No
SLU 83	fin.	-367.45	-11784	0.79	0	2899	6264	6388	2015	4349	Si	0.37	No
SLU 81	ini.	-1851.14	7340	0.79	0	2899	6264	6388	2015	4349	Si	0.59	No
SLU 81	fin.	-360.32	-11614	0.79	0	2899	6264	6388	2015	4349	Si	0.37	No
SLU 82	ini.	-1877.49	7452	0.79	0	2899	6264	6388	2015	4349	Si	0.58	No
SLU 82	fin.	-339.46	-11581	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 75	ini.	-1821.49	7239	0.79	0	2899	6264	6388	2015	4349	Si	0.6	No
SLU 75	fin.	-338.64	-11344	0.79	0	2899	6264	6388	2015	4349	Si	0.38	No
SLU 84	ini.	-1889.07	7504	0.79	0	2899	6264	6388	2015	4349	Si	0.58	No
SLU 84	fin.	-346.59	-11752	0.79	0	2899	6264	6388	2015	4349	Si	0.37	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2403.26	-5531	-0.0033561	0.0003369	0.0035	0.79		2012.57	2012.57		0.84	No
SLV 16	fin.	221.67	-181	-0.000146	0.0003369	0.0035	0.79		2007.27	2007.27		9.06	Si
SLV 13	ini.	-3303.67	-6365	-0.005625	0.0003369	0.0035	0.79		2012.57	2012.57		0.61	No
SLV 13	fin.	934.77	1690	-0.000733	0.0003369	0.0035	0.79		2007.27	2007.27		2.15	Si
SLD 14	ini.	-2501.42	-5604	-0.0036428	0.0003369	0.0035	0.79		2012.57	2012.57		0.8	No
SLD 14	fin.	467.54	-504	-0.0003239	0.0003369	0.0035	0.79		2007.27	2007.27		4.29	Si
SLD 13	ini.	-2547.72	-5657	-0.0037723	0.0003369	0.0035	0.79		2012.57	2012.57		0.79	No
SLD 13	fin.	501.61	-425	-0.0003503	0.0003369	0.0035	0.79		2007.27	2007.27		4	Si
SLV 10	ini.	-3075.04	-6113	-0.0050978	0.0003369	0.0035	0.79		2012.57	2012.57		0.65	No
SLV 10	fin.	1081.91	201	-0.0008834	0.0003369	0.0035	0.79		2007.27	2007.27		1.86	Si
SLV 14	ini.	-3231.12	-6281	-0.0054597	0.0003369	0.0035	0.79		2012.57	2012.57		0.62	No
SLV 14	fin.	881.39	1565	-0.000681	0.0003369	0.0035	0.79		2007.27	2007.27		2.28	Si
SLD 10	ini.	-2382.96	-5482	-0.0032947	0.0003369	0.0035	0.79		2012.57	2012.57		0.84	No
SLD 10	fin.	580.32	-1420	-0.0004133	0.0003369	0.0035	0.79		2007.27	2007.27		3.46	Si
SLV 15	ini.	-2475.81	-5614	-0.0035697	0.0003369	0.0035	0.79		2012.57	2012.57		0.81	No
SLV 15	fin.	275.05	-56	-0.000183	0.0003369	0.0035	0.79		2007.27	2007.27		7.3	Si
SLV 9	ini.	-3123.88	-6169	-0.0052121	0.0003369	0.0035	0.79		2012.57	2012.57		0.64	No
SLV 9	fin.	1117.85	285	-0.0009219	0.0003369	0.0035	0.79		2007.27	2007.27		1.8	Si
SLD 9	ini.	-2413.53	-5517	-0.0033869	0.0003369	0.0035	0.79		2012.57	2012.57		0.83	No
SLD 9	fin.	602.82	-1367	-0.0004319	0.0003369	0.0035	0.79		2007.27	2007.27		3.33	Si



Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-64.33	1551	0.79	0	3085	6264	9582	2015	9349		6.03	Si
SLV 1	fin.	-716.29	-17774	0.79	0	3085	6264	9582	2015	9349		0.53	No
SLV 7	ini.	607.45	-2414	0.79	0	3085	6264	9582	2015	9349		3.87	Si
SLV 7	fin.	-1576.53	-12696	0.79	0	3085	6264	9582	2015	9349		0.74	No
SLD 3	ini.	33.83	577	0.79	0	3085	6264	9582	2015	9349		16.22	Si
SLD 3	fin.	-962.16	-14835	0.79	0	3085	6264	9582	2015	9349		0.63	No
SLV 8	ini.	656.3	-2622	0.79	0	3085	6264	9582	2015	9349		3.57	Si
SLV 8	fin.	-1612.48	-12738	0.79	0	3085	6264	9582	2015	9349		0.73	No
SLV 4	ini.	836.08	-2260	0.79	0	3085	6264	9582	2015	9349		4.14	Si
SLV 4	fin.	-1429.4	-18932	0.79	0	3085	6264	9582	2015	9349		0.49	No
SLD 4	ini.	80.14	380	0.79	0	3085	6264	9582	2015	9349		24.6	Si
SLD 4	fin.	-996.24	-14875	0.79	0	3085	6264	9582	2015	9349		0.63	No
SLD 1	ini.	-478.62	2745	0.79	0	3085	6264	9582	2015	9349		3.41	Si
SLD 1	fin.	-553.83	-14156	0.79	0	3085	6264	9582	2015	9349		0.66	No
SLV 3	ini.	763.53	-1952	0.79	0	3085	6264	9582	2015	9349		4.79	Si
SLV 3	fin.	-1376.01	-18870	0.79	0	3085	6264	9582	2015	9349		0.5	No
SLD 2	ini.	-432.31	2548	0.79	0	3085	6264	9582	2015	9349		3.67	Si
SLD 2	fin.	-587.9	-14196	0.79	0	3085	6264	9582	2015	9349		0.66	No
SLV 2	ini.	8.22	1243	0.79	0	3085	6264	9582	2015	9349		7.52	Si
SLV 2	fin.	-769.68	-17836	0.79	0	3085	6264	9582	2015	9349		0.52	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.609	SLV 13	No
V_SLV	0.494	SLV 4	No
PF_SLU	0.915	SLU 84	No
V_SLU	0.369	SLU 83	No

Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-14.163	1.046	0.8	1.59	0.79	-14.963	1.046	0.8	1.59	0.79	0.8	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-179.02	-4123	-0.000118	0.0002246	0.0035	0.79		1729.09	1729.09	No	9.66	Si
SLU 74	fin.	-2273.25	-7886	-0.0032936	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.76	No
SLU 77	ini.	-181.35	-4174	-0.0001196	0.0002246	0.0035	0.79		1729.09	1729.09	No	9.53	Si
SLU 77	fin.	-2299.57	-7980	-0.0033792	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.75	No
SLU 83	ini.	-179.08	-4260	-0.000118	0.0002246	0.0035	0.79		1729.09	1729.09	No	9.66	Si
SLU 83	fin.	-2360.41	-8182	-0.0035715	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.73	No
SLU 80	ini.	-194.54	-4165	-0.0001287	0.0002246	0.0035	0.79		1729.09	1729.09	No	8.89	Si
SLU 80	fin.	-2262.17	-7874	-0.0032572	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.76	No
SLU 84	ini.	-193.69	-4278	-0.0001281	0.0002246	0.0035	0.79		1729.09	1729.09	No	8.93	Si
SLU 84	fin.	-2336.67	-8126	-0.0034976	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.74	No
SLU 79	ini.	-179.93	-4147	-0.0001186	0.0002246	0.0035	0.79		1729.09	1729.09	No	9.61	Si
SLU 79	fin.	-2285.91	-7931	-0.0033349	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.76	No
SLU 82	ini.	-191.35	-4228	-0.0001265	0.0002246	0.0035	0.79		1729.09	1729.09	No	9.04	Si
SLU 82	fin.	-2310.35	-8033	-0.003414	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.75	No
SLU 81	ini.	-176.74	-4209	-0.0001164	0.0002246	0.0035	0.79		1729.09	1729.09	No	9.78	Si
SLU 81	fin.	-2334.09	-8089	-0.0034894	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.74	No
SLU 75	ini.	-193.63	-4142	-0.0001281	0.0002246	0.0035	0.79		1729.09	1729.09	No	8.93	Si
SLU 75	fin.	-2249.52	-7830	-0.0032154	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.77	No
SLU 78	ini.	-195.96	-4192	-0.0001297	0.0002246	0.0035	0.79		1729.09	1729.09	No	8.82	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-2275.84	-7923	-0.003302	0.0002246	0.0035	0.79		1729.09	1729.09	No	0.76	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-194.54	3204	0.79	0	2899	6264	6388	2015	4349	Si	1.36	Si
SLU 80	fin.	-2262.17	-12316	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No
SLU 77	ini.	-181.35	3136	0.79	0	2899	6264	6388	2015	4349	Si	1.39	Si
SLU 77	fin.	-2299.57	-12474	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No
SLU 83	ini.	-179.08	3206	0.79	0	2899	6264	6388	2015	4349	Si	1.36	Si
SLU 83	fin.	-2360.41	-12826	0.79	0	2899	6264	6388	2015	4349	Si	0.34	No
SLU 84	ini.	-193.69	3295	0.79	0	2899	6264	6388	2015	4349	Si	1.32	Si
SLU 84	fin.	-2336.67	-12743	0.79	0	2899	6264	6388	2015	4349	Si	0.34	No
SLU 75	ini.	-193.63	3190	0.79	0	2899	6264	6388	2015	4349	Si	1.36	Si
SLU 75	fin.	-2249.52	-12251	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No
SLU 81	ini.	-176.74	3171	0.79	0	2899	6264	6388	2015	4349	Si	1.37	Si
SLU 81	fin.	-2334.09	-12686	0.79	0	2899	6264	6388	2015	4349	Si	0.34	No
SLU 78	ini.	-195.96	3225	0.79	0	2899	6264	6388	2015	4349	Si	1.35	Si
SLU 78	fin.	-2275.84	-12391	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No
SLU 82	ini.	-191.35	3259	0.79	0	2899	6264	6388	2015	4349	Si	1.33	Si
SLU 82	fin.	-2310.35	-12603	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No
SLU 74	ini.	-179.02	3101	0.79	0	2899	6264	6388	2015	4349	Si	1.4	Si
SLU 74	fin.	-2273.25	-12334	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No
SLU 79	ini.	-179.93	3115	0.79	0	2899	6264	6388	2015	4349	Si	1.4	Si
SLU 79	fin.	-2285.91	-12400	0.79	0	2899	6264	6388	2015	4349	Si	0.35	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	680.7	-2499	-0.0004979	0.0003369	0.0035	0.79		2007.27	2007.27		2.95	Si
SLV 8	fin.	-3351.47	-10000	-0.0057331	0.0003369	0.0035	0.79		2012.57	2012.57		0.6	No
SLD 3	ini.	105.79	-3875	-0.0000683	0.0003369	0.0035	0.79		2007.27	2007.27		18.97	Si
SLD 3	fin.	-2909.29	-9264	-0.004702	0.0003369	0.0035	0.79		2012.57	2012.57		0.69	No
SLV 7	ini.	674.31	-2523	-0.0004924	0.0003369	0.0035	0.79		2007.27	2007.27		2.98	Si
SLV 7	fin.	-3353.06	-10013	-0.0057367	0.0003369	0.0035	0.79		2012.57	2012.57		0.6	No
SLV 1	ini.	-210.38	-4984	-0.000138	0.0003369	0.0035	0.79		2012.57	2012.57		9.57	Si
SLV 1	fin.	-2920.57	-9633	-0.0047294	0.0003369	0.0035	0.79		2012.57	2012.57		0.69	No
SLV 2	ini.	-200.89	-4948	-0.0001315	0.0003369	0.0035	0.79		2012.57	2012.57		10.02	Si
SLV 2	fin.	-2918.21	-9613	-0.0047237	0.0003369	0.0035	0.79		2012.57	2012.57		0.69	No
SLD 7	ini.	370.53	-2647	-0.0002513	0.0003369	0.0035	0.79		2007.27	2007.27		5.42	Si
SLD 7	fin.	-2678.42	-8282	-0.0041223	0.0003369	0.0035	0.79		2012.57	2012.57		0.75	No
SLV 4	ini.	253.64	-4426	-0.000168	0.0003369	0.0035	0.79		2007.27	2007.27		7.91	Si
SLV 4	fin.	-3682.49	-11458	-0.0064724	0.0003369	0.0035	0.79		2012.57	2012.57		0.55	No
SLD 8	ini.	374.53	-2632	-0.0002542	0.0003369	0.0035	0.79		2007.27	2007.27		5.36	Si
SLD 8	fin.	-2677.43	-8273	-0.0041198	0.0003369	0.0035	0.79		2012.57	2012.57		0.75	No
SLV 3	ini.	244.15	-4462	-0.0001615	0.0003369	0.0035	0.79		2007.27	2007.27		8.22	Si
SLV 3	fin.	-3684.85	-11478	-0.0064776	0.0003369	0.0035	0.79		2012.57	2012.57		0.55	No
SLD 4	ini.	111.84	-3853	-0.0000722	0.0003369	0.0035	0.79		2007.27	2007.27		17.95	Si
SLD 4	fin.	-2907.79	-9251	-0.0046984	0.0003369	0.0035	0.79		2012.57	2012.57		0.69	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	674.31	-3541	0.79	0	3085	6264	9582	2015	9349		2.64	Si
SLV 7	fin.	-3353.06	-14375	0.79	0	3085	6264	9582	2015	9349		0.65	No
SLD 4	ini.	111.84	-972	0.79	0	3085	6264	9582	2015	9349		9.62	Si
SLD 4	fin.	-2907.79	-12404	0.79	0	3085	6264	9582	2015	9349		0.75	No
SLV 4	ini.	253.64	-2738	0.79	0	3085	6264	9582	2015	9349		3.41	Si
SLV 4	fin.	-3682.49	-14711	0.79	0	3085	6264	9582	2015	9349		0.64	No
SLV 1	ini.	-210.38	81	0.79	0	3085	6264	9582	2015	9349		115.89	Si
SLV 1	fin.	-2920.57	-12030	0.79	0	3085	6264	9582	2015	9349		0.78	No
SLD 7	ini.	370.53	-1419	0.79	0	3085	6264	9582	2015	9349		6.59	Si
SLD 7	fin.	-2678.42	-12124	0.79	0	3085	6264	9582	2015	9349		0.77	No
SLV 3	ini.	244.15	-2689	0.79	0	3085	6264	9582	2015	9349		3.48	Si
SLV 3	fin.	-3684.85	-14723	0.79	0	3085	6264	9582	2015	9349		0.64	No
SLV 8	ini.	680.7	-3574	0.79	0	3085	6264	9582	2015	9349		2.62	Si
SLV 8	fin.	-3351.47	-14367	0.79	0	3085	6264	9582	2015	9349		0.65	No
SLD 8	ini.	374.53	-1440	0.79	0	3085	6264	9582	2015	9349		6.49	Si
SLD 8	fin.	-2677.43	-12119	0.79	0	3085	6264	9582	2015	9349		0.77	No
SLD 3	ini.	105.79	-940	0.79	0	3085	6264	9582	2015	9349		9.94	Si
SLD 3	fin.	-2909.29	-12411	0.79	0	3085	6264	9582	2015	9349		0.75	No
SLV 2	ini.	-200.89	31	0.79	0	3085	6264	9582	2015	9349		300.8	Si
SLV 2	fin.	-2918.21	-12019	0.79	0	3085	6264	9582	2015	9349		0.78	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.546	SLV 3	No
V_SLV	0.635	SLV 3	No
PF_SLU	0.733	SLU 83	No
V_SLU	0.339	SLU 83	No



Trave di accoppiamento 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.613	1.046	0.86	1.59	0.73	-13.583	1.046	0.86	1.59	0.73	0.97	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ0	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	253.47	-1024	-0.0002027	0.0002246	0.0035	0.73		1527.55	1527.55	No	6.03	Si
SLU 74	fin.	40.06	-2246	-0.0000301	0.0002246	0.0035	0.73		1527.55	1527.55	No	38.13	Si
SLU 84	ini.	265.15	-1046	-0.0002129	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.76	Si
SLU 84	fin.	42.42	-2326	-0.0000319	0.0002246	0.0035	0.73		1527.55	1527.55	No	36.01	Si
SLU 79	ini.	255.25	-1031	-0.0002042	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.98	Si
SLU 79	fin.	40.33	-2258	-0.0000303	0.0002246	0.0035	0.73		1527.55	1527.55	No	37.87	Si
SLU 80	ini.	256.25	-1025	-0.0002051	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.96	Si
SLU 80	fin.	39.47	-2264	-0.0000296	0.0002246	0.0035	0.73		1527.55	1527.55	No	38.7	Si
SLU 83	ini.	264.15	-1051	-0.000212	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.78	Si
SLU 83	fin.	43.29	-2320	-0.0000325	0.0002246	0.0035	0.73		1527.55	1527.55	No	35.29	Si
SLU 82	ini.	261.26	-1033	-0.0002095	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.85	Si
SLU 82	fin.	41.65	-2301	-0.0000313	0.0002246	0.0035	0.73		1527.55	1527.55	No	36.67	Si
SLU 78	ini.	258.36	-1031	-0.0002069	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.91	Si
SLU 78	fin.	39.96	-2278	-0.00003	0.0002246	0.0035	0.73		1527.55	1527.55	No	38.23	Si
SLU 81	ini.	260.26	-1039	-0.0002086	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.87	Si
SLU 81	fin.	42.52	-2294	-0.000032	0.0002246	0.0035	0.73		1527.55	1527.55	No	35.93	Si
SLU 75	ini.	254.47	-1019	-0.0002036	0.0002246	0.0035	0.73		1527.55	1527.55	No	6	Si
SLU 75	fin.	39.19	-2252	-0.0000294	0.0002246	0.0035	0.73		1527.55	1527.55	No	38.97	Si
SLU 77	ini.	257.37	-1037	-0.0002061	0.0002246	0.0035	0.73		1527.55	1527.55	No	5.94	Si
SLU 77	fin.	40.83	-2271	-0.0000307	0.0002246	0.0035	0.73		1527.55	1527.55	No	37.42	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 81	ini.	260.26	6798	0.73	0	2175	5789	5903	1862	3262	Si	0.48	No
SLU 81	fin.	42.52	-5609	0.73	0	2175	5789	5903	1862	3262	Si	0.58	No
SLU 84	ini.	265.15	6884	0.73	0	2175	5789	5903	1862	3262	Si	0.47	No
SLU 84	fin.	42.42	-5692	0.73	0	2175	5789	5903	1862	3262	Si	0.57	No
SLU 78	ini.	258.36	6714	0.73	0	2175	5789	5903	1862	3262	Si	0.49	No
SLU 78	fin.	39.96	-5553	0.73	0	2175	5789	5903	1862	3262	Si	0.59	No
SLU 82	ini.	261.26	6795	0.73	0	2175	5789	5903	1862	3262	Si	0.48	No
SLU 82	fin.	41.65	-5623	0.73	0	2175	5789	5903	1862	3262	Si	0.58	No
SLU 83	ini.	264.15	6887	0.73	0	2175	5789	5903	1862	3262	Si	0.47	No
SLU 83	fin.	43.29	-5679	0.73	0	2175	5789	5903	1862	3262	Si	0.57	No
SLU 80	ini.	256.25	6666	0.73	0	2175	5789	5903	1862	3262	Si	0.49	No
SLU 80	fin.	39.47	-5515	0.73	0	2175	5789	5903	1862	3262	Si	0.59	No
SLU 79	ini.	255.25	6669	0.73	0	2175	5789	5903	1862	3262	Si	0.49	No
SLU 79	fin.	40.33	-5502	0.73	0	2175	5789	5903	1862	3262	Si	0.59	No
SLU 74	ini.	253.47	6628	0.73	0	2175	5789	5903	1862	3262	Si	0.49	No
SLU 74	fin.	40.06	-5470	0.73	0	2175	5789	5903	1862	3262	Si	0.6	No
SLU 75	ini.	254.47	6625	0.73	0	2175	5789	5903	1862	3262	Si	0.49	No
SLU 75	fin.	39.19	-5483	0.73	0	2175	5789	5903	1862	3262	Si	0.59	No
SLU 77	ini.	257.37	6717	0.73	0	2175	5789	5903	1862	3262	Si	0.49	No
SLU 77	fin.	40.83	-5539	0.73	0	2175	5789	5903	1862	3262	Si	0.59	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	398.42	501	-0.0003236	0.0003369	0.0035	0.73		1750.71	1750.71		4.39	Si
SLD 14	fin.	247.08	-234	-0.0001933	0.0003369	0.0035	0.73		1750.71	1750.71		7.09	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	500.88	1001	-0.0004191	0.0003369	0.0035	0.73		1750.71	1750.71		3.5	Si
SLV 15	fin.	394.55	652	-0.0003201	0.0003369	0.0035	0.73		1750.71	1750.71		4.44	Si
SLV 16	ini.	497.39	974	-0.0004157	0.0003369	0.0035	0.73		1750.71	1750.71		3.52	Si
SLV 16	fin.	395.25	660	-0.0003208	0.0003369	0.0035	0.73		1750.71	1750.71		4.43	Si
SLV 2	ini.	-163.86	-2421	-0.0001255	0.0003369	0.0035	0.73		1755.63	1755.63		10.71	Si
SLV 2	fin.	-344.99	-3725	-0.0002756	0.0003369	0.0035	0.73		1755.63	1755.63		5.09	Si
SLD 13	ini.	400.65	518	-0.0003256	0.0003369	0.0035	0.73		1750.71	1750.71		4.37	Si
SLD 13	fin.	246.63	-239	-0.0001929	0.0003369	0.0035	0.73		1750.71	1750.71		7.1	Si
SLV 14	ini.	527.67	1183	-0.0004451	0.0003369	0.0035	0.73		1750.71	1750.71		3.32	Si
SLV 14	fin.	372.27	491	-0.0003003	0.0003369	0.0035	0.73		1750.71	1750.71		4.7	Si
SLV 1	ini.	-160.36	-2394	-0.0001228	0.0003369	0.0035	0.73		1755.63	1755.63		10.95	Si
SLV 1	fin.	-345.68	-3732	-0.0002762	0.0003369	0.0035	0.73		1755.63	1755.63		5.08	Si
SLD 15	ini.	381.85	389	-0.0003088	0.0003369	0.0035	0.73		1750.71	1750.71		4.58	Si
SLD 15	fin.	260.96	-135	-0.0002048	0.0003369	0.0035	0.73		1750.71	1750.71		6.71	Si
SLV 13	ini.	531.17	1210	-0.0004485	0.0003369	0.0035	0.73		1750.71	1750.71		3.3	Si
SLV 13	fin.	371.57	483	-0.0002997	0.0003369	0.0035	0.73		1750.71	1750.71		4.71	Si
SLD 16	ini.	379.62	372	-0.0003068	0.0003369	0.0035	0.73		1750.71	1750.71		4.61	Si
SLD 16	fin.	261.4	-130	-0.0002051	0.0003369	0.0035	0.73		1750.71	1750.71		6.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	497.39	7776	0.73	0	2328	5789	8854	1862	8116		1.04	Si
SLV 16	fin.	395.25	-3629	0.73	0	2328	5789	8854	1862	8116		2.24	Si
SLV 14	ini.	527.67	7613	0.73	0	2328	5789	8854	1862	8116		1.07	Si
SLV 14	fin.	372.27	-4074	0.73	0	2328	5789	8854	1862	8116		1.99	Si
SLD 16	ini.	379.62	6585	0.73	0	2328	5789	8854	1862	8116		1.23	Si
SLD 16	fin.	261.4	-3668	0.73	0	2328	5789	8854	1862	8116		2.21	Si
SLV 12	ini.	220.59	5702	0.73	0	2328	5789	8854	1862	8116		1.42	Si
SLV 12	fin.	170.91	-2991	0.73	0	2328	5789	8854	1862	8116		2.71	Si
SLV 15	ini.	500.88	7792	0.73	0	2328	5789	8854	1862	8116		1.04	Si
SLV 15	fin.	394.55	-3685	0.73	0	2328	5789	8854	1862	8116		2.2	Si
SLD 15	ini.	381.85	6595	0.73	0	2328	5789	8854	1862	8116		1.23	Si
SLD 15	fin.	260.96	-3704	0.73	0	2328	5789	8854	1862	8116		2.19	Si
SLD 14	ini.	398.42	6485	0.73	0	2328	5789	8854	1862	8116		1.25	Si
SLD 14	fin.	247.08	-3941	0.73	0	2328	5789	8854	1862	8116		2.06	Si
SLV 11	ini.	222.94	5713	0.73	0	2328	5789	8854	1862	8116		1.42	Si
SLV 11	fin.	170.43	-3029	0.73	0	2328	5789	8854	1862	8116		2.68	Si
SLD 13	ini.	400.65	6495	0.73	0	2328	5789	8854	1862	8116		1.25	Si
SLD 13	fin.	246.63	-3977	0.73	0	2328	5789	8854	1862	8116		2.04	Si
SLV 13	ini.	531.17	7629	0.73	0	2328	5789	8854	1862	8116		1.06	Si
SLV 13	fin.	371.57	-4131	0.73	0	2328	5789	8854	1862	8116		1.96	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		3.296	SLV 13
V_SLV		1.042	SLV 15
PF_SLU		5.761	SLU 84
V_SLU		0.474	SLU 83

Trave di accoppiamento 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-11.238	1.046	0.86	1.59	0.73	-12.238	1.046	0.86	1.59	0.73	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-426.12	-4610	-0.000363	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.6	Si
SLU 84	fin.	444.57	-1809	-0.0003825	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.44	Si
SLU 76	ini.	-407.98	-4418	-0.0003451	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.76	Si
SLU 76	fin.	424.77	-1742	-0.0003626	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.6	Si
SLU 79	ini.	-402.95	-4442	-0.0003401	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.8	Si
SLU 79	fin.	425.36	-1759	-0.0003632	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.59	Si
SLU 77	ini.	-405.91	-4474	-0.000343	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.78	Si
SLU 77	fin.	428.84	-1771	-0.0003667	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.56	Si
SLU 78	ini.	-411.9	-4495	-0.0003489	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.72	Si
SLU 78	fin.	432.16	-1775	-0.00037	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.53	Si
SLU 81	ini.	-415.17	-4530	-0.0003521	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.69	Si
SLU 81	fin.	435.12	-1781	-0.000373	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.51	Si
SLU 83	ini.	-420.13	-4589	-0.000357	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.65	Si
SLU 83	fin.	441.25	-1805	-0.0003791	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.46	Si
SLU 82	ini.	-421.16	-4551	-0.0003581	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.64	Si
SLU 82	fin.	438.44	-1785	-0.0003763	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.48	Si
SLU 80	ini.	-408.95	-4463	-0.000346	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.75	Si
SLU 80	fin.	428.68	-1763	-0.0003665	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.56	Si
SLU 75	ini.	-406.94	-4436	-0.000344	0.0002246	0.0035	0.73		1532.95	1532.95	No	3.77	Si
SLU 75	fin.	426.04	-1752	-0.0003639	0.0002246	0.0035	0.73		1527.55	1527.55	No	3.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-415.17	1000	0.73	0	2109	5789	5903	1862	3164	Si	3.16	Si
SLU 81	fin.	435.12	4976	0.73	0	2109	5789	5903	1862	3164	Si	0.64	No
SLU 78	ini.	-411.9	957	0.73	0	2109	5789	5903	1862	3164	Si	3.31	Si
SLU 78	fin.	432.16	4958	0.73	0	2109	5789	5903	1862	3164	Si	0.64	No
SLU 79	ini.	-402.95	917	0.73	0	2109	5789	5903	1862	3164	Si	3.45	Si
SLU 79	fin.	425.36	4887	0.73	0	2109	5789	5903	1862	3164	Si	0.65	No
SLU 82	ini.	-421.16	1037	0.73	0	2109	5789	5903	1862	3164	Si	3.05	Si
SLU 82	fin.	438.44	5006	0.73	0	2109	5789	5903	1862	3164	Si	0.63	No
SLU 80	ini.	-408.95	954	0.73	0	2109	5789	5903	1862	3164	Si	3.32	Si
SLU 80	fin.	428.68	4917	0.73	0	2109	5789	5903	1862	3164	Si	0.64	No
SLU 76	ini.	-407.98	975	0.73	0	2109	5789	5903	1862	3164	Si	3.25	Si
SLU 76	fin.	424.77	4865	0.73	0	2109	5789	5903	1862	3164	Si	0.65	No
SLU 83	ini.	-420.13	1003	0.73	0	2109	5789	5903	1862	3164	Si	3.15	Si
SLU 83	fin.	441.25	5049	0.73	0	2109	5789	5903	1862	3164	Si	0.63	No
SLU 84	ini.	-426.12	1040	0.73	0	2109	5789	5903	1862	3164	Si	3.04	Si
SLU 84	fin.	444.57	5079	0.73	0	2109	5789	5903	1862	3164	Si	0.62	No
SLU 75	ini.	-406.94	954	0.73	0	2109	5789	5903	1862	3164	Si	3.32	Si
SLU 75	fin.	426.04	4885	0.73	0	2109	5789	5903	1862	3164	Si	0.65	No
SLU 77	ini.	-405.91	920	0.73	0	2109	5789	5903	1862	3164	Si	3.44	Si
SLU 77	fin.	428.84	4928	0.73	0	2109	5789	5903	1862	3164	Si	0.64	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-1084.29	-6598	-0.0010914	0.0003369	0.0035	0.73		1755.63	1755.63		1.62	Si
SLD 14	fin.	863.11	-1657	-0.0008105	0.0003369	0.0035	0.73		1750.71	1750.71		2.03	Si
SLV 16	ini.	-1350.65	-7981	-0.0014951	0.0003369	0.0035	0.73		1755.63	1755.63		1.3	Si
SLV 16	fin.	1085.38	-1793	-0.0010962	0.0003369	0.0035	0.73		1750.71	1750.71		1.61	Si
SLV 14	ini.	-1547.38	-8646	-0.0018662	0.0003369	0.0035	0.73		1755.63	1755.63		1.13	Si
SLV 14	fin.	1192.18	-1917	-0.001249	0.0003369	0.0035	0.73		1750.71	1750.71		1.47	Si
SLV 4	ini.	1026.23	2738	-0.0010163	0.0003369	0.0035	0.73		1750.71	1750.71		1.71	Si
SLV 4	fin.	-640.7	-478	-0.0005586	0.0003369	0.0035	0.73		1755.63	1755.63		2.74	Si
SLV 13	ini.	-1554.76	-8664	-0.001882	0.0003369	0.0035	0.73		1755.63	1755.63		1.13	Si
SLV 13	fin.	1200.97	-1898	-0.0012621	0.0003369	0.0035	0.73		1750.71	1750.71		1.46	Si
SLV 15	ini.	-1358.02	-7999	-0.0015077	0.0003369	0.0035	0.73		1755.63	1755.63		1.29	Si
SLV 15	fin.	1094.17	-1773	-0.0011084	0.0003369	0.0035	0.73		1750.71	1750.71		1.6	Si
SLD 16	ini.	-962.59	-6186	-0.0009308	0.0003369	0.0035	0.73		1755.63	1755.63		1.82	Si
SLD 16	fin.	796.98	-1580	-0.0007326	0.0003369	0.0035	0.73		1750.71	1750.71		2.2	Si
SLD 15	ini.	-967.29	-6197	-0.0009368	0.0003369	0.0035	0.73		1755.63	1755.63		1.81	Si
SLD 15	fin.	802.59	-1568	-0.0007391	0.0003369	0.0035	0.73		1750.71	1750.71		2.18	Si
SLV 3	ini.	1018.85	2720	-0.0010065	0.0003369	0.0035	0.73		1750.71	1750.71		1.72	Si
SLV 3	fin.	-631.91	-458	-0.0005494	0.0003369	0.0035	0.73		1755.63	1755.63		2.78	Si
SLD 13	ini.	-1089	-6610	-0.0010979	0.0003369	0.0035	0.73		1755.63	1755.63		1.61	Si
SLD 13	fin.	868.72	-1645	-0.0008173	0.0003369	0.0035	0.73		1750.71	1750.71		2.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1358.02	6689	0.73	0	2258	5789	8854	1862	8047		1.2	Si
SLV 15	fin.	1094.17	10824	0.73	0	2258	5789	8854	1862	8047		0.74	No
SLV 13	ini.	-1554.76	7926	0.73	0	2258	5789	8854	1862	8047		1.02	Si
SLV 13	fin.	1200.97	11788	0.73	0	2258	5789	8854	1862	8047		0.68	No
SLV 9	ini.	-951.17	4659	0.73	0	2258	5789	8854	1862	8047		1.73	Si
SLV 9	fin.	720.02	7277	0.73	0	2258	5789	8854	1862	8047		1.11	Si
SLV 14	ini.	-1547.38	7863	0.73	0	2258	5789	8854	1862	8047		1.02	Si
SLV 14	fin.	1192.18	11720	0.73	0	2258	5789	8854	1862	8047		0.69	No
SLV 10	ini.	-946.2	4617	0.73	0	2258	5789	8854	1862	8047		1.74	Si
SLV 10	fin.	714.1	7231	0.73	0	2258	5789	8854	1862	8047		1.11	Si
SLD 13	ini.	-1089	5267	0.73	0	2258	5789	8854	1862	8047		1.53	Si
SLD 13	fin.	868.72	8708	0.73	0	2258	5789	8854	1862	8047		0.92	No
SLD 16	ini.	-962.59	4462	0.73	0	2258	5789	8854	1862	8047		1.8	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	fin.	796.98	8067	0.73	0	2258	5789	8854	1862	8047		1	No
SLD 15	ini.	-967.29	4502	0.73	0	2258	5789	8854	1862	8047		1.79	Si
SLD 15	fin.	802.59	8111	0.73	0	2258	5789	8854	1862	8047		0.99	No
SLV 16	ini.	-1350.65	6626	0.73	0	2258	5789	8854	1862	8047		1.21	Si
SLV 16	fin.	1085.38	10755	0.73	0	2258	5789	8854	1862	8047		0.75	No
SLD 14	ini.	-1084.29	5226	0.73	0	2258	5789	8854	1862	8047		1.54	Si
SLD 14	fin.	863.11	8664	0.73	0	2258	5789	8854	1862	8047		0.93	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.129	SLV 13	Si
V_SLV	0.683	SLV 13	No
PF_SLU	3.436	SLU 84	Si
V_SLU	0.623	SLU 84	No

Trave di accoppiamento 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.768	6.576	-1.3	0.7	2	-16.768	6.576	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	3508.37	-8577	-0.0004156	0.0001872	0.0035	2		10722.86	4848.93	Si	1.38	Si
SLU 78	fin.	151.66	-6796	-0.0000151	0.0001872	0.0035	2		10722.86	4848.93	Si	31.97	Si
SLU 74	ini.	3475.15	-8563	-0.0004109	0.0001872	0.0035	2		10722.86	4848.93	Si	1.4	Si
SLU 74	fin.	130.24	-6778	-0.0000129	0.0001872	0.0035	2		10722.86	4848.93	Si	37.23	Si
SLU 75	ini.	3457.5	-8443	-0.0004084	0.0001872	0.0035	2		10722.86	4848.93	Si	1.4	Si
SLU 75	fin.	148.15	-6695	-0.0000147	0.0001872	0.0035	2		10722.86	4848.93	Si	32.73	Si
SLU 84	ini.	3557.98	-8715	-0.0004226	0.0001872	0.0035	2		10722.86	4848.93	Si	1.36	Si
SLU 84	fin.	175.11	-6933	-0.0000174	0.0001872	0.0035	2		10722.86	4848.93	Si	27.69	Si
SLU 80	ini.	3483.63	-8511	-0.0004121	0.0001872	0.0035	2		10722.86	4848.93	Si	1.39	Si
SLU 80	fin.	145.32	-6739	-0.0000145	0.0001872	0.0035	2		10722.86	4848.93	Si	33.37	Si
SLU 81	ini.	3524.76	-8701	-0.0004179	0.0001872	0.0035	2		10722.86	4848.93	Si	1.38	Si
SLU 81	fin.	153.7	-6916	-0.0000153	0.0001872	0.0035	2		10722.86	4848.93	Si	31.55	Si
SLU 79	ini.	3501.28	-8631	-0.0004146	0.0001872	0.0035	2		10722.86	4848.93	Si	1.38	Si
SLU 79	fin.	127.42	-6823	-0.0000127	0.0001872	0.0035	2		10722.86	4848.93	Si	38.05	Si
SLU 82	ini.	3507.11	-8581	-0.0004154	0.0001872	0.0035	2		10722.86	4848.93	Si	1.38	Si
SLU 82	fin.	171.6	-6833	-0.0000171	0.0001872	0.0035	2		10722.86	4848.93	Si	28.26	Si
SLU 77	ini.	3526.02	-8697	-0.0004181	0.0001872	0.0035	2		10722.86	4848.93	Si	1.38	Si
SLU 77	fin.	133.76	-6879	-0.0000133	0.0001872	0.0035	2		10722.86	4848.93	Si	36.25	Si
SLU 83	ini.	3575.63	-8835	-0.0004251	0.0001872	0.0035	2		10722.86	4848.93	Si	1.36	Si
SLU 83	fin.	157.21	-7017	-0.0000156	0.0001872	0.0035	2		10722.86	4848.93	Si	30.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	3507.11	-8180	2	0	6250	7930	13475	5100	9375	Si	1.15	Si
SLU 82	fin.	171.6	-4135	2	0	6250	7930	13475	5100	9375	Si	2.27	Si
SLU 81	ini.	3524.76	-8298	2	0	6250	7930	13475	5100	9375	Si	1.13	Si
SLU 81	fin.	153.7	-4180	2	0	6250	7930	13475	5100	9375	Si	2.24	Si
SLU 84	ini.	3557.98	-8316	2	0	6250	7930	13475	5100	9375	Si	1.13	Si
SLU 84	fin.	175.11	-4185	2	0	6250	7930	13475	5100	9375	Si	2.24	Si
SLU 79	ini.	3501.28	-8277	2	0	6250	7930	13475	5100	9375	Si	1.13	Si
SLU 79	fin.	127.42	-4231	2	0	6250	7930	13475	5100	9375	Si	2.22	Si
SLU 83	ini.	3575.63	-8434	2	0	6250	7930	13475	5100	9375	Si	1.11	Si
SLU 83	fin.	157.21	-4230	2	0	6250	7930	13475	5100	9375	Si	2.22	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	3526.02	-8335	2	0	6250	7930	13475	5100	9375	Si	1.12	Si
SLU 77	fin.	133.76	-4243	2	0	6250	7930	13475	5100	9375	Si	2.21	Si
SLU 80	ini.	3483.63	-8158	2	0	6250	7930	13475	5100	9375	Si	1.15	Si
SLU 80	fin.	145.32	-4186	2	0	6250	7930	13475	5100	9375	Si	2.24	Si
SLU 75	ini.	3457.5	-8081	2	0	6250	7930	13475	5100	9375	Si	1.16	Si
SLU 75	fin.	148.15	-4148	2	0	6250	7930	13475	5100	9375	Si	2.26	Si
SLU 74	ini.	3475.15	-8199	2	0	6250	7930	13475	5100	9375	Si	1.14	Si
SLU 74	fin.	130.24	-4193	2	0	6250	7930	13475	5100	9375	Si	2.24	Si
SLU 78	ini.	3508.37	-8216	2	0	6250	7930	13475	5100	9375	Si	1.14	Si
SLU 78	fin.	151.66	-4198	2	0	6250	7930	13475	5100	9375	Si	2.23	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	3658	-8295	-0.0004137	0.0002807	0.0035	2		15635.95	15635.95		4.27	Si
SLD 16	fin.	-1677.97	-3008	-0.0001747	0.0002807	0.0035	2		15648.46	15648.46		9.33	Si
SLV 14	ini.	3676.39	-5447	-0.0004161	0.0002807	0.0035	2		15635.95	15635.95		4.25	Si
SLV 14	fin.	-1980.18	588	-0.0002084	0.0002807	0.0035	2		15648.46	15648.46		7.9	Si
SLV 15	ini.	4172.29	-9140	-0.0004832	0.0002807	0.0035	2		15635.95	15635.95		3.75	Si
SLV 15	fin.	-2235.95	-2541	-0.0002376	0.0002807	0.0035	2		15648.46	15648.46		7	Si
SLV 11	ini.	3958.84	-13250	-0.000454	0.0002807	0.0035	2		15635.95	15635.95		3.95	Si
SLV 11	fin.	-1588.42	-8221	-0.0001649	0.0002807	0.0035	2		15648.46	15648.46		9.85	Si
SLD 15	ini.	3521.34	-7893	-0.0003957	0.0002807	0.0035	2		15635.95	15635.95		4.44	Si
SLD 15	fin.	-1410.88	-3238	-0.0001456	0.0002807	0.0035	2		15648.46	15648.46		11.09	Si
SLV 16	ini.	4386.41	-9769	-0.0005131	0.0002807	0.0035	2		15635.95	15635.95		3.56	Si
SLV 16	fin.	-2654.41	-2180	-0.0002868	0.0002807	0.0035	2		15648.46	15648.46		5.9	Si
SLD 12	ini.	3460.31	-10694	-0.0003878	0.0002807	0.0035	2		15635.95	15635.95		4.52	Si
SLD 12	fin.	-1158.52	-6656	-0.0001185	0.0002807	0.0035	2		15648.46	15648.46		13.51	Si
SLV 13	ini.	3462.27	-4817	-0.000388	0.0002807	0.0035	2		15635.95	15635.95		4.52	Si
SLV 13	fin.	-1561.73	227	-0.000162	0.0002807	0.0035	2		15648.46	15648.46		10.02	Si
SLV 12	ini.	4103	-13673	-0.0004737	0.0002807	0.0035	2		15635.95	15635.95		3.81	Si
SLV 12	fin.	-1870.15	-7978	-0.0001961	0.0002807	0.0035	2		15648.46	15648.46		8.37	Si
SLD 11	ini.	3370.06	-10428	-0.0003761	0.0002807	0.0035	2		15635.95	15635.95		4.64	Si
SLD 11	fin.	-982.16	-6809	-0.0000999	0.0002807	0.0035	2		15648.46	15648.46		15.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	4386.41	-16665	2	0	6643	7930	20213	5100	14573		0.87	No
SLV 16	fin.	-2654.41	-13755	2	0	6643	7930	20213	5100	14573		1.06	Si
SLD 16	ini.	3658	-12629	2	0	6643	7930	20213	5100	14573		1.15	Si
SLD 16	fin.	-1677.97	-9880	2	0	6643	7930	20213	5100	14573		1.48	Si
SLV 14	ini.	3676.39	-12255	2	0	6643	7930	20213	5100	14573		1.19	Si
SLV 14	fin.	-1980.18	-11812	2	0	6643	7930	20213	5100	14573		1.23	Si
SLD 12	ini.	3460.31	-12045	2	0	6643	7930	20213	5100	14573		1.21	Si
SLD 12	fin.	-1158.52	-7117	2	0	6643	7930	20213	5100	14573		2.05	Si
SLV 8	ini.	3180.04	-11112	2	0	6643	7930	20213	5100	14573		1.31	Si
SLV 8	fin.	-582.3	-4154	2	0	6643	7930	20213	5100	14573		3.51	Si
SLD 11	ini.	3370.06	-11350	2	0	6643	7930	20213	5100	14573		1.28	Si
SLD 11	fin.	-982.16	-6461	2	0	6643	7930	20213	5100	14573		2.26	Si
SLD 15	ini.	3521.34	-11575	2	0	6643	7930	20213	5100	14573		1.26	Si
SLD 15	fin.	-1410.88	-8887	2	0	6643	7930	20213	5100	14573		1.64	Si
SLV 12	ini.	4103	-15925	2	0	6643	7930	20213	5100	14573		0.92	No
SLV 12	fin.	-1870.15	-9514	2	0	6643	7930	20213	5100	14573		1.53	Si
SLV 11	ini.	3958.84	-14814	2	0	6643	7930	20213	5100	14573		0.98	No
SLV 11	fin.	-1588.42	-8467	2	0	6643	7930	20213	5100	14573		1.72	Si
SLV 15	ini.	4172.29	-15014	2	0	6643	7930	20213	5100	14573		0.97	No
SLV 15	fin.	-2235.95	-12199	2	0	6643	7930	20213	5100	14573		1.19	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.565	SLV 16	Si
V_SLV	0.874	SLV 16	No
PF_SLU	1.356	SLU 83	Si
V_SLU	1.112	SLU 83	Si

Trave di accoppiamento 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.768	6.576	1.1	1.59	0.49	-16.768	6.576	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhhmedio	τ0	fv0	μ	φ	fvk,l/m	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	128.95	487	-0.0002356	0.0001872	0.0035	0.49		668.05	668.05	No	5.18	Si
SLU 74	fin.	-677.99	-2770	-0.0019986	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 81	ini.	128.03	480	-0.0002337	0.0001872	0.0035	0.49		668.05	668.05	No	5.22	Si
SLU 81	fin.	-685.92	-2805	-0.0020418	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No
SLU 83	ini.	129.97	486	-0.0002377	0.0001872	0.0035	0.49		668.05	668.05	No	5.14	Si
SLU 83	fin.	-695.93	-2847	-0.0020979	0.0001872	0.0035	0.49		671.54	671.54	No	0.96	No
SLU 79	ini.	130.73	494	-0.0002392	0.0001872	0.0035	0.49		668.05	668.05	No	5.11	Si
SLU 79	fin.	-683.51	-2793	-0.0020286	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No
SLU 75	ini.	125.51	474	-0.0002285	0.0001872	0.0035	0.49		668.05	668.05	No	5.32	Si
SLU 75	fin.	-670.82	-2739	-0.0019605	0.0001872	0.0035	0.49		671.54	671.54	No	1	Si
SLU 82	ini.	124.59	467	-0.0002266	0.0001872	0.0035	0.49		668.05	668.05	No	5.36	Si
SLU 82	fin.	-678.74	-2774	-0.0020026	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 80	ini.	127.29	481	-0.0002321	0.0001872	0.0035	0.49		668.05	668.05	No	5.25	Si
SLU 80	fin.	-676.34	-2763	-0.0019897	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 84	ini.	126.53	473	-0.0002306	0.0001872	0.0035	0.49		668.05	668.05	No	5.28	Si
SLU 84	fin.	-688.76	-2817	-0.0020575	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No
SLU 77	ini.	130.89	493	-0.0002396	0.0001872	0.0035	0.49		668.05	668.05	No	5.1	Si
SLU 77	fin.	-688.01	-2812	-0.0020533	0.0001872	0.0035	0.49		671.54	671.54	No	0.98	No
SLU 78	ini.	127.45	480	-0.0002325	0.0001872	0.0035	0.49		668.05	668.05	No	5.24	Si
SLU 78	fin.	-680.83	-2782	-0.0020139	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	130.89	-291	0.49	0	1180	3886	3301	1250	1770	Si	6.09	Si
SLU 77	fin.	-688.01	-3080	0.49	0	1180	3886	3301	1250	1770	Si	0.57	No
SLU 84	ini.	126.53	-273	0.49	0	1180	3886	3301	1250	1770	Si	6.48	Si
SLU 84	fin.	-688.76	-3084	0.49	0	1180	3886	3301	1250	1770	Si	0.57	No
SLU 75	ini.	125.51	-272	0.49	0	1180	3886	3301	1250	1770	Si	6.51	Si
SLU 75	fin.	-670.82	-3007	0.49	0	1180	3886	3301	1250	1770	Si	0.59	No
SLU 78	ini.	127.45	-278	0.49	0	1180	3886	3301	1250	1770	Si	6.37	Si
SLU 78	fin.	-680.83	-3050	0.49	0	1180	3886	3301	1250	1770	Si	0.58	No
SLU 74	ini.	128.95	-285	0.49	0	1180	3886	3301	1250	1770	Si	6.21	Si
SLU 74	fin.	-677.99	-3037	0.49	0	1180	3886	3301	1250	1770	Si	0.58	No
SLU 82	ini.	124.59	-267	0.49	0	1180	3886	3301	1250	1770	Si	6.62	Si
SLU 82	fin.	-678.74	-3041	0.49	0	1180	3886	3301	1250	1770	Si	0.58	No
SLU 80	ini.	127.29	-278	0.49	0	1180	3886	3301	1250	1770	Si	6.36	Si
SLU 80	fin.	-676.34	-3030	0.49	0	1180	3886	3301	1250	1770	Si	0.58	No
SLU 81	ini.	128.03	-280	0.49	0	1180	3886	3301	1250	1770	Si	6.32	Si
SLU 81	fin.	-685.92	-3071	0.49	0	1180	3886	3301	1250	1770	Si	0.58	No
SLU 83	ini.	129.97	-286	0.49	0	1180	3886	3301	1250	1770	Si	6.19	Si
SLU 83	fin.	-695.93	-3115	0.49	0	1180	3886	3301	1250	1770	Si	0.57	No
SLU 79	ini.	130.73	-291	0.49	0	1180	3886	3301	1250	1770	Si	6.08	Si
SLU 79	fin.	-683.51	-3060	0.49	0	1180	3886	3301	1250	1770	Si	0.58	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	557.78	2222	-0.0013639	0.0002807	0.0035	0.49		944.29	944.29		1.69	Si
SLV 13	fin.	-817.15	-3239	-0.0026653	0.0002807	0.0035	0.49		947.39	947.39		1.16	Si
SLV 15	ini.	682.86	2813	-0.0018797	0.0002807	0.0035	0.49		944.29	944.29		1.38	Si
SLV 15	fin.	-1082.05	-4424	-0.0046317	0.0002807	0.0035	0.49		947.39	947.39		0.88	No
SLV 16	ini.	785.49	3232	-0.0024645	0.0002807	0.0035	0.49		944.29	944.29		1.2	Si
SLV 16	fin.	-1182.38	-4831	-0.0052677	0.0002807	0.0035	0.49		947.39	947.39		0.8	No
SLD 16	ini.	535.55	2196	-0.0012861	0.0002807	0.0035	0.49		944.29	944.29		1.76	Si
SLD 16	fin.	-922.19	-3765	-0.0035027	0.0002807	0.0035	0.49		947.39	947.39		1.03	Si
SLD 15	ini.	470.04	1929	-0.0010728	0.0002807	0.0035	0.49		944.29	944.29		2.01	Si
SLD 15	fin.	-858.15	-3505	-0.0029805	0.0002807	0.0035	0.49		947.39	947.39		1.1	Si
SLV 12	ini.	510.7	2202	-0.0012026	0.0002807	0.0035	0.49		944.29	944.29		1.85	Si
SLV 12	fin.	-1103.31	-4656	-0.0047695	0.0002807	0.0035	0.49		947.39	947.39		0.86	No
SLV 11	ini.	441.61	1919	-0.0009866	0.0002807	0.0035	0.49		944.29	944.29		2.14	Si
SLV 11	fin.	-1035.76	-4382	-0.004324	0.0002807	0.0035	0.49		947.39	947.39		0.91	No
SLV 14	ini.	660.4	2641	-0.0017743	0.0002807	0.0035	0.49		944.29	944.29		1.43	Si
SLV 14	fin.	-917.48	-3646	-0.0034656	0.0002807	0.0035	0.49		947.39	947.39		1.03	Si
SLD 12	ini.	356.16	1524	-0.0007467	0.0002807	0.0035	0.49		944.29	944.29		2.65	Si
SLD 12	fin.	-864.02	-3623	-0.0030286	0.0002807	0.0035	0.49		947.39	947.39		1.1	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	312.91	1347	-0.000635	0.0002807	0.0035	0.49		944.29	944.29		3.02	Si
SLD 11	fin.	-821.73	-3452	-0.0026987	0.0002807	0.0035	0.49		947.39	947.39		1.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	660.4	-2454	0.49	0	1358	3886	4952	1250	5244		2.14	Si
SLV 14	fin.	-917.48	-3887	0.49	0	1358	3886	4952	1250	5244		1.35	Si
SLV 16	ini.	785.49	-3083	0.49	0	1358	3886	4952	1250	5244		1.7	Si
SLV 16	fin.	-1182.38	-5039	0.49	0	1358	3886	4952	1250	5244		1.04	Si
SLD 11	ini.	312.91	-1235	0.49	0	1358	3886	4952	1250	5244		4.25	Si
SLD 11	fin.	-821.73	-3619	0.49	0	1358	3886	4952	1250	5244		1.45	Si
SLD 16	ini.	535.55	-2046	0.49	0	1358	3886	4952	1250	5244		2.56	Si
SLD 16	fin.	-922.19	-3969	0.49	0	1358	3886	4952	1250	5244		1.32	Si
SLV 15	ini.	682.86	-2671	0.49	0	1358	3886	4952	1250	5244		1.96	Si
SLV 15	fin.	-1082.05	-4634	0.49	0	1358	3886	4952	1250	5244		1.13	Si
SLV 12	ini.	510.7	-2104	0.49	0	1358	3886	4952	1250	5244		2.49	Si
SLV 12	fin.	-1103.31	-4809	0.49	0	1358	3886	4952	1250	5244		1.09	Si
SLD 12	ini.	356.16	-1409	0.49	0	1358	3886	4952	1250	5244		3.72	Si
SLD 12	fin.	-864.02	-3789	0.49	0	1358	3886	4952	1250	5244		1.38	Si
SLV 11	ini.	441.61	-1827	0.49	0	1358	3886	4952	1250	5244		2.87	Si
SLV 11	fin.	-1035.76	-4536	0.49	0	1358	3886	4952	1250	5244		1.16	Si
SLD 15	ini.	470.04	-1783	0.49	0	1358	3886	4952	1250	5244		2.94	Si
SLD 15	fin.	-858.15	-3711	0.49	0	1358	3886	4952	1250	5244		1.41	Si
SLV 8	ini.	164.46	-693	0.49	0	1358	3886	4952	1250	5244		7.57	Si
SLV 8	fin.	-784.68	-3517	0.49	0	1358	3886	4952	1250	5244		1.49	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.801	SLV 16	No
V_SLV	1.041	SLV 16	Si
PF_SLU	0.965	SLU 83	No
V_SLU	0.568	SLU 83	No

Trave di accoppiamento 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.058	1.271	0.7	1.59	0.89	-15.058	2.071	0.7	1.59	0.89	0.8	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1025.4	-2787	-0.0006506	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.79	Si
SLU 79	fin.	-2514.73	-8684	-0.002422	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.73	No
SLU 80	ini.	991.49	-2689	-0.000624	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.85	Si
SLU 80	fin.	-2444.96	-8456	-0.0022862	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.75	No
SLU 82	ini.	992.03	-2681	-0.0006244	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.85	Si
SLU 82	fin.	-2476.14	-8552	-0.0023458	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.74	No
SLU 78	ini.	1001.35	-2717	-0.0006317	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.83	Si
SLU 78	fin.	-2465.12	-8528	-0.0023246	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.74	No
SLU 77	ini.	1035.26	-2815	-0.0006584	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.77	Si
SLU 77	fin.	-2534.89	-8755	-0.0024629	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.72	No
SLU 84	ini.	1012.29	-2739	-0.0006403	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.81	Si
SLU 84	fin.	-2518.23	-8698	-0.0024291	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.73	No
SLU 81	ini.	1025.94	-2779	-0.000651	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.79	Si
SLU 81	fin.	-2545.92	-8779	-0.0024857	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.72	No
SLU 74	ini.	1015	-2757	-0.0006424	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.81	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-2492.81	-8609	-0.0023784	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.74	No
SLU 83	ini.	1046.2	-2836	-0.0006672	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.75	Si
SLU 83	fin.	-2588	-8926	-0.0025746	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.71	No
SLU 75	ini.	981.09	-2660	-0.0006159	0.0002246	0.0035	0.89		2961.25	1834.97	Si	1.87	Si
SLU 75	fin.	-2423.03	-8381	-0.0022454	0.0002246	0.0035	0.89		2966.77	1834.97	Si	0.76	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	1015	-4678	0.89	0	2225	6344	4798	2270	3338	Si	0.71	No
SLU 74	fin.	-2492.81	-8978	0.89	0	2225	6344	4798	2270	3338	Si	0.37	No
SLU 75	ini.	981.09	-4533	0.89	0	2225	6344	4798	2270	3338	Si	0.74	No
SLU 75	fin.	-2423.03	-8765	0.89	0	2225	6344	4798	2270	3338	Si	0.38	No
SLU 83	ini.	1046.2	-4829	0.89	0	2225	6344	4798	2270	3338	Si	0.69	No
SLU 83	fin.	-2588	-9346	0.89	0	2225	6344	4798	2270	3338	Si	0.36	No
SLU 82	ini.	992.03	-4593	0.89	0	2225	6344	4798	2270	3338	Si	0.73	No
SLU 82	fin.	-2476.14	-8998	0.89	0	2225	6344	4798	2270	3338	Si	0.37	No
SLU 84	ini.	1012.29	-4684	0.89	0	2225	6344	4798	2270	3338	Si	0.71	No
SLU 84	fin.	-2518.23	-9133	0.89	0	2225	6344	4798	2270	3338	Si	0.37	No
SLU 77	ini.	1035.26	-4769	0.89	0	2225	6344	4798	2270	3338	Si	0.7	No
SLU 77	fin.	-2534.89	-9112	0.89	0	2225	6344	4798	2270	3338	Si	0.37	No
SLU 78	ini.	1001.35	-4624	0.89	0	2225	6344	4798	2270	3338	Si	0.72	No
SLU 78	fin.	-2465.12	-8900	0.89	0	2225	6344	4798	2270	3338	Si	0.38	No
SLU 80	ini.	991.49	-4580	0.89	0	2225	6344	4798	2270	3338	Si	0.73	No
SLU 80	fin.	-2444.96	-8835	0.89	0	2225	6344	4798	2270	3338	Si	0.38	No
SLU 79	ini.	1025.4	-4725	0.89	0	2225	6344	4798	2270	3338	Si	0.71	No
SLU 79	fin.	-2514.73	-9048	0.89	0	2225	6344	4798	2270	3338	Si	0.37	No
SLU 81	ini.	1025.94	-4738	0.89	0	2225	6344	4798	2270	3338	Si	0.7	No
SLU 81	fin.	-2545.92	-9211	0.89	0	2225	6344	4798	2270	3338	Si	0.36	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	2551.06	-7559	-0.0022774	0.0003369	0.0035	0.89		2925.37	2925.37		1.15	Si
SLV 12	fin.	-5673.25	-18857	-0.0081686	0.0003369	0.0035	0.89		2931.13	2931.13		0.52	No
SLD 8	ini.	1728.65	-5045	-0.0012056	0.0003369	0.0035	0.89		2925.37	2925.37		1.69	Si
SLD 8	fin.	-3949.78	-13248	-0.0051923	0.0003369	0.0035	0.89		2931.13	2931.13		0.74	No
SLD 12	ini.	1839.41	-5395	-0.001317	0.0003369	0.0035	0.89		2925.37	2925.37		1.59	Si
SLD 12	fin.	-4150.03	-13880	-0.0055561	0.0003369	0.0035	0.89		2931.13	2931.13		0.71	No
SLV 15	ini.	1476.46	-4311	-0.0009727	0.0003369	0.0035	0.89		2925.37	2925.37		1.98	Si
SLV 15	fin.	-3289.05	-11016	-0.0038992	0.0003369	0.0035	0.89		2931.13	2931.13		0.89	No
SLV 16	ini.	1524.48	-4454	-0.0010151	0.0003369	0.0035	0.89		2925.37	2925.37		1.92	Si
SLV 16	fin.	-3377.9	-11304	-0.0040855	0.0003369	0.0035	0.89		2931.13	2931.13		0.87	No
SLV 11	ini.	2518.73	-7463	-0.00222	0.0003369	0.0035	0.89		2925.37	2925.37		1.16	Si
SLV 11	fin.	-5613.43	-18663	-0.0080697	0.0003369	0.0035	0.89		2931.13	2931.13		0.52	No
SLV 8	ini.	2378.26	-7012	-0.0019891	0.0003369	0.0035	0.89		2925.37	2925.37		1.23	Si
SLV 8	fin.	-5360.73	-17871	-0.0076494	0.0003369	0.0035	0.89		2931.13	2931.13		0.55	No
SLD 7	ini.	1708.41	-4985	-0.0011859	0.0003369	0.0035	0.89		2925.37	2925.37		1.71	Si
SLD 7	fin.	-3912.33	-13127	-0.0051232	0.0003369	0.0035	0.89		2931.13	2931.13		0.75	No
SLV 7	ini.	2345.93	-6916	-0.0019399	0.0003369	0.0035	0.89		2925.37	2925.37		1.25	Si
SLV 7	fin.	-5300.91	-17677	-0.0075493	0.0003369	0.0035	0.89		2931.13	2931.13		0.55	No
SLD 11	ini.	1819.17	-5335	-0.0012962	0.0003369	0.0035	0.89		2925.37	2925.37		1.61	Si
SLD 11	fin.	-4112.58	-13759	-0.0054887	0.0003369	0.0035	0.89		2931.13	2931.13		0.71	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1524.48	-6719	0.89	0	3337	6344	7196	2270	9466		1.41	Si
SLV 16	fin.	-3377.9	-11103	0.89	0	3337	6344	7196	2270	9466		0.85	No
SLD 8	ini.	1728.65	-7837	0.89	0	3337	6344	7196	2270	9466		1.21	Si
SLD 8	fin.	-3949.78	-12968	0.89	0	3337	6344	7196	2270	9466		0.73	No
SLD 12	ini.	1839.41	-8268	0.89	0	3337	6344	7196	2270	9466		1.14	Si
SLD 12	fin.	-4150.03	-13538	0.89	0	3337	6344	7196	2270	9466		0.7	No
SLV 12	ini.	2551.06	-11412	0.89	0	3337	6344	7196	2270	9466		0.83	No
SLV 12	fin.	-5673.25	-18165	0.89	0	3337	6344	7196	2270	9466		0.52	No
SLV 11	ini.	2518.73	-11283	0.89	0	3337	6344	7196	2270	9466		0.84	No
SLV 11	fin.	-5613.43	-17989	0.89	0	3337	6344	7196	2270	9466		0.53	No
SLV 8	ini.	2378.26	-10740	0.89	0	3337	6344	7196	2270	9466		0.88	No
SLV 8	fin.	-5360.73	-17276	0.89	0	3337	6344	7196	2270	9466		0.55	No
SLV 7	ini.	2345.93	-10611	0.89	0	3337	6344	7196	2270	9466		0.89	No
SLV 7	fin.	-5300.91	-17099	0.89	0	3337	6344	7196	2270	9466		0.55	No
SLD 7	ini.	1708.41	-7757	0.89	0	3337	6344	7196	2270	9466		1.22	Si
SLD 7	fin.	-3912.33	-12858	0.89	0	3337	6344	7196	2270	9466		0.74	No
SLV 15	ini.	1476.46	-6528	0.89	0	3337	6344	7196	2270	9466		1.45	Si
SLV 15	fin.	-3289.05	-10841	0.89	0	3337	6344	7196	2270	9466		0.87	No
SLD 11	ini.	1819.17	-8188	0.89	0	3337	6344	7196	2270	9466		1.16	Si
SLD 11	fin.	-4112.58	-13428	0.89	0	3337	6344	7196	2270	9466		0.7	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	0.517	SLV 12	No
V SLV	0.521	SLV 12	No
PF SLU	0.709	SLU 83	No
V SLU	0.357	SLU 83	No



Trave di accoppiamento 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	-1.3	0.7	2	-11.888	6.576	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	2562.3	-9648	-0.0002873	0.0001872	0.0035	2		10722.86	4848.93	Si	1.89	Si
SLU 80	fin.	8.85	-8862	-0.0000009	0.0001872	0.0035	2		10722.86	4848.93	Si	547.66	Si
SLU 79	ini.	2569.77	-9782	-0.0002883	0.0001872	0.0035	2		10722.86	4848.93	Si	1.89	Si
SLU 79	fin.	-11.61	-8980	-0.0000011	0.0001872	0.0035	2		10737.13	4848.93	Si	417.62	Si
SLU 75	ini.	2536.03	-9565	-0.0002839	0.0001872	0.0035	2		10722.86	4848.93	Si	1.91	Si
SLU 75	fin.	26.51	-8799	-0.0000026	0.0001872	0.0035	2		10722.86	4848.93	Si	182.88	Si
SLU 83	ini.	2629.9	-9963	-0.0002961	0.0001872	0.0035	2		10722.86	4848.93	Si	1.84	Si
SLU 83	fin.	26.2	-9163	-0.0000026	0.0001872	0.0035	2		10722.86	4848.93	Si	185.04	Si
SLU 82	ini.	2573.96	-9667	-0.0002888	0.0001872	0.0035	2		10722.86	4848.93	Si	1.88	Si
SLU 82	fin.	62.78	-8910	-0.0000062	0.0001872	0.0035	2		10722.86	4848.93	Si	77.24	Si
SLU 77	ini.	2591.97	-9861	-0.0002911	0.0001872	0.0035	2		10722.86	4848.93	Si	1.87	Si
SLU 77	fin.	-10.06	-9053	-0.0000001	0.0001872	0.0035	2		10737.13	4848.93	Si	481.95	Si
SLU 78	ini.	2584.5	-9728	-0.0002902	0.0001872	0.0035	2		10722.86	4848.93	Si	1.88	Si
SLU 78	fin.	10.4	-8935	-0.0000001	0.0001872	0.0035	2		10722.86	4848.93	Si	466.08	Si
SLU 74	ini.	2543.5	-9698	-0.0002849	0.0001872	0.0035	2		10722.86	4848.93	Si	1.91	Si
SLU 74	fin.	6.05	-8917	-0.0000006	0.0001872	0.0035	2		10722.86	4848.93	Si	801.53	Si
SLU 81	ini.	2581.43	-9800	-0.0002898	0.0001872	0.0035	2		10722.86	4848.93	Si	1.88	Si
SLU 81	fin.	42.31	-9027	-0.0000042	0.0001872	0.0035	2		10722.86	4848.93	Si	114.59	Si
SLU 84	ini.	2622.43	-9830	-0.0002951	0.0001872	0.0035	2		10722.86	4848.93	Si	1.85	Si
SLU 84	fin.	46.67	-9045	-0.0000046	0.0001872	0.0035	2		10722.86	4848.93	Si	103.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	2569.77	-4534	2	0	6250	7930	13475	5100	9375	Si	2.07	Si
SLU 79	fin.	-11.61	-2133	2	0	6250	7930	13475	5100	9375	Si	4.39	Si
SLU 80	ini.	2562.3	-4469	2	0	6250	7930	13475	5100	9375	Si	2.1	Si
SLU 80	fin.	8.85	-2113	2	0	6250	7930	13475	5100	9375	Si	4.44	Si
SLU 81	ini.	2581.43	-4493	2	0	6250	7930	13475	5100	9375	Si	2.09	Si
SLU 81	fin.	42.31	-2033	2	0	6250	7930	13475	5100	9375	Si	4.61	Si
SLU 77	ini.	2591.97	-4578	2	0	6250	7930	13475	5100	9375	Si	2.05	Si
SLU 77	fin.	-10.06	-2144	2	0	6250	7930	13475	5100	9375	Si	4.37	Si
SLU 75	ini.	2536.03	-4392	2	0	6250	7930	13475	5100	9375	Si	2.13	Si
SLU 75	fin.	26.51	-2062	2	0	6250	7930	13475	5100	9375	Si	4.55	Si
SLU 83	ini.	2629.9	-4615	2	0	6250	7930	13475	5100	9375	Si	2.03	Si
SLU 83	fin.	26.2	-2094	2	0	6250	7930	13475	5100	9375	Si	4.48	Si
SLU 78	ini.	2584.5	-4513	2	0	6250	7930	13475	5100	9375	Si	2.08	Si
SLU 78	fin.	10.4	-2123	2	0	6250	7930	13475	5100	9375	Si	4.42	Si
SLU 74	ini.	2543.5	-4457	2	0	6250	7930	13475	5100	9375	Si	2.1	Si
SLU 74	fin.	6.05	-2083	2	0	6250	7930	13475	5100	9375	Si	4.5	Si
SLU 82	ini.	2573.96	-4428	2	0	6250	7930	13475	5100	9375	Si	2.12	Si
SLU 82	fin.	62.78	-2012	2	0	6250	7930	13475	5100	9375	Si	4.66	Si
SLU 84	ini.	2622.43	-4550	2	0	6250	7930	13475	5100	9375	Si	2.06	Si
SLU 84	fin.	46.67	-2073	2	0	6250	7930	13475	5100	9375	Si	4.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	3742.66	-9408	-0.0004249	0.0002807	0.0035	2		15635.95	15635.95		4.18	Si
SLD 15	fin.	-2245.37	-6654	-0.0002387	0.0002807	0.0035	2		15648.46	15648.46		6.97	Si
SLD 14	ini.	3752.31	-6727	-0.0004262	0.0002807	0.0035	2		15635.95	15635.95		4.17	Si
SLD 14	fin.	-2056.96	-4002	-0.0002171	0.0002807	0.0035	2		15648.46	15648.46		7.61	Si
SLD 13	ini.	3498.17	-6491	-0.0003927	0.0002807	0.0035	2		15635.95	15635.95		4.47	Si
SLD 13	fin.	-1787.48	-4132	-0.0001868	0.0002807	0.0035	2		15648.46	15648.46		8.75	Si
SLV 14	ini.	4896.92	-6705	-0.0005865	0.0002807	0.0035	2		15635.95	15635.95		3.19	Si
SLV 14	fin.	-3193.33	-2748	-0.0003532	0.0002807	0.0035	2		15648.46	15648.46		4.9	Si
SLV 16	ini.	5291.88	-11421	-0.0006453	0.0002807	0.0035	2		15635.95	15635.95		2.95	Si
SLV 16	fin.	-3932.93	-6826	-0.00045	0.0002807	0.0035	2		15648.46	15648.46		3.98	Si
SLV 13	ini.	4498.76	-6336	-0.000529	0.0002807	0.0035	2		15635.95	15635.95		3.48	Si
SLV 13	fin.	-2771.13	-2952	-0.0003009	0.0002807	0.0035	2		15648.46	15648.46		5.65	Si
SLD 16	ini.	3996.8	-9644	-0.0004592	0.0002807	0.0035	2		15635.95	15635.95		3.91	Si
SLD 16	fin.	-2514.85	-6523	-0.0002702	0.0002807	0.0035	2		15648.46	15648.46		6.22	Si
SLV 1	ini.	-1883.58	-1835	-0.0001976	0.0002807	0.0035	2		15648.46	15648.46		8.31	Si
SLV 1	fin.	3903.54	-5390	-0.0004465	0.0002807	0.0035	2		15635.95	15635.95		4.01	Si
SLV 2	ini.	-1485.42	-2204	-0.0001536	0.0002807	0.0035	2		15648.46	15648.46		10.53	Si
SLV 2	fin.	3481.33	-5185	-0.0003905	0.0002807	0.0035	2		15635.95	15635.95		4.49	Si
SLV 15	ini.	4893.71	-11052	-0.000586	0.0002807	0.0035	2		15635.95	15635.95		3.2	Si
SLV 15	fin.	-3510.73	-7030	-0.000394	0.0002807	0.0035	2		15648.46	15648.46		4.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1883.58	8981	2	0	6643	7930	20213	5100	14573		1.62	Si
SLV 1	fin.	3903.54	9528	2	0	6643	7930	20213	5100	14573		1.53	Si
SLV 13	ini.	4498.76	-10987	2	0	6643	7930	20213	5100	14573		1.33	Si
SLV 13	fin.	-2771.13	-10227	2	0	6643	7930	20213	5100	14573		1.43	Si
SLV 16	ini.	5291.88	-14822	2	0	6643	7930	20213	5100	14573		0.98	No
SLV 16	fin.	-3932.93	-12511	2	0	6643	7930	20213	5100	14573		1.16	Si
SLV 14	ini.	4896.92	-12366	2	0	6643	7930	20213	5100	14573		1.18	Si
SLV 14	fin.	-3193.33	-11596	2	0	6643	7930	20213	5100	14573		1.26	Si
SLV 12	ini.	3453.79	-10473	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 12	fin.	-2390.7	-6440	2	0	6643	7930	20213	5100	14573		2.26	Si
SLV 15	ini.	4893.71	-13442	2	0	6643	7930	20213	5100	14573		1.08	Si
SLV 15	fin.	-3510.73	-11141	2	0	6643	7930	20213	5100	14573		1.31	Si
SLV 11	ini.	3185.72	-9544	2	0	6643	7930	20213	5100	14573		1.53	Si
SLV 11	fin.	-2106.45	-5518	2	0	6643	7930	20213	5100	14573		2.64	Si
SLD 16	ini.	3996.8	-10510	2	0	6643	7930	20213	5100	14573		1.39	Si
SLD 16	fin.	-2514.85	-8534	2	0	6643	7930	20213	5100	14573		1.71	Si
SLD 14	ini.	3752.31	-8989	2	0	6643	7930	20213	5100	14573		1.62	Si
SLD 14	fin.	-2056.96	-7965	2	0	6643	7930	20213	5100	14573		1.83	Si
SLD 15	ini.	3742.66	-9629	2	0	6643	7930	20213	5100	14573		1.51	Si
SLD 15	fin.	-2245.37	-7659	2	0	6643	7930	20213	5100	14573		1.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.955	SLV 16	Si
V_SLV	0.983	SLV 16	No
PF_SLU	1.844	SLU 83	Si
V_SLU	2.032	SLU 83	Si

Trave di accoppiamento 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.888	6.576	1.1	1.59	0.49	-11.888	6.576	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-151.35	-253	-0.0002816	0.0001872	0.0035	0.49		671.54	671.54	No	4.44	Si
SLU 83	fin.	-679.41	-2263	-0.0020062	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 78	ini.	-140.01	-231	-0.0002576	0.0001872	0.0035	0.49		671.54	671.54	No	4.8	Si
SLU 78	fin.	-661.5	-2219	-0.0019123	0.0001872	0.0035	0.49		671.54	671.54	No	1.02	Si
SLU 75	ini.	-141.54	-237	-0.0002608	0.0001872	0.0035	0.49		671.54	671.54	No	4.74	Si
SLU 75	fin.	-650.9	-2177	-0.0018591	0.0001872	0.0035	0.49		671.54	671.54	No	1.03	Si
SLU 77	ini.	-139.57	-231	-0.0002567	0.0001872	0.0035	0.49		671.54	671.54	No	4.81	Si
SLU 77	fin.	-665.94	-2238	-0.0019351	0.0001872	0.0035	0.49		671.54	671.54	No	1.01	Si
SLU 82	ini.	-153.31	-259	-0.0002858	0.0001872	0.0035	0.49		671.54	671.54	No	4.38	Si
SLU 82	fin.	-664.36	-2202	-0.0019269	0.0001872	0.0035	0.49		671.54	671.54	No	1.01	Si
SLU 74	ini.	-141.1	-237	-0.0002599	0.0001872	0.0035	0.49		671.54	671.54	No	4.76	Si
SLU 74	fin.	-655.34	-2196	-0.0018812	0.0001872	0.0035	0.49		671.54	671.54	No	1.02	Si
SLU 81	ini.	-152.87	-259	-0.0002849	0.0001872	0.0035	0.49		671.54	671.54	No	4.39	Si
SLU 81	fin.	-668.8	-2221	-0.0019499	0.0001872	0.0035	0.49		671.54	671.54	No	1	Si
SLU 84	ini.	-151.79	-253	-0.0002826	0.0001872	0.0035	0.49		671.54	671.54	No	4.42	Si
SLU 84	fin.	-674.97	-2244	-0.0019824	0.0001872	0.0035	0.49		671.54	671.54	No	0.99	No
SLU 79	ini.	-139.06	-229	-0.0002556	0.0001872	0.0035	0.49		671.54	671.54	No	4.83	Si
SLU 79	fin.	-661.11	-2220	-0.0019103	0.0001872	0.0035	0.49		671.54	671.54	No	1.02	Si
SLU 80	ini.	-139.5	-229	-0.0002565	0.0001872	0.0035	0.49		671.54	671.54	No	4.81	Si
SLU 80	fin.	-656.66	-2200	-0.0018878	0.0001872	0.0035	0.49		671.54	671.54	No	1.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-141.54	1125	0.49	0	1180	3886	3301	1250	1770	Si	1.57	Si
SLU 75	fin.	-650.9	-3286	0.49	0	1180	3886	3301	1250	1770	Si	0.54	No
SLU 77	ini.	-139.57	1121	0.49	0	1180	3886	3301	1250	1770	Si	1.58	Si
SLU 77	fin.	-665.94	-3352	0.49	0	1180	3886	3301	1250	1770	Si	0.53	No
SLU 82	ini.	-153.31	1197	0.49	0	1180	3886	3301	1250	1770	Si	1.48	Si
SLU 82	fin.	-664.36	-3367	0.49	0	1180	3886	3301	1250	1770	Si	0.53	No
SLU 84	ini.	-151.79	1194	0.49	0	1180	3886	3301	1250	1770	Si	1.48	Si
SLU 84	fin.	-674.97	-3415	0.49	0	1180	3886	3301	1250	1770	Si	0.52	No
SLU 79	ini.	-139.06	1117	0.49	0	1180	3886	3301	1250	1770	Si	1.59	Si
SLU 79	fin.	-661.11	-3329	0.49	0	1180	3886	3301	1250	1770	Si	0.53	No
SLU 83	ini.	-151.35	1193	0.49	0	1180	3886	3301	1250	1770	Si	1.48	Si
SLU 83	fin.	-679.41	-3433	0.49	0	1180	3886	3301	1250	1770	Si	0.52	No
SLU 74	ini.	-141.1	1124	0.49	0	1180	3886	3301	1250	1770	Si	1.58	Si
SLU 74	fin.	-655.34	-3305	0.49	0	1180	3886	3301	1250	1770	Si	0.54	No
SLU 81	ini.	-152.87	1196	0.49	0	1180	3886	3301	1250	1770	Si	1.48	Si
SLU 81	fin.	-668.8	-3386	0.49	0	1180	3886	3301	1250	1770	Si	0.52	No
SLU 78	ini.	-140.01	1122	0.49	0	1180	3886	3301	1250	1770	Si	1.58	Si
SLU 78	fin.	-661.5	-3333	0.49	0	1180	3886	3301	1250	1770	Si	0.53	No
SLU 80	ini.	-139.5	1118	0.49	0	1180	3886	3301	1250	1770	Si	1.58	Si
SLU 80	fin.	-656.66	-3311	0.49	0	1180	3886	3301	1250	1770	Si	0.53	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1.31	377	-0.0000022	0.0002807	0.0035	0.49		947.39	947.39		723.12	Si
SLV 11	fin.	-870.49	-3495	-0.0030818	0.0002807	0.0035	0.49		947.39	947.39		1.09	Si
SLD 14	ini.	359.18	1665	-0.0007547	0.0002807	0.0035	0.49		944.29	944.29		2.63	Si
SLD 14	fin.	-839.3	-3077	-0.0028309	0.0002807	0.0035	0.49		947.39	947.39		1.13	Si
SLD 16	ini.	331.66	1613	-0.0006827	0.0002807	0.0035	0.49		944.29	944.29		2.85	Si
SLD 16	fin.	-936.2	-3567	-0.0036115	0.0002807	0.0035	0.49		947.39	947.39		1.01	Si
SLV 15	ini.	486.99	2269	-0.0011259	0.0002807	0.0035	0.49		944.29	944.29		1.94	Si
SLV 15	fin.	-1133.91	-4404	-0.0049647	0.0002807	0.0035	0.49		947.39	947.39		0.84	No
SLD 15	ini.	279.39	1399	-0.0005527	0.0002807	0.0035	0.49		944.29	944.29		3.38	Si
SLD 15	fin.	-883.07	-3346	-0.0031858	0.0002807	0.0035	0.49		947.39	947.39		1.07	Si
SLV 3	ini.	-797.72	-3005	-0.0025289	0.0002807	0.0035	0.49		947.39	947.39		1.19	Si
SLV 3	fin.	179.58	990	-0.000329	0.0002807	0.0035	0.49		944.29	944.29		5.26	Si
SLV 12	ini.	53.82	603	-0.0000913	0.0002807	0.0035	0.49		944.29	944.29		17.55	Si
SLV 12	fin.	-926.54	-3727	-0.0035368	0.0002807	0.0035	0.49		947.39	947.39		1.02	Si
SLV 13	ini.	531.59	2355	-0.0012725	0.0002807	0.0035	0.49		944.29	944.29		1.78	Si
SLV 13	fin.	-977.31	-3614	-0.0039164	0.0002807	0.0035	0.49		947.39	947.39		0.97	No
SLV 14	ini.	613.47	2691	-0.0015744	0.0002807	0.0035	0.49		944.29	944.29		1.54	Si
SLV 14	fin.	-1060.56	-3959	-0.0044902	0.0002807	0.0035	0.49		947.39	947.39		0.89	No
SLV 16	ini.	568.87	2605	-0.001404	0.0002807	0.0035	0.49		944.29	944.29		1.66	Si
SLV 16	fin.	-1217.16	-4749	-0.0054809	0.0002807	0.0035	0.49		947.39	947.39		0.78	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	486.99	-1620	0.49	0	1358	3886	4952	1250	5244		3.24	Si
SLV 15	fin.	-1133.91	-5064	0.49	0	1358	3886	4952	1250	5244		1.04	Si
SLD 13	ini.	306.91	-836	0.49	0	1358	3886	4952	1250	5244		6.27	Si
SLD 13	fin.	-786.16	-3589	0.49	0	1358	3886	4952	1250	5244		1.46	Si
SLV 14	ini.	613.47	-2052	0.49	0	1358	3886	4952	1250	5244		2.56	Si
SLV 14	fin.	-1060.56	-4675	0.49	0	1358	3886	4952	1250	5244		1.12	Si
SLV 11	ini.	-1.31	255	0.49	0	1358	3886	4952	1250	5244		20.55	Si
SLV 11	fin.	-870.49	-4104	0.49	0	1358	3886	4952	1250	5244		1.28	Si
SLV 12	ini.	53.82	35	0.49	0	1358	3886	4952	1250	5244		150.08	Si
SLV 12	fin.	-926.54	-4327	0.49	0	1358	3886	4952	1250	5244		1.21	Si
SLD 16	ini.	331.66	-980	0.49	0	1358	3886	4952	1250	5244		5.35	Si
SLD 16	fin.	-936.2	-4247	0.49	0	1358	3886	4952	1250	5244		1.23	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	279.39	-771	0.49	0	1358	3886	4952	1250	5244		6.8	Si
SLD 15	fin.	-883.07	-4035	0.49	0	1358	3886	4952	1250	5244		1.3	Si
SLD 14	ini.	359.18	-1045	0.49	0	1358	3886	4952	1250	5244		5.02	Si
SLD 14	fin.	-839.3	-3800	0.49	0	1358	3886	4952	1250	5244		1.38	Si
SLV 16	ini.	568.87	-1947	0.49	0	1358	3886	4952	1250	5244		2.69	Si
SLV 16	fin.	-1217.16	-5395	0.49	0	1358	3886	4952	1250	5244		0.97	No
SLV 13	ini.	531.59	-1725	0.49	0	1358	3886	4952	1250	5244		3.04	Si
SLV 13	fin.	-977.31	-4344	0.49	0	1358	3886	4952	1250	5244		1.21	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.778	SLV 16	No
V_SLV	0.972	SLV 16	No
PF_SLU	0.988	SLU 83	No
V_SLU	0.516	SLU 83	No

Trave di accoppiamento 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.008	6.576	-1.3	0.7	2	-7.008	6.576	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-2289.43	-4628	-0.0002523	0.0001872	0.0035	2		10737.13	4848.93	Si	2.12	Si
SLU 81	fin.	3288.46	-5458	-0.0003847	0.0001872	0.0035	2		10722.86	4848.93	Si	1.47	Si
SLU 79	ini.	-2330.91	-4536	-0.0002575	0.0001872	0.0035	2		10737.13	4848.93	Si	2.08	Si
SLU 79	fin.	3284.05	-5411	-0.0003841	0.0001872	0.0035	2		10722.86	4848.93	Si	1.48	Si
SLU 83	ini.	-2336.74	-4676	-0.0002583	0.0001872	0.0035	2		10737.13	4848.93	Si	2.08	Si
SLU 83	fin.	3337.8	-5529	-0.0003916	0.0001872	0.0035	2		10722.86	4848.93	Si	1.45	Si
SLU 84	ini.	-2291.82	-4632	-0.0002526	0.0001872	0.0035	2		10737.13	4848.93	Si	2.12	Si
SLU 84	fin.	3324.28	-5472	-0.0003897	0.0001872	0.0035	2		10722.86	4848.93	Si	1.46	Si
SLU 80	ini.	-2285.98	-4492	-0.0002519	0.0001872	0.0035	2		10737.13	4848.93	Si	2.12	Si
SLU 80	fin.	3270.53	-5354	-0.0003822	0.0001872	0.0035	2		10722.86	4848.93	Si	1.48	Si
SLU 75	ini.	-2248.25	-4484	-0.0002472	0.0001872	0.0035	2		10737.13	4848.93	Si	2.16	Si
SLU 75	fin.	3240.72	-5323	-0.0003781	0.0001872	0.0035	2		10722.86	4848.93	Si	1.5	Si
SLU 77	ini.	-2340.48	-4576	-0.0002587	0.0001872	0.0035	2		10737.13	4848.93	Si	2.07	Si
SLU 77	fin.	3303.59	-5451	-0.0003868	0.0001872	0.0035	2		10722.86	4848.93	Si	1.47	Si
SLU 78	ini.	-2295.56	-4532	-0.0002531	0.0001872	0.0035	2		10737.13	4848.93	Si	2.11	Si
SLU 78	fin.	3290.07	-5393	-0.000385	0.0001872	0.0035	2		10722.86	4848.93	Si	1.47	Si
SLU 74	ini.	-2293.17	-4528	-0.0002528	0.0001872	0.0035	2		10737.13	4848.93	Si	2.11	Si
SLU 74	fin.	3254.25	-5380	-0.00038	0.0001872	0.0035	2		10722.86	4848.93	Si	1.49	Si
SLU 82	ini.	-2244.51	-4584	-0.0002467	0.0001872	0.0035	2		10737.13	4848.93	Si	2.16	Si
SLU 82	fin.	3274.93	-5401	-0.0003829	0.0001872	0.0035	2		10722.86	4848.93	Si	1.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-2330.91	5264	2	0	6250	7930	13475	5100	9375	Si	1.78	Si
SLU 79	fin.	3284.05	7458	2	0	6250	7930	13475	5100	9375	Si	1.26	Si
SLU 74	ini.	-2293.17	5190	2	0	6250	7930	13475	5100	9375	Si	1.81	Si
SLU 74	fin.	3254.25	7356	2	0	6250	7930	13475	5100	9375	Si	1.27	Si
SLU 80	ini.	-2285.98	5218	2	0	6250	7930	13475	5100	9375	Si	1.8	Si
SLU 80	fin.	3270.53	7363	2	0	6250	7930	13475	5100	9375	Si	1.27	Si
SLU 77	ini.	-2340.48	5274	2	0	6250	7930	13475	5100	9375	Si	1.78	Si
SLU 77	fin.	3303.59	7503	2	0	6250	7930	13475	5100	9375	Si	1.25	Si
SLU 84	ini.	-2291.82	5198	2	0	6250	7930	13475	5100	9375	Si	1.8	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	3324.28	7455	2	0	6250	7930	13475	5100	9375	Si	1.26	Si
SLU 75	ini.	-2248.25	5144	2	0	6250	7930	13475	5100	9375	Si	1.82	Si
SLU 75	fin.	3240.72	7261	2	0	6250	7930	13475	5100	9375	Si	1.29	Si
SLU 78	ini.	-2295.56	5229	2	0	6250	7930	13475	5100	9375	Si	1.79	Si
SLU 78	fin.	3290.07	7408	2	0	6250	7930	13475	5100	9375	Si	1.27	Si
SLU 81	ini.	-2289.43	5159	2	0	6250	7930	13475	5100	9375	Si	1.82	Si
SLU 81	fin.	3288.46	7404	2	0	6250	7930	13475	5100	9375	Si	1.27	Si
SLU 82	ini.	-2244.51	5113	2	0	6250	7930	13475	5100	9375	Si	1.83	Si
SLU 82	fin.	3274.93	7308	2	0	6250	7930	13475	5100	9375	Si	1.28	Si
SLU 83	ini.	-2336.74	5244	2	0	6250	7930	13475	5100	9375	Si	1.79	Si
SLU 83	fin.	3337.8	7550	2	0	6250	7930	13475	5100	9375	Si	1.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-5031.67	-4230	-0.0006057	0.0002807	0.0035	2		15648.46	15648.46		3.11	Si
SLV 7	fin.	3916.91	-6613	-0.0004483	0.0002807	0.0035	2		15635.95	15635.95		3.99	Si
SLV 2	ini.	-3176.5	1850	-0.0003511	0.0002807	0.0035	2		15648.46	15648.46		4.93	Si
SLV 2	fin.	4176.82	-1584	-0.0004839	0.0002807	0.0035	2		15635.95	15635.95		3.74	Si
SLD 1	ini.	-2939.04	424	-0.0003214	0.0002807	0.0035	2		15648.46	15648.46		5.32	Si
SLD 1	fin.	3687.29	-2347	-0.0004176	0.0002807	0.0035	2		15635.95	15635.95		4.24	Si
SLD 7	ini.	-3745.53	-3766	-0.0004249	0.0002807	0.0035	2		15648.46	15648.46		4.18	Si
SLD 7	fin.	3298.15	-5500	-0.0003669	0.0002807	0.0035	2		15635.95	15635.95		4.74	Si
SLV 1	ini.	-3658.77	2416	-0.0004134	0.0002807	0.0035	2		15648.46	15648.46		4.28	Si
SLV 1	fin.	4482.77	-1554	-0.0005267	0.0002807	0.0035	2		15635.95	15635.95		3.49	Si
SLD 4	ini.	-3555.27	-929	-0.0003998	0.0002807	0.0035	2		15648.46	15648.46		4.4	Si
SLD 4	fin.	3808.42	-3579	-0.0004337	0.0002807	0.0035	2		15635.95	15635.95		4.11	Si
SLV 8	ini.	-4706.97	-4611	-0.0005583	0.0002807	0.0035	2		15648.46	15648.46		3.32	Si
SLV 8	fin.	3710.92	-6633	-0.0004207	0.0002807	0.0035	2		15635.95	15635.95		4.21	Si
SLV 3	ini.	-5152.93	817	-0.0006237	0.0002807	0.0035	2		15648.46	15648.46		3.04	Si
SLV 3	fin.	4996.35	-3512	-0.0006011	0.0002807	0.0035	2		15635.95	15635.95		3.13	Si
SLD 3	ini.	-3863.1	-568	-0.0004406	0.0002807	0.0035	2		15648.46	15648.46		4.05	Si
SLD 3	fin.	4003.7	-3560	-0.0004601	0.0002807	0.0035	2		15635.95	15635.95		3.91	Si
SLV 4	ini.	-4670.65	251	-0.000553	0.0002807	0.0035	2		15648.46	15648.46		3.35	Si
SLV 4	fin.	4690.4	-3541	-0.0005564	0.0002807	0.0035	2		15635.95	15635.95		3.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-3542.27	6542	2	0	6643	7930	20213	5100	14573		2.23	Si
SLD 8	fin.	3169.21	9501	2	0	6643	7930	20213	5100	14573		1.53	Si
SLV 2	ini.	-3176.5	10744	2	0	6643	7930	20213	5100	14573		1.36	Si
SLV 2	fin.	4176.82	10370	2	0	6643	7930	20213	5100	14573		1.41	Si
SLD 4	ini.	-3555.27	9110	2	0	6643	7930	20213	5100	14573		1.6	Si
SLD 4	fin.	3808.42	10450	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 1	ini.	-3658.77	12014	2	0	6643	7930	20213	5100	14573		1.21	Si
SLV 1	fin.	4482.77	11677	2	0	6643	7930	20213	5100	14573		1.25	Si
SLD 7	ini.	-3745.53	7077	2	0	6643	7930	20213	5100	14573		2.06	Si
SLD 7	fin.	3298.15	10052	2	0	6643	7930	20213	5100	14573		1.45	Si
SLV 4	ini.	-4670.65	12145	2	0	6643	7930	20213	5100	14573		1.2	Si
SLV 4	fin.	4690.4	13542	2	0	6643	7930	20213	5100	14573		1.08	Si
SLV 3	ini.	-5152.93	13414	2	0	6643	7930	20213	5100	14573		1.09	Si
SLV 3	fin.	4996.35	14850	2	0	6643	7930	20213	5100	14573		0.98	No
SLV 7	ini.	-5031.67	9032	2	0	6643	7930	20213	5100	14573		1.61	Si
SLV 7	fin.	3916.91	13055	2	0	6643	7930	20213	5100	14573		1.12	Si
SLV 8	ini.	-4706.97	8177	2	0	6643	7930	20213	5100	14573		1.78	Si
SLV 8	fin.	3710.92	12174	2	0	6643	7930	20213	5100	14573		1.2	Si
SLD 3	ini.	-3863.1	9920	2	0	6643	7930	20213	5100	14573		1.47	Si
SLD 3	fin.	4003.7	11285	2	0	6643	7930	20213	5100	14573		1.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.037	SLV 3	Si
V_SLV	0.981	SLV 3	No
PF_SLU	1.453	SLU 83	Si
V_SLU	1.242	SLU 83	Si

Trave di accoppiamento 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.008	6.576	1.1	1.59	0.49	-7.008	6.576	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fkhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1052.07	-3795	-0.0047642	0.0001872	0.0035	0.49		671.54	671.54	No	0.64	No
SLU 82	fin.	480.89	2475	-0.0011831	0.0001872	0.0035	0.49		668.05	668.05	No	1.39	Si
SLU 78	ini.	-1056.39	-3813	-0.0047934	0.0001872	0.0035	0.49		671.54	671.54	No	0.64	No
SLU 78	fin.	487.56	2505	-0.0012059	0.0001872	0.0035	0.49		668.05	668.05	No	1.37	Si
SLU 81	ini.	-1061.5	-3831	-0.0048278	0.0001872	0.0035	0.49		671.54	671.54	No	0.63	No
SLU 81	fin.	487.2	2506	-0.0012046	0.0001872	0.0035	0.49		668.05	668.05	No	1.37	Si
SLU 77	ini.	-1065.83	-3849	-0.0048568	0.0001872	0.0035	0.49		671.54	671.54	No	0.63	No
SLU 77	fin.	493.88	2537	-0.0012276	0.0001872	0.0035	0.49		668.05	668.05	No	1.35	Si
SLU 75	ini.	-1039.57	-3751	-0.0046792	0.0001872	0.0035	0.49		671.54	671.54	No	0.65	No
SLU 75	fin.	478.37	2459	-0.0011746	0.0001872	0.0035	0.49		668.05	668.05	No	1.4	Si
SLU 79	ini.	-1058.71	-3823	-0.004809	0.0001872	0.0035	0.49		671.54	671.54	No	0.63	No
SLU 79	fin.	491.5	2523	-0.0012194	0.0001872	0.0035	0.49		668.05	668.05	No	1.36	Si
SLU 83	ini.	-1078.33	-3893	-0.0049403	0.0001872	0.0035	0.49		671.54	671.54	No	0.62	No
SLU 83	fin.	496.39	2553	-0.0012364	0.0001872	0.0035	0.49		668.05	668.05	No	1.35	Si
SLU 74	ini.	-1049.01	-3787	-0.0047434	0.0001872	0.0035	0.49		671.54	671.54	No	0.64	No
SLU 74	fin.	484.69	2491	-0.001196	0.0001872	0.0035	0.49		668.05	668.05	No	1.38	Si
SLU 84	ini.	-1068.89	-3857	-0.0048773	0.0001872	0.0035	0.49		671.54	671.54	No	0.63	No
SLU 84	fin.	490.08	2521	-0.0012145	0.0001872	0.0035	0.49		668.05	668.05	No	1.36	Si
SLU 80	ini.	-1049.28	-3788	-0.0047452	0.0001872	0.0035	0.49		671.54	671.54	No	0.64	No
SLU 80	fin.	485.19	2492	-0.0011977	0.0001872	0.0035	0.49		668.05	668.05	No	1.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-1065.83	4926	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 77	fin.	493.88	1408	0.49	0	1180	3886	3301	1250	1770	Si	1.26	Si
SLU 74	ini.	-1049.01	4850	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 74	fin.	484.69	1379	0.49	0	1180	3886	3301	1250	1770	Si	1.28	Si
SLU 84	ini.	-1068.89	4943	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 84	fin.	490.08	1390	0.49	0	1180	3886	3301	1250	1770	Si	1.27	Si
SLU 82	ini.	-1052.07	4868	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 82	fin.	480.89	1361	0.49	0	1180	3886	3301	1250	1770	Si	1.3	Si
SLU 80	ini.	-1049.28	4851	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 80	fin.	485.19	1382	0.49	0	1180	3886	3301	1250	1770	Si	1.28	Si
SLU 78	ini.	-1056.39	4885	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 78	fin.	487.56	1387	0.49	0	1180	3886	3301	1250	1770	Si	1.28	Si
SLU 75	ini.	-1039.57	4809	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 75	fin.	478.37	1358	0.49	0	1180	3886	3301	1250	1770	Si	1.3	Si
SLU 79	ini.	-1058.71	4893	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 79	fin.	491.5	1403	0.49	0	1180	3886	3301	1250	1770	Si	1.26	Si
SLU 83	ini.	-1078.33	4985	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 83	fin.	496.39	1411	0.49	0	1180	3886	3301	1250	1770	Si	1.25	Si
SLU 81	ini.	-1061.5	4909	0.49	0	1180	3886	3301	1250	1770	Si	0.36	No
SLU 81	fin.	487.2	1382	0.49	0	1180	3886	3301	1250	1770	Si	1.28	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1146.7	-4084	-0.0050454	0.0002807	0.0035	0.49		947.39	947.39		0.83	No
SLV 11	fin.	578.2	2978	-0.0014383	0.0002807	0.0035	0.49		944.29	944.29		1.63	Si
SLD 4	ini.	-1109.09	-4125	-0.0048067	0.0002807	0.0035	0.49		947.39	947.39		0.85	No
SLD 4	fin.	733.05	3465	-0.0021428	0.0002807	0.0035	0.49		944.29	944.29		1.29	Si
SLD 8	ini.	-1132.22	-4119	-0.0049541	0.0002807	0.0035	0.49		947.39	947.39		0.84	No
SLD 8	fin.	656.33	3226	-0.0017559	0.0002807	0.0035	0.49		944.29	944.29		1.44	Si
SLD 3	ini.	-1166.53	-4353	-0.0051694	0.0002807	0.0035	0.49		947.39	947.39		0.81	No
SLD 3	fin.	793.78	3735	-0.0025203	0.0002807	0.0035	0.49		944.29	944.29		1.19	Si
SLV 7	ini.	-1442.92	-5277	-0.0068179	0.0002807	0.0035	0.49		947.39	947.39		0.66	No
SLV 7	fin.	912.18	4416	-0.0034478	0.0002807	0.0035	0.49		944.29	944.29		1.04	Si
SLV 3	ini.	-1423.02	-5358	-0.0067027	0.0002807	0.0035	0.49		947.39	947.39		0.67	No
SLV 3	fin.	1054.19	4883	-0.0044714	0.0002807	0.0035	0.49		944.29	944.29		0.9	No
SLV 4	ini.	-1333.03	-5001	-0.0061746	0.0002807	0.0035	0.49		947.39	947.39		0.71	No
SLV 4	fin.	959.03	4461	-0.0038068	0.0002807	0.0035	0.49		944.29	944.29		0.98	No
SLD 7	ini.	-1170.15	-4270	-0.0051919	0.0002807	0.0035	0.49		947.39	947.39		0.81	No
SLD 7	fin.	696.43	3405	-0.0019469	0.0002807	0.0035	0.49		944.29	944.29		1.36	Si
SLV 8	ini.	-1382.33	-5037	-0.0064653	0.0002807	0.0035	0.49		947.39	947.39		0.69	No
SLV 8	fin.	848.11	4131	-0.0029225	0.0002807	0.0035	0.49		944.29	944.29		1.11	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1097.14	-4184	-0.0047297	0.0002807	0.0035	0.49		947.39	947.39		0.86	No
SLV 1	fin.	828.6	3787	-0.0027704	0.0002807	0.0035	0.49		944.29	944.29		1.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1442.92	6320	0.49	0	1358	3886	4952	1250	5244		0.83	No
SLV 7	fin.	912.18	3194	0.49	0	1358	3886	4952	1250	5244		1.64	Si
SLV 12	ini.	-1086.11	4879	0.49	0	1358	3886	4952	1250	5244		1.07	Si
SLV 12	fin.	514.13	1627	0.49	0	1358	3886	4952	1250	5244		3.22	Si
SLD 4	ini.	-1109.09	4914	0.49	0	1358	3886	4952	1250	5244		1.07	Si
SLD 4	fin.	733.05	2525	0.49	0	1358	3886	4952	1250	5244		2.08	Si
SLV 11	ini.	-1146.7	5126	0.49	0	1358	3886	4952	1250	5244		1.02	Si
SLV 11	fin.	578.2	1872	0.49	0	1358	3886	4952	1250	5244		2.8	Si
SLV 3	ini.	-1423.02	6191	0.49	0	1358	3886	4952	1250	5244		0.85	No
SLV 3	fin.	1054.19	3782	0.49	0	1358	3886	4952	1250	5244		1.39	Si
SLV 4	ini.	-1333.03	5825	0.49	0	1358	3886	4952	1250	5244		0.9	No
SLV 4	fin.	959.03	3418	0.49	0	1358	3886	4952	1250	5244		1.53	Si
SLD 3	ini.	-1166.53	5148	0.49	0	1358	3886	4952	1250	5244		1.02	Si
SLD 3	fin.	793.78	2757	0.49	0	1358	3886	4952	1250	5244		1.9	Si
SLD 8	ini.	-1132.22	5040	0.49	0	1358	3886	4952	1250	5244		1.04	Si
SLD 8	fin.	656.33	2202	0.49	0	1358	3886	4952	1250	5244		2.38	Si
SLV 8	ini.	-1382.33	6073	0.49	0	1358	3886	4952	1250	5244		0.86	No
SLV 8	fin.	848.11	2949	0.49	0	1358	3886	4952	1250	5244		1.78	Si
SLD 7	ini.	-1170.15	5194	0.49	0	1358	3886	4952	1250	5244		1.01	Si
SLD 7	fin.	696.43	2355	0.49	0	1358	3886	4952	1250	5244		2.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.657	SLV 7	No
V_SLV	0.83	SLV 7	No
PF_SLU	0.623	SLU 83	No
V_SLU	0.355	SLU 83	No

Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-10.553	-3.284	0.75	1.59	0.84	-8.253	-3.284	0.75	1.59	0.84	2.3	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-430.12	652	-0.0002704	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.19	Si
SLU 83	fin.	-1817.06	-4729	-0.0017006	0.0001872	0.0035	0.84		1929.75	1803.93	Si	0.99	No
SLU 84	ini.	-429.5	647	-0.0002699	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.2	Si
SLU 84	fin.	-1830.54	-4776	-0.0017211	0.0001872	0.0035	0.84		1929.75	1803.93	Si	0.99	No
SLU 82	ini.	-429.41	653	-0.0002698	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.2	Si
SLU 82	fin.	-1817.42	-4733	-0.0017011	0.0001872	0.0035	0.84		1929.75	1803.93	Si	0.99	No
SLU 80	ini.	-367.79	534	-0.0002264	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.9	Si
SLU 80	fin.	-1749.61	-4560	-0.0016015	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1.03	Si
SLU 77	ini.	-368.46	535	-0.0002269	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.9	Si
SLU 77	fin.	-1743.04	-4537	-0.0015922	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1.03	Si
SLU 81	ini.	-430.03	658	-0.0002703	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.19	Si
SLU 81	fin.	-1803.94	-4686	-0.0016809	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1	No
SLU 76	ini.	-367.28	537	-0.0002261	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.91	Si
SLU 76	fin.	-1745.48	-4548	-0.0015957	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1.03	Si
SLU 75	ini.	-367.75	536	-0.0002264	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.91	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	fin.	-1743.41	-4541	-0.0015927	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1.03	Si
SLU 78	ini.	-367.85	530	-0.0002264	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.9	Si
SLU 78	fin.	-1756.53	-4584	-0.0016114	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1.03	Si
SLU 79	ini.	-368.41	539	-0.0002268	0.0001872	0.0035	0.84		1929.75	1803.93	Si	4.9	Si
SLU 79	fin.	-1736.13	-4513	-0.0015824	0.0001872	0.0035	0.84		1929.75	1803.93	Si	1.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-367.85	1199	0.84	0	1046	6661	5660	2142	1569	Si	1.31	Si
SLU 78	fin.	-1756.53	-6604	0.84	0	1046	6661	5660	2142	1569	Si	0.24	No
SLU 75	ini.	-367.75	1198	0.84	0	1046	6661	5660	2142	1569	Si	1.31	Si
SLU 75	fin.	-1743.41	-6567	0.84	0	1046	6661	5660	2142	1569	Si	0.24	No
SLU 84	ini.	-429.5	1231	0.84	0	1046	6661	5660	2142	1569	Si	1.27	Si
SLU 84	fin.	-1830.54	-6925	0.84	0	1046	6661	5660	2142	1569	Si	0.23	No
SLU 81	ini.	-430.03	1234	0.84	0	1046	6661	5660	2142	1569	Si	1.27	Si
SLU 81	fin.	-1803.94	-6853	0.84	0	1046	6661	5660	2142	1569	Si	0.23	No
SLU 83	ini.	-430.12	1235	0.84	0	1046	6661	5660	2142	1569	Si	1.27	Si
SLU 83	fin.	-1817.06	-6890	0.84	0	1046	6661	5660	2142	1569	Si	0.23	No
SLU 82	ini.	-429.41	1230	0.84	0	1046	6661	5660	2142	1569	Si	1.28	Si
SLU 82	fin.	-1817.42	-6888	0.84	0	1046	6661	5660	2142	1569	Si	0.23	No
SLU 77	ini.	-368.46	1203	0.84	0	1046	6661	5660	2142	1569	Si	1.3	Si
SLU 77	fin.	-1743.04	-6569	0.84	0	1046	6661	5660	2142	1569	Si	0.24	No
SLU 80	ini.	-367.79	1199	0.84	0	1046	6661	5660	2142	1569	Si	1.31	Si
SLU 80	fin.	-1749.61	-6583	0.84	0	1046	6661	5660	2142	1569	Si	0.24	No
SLU 79	ini.	-368.41	1203	0.84	0	1046	6661	5660	2142	1569	Si	1.3	Si
SLU 79	fin.	-1736.13	-6548	0.84	0	1046	6661	5660	2142	1569	Si	0.24	No
SLU 76	ini.	-367.28	1195	0.84	0	1046	6661	5660	2142	1569	Si	1.31	Si
SLU 76	fin.	-1745.48	-6570	0.84	0	1046	6661	5660	2142	1569	Si	0.24	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-126.23	758	-0.000072	0.0002807	0.0035	0.84		2772.27	2772.27		21.96	Si
SLV 16	fin.	-2296.9	-5769	-0.0024114	0.0002807	0.0035	0.84		2772.27	2772.27		1.21	Si
SLV 15	ini.	-121.74	830	-0.0000694	0.0002807	0.0035	0.84		2772.27	2772.27		22.77	Si
SLV 15	fin.	-2404.11	-5992	-0.00266	0.0002807	0.0035	0.84		2772.27	2772.27		1.15	Si
SLD 15	ini.	-149.06	630	-0.0000854	0.0002807	0.0035	0.84		2772.27	2772.27		18.6	Si
SLD 15	fin.	-1963.75	-4942	-0.0017936	0.0002807	0.0035	0.84		2772.27	2772.27		1.41	Si
SLV 10	ini.	-86.52	-15	-0.000049	0.0002807	0.0035	0.84		2772.27	2772.27		32.04	Si
SLV 10	fin.	-2181.21	-6331	-0.0021724	0.0002807	0.0035	0.84		2772.27	2772.27		1.27	Si
SLV 9	ini.	-83.5	34	-0.0000473	0.0002807	0.0035	0.84		2772.27	2772.27		33.2	Si
SLV 9	fin.	-2253.39	-6481	-0.0023182	0.0002807	0.0035	0.84		2772.27	2772.27		1.23	Si
SLV 14	ini.	-74.78	521	-0.0000423	0.0002807	0.0035	0.84		2772.27	2772.27		37.07	Si
SLV 14	fin.	-2678.26	-7161	-0.0034019	0.0002807	0.0035	0.84		2772.27	2772.27		1.04	Si
SLD 16	ini.	-151.92	584	-0.0000871	0.0002807	0.0035	0.84		2772.27	2772.27		18.25	Si
SLD 16	fin.	-1895.32	-4800	-0.0016907	0.0002807	0.0035	0.84		2772.27	2772.27		1.46	Si
SLV 13	ini.	-70.29	594	-0.0000397	0.0002807	0.0035	0.84		2772.27	2772.27		39.44	Si
SLV 13	fin.	-2785.46	-7384	-0.0036852	0.0002807	0.0035	0.84		2772.27	2772.27		1	No
SLD 14	ini.	-121.25	440	-0.0000691	0.0002807	0.0035	0.84		2772.27	2772.27		22.86	Si
SLD 14	fin.	-2131.94	-5660	-0.0020789	0.0002807	0.0035	0.84		2772.27	2772.27		1.3	Si
SLD 13	ini.	-118.39	486	-0.0000675	0.0002807	0.0035	0.84		2772.27	2772.27		23.42	Si
SLD 13	fin.	-2200.37	-5802	-0.00221	0.0002807	0.0035	0.84		2772.27	2772.27		1.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-131.66	570	0.84	0	1123	6661	8489	2142	7784		13.65	Si
SLD 10	fin.	-1805.48	-5780	0.84	0	1123	6661	8489	2142	7784		1.35	Si
SLV 9	ini.	-83.5	393	0.84	0	1123	6661	8489	2142	7784		19.82	Si
SLV 9	fin.	-2253.39	-6733	0.84	0	1123	6661	8489	2142	7784		1.16	Si
SLV 16	ini.	-126.23	209	0.84	0	1123	6661	8489	2142	7784		37.25	Si
SLV 16	fin.	-2296.9	-6137	0.84	0	1123	6661	8489	2142	7784		1.27	Si
SLD 9	ini.	-129.77	560	0.84	0	1123	6661	8489	2142	7784		13.91	Si
SLD 9	fin.	-1850.66	-5853	0.84	0	1123	6661	8489	2142	7784		1.33	Si
SLV 14	ini.	-74.78	71	0.84	0	1123	6661	8489	2142	7784		110.09	Si
SLV 14	fin.	-2678.26	-7094	0.84	0	1123	6661	8489	2142	7784		1.1	Si
SLV 10	ini.	-86.52	410	0.84	0	1123	6661	8489	2142	7784		18.98	Si
SLV 10	fin.	-2181.21	-6616	0.84	0	1123	6661	8489	2142	7784		1.18	Si
SLD 13	ini.	-118.39	335	0.84	0	1123	6661	8489	2142	7784		23.23	Si
SLD 13	fin.	-2200.37	-6220	0.84	0	1123	6661	8489	2142	7784		1.25	Si
SLV 13	ini.	-70.29	45	0.84	0	1123	6661	8489	2142	7784		173.15	Si
SLV 13	fin.	-2785.46	-7268	0.84	0	1123	6661	8489	2142	7784		1.07	Si
SLD 14	ini.	-121.25	351	0.84	0	1123	6661	8489	2142	7784		22.15	Si
SLD 14	fin.	-2131.94	-6109	0.84	0	1123	6661	8489	2142	7784		1.27	Si
SLV 15	ini.	-121.74	183	0.84	0	1123	6661	8489	2142	7784		42.48	Si
SLV 15	fin.	-2404.11	-6311	0.84	0	1123	6661	8489	2142	7784		1.23	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	0.995	SLV 13	No
V SLV	1.071	SLV 13	Si
PF SLU	0.985	SLU 84	No
V SLU	0.227	SLU 84	No



Trave di accoppiamento 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.088	1.046	0.8	1.59	0.79	-5.988	1.046	0.8	1.59	0.79	0.9	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-684.87	-4127	-0.000529	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.52	Si
SLU 78	fin.	-247.9	-4508	-0.0001664	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.97	Si
SLU 75	ini.	-672.98	-4065	-0.0005178	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.57	Si
SLU 75	fin.	-248.58	-4473	-0.0001669	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.96	Si
SLU 83	ini.	-712.79	-4280	-0.0005554	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.43	Si
SLU 83	fin.	-254.42	-4607	-0.000171	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.8	Si
SLU 80	ini.	-678.62	-4094	-0.0005231	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.55	Si
SLU 80	fin.	-247.71	-4489	-0.0001662	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.98	Si
SLU 82	ini.	-682.25	-4151	-0.0005265	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.53	Si
SLU 82	fin.	-264.31	-4642	-0.0001782	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.54	Si
SLU 74	ini.	-691.62	-4132	-0.0005353	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.5	Si
SLU 74	fin.	-239.38	-4402	-0.0001603	0.0002246	0.0035	0.79		1729.09	1729.09	No	7.22	Si
SLU 77	ini.	-703.52	-4194	-0.0005466	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.46	Si
SLU 77	fin.	-238.7	-4437	-0.0001598	0.0002246	0.0035	0.79		1729.09	1729.09	No	7.24	Si
SLU 79	ini.	-697.26	-4161	-0.0005406	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.48	Si
SLU 79	fin.	-238.5	-4418	-0.0001596	0.0002246	0.0035	0.79		1729.09	1729.09	No	7.25	Si
SLU 84	ini.	-694.15	-4213	-0.0005377	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.49	Si
SLU 84	fin.	-263.63	-4678	-0.0001777	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.56	Si
SLU 81	ini.	-700.9	-4217	-0.0005441	0.0002246	0.0035	0.79		1729.09	1729.09	No	2.47	Si
SLU 81	fin.	-255.1	-4572	-0.0001715	0.0002246	0.0035	0.79		1729.09	1729.09	No	6.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-672.98	11539	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 75	fin.	-248.58	-10898	0.79	0	2577	6264	6388	2015	3866	Si	0.35	No
SLU 84	ini.	-694.15	11950	0.79	0	2577	6264	6388	2015	3866	Si	0.32	No
SLU 84	fin.	-263.63	-11339	0.79	0	2577	6264	6388	2015	3866	Si	0.34	No
SLU 82	ini.	-682.25	11770	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 82	fin.	-264.31	-11223	0.79	0	2577	6264	6388	2015	3866	Si	0.34	No
SLU 81	ini.	-700.9	11807	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 81	fin.	-255.1	-11094	0.79	0	2577	6264	6388	2015	3866	Si	0.35	No
SLU 74	ini.	-691.62	11577	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 74	fin.	-239.38	-10768	0.79	0	2577	6264	6388	2015	3866	Si	0.36	No
SLU 78	ini.	-684.87	11720	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 78	fin.	-247.9	-11014	0.79	0	2577	6264	6388	2015	3866	Si	0.35	No
SLU 80	ini.	-678.62	11638	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 80	fin.	-247.71	-10958	0.79	0	2577	6264	6388	2015	3866	Si	0.35	No
SLU 83	ini.	-712.79	11988	0.79	0	2577	6264	6388	2015	3866	Si	0.32	No
SLU 83	fin.	-254.42	-11210	0.79	0	2577	6264	6388	2015	3866	Si	0.34	No
SLU 79	ini.	-697.26	11675	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 79	fin.	-238.5	-10828	0.79	0	2577	6264	6388	2015	3866	Si	0.36	No
SLU 77	ini.	-703.52	11757	0.79	0	2577	6264	6388	2015	3866	Si	0.33	No
SLU 77	fin.	-238.7	-10884	0.79	0	2577	6264	6388	2015	3866	Si	0.36	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2148.73	-10241	-0.0026045	0.0003369	0.0035	0.79		2012.57	2012.57		0.94	No
SLV 16	fin.	35.32	-3244	-0.0000225	0.0003369	0.0035	0.79		2007.27	2007.27		56.82	Si
SLD 12	ini.	-1339.86	-6213	-0.0011735	0.0003369	0.0035	0.79		2012.57	2012.57		1.5	Si
SLD 12	fin.	144.72	-1040	-0.000094	0.0003369	0.0035	0.79		2007.27	2007.27		13.87	Si
SLV 11	ini.	-1889.66	-8341	-0.0020094	0.0003369	0.0035	0.79		2012.57	2012.57		1.07	Si
SLV 11	fin.	351.5	331	-0.0002374	0.0003369	0.0035	0.79		2007.27	2007.27		5.71	Si
SLD 16	ini.	-1538.01	-7538	-0.001431	0.0003369	0.0035	0.79		2012.57	2012.57		1.31	Si
SLD 16	fin.	-36.2	-3173	-0.000023	0.0003369	0.0035	0.79		2012.57	2012.57		55.59	Si
SLD 15	ini.	-1564.61	-7621	-0.0014683	0.0003369	0.0035	0.79		2012.57	2012.57		1.29	Si
SLD 15	fin.	-17.48	-3019	-0.0000111	0.0003369	0.0035	0.79		2012.57	2012.57		115.14	Si
SLD 11	ini.	-1357.42	-6268	-0.001195	0.0003369	0.0035	0.79		2012.57	2012.57		1.48	Si
SLD 11	fin.	157.08	-939	-0.0001023	0.0003369	0.0035	0.79		2007.27	2007.27		12.78	Si
SLV 13	ini.	-1600.12	-8229	-0.0015195	0.0003369	0.0035	0.79		2012.57	2012.57		1.26	Si
SLV 13	fin.	-225.22	-5163	-0.0001481	0.0003369	0.0035	0.79		2012.57	2012.57		8.94	Si
SLV 14	ini.	-1558.44	-8100	-0.0014596	0.0003369	0.0035	0.79		2012.57	2012.57		1.29	Si
SLV 14	fin.	-254.55	-5402	-0.0001683	0.0003369	0.0035	0.79		2012.57	2012.57		7.91	Si
SLV 12	ini.	-1861.6	-8254	-0.0019549	0.0003369	0.0035	0.79		2012.57	2012.57		1.08	Si
SLV 12	fin.	331.75	170	-0.0002232	0.0003369	0.0035	0.79		2007.27	2007.27		6.05	Si
SLV 15	ini.	-2190.4	-10371	-0.0027177	0.0003369	0.0035	0.79		2012.57	2012.57		0.92	No
SLV 15	fin.	64.66	-3004	-0.0000414	0.0003369	0.0035	0.79		2007.27	2007.27		31.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	948.26	2946	0.79	0	2742	6264	9582	2015	9007		3.06	Si
SLV 6	fin.	-674.4	-14373	0.79	0	2742	6264	9582	2015	9007		0.63	No
SLV 15	ini.	-2190.4	17611	0.79	0	2742	6264	9582	2015	9007		0.51	No
SLV 15	fin.	64.66	-4035	0.79	0	2742	6264	9582	2015	9007		2.23	Si
SLV 13	ini.	-1600.12	16324	0.79	0	2742	6264	9582	2015	9007		0.55	No
SLV 13	fin.	-225.22	-8003	0.79	0	2742	6264	9582	2015	9007		1.13	Si
SLD 16	ini.	-1538.01	14047	0.79	0	2742	6264	9582	2015	9007		0.64	No
SLD 16	fin.	-36.2	-5507	0.79	0	2742	6264	9582	2015	9007		1.64	Si
SLV 10	ini.	106.03	8405	0.79	0	2742	6264	9582	2015	9007		1.07	Si
SLV 10	fin.	-634.5	-13721	0.79	0	2742	6264	9582	2015	9007		0.66	No
SLV 9	ini.	77.97	8444	0.79	0	2742	6264	9582	2015	9007		1.07	Si
SLV 9	fin.	-614.75	-13458	0.79	0	2742	6264	9582	2015	9007		0.67	No
SLV 5	ini.	920.2	2985	0.79	0	2742	6264	9582	2015	9007		3.02	Si
SLV 5	fin.	-654.65	-14110	0.79	0	2742	6264	9582	2015	9007		0.64	No
SLV 16	ini.	-2148.73	17551	0.79	0	2742	6264	9582	2015	9007		0.51	No
SLV 16	fin.	35.32	-4426	0.79	0	2742	6264	9582	2015	9007		2.03	Si
SLD 15	ini.	-1564.61	14084	0.79	0	2742	6264	9582	2015	9007		0.64	No
SLD 15	fin.	-17.48	-5258	0.79	0	2742	6264	9582	2015	9007		1.71	Si
SLV 14	ini.	-1558.44	16265	0.79	0	2742	6264	9582	2015	9007		0.55	No
SLV 14	fin.	-254.55	-8394	0.79	0	2742	6264	9582	2015	9007		1.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.919	SLV 15	No
V_SLV	0.511	SLV 15	No
PF_SLU	2.426	SLU 83	Si
V_SLU	0.322	SLU 83	No

Trave di accoppiamento 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.463	-3.284	-1.3	0.7	2	-6.463	-3.284	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedlio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-1207.62	-14040	-0.0001255	0.0001872	0.0035	2		10737.13	4848.93	Si	4.02	Si
SLU 80	fin.	-2638.24	-9155	-0.0002969	0.0001872	0.0035	2		10737.13	4848.93	Si	1.84	Si
SLU 81	ini.	-1114.14	-14370	-0.0001153	0.0001872	0.0035	2		10737.13	4848.93	Si	4.35	Si
SLU 81	fin.	-2691.05	-9376	-0.0003038	0.0001872	0.0035	2		10737.13	4848.93	Si	1.8	Si
SLU 82	ini.	-1156.62	-14443	-0.00012	0.0001872	0.0035	2		10737.13	4848.93	Si	4.19	Si
SLU 82	fin.	-2678.53	-9434	-0.0003021	0.0001872	0.0035	2		10737.13	4848.93	Si	1.81	Si
SLU 79	ini.	-1165.14	-13967	-0.0001209	0.0001872	0.0035	2		10737.13	4848.93	Si	4.16	Si
SLU 79	fin.	-2650.76	-9096	-0.0002985	0.0001872	0.0035	2		10737.13	4848.93	Si	1.83	Si
SLU 78	ini.	-1220.43	-14100	-0.000127	0.0001872	0.0035	2		10737.13	4848.93	Si	3.97	Si
SLU 78	fin.	-2648.27	-9196	-0.0002982	0.0001872	0.0035	2		10737.13	4848.93	Si	1.83	Si
SLU 84	ini.	-1168.19	-14546	-0.0001212	0.0001872	0.0035	2		10737.13	4848.93	Si	4.15	Si
SLU 84	fin.	-2699.23	-9498	-0.0003048	0.0001872	0.0035	2		10737.13	4848.93	Si	1.8	Si
SLU 75	ini.	-1208.86	-13997	-0.0001257	0.0001872	0.0035	2		10737.13	4848.93	Si	4.01	Si
SLU 75	fin.	-2627.57	-9133	-0.0002955	0.0001872	0.0035	2		10737.13	4848.93	Si	1.85	Si
SLU 83	ini.	-1125.71	-14473	-0.0001166	0.0001872	0.0035	2		10737.13	4848.93	Si	4.31	Si
SLU 83	fin.	-2711.74	-9439	-0.0003065	0.0001872	0.0035	2		10737.13	4848.93	Si	1.79	Si
SLU 77	ini.	-1177.95	-14028	-0.0001223	0.0001872	0.0035	2		10737.13	4848.93	Si	4.12	Si
SLU 77	fin.	-2660.78	-9138	-0.0002998	0.0001872	0.0035	2		10737.13	4848.93	Si	1.82	Si
SLU 74	ini.	-1166.38	-13925	-0.000121	0.0001872	0.0035	2		10737.13	4848.93	Si	4.16	Si
SLU 74	fin.	-2640.09	-9074	-0.0002971	0.0001872	0.0035	2		10737.13	4848.93	Si	1.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1168.19	-5793	2	0	6250	7930	13475	5100	9375	Si	1.62	Si
SLU 84	fin.	-2699.23	-7145	2	0	6250	7930	13475	5100	9375	Si	1.31	Si
SLU 77	ini.	-1177.95	-5567	2	0	6250	7930	13475	5100	9375	Si	1.68	Si
SLU 77	fin.	-2660.78	-6965	2	0	6250	7930	13475	5100	9375	Si	1.35	Si
SLU 80	ini.	-1207.62	-5519	2	0	6250	7930	13475	5100	9375	Si	1.7	Si
SLU 80	fin.	-2638.24	-6904	2	0	6250	7930	13475	5100	9375	Si	1.36	Si
SLU 83	ini.	-1125.71	-5824	2	0	6250	7930	13475	5100	9375	Si	1.61	Si
SLU 83	fin.	-2711.74	-7191	2	0	6250	7930	13475	5100	9375	Si	1.3	Si
SLU 78	ini.	-1220.43	-5536	2	0	6250	7930	13475	5100	9375	Si	1.69	Si
SLU 78	fin.	-2648.27	-6918	2	0	6250	7930	13475	5100	9375	Si	1.36	Si
SLU 82	ini.	-1156.62	-5744	2	0	6250	7930	13475	5100	9375	Si	1.63	Si
SLU 82	fin.	-2678.53	-7099	2	0	6250	7930	13475	5100	9375	Si	1.32	Si
SLU 75	ini.	-1208.86	-5487	2	0	6250	7930	13475	5100	9375	Si	1.71	Si
SLU 75	fin.	-2627.57	-6873	2	0	6250	7930	13475	5100	9375	Si	1.36	Si
SLU 74	ini.	-1166.38	-5518	2	0	6250	7930	13475	5100	9375	Si	1.7	Si
SLU 74	fin.	-2640.09	-6919	2	0	6250	7930	13475	5100	9375	Si	1.35	Si
SLU 81	ini.	-1114.14	-5775	2	0	6250	7930	13475	5100	9375	Si	1.62	Si
SLU 81	fin.	-2691.05	-7146	2	0	6250	7930	13475	5100	9375	Si	1.31	Si
SLU 79	ini.	-1165.14	-5550	2	0	6250	7930	13475	5100	9375	Si	1.69	Si
SLU 79	fin.	-2650.76	-6951	2	0	6250	7930	13475	5100	9375	Si	1.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	2947.97	-15484	-0.0003228	0.0002807	0.0035	2		15635.95	15635.95		5.3	Si
SLV 13	fin.	-4799.06	-6405	-0.0005716	0.0002807	0.0035	2		15648.46	15648.46		3.26	Si
SLV 16	ini.	4294.74	-12184	-0.0005003	0.0002807	0.0035	2		15635.95	15635.95		3.64	Si
SLV 16	fin.	-5324.72	-3429	-0.0006496	0.0002807	0.0035	2		15648.46	15648.46		2.94	Si
SLD 2	ini.	-4567.02	-7696	-0.0005382	0.0002807	0.0035	2		15648.46	15648.46		3.43	Si
SLD 2	fin.	607.87	-8306	-0.0000612	0.0002807	0.0035	2		15635.95	15635.95		25.72	Si
SLV 1	ini.	-6045.66	-7003	-0.0007618	0.0002807	0.0035	2		15648.46	15648.46		2.59	Si
SLV 1	fin.	1567.3	-9009	-0.0001627	0.0002807	0.0035	2		15635.95	15635.95		9.98	Si
SLV 6	ini.	-5732.7	-13185	-0.0007123	0.0002807	0.0035	2		15648.46	15648.46		2.73	Si
SLV 6	fin.	853.45	-12634	-0.0000866	0.0002807	0.0035	2		15635.95	15635.95		18.32	Si
SLV 4	ini.	-4698.9	-3703	-0.0005571	0.0002807	0.0035	2		15648.46	15648.46		3.33	Si
SLV 4	fin.	1041.64	-6033	-0.0001063	0.0002807	0.0035	2		15635.95	15635.95		15.01	Si
SLV 15	ini.	4925.49	-12502	-0.0005906	0.0002807	0.0035	2		15635.95	15635.95		3.17	Si
SLV 15	fin.	-5774.53	-2897	-0.0007189	0.0002807	0.0035	2		15648.46	15648.46		2.71	Si
SLV 2	ini.	-6676.41	-6686	-0.0008652	0.0002807	0.0035	2		15648.46	15648.46		2.34	Si
SLV 2	fin.	2017.11	-9540	-0.0002128	0.0002807	0.0035	2		15635.95	15635.95		7.75	Si
SLV 11	ini.	3981.78	-6002	-0.0004571	0.0002807	0.0035	2		15635.95	15635.95		3.93	Si
SLV 11	fin.	-4610.87	196	-0.0005444	0.0002807	0.0035	2		15648.46	15648.46		3.39	Si
SLV 5	ini.	-5308.04	-13399	-0.000647	0.0002807	0.0035	2		15648.46	15648.46		2.95	Si
SLV 5	fin.	550.6	-12276	-0.0000553	0.0002807	0.0035	2		15635.95	15635.95		28.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	4294.74	-17507	2	0	6643	7930	20213	5100	14573		0.83	No
SLV 16	fin.	-5324.72	-18859	2	0	6643	7930	20213	5100	14573		0.77	No
SLD 15	ini.	2816.1	-13737	2	0	6643	7930	20213	5100	14573		1.06	Si
SLD 15	fin.	-4365.29	-15013	2	0	6643	7930	20213	5100	14573		0.97	No
SLV 15	ini.	4925.49	-19410	2	0	6643	7930	20213	5100	14573		0.75	No
SLV 15	fin.	-5774.53	-20767	2	0	6643	7930	20213	5100	14573		0.7	No
SLV 14	ini.	2317.22	-14357	2	0	6643	7930	20213	5100	14573		1.02	Si
SLV 14	fin.	-4349.25	-15174	2	0	6643	7930	20213	5100	14573		0.96	No
SLV 12	ini.	3557.11	-12294	2	0	6643	7930	20213	5100	14573		1.19	Si
SLV 12	fin.	-4308.02	-14304	2	0	6643	7930	20213	5100	14573		1.02	Si
SLD 13	ini.	1593.06	-11789	2	0	6643	7930	20213	5100	14573		1.24	Si
SLD 13	fin.	-3759.98	-12733	2	0	6643	7930	20213	5100	14573		1.14	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	3981.78	-13575	2	0	6643	7930	20213	5100	14573		1.07	Si
SLV 11	fin.	-4610.87	-15589	2	0	6643	7930	20213	5100	14573		0.93	No
SLD 16	ini.	2413.5	-12522	2	0	6643	7930	20213	5100	14573		1.16	Si
SLD 16	fin.	-4078.18	-13795	2	0	6643	7930	20213	5100	14573		1.06	Si
SLV 2	ini.	-6676.41	11929	2	0	6643	7930	20213	5100	14573		1.22	Si
SLV 2	fin.	2017.11	11011	2	0	6643	7930	20213	5100	14573		1.32	Si
SLV 13	ini.	2947.97	-16260	2	0	6643	7930	20213	5100	14573		0.9	No
SLV 13	fin.	-4799.06	-17083	2	0	6643	7930	20213	5100	14573		0.85	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.344	SLV 2	Si
V_SLV	0.702	SLV 15	No
PF_SLU	1.788	SLU 83	Si
V_SLU	1.304	SLU 83	Si

Trave di accoppiamento 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.463	-3.284	1.1	1.59	0.49	-6.463	-3.284	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	443.81	-794	-0.0010607	0.0001872	0.0035	0.49		668.05	668.05	No	1.51	Si
SLU 79	fin.	-376.85	-3356	-0.0008519	0.0001872	0.0035	0.49		671.54	671.54	No	1.78	Si
SLU 80	ini.	437.59	-832	-0.0010409	0.0001872	0.0035	0.49		668.05	668.05	No	1.53	Si
SLU 80	fin.	-368.38	-3336	-0.0008273	0.0001872	0.0035	0.49		671.54	671.54	No	1.82	Si
SLU 84	ini.	441.75	-875	-0.0010541	0.0001872	0.0035	0.49		668.05	668.05	No	1.51	Si
SLU 84	fin.	-385.81	-3475	-0.0008781	0.0001872	0.0035	0.49		671.54	671.54	No	1.74	Si
SLU 83	ini.	447.97	-837	-0.0010741	0.0001872	0.0035	0.49		668.05	668.05	No	1.49	Si
SLU 83	fin.	-394.29	-3496	-0.0009033	0.0001872	0.0035	0.49		671.54	671.54	No	1.7	Si
SLU 75	ini.	434.63	-831	-0.0010315	0.0001872	0.0035	0.49		668.05	668.05	No	1.54	Si
SLU 75	fin.	-366.53	-3321	-0.000822	0.0001872	0.0035	0.49		671.54	671.54	No	1.83	Si
SLU 77	ini.	446.52	-801	-0.0010695	0.0001872	0.0035	0.49		668.05	668.05	No	1.5	Si
SLU 77	fin.	-377.64	-3369	-0.0008542	0.0001872	0.0035	0.49		671.54	671.54	No	1.78	Si
SLU 81	ini.	442.29	-829	-0.0010559	0.0001872	0.0035	0.49		668.05	668.05	No	1.51	Si
SLU 81	fin.	-391.65	-3468	-0.0008954	0.0001872	0.0035	0.49		671.54	671.54	No	1.71	Si
SLU 74	ini.	440.85	-793	-0.0010513	0.0001872	0.0035	0.49		668.05	668.05	No	1.52	Si
SLU 74	fin.	-375.01	-3341	-0.0008465	0.0001872	0.0035	0.49		671.54	671.54	No	1.79	Si
SLU 78	ini.	440.3	-839	-0.0010495	0.0001872	0.0035	0.49		668.05	668.05	No	1.52	Si
SLU 78	fin.	-369.16	-3348	-0.0008296	0.0001872	0.0035	0.49		671.54	671.54	No	1.82	Si
SLU 82	ini.	436.07	-867	-0.0010361	0.0001872	0.0035	0.49		668.05	668.05	No	1.53	Si
SLU 82	fin.	-383.17	-3448	-0.0008704	0.0001872	0.0035	0.49		671.54	671.54	No	1.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	447.97	2044	0.49	0	1180	3886	3301	1250	1770	Si	0.87	No
SLU 83	fin.	-394.29	-6771	0.49	0	1180	3886	3301	1250	1770	Si	0.26	No
SLU 78	ini.	440.3	2001	0.49	0	1180	3886	3301	1250	1770	Si	0.88	No
SLU 78	fin.	-369.16	-6567	0.49	0	1180	3886	3301	1250	1770	Si	0.27	No
SLU 77	ini.	446.52	1946	0.49	0	1180	3886	3301	1250	1770	Si	0.91	No
SLU 77	fin.	-377.64	-6540	0.49	0	1180	3886	3301	1250	1770	Si	0.27	No
SLU 79	ini.	443.81	1936	0.49	0	1180	3886	3301	1250	1770	Si	0.91	No
SLU 79	fin.	-376.85	-6510	0.49	0	1180	3886	3301	1250	1770	Si	0.27	No
SLU 81	ini.	442.29	2033	0.49	0	1180	3886	3301	1250	1770	Si	0.87	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-391.65	-6718	0.49	0	1180	3886	3301	1250	1770	Si	0.26	No
SLU 75	ini.	434.63	1990	0.49	0	1180	3886	3301	1250	1770	Si	0.89	No
SLU 75	fin.	-366.53	-6514	0.49	0	1180	3886	3301	1250	1770	Si	0.27	No
SLU 84	ini.	441.75	2099	0.49	0	1180	3886	3301	1250	1770	Si	0.84	No
SLU 84	fin.	-385.81	-6798	0.49	0	1180	3886	3301	1250	1770	Si	0.26	No
SLU 82	ini.	436.07	2087	0.49	0	1180	3886	3301	1250	1770	Si	0.85	No
SLU 82	fin.	-383.17	-6745	0.49	0	1180	3886	3301	1250	1770	Si	0.26	No
SLU 76	ini.	427.77	2015	0.49	0	1180	3886	3301	1250	1770	Si	0.88	No
SLU 76	fin.	-360.09	-6502	0.49	0	1180	3886	3301	1250	1770	Si	0.27	No
SLU 80	ini.	437.59	1991	0.49	0	1180	3886	3301	1250	1770	Si	0.89	No
SLU 80	fin.	-368.38	-6537	0.49	0	1180	3886	3301	1250	1770	Si	0.27	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	938.05	1314	-0.0036496	0.0002807	0.0035	0.49		944.29	944.29		1.01	Si
SLV 16	fin.	-1013.92	-5876	-0.0041747	0.0002807	0.0035	0.49		947.39	947.39		0.93	No
SLD 16	ini.	712.55	643	-0.0020304	0.0002807	0.0035	0.49		944.29	944.29		1.33	Si
SLD 16	fin.	-739.04	-4575	-0.0021628	0.0002807	0.0035	0.49		947.39	947.39		1.28	Si
SLD 15	ini.	780.31	853	-0.0024304	0.0002807	0.0035	0.49		944.29	944.29		1.21	Si
SLD 15	fin.	-811.11	-4913	-0.0026221	0.0002807	0.0035	0.49		947.39	947.39		1.17	Si
SLV 11	ini.	904.55	2256	-0.0033865	0.0002807	0.0035	0.49		944.29	944.29		1.04	Si
SLV 11	fin.	-933.73	-4921	-0.0035924	0.0002807	0.0035	0.49		947.39	947.39		1.01	Si
SLV 14	ini.	707.13	-43	-0.0020018	0.0002807	0.0035	0.49		944.29	944.29		1.34	Si
SLV 14	fin.	-753.61	-5016	-0.0022477	0.0002807	0.0035	0.49		947.39	947.39		1.26	Si
SLD 11	ini.	684.63	1207	-0.0018883	0.0002807	0.0035	0.49		944.29	944.29		1.38	Si
SLD 11	fin.	-680.05	-3937	-0.0018552	0.0002807	0.0035	0.49		947.39	947.39		1.39	Si
SLV 15	ini.	1044.21	1643	-0.0044045	0.0002807	0.0035	0.49		944.29	944.29		0.9	No
SLV 15	fin.	-1126.84	-6406	-0.0049199	0.0002807	0.0035	0.49		947.39	947.39		0.84	No
SLD 13	ini.	637.17	16	-0.0016723	0.0002807	0.0035	0.49		944.29	944.29		1.48	Si
SLD 13	fin.	-650.27	-4382	-0.0017194	0.0002807	0.0035	0.49		947.39	947.39		1.46	Si
SLV 12	ini.	833.09	2034	-0.0028046	0.0002807	0.0035	0.49		944.29	944.29		1.13	Si
SLV 12	fin.	-857.7	-4564	-0.0029769	0.0002807	0.0035	0.49		947.39	947.39		1.1	Si
SLV 13	ini.	813.28	286	-0.0026571	0.0002807	0.0035	0.49		944.29	944.29		1.16	Si
SLV 13	fin.	-866.53	-5546	-0.0030492	0.0002807	0.0035	0.49		947.39	947.39		1.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	707.13	42	0.49	0	1358	3886	4952	1250	5244		125.08	Si
SLV 14	fin.	-753.61	-7025	0.49	0	1358	3886	4952	1250	5244		0.75	No
SLV 9	ini.	134.8	3297	0.49	0	1358	3886	4952	1250	5244		1.59	Si
SLV 9	fin.	-66.01	-5568	0.49	0	1358	3886	4952	1250	5244		0.94	No
SLD 14	ini.	569.42	461	0.49	0	1358	3886	4952	1250	5244		11.37	Si
SLD 14	fin.	-578.19	-6085	0.49	0	1358	3886	4952	1250	5244		0.86	No
SLD 15	ini.	780.31	-925	0.49	0	1358	3886	4952	1250	5244		5.67	Si
SLD 15	fin.	-811.11	-6250	0.49	0	1358	3886	4952	1250	5244		0.84	No
SLV 15	ini.	1044.21	-2185	0.49	0	1358	3886	4952	1250	5244		2.4	Si
SLV 15	fin.	-1126.84	-7278	0.49	0	1358	3886	4952	1250	5244		0.72	No
SLV 13	ini.	813.28	-446	0.49	0	1358	3886	4952	1250	5244		11.77	Si
SLV 13	fin.	-866.53	-7403	0.49	0	1358	3886	4952	1250	5244		0.71	No
SLV 16	ini.	938.05	-1697	0.49	0	1358	3886	4952	1250	5244		3.09	Si
SLV 16	fin.	-1013.92	-6900	0.49	0	1358	3886	4952	1250	5244		0.76	No
SLD 16	ini.	712.55	-614	0.49	0	1358	3886	4952	1250	5244		8.54	Si
SLD 16	fin.	-739.04	-6009	0.49	0	1358	3886	4952	1250	5244		0.87	No
SLV 10	ini.	63.33	3625	0.49	0	1358	3886	4952	1250	5244		1.45	Si
SLV 10	fin.	10.01	-5314	0.49	0	1358	3886	4952	1250	5244		0.99	No
SLD 13	ini.	637.17	150	0.49	0	1358	3886	4952	1250	5244		34.9	Si
SLD 13	fin.	-650.27	-6326	0.49	0	1358	3886	4952	1250	5244		0.83	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.841	SLV 15	No
V_SLV	0.708	SLV 13	No
PF_SLU	1.491	SLU 83	Si
V_SLU	0.26	SLU 84	No

Trave di accoppiamento 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-3.233	-3.284	-1.3	0.7	2	-2.233	-3.284	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ϵ_c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_s ,fd	γ_F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-963.66	-3587	-0.0000991	0.0001872	0.0035	2		10737.13	4848.93	Si	5.03	Si
SLU 77	fin.	2144.43	-5659	-0.0002345	0.0001872	0.0035	2		10722.86	4848.93	Si	2.26	Si
SLU 80	ini.	-1014.76	-3726	-0.0001046	0.0001872	0.0035	2		10737.13	4848.93	Si	4.78	Si
SLU 80	fin.	2150.98	-5824	-0.0002353	0.0001872	0.0035	2		10722.86	4848.93	Si	2.25	Si
SLU 78	ini.	-1023.84	-3749	-0.0001055	0.0001872	0.0035	2		10737.13	4848.93	Si	4.74	Si
SLU 78	fin.	2166.3	-5864	-0.0002372	0.0001872	0.0035	2		10722.86	4848.93	Si	2.24	Si
SLU 81	ini.	-943.48	-3632	-0.0000969	0.0001872	0.0035	2		10737.13	4848.93	Si	5.14	Si
SLU 81	fin.	2155.75	-5698	-0.0002359	0.0001872	0.0035	2		10722.86	4848.93	Si	2.25	Si
SLU 75	ini.	-1013.69	-3708	-0.0001044	0.0001872	0.0035	2		10737.13	4848.93	Si	4.78	Si
SLU 75	fin.	2147.49	-5805	-0.0002349	0.0001872	0.0035	2		10722.86	4848.93	Si	2.26	Si
SLU 84	ini.	-1013.8	-3835	-0.0001045	0.0001872	0.0035	2		10737.13	4848.93	Si	4.78	Si
SLU 84	fin.	2196.42	-5962	-0.000241	0.0001872	0.0035	2		10722.86	4848.93	Si	2.21	Si
SLU 83	ini.	-953.62	-3673	-0.000098	0.0001872	0.0035	2		10737.13	4848.93	Si	5.08	Si
SLU 83	fin.	2174.56	-5757	-0.0002382	0.0001872	0.0035	2		10722.86	4848.93	Si	2.23	Si
SLU 76	ini.	-1044.74	-3793	-0.0001078	0.0001872	0.0035	2		10737.13	4848.93	Si	4.64	Si
SLU 76	fin.	2146.75	-5902	-0.0002348	0.0001872	0.0035	2		10722.86	4848.93	Si	2.26	Si
SLU 79	ini.	-954.58	-3564	-0.0000981	0.0001872	0.0035	2		10737.13	4848.93	Si	5.08	Si
SLU 79	fin.	2129.11	-5619	-0.0002326	0.0001872	0.0035	2		10722.86	4848.93	Si	2.28	Si
SLU 82	ini.	-1003.66	-3794	-0.0001034	0.0001872	0.0035	2		10737.13	4848.93	Si	4.83	Si
SLU 82	fin.	2177.62	-5903	-0.0002386	0.0001872	0.0035	2		10722.86	4848.93	Si	2.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-1013.8	2481	2	0	6250	7930	13475	5100	9375	Si	3.78	Si
SLU 84	fin.	2196.42	7605	2	0	6250	7930	13475	5100	9375	Si	1.23	Si
SLU 82	ini.	-1003.66	2463	2	0	6250	7930	13475	5100	9375	Si	3.81	Si
SLU 82	fin.	2177.62	7534	2	0	6250	7930	13475	5100	9375	Si	1.24	Si
SLU 77	ini.	-963.66	2451	2	0	6250	7930	13475	5100	9375	Si	3.82	Si
SLU 77	fin.	2144.43	7335	2	0	6250	7930	13475	5100	9375	Si	1.28	Si
SLU 81	ini.	-943.48	2366	2	0	6250	7930	13475	5100	9375	Si	3.96	Si
SLU 81	fin.	2155.75	7378	2	0	6250	7930	13475	5100	9375	Si	1.27	Si
SLU 76	ini.	-1044.74	2571	2	0	6250	7930	13475	5100	9375	Si	3.65	Si
SLU 76	fin.	2146.75	7467	2	0	6250	7930	13475	5100	9375	Si	1.26	Si
SLU 80	ini.	-1014.76	2525	2	0	6250	7930	13475	5100	9375	Si	3.71	Si
SLU 80	fin.	2150.98	7434	2	0	6250	7930	13475	5100	9375	Si	1.26	Si
SLU 75	ini.	-1013.69	2529	2	0	6250	7930	13475	5100	9375	Si	3.71	Si
SLU 75	fin.	2147.49	7419	2	0	6250	7930	13475	5100	9375	Si	1.26	Si
SLU 83	ini.	-953.62	2385	2	0	6250	7930	13475	5100	9375	Si	3.93	Si
SLU 83	fin.	2174.56	7450	2	0	6250	7930	13475	5100	9375	Si	1.26	Si
SLU 73	ini.	-1034.6	2552	2	0	6250	7930	13475	5100	9375	Si	3.67	Si
SLU 73	fin.	2127.94	7395	2	0	6250	7930	13475	5100	9375	Si	1.27	Si
SLU 78	ini.	-1023.84	2548	2	0	6250	7930	13475	5100	9375	Si	3.68	Si
SLU 78	fin.	2166.3	7491	2	0	6250	7930	13475	5100	9375	Si	1.25	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-1749.74	-2073	-0.0001827	0.0002807	0.0035	2		15648.46	15648.46		8.94	Si
SLD 1	fin.	2463.52	-4920	-0.0002644	0.0002807	0.0035	2		15635.95	15635.95		6.35	Si
SLV 3	ini.	-1227.91	1199	-0.0001259	0.0002807	0.0035	2		15648.46	15648.46		12.74	Si
SLV 3	fin.	2574.15	-1618	-0.0002775	0.0002807	0.0035	2		15635.95	15635.95		6.07	Si
SLV 5	ini.	-2836.69	-6951	-0.0003089	0.0002807	0.0035	2		15648.46	15648.46		5.52	Si
SLV 5	fin.	2603.22	-10266	-0.0002809	0.0002807	0.0035	2		15635.95	15635.95		6.01	Si
SLD 4	ini.	-1349.54	-437	-0.000139	0.0002807	0.0035	2		15648.46	15648.46		11.6	Si
SLD 4	fin.	2281.2	-3028	-0.0002431	0.0002807	0.0035	2		15635.95	15635.95		6.85	Si
SLV 6	ini.	-3155.3	-7270	-0.0003484	0.0002807	0.0035	2		15648.46	15648.46		4.96	Si
SLV 6	fin.	2702.01	-10860	-0.0002928	0.0002807	0.0035	2		15635.95	15635.95		5.79	Si
SLV 2	ini.	-2840.17	-2412	-0.0003093	0.0002807	0.0035	2		15648.46	15648.46		5.51	Si
SLV 2	fin.	3168.85	-6476	-0.0003504	0.0002807	0.0035	2		15635.95	15635.95		4.93	Si
SLV 4	ini.	-1701.13	726	-0.0001773	0.0002807	0.0035	2		15648.46	15648.46		9.2	Si
SLV 4	fin.	2720.88	-2500	-0.0002951	0.0002807	0.0035	2		15635.95	15635.95		5.75	Si
SLD 2	ini.	-2051.79	-2375	-0.0002165	0.0002807	0.0035	2		15648.46	15648.46		7.63	Si
SLD 2	fin.	2557.18	-5483	-0.0002755	0.0002807	0.0035	2		15635.95	15635.95		6.11	Si
SLV 1	ini.	-2366.95	-1939	-0.0002528	0.0002807	0.0035	2		15648.46	15648.46		6.61	Si
SLV 1	fin.	3022.11	-5594	-0.000332	0.0002807	0.0035	2		15635.95	15635.95		5.17	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-2352.63	-8362	-0.0002511	0.0002807	0.0035	2		15648.46	15648.46		6.65	Si
SLV 10	fin.	1874.45	-10766	-0.0001967	0.0002807	0.0035	2		15635.95	15635.95		8.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	-2051.79	5881	2	0	6643	7930	20213	5100	14573		2.48	Si
SLD 2	fin.	2557.18	8827	2	0	6643	7930	20213	5100	14573		1.65	Si
SLV 1	ini.	-2366.95	7242	2	0	6643	7930	20213	5100	14573		2.01	Si
SLV 1	fin.	3022.11	9944	2	0	6643	7930	20213	5100	14573		1.47	Si
SLV 9	ini.	-2034.03	1619	2	0	6643	7930	20213	5100	14573		9	Si
SLV 9	fin.	1775.66	9408	2	0	6643	7930	20213	5100	14573		1.55	Si
SLV 2	ini.	-2840.17	8182	2	0	6643	7930	20213	5100	14573		1.78	Si
SLV 2	fin.	3168.85	11049	2	0	6643	7930	20213	5100	14573		1.32	Si
SLD 6	ini.	-2222.41	4101	2	0	6643	7930	20213	5100	14573		3.55	Si
SLD 6	fin.	2247.16	9593	2	0	6643	7930	20213	5100	14573		1.52	Si
SLV 6	ini.	-3155.3	5464	2	0	6643	7930	20213	5100	14573		2.67	Si
SLV 6	fin.	2702.01	12366	2	0	6643	7930	20213	5100	14573		1.18	Si
SLD 5	ini.	-2022.96	3705	2	0	6643	7930	20213	5100	14573		3.93	Si
SLD 5	fin.	2185.32	9128	2	0	6643	7930	20213	5100	14573		1.6	Si
SLD 10	ini.	-1710.38	2048	2	0	6643	7930	20213	5100	14573		7.12	Si
SLD 10	fin.	1719.08	8191	2	0	6643	7930	20213	5100	14573		1.78	Si
SLV 10	ini.	-2352.63	2252	2	0	6643	7930	20213	5100	14573		6.47	Si
SLV 10	fin.	1874.45	10152	2	0	6643	7930	20213	5100	14573		1.44	Si
SLV 5	ini.	-2836.69	4831	2	0	6643	7930	20213	5100	14573		3.02	Si
SLV 5	fin.	2603.22	11623	2	0	6643	7930	20213	5100	14573		1.25	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.934	SLV 2	Si
V_SLV	1.178	SLV 6	Si
PF_SLU	2.208	SLU 84	Si
V_SLU	1.233	SLU 84	Si

Trave di accoppiamento 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-3.233	-3.284	1.1	1.59	0.49	-2.233	-3.284	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{nk}	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-966.89	-1429	-0.0041668	0.0001872	0.0035	0.49		671.54	671.54	No	0.69	No
SLU 75	fin.	176.16	441	-0.0003372	0.0001872	0.0035	0.49		668.05	668.05	No	3.79	Si
SLU 81	ini.	-983.04	-1432	-0.0042838	0.0001872	0.0035	0.49		671.54	671.54	No	0.68	No
SLU 81	fin.	151.48	419	-0.000283	0.0001872	0.0035	0.49		668.05	668.05	No	4.41	Si
SLU 78	ini.	-974.5	-1441	-0.0042222	0.0001872	0.0035	0.49		671.54	671.54	No	0.69	No
SLU 78	fin.	178	444	-0.0003414	0.0001872	0.0035	0.49		668.05	668.05	No	3.75	Si
SLU 84	ini.	-997.32	-1467	-0.0043856	0.0001872	0.0035	0.49		671.54	671.54	No	0.67	No
SLU 84	fin.	169.31	438	-0.0003219	0.0001872	0.0035	0.49		668.05	668.05	No	3.95	Si
SLU 77	ini.	-967.83	-1418	-0.0041737	0.0001872	0.0035	0.49		671.54	671.54	No	0.69	No
SLU 77	fin.	162	428	-0.0003058	0.0001872	0.0035	0.49		668.05	668.05	No	4.12	Si
SLU 79	ini.	-961.93	-1408	-0.0041304	0.0001872	0.0035	0.49		671.54	671.54	No	0.7	No
SLU 79	fin.	159.85	424	-0.0003011	0.0001872	0.0035	0.49		668.05	668.05	No	4.18	Si
SLU 80	ini.	-968.6	-1431	-0.0041793	0.0001872	0.0035	0.49		671.54	671.54	No	0.69	No
SLU 80	fin.	175.84	440	-0.0003365	0.0001872	0.0035	0.49		668.05	668.05	No	3.8	Si
SLU 76	ini.	-965.44	-1435	-0.0041562	0.0001872	0.0035	0.49		671.54	671.54	No	0.7	No



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	fin.	184.67	448	-0.0003565	0.0001872	0.0035	0.49		668.05	668.05	No	3.62	Si
SLU 82	ini.	-989.71	-1455	-0.0043315	0.0001872	0.0035	0.49		671.54	671.54	No	0.68	No
SLU 82	fin.	167.48	435	-0.0003179	0.0001872	0.0035	0.49		668.05	668.05	No	3.99	Si
SLU 83	ini.	-990.65	-1444	-0.0043382	0.0001872	0.0035	0.49		671.54	671.54	No	0.68	No
SLU 83	fin.	153.32	422	-0.0002869	0.0001872	0.0035	0.49		668.05	668.05	No	4.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-974.5	3597	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 78	fin.	178	-281	0.49	0	1180	3886	3301	1250	1770	Si	6.29	Si
SLU 84	ini.	-997.32	3704	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 84	fin.	169.31	-347	0.49	0	1180	3886	3301	1250	1770	Si	5.1	Si
SLU 80	ini.	-968.6	3578	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 80	fin.	175.84	-286	0.49	0	1180	3886	3301	1250	1770	Si	6.2	Si
SLU 74	ini.	-960.22	3585	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 74	fin.	160.17	-365	0.49	0	1180	3886	3301	1250	1770	Si	4.85	Si
SLU 77	ini.	-967.83	3610	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 77	fin.	162	-362	0.49	0	1180	3886	3301	1250	1770	Si	4.89	Si
SLU 83	ini.	-990.65	3717	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 83	fin.	153.32	-428	0.49	0	1180	3886	3301	1250	1770	Si	4.13	Si
SLU 79	ini.	-961.93	3591	0.49	0	1180	3886	3301	1250	1770	Si	0.49	No
SLU 79	fin.	159.85	-367	0.49	0	1180	3886	3301	1250	1770	Si	4.83	Si
SLU 81	ini.	-983.04	3692	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 81	fin.	151.48	-431	0.49	0	1180	3886	3301	1250	1770	Si	4.11	Si
SLU 75	ini.	-966.89	3572	0.49	0	1180	3886	3301	1250	1770	Si	0.5	No
SLU 75	fin.	176.16	-284	0.49	0	1180	3886	3301	1250	1770	Si	6.23	Si
SLU 82	ini.	-989.71	3679	0.49	0	1180	3886	3301	1250	1770	Si	0.48	No
SLU 82	fin.	167.48	-350	0.49	0	1180	3886	3301	1250	1770	Si	5.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 5	ini.	-1078.06	-1729	-0.0046056	0.0002807	0.0035	0.49		947.39	947.39		0.88	No
SLD 5	fin.	407.78	678	-0.0008883	0.0002807	0.0035	0.49		944.29	944.29		2.32	Si
SLV 9	ini.	-1065.97	-1740	-0.004526	0.0002807	0.0035	0.49		947.39	947.39		0.89	No
SLV 9	fin.	267.36	355	-0.000524	0.0002807	0.0035	0.49		944.29	944.29		3.53	Si
SLD 2	ini.	-1089.22	-1718	-0.0046784	0.0002807	0.0035	0.49		947.39	947.39		0.87	No
SLD 2	fin.	548.71	1018	-0.0013318	0.0002807	0.0035	0.49		944.29	944.29		1.72	Si
SLD 6	ini.	-1127.86	-1818	-0.0049264	0.0002807	0.0035	0.49		947.39	947.39		0.84	No
SLD 6	fin.	450.32	751	-0.0010126	0.0002807	0.0035	0.49		944.29	944.29		2.1	Si
SLV 1	ini.	-1217.48	-1938	-0.0054828	0.0002807	0.0035	0.49		947.39	947.39		0.78	No
SLV 1	fin.	689.63	1245	-0.0019128	0.0002807	0.0035	0.49		944.29	944.29		1.37	Si
SLV 5	ini.	-1329.84	-2189	-0.0061556	0.0002807	0.0035	0.49		947.39	947.39		0.71	No
SLV 5	fin.	576.64	898	-0.0014325	0.0002807	0.0035	0.49		944.29	944.29		1.64	Si
SLV 6	ini.	-1409.39	-2330	-0.0066234	0.0002807	0.0035	0.49		947.39	947.39		0.67	No
SLV 6	fin.	644.6	1015	-0.0017042	0.0002807	0.0035	0.49		944.29	944.29		1.46	Si
SLV 10	ini.	-1145.52	-1881	-0.005038	0.0002807	0.0035	0.49		947.39	947.39		0.83	No
SLV 10	fin.	335.32	472	-0.0006921	0.0002807	0.0035	0.49		944.29	944.29		2.82	Si
SLD 1	ini.	-1013.8	-1584	-0.0041738	0.0002807	0.0035	0.49		947.39	947.39		0.93	No
SLD 1	fin.	484.27	907	-0.0011173	0.0002807	0.0035	0.49		944.29	944.29		1.95	Si
SLV 2	ini.	-1335.64	-2148	-0.00619	0.0002807	0.0035	0.49		947.39	947.39		0.71	No
SLV 2	fin.	790.57	1419	-0.0024985	0.0002807	0.0035	0.49		944.29	944.29		1.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1065.97	3547	0.49	0	1358	3886	4952	1250	5244		1.48	Si
SLV 9	fin.	267.36	-455	0.49	0	1358	3886	4952	1250	5244		11.52	Si
SLV 5	ini.	-1329.84	4370	0.49	0	1358	3886	4952	1250	5244		1.2	Si
SLV 5	fin.	576.64	447	0.49	0	1358	3886	4952	1250	5244		11.72	Si
SLV 10	ini.	-1145.52	3772	0.49	0	1358	3886	4952	1250	5244		1.39	Si
SLV 10	fin.	335.32	-262	0.49	0	1358	3886	4952	1250	5244		20.01	Si
SLD 6	ini.	-1127.86	3793	0.49	0	1358	3886	4952	1250	5244		1.38	Si
SLD 6	fin.	450.32	326	0.49	0	1358	3886	4952	1250	5244		16.1	Si
SLD 1	ini.	-1013.8	3529	0.49	0	1358	3886	4952	1250	5244		1.49	Si
SLD 1	fin.	484.27	727	0.49	0	1358	3886	4952	1250	5244		7.22	Si
SLD 5	ini.	-1078.06	3652	0.49	0	1358	3886	4952	1250	5244		1.44	Si
SLD 5	fin.	407.78	205	0.49	0	1358	3886	4952	1250	5244		25.61	Si
SLD 2	ini.	-1089.22	3742	0.49	0	1358	3886	4952	1250	5244		1.4	Si
SLD 2	fin.	548.71	910	0.49	0	1358	3886	4952	1250	5244		5.76	Si
SLV 6	ini.	-1409.39	4595	0.49	0	1358	3886	4952	1250	5244		1.14	Si
SLV 6	fin.	644.6	641	0.49	0	1358	3886	4952	1250	5244		8.19	Si
SLV 2	ini.	-1335.64	4487	0.49	0	1358	3886	4952	1250	5244		1.17	Si
SLV 2	fin.	790.57	1538	0.49	0	1358	3886	4952	1250	5244		3.41	Si
SLV 1	ini.	-1217.48	4153	0.49	0	1358	3886	4952	1250	5244		1.26	Si
SLV 1	fin.	689.63	1252	0.49	0	1358	3886	4952	1250	5244		4.19	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.672	SLV 6	No
V_SLV	1.141	SLV 6	Si
PF_SLU	0.673	SLU 84	No
V_SLU	0.476	SLU 83	No



Trave di accoppiamento 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-3.013	5.876	-1.3	0.7	2	-2.013	5.876	-1.3	0.7	2	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_{fd}	$\gamma_{F,d}$	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-2404.07	-4140	-0.0002668	0.0001872	0.0035	2		10737.13	4848.93	Si	2.02	Si
SLU 83	fin.	3382.47	-6285	-0.0003978	0.0001872	0.0035	2		10722.86	4848.93	Si	1.43	Si
SLU 78	ini.	-2352.49	-4027	-0.0002602	0.0001872	0.0035	2		10737.13	4848.93	Si	2.06	Si
SLU 78	fin.	3327.49	-6145	-0.0003902	0.0001872	0.0035	2		10722.86	4848.93	Si	1.46	Si
SLU 82	ini.	-2301.78	-4017	-0.0002539	0.0001872	0.0035	2		10737.13	4848.93	Si	2.11	Si
SLU 82	fin.	3294.79	-6073	-0.0003856	0.0001872	0.0035	2		10722.86	4848.93	Si	1.47	Si
SLU 84	ini.	-2347.4	-4077	-0.0002596	0.0001872	0.0035	2		10737.13	4848.93	Si	2.07	Si
SLU 84	fin.	3349.69	-6182	-0.0003933	0.0001872	0.0035	2		10722.86	4848.93	Si	1.45	Si
SLU 77	ini.	-2409.17	-4090	-0.0002674	0.0001872	0.0035	2		10737.13	4848.93	Si	2.01	Si
SLU 77	fin.	3360.26	-6249	-0.0003947	0.0001872	0.0035	2		10722.86	4848.93	Si	1.44	Si
SLU 75	ini.	-2306.87	-3967	-0.0002545	0.0001872	0.0035	2		10737.13	4848.93	Si	2.1	Si
SLU 75	fin.	3272.58	-6037	-0.0003825	0.0001872	0.0035	2		10722.86	4848.93	Si	1.48	Si
SLU 80	ini.	-2332.99	-3997	-0.0002578	0.0001872	0.0035	2		10737.13	4848.93	Si	2.08	Si
SLU 80	fin.	3305.94	-6098	-0.0003872	0.0001872	0.0035	2		10722.86	4848.93	Si	1.47	Si
SLU 81	ini.	-2358.46	-4080	-0.000261	0.0001872	0.0035	2		10737.13	4848.93	Si	2.06	Si
SLU 81	fin.	3327.57	-6177	-0.0003902	0.0001872	0.0035	2		10722.86	4848.93	Si	1.46	Si
SLU 74	ini.	-2363.55	-4030	-0.0002616	0.0001872	0.0035	2		10737.13	4848.93	Si	2.05	Si
SLU 74	fin.	3305.36	-6141	-0.0003871	0.0001872	0.0035	2		10722.86	4848.93	Si	1.47	Si
SLU 79	ini.	-2389.67	-4060	-0.0002649	0.0001872	0.0035	2		10737.13	4848.93	Si	2.03	Si
SLU 79	fin.	3338.72	-6202	-0.0003917	0.0001872	0.0035	2		10722.86	4848.93	Si	1.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-2347.4	6444	2	0	6250	7930	13475	5100	9375	Si	1.45	Si
SLU 84	fin.	3349.69	9800	2	0	6250	7930	13475	5100	9375	Si	0.96	No
SLU 75	ini.	-2306.87	6370	2	0	6250	7930	13475	5100	9375	Si	1.47	Si
SLU 75	fin.	3272.58	9553	2	0	6250	7930	13475	5100	9375	Si	0.98	No
SLU 82	ini.	-2301.78	6332	2	0	6250	7930	13475	5100	9375	Si	1.48	Si
SLU 82	fin.	3294.79	9609	2	0	6250	7930	13475	5100	9375	Si	0.98	No
SLU 83	ini.	-2404.07	6547	2	0	6250	7930	13475	5100	9375	Si	1.43	Si
SLU 83	fin.	3382.47	9961	2	0	6250	7930	13475	5100	9375	Si	0.94	No
SLU 79	ini.	-2389.67	6543	2	0	6250	7930	13475	5100	9375	Si	1.43	Si
SLU 79	fin.	3338.72	9826	2	0	6250	7930	13475	5100	9375	Si	0.95	No
SLU 81	ini.	-2358.46	6434	2	0	6250	7930	13475	5100	9375	Si	1.46	Si
SLU 81	fin.	3327.57	9769	2	0	6250	7930	13475	5100	9375	Si	0.96	No
SLU 77	ini.	-2409.17	6585	2	0	6250	7930	13475	5100	9375	Si	1.42	Si
SLU 77	fin.	3360.26	9905	2	0	6250	7930	13475	5100	9375	Si	0.95	No
SLU 74	ini.	-2363.55	6472	2	0	6250	7930	13475	5100	9375	Si	1.45	Si
SLU 74	fin.	3305.36	9713	2	0	6250	7930	13475	5100	9375	Si	0.97	No
SLU 80	ini.	-2332.99	6441	2	0	6250	7930	13475	5100	9375	Si	1.46	Si
SLU 80	fin.	3305.94	9666	2	0	6250	7930	13475	5100	9375	Si	0.97	No
SLU 78	ini.	-2352.49	6483	2	0	6250	7930	13475	5100	9375	Si	1.45	Si
SLU 78	fin.	3327.49	9745	2	0	6250	7930	13475	5100	9375	Si	0.96	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-3101.1	-2501	-0.0003416	0.0002807	0.0035	2		15648.46	15648.46		5.05	Si
SLV 3	fin.	4213.62	-6451	-0.000489	0.0002807	0.0035	2		15635.95	15635.95		3.71	Si
SLD 12	ini.	-3510.12	-5108	-0.0003939	0.0002807	0.0035	2		15648.46	15648.46		4.46	Si
SLD 12	fin.	3229.53	-7739	-0.0003581	0.0002807	0.0035	2		15635.95	15635.95		4.84	Si
SLD 8	ini.	-3599.02	-4565	-0.0004055	0.0002807	0.0035	2		15648.46	15648.46		4.35	Si
SLD 8	fin.	3668.47	-7750	-0.0004151	0.0002807	0.0035	2		15635.95	15635.95		4.26	Si
SLD 11	ini.	-3714.69	-5206	-0.0004208	0.0002807	0.0035	2		15648.46	15648.46		4.21	Si
SLD 11	fin.	3367.46	-8041	-0.0003758	0.0002807	0.0035	2		15635.95	15635.95		4.64	Si
SLD 7	ini.	-3803.59	-4663	-0.0004326	0.0002807	0.0035	2		15648.46	15648.46		4.11	Si
SLD 7	fin.	3806.4	-8053	-0.0004334	0.0002807	0.0035	2		15635.95	15635.95		4.11	Si
SLV 12	ini.	-4661.38	-6542	-0.0005517	0.0002807	0.0035	2		15648.46	15648.46		3.36	Si
SLV 12	fin.	3813.94	-9894	-0.0004344	0.0002807	0.0035	2		15635.95	15635.95		4.1	Si
SLV 4	ini.	-2615.71	-2267	-0.0002822	0.0002807	0.0035	2		15648.46	15648.46		5.98	Si
SLV 4	fin.	3886.35	-5733	-0.0004442	0.0002807	0.0035	2		15635.95	15635.95		4.02	Si
SLV 8	ini.	-4803.33	-5693	-0.0005722	0.0002807	0.0035	2		15648.46	15648.46		3.26	Si
SLV 8	fin.	4509.45	-9940	-0.0005305	0.0002807	0.0035	2		15635.95	15635.95		3.47	Si
SLV 7	ini.	-5130.13	-5850	-0.0006203	0.0002807	0.0035	2		15648.46	15648.46		3.05	Si
SLV 7	fin.	4729.79	-10423	-0.0005621	0.0002807	0.0035	2		15635.95	15635.95		3.31	Si
SLV 11	ini.	-4988.18	-6699	-0.0005993	0.0002807	0.0035	2		15648.46	15648.46		3.14	Si
SLV 11	fin.	4034.28	-10377	-0.0004643	0.0002807	0.0035	2		15635.95	15635.95		3.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-5130.13	12101	2	0	6643	7930	20213	5100	14573		1.2	Si
SLV 7	fin.	4729.79	16582	2	0	6643	7930	20213	5100	14573		0.88	No
SLD 12	ini.	-3510.12	7705	2	0	6643	7930	20213	5100	14573		1.89	Si
SLD 12	fin.	3229.53	11675	2	0	6643	7930	20213	5100	14573		1.25	Si
SLV 4	ini.	-2615.71	8635	2	0	6643	7930	20213	5100	14573		1.69	Si
SLV 4	fin.	3886.35	10087	2	0	6643	7930	20213	5100	14573		1.44	Si
SLV 3	ini.	-3101.1	9839	2	0	6643	7930	20213	5100	14573		1.48	Si
SLV 3	fin.	4213.62	11446	2	0	6643	7930	20213	5100	14573		1.27	Si
SLD 11	ini.	-3714.69	8212	2	0	6643	7930	20213	5100	14573		1.77	Si
SLD 11	fin.	3367.46	12247	2	0	6643	7930	20213	5100	14573		1.19	Si
SLV 12	ini.	-4661.38	9645	2	0	6643	7930	20213	5100	14573		1.51	Si
SLV 12	fin.	3813.94	14825	2	0	6643	7930	20213	5100	14573		0.98	No
SLD 8	ini.	-3599.02	8769	2	0	6643	7930	20213	5100	14573		1.66	Si
SLD 8	fin.	3668.47	12224	2	0	6643	7930	20213	5100	14573		1.19	Si
SLD 7	ini.	-3803.59	9276	2	0	6643	7930	20213	5100	14573		1.57	Si
SLD 7	fin.	3806.4	12796	2	0	6643	7930	20213	5100	14573		1.14	Si
SLV 8	ini.	-4803.33	11290	2	0	6643	7930	20213	5100	14573		1.29	Si
SLV 8	fin.	4509.45	15667	2	0	6643	7930	20213	5100	14573		0.93	No
SLV 11	ini.	-4988.18	10456	2	0	6643	7930	20213	5100	14573		1.39	Si
SLV 11	fin.	4034.28	15740	2	0	6643	7930	20213	5100	14573		0.93	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.05	SLV 7	Si
V_SLV	0.879	SLV 7	No
PF_SLU	1.434	SLU 83	Si
V_SLU	0.941	SLU 83	No

Trave di accoppiamento 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-3.013	5.876	1.1	1.59	0.49	-2.013	5.876	1.1	1.59	0.49	1	0.45	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-939.48	-2932	-0.0039629	0.0001872	0.0035	0.49		671.54	671.54	No	0.71	No
SLU 81	fin.	284.26	1927	-0.0005997	0.0001872	0.0035	0.49		668.05	668.05	No	2.35	Si
SLU 82	ini.	-928.93	-2893	-0.0038825	0.0001872	0.0035	0.49		671.54	671.54	No	0.72	No
SLU 82	fin.	277.36	1896	-0.0005818	0.0001872	0.0035	0.49		668.05	668.05	No	2.41	Si
SLU 84	ini.	-942.54	-2940	-0.003986	0.0001872	0.0035	0.49		671.54	671.54	No	0.71	No
SLU 84	fin.	283.78	1928	-0.0005985	0.0001872	0.0035	0.49		668.05	668.05	No	2.35	Si
SLU 77	ini.	-937.72	-2956	-0.0039495	0.0001872	0.0035	0.49		671.54	671.54	No	0.72	No
SLU 77	fin.	299.35	1957	-0.0006394	0.0001872	0.0035	0.49		668.05	668.05	No	2.23	Si
SLU 75	ini.	-913.56	-2870	-0.0037628	0.0001872	0.0035	0.49		671.54	671.54	No	0.74	No
SLU 75	fin.	286.01	1893	-0.0006043	0.0001872	0.0035	0.49		668.05	668.05	No	2.34	Si
SLU 78	ini.	-927.17	-2917	-0.0038688	0.0001872	0.0035	0.49		671.54	671.54	No	0.72	No
SLU 78	fin.	292.44	1925	-0.0006211	0.0001872	0.0035	0.49		668.05	668.05	No	2.28	Si
SLU 83	ini.	-953.08	-2979	-0.004065	0.0001872	0.0035	0.49		671.54	671.54	No	0.7	No
SLU 83	fin.	290.69	1959	-0.0006165	0.0001872	0.0035	0.49		668.05	668.05	No	2.3	Si
SLU 80	ini.	-921.61	-2898	-0.0038258	0.0001872	0.0035	0.49		671.54	671.54	No	0.73	No
SLU 80	fin.	289.98	1913	-0.0006147	0.0001872	0.0035	0.49		668.05	668.05	No	2.3	Si
SLU 74	ini.	-924.11	-2909	-0.0038452	0.0001872	0.0035	0.49		671.54	671.54	No	0.73	No
SLU 74	fin.	292.92	1925	-0.0006224	0.0001872	0.0035	0.49		668.05	668.05	No	2.28	Si
SLU 79	ini.	-932.16	-2937	-0.0039072	0.0001872	0.0035	0.49		671.54	671.54	No	0.72	No
SLU 79	fin.	296.89	1944	-0.0006329	0.0001872	0.0035	0.49		668.05	668.05	No	2.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-939.48	4660	0.49	0	1180	3886	3301	1250	1770	Si	0.38	No
SLU 81	fin.	284.26	384	0.49	0	1180	3886	3301	1250	1770	Si	4.61	Si
SLU 80	ini.	-921.61	4556	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 80	fin.	289.98	438	0.49	0	1180	3886	3301	1250	1770	Si	4.04	Si
SLU 83	ini.	-953.08	4723	0.49	0	1180	3886	3301	1250	1770	Si	0.37	No
SLU 83	fin.	290.69	404	0.49	0	1180	3886	3301	1250	1770	Si	4.38	Si
SLU 82	ini.	-928.93	4614	0.49	0	1180	3886	3301	1250	1770	Si	0.38	No
SLU 82	fin.	277.36	360	0.49	0	1180	3886	3301	1250	1770	Si	4.92	Si
SLU 75	ini.	-913.56	4519	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 75	fin.	286.01	426	0.49	0	1180	3886	3301	1250	1770	Si	4.16	Si
SLU 79	ini.	-932.16	4602	0.49	0	1180	3886	3301	1250	1770	Si	0.38	No
SLU 79	fin.	296.89	463	0.49	0	1180	3886	3301	1250	1770	Si	3.83	Si
SLU 77	ini.	-937.72	4629	0.49	0	1180	3886	3301	1250	1770	Si	0.38	No
SLU 77	fin.	299.35	470	0.49	0	1180	3886	3301	1250	1770	Si	3.77	Si
SLU 84	ini.	-942.54	4677	0.49	0	1180	3886	3301	1250	1770	Si	0.38	No
SLU 84	fin.	283.78	380	0.49	0	1180	3886	3301	1250	1770	Si	4.66	Si
SLU 74	ini.	-924.11	4565	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 74	fin.	292.92	450	0.49	0	1180	3886	3301	1250	1770	Si	3.93	Si
SLU 78	ini.	-927.17	4582	0.49	0	1180	3886	3301	1250	1770	Si	0.39	No
SLU 78	fin.	292.44	446	0.49	0	1180	3886	3301	1250	1770	Si	3.97	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1182.41	-4206	-0.0052678	0.0002807	0.0035	0.49		947.39	947.39		0.8	No
SLV 11	fin.	593.72	3082	-0.0014969	0.0002807	0.0035	0.49		944.29	944.29		1.59	Si
SLV 4	ini.	-932.16	-3424	-0.0035804	0.0002807	0.0035	0.49		947.39	947.39		1.02	Si
SLV 4	fin.	540.38	2567	-0.0013027	0.0002807	0.0035	0.49		944.29	944.29		1.75	Si
SLD 12	ini.	-931.26	-3203	-0.0035734	0.0002807	0.0035	0.49		947.39	947.39		1.02	Si
SLD 12	fin.	410.22	2266	-0.0008953	0.0002807	0.0035	0.49		944.29	944.29		2.3	Si
SLD 8	ini.	-998.07	-3548	-0.0040641	0.0002807	0.0035	0.49		947.39	947.39		0.95	No
SLD 8	fin.	503.04	2587	-0.0011775	0.0002807	0.0035	0.49		944.29	944.29		1.88	Si
SLD 11	ini.	-971.66	-3370	-0.0038756	0.0002807	0.0035	0.49		947.39	947.39		0.98	No
SLD 11	fin.	447.36	2419	-0.0010037	0.0002807	0.0035	0.49		944.29	944.29		2.11	Si
SLV 12	ini.	-1117.86	-3939	-0.0048628	0.0002807	0.0035	0.49		947.39	947.39		0.85	No
SLV 12	fin.	534.4	2836	-0.0012822	0.0002807	0.0035	0.49		944.29	944.29		1.77	Si
SLV 7	ini.	-1287.74	-4749	-0.0059053	0.0002807	0.0035	0.49		947.39	947.39		0.74	No
SLV 7	fin.	739.48	3584	-0.0021795	0.0002807	0.0035	0.49		944.29	944.29		1.28	Si
SLV 8	ini.	-1223.2	-4482	-0.0055176	0.0002807	0.0035	0.49		947.39	947.39		0.77	No
SLV 8	fin.	680.16	3339	-0.0018666	0.0002807	0.0035	0.49		944.29	944.29		1.39	Si
SLV 3	ini.	-1028.03	-3821	-0.0042715	0.0002807	0.0035	0.49		947.39	947.39		0.92	No
SLV 3	fin.	628.48	2932	-0.0016357	0.0002807	0.0035	0.49		944.29	944.29		1.5	Si
SLD 7	ini.	-1038.47	-3715	-0.0043424	0.0002807	0.0035	0.49		947.39	947.39		0.91	No
SLD 7	fin.	540.17	2740	-0.001302	0.0002807	0.0035	0.49		944.29	944.29		1.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-1117.86	5363	0.49	0	1358	3886	4952	1250	5244		0.98	No
SLV 12	fin.	534.4	1693	0.49	0	1358	3886	4952	1250	5244		3.1	Si
SLV 7	ini.	-1287.74	6011	0.49	0	1358	3886	4952	1250	5244		0.87	No
SLV 7	fin.	739.48	2541	0.49	0	1358	3886	4952	1250	5244		2.06	Si
SLV 4	ini.	-932.16	4343	0.49	0	1358	3886	4952	1250	5244		1.21	Si
SLV 4	fin.	540.38	1753	0.49	0	1358	3886	4952	1250	5244		2.99	Si
SLD 11	ini.	-971.66	4666	0.49	0	1358	3886	4952	1250	5244		1.12	Si
SLD 11	fin.	447.36	1334	0.49	0	1358	3886	4952	1250	5244		3.93	Si
SLV 3	ini.	-1028.03	4729	0.49	0	1358	3886	4952	1250	5244		1.11	Si
SLV 3	fin.	628.48	2099	0.49	0	1358	3886	4952	1250	5244		2.5	Si
SLD 8	ini.	-998.07	4750	0.49	0	1358	3886	4952	1250	5244		1.1	Si
SLD 8	fin.	503.04	1581	0.49	0	1358	3886	4952	1250	5244		3.32	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-1182.41	5622	0.49	0	1358	3886	4952	1250	5244		0.93	No
SLV 11	fin.	593.72	1926	0.49	0	1358	3886	4952	1250	5244		2.72	Si
SLV 8	ini.	-1223.2	5752	0.49	0	1358	3886	4952	1250	5244		0.91	No
SLV 8	fin.	680.16	2308	0.49	0	1358	3886	4952	1250	5244		2.27	Si
SLD 7	ini.	-1038.47	4912	0.49	0	1358	3886	4952	1250	5244		1.07	Si
SLD 7	fin.	540.17	1727	0.49	0	1358	3886	4952	1250	5244		3.04	Si
SLD 12	ini.	-931.26	4504	0.49	0	1358	3886	4952	1250	5244		1.16	Si
SLD 12	fin.	410.22	1188	0.49	0	1358	3886	4952	1250	5244		4.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.736	SLV 7	No
V_SLV	0.872	SLV 7	No
PF_SLU	0.705	SLU 83	No
V_SLU	0.375	SLU 83	No

Trave di accoppiamento 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.763	5.951	1.59	2.49	0.9	-22.763	5.951	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-67.59	-1980	-0.0000334	0.0001872	0.0035	0.9		2964.67	1717.92	Si	25.42	Si
SLU 83	fin.	935.68	-3519	-0.0005813	0.0001872	0.0035	0.9		2959	1717.92	Si	1.84	Si
SLU 79	ini.	-76.41	-1930	-0.0000379	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.48	Si
SLU 79	fin.	929.85	-3470	-0.0005769	0.0001872	0.0035	0.9		2959	1717.92	Si	1.85	Si
SLU 81	ini.	-72.85	-1937	-0.0000361	0.0001872	0.0035	0.9		2964.67	1717.92	Si	23.58	Si
SLU 81	fin.	924.38	-3466	-0.0005727	0.0001872	0.0035	0.9		2959	1717.92	Si	1.86	Si
SLU 77	ini.	-75	-1950	-0.0000372	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.9	Si
SLU 77	fin.	937.16	-3500	-0.0005824	0.0001872	0.0035	0.9		2959	1717.92	Si	1.83	Si
SLU 78	ini.	-62.68	-1949	-0.0000331	0.0001872	0.0035	0.9		2964.67	1717.92	Si	27.41	Si
SLU 78	fin.	916.09	-3451	-0.0005664	0.0001872	0.0035	0.9		2959	1717.92	Si	1.88	Si
SLU 75	ini.	-67.94	-1907	-0.0000336	0.0001872	0.0035	0.9		2964.67	1717.92	Si	25.28	Si
SLU 75	fin.	904.79	-3398	-0.0005578	0.0001872	0.0035	0.9		2959	1717.92	Si	1.9	Si
SLU 84	ini.	-55.26	-1979	-0.0000273	0.0001872	0.0035	0.9		2964.67	1717.92	Si	31.09	Si
SLU 84	fin.	914.61	-3469	-0.0005653	0.0001872	0.0035	0.9		2959	1717.92	Si	1.88	Si
SLU 82	ini.	-60.53	-1936	-0.0000299	0.0001872	0.0035	0.9		2964.67	1717.92	Si	28.38	Si
SLU 82	fin.	903.31	-3416	-0.0005567	0.0001872	0.0035	0.9		2959	1717.92	Si	1.9	Si
SLU 74	ini.	-80.27	-1907	-0.0000398	0.0001872	0.0035	0.9		2964.67	1717.92	Si	21.4	Si
SLU 74	fin.	925.86	-3447	-0.0005738	0.0001872	0.0035	0.9		2959	1717.92	Si	1.86	Si
SLU 80	ini.	-64.09	-1929	-0.0000317	0.0001872	0.0035	0.9		2964.67	1717.92	Si	26.81	Si
SLU 80	fin.	908.78	-3421	-0.0005608	0.0001872	0.0035	0.9		2959	1717.92	Si	1.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-75	948	0.9	0	1750	7137	3773	2295	2625	Si	2.77	Si
SLU 77	fin.	937.16	2547	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 74	ini.	-80.27	958	0.9	0	1750	7137	3773	2295	2625	Si	2.74	Si
SLU 74	fin.	925.86	2517	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si
SLU 80	ini.	-64.09	905	0.9	0	1750	7137	3773	2295	2625	Si	2.9	Si
SLU 80	fin.	908.78	2460	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 78	ini.	-62.68	904	0.9	0	1750	7137	3773	2295	2625	Si	2.9	Si
SLU 78	fin.	916.09	2481	0.9	0	1750	7137	3773	2295	2625	Si	1.06	Si
SLU 81	ini.	-72.85	936	0.9	0	1750	7137	3773	2295	2625	Si	2.8	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	fin.	924.38	2510	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 69	ini.	-107.89	1022	0.9	0	1750	7137	3773	2295	2625	Si	2.57	Si
SLU 69	fin.	897.19	2444	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 84	ini.	-55.26	883	0.9	0	1750	7137	3773	2295	2625	Si	2.97	Si
SLU 84	fin.	914.61	2474	0.9	0	1750	7137	3773	2295	2625	Si	1.06	Si
SLU 75	ini.	-67.94	913	0.9	0	1750	7137	3773	2295	2625	Si	2.87	Si
SLU 75	fin.	904.79	2450	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 83	ini.	-67.59	927	0.9	0	1750	7137	3773	2295	2625	Si	2.83	Si
SLU 83	fin.	935.68	2541	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 79	ini.	-76.41	949	0.9	0	1750	7137	3773	2295	2625	Si	2.77	Si
SLU 79	fin.	929.85	2527	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-818.78	-805	-0.0004653	0.0002807	0.0035	0.9		2995.37	2995.37		3.66	Si
SLD 12	fin.	1702.12	-4535	-0.0011812	0.0002807	0.0035	0.9		2989.59	2989.59		1.76	Si
SLD 16	ini.	-982.86	52	-0.0005798	0.0002807	0.0035	0.9		2995.37	2995.37		3.05	Si
SLD 16	fin.	1534.33	-3582	-0.0010252	0.0002807	0.0035	0.9		2989.59	2989.59		1.95	Si
SLV 12	ini.	-1256.47	-555	-0.0007878	0.0002807	0.0035	0.9		2995.37	2995.37		2.38	Si
SLV 12	fin.	2331.2	-5847	-0.0019173	0.0002807	0.0035	0.9		2989.59	2989.59		1.28	Si
SLV 11	ini.	-1029.55	-866	-0.0006138	0.0002807	0.0035	0.9		2995.37	2995.37		2.91	Si
SLV 11	fin.	2100.3	-5503	-0.0016095	0.0002807	0.0035	0.9		2989.59	2989.59		1.42	Si
SLV 16	ini.	-1496.33	784	-0.000989	0.0002807	0.0035	0.9		2995.37	2995.37		2	Si
SLV 16	fin.	2042.3	-4292	-0.0015406	0.0002807	0.0035	0.9		2989.59	2989.59		1.46	Si
SLV 7	ini.	-421.41	-1949	-0.0002199	0.0002807	0.0035	0.9		2995.37	2995.37		7.11	Si
SLV 7	fin.	1610.43	-5069	-0.0010945	0.0002807	0.0035	0.9		2989.59	2989.59		1.86	Si
SLD 8	ini.	-430.82	-1498	-0.0002252	0.0002807	0.0035	0.9		2995.37	2995.37		6.95	Si
SLD 8	fin.	1390.39	-4261	-0.0009	0.0002807	0.0035	0.9		2989.59	2989.59		2.15	Si
SLV 15	ini.	-1159.29	323	-0.0007114	0.0002807	0.0035	0.9		2995.37	2995.37		2.58	Si
SLV 15	fin.	1699.33	-3782	-0.0011785	0.0002807	0.0035	0.9		2989.59	2989.59		1.76	Si
SLV 8	ini.	-648.33	-1638	-0.0003544	0.0002807	0.0035	0.9		2995.37	2995.37		4.62	Si
SLV 8	fin.	1841.34	-5413	-0.0013203	0.0002807	0.0035	0.9		2989.59	2989.59		1.62	Si
SLD 11	ini.	-676.73	-999	-0.0003723	0.0002807	0.0035	0.9		2995.37	2995.37		4.43	Si
SLD 11	fin.	1557.58	-4319	-0.0010462	0.0002807	0.0035	0.9		2989.59	2989.59		1.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	-676.73	3250	0.9	0	2577	7137	5660	2295	7955		2.45	Si
SLD 11	fin.	1557.58	4606	0.9	0	2577	7137	5660	2295	7955		1.73	Si
SLV 8	ini.	-648.33	3553	0.9	0	2577	7137	5660	2295	7955		2.24	Si
SLV 8	fin.	1841.34	5363	0.9	0	2577	7137	5660	2295	7955		1.48	Si
SLD 16	ini.	-982.86	3776	0.9	0	2577	7137	5660	2295	7955		2.11	Si
SLD 16	fin.	1534.33	4719	0.9	0	2577	7137	5660	2295	7955		1.69	Si
SLD 8	ini.	-430.82	2506	0.9	0	2577	7137	5660	2295	7955		3.17	Si
SLD 8	fin.	1390.39	4005	0.9	0	2577	7137	5660	2295	7955		1.99	Si
SLV 16	ini.	-1496.33	5493	0.9	0	2577	7137	5660	2295	7955		1.45	Si
SLV 16	fin.	2042.3	6411	0.9	0	2577	7137	5660	2295	7955		1.24	Si
SLV 15	ini.	-1159.29	4396	0.9	0	2577	7137	5660	2295	7955		1.81	Si
SLV 15	fin.	1699.33	5270	0.9	0	2577	7137	5660	2295	7955		1.51	Si
SLD 12	ini.	-818.78	3712	0.9	0	2577	7137	5660	2295	7955		2.14	Si
SLD 12	fin.	1702.12	5087	0.9	0	2577	7137	5660	2295	7955		1.56	Si
SLV 7	ini.	-421.41	2814	0.9	0	2577	7137	5660	2295	7955		2.83	Si
SLV 7	fin.	1610.43	4596	0.9	0	2577	7137	5660	2295	7955		1.73	Si
SLV 11	ini.	-1029.55	4706	0.9	0	2577	7137	5660	2295	7955		1.69	Si
SLV 11	fin.	2100.3	6294	0.9	0	2577	7137	5660	2295	7955		1.26	Si
SLV 12	ini.	-1256.47	5445	0.9	0	2577	7137	5660	2295	7955		1.46	Si
SLV 12	fin.	2331.2	7062	0.9	0	2577	7137	5660	2295	7955		1.13	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 12	Si
V_SLV		SLV 12	Si
PF_SLU		SLU 77	Si
V_SLU		SLU 77	Si

Trave di accoppiamento 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.763	5.951	4.39	5	0.61	-22.763	5.951	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-911.16	-2707	-0.0015697	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.05	Si
SLU 74	fin.	87.63	-192	-0.0000967	0.0001872	0.0035	0.61		1367.55	956.67	Si	10.92	Si
SLU 82	ini.	-903.29	-2679	-0.0015489	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.06	Si
SLU 82	fin.	71.89	-220	-0.0000788	0.0001872	0.0035	0.61		1367.55	956.67	Si	13.31	Si
SLU 79	ini.	-915.94	-2724	-0.0015824	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.04	Si
SLU 79	fin.	85.69	-201	-0.0000945	0.0001872	0.0035	0.61		1367.55	956.67	Si	11.16	Si
SLU 80	ini.	-901.28	-2682	-0.0015436	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.06	Si
SLU 80	fin.	76.73	-217	-0.0000843	0.0001872	0.0035	0.61		1367.55	956.67	Si	12.47	Si
SLU 81	ini.	-917.94	-2720	-0.0015878	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.04	Si
SLU 81	fin.	80.86	-204	-0.000089	0.0001872	0.0035	0.61		1367.55	956.67	Si	11.83	Si
SLU 83	ini.	-930.02	-2762	-0.0016205	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.03	Si
SLU 83	fin.	78.63	-219	-0.0000864	0.0001872	0.0035	0.61		1367.55	956.67	Si	12.17	Si
SLU 75	ini.	-896.5	-2665	-0.0015312	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.07	Si
SLU 75	fin.	78.66	-208	-0.0000865	0.0001872	0.0035	0.61		1367.55	956.67	Si	12.16	Si
SLU 77	ini.	-923.24	-2748	-0.001602	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.04	Si
SLU 77	fin.	85.4	-207	-0.0000942	0.0001872	0.0035	0.61		1367.55	956.67	Si	11.2	Si
SLU 78	ini.	-908.58	-2706	-0.0015628	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.05	Si
SLU 78	fin.	76.43	-223	-0.0000839	0.0001872	0.0035	0.61		1367.55	956.67	Si	12.52	Si
SLU 84	ini.	-915.37	-2720	-0.0015809	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.05	Si
SLU 84	fin.	69.66	-236	-0.0000762	0.0001872	0.0035	0.61		1367.55	956.67	Si	13.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-901.28	3786	0.61	0	1186	4837	2557	1556	1779	Si	0.47	No
SLU 80	fin.	76.73	-219	0.61	0	1186	4837	2557	1556	1779	Si	8.11	Si
SLU 75	ini.	-896.5	3765	0.61	0	1186	4837	2557	1556	1779	Si	0.47	No
SLU 75	fin.	78.66	-210	0.61	0	1186	4837	2557	1556	1779	Si	8.47	Si
SLU 74	ini.	-911.16	3819	0.61	0	1186	4837	2557	1556	1779	Si	0.47	No
SLU 74	fin.	87.63	-179	0.61	0	1186	4837	2557	1556	1779	Si	9.95	Si
SLU 77	ini.	-923.24	3869	0.61	0	1186	4837	2557	1556	1779	Si	0.46	No
SLU 77	fin.	85.4	-192	0.61	0	1186	4837	2557	1556	1779	Si	9.26	Si
SLU 81	ini.	-917.94	3862	0.61	0	1186	4837	2557	1556	1779	Si	0.46	No
SLU 81	fin.	80.86	-221	0.61	0	1186	4837	2557	1556	1779	Si	8.06	Si
SLU 78	ini.	-908.58	3815	0.61	0	1186	4837	2557	1556	1779	Si	0.47	No
SLU 78	fin.	76.43	-223	0.61	0	1186	4837	2557	1556	1779	Si	7.96	Si
SLU 79	ini.	-915.94	3839	0.61	0	1186	4837	2557	1556	1779	Si	0.46	No
SLU 79	fin.	85.69	-188	0.61	0	1186	4837	2557	1556	1779	Si	9.45	Si
SLU 83	ini.	-930.02	3912	0.61	0	1186	4837	2557	1556	1779	Si	0.45	No
SLU 83	fin.	78.63	-234	0.61	0	1186	4837	2557	1556	1779	Si	7.6	Si
SLU 82	ini.	-903.29	3808	0.61	0	1186	4837	2557	1556	1779	Si	0.47	No
SLU 82	fin.	71.89	-252	0.61	0	1186	4837	2557	1556	1779	Si	7.06	Si
SLU 84	ini.	-915.37	3858	0.61	0	1186	4837	2557	1556	1779	Si	0.46	No
SLU 84	fin.	69.66	-265	0.61	0	1186	4837	2557	1556	1779	Si	6.71	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	-1188.03	-3245	-0.002315	0.0002807	0.0035	0.61		1379.46	1379.46		1.16	Si
SLD 16	fin.	610.65	1160	-0.0008463	0.0002807	0.0035	0.61		1375.47	1375.47		2.25	Si
SLD 8	ini.	-1161.93	-3401	-0.002214	0.0002807	0.0035	0.61		1379.46	1379.46		1.19	Si
SLD 8	fin.	357.15	346	-0.0004373	0.0002807	0.0035	0.61		1375.47	1375.47		3.85	Si
SLD 11	ini.	-1253.57	-3589	-0.0025923	0.0002807	0.0035	0.61		1379.46	1379.46		1.1	Si
SLD 11	fin.	483.23	677	-0.0006298	0.0002807	0.0035	0.61		1375.47	1375.47		2.85	Si
SLD 12	ini.	-1347.6	-3823	-0.0030565	0.0002807	0.0035	0.61		1379.46	1379.46		1.02	Si
SLD 12	fin.	572.29	886	-0.0007787	0.0002807	0.0035	0.61		1375.47	1375.47		2.4	Si
SLV 11	ini.	-1630.36	-4637	-0.004416	0.0002807	0.0035	0.61		1379.46	1379.46		0.85	No
SLV 11	fin.	723.84	1125	-0.0010591	0.0002807	0.0035	0.61		1375.47	1375.47		1.9	Si
SLV 7	ini.	-1338.56	-3972	-0.0030087	0.0002807	0.0035	0.61		1379.46	1379.46		1.03	Si
SLV 7	fin.	386.61	280	-0.0004804	0.0002807	0.0035	0.61		1375.47	1375.47		3.56	Si
SLV 15	ini.	-1287.71	-3493	-0.0027515	0.0002807	0.0035	0.61		1379.46	1379.46		1.07	Si
SLV 15	fin.	702.9	1371	-0.0010181	0.0002807	0.0035	0.61		1375.47	1375.47		1.96	Si
SLV 12	ini.	-1780.58	-5011	-0.0050417	0.0002807	0.0035	0.61		1379.46	1379.46		0.77	No
SLV 12	fin.	866.1	1459	-0.0013616	0.0002807	0.0035	0.61		1375.47	1375.47		1.59	Si
SLV 16	ini.	-1510.83	-4048	-0.0038815	0.0002807	0.0035	0.61		1379.46	1379.46		0.91	No
SLV 16	fin.	914.2	1867	-0.0014753	0.0002807	0.0035	0.61		1375.47	1375.47		1.5	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-1488.77	-4346	-0.0037776	0.0002807	0.0035	0.61		1379.46	1379.46		0.93	No
SLV 8	fin.	528.87	614	-0.0007048	0.0002807	0.0035	0.61		1375.47	1375.47		2.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-1510.83	5846	0.61	0	1562	4837	3836	1556	5391		0.92	No
SLV 16	fin.	914.2	2912	0.61	0	1562	4837	3836	1556	5391		1.85	Si
SLD 16	ini.	-1188.03	4663	0.61	0	1562	4837	3836	1556	5391		1.16	Si
SLD 16	fin.	610.65	1837	0.61	0	1562	4837	3836	1556	5391		2.94	Si
SLV 12	ini.	-1780.58	6819	0.61	0	1562	4837	3836	1556	5391		0.79	No
SLV 12	fin.	866.1	2726	0.61	0	1562	4837	3836	1556	5391		1.98	Si
SLV 15	ini.	-1287.71	5045	0.61	0	1562	4837	3836	1556	5391		1.07	Si
SLV 15	fin.	702.9	2167	0.61	0	1562	4837	3836	1556	5391		2.49	Si
SLV 11	ini.	-1630.36	6280	0.61	0	1562	4837	3836	1556	5391		0.86	No
SLV 11	fin.	723.84	2224	0.61	0	1562	4837	3836	1556	5391		2.42	Si
SLD 12	ini.	-1347.6	5241	0.61	0	1562	4837	3836	1556	5391		1.03	Si
SLD 12	fin.	572.29	1689	0.61	0	1562	4837	3836	1556	5391		3.19	Si
SLD 8	ini.	-1161.93	4559	0.61	0	1562	4837	3836	1556	5391		1.18	Si
SLD 8	fin.	357.15	925	0.61	0	1562	4837	3836	1556	5391		5.83	Si
SLV 7	ini.	-1338.56	5206	0.61	0	1562	4837	3836	1556	5391		1.04	Si
SLV 7	fin.	386.61	1027	0.61	0	1562	4837	3836	1556	5391		5.25	Si
SLD 11	ini.	-1253.57	4903	0.61	0	1562	4837	3836	1556	5391		1.1	Si
SLD 11	fin.	483.23	1376	0.61	0	1562	4837	3836	1556	5391		3.92	Si
SLV 8	ini.	-1488.77	5745	0.61	0	1562	4837	3836	1556	5391		0.94	No
SLV 8	fin.	528.87	1528	0.61	0	1562	4837	3836	1556	5391		3.53	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.775	SLV 12	No
V_SLV	0.791	SLV 12	No
PF_SLU	1.029	SLU 83	Si
V_SLU	0.455	SLU 83	No

Trave di accoppiamento 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.543	-3.359	1.59	2.49	0.9	-22.543	-3.359	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	332	-2048	-0.0001746	0.0001872	0.0035	0.9		2959	1717.92	Si	5.17	Si
SLU 79	fin.	716.75	-2631	-0.0004207	0.0001872	0.0035	0.9		2959	1717.92	Si	2.4	Si
SLU 73	ini.	324.59	-2014	-0.0001703	0.0001872	0.0035	0.9		2959	1717.92	Si	5.29	Si
SLU 73	fin.	716.84	-2644	-0.0004208	0.0001872	0.0035	0.9		2959	1717.92	Si	2.4	Si
SLU 80	ini.	333.05	-2059	-0.0001752	0.0001872	0.0035	0.9		2959	1717.92	Si	5.16	Si
SLU 80	fin.	726.81	-2676	-0.0004278	0.0001872	0.0035	0.9		2959	1717.92	Si	2.36	Si
SLU 72	ini.	266.61	-1780	-0.0001379	0.0001872	0.0035	0.9		2959	1717.92	Si	6.44	Si
SLU 72	fin.	717.59	-2517	-0.0004213	0.0001872	0.0035	0.9		2959	1717.92	Si	2.39	Si
SLU 75	ini.	332.1	-2051	-0.0001746	0.0001872	0.0035	0.9		2959	1717.92	Si	5.17	Si
SLU 75	fin.	722.12	-2662	-0.0004245	0.0001872	0.0035	0.9		2959	1717.92	Si	2.38	Si
SLU 76	ini.	329.18	-2040	-0.000173	0.0001872	0.0035	0.9		2959	1717.92	Si	5.22	Si
SLU 76	fin.	725.17	-2675	-0.0004266	0.0001872	0.0035	0.9		2959	1717.92	Si	2.37	Si
SLU 84	ini.	356.94	-2152	-0.0001889	0.0001872	0.0035	0.9		2959	1717.92	Si	4.81	Si
SLU 84	fin.	722.42	-2713	-0.0004247	0.0001872	0.0035	0.9		2959	1717.92	Si	2.38	Si
SLU 77	ini.	335.62	-2066	-0.0001766	0.0001872	0.0035	0.9		2959	1717.92	Si	5.12	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	720.4	-2647	-0.0004233	0.0001872	0.0035	0.9		2959	1717.92	Si	2.38	Si
SLU 78	ini.	336.68	-2077	-0.0001772	0.0001872	0.0035	0.9		2959	1717.92	Si	5.1	Si
SLU 78	fin.	730.45	-2692	-0.0004303	0.0001872	0.0035	0.9		2959	1717.92	Si	2.35	Si
SLU 70	ini.	270.24	-1798	-0.0001399	0.0001872	0.0035	0.9		2959	1717.92	Si	6.36	Si
SLU 70	fin.	721.23	-2534	-0.0004238	0.0001872	0.0035	0.9		2959	1717.92	Si	2.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	331.04	-730	0.9	0	1750	7137	3773	2295	2625	Si	3.6	Si
SLU 74	fin.	712.07	1394	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 70	ini.	270.24	-394	0.9	0	1750	7137	3773	2295	2625	Si	6.66	Si
SLU 70	fin.	721.23	1416	0.9	0	1750	7137	3773	2295	2625	Si	1.85	Si
SLU 69	ini.	269.18	-486	0.9	0	1750	7137	3773	2295	2625	Si	5.4	Si
SLU 69	fin.	711.18	1438	0.9	0	1750	7137	3773	2295	2625	Si	1.83	Si
SLU 71	ini.	265.56	-473	0.9	0	1750	7137	3773	2295	2625	Si	5.55	Si
SLU 71	fin.	707.54	1431	0.9	0	1750	7137	3773	2295	2625	Si	1.83	Si
SLU 64	ini.	256.39	-442	0.9	0	1750	7137	3773	2295	2625	Si	5.94	Si
SLU 64	fin.	690.87	1394	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 67	ini.	265.66	-379	0.9	0	1750	7137	3773	2295	2625	Si	6.93	Si
SLU 67	fin.	712.9	1397	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 79	ini.	332	-732	0.9	0	1750	7137	3773	2295	2625	Si	3.59	Si
SLU 79	fin.	716.75	1405	0.9	0	1750	7137	3773	2295	2625	Si	1.87	Si
SLU 77	ini.	335.62	-745	0.9	0	1750	7137	3773	2295	2625	Si	3.52	Si
SLU 77	fin.	720.4	1412	0.9	0	1750	7137	3773	2295	2625	Si	1.86	Si
SLU 66	ini.	264.6	-471	0.9	0	1750	7137	3773	2295	2625	Si	5.58	Si
SLU 66	fin.	702.85	1419	0.9	0	1750	7137	3773	2295	2625	Si	1.85	Si
SLU 72	ini.	266.61	-381	0.9	0	1750	7137	3773	2295	2625	Si	6.9	Si
SLU 72	fin.	717.59	1409	0.9	0	1750	7137	3773	2295	2625	Si	1.86	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-214.25	-571	-0.000108	0.0002807	0.0035	0.9		2995.37	2995.37		13.98	Si
SLD 9	fin.	1565.12	-3776	-0.001053	0.0002807	0.0035	0.9		2989.59	2989.59		1.91	Si
SLV 14	ini.	-634.09	836	-0.0003455	0.0002807	0.0035	0.9		2995.37	2995.37		4.72	Si
SLV 14	fin.	1839.08	-3647	-0.001318	0.0002807	0.0035	0.9		2989.59	2989.59		1.63	Si
SLV 15	ini.	-686.35	1282	-0.0003784	0.0002807	0.0035	0.9		2995.37	2995.37		4.36	Si
SLV 15	fin.	1515.13	-2666	-0.0010081	0.0002807	0.0035	0.9		2989.59	2989.59		1.97	Si
SLV 13	ini.	-878.94	1449	-0.0005064	0.0002807	0.0035	0.9		2995.37	2995.37		3.41	Si
SLV 13	fin.	2227.58	-4179	-0.0017718	0.0002807	0.0035	0.9		2989.59	2989.59		1.34	Si
SLV 5	ini.	58.29	-1569	-0.0000287	0.0002807	0.0035	0.9		2989.59	2989.59		51.29	Si
SLV 5	fin.	1497.59	-4156	-0.0009925	0.0002807	0.0035	0.9		2989.59	2989.59		2	Si
SLD 10	ini.	-111.05	-830	-0.0000551	0.0002807	0.0035	0.9		2995.37	2995.37		26.97	Si
SLD 10	fin.	1401.39	-3552	-0.0009093	0.0002807	0.0035	0.9		2989.59	2989.59		2.13	Si
SLD 13	ini.	-486.99	444	-0.0002574	0.0002807	0.0035	0.9		2995.37	2995.37		6.15	Si
SLD 13	fin.	1605.12	-3320	-0.0010896	0.0002807	0.0035	0.9		2989.59	2989.59		1.86	Si
SLV 9	ini.	-459.52	-132	-0.0002416	0.0002807	0.0035	0.9		2995.37	2995.37		6.52	Si
SLV 9	fin.	2188.84	-4941	-0.0017206	0.0002807	0.0035	0.9		2989.59	2989.59		1.37	Si
SLV 10	ini.	-294.67	-545	-0.0001504	0.0002807	0.0035	0.9		2995.37	2995.37		10.17	Si
SLV 10	fin.	1927.28	-4583	-0.0014113	0.0002807	0.0035	0.9		2989.59	2989.59		1.55	Si
SLD 14	ini.	-330.7	52	-0.0001699	0.0002807	0.0035	0.9		2995.37	2995.37		9.06	Si
SLD 14	fin.	1357.15	-2981	-0.000872	0.0002807	0.0035	0.9		2989.59	2989.59		2.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-686.35	3521	0.9	0	2577	7137	5660	2295	7955		2.26	Si
SLV 15	fin.	1515.13	4184	0.9	0	2577	7137	5660	2295	7955		1.9	Si
SLV 2	ini.	1091.94	-4251	0.9	0	2577	7137	5660	2295	7955		1.87	Si
SLV 2	fin.	-465.09	-2079	0.9	0	2577	7137	5660	2295	7955		3.83	Si
SLV 10	ini.	-294.67	2960	0.9	0	2577	7137	5660	2295	7955		2.69	Si
SLV 10	fin.	1927.28	4939	0.9	0	2577	7137	5660	2295	7955		1.61	Si
SLV 9	ini.	-459.52	3720	0.9	0	2577	7137	5660	2295	7955		2.14	Si
SLV 9	fin.	2188.84	5723	0.9	0	2577	7137	5660	2295	7955		1.39	Si
SLD 13	ini.	-486.99	3056	0.9	0	2577	7137	5660	2295	7955		2.6	Si
SLD 13	fin.	1605.12	4272	0.9	0	2577	7137	5660	2295	7955		1.86	Si
SLV 8	ini.	865.11	-4450	0.9	0	2577	7137	5660	2295	7955		1.79	Si
SLV 8	fin.	-1138.8	-3618	0.9	0	2577	7137	5660	2295	7955		2.2	Si
SLV 4	ini.	1284.53	-5742	0.9	0	2577	7137	5660	2295	7955		1.39	Si
SLV 4	fin.	-1177.53	-4013	0.9	0	2577	7137	5660	2295	7955		1.98	Si
SLV 14	ini.	-634.09	3884	0.9	0	2577	7137	5660	2295	7955		2.05	Si
SLV 14	fin.	1839.08	4954	0.9	0	2577	7137	5660	2295	7955		1.61	Si
SLV 3	ini.	1039.67	-4615	0.9	0	2577	7137	5660	2295	7955		1.72	Si
SLV 3	fin.	-789.03	-2849	0.9	0	2577	7137	5660	2295	7955		2.79	Si
SLV 13	ini.	-878.94	5012	0.9	0	2577	7137	5660	2295	7955		1.59	Si
SLV 13	fin.	2227.58	6118	0.9	0	2577	7137	5660	2295	7955		1.3	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.342	SLV 13	Si
V_SLV	1.3	SLV 13	Si
PF_SLU	2.352	SLU 78	Si
V_SLU	1.826	SLU 69	Si



Trave di accoppiamento 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.543	-3.359	4.39	5	0.61	-22.543	-3.359	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-785.16	-2440	-0.001262	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.22	Si
SLU 83	fin.	-101.19	-683	-0.0001121	0.0001872	0.0035	0.61		1371.37	956.67	Si	9.45	Si
SLU 79	ini.	-775.52	-2405	-0.0012403	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.23	Si
SLU 79	fin.	-83.97	-633	-0.0000923	0.0001872	0.0035	0.61		1371.37	956.67	Si	11.39	Si
SLU 81	ini.	-775.84	-2409	-0.001241	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.23	Si
SLU 81	fin.	-99.52	-672	-0.0001102	0.0001872	0.0035	0.61		1371.37	956.67	Si	9.61	Si
SLU 77	ini.	-780.03	-2421	-0.0012504	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.23	Si
SLU 77	fin.	-85.76	-641	-0.0000943	0.0001872	0.0035	0.61		1371.37	956.67	Si	11.15	Si
SLU 82	ini.	-785.84	-2447	-0.0012635	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.22	Si
SLU 82	fin.	-97.12	-679	-0.0001074	0.0001872	0.0035	0.61		1371.37	956.67	Si	9.85	Si
SLU 80	ini.	-785.51	-2442	-0.0012628	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.22	Si
SLU 80	fin.	-81.57	-640	-0.0000895	0.0001872	0.0035	0.61		1371.37	956.67	Si	11.73	Si
SLU 75	ini.	-780.71	-2427	-0.0012519	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.23	Si
SLU 75	fin.	-81.69	-637	-0.0000897	0.0001872	0.0035	0.61		1371.37	956.67	Si	11.71	Si
SLU 78	ini.	-790.02	-2458	-0.001273	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.21	Si
SLU 78	fin.	-83.36	-648	-0.0000916	0.0001872	0.0035	0.61		1371.37	956.67	Si	11.48	Si
SLU 84	ini.	-795.15	-2478	-0.0012847	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.2	Si
SLU 84	fin.	-98.79	-690	-0.0001093	0.0001872	0.0035	0.61		1371.37	956.67	Si	9.68	Si
SLU 76	ini.	-782.86	-2436	-0.0012568	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.22	Si
SLU 76	fin.	-78.29	-634	-0.0000858	0.0001872	0.0035	0.61		1371.37	956.67	Si	12.22	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-795.15	3288	0.61	0	1186	4837	2557	1556	1779	Si	0.54	No
SLU 84	fin.	-98.79	-745	0.61	0	1186	4837	2557	1556	1779	Si	2.39	Si
SLU 77	ini.	-780.03	3227	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 77	fin.	-85.76	-693	0.61	0	1186	4837	2557	1556	1779	Si	2.57	Si
SLU 81	ini.	-775.84	3224	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 81	fin.	-99.52	-752	0.61	0	1186	4837	2557	1556	1779	Si	2.37	Si
SLU 75	ini.	-780.71	3216	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 75	fin.	-81.69	-666	0.61	0	1186	4837	2557	1556	1779	Si	2.67	Si
SLU 82	ini.	-785.84	3251	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 82	fin.	-97.12	-735	0.61	0	1186	4837	2557	1556	1779	Si	2.42	Si
SLU 80	ini.	-785.51	3235	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 80	fin.	-81.57	-668	0.61	0	1186	4837	2557	1556	1779	Si	2.66	Si
SLU 78	ini.	-790.02	3254	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 78	fin.	-83.36	-676	0.61	0	1186	4837	2557	1556	1779	Si	2.63	Si
SLU 83	ini.	-785.16	3262	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 83	fin.	-101.19	-762	0.61	0	1186	4837	2557	1556	1779	Si	2.34	Si
SLU 79	ini.	-775.52	3208	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 79	fin.	-83.97	-684	0.61	0	1186	4837	2557	1556	1779	Si	2.6	Si
SLU 76	ini.	-782.86	3215	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 76	fin.	-78.29	-647	0.61	0	1186	4837	2557	1556	1779	Si	2.75	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1610.19	-4294	-0.0043286	0.0002807	0.0035	0.61		1379.46	1379.46		0.86	No
SLV 13	fin.	976.44	1944	-0.0016341	0.0002807	0.0035	0.61		1375.47	1375.47		1.41	Si
SLV 15	ini.	-1127.31	-2904	-0.0020879	0.0002807	0.0035	0.61		1379.46	1379.46		1.22	Si
SLV 15	fin.	699.97	1481	-0.0010124	0.0002807	0.0035	0.61		1375.47	1375.47		1.97	Si
SLV 10	ini.	-1477.52	-4276	-0.0037237	0.0002807	0.0035	0.61		1379.46	1379.46		0.93	No
SLV 10	fin.	577.6	767	-0.0007879	0.0002807	0.0035	0.61		1375.47	1375.47		2.38	Si
SLD 10	ini.	-1126.68	-3295	-0.0020856	0.0002807	0.0035	0.61		1379.46	1379.46		1.22	Si
SLD 10	fin.	350.58	347	-0.0004279	0.0002807	0.0035	0.61		1375.47	1375.47		3.92	Si
SLD 9	ini.	-1230.25	-3549	-0.0024896	0.0002807	0.0035	0.61		1379.46	1379.46		1.12	Si
SLD 9	fin.	447.12	570	-0.0005725	0.0002807	0.0035	0.61		1375.47	1375.47		3.08	Si
SLV 14	ini.	-1364.44	-3691	-0.003146	0.0002807	0.0035	0.61		1379.46	1379.46		1.01	Si
SLV 14	fin.	747.36	1415	-0.0011062	0.0002807	0.0035	0.61		1375.47	1375.47		1.84	Si
SLV 5	ini.	-1222.61	-3709	-0.0024569	0.0002807	0.0035	0.61		1379.46	1379.46		1.13	Si
SLV 5	fin.	277.79	31	-0.0003272	0.0002807	0.0035	0.61		1375.47	1375.47		4.95	Si
SLD 14	ini.	-1063.67	-2949	-0.0018773	0.0002807	0.0035	0.61		1379.46	1379.46		1.3	Si
SLD 14	fin.	463.53	767	-0.0005983	0.0002807	0.0035	0.61		1375.47	1375.47		2.97	Si
SLV 9	ini.	-1642.97	-4681	-0.0044701	0.0002807	0.0035	0.61		1379.46	1379.46		0.84	No
SLV 9	fin.	731.83	1124	-0.001075	0.0002807	0.0035	0.61		1375.47	1375.47		1.88	Si
SLD 13	ini.	-1220.52	-3333	-0.002448	0.0002807	0.0035	0.61		1379.46	1379.46		1.13	Si
SLD 13	fin.	609.74	1105	-0.0008447	0.0002807	0.0035	0.61		1375.47	1375.47		2.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1222.61	4559	0.61	0	1562	4837	3836	1556	5391		1.18	Si
SLV 5	fin.	277.79	758	0.61	0	1562	4837	3836	1556	5391		7.11	Si
SLD 13	ini.	-1220.52	4617	0.61	0	1562	4837	3836	1556	5391		1.17	Si
SLD 13	fin.	609.74	1929	0.61	0	1562	4837	3836	1556	5391		2.79	Si
SLV 15	ini.	-1127.31	4329	0.61	0	1562	4837	3836	1556	5391		1.25	Si
SLV 15	fin.	699.97	2242	0.61	0	1562	4837	3836	1556	5391		2.4	Si
SLD 9	ini.	-1230.25	4620	0.61	0	1562	4837	3836	1556	5391		1.17	Si
SLD 9	fin.	447.12	1354	0.61	0	1562	4837	3836	1556	5391		3.98	Si
SLD 10	ini.	-1126.68	4257	0.61	0	1562	4837	3836	1556	5391		1.27	Si
SLD 10	fin.	350.58	1011	0.61	0	1562	4837	3836	1556	5391		5.33	Si
SLD 14	ini.	-1063.67	4067	0.61	0	1562	4837	3836	1556	5391		1.33	Si
SLD 14	fin.	463.53	1410	0.61	0	1562	4837	3836	1556	5391		3.82	Si
SLV 9	ini.	-1642.97	6054	0.61	0	1562	4837	3836	1556	5391		0.89	No
SLV 9	fin.	731.83	2385	0.61	0	1562	4837	3836	1556	5391		2.26	Si
SLV 10	ini.	-1477.52	5474	0.61	0	1562	4837	3836	1556	5391		0.98	No
SLV 10	fin.	577.6	1837	0.61	0	1562	4837	3836	1556	5391		2.94	Si
SLV 13	ini.	-1610.19	5995	0.61	0	1562	4837	3836	1556	5391		0.9	No
SLV 13	fin.	976.44	3246	0.61	0	1562	4837	3836	1556	5391		1.66	Si
SLV 14	ini.	-1364.44	5133	0.61	0	1562	4837	3836	1556	5391		1.05	Si
SLV 14	fin.	747.36	2431	0.61	0	1562	4837	3836	1556	5391		2.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.84	SLV 9	No
V_SLV	0.891	SLV 9	No
PF_SLU	1.203	SLU 84	Si
V_SLU	0.541	SLU 84	No

Trave di accoppiamento 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	4.39	5	0.61	-19.368	-3.359	4.39	5	0.61	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-934.29	-1697	-0.0016322	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.02	Si
SLU 73	fin.	939.09	-1697	-0.0016525	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.02	Si
SLU 83	ini.	-958.06	-1875	-0.0016989	0.0001872	0.0035	0.61		1371.37	956.67	Si	1	No
SLU 83	fin.	945.59	-1875	-0.0016707	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.01	Si
SLU 82	ini.	-960.79	-1827	-0.0017068	0.0001872	0.0035	0.61		1371.37	956.67	Si	1	No
SLU 82	fin.	954.44	-1827	-0.0016959	0.0001872	0.0035	0.61		1367.55	956.67	Si	1	Si
SLU 81	ini.	-948.8	-1858	-0.0016726	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.01	Si
SLU 81	fin.	934.5	-1858	-0.0016397	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.02	Si
SLU 80	ini.	-944.82	-1751	-0.0016614	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.01	Si
SLU 80	fin.	947.98	-1751	-0.0016775	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.01	Si
SLU 75	ini.	-940.52	-1746	-0.0016494	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.02	Si
SLU 75	fin.	942.59	-1746	-0.0016623	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.01	Si
SLU 78	ini.	-949.79	-1762	-0.0016754	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.01	Si
SLU 78	fin.	953.68	-1762	-0.0016938	0.0001872	0.0035	0.61		1367.55	956.67	Si	1	Si
SLU 76	ini.	-943.56	-1714	-0.0016579	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.01	Si
SLU 76	fin.	950.18	-1714	-0.0016838	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.01	Si
SLU 84	ini.	-970.05	-1843	-0.0017337	0.0001872	0.0035	0.61		1371.37	956.67	Si	0.99	No
SLU 84	fin.	965.53	-1843	-0.0017281	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.99	No
SLU 77	ini.	-937.79	-1793	-0.0016419	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.02	Si
SLU 77	fin.	933.74	-1793	-0.0016376	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-940.52	3866	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 75	fin.	942.59	3666	0.61	0	1186	3965	2557	1556	1779	Si	0.49	No
SLU 77	ini.	-937.79	3843	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 77	fin.	933.74	3643	0.61	0	1186	3965	2557	1556	1779	Si	0.49	No
SLU 81	ini.	-948.8	3867	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 81	fin.	934.5	3667	0.61	0	1186	3965	2557	1556	1779	Si	0.49	No
SLU 82	ini.	-960.79	3930	0.61	0	1186	3965	2557	1556	1779	Si	0.45	No
SLU 82	fin.	954.44	3731	0.61	0	1186	3965	2557	1556	1779	Si	0.48	No
SLU 84	ini.	-970.05	3971	0.61	0	1186	3965	2557	1556	1779	Si	0.45	No
SLU 84	fin.	965.53	3771	0.61	0	1186	3965	2557	1556	1779	Si	0.47	No
SLU 80	ini.	-944.82	3886	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 80	fin.	947.98	3686	0.61	0	1186	3965	2557	1556	1779	Si	0.48	No
SLU 76	ini.	-943.56	3887	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 76	fin.	950.18	3688	0.61	0	1186	3965	2557	1556	1779	Si	0.48	No
SLU 73	ini.	-934.29	3847	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 73	fin.	939.09	3647	0.61	0	1186	3965	2557	1556	1779	Si	0.49	No
SLU 83	ini.	-958.06	3907	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 83	fin.	945.59	3707	0.61	0	1186	3965	2557	1556	1779	Si	0.48	No
SLU 78	ini.	-949.79	3907	0.61	0	1186	3965	2557	1556	1779	Si	0.46	No
SLU 78	fin.	953.68	3707	0.61	0	1186	3965	2557	1556	1779	Si	0.48	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-794.68	421	-0.0011996	0.0002807	0.0035	0.61		1379.46	1379.46		1.74	Si
SLV 15	fin.	1086.16	394	-0.0019582	0.0002807	0.0035	0.61		1375.47	1375.47		1.27	Si
SLD 13	ini.	-767.75	208	-0.0011435	0.0002807	0.0035	0.61		1379.46	1379.46		1.8	Si
SLD 13	fin.	1082.34	112	-0.0019458	0.0002807	0.0035	0.61		1375.47	1375.47		1.27	Si
SLD 10	ini.	-701.37	-328	-0.0010115	0.0002807	0.0035	0.61		1379.46	1379.46		1.97	Si
SLD 10	fin.	963.71	-481	-0.0016004	0.0002807	0.0035	0.61		1375.47	1375.47		1.43	Si
SLD 14	ini.	-724.24	-20	-0.0010561	0.0002807	0.0035	0.61		1379.46	1379.46		1.9	Si
SLD 14	fin.	987.68	-115	-0.0016644	0.0002807	0.0035	0.61		1375.47	1375.47		1.39	Si
SLV 14	ini.	-770.13	640	-0.0011484	0.0002807	0.0035	0.61		1379.46	1379.46		1.79	Si
SLV 14	fin.	1187.15	483	-0.0023242	0.0002807	0.0035	0.61		1375.47	1375.47		1.16	Si
SLD 9	ini.	-730.1	-178	-0.0010676	0.0002807	0.0035	0.61		1379.46	1379.46		1.89	Si
SLD 9	fin.	1026.21	-331	-0.001773	0.0002807	0.0035	0.61		1375.47	1375.47		1.34	Si
SLV 5	ini.	-698.11	-610	-0.0010052	0.0002807	0.0035	0.61		1379.46	1379.46		1.98	Si
SLV 5	fin.	960.98	-799	-0.0015933	0.0002807	0.0035	0.61		1375.47	1375.47		1.43	Si
SLV 13	ini.	-838.29	996	-0.0012938	0.0002807	0.0035	0.61		1379.46	1379.46		1.65	Si
SLV 13	fin.	1335.45	839	-0.0030113	0.0002807	0.0035	0.61		1375.47	1375.47		1.03	Si
SLV 9	ini.	-781.15	414	-0.0011712	0.0002807	0.0035	0.61		1379.46	1379.46		1.77	Si
SLV 9	fin.	1256.87	169	-0.0026227	0.0002807	0.0035	0.61		1375.47	1375.47		1.09	Si
SLV 10	ini.	-735.26	174	-0.0010779	0.0002807	0.0035	0.61		1379.46	1379.46		1.88	Si
SLV 10	fin.	1157.02	-71	-0.0022073	0.0002807	0.0035	0.61		1375.47	1375.47		1.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-698.11	3399	0.61	0	1779	3965	3836	1556	5391		1.59	Si
SLV 5	fin.	960.98	3111	0.61	0	1779	3965	3836	1556	5391		1.73	Si
SLD 13	ini.	-767.75	3753	0.61	0	1779	3965	3836	1556	5391		1.44	Si
SLD 13	fin.	1082.34	3584	0.61	0	1779	3965	3836	1556	5391		1.5	Si
SLD 9	ini.	-730.1	3574	0.61	0	1779	3965	3836	1556	5391		1.51	Si
SLD 9	fin.	1026.21	3340	0.61	0	1779	3965	3836	1556	5391		1.61	Si
SLD 14	ini.	-724.24	3477	0.61	0	1779	3965	3836	1556	5391		1.55	Si
SLD 14	fin.	987.68	3308	0.61	0	1779	3965	3836	1556	5391		1.63	Si
SLV 9	ini.	-781.15	4134	0.61	0	1779	3965	3836	1556	5391		1.3	Si
SLV 9	fin.	1256.87	3857	0.61	0	1779	3965	3836	1556	5391		1.4	Si
SLV 15	ini.	-794.68	3804	0.61	0	1779	3965	3836	1556	5391		1.42	Si
SLV 15	fin.	1086.16	3706	0.61	0	1779	3965	3836	1556	5391		1.45	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-838.29	4385	0.61	0	1779	3965	3836	1556	5391		1.23	Si
SLV 13	fin.	1335.45	4210	0.61	0	1779	3965	3836	1556	5391		1.28	Si
SLV 14	ini.	-770.13	3952	0.61	0	1779	3965	3836	1556	5391		1.36	Si
SLV 14	fin.	1187.15	3777	0.61	0	1779	3965	3836	1556	5391		1.43	Si
SLV 10	ini.	-735.26	3843	0.61	0	1779	3965	3836	1556	5391		1.4	Si
SLV 10	fin.	1157.02	3565	0.61	0	1779	3965	3836	1556	5391		1.51	Si
SLD 15	ini.	-740.62	3396	0.61	0	1779	3965	3836	1556	5391		1.59	Si
SLD 15	fin.	928.05	3277	0.61	0	1779	3965	3836	1556	5391		1.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.03	SLV 13	Si
V_SLV	1.229	SLV 13	Si
PF_SLU	0.986	SLU 84	No
V_SLU	0.448	SLU 84	No

Trave di accoppiamento 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.359	1.59	2.49	0.9	-18.313	-3.359	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-5.22	-189	-0.0000026	0.0001872	0.0035	0.9		2964.67	1717.92	Si	329.14	Si
SLU 84	fin.	-176.11	16	-0.0000891	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.75	Si
SLU 62	ini.	34.66	-256	-0.0000171	0.0001872	0.0035	0.9		2959	1717.92	Si	49.56	Si
SLU 62	fin.	-183.58	87	-0.000093	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.36	Si
SLU 61	ini.	19.07	-219	-0.0000094	0.0001872	0.0035	0.9		2959	1717.92	Si	90.08	Si
SLU 61	fin.	-175.88	71	-0.000089	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.77	Si
SLU 74	ini.	-4.07	-189	-0.000002	0.0001872	0.0035	0.9		2964.67	1717.92	Si	421.86	Si
SLU 74	fin.	-169.78	16	-0.0000858	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.12	Si
SLU 79	ini.	-8.06	-182	-0.0000039	0.0001872	0.0035	0.9		2964.67	1717.92	Si	213.01	Si
SLU 79	fin.	-167.49	7	-0.0000846	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.26	Si
SLU 83	ini.	16.37	-235	-0.000008	0.0001872	0.0035	0.9		2959	1717.92	Si	104.96	Si
SLU 83	fin.	-187	47	-0.0000948	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.19	Si
SLU 82	ini.	0.77	-198	-0.0000004	0.0001872	0.0035	0.9		2959	1717.92	Si	2217.28	Si
SLU 82	fin.	-179.3	31	-0.0000907	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.58	Si
SLU 81	ini.	22.36	-244	-0.000011	0.0001872	0.0035	0.9		2959	1717.92	Si	76.83	Si
SLU 81	fin.	-190.19	62	-0.0000965	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.03	Si
SLU 63	ini.	13.08	-210	-0.0000064	0.0001872	0.0035	0.9		2959	1717.92	Si	131.36	Si
SLU 63	fin.	-172.69	56	-0.0000873	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.95	Si
SLU 60	ini.	40.66	-265	-0.00002	0.0001872	0.0035	0.9		2959	1717.92	Si	42.25	Si
SLU 60	fin.	-186.77	101	-0.0000947	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.2	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-31.65	-1922	0.9	0	1750	7137	3773	2295	2625	Si	1.37	Si
SLU 78	fin.	-155.7	2503	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 84	ini.	-5.22	-2054	0.9	0	1750	7137	3773	2295	2625	Si	1.28	Si
SLU 84	fin.	-176.11	2471	0.9	0	1750	7137	3773	2295	2625	Si	1.06	Si
SLU 73	ini.	-32.05	-1877	0.9	0	1750	7137	3773	2295	2625	Si	1.4	Si
SLU 73	fin.	-155.73	2442	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 77	ini.	-10.07	-1964	0.9	0	1750	7137	3773	2295	2625	Si	1.34	Si
SLU 77	fin.	-166.59	2391	0.9	0	1750	7137	3773	2295	2625	Si	1.1	Si
SLU 80	ini.	-29.65	-1914	0.9	0	1750	7137	3773	2295	2625	Si	1.37	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-156.6	2475	0.9	0	1750	7137	3773	2295	2625	Si	1.06	Si
SLU 82	ini.	0.77	-2050	0.9	0	1750	7137	3773	2295	2625	Si	1.28	Si
SLU 82	fin.	-179.3	2418	0.9	0	1750	7137	3773	2295	2625	Si	1.09	Si
SLU 76	ini.	-38.05	-1882	0.9	0	1750	7137	3773	2295	2625	Si	1.4	Si
SLU 76	fin.	-152.53	2496	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 75	ini.	-25.66	-1918	0.9	0	1750	7137	3773	2295	2625	Si	1.37	Si
SLU 75	fin.	-158.89	2449	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 68	ini.	-81.07	-1545	0.9	0	1750	7137	3773	2295	2625	Si	1.7	Si
SLU 68	fin.	-114.47	2380	0.9	0	1750	7137	3773	2295	2625	Si	1.1	Si
SLU 70	ini.	-74.67	-1585	0.9	0	1750	7137	3773	2295	2625	Si	1.66	Si
SLU 70	fin.	-117.63	2387	0.9	0	1750	7137	3773	2295	2625	Si	1.1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1284.05	2078	-0.00081	0.0002807	0.0035	0.9		2995.37	2995.37		2.33	Si
SLV 10	fin.	874.6	-2977	-0.0005045	0.0002807	0.0035	0.9		2989.59	2989.59		3.42	Si
SLV 15	ini.	-1272.78	2556	-0.0008009	0.0002807	0.0035	0.9		2995.37	2995.37		2.35	Si
SLV 15	fin.	646.05	-1816	-0.0003537	0.0002807	0.0035	0.9		2989.59	2989.59		4.63	Si
SLV 2	ini.	1245.26	-2774	-0.0007807	0.0002807	0.0035	0.9		2989.59	2989.59		2.4	Si
SLV 2	fin.	-875.24	1834	-0.0005038	0.0002807	0.0035	0.9		2995.37	2995.37		3.42	Si
SLV 7	ini.	1256.52	-2296	-0.0007897	0.0002807	0.0035	0.9		2989.59	2989.59		2.38	Si
SLV 7	fin.	-1103.79	2995	-0.0006691	0.0002807	0.0035	0.9		2995.37	2995.37		2.71	Si
SLV 8	ini.	1469.3	-2709	-0.0009677	0.0002807	0.0035	0.9		2989.59	2989.59		2.03	Si
SLV 8	fin.	-1248.15	3391	-0.0007811	0.0002807	0.0035	0.9		2995.37	2995.37		2.4	Si
SLV 13	ini.	-1848.77	3484	-0.0013245	0.0002807	0.0035	0.9		2995.37	2995.37		1.62	Si
SLV 13	fin.	1122.38	-3316	-0.0006848	0.0002807	0.0035	0.9		2989.59	2989.59		2.66	Si
SLV 4	ini.	1821.24	-3702	-0.0012996	0.0002807	0.0035	0.9		2989.59	2989.59		1.64	Si
SLV 4	fin.	-1351.57	3334	-0.0008653	0.0002807	0.0035	0.9		2995.37	2995.37		2.22	Si
SLV 14	ini.	-1532.73	2870	-0.0010213	0.0002807	0.0035	0.9		2995.37	2995.37		1.95	Si
SLV 14	fin.	907.97	-2727	-0.0005278	0.0002807	0.0035	0.9		2989.59	2989.59		3.29	Si
SLV 3	ini.	1505.2	-3089	-0.0009993	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLV 3	fin.	-1137.15	2744	-0.0006944	0.0002807	0.0035	0.9		2995.37	2995.37		2.63	Si
SLV 9	ini.	-1496.83	2491	-0.0009894	0.0002807	0.0035	0.9		2995.37	2995.37		2	Si
SLV 9	fin.	1018.96	-3374	-0.0006074	0.0002807	0.0035	0.9		2989.59	2989.59		2.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-1284.05	2176	0.9	0	2577	7137	5660	2295	7955		3.66	Si
SLV 10	fin.	874.6	7642	0.9	0	2577	7137	5660	2295	7955		1.04	Si
SLV 9	ini.	-1496.83	2860	0.9	0	2577	7137	5660	2295	7955		2.78	Si
SLV 9	fin.	1018.96	8378	0.9	0	2577	7137	5660	2295	7955		0.95	No
SLV 3	ini.	1505.2	-6201	0.9	0	2577	7137	5660	2295	7955		1.28	Si
SLV 3	fin.	-1137.15	-3627	0.9	0	2577	7137	5660	2295	7955		2.19	Si
SLV 2	ini.	1245.26	-5771	0.9	0	2577	7137	5660	2295	7955		1.38	Si
SLV 2	fin.	-875.24	-1638	0.9	0	2577	7137	5660	2295	7955		4.86	Si
SLV 13	ini.	-1848.77	4620	0.9	0	2577	7137	5660	2295	7955		1.72	Si
SLV 13	fin.	1122.38	7926	0.9	0	2577	7137	5660	2295	7955		1	Si
SLV 4	ini.	1821.24	-7217	0.9	0	2577	7137	5660	2295	7955		1.1	Si
SLV 4	fin.	-1351.57	-4719	0.9	0	2577	7137	5660	2295	7955		1.69	Si
SLV 14	ini.	-1532.73	3604	0.9	0	2577	7137	5660	2295	7955		2.21	Si
SLV 14	fin.	907.97	6834	0.9	0	2577	7137	5660	2295	7955		1.16	Si
SLD 13	ini.	-1182.07	2475	0.9	0	2577	7137	5660	2295	7955		3.21	Si
SLD 13	fin.	672.31	5615	0.9	0	2577	7137	5660	2295	7955		1.42	Si
SLD 9	ini.	-942.11	1311	0.9	0	2577	7137	5660	2295	7955		6.07	Si
SLD 9	fin.	594.1	5825	0.9	0	2577	7137	5660	2295	7955		1.37	Si
SLV 5	ini.	-663.43	48	0.9	0	2577	7137	5660	2295	7955		165.71	Si
SLV 5	fin.	484	5836	0.9	0	2577	7137	5660	2295	7955		1.36	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.62	SLV 13	Si
V_SLV	0.95	SLV 9	No
PF_SLU	9.033	SLU 81	Si
V_SLU	1.049	SLU 78	Si

Trave di accoppiamento 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.313	-3.359	4.39	5	0.61	-18.313	-3.359	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-394.3	-1039	-0.0005197	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.43	Si
SLU 73	fin.	-345.77	-2215	-0.0004434	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.77	Si
SLU 81	ini.	-381.23	-989	-0.0004988	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.51	Si
SLU 81	fin.	-390.64	-2421	-0.0005139	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.45	Si
SLU 82	ini.	-395.76	-1036	-0.0005221	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.42	Si
SLU 82	fin.	-379.44	-2382	-0.000496	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.52	Si
SLU 84	ini.	-402.83	-1056	-0.0005335	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.37	Si
SLU 84	fin.	-381.54	-2400	-0.0004993	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.51	Si
SLU 83	ini.	-388.31	-1009	-0.0005101	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.46	Si
SLU 83	fin.	-392.74	-2439	-0.0005172	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.44	Si
SLU 80	ini.	-398.77	-1048	-0.0005269	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.4	Si
SLU 80	fin.	-357.43	-2277	-0.0004614	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.68	Si
SLU 77	ini.	-388.12	-1012	-0.0005098	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.46	Si
SLU 77	fin.	-370.47	-2329	-0.0004818	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.58	Si
SLU 76	ini.	-401.38	-1059	-0.0005311	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.38	Si
SLU 76	fin.	-347.86	-2233	-0.0004466	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.75	Si
SLU 78	ini.	-402.65	-1059	-0.0005332	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.38	Si
SLU 78	fin.	-359.27	-2290	-0.0004643	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.66	Si
SLU 75	ini.	-395.57	-1039	-0.0005218	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.42	Si
SLU 75	fin.	-357.17	-2272	-0.000461	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-384.24	2439	0.61	0	1186	4837	2557	1556	1779	Si	0.73	No
SLU 79	fin.	-368.63	-4284	0.61	0	1186	4837	2557	1556	1779	Si	0.42	No
SLU 84	ini.	-402.83	2549	0.61	0	1186	4837	2557	1556	1779	Si	0.7	No
SLU 84	fin.	-381.54	-4442	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 82	ini.	-395.76	2510	0.61	0	1186	4837	2557	1556	1779	Si	0.71	No
SLU 82	fin.	-379.44	-4402	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 74	ini.	-381.05	2421	0.61	0	1186	4837	2557	1556	1779	Si	0.73	No
SLU 74	fin.	-368.37	-4270	0.61	0	1186	4837	2557	1556	1779	Si	0.42	No
SLU 83	ini.	-388.31	2481	0.61	0	1186	4837	2557	1556	1779	Si	0.72	No
SLU 83	fin.	-392.74	-4479	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 80	ini.	-398.77	2507	0.61	0	1186	4837	2557	1556	1779	Si	0.71	No
SLU 80	fin.	-357.43	-4247	0.61	0	1186	4837	2557	1556	1779	Si	0.42	No
SLU 78	ini.	-402.65	2529	0.61	0	1186	4837	2557	1556	1779	Si	0.7	No
SLU 78	fin.	-359.27	-4273	0.61	0	1186	4837	2557	1556	1779	Si	0.42	No
SLU 77	ini.	-388.12	2460	0.61	0	1186	4837	2557	1556	1779	Si	0.72	No
SLU 77	fin.	-370.47	-4310	0.61	0	1186	4837	2557	1556	1779	Si	0.41	No
SLU 81	ini.	-381.23	2442	0.61	0	1186	4837	2557	1556	1779	Si	0.73	No
SLU 81	fin.	-390.64	-4439	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 75	ini.	-395.57	2490	0.61	0	1186	4837	2557	1556	1779	Si	0.71	No
SLU 75	fin.	-357.17	-4233	0.61	0	1186	4837	2557	1556	1779	Si	0.42	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-970.6	-2931	-0.0016117	0.0002807	0.0035	0.61		1379.46	1379.46		1.42	Si
SLV 10	fin.	265.66	403	-0.0003111	0.0002807	0.0035	0.61		1375.47	1375.47		5.18	Si
SLV 9	ini.	-1036.99	-3125	-0.0017965	0.0002807	0.0035	0.61		1379.46	1379.46		1.33	Si
SLV 9	fin.	353.17	747	-0.0004316	0.0002807	0.0035	0.61		1375.47	1375.47		3.89	Si
SLV 2	ini.	-123.45	-485	-0.0001361	0.0002807	0.0035	0.61		1379.46	1379.46		11.17	Si
SLV 2	fin.	-765.86	-3804	-0.0011397	0.0002807	0.0035	0.61		1379.46	1379.46		1.8	Si
SLV 3	ini.	171.64	509	-0.0001932	0.0002807	0.0035	0.61		1375.47	1375.47		8.01	Si
SLV 3	fin.	-863.35	-4125	-0.00135	0.0002807	0.0035	0.61		1379.46	1379.46		1.6	Si
SLV 4	ini.	270.25	797	-0.0003172	0.0002807	0.0035	0.61		1375.47	1375.47		5.09	Si
SLV 4	fin.	-993.32	-4635	-0.0016725	0.0002807	0.0035	0.61		1379.46	1379.46		1.39	Si
SLV 13	ini.	-793.94	-2163	-0.001198	0.0002807	0.0035	0.61		1379.46	1379.46		1.74	Si
SLV 13	fin.	510.14	1558	-0.0006737	0.0002807	0.0035	0.61		1375.47	1375.47		2.7	Si
SLV 7	ini.	446.92	1565	-0.0005722	0.0002807	0.0035	0.61		1375.47	1375.47		3.08	Si
SLV 7	fin.	-748.83	-3481	-0.0011051	0.0002807	0.0035	0.61		1379.46	1379.46		1.84	Si
SLV 5	ini.	-865.43	-2708	-0.0013547	0.0002807	0.0035	0.61		1379.46	1379.46		1.59	Si
SLV 5	fin.	9.36	-709	-0.00001	0.0002807	0.0035	0.61		1375.47	1375.47		147.01	Si
SLV 8	ini.	513.31	1759	-0.0006789	0.0002807	0.0035	0.61		1375.47	1375.47		2.68	Si
SLV 8	fin.	-836.34	-3824	-0.0012895	0.0002807	0.0035	0.61		1379.46	1379.46		1.65	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-799.04	-2514	-0.0012088	0.0002807	0.0035	0.61		1379.46	1379.46		1.73	Si
SLV 6	fin.	-78.15	-1052	-0.0000849	0.0002807	0.0035	0.61		1379.46	1379.46		17.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	11.36	346	0.61	0	1562	4837	3836	1556	5391		15.6	Si
SLD 3	fin.	-637.29	-4578	0.61	0	1562	4837	3836	1556	5391		1.18	Si
SLV 10	ini.	-970.6	5011	0.61	0	1562	4837	3836	1556	5391		1.08	Si
SLV 10	fin.	265.66	-1222	0.61	0	1562	4837	3836	1556	5391		4.41	Si
SLD 4	ini.	74.31	49	0.61	0	1562	4837	3836	1556	5391		109.7	Si
SLD 4	fin.	-720.25	-4932	0.61	0	1562	4837	3836	1556	5391		1.09	Si
SLV 3	ini.	171.64	-424	0.61	0	1562	4837	3836	1556	5391		12.72	Si
SLV 3	fin.	-863.35	-5554	0.61	0	1562	4837	3836	1556	5391		0.97	No
SLV 1	ini.	-222.07	1432	0.61	0	1562	4837	3836	1556	5391		3.76	Si
SLV 1	fin.	-635.89	-4942	0.61	0	1562	4837	3836	1556	5391		1.09	Si
SLV 8	ini.	513.31	-2008	0.61	0	1562	4837	3836	1556	5391		2.68	Si
SLV 8	fin.	-836.34	-4863	0.61	0	1562	4837	3836	1556	5391		1.11	Si
SLV 9	ini.	-1036.99	5323	0.61	0	1562	4837	3836	1556	5391		1.01	Si
SLV 9	fin.	353.17	-848	0.61	0	1562	4837	3836	1556	5391		6.36	Si
SLV 2	ini.	-123.45	968	0.61	0	1562	4837	3836	1556	5391		5.57	Si
SLV 2	fin.	-765.86	-5497	0.61	0	1562	4837	3836	1556	5391		0.98	No
SLV 4	ini.	270.25	-888	0.61	0	1562	4837	3836	1556	5391		6.07	Si
SLV 4	fin.	-993.32	-6109	0.61	0	1562	4837	3836	1556	5391		0.88	No
SLD 2	ini.	-169.23	1197	0.61	0	1562	4837	3836	1556	5391		4.5	Si
SLD 2	fin.	-579.57	-4552	0.61	0	1562	4837	3836	1556	5391		1.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.33	SLV 9	Si
V_SLV	0.883	SLV 4	No
PF_SLU	2.375	SLU 84	Si
V_SLU	0.397	SLU 83	No

Trave di accoppiamento 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.483	-3.359	3.69	5	1.31	-16.383	-3.359	3.69	5	1.31	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-244.17	-4359	-0.0000574	0.0001872	0.0035	1.31		6282.93	2794.17	Si	11.44	Si
SLU 79	fin.	-1006.82	-4681	-0.000259	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.78	Si
SLU 84	ini.	-225.61	-4479	-0.000053	0.0001872	0.0035	1.31		6282.93	2794.17	Si	12.39	Si
SLU 84	fin.	-1046.77	-4895	-0.0002708	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.67	Si
SLU 83	ini.	-210.28	-4417	-0.0000493	0.0001872	0.0035	1.31		6282.93	2794.17	Si	13.29	Si
SLU 83	fin.	-1047.34	-4838	-0.0002709	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.67	Si
SLU 82	ini.	-213.28	-4408	-0.00005	0.0001872	0.0035	1.31		6282.93	2794.17	Si	13.1	Si
SLU 82	fin.	-1038.35	-4839	-0.0002683	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.69	Si
SLU 74	ini.	-236.22	-4327	-0.0000555	0.0001872	0.0035	1.31		6282.93	2794.17	Si	11.83	Si
SLU 74	fin.	-1005.16	-4661	-0.0002585	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.78	Si
SLU 77	ini.	-248.56	-4398	-0.0000585	0.0001872	0.0035	1.31		6282.93	2794.17	Si	11.24	Si
SLU 77	fin.	-1013.58	-4716	-0.000261	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.76	Si
SLU 78	ini.	-263.88	-4461	-0.0000622	0.0001872	0.0035	1.31		6282.93	2794.17	Si	10.59	Si
SLU 78	fin.	-1013.01	-4773	-0.0002608	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.76	Si
SLU 80	ini.	-259.49	-4421	-0.0000611	0.0001872	0.0035	1.31		6282.93	2794.17	Si	10.77	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-1006.26	-4738	-0.0002588	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.78	Si
SLU 81	ini.	-197.95	-4345	-0.0000463	0.0001872	0.0035	1.31		6282.93	2794.17	Si	14.12	Si
SLU 81	fin.	-1038.92	-4782	-0.0002685	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.69	Si
SLU 75	ini.	-251.55	-4389	-0.0000592	0.0001872	0.0035	1.31		6282.93	2794.17	Si	11.11	Si
SLU 75	fin.	-1004.59	-4718	-0.0002583	0.0001872	0.0035	1.31		6282.93	2794.17	Si	2.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-197.95	38	1.31	0	2547	7137	5492	3341	3821	Si	100.69	Si
SLU 81	fin.	-1038.92	-6587	1.31	0	2547	7137	5492	3341	3821	Si	0.58	No
SLU 82	ini.	-213.28	61	1.31	0	2547	7137	5492	3341	3821	Si	62.22	Si
SLU 82	fin.	-1038.35	-6597	1.31	0	2547	7137	5492	3341	3821	Si	0.58	No
SLU 78	ini.	-263.88	163	1.31	0	2547	7137	5492	3341	3821	Si	23.39	Si
SLU 78	fin.	-1013.01	-6329	1.31	0	2547	7137	5492	3341	3821	Si	0.6	No
SLU 80	ini.	-259.49	160	1.31	0	2547	7137	5492	3341	3821	Si	23.83	Si
SLU 80	fin.	-1006.26	-6293	1.31	0	2547	7137	5492	3341	3821	Si	0.61	No
SLU 83	ini.	-210.28	58	1.31	0	2547	7137	5492	3341	3821	Si	65.95	Si
SLU 83	fin.	-1047.34	-6634	1.31	0	2547	7137	5492	3341	3821	Si	0.58	No
SLU 79	ini.	-244.17	137	1.31	0	2547	7137	5492	3341	3821	Si	27.91	Si
SLU 79	fin.	-1006.82	-6283	1.31	0	2547	7137	5492	3341	3821	Si	0.61	No
SLU 84	ini.	-225.61	81	1.31	0	2547	7137	5492	3341	3821	Si	46.94	Si
SLU 84	fin.	-1046.77	-6644	1.31	0	2547	7137	5492	3341	3821	Si	0.58	No
SLU 75	ini.	-251.55	143	1.31	0	2547	7137	5492	3341	3821	Si	26.65	Si
SLU 75	fin.	-1004.59	-6281	1.31	0	2547	7137	5492	3341	3821	Si	0.61	No
SLU 77	ini.	-248.56	140	1.31	0	2547	7137	5492	3341	3821	Si	27.31	Si
SLU 77	fin.	-1013.58	-6319	1.31	0	2547	7137	5492	3341	3821	Si	0.6	No
SLU 74	ini.	-236.22	120	1.31	0	2547	7137	5492	3341	3821	Si	31.87	Si
SLU 74	fin.	-1005.16	-6272	1.31	0	2547	7137	5492	3341	3821	Si	0.61	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-3329.02	-6971	-0.001053	0.0002807	0.0035	1.31		6277.79	6277.79		1.89	Si
SLV 13	fin.	951.85	-2043	-0.0002355	0.0002807	0.0035	1.31		6269	6269		6.59	Si
SLV 4	ini.	2990.07	1037	-0.0009145	0.0002807	0.0035	1.31		6269	6269		2.1	Si
SLV 4	fin.	-2333.77	-4287	-0.0006656	0.0002807	0.0035	1.31		6277.79	6277.79		2.69	Si
SLV 16	ini.	-2331.16	-4392	-0.0006647	0.0002807	0.0035	1.31		6277.79	6277.79		2.69	Si
SLV 16	fin.	692.72	-554	-0.0001677	0.0002807	0.0035	1.31		6269	6269		9.05	Si
SLV 14	ini.	-2795.64	-6303	-0.0008366	0.0002807	0.0035	1.31		6277.79	6277.79		2.25	Si
SLV 14	fin.	669.64	-2222	-0.0001618	0.0002807	0.0035	1.31		6269	6269		9.36	Si
SLV 15	ini.	-2864.54	-5061	-0.0008633	0.0002807	0.0035	1.31		6277.79	6277.79		2.19	Si
SLV 15	fin.	974.94	-375	-0.0002417	0.0002807	0.0035	1.31		6269	6269		6.43	Si
SLD 13	ini.	-2188.08	-5510	-0.0006145	0.0002807	0.0035	1.31		6277.79	6277.79		2.87	Si
SLD 13	fin.	361.18	-2427	-0.0000852	0.0002807	0.0035	1.31		6269	6269		17.36	Si
SLV 2	ini.	2525.59	-874	-0.0007361	0.0002807	0.0035	1.31		6269	6269		2.48	Si
SLV 2	fin.	-2356.85	-5955	-0.0006738	0.0002807	0.0035	1.31		6277.79	6277.79		2.66	Si
SLV 1	ini.	1992.21	-1542	-0.0005488	0.0002807	0.0035	1.31		6269	6269		3.15	Si
SLV 1	fin.	-2074.64	-5777	-0.0005757	0.0002807	0.0035	1.31		6277.79	6277.79		3.03	Si
SLV 3	ini.	2456.69	368	-0.0007109	0.0002807	0.0035	1.31		6269	6269		2.55	Si
SLV 3	fin.	-2051.55	-4109	-0.0005679	0.0002807	0.0035	1.31		6277.79	6277.79		3.06	Si
SLV 9	ini.	-1921.35	-7191	-0.0005245	0.0002807	0.0035	1.31		6277.79	6277.79		3.27	Si
SLV 9	fin.	-180.46	-5325	-0.000042	0.0002807	0.0035	1.31		6277.79	6277.79		34.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 4	ini.	1849.13	-5833	1.31	0	3821	7137	8238	3341	10957		1.88	Si
SLD 4	fin.	-1743.09	-8505	1.31	0	3821	7137	8238	3341	10957		1.29	Si
SLD 1	ini.	1220.08	-4349	1.31	0	3821	7137	8238	3341	10957		2.52	Si
SLD 1	fin.	-1576.32	-7948	1.31	0	3821	7137	8238	3341	10957		1.38	Si
SLV 1	ini.	1992.21	-6821	1.31	0	3821	7137	8238	3341	10957		1.61	Si
SLV 1	fin.	-2074.64	-10078	1.31	0	3821	7137	8238	3341	10957		1.09	Si
SLV 4	ini.	2990.07	-9166	1.31	0	3821	7137	8238	3341	10957		1.2	Si
SLV 4	fin.	-2333.77	-10935	1.31	0	3821	7137	8238	3341	10957		1	Si
SLV 15	ini.	-2864.54	8515	1.31	0	3821	7137	8238	3341	10957		1.29	Si
SLV 15	fin.	974.94	2902	1.31	0	3821	7137	8238	3341	10957		3.78	Si
SLV 3	ini.	2456.69	-7621	1.31	0	3821	7137	8238	3341	10957		1.44	Si
SLV 3	fin.	-2051.55	-9785	1.31	0	3821	7137	8238	3341	10957		1.12	Si
SLD 3	ini.	1508.68	-4847	1.31	0	3821	7137	8238	3341	10957		2.26	Si
SLD 3	fin.	-1562.96	-7770	1.31	0	3821	7137	8238	3341	10957		1.41	Si
SLD 2	ini.	1560.52	-5335	1.31	0	3821	7137	8238	3341	10957		2.05	Si
SLD 2	fin.	-1756.45	-8682	1.31	0	3821	7137	8238	3341	10957		1.26	Si
SLV 13	ini.	-3329.02	9314	1.31	0	3821	7137	8238	3341	10957		1.18	Si
SLV 13	fin.	951.85	2608	1.31	0	3821	7137	8238	3341	10957		4.2	Si
SLV 2	ini.	2525.59	-8367	1.31	0	3821	7137	8238	3341	10957		1.31	Si
SLV 2	fin.	-2356.85	-11229	1.31	0	3821	7137	8238	3341	10957		0.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.886	SLV 13	Si
V SLV	0.976	SLV 2	No
PF SLU	2.668	SLU 83	Si
V SLU	0.575	SLU 84	No



Trave di accoppiamento 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	3.69	5	1.31	-15.058	2.206	3.69	5	1.31	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	1349.94	-2806	-0.000356	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.75	Si
SLU 81	fin.	-1590.52	-4344	-0.0004313	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.49	Si
SLU 84	ini.	1333.77	-2799	-0.000351	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.77	Si
SLU 84	fin.	-1530.99	-4293	-0.0004122	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.54	Si
SLU 77	ini.	1352.43	-2778	-0.0003567	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.75	Si
SLU 77	fin.	-1570.96	-4307	-0.000425	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.51	Si
SLU 82	ini.	1306.62	-2750	-0.0003427	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.81	Si
SLU 82	fin.	-1495.52	-4210	-0.0004009	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.58	Si
SLU 83	ini.	1377.09	-2855	-0.0003644	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.72	Si
SLU 83	fin.	-1625.99	-4428	-0.0004428	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.45	Si
SLU 80	ini.	1296.82	-2699	-0.0003397	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.82	Si
SLU 80	fin.	-1463.17	-4136	-0.0003907	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.62	Si
SLU 78	ini.	1309.12	-2722	-0.0003435	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.81	Si
SLU 78	fin.	-1475.96	-4172	-0.0003947	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.6	Si
SLU 41	ini.	1205.37	-2520	-0.0003122	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.96	Si
SLU 41	fin.	-1464.66	-3924	-0.0003911	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.61	Si
SLU 79	ini.	1340.14	-2755	-0.000353	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.76	Si
SLU 79	fin.	-1558.18	-4270	-0.0004209	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.52	Si
SLU 74	ini.	1325.28	-2728	-0.0003484	0.0002246	0.0035	1.31		6498.46	2364.58	Si	1.78	Si
SLU 74	fin.	-1535.49	-4223	-0.0004136	0.0002246	0.0035	1.31		6506.7	2364.58	Si	1.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	1340.14	-4696	1.31	10833	1528	6344	3295	3341	2293	Si	0.49	No
SLU 79	fin.	-1558.18	-5053	1.31	10833	1528	6344	3295	3341	2293	Si	0.45	No
SLU 80	ini.	1296.82	-4459	1.31	0	1528	6344	3295	3341	2293	Si	0.51	No
SLU 80	fin.	-1463.17	-4815	1.31	10833	1528	6344	3295	3341	2293	Si	0.48	No
SLU 74	ini.	1325.28	-4632	1.31	0	1528	6344	3295	3341	2293	Si	0.49	No
SLU 74	fin.	-1535.49	-4988	1.31	10833	1528	6344	3295	3341	2293	Si	0.46	No
SLU 75	ini.	1281.97	-4395	1.31	0	1528	6344	3295	3341	2293	Si	0.52	No
SLU 75	fin.	-1440.49	-4751	1.31	10833	1528	6344	3295	3341	2293	Si	0.48	No
SLU 81	ini.	1349.94	-4767	1.31	10833	1528	6344	3295	3341	2293	Si	0.48	No
SLU 81	fin.	-1590.52	-5124	1.31	10833	1528	6344	3295	3341	2293	Si	0.45	No
SLU 78	ini.	1309.12	-4501	1.31	0	1528	6344	3295	3341	2293	Si	0.51	No
SLU 78	fin.	-1475.96	-4858	1.31	10833	1528	6344	3295	3341	2293	Si	0.47	No
SLU 84	ini.	1333.77	-4636	1.31	0	1528	6344	3295	3341	2293	Si	0.49	No
SLU 84	fin.	-1530.99	-4993	1.31	10833	1528	6344	3295	3341	2293	Si	0.46	No
SLU 83	ini.	1377.09	-4874	1.31	10833	1528	6344	3295	3341	2293	Si	0.47	No
SLU 83	fin.	-1625.99	-5230	1.31	10833	1528	6344	3295	3341	2293	Si	0.44	No
SLU 77	ini.	1352.43	-4738	1.31	10833	1528	6344	3295	3341	2293	Si	0.48	No
SLU 77	fin.	-1570.96	-5095	1.31	10833	1528	6344	3295	3341	2293	Si	0.45	No
SLU 82	ini.	1306.62	-4530	1.31	0	1528	6344	3295	3341	2293	Si	0.51	No
SLU 82	fin.	-1495.52	-4886	1.31	10833	1528	6344	3295	3341	2293	Si	0.47	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1507.47	1507	-0.0003861	0.0003369	0.0035	1.31		6662.27	6662.27		4.42	Si
SLV 5	fin.	4465.38	5046	-0.0015563	0.0003369	0.0035	1.31		6653.86	6653.86		1.49	Si
SLV 9	ini.	-1351.27	1428	-0.0003414	0.0003369	0.0035	1.31		6662.27	6662.27		4.93	Si
SLV 9	fin.	4165.01	4711	-0.0014002	0.0003369	0.0035	1.31		6653.86	6653.86		1.6	Si
SLV 8	ini.	3104.4	-5000	-0.0009323	0.0003369	0.0035	1.31		6653.86	6653.86		2.14	Si
SLV 8	fin.	-6107.76	-10201	-0.0028009	0.0003369	0.0035	1.31		6662.27	6662.27		1.09	Si
SLD 8	ini.	2253.81	-3772	-0.0006216	0.0003369	0.0035	1.31		6653.86	6653.86		2.95	Si
SLD 8	fin.	-4145.18	-7352	-0.0013877	0.0003369	0.0035	1.31		6662.27	6662.27		1.61	Si
SLD 12	ini.	2353.82	-3822	-0.0006557	0.0003369	0.0035	1.31		6653.86	6653.86		2.83	Si
SLD 12	fin.	-4337.69	-7567	-0.0014854	0.0003369	0.0035	1.31		6662.27	6662.27		1.54	Si
SLD 11	ini.	2337.36	-3812	-0.00065	0.0003369	0.0035	1.31		6653.86	6653.86		2.85	Si
SLD 11	fin.	-4309.9	-7533	-0.001471	0.0003369	0.0035	1.31		6662.27	6662.27		1.55	Si
SLV 11	ini.	3234.29	-5062	-0.0009841	0.0003369	0.0035	1.31		6653.86	6653.86		2.06	Si
SLV 11	fin.	-6363.75	-10482	-0.0030799	0.0003369	0.0035	1.31		6662.27	6662.27		1.05	Si
SLV 12	ini.	3260.59	-5078	-0.0009948	0.0003369	0.0035	1.31		6653.86	6653.86		2.04	Si
SLV 12	fin.	-6408.13	-10536	-0.0031296	0.0003369	0.0035	1.31		6662.27	6662.27		1.04	Si
SLV 6	ini.	-1481.16	1490	-0.0003785	0.0003369	0.0035	1.31		6662.27	6662.27		4.5	Si
SLV 6	fin.	4420.99	4992	-0.0015323	0.0003369	0.0035	1.31		6653.86	6653.86		1.51	Si
SLV 7	ini.	3078.09	-4983	-0.0009219	0.0003369	0.0035	1.31		6653.86	6653.86		2.16	Si
SLV 7	fin.	-6063.38	-10147	-0.002755	0.0003369	0.0035	1.31		6662.27	6662.27		1.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	3104.4	-15635	1.31	16250	2293	6344	4943	3341	8284		0.53	No
SLV 8	fin.	-6107.76	-15912	1.31	16250	2293	6344	4943	3341	8284		0.52	No
SLD 12	ini.	2353.82	-11292	1.31	16250	2293	6344	4943	3341	8284		0.73	No
SLD 12	fin.	-4337.69	-11566	1.31	16250	2293	6344	4943	3341	8284		0.72	No
SLV 12	ini.	3260.59	-16409	1.31	16250	2293	6344	4943	3341	8284		0.5	No
SLV 12	fin.	-6408.13	-16686	1.31	16250	2293	6344	4943	3341	8284		0.5	No
SLD 11	ini.	2337.36	-11218	1.31	16250	2293	6344	4943	3341	8284		0.74	No
SLD 11	fin.	-4309.9	-11492	1.31	16250	2293	6344	4943	3341	8284		0.72	No
SLV 11	ini.	3234.29	-16290	1.31	16250	2293	6344	4943	3341	8284		0.51	No
SLV 11	fin.	-6363.75	-16567	1.31	16250	2293	6344	4943	3341	8284		0.5	No
SLD 8	ini.	2253.81	-10796	1.31	16250	2293	6344	4943	3341	8284		0.77	No
SLD 8	fin.	-4145.18	-11070	1.31	16250	2293	6344	4943	3341	8284		0.75	No
SLV 6	ini.	-1481.16	10354	1.31	0	2293	6344	4943	3341	8284		0.8	No
SLV 6	fin.	4420.99	10089	1.31	16250	2293	6344	4943	3341	8284		0.82	No
SLD 7	ini.	2237.34	-10722	1.31	16250	2293	6344	4943	3341	8284		0.77	No
SLD 7	fin.	-4117.4	-10996	1.31	16250	2293	6344	4943	3341	8284		0.75	No
SLV 7	ini.	3078.09	-15516	1.31	16250	2293	6344	4943	3341	8284		0.53	No
SLV 7	fin.	-6063.38	-15793	1.31	16250	2293	6344	4943	3341	8284		0.52	No
SLV 5	ini.	-1507.47	10473	1.31	0	2293	6344	4943	3341	8284		0.79	No
SLV 5	fin.	4465.38	10208	1.31	16250	2293	6344	4943	3341	8284		0.81	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.04	SLV 12	Si
V_SLV	0.496	SLV 12	No
PF_SLU	1.454	SLU 83	Si
V_SLU	0.438	SLU 83	No

Trave di accoppiamento 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-13.753	-0.228	3.69	5	1.31	-13.753	0.672	3.69	5	1.31	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	2004.17	392	-0.0005872	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.39	Si
SLU 82	fin.	258.16	-1261	-0.0000609	0.0001872	0.0035	1.31		6274.58	2794.17	Si	10.82	Si
SLU 60	ini.	2060.44	889	-0.0006077	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.36	Si
SLU 60	fin.	150.4	-892	-0.0000351	0.0001872	0.0035	1.31		6274.58	2794.17	Si	18.58	Si
SLU 77	ini.	2034.42	491	-0.0005982	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.37	Si
SLU 77	fin.	237.83	-1200	-0.000056	0.0001872	0.0035	1.31		6274.58	2794.17	Si	11.75	Si
SLU 79	ini.	2029.06	509	-0.0005962	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.38	Si
SLU 79	fin.	233.04	-1182	-0.0000548	0.0001872	0.0035	1.31		6274.58	2794.17	Si	11.99	Si
SLU 74	ini.	2019.86	515	-0.0005929	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.38	Si
SLU 74	fin.	229.71	-1170	-0.000054	0.0001872	0.0035	1.31		6274.58	2794.17	Si	12.16	Si
SLU 81	ini.	2102.42	573	-0.000623	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.33	Si
SLU 81	fin.	231.9	-1195	-0.0000545	0.0001872	0.0035	1.31		6274.58	2794.17	Si	12.05	Si
SLU 62	ini.	2074.99	866	-0.000613	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.35	Si
SLU 62	fin.	158.52	-921	-0.000037	0.0001872	0.0035	1.31		6274.58	2794.17	Si	17.63	Si
SLU 83	ini.	2116.98	549	-0.0006284	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.32	Si
SLU 83	fin.	240.02	-1224	-0.0000565	0.0001872	0.0035	1.31		6274.58	2794.17	Si	11.64	Si
SLU 84	ini.	2018.72	369	-0.0005925	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.38	Si
SLU 84	fin.	266.28	-1290	-0.0000628	0.0001872	0.0035	1.31		6274.58	2794.17	Si	10.49	Si
SLU 56	ini.	1992.43	808	-0.000583	0.0001872	0.0035	1.31		6274.58	2794.17	Si	1.4	Si
SLU 56	fin.	156.33	-897	-0.0000365	0.0001872	0.0035	1.31		6274.58	2794.17	Si	17.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 58	ini.	1987.08	-2892	1.31	0	2547	7137	5492	3341	3821	Si	1.32	Si
SLU 58	fin.	151.54	-3669	1.31	0	2547	7137	5492	3341	3821	Si	1.04	Si
SLU 56	ini.	1992.43	-2893	1.31	0	2547	7137	5492	3341	3821	Si	1.32	Si
SLU 56	fin.	156.33	-3670	1.31	0	2547	7137	5492	3341	3821	Si	1.04	Si
SLU 81	ini.	2102.42	-2964	1.31	0	2547	7137	5492	3341	3821	Si	1.29	Si
SLU 81	fin.	231.9	-3770	1.31	0	2547	7137	5492	3341	3821	Si	1.01	Si
SLU 60	ini.	2060.44	-3031	1.31	0	2547	7137	5492	3341	3821	Si	1.26	Si
SLU 60	fin.	150.4	-3808	1.31	0	2547	7137	5492	3341	3821	Si	1	Si
SLU 79	ini.	2029.06	-2825	1.31	0	2547	7137	5492	3341	3821	Si	1.35	Si
SLU 79	fin.	233.04	-3631	1.31	0	2547	7137	5492	3341	3821	Si	1.05	Si
SLU 77	ini.	2034.42	-2826	1.31	0	2547	7137	5492	3341	3821	Si	1.35	Si
SLU 77	fin.	237.83	-3632	1.31	0	2547	7137	5492	3341	3821	Si	1.05	Si
SLU 53	ini.	1977.88	-2882	1.31	0	2547	7137	5492	3341	3821	Si	1.33	Si
SLU 53	fin.	148.21	-3659	1.31	0	2547	7137	5492	3341	3821	Si	1.04	Si
SLU 83	ini.	2116.98	-2975	1.31	0	2547	7137	5492	3341	3821	Si	1.28	Si
SLU 83	fin.	240.02	-3781	1.31	0	2547	7137	5492	3341	3821	Si	1.01	Si
SLU 62	ini.	2074.99	-3042	1.31	0	2547	7137	5492	3341	3821	Si	1.26	Si
SLU 62	fin.	158.52	-3819	1.31	0	2547	7137	5492	3341	3821	Si	1	Si
SLU 74	ini.	2019.86	-2814	1.31	0	2547	7137	5492	3341	3821	Si	1.36	Si
SLU 74	fin.	229.71	-3620	1.31	0	2547	7137	5492	3341	3821	Si	1.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	4865.2	6837	-0.0018581	0.0002807	0.0035	1.31		6269	6269		1.29	Si
SLD 8	fin.	-726.8	1599	-0.0001762	0.0002807	0.0035	1.31		6277.79	6277.79		8.64	Si
SLD 12	ini.	4560.15	6255	-0.0016666	0.0002807	0.0035	1.31		6269	6269		1.37	Si
SLD 12	fin.	-658.13	1324	-0.0001586	0.0002807	0.0035	1.31		6277.79	6277.79		9.54	Si
SLV 11	ini.	6500.89	9812	-0.0034019	0.0002807	0.0035	1.31		6269	6269		0.96	No
SLV 11	fin.	-1143.3	2573	-0.0002875	0.0002807	0.0035	1.31		6277.79	6277.79		5.49	Si
SLD 11	ini.	4554.17	6241	-0.0016631	0.0002807	0.0035	1.31		6269	6269		1.38	Si
SLD 11	fin.	-654.88	1317	-0.0001578	0.0002807	0.0035	1.31		6277.79	6277.79		9.59	Si
SLV 12	ini.	6510.45	9835	-0.0034126	0.0002807	0.0035	1.31		6269	6269		0.96	No
SLV 12	fin.	-1148.49	2585	-0.000289	0.0002807	0.0035	1.31		6277.79	6277.79		5.47	Si
SLV 10	ini.	-4149.7	-9764	-0.0014372	0.0002807	0.0035	1.31		6277.79	6277.79		1.51	Si
SLV 10	fin.	1514.49	-4435	-0.0003963	0.0002807	0.0035	1.31		6269	6269		4.14	Si
SLV 9	ini.	-4159.26	-9787	-0.0014421	0.0002807	0.0035	1.31		6277.79	6277.79		1.51	Si
SLV 9	fin.	1519.68	-4447	-0.0003978	0.0002807	0.0035	1.31		6269	6269		4.13	Si
SLD 7	ini.	4859.22	6823	-0.0018541	0.0002807	0.0035	1.31		6269	6269		1.29	Si
SLD 7	fin.	-723.55	1592	-0.0001753	0.0002807	0.0035	1.31		6277.79	6277.79		8.68	Si
SLV 8	ini.	6986.44	10743	-0.0039172	0.0002807	0.0035	1.31		6269	6269		0.9	No
SLV 8	fin.	-1256.02	3014	-0.0003194	0.0002807	0.0035	1.31		6277.79	6277.79		5	Si
SLV 7	ini.	6976.89	10721	-0.0039076	0.0002807	0.0035	1.31		6269	6269		0.9	No
SLV 7	fin.	-1250.84	3003	-0.0003179	0.0002807	0.0035	1.31		6277.79	6277.79		5.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	4859.22	-9710	1.31	0	3821	7137	8238	3341	10957		1.13	Si
SLD 7	fin.	-723.55	-10250	1.31	0	3821	7137	8238	3341	10957		1.07	Si
SLV 10	ini.	-4149.7	10488	1.31	0	3821	7137	8238	3341	10957		1.04	Si
SLV 10	fin.	1514.49	9749	1.31	0	3821	7137	8238	3341	10957		1.12	Si
SLD 12	ini.	4560.15	-9044	1.31	0	3821	7137	8238	3341	10957		1.21	Si
SLD 12	fin.	-658.13	-9615	1.31	0	3821	7137	8238	3341	10957		1.14	Si
SLV 8	ini.	6986.44	-14488	1.31	0	3821	7137	8238	3341	10957		0.76	No
SLV 8	fin.	-1256.02	-14976	1.31	0	3821	7137	8238	3341	10957		0.73	No
SLV 11	ini.	6500.89	-13399	1.31	0	3821	7137	8238	3341	10957		0.82	No
SLV 11	fin.	-1143.3	-13934	1.31	0	3821	7137	8238	3341	10957		0.79	No
SLV 12	ini.	6510.45	-13423	1.31	0	3821	7137	8238	3341	10957		0.82	No
SLV 12	fin.	-1148.49	-13958	1.31	0	3821	7137	8238	3341	10957		0.79	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	6976.89	-14464	1.31	0	3821	7137	8238	3341	10957		0.76	No
SLV 7	fin.	-1250.84	-14951	1.31	0	3821	7137	8238	3341	10957		0.73	No
SLD 11	ini.	4554.17	-9028	1.31	0	3821	7137	8238	3341	10957		1.21	Si
SLD 11	fin.	-654.88	-9599	1.31	0	3821	7137	8238	3341	10957		1.14	Si
SLD 8	ini.	4865.2	-9726	1.31	0	3821	7137	8238	3341	10957		1.13	Si
SLD 8	fin.	-726.8	-10265	1.31	0	3821	7137	8238	3341	10957		1.07	Si
SLV 9	ini.	-4159.26	10512	1.31	0	3821	7137	8238	3341	10957		1.04	Si
SLV 9	fin.	1519.68	9773	1.31	0	3821	7137	8238	3341	10957		1.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.897	SLV 8	No
V_SLV	0.732	SLV 8	No
PF_SLU	1.32	SLU 83	Si
V_SLU	1	SLU 62	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-19.868	1.046	3.69	5	1.31	-20.668	1.046	3.69	5	1.31	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-2723.07	-9391	-0.0008381	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.07	Si
SLU 80	fin.	695.92	-7392	-0.0001702	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.17	Si
SLU 75	ini.	-2726.98	-9347	-0.0008397	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.06	Si
SLU 75	fin.	710.6	-7338	-0.000174	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.08	Si
SLU 84	ini.	-2807.75	-9673	-0.000872	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.03	Si
SLU 84	fin.	716.49	-7611	-0.0001756	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.05	Si
SLU 74	ini.	-2726.93	-9343	-0.0008396	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.06	Si
SLU 74	fin.	713.2	-7333	-0.0001747	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.07	Si
SLU 78	ini.	-2739.14	-9466	-0.0008445	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.06	Si
SLU 78	fin.	697.47	-7457	-0.0001706	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.16	Si
SLU 81	ini.	-2795.54	-9549	-0.0008671	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.04	Si
SLU 81	fin.	732.21	-7487	-0.0001797	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.96	Si
SLU 83	ini.	-2807.7	-9669	-0.0008719	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.03	Si
SLU 83	fin.	719.08	-7606	-0.0001763	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.04	Si
SLU 79	ini.	-2723.03	-9387	-0.0008381	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.07	Si
SLU 79	fin.	698.51	-7387	-0.0001709	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.15	Si
SLU 77	ini.	-2739.1	-9462	-0.0008445	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.06	Si
SLU 77	fin.	700.07	-7451	-0.0001713	0.0002246	0.0035	1.31		6412.08	2901.67	Si	4.14	Si
SLU 82	ini.	-2795.58	-9553	-0.0008671	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.04	Si
SLU 82	fin.	729.62	-7493	-0.0001791	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-2723.07	6938	1.31	0	3057	6344	6591	3341	4585	Si	0.66	No
SLU 80	fin.	695.92	4839	1.31	0	3057	6344	6591	3341	4585	Si	0.95	No
SLU 82	ini.	-2795.58	7205	1.31	0	3057	6344	6591	3341	4585	Si	0.64	No
SLU 82	fin.	729.62	4939	1.31	0	3057	6344	6591	3341	4585	Si	0.93	No
SLU 84	ini.	-2807.75	7204	1.31	0	3057	6344	6591	3341	4585	Si	0.64	No
SLU 84	fin.	716.49	4938	1.31	0	3057	6344	6591	3341	4585	Si	0.93	No
SLU 79	ini.	-2723.03	6942	1.31	0	3057	6344	6591	3341	4585	Si	0.66	No
SLU 79	fin.	698.51	4844	1.31	0	3057	6344	6591	3341	4585	Si	0.95	No
SLU 78	ini.	-2739.14	6968	1.31	0	3057	6344	6591	3341	4585	Si	0.66	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	697.47	4870	1.31	0	3057	6344	6591	3341	4585	Si	0.94	No
SLU 81	ini.	-2795.54	7209	1.31	0	3057	6344	6591	3341	4585	Si	0.64	No
SLU 81	fin.	732.21	4943	1.31	0	3057	6344	6591	3341	4585	Si	0.93	No
SLU 77	ini.	-2739.1	6973	1.31	0	3057	6344	6591	3341	4585	Si	0.66	No
SLU 77	fin.	700.07	4875	1.31	0	3057	6344	6591	3341	4585	Si	0.94	No
SLU 75	ini.	-2726.98	6969	1.31	0	3057	6344	6591	3341	4585	Si	0.66	No
SLU 75	fin.	710.6	4871	1.31	0	3057	6344	6591	3341	4585	Si	0.94	No
SLU 83	ini.	-2807.7	7208	1.31	0	3057	6344	6591	3341	4585	Si	0.64	No
SLU 83	fin.	719.08	4943	1.31	0	3057	6344	6591	3341	4585	Si	0.93	No
SLU 74	ini.	-2726.93	6973	1.31	0	3057	6344	6591	3341	4585	Si	0.66	No
SLU 74	fin.	713.2	4875	1.31	0	3057	6344	6591	3341	4585	Si	0.94	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-4623.57	-6815	-0.0016412	0.0003369	0.0035	1.31		6237.52	6237.52		1.35	Si
SLV 13	fin.	3362.22	-2385	-0.0010365	0.0003369	0.0035	1.31		6228.77	6228.77		1.85	Si
SLV 16	ini.	-4611.01	-6766	-0.001634	0.0003369	0.0035	1.31		6237.52	6237.52		1.35	Si
SLV 16	fin.	3410.04	-2300	-0.0010564	0.0003369	0.0035	1.31		6228.77	6228.77		1.83	Si
SLV 14	ini.	-4581.59	-6773	-0.0016174	0.0003369	0.0035	1.31		6237.52	6237.52		1.36	Si
SLV 14	fin.	3333.75	-2380	-0.0010247	0.0003369	0.0035	1.31		6228.77	6228.77		1.87	Si
SLV 15	ini.	-4652.98	-6807	-0.0016581	0.0003369	0.0035	1.31		6237.52	6237.52		1.34	Si
SLV 15	fin.	3438.52	-2305	-0.0010684	0.0003369	0.0035	1.31		6228.77	6228.77		1.81	Si
SLV 12	ini.	-2750.83	-6440	-0.000796	0.0003369	0.0035	1.31		6237.52	6237.52		2.27	Si
SLV 12	fin.	1510.88	-4003	-0.0003877	0.0003369	0.0035	1.31		6228.77	6228.77		4.12	Si
SLD 16	ini.	-3632.9	-6605	-0.0011499	0.0003369	0.0035	1.31		6237.52	6237.52		1.72	Si
SLD 16	fin.	2374.61	-3237	-0.0006628	0.0003369	0.0035	1.31		6228.77	6228.77		2.62	Si
SLV 11	ini.	-2779.1	-6468	-0.0008064	0.0003369	0.0035	1.31		6237.52	6237.52		2.24	Si
SLV 11	fin.	1530.04	-4006	-0.0003933	0.0003369	0.0035	1.31		6228.77	6228.77		4.07	Si
SLD 13	ini.	-3641.95	-6637	-0.0011539	0.0003369	0.0035	1.31		6237.52	6237.52		1.71	Si
SLD 13	fin.	2346.07	-3289	-0.000653	0.0003369	0.0035	1.31		6228.77	6228.77		2.65	Si
SLD 14	ini.	-3615.15	-6610	-0.0011421	0.0003369	0.0035	1.31		6237.52	6237.52		1.73	Si
SLD 14	fin.	2327.9	-3286	-0.0006468	0.0003369	0.0035	1.31		6228.77	6228.77		2.68	Si
SLD 15	ini.	-3659.69	-6632	-0.0011617	0.0003369	0.0035	1.31		6237.52	6237.52		1.7	Si
SLD 15	fin.	2392.78	-3240	-0.0006691	0.0003369	0.0035	1.31		6228.77	6228.77		2.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-4581.59	14252	1.31	0	4585	6344	9886	3341	10929		0.77	No
SLV 14	fin.	3333.75	12771	1.31	0	4585	6344	9886	3341	10929		0.86	No
SLD 14	ini.	-3615.15	10864	1.31	0	4585	6344	9886	3341	10929		1.01	Si
SLD 14	fin.	2327.9	9442	1.31	0	4585	6344	9886	3341	10929		1.16	Si
SLV 13	ini.	-4623.57	14371	1.31	0	4585	6344	9886	3341	10929		0.76	No
SLV 13	fin.	3362.22	12889	1.31	0	4585	6344	9886	3341	10929		0.85	No
SLV 11	ini.	-2779.1	7956	1.31	0	4585	6344	9886	3341	10929		1.37	Si
SLV 11	fin.	1530.04	6657	1.31	0	4585	6344	9886	3341	10929		1.64	Si
SLD 13	ini.	-3641.95	10939	1.31	0	4585	6344	9886	3341	10929		1	No
SLD 13	fin.	2346.07	9518	1.31	0	4585	6344	9886	3341	10929		1.15	Si
SLV 12	ini.	-2750.83	7876	1.31	0	4585	6344	9886	3341	10929		1.39	Si
SLV 12	fin.	1510.88	6577	1.31	0	4585	6344	9886	3341	10929		1.66	Si
SLV 16	ini.	-4611.01	14372	1.31	0	4585	6344	9886	3341	10929		0.76	No
SLV 16	fin.	3410.04	12935	1.31	0	4585	6344	9886	3341	10929		0.84	No
SLV 15	ini.	-4652.98	14490	1.31	0	4585	6344	9886	3341	10929		0.75	No
SLV 15	fin.	3438.52	13053	1.31	0	4585	6344	9886	3341	10929		0.84	No
SLD 15	ini.	-3659.69	11011	1.31	0	4585	6344	9886	3341	10929		0.99	No
SLD 15	fin.	2392.78	9619	1.31	0	4585	6344	9886	3341	10929		1.14	Si
SLD 16	ini.	-3632.9	10936	1.31	0	4585	6344	9886	3341	10929		1	No
SLD 16	fin.	2374.61	9543	1.31	0	4585	6344	9886	3341	10929		1.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 15	Si
V_SLV	0.754	SLV 15	No
PF_SLU	1.033	SLU 84	Si
V_SLU	0.636	SLU 81	No

Trave di accoppiamento 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-11.163	1.046	4.09	5	0.91	-12.283	1.046	4.09	5	0.91	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-1363.58	-6102	-0.0008782	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.36	Si
SLU 77	fin.	-200.97	-4278	-0.000099	0.0002246	0.0035	0.91		3104.25	1851.67	Si	9.21	Si
SLU 73	ini.	-1376.98	-5924	-0.0008894	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.34	Si
SLU 73	fin.	-160.92	-4045	-0.0000787	0.0002246	0.0035	0.91		3104.25	1851.67	Si	11.51	Si
SLU 82	ini.	-1455.13	-6203	-0.0009561	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.27	Si
SLU 82	fin.	-177.23	-4237	-0.0000869	0.0002246	0.0035	0.91		3104.25	1851.67	Si	10.45	Si
SLU 81	ini.	-1422.02	-6165	-0.0009276	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.3	Si
SLU 81	fin.	-201.46	-4276	-0.0000992	0.0002246	0.0035	0.91		3104.25	1851.67	Si	9.19	Si
SLU 80	ini.	-1385.3	-6087	-0.0008964	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.34	Si
SLU 80	fin.	-179.07	-4208	-0.0000879	0.0002246	0.0035	0.91		3104.25	1851.67	Si	10.34	Si
SLU 83	ini.	-1437.21	-6259	-0.0009406	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.29	Si
SLU 83	fin.	-202.46	-4344	-0.0000998	0.0002246	0.0035	0.91		3104.25	1851.67	Si	9.15	Si
SLU 78	ini.	-1396.69	-6140	-0.000906	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.33	Si
SLU 78	fin.	-176.74	-4239	-0.0000867	0.0002246	0.0035	0.91		3104.25	1851.67	Si	10.48	Si
SLU 84	ini.	-1470.33	-6297	-0.0009693	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.26	Si
SLU 84	fin.	-178.23	-4305	-0.0000874	0.0002246	0.0035	0.91		3104.25	1851.67	Si	10.39	Si
SLU 75	ini.	-1381.5	-6046	-0.0008932	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.34	Si
SLU 75	fin.	-175.74	-4171	-0.0000862	0.0002246	0.0035	0.91		3104.25	1851.67	Si	10.54	Si
SLU 76	ini.	-1392.18	-6018	-0.0009022	0.0002246	0.0035	0.91		3104.25	1851.67	Si	1.33	Si
SLU 76	fin.	-161.92	-4113	-0.0000792	0.0002246	0.0035	0.91		3104.25	1851.67	Si	11.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1381.5	3928	0.91	0	2123	7216	4578	2321	3185	Si	0.81	No
SLU 75	fin.	-175.74	436	0.91	0	2123	7216	4578	2321	3185	Si	7.3	Si
SLU 79	ini.	-1352.18	3916	0.91	0	2123	7216	4578	2321	3185	Si	0.81	No
SLU 79	fin.	-203.29	364	0.91	0	2123	7216	4578	2321	3185	Si	8.75	Si
SLU 80	ini.	-1385.3	3939	0.91	0	2123	7216	4578	2321	3185	Si	0.81	No
SLU 80	fin.	-179.07	439	0.91	0	2123	7216	4578	2321	3185	Si	7.25	Si
SLU 83	ini.	-1437.21	4186	0.91	0	2123	7216	4578	2321	3185	Si	0.76	No
SLU 83	fin.	-202.46	322	0.91	0	2123	7216	4578	2321	3185	Si	9.91	Si
SLU 76	ini.	-1392.18	3917	0.91	0	2123	7216	4578	2321	3185	Si	0.81	No
SLU 76	fin.	-161.92	465	0.91	0	2123	7216	4578	2321	3185	Si	6.85	Si
SLU 77	ini.	-1363.58	3942	0.91	0	2123	7216	4578	2321	3185	Si	0.81	No
SLU 77	fin.	-200.97	385	0.91	0	2123	7216	4578	2321	3185	Si	8.26	Si
SLU 81	ini.	-1422.02	4149	0.91	0	2123	7216	4578	2321	3185	Si	0.77	No
SLU 81	fin.	-201.46	297	0.91	0	2123	7216	4578	2321	3185	Si	10.74	Si
SLU 82	ini.	-1455.13	4172	0.91	0	2123	7216	4578	2321	3185	Si	0.76	No
SLU 82	fin.	-177.23	372	0.91	0	2123	7216	4578	2321	3185	Si	8.56	Si
SLU 78	ini.	-1396.69	3965	0.91	0	2123	7216	4578	2321	3185	Si	0.8	No
SLU 78	fin.	-176.74	461	0.91	0	2123	7216	4578	2321	3185	Si	6.91	Si
SLU 84	ini.	-1470.33	4209	0.91	0	2123	7216	4578	2321	3185	Si	0.76	No
SLU 84	fin.	-178.23	397	0.91	0	2123	7216	4578	2321	3185	Si	8.02	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-5680.68	-10884	-0.0077475	0.0003369	0.0035	0.91		3069.28	3069.28		0.54	No
SLV 13	fin.	4359.39	4421	-0.0055855	0.0003369	0.0035	0.91		3063.03	3063.03		0.7	No
SLV 4	ini.	3994.98	2939	-0.0049479	0.0003369	0.0035	0.91		3063.03	3063.03		0.77	No
SLV 4	fin.	-4675.38	-10165	-0.0061076	0.0003369	0.0035	0.91		3069.28	3069.28		0.66	No
SLD 13	ini.	-3930.1	-8387	-0.0048182	0.0003369	0.0035	0.91		3069.28	3069.28		0.78	No
SLD 13	fin.	2726.95	1786	-0.0023703	0.0003369	0.0035	0.91		3063.03	3063.03		1.12	Si
SLV 10	ini.	-3943.89	-7807	-0.0048431	0.0003369	0.0035	0.91		3069.28	3069.28		0.78	No
SLV 10	fin.	2413.54	1381	-0.0018762	0.0003369	0.0035	0.91		3063.03	3063.03		1.27	Si
SLV 14	ini.	-5627.1	-10796	-0.0076621	0.0003369	0.0035	0.91		3069.28	3069.28		0.55	No
SLV 14	fin.	4309.94	4346	-0.0055006	0.0003369	0.0035	0.91		3063.03	3063.03		0.71	No
SLV 9	ini.	-3979.97	-7866	-0.0049081	0.0003369	0.0035	0.91		3069.28	3069.28		0.77	No
SLV 9	fin.	2446.83	1431	-0.0019225	0.0003369	0.0035	0.91		3063.03	3063.03		1.25	Si
SLV 16	ini.	-4522.2	-9607	-0.0058485	0.0003369	0.0035	0.91		3069.28	3069.28		0.68	No
SLV 16	fin.	3492.11	2961	-0.0040016	0.0003369	0.0035	0.91		3063.03	3063.03		0.88	No
SLD 14	ini.	-3895.9	-8331	-0.0047561	0.0003369	0.0035	0.91		3069.28	3069.28		0.79	No
SLD 14	fin.	2695.39	1738	-0.0023143	0.0003369	0.0035	0.91		3063.03	3063.03		1.14	Si
SLV 15	ini.	-4575.78	-9695	-0.0059391	0.0003369	0.0035	0.91		3069.28	3069.28		0.67	No
SLV 15	fin.	3541.55	3036	-0.0040998	0.0003369	0.0035	0.91		3063.03	3063.03		0.86	No



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	3941.4	2850	-0.0048515	0.0003369	0.0035	0.91		3063.03	3063.03		0.78	No
SLV 3	fin.	-4625.93	-10090	-0.0060242	0.0003369	0.0035	0.91		3069.28	3069.28		0.66	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-5680.68	14890	0.91	0	2417	7216	6868	2321	9188		0.62	No
SLV 13	fin.	4359.39	14236	0.91	0	2417	7216	6868	2321	9188		0.65	No
SLV 15	ini.	-4575.78	14005	0.91	0	2417	7216	6868	2321	9188		0.66	No
SLV 15	fin.	3541.55	11699	0.91	0	2417	7216	6868	2321	9188		0.79	No
SLV 2	ini.	2890.08	-9081	0.91	0	2417	7216	6868	2321	9188		1.01	Si
SLV 2	fin.	-3857.55	-11228	0.91	0	2417	7216	6868	2321	9188		0.82	No
SLV 16	ini.	-4522.2	13834	0.91	0	2417	7216	6868	2321	9188		0.66	No
SLV 16	fin.	3492.11	11539	0.91	0	2417	7216	6868	2321	9188		0.8	No
SLV 1	ini.	2836.5	-8910	0.91	0	2417	7216	6868	2321	9188		1.03	Si
SLV 1	fin.	-3808.1	-11068	0.91	0	2417	7216	6868	2321	9188		0.83	No
SLD 13	ini.	-3930.1	10414	0.91	0	2417	7216	6868	2321	9188		0.88	No
SLD 13	fin.	2726.95	9172	0.91	0	2417	7216	6868	2321	9188		1	Si
SLD 14	ini.	-3895.9	10305	0.91	0	2417	7216	6868	2321	9188		0.89	No
SLD 14	fin.	2695.39	9070	0.91	0	2417	7216	6868	2321	9188		1.01	Si
SLV 14	ini.	-5627.1	14719	0.91	0	2417	7216	6868	2321	9188		0.62	No
SLV 14	fin.	4309.94	14077	0.91	0	2417	7216	6868	2321	9188		0.65	No
SLV 4	ini.	3994.98	-9966	0.91	0	2417	7216	6868	2321	9188		0.92	No
SLV 4	fin.	-4675.38	-13765	0.91	0	2417	7216	6868	2321	9188		0.67	No
SLV 3	ini.	3941.4	-9795	0.91	0	2417	7216	6868	2321	9188		0.94	No
SLV 3	fin.	-4625.93	-13606	0.91	0	2417	7216	6868	2321	9188		0.68	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.54	SLV 13	No
V_SLV	0.617	SLV 13	No
PF_SLU	1.259	SLU 84	Si
V_SLU	0.757	SLU 84	No

Trave di accoppiamento 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-4.168	1.046	3.69	5	1.31	-4.968	1.046	3.69	5	1.31	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	792.45	-6377	-0.0001957	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.66	Si
SLU 79	fin.	-2312.9	-8133	-0.0006812	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.25	Si
SLU 80	ini.	794.04	-6378	-0.0001962	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.65	Si
SLU 80	fin.	-2315.49	-8136	-0.0006821	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.25	Si
SLU 82	ini.	824.65	-6457	-0.0002044	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.52	Si
SLU 82	fin.	-2384.56	-8270	-0.0007078	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.22	Si
SLU 74	ini.	808.36	-6320	-0.0002	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.59	Si
SLU 74	fin.	-2320.65	-8088	-0.000684	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.25	Si
SLU 77	ini.	797.3	-6431	-0.000197	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.64	Si
SLU 77	fin.	-2328.1	-8199	-0.0006868	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.25	Si
SLU 84	ini.	813.59	-6568	-0.0002014	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.57	Si
SLU 84	fin.	-2392.01	-8381	-0.0007106	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.21	Si
SLU 78	ini.	798.88	-6432	-0.0001975	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.63	Si
SLU 78	fin.	-2330.69	-8201	-0.0006878	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.24	Si
SLU 81	ini.	823.06	-6456	-0.0002039	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.53	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	-2381.96	-8267	-0.0007068	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.22	Si
SLU 83	ini.	812	-6568	-0.000201	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.57	Si
SLU 83	fin.	-2389.41	-8378	-0.0007096	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.21	Si
SLU 75	ini.	809.94	-6320	-0.0002004	0.0002246	0.0035	1.31		6412.08	2901.67	Si	3.58	Si
SLU 75	fin.	-2323.24	-8091	-0.000685	0.0002246	0.0035	1.31		6420.25	2901.67	Si	1.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	824.65	-4343	1.31	0	3057	6344	6591	3341	4585	Si	1.06	Si
SLU 82	fin.	-2384.56	-6618	1.31	0	3057	6344	6591	3341	4585	Si	0.69	No
SLU 81	ini.	823.06	-4336	1.31	0	3057	6344	6591	3341	4585	Si	1.06	Si
SLU 81	fin.	-2381.96	-6611	1.31	0	3057	6344	6591	3341	4585	Si	0.69	No
SLU 83	ini.	812	-4331	1.31	0	3057	6344	6591	3341	4585	Si	1.06	Si
SLU 83	fin.	-2389.41	-6606	1.31	0	3057	6344	6591	3341	4585	Si	0.69	No
SLU 75	ini.	809.94	-4297	1.31	0	3057	6344	6591	3341	4585	Si	1.07	Si
SLU 75	fin.	-2323.24	-6404	1.31	0	3057	6344	6591	3341	4585	Si	0.72	No
SLU 76	ini.	806.16	-4268	1.31	0	3057	6344	6591	3341	4585	Si	1.07	Si
SLU 76	fin.	-2309.77	-6375	1.31	0	3057	6344	6591	3341	4585	Si	0.72	No
SLU 78	ini.	798.88	-4292	1.31	0	3057	6344	6591	3341	4585	Si	1.07	Si
SLU 78	fin.	-2330.69	-6399	1.31	0	3057	6344	6591	3341	4585	Si	0.72	No
SLU 77	ini.	797.3	-4285	1.31	0	3057	6344	6591	3341	4585	Si	1.07	Si
SLU 77	fin.	-2328.1	-6392	1.31	0	3057	6344	6591	3341	4585	Si	0.72	No
SLU 73	ini.	817.22	-4273	1.31	0	3057	6344	6591	3341	4585	Si	1.07	Si
SLU 73	fin.	-2302.32	-6380	1.31	0	3057	6344	6591	3341	4585	Si	0.72	No
SLU 84	ini.	813.59	-4338	1.31	0	3057	6344	6591	3341	4585	Si	1.06	Si
SLU 84	fin.	-2392.01	-6613	1.31	0	3057	6344	6591	3341	4585	Si	0.69	No
SLU 74	ini.	808.36	-4290	1.31	0	3057	6344	6591	3341	4585	Si	1.07	Si
SLU 74	fin.	-2320.65	-6397	1.31	0	3057	6344	6591	3341	4585	Si	0.72	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	2465.37	-2908	-0.0006944	0.0003369	0.0035	1.31		6228.77	6228.77		2.53	Si
SLD 3	fin.	-3494.57	-6210	-0.0010902	0.0003369	0.0035	1.31		6237.52	6237.52		1.78	Si
SLV 6	ini.	1651.31	-3389	-0.0004293	0.0003369	0.0035	1.31		6228.77	6228.77		3.77	Si
SLV 6	fin.	-2670.12	-5838	-0.0007664	0.0003369	0.0035	1.31		6237.52	6237.52		2.34	Si
SLD 1	ini.	2521.06	-2840	-0.0007141	0.0003369	0.0035	1.31		6228.77	6228.77		2.47	Si
SLD 1	fin.	-3550.22	-6218	-0.001114	0.0003369	0.0035	1.31		6237.52	6237.52		1.76	Si
SLD 2	ini.	2534.84	-2830	-0.000719	0.0003369	0.0035	1.31		6228.77	6228.77		2.46	Si
SLD 2	fin.	-3564.26	-6222	-0.0011201	0.0003369	0.0035	1.31		6237.52	6237.52		1.75	Si
SLV 3	ini.	3510.15	-2182	-0.0010988	0.0003369	0.0035	1.31		6228.77	6228.77		1.77	Si
SLV 3	fin.	-4549.9	-6633	-0.0015996	0.0003369	0.0035	1.31		6237.52	6237.52		1.37	Si
SLV 4	ini.	3531.75	-2166	-0.001108	0.0003369	0.0035	1.31		6228.77	6228.77		1.76	Si
SLV 4	fin.	-4571.9	-6639	-0.0016119	0.0003369	0.0035	1.31		6237.52	6237.52		1.36	Si
SLD 4	ini.	2479.16	-2898	-0.0006993	0.0003369	0.0035	1.31		6228.77	6228.77		2.51	Si
SLD 4	fin.	-3508.62	-6214	-0.0010962	0.0003369	0.0035	1.31		6237.52	6237.52		1.78	Si
SLV 1	ini.	3600.63	-2071	-0.0011378	0.0003369	0.0035	1.31		6228.77	6228.77		1.73	Si
SLV 1	fin.	-4640.16	-6647	-0.0016507	0.0003369	0.0035	1.31		6237.52	6237.52		1.34	Si
SLV 5	ini.	1636.77	-3399	-0.0004249	0.0003369	0.0035	1.31		6228.77	6228.77		3.81	Si
SLV 5	fin.	-2655.31	-5833	-0.000761	0.0003369	0.0035	1.31		6237.52	6237.52		2.35	Si
SLV 2	ini.	3622.23	-2055	-0.0011472	0.0003369	0.0035	1.31		6228.77	6228.77		1.72	Si
SLV 2	fin.	-4662.17	-6653	-0.0016634	0.0003369	0.0035	1.31		6237.52	6237.52		1.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1636.77	-6621	1.31	0	4585	6344	9886	3341	10929		1.65	Si
SLV 5	fin.	-2655.31	-7874	1.31	0	4585	6344	9886	3341	10929		1.39	Si
SLD 3	ini.	2465.37	-9485	1.31	0	4585	6344	9886	3341	10929		1.15	Si
SLD 3	fin.	-3494.57	-10843	1.31	0	4585	6344	9886	3341	10929		1.01	Si
SLV 3	ini.	3510.15	-13067	1.31	0	4585	6344	9886	3341	10929		0.84	No
SLV 3	fin.	-4549.9	-14433	1.31	0	4585	6344	9886	3341	10929		0.76	No
SLV 2	ini.	3622.23	-13434	1.31	0	4585	6344	9886	3341	10929		0.81	No
SLV 2	fin.	-4662.17	-14746	1.31	0	4585	6344	9886	3341	10929		0.74	No
SLD 1	ini.	2521.06	-9666	1.31	0	4585	6344	9886	3341	10929		1.13	Si
SLD 1	fin.	-3550.22	-10991	1.31	0	4585	6344	9886	3341	10929		0.99	No
SLV 4	ini.	3531.75	-13140	1.31	0	4585	6344	9886	3341	10929		0.83	No
SLV 4	fin.	-4571.9	-14506	1.31	0	4585	6344	9886	3341	10929		0.75	No
SLV 1	ini.	3600.63	-13360	1.31	0	4585	6344	9886	3341	10929		0.82	No
SLV 1	fin.	-4640.16	-14673	1.31	0	4585	6344	9886	3341	10929		0.74	No
SLV 6	ini.	1651.31	-6670	1.31	0	4585	6344	9886	3341	10929		1.64	Si
SLV 6	fin.	-2670.12	-7924	1.31	0	4585	6344	9886	3341	10929		1.38	Si
SLD 4	ini.	2479.16	-9532	1.31	0	4585	6344	9886	3341	10929		1.15	Si
SLD 4	fin.	-3508.62	-10889	1.31	0	4585	6344	9886	3341	10929		1	Si
SLD 2	ini.	2534.84	-9713	1.31	0	4585	6344	9886	3341	10929		1.13	Si
SLD 2	fin.	-3564.26	-11038	1.31	0	4585	6344	9886	3341	10929		0.99	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.338	SLV 2	Si
V SLV	0.741	SLV 2	No
PF SLU	1.213	SLU 84	Si
V SLU	0.693	SLU 82	No



Trave di accoppiamento 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.768	6.661	1.59	2.49	0.9	-16.768	6.661	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	905.21	-3257	-0.0005581	0.0001872	0.0035	0.9		2959	1717.92	Si	1.9	Si
SLU 78	fin.	26.33	-2040	-0.0000129	0.0001872	0.0035	0.9		2959	1717.92	Si	65.24	Si
SLU 75	ini.	889.13	-3200	-0.000546	0.0001872	0.0035	0.9		2959	1717.92	Si	1.93	Si
SLU 75	fin.	24.79	-2003	-0.0000122	0.0001872	0.0035	0.9		2959	1717.92	Si	69.29	Si
SLU 77	ini.	923.97	-3301	-0.0005724	0.0001872	0.0035	0.9		2959	1717.92	Si	1.86	Si
SLU 77	fin.	17.04	-2045	-0.0000084	0.0001872	0.0035	0.9		2959	1717.92	Si	100.79	Si
SLU 79	ini.	917.62	-3273	-0.0005675	0.0001872	0.0035	0.9		2959	1717.92	Si	1.87	Si
SLU 79	fin.	13.74	-2021	-0.0000067	0.0001872	0.0035	0.9		2959	1717.92	Si	124.99	Si
SLU 81	ini.	908.16	-3268	-0.0005604	0.0001872	0.0035	0.9		2959	1717.92	Si	1.89	Si
SLU 81	fin.	27.38	-2049	-0.0000135	0.0001872	0.0035	0.9		2959	1717.92	Si	62.75	Si
SLU 82	ini.	889.4	-3223	-0.0005462	0.0001872	0.0035	0.9		2959	1717.92	Si	1.93	Si
SLU 82	fin.	36.66	-2044	-0.0000181	0.0001872	0.0035	0.9		2959	1717.92	Si	46.85	Si
SLU 80	ini.	898.86	-3229	-0.0005533	0.0001872	0.0035	0.9		2959	1717.92	Si	1.91	Si
SLU 80	fin.	23.03	-2016	-0.0000113	0.0001872	0.0035	0.9		2959	1717.92	Si	74.59	Si
SLU 84	ini.	905.48	-3281	-0.0005583	0.0001872	0.0035	0.9		2959	1717.92	Si	1.9	Si
SLU 84	fin.	38.2	-2081	-0.0000188	0.0001872	0.0035	0.9		2959	1717.92	Si	44.97	Si
SLU 83	ini.	924.24	-3325	-0.0005726	0.0001872	0.0035	0.9		2959	1717.92	Si	1.86	Si
SLU 83	fin.	28.92	-2086	-0.0000142	0.0001872	0.0035	0.9		2959	1717.92	Si	59.41	Si
SLU 74	ini.	907.89	-3244	-0.0005602	0.0001872	0.0035	0.9		2959	1717.92	Si	1.89	Si
SLU 74	fin.	15.5	-2008	-0.0000076	0.0001872	0.0035	0.9		2959	1717.92	Si	110.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	905.48	-2186	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 84	fin.	38.2	-518	0.9	0	1750	7137	3773	2295	2625	Si	5.06	Si
SLU 81	ini.	908.16	-2198	0.9	0	1750	7137	3773	2295	2625	Si	1.19	Si
SLU 81	fin.	27.38	-551	0.9	0	1750	7137	3773	2295	2625	Si	4.76	Si
SLU 82	ini.	889.4	-2144	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 82	fin.	36.66	-514	0.9	0	1750	7137	3773	2295	2625	Si	5.11	Si
SLU 75	ini.	889.13	-2145	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 75	fin.	24.79	-554	0.9	0	1750	7137	3773	2295	2625	Si	4.74	Si
SLU 83	ini.	924.24	-2240	0.9	0	1750	7137	3773	2295	2625	Si	1.17	Si
SLU 83	fin.	28.92	-555	0.9	0	1750	7137	3773	2295	2625	Si	4.73	Si
SLU 77	ini.	923.97	-2241	0.9	0	1750	7137	3773	2295	2625	Si	1.17	Si
SLU 77	fin.	17.04	-595	0.9	0	1750	7137	3773	2295	2625	Si	4.41	Si
SLU 80	ini.	898.86	-2172	0.9	0	1750	7137	3773	2295	2625	Si	1.21	Si
SLU 80	fin.	23.03	-564	0.9	0	1750	7137	3773	2295	2625	Si	4.65	Si
SLU 78	ini.	905.21	-2187	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 78	fin.	26.33	-558	0.9	0	1750	7137	3773	2295	2625	Si	4.7	Si
SLU 79	ini.	917.62	-2226	0.9	0	1750	7137	3773	2295	2625	Si	1.18	Si
SLU 79	fin.	13.74	-601	0.9	0	1750	7137	3773	2295	2625	Si	4.37	Si
SLU 74	ini.	907.89	-2199	0.9	0	1750	7137	3773	2295	2625	Si	1.19	Si
SLU 74	fin.	15.5	-591	0.9	0	1750	7137	3773	2295	2625	Si	4.44	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	2798.78	-5455	-0.0027737	0.0002807	0.0035	0.9		2989.59	2989.59		1.07	Si
SLV 16	fin.	-2082.64	1336	-0.0015837	0.0002807	0.0035	0.9		2995.37	2995.37		1.44	Si
SLV 1	ini.	-1528.22	1007	-0.0010172	0.0002807	0.0035	0.9		2995.37	2995.37		1.96	Si
SLV 1	fin.	2045.63	-3970	-0.0015445	0.0002807	0.0035	0.9		2989.59	2989.59		1.46	Si
SLD 16	ini.	2011.7	-4274	-0.0015053	0.0002807	0.0035	0.9		2989.59	2989.59		1.49	Si
SLD 16	fin.	-1335.24	382	-0.0008518	0.0002807	0.0035	0.9		2995.37	2995.37		2.24	Si
SLV 14	ini.	2061.6	-3729	-0.0015632	0.0002807	0.0035	0.9		2989.59	2989.59		1.45	Si
SLV 14	fin.	-1686.48	1462	-0.0011632	0.0002807	0.0035	0.9		2995.37	2995.37		1.78	Si
SLV 11	ini.	2213.92	-5541	-0.0017535	0.0002807	0.0035	0.9		2989.59	2989.59		1.35	Si
SLV 11	fin.	-1054.39	-961	-0.0006321	0.0002807	0.0035	0.9		2995.37	2995.37		2.84	Si
SLV 13	ini.	1674.35	-3171	-0.0011546	0.0002807	0.0035	0.9		2989.59	2989.59		1.79	Si
SLV 13	fin.	-1307.94	950	-0.0008294	0.0002807	0.0035	0.9		2995.37	2995.37		2.29	Si
SLD 12	ini.	1785.13	-4526	-0.001263	0.0002807	0.0035	0.9		2989.59	2989.59		1.67	Si
SLD 12	fin.	-830.34	-866	-0.0004731	0.0002807	0.0035	0.9		2995.37	2995.37		3.61	Si
SLV 15	ini.	2411.53	-4898	-0.0020399	0.0002807	0.0035	0.9		2989.59	2989.59		1.24	Si
SLV 15	fin.	-1704.11	824	-0.0011801	0.0002807	0.0035	0.9		2995.37	2995.37		1.76	Si
SLV 12	ini.	2474.65	-5916	-0.0021427	0.0002807	0.0035	0.9		2989.59	2989.59		1.21	Si
SLV 12	fin.	-1309.24	-616	-0.0008305	0.0002807	0.0035	0.9		2995.37	2995.37		2.29	Si
SLD 15	ini.	1764.53	-3918	-0.0012424	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLD 15	fin.	-1093.63	55	-0.0006614	0.0002807	0.0035	0.9		2995.37	2995.37		2.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 16	ini.	2011.7	-5929	0.9	0	2577	7137	5660	2295	7955		1.34	Si
SLD 16	fin.	-1335.24	-4885	0.9	0	2577	7137	5660	2295	7954		1.63	Si
SLV 12	ini.	2474.65	-7100	0.9	0	2577	7137	5660	2295	7955		1.12	Si
SLV 12	fin.	-1309.24	-5309	0.9	0	2577	7137	5660	2295	7954		1.5	Si
SLD 15	ini.	1764.53	-5138	0.9	0	2577	7137	5660	2295	7955		1.55	Si
SLD 15	fin.	-1093.63	-4088	0.9	0	2577	7137	5660	2295	7954		1.95	Si
SLV 13	ini.	1674.35	-5050	0.9	0	2577	7137	5660	2295	7955		1.58	Si
SLV 13	fin.	-1307.94	-4467	0.9	0	2577	7137	5660	2295	7954		1.78	Si
SLV 15	ini.	2411.53	-7200	0.9	0	2577	7137	5660	2295	7955		1.1	Si
SLV 15	fin.	-1704.11	-6118	0.9	0	2577	7137	5660	2295	7954		1.3	Si
SLV 11	ini.	2213.92	-6265	0.9	0	2577	7137	5660	2295	7955		1.27	Si
SLV 11	fin.	-1054.39	-4469	0.9	0	2577	7137	5660	2295	7954		1.78	Si
SLV 2	ini.	-1140.97	4129	0.9	0	2577	7137	5660	2295	7955		1.93	Si
SLV 2	fin.	1667.1	5087	0.9	0	2577	7137	5660	2295	7954		1.56	Si
SLV 14	ini.	2061.6	-6290	0.9	0	2577	7137	5660	2295	7955		1.26	Si
SLV 14	fin.	-1686.48	-5714	0.9	0	2577	7137	5660	2295	7954		1.39	Si
SLV 16	ini.	2798.78	-8440	0.9	0	2577	7137	5660	2295	7955		0.94	No
SLV 16	fin.	-2082.64	-7366	0.9	0	2577	7137	5660	2295	7954		1.08	Si
SLV 1	ini.	-1528.22	5369	0.9	0	2577	7137	5660	2295	7955		1.48	Si
SLV 1	fin.	2045.63	6335	0.9	0	2577	7137	5660	2295	7954		1.26	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.068	SLV 16	Si
V_SLV	0.942	SLV 16	No
PF_SLU	1.859	SLU 83	Si
V_SLU	1.171	SLU 77	Si

Trave di accoppiamento 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.768	6.661	4.39	5	0.61	-16.768	6.661	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fhhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-233.72	-1111	-0.0002797	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.09	Si
SLU 79	fin.	-824.07	-2535	-0.0013519	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.16	Si
SLU 75	ini.	-236.85	-1107	-0.000284	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.04	Si
SLU 75	fin.	-807.4	-2483	-0.0013129	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.18	Si
SLU 81	ini.	-242.83	-1127	-0.0002923	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.94	Si
SLU 81	fin.	-827.39	-2538	-0.0013598	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.16	Si
SLU 84	ini.	-251.85	-1156	-0.0003049	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.8	Si
SLU 84	fin.	-832.63	-2557	-0.0013722	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.15	Si
SLU 80	ini.	-237.88	-1115	-0.0002854	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.02	Si
SLU 80	fin.	-815.18	-2507	-0.001331	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.17	Si
SLU 77	ini.	-237.55	-1127	-0.000285	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.03	Si
SLU 77	fin.	-830.44	-2557	-0.001367	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.15	Si
SLU 74	ini.	-232.69	-1102	-0.0002783	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.11	Si
SLU 74	fin.	-816.29	-2510	-0.0013336	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.17	Si
SLU 78	ini.	-241.71	-1131	-0.0002907	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.96	Si
SLU 78	fin.	-821.54	-2529	-0.0013459	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.16	Si
SLU 83	ini.	-247.69	-1152	-0.0002991	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.86	Si
SLU 83	fin.	-841.53	-2584	-0.0013936	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.14	Si
SLU 82	ini.	-246.99	-1132	-0.0002981	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.87	Si
SLU 82	fin.	-818.49	-2510	-0.0013388	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-236.85	1528	0.61	0	1186	4837	2557	1556	1779	Si	1.16	Si
SLU 75	fin.	-807.4	-3574	0.61	0	1186	4837	2557	1556	1779	Si	0.5	No
SLU 74	ini.	-232.69	1512	0.61	0	1186	4837	2557	1556	1779	Si	1.18	Si
SLU 74	fin.	-816.29	-3606	0.61	0	1186	4837	2557	1556	1779	Si	0.49	No
SLU 77	ini.	-237.55	1540	0.61	0	1186	4837	2557	1556	1779	Si	1.16	Si
SLU 77	fin.	-830.44	-3666	0.61	0	1186	4837	2557	1556	1779	Si	0.49	No
SLU 78	ini.	-241.71	1556	0.61	0	1186	4837	2557	1556	1779	Si	1.14	Si
SLU 78	fin.	-821.54	-3635	0.61	0	1186	4837	2557	1556	1779	Si	0.49	No
SLU 84	ini.	-251.85	1615	0.61	0	1186	4837	2557	1556	1779	Si	1.1	Si
SLU 84	fin.	-832.63	-3698	0.61	0	1186	4837	2557	1556	1779	Si	0.48	No
SLU 83	ini.	-247.69	1599	0.61	0	1186	4837	2557	1556	1779	Si	1.11	Si
SLU 83	fin.	-841.53	-3729	0.61	0	1186	4837	2557	1556	1779	Si	0.48	No
SLU 82	ini.	-246.99	1588	0.61	0	1186	4837	2557	1556	1779	Si	1.12	Si
SLU 82	fin.	-818.49	-3638	0.61	0	1186	4837	2557	1556	1779	Si	0.49	No
SLU 80	ini.	-237.88	1537	0.61	0	1186	4837	2557	1556	1779	Si	1.16	Si
SLU 80	fin.	-815.18	-3607	0.61	0	1186	4837	2557	1556	1779	Si	0.49	No
SLU 79	ini.	-233.72	1521	0.61	0	1186	4837	2557	1556	1779	Si	1.17	Si
SLU 79	fin.	-824.07	-3638	0.61	0	1186	4837	2557	1556	1779	Si	0.49	No
SLU 81	ini.	-242.83	1572	0.61	0	1186	4837	2557	1556	1779	Si	1.13	Si
SLU 81	fin.	-827.39	-3669	0.61	0	1186	4837	2557	1556	1779	Si	0.48	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	519.51	562	-0.0006891	0.0002807	0.0035	0.61		1375.47	1375.47		2.65	Si
SLV 12	fin.	-1475.62	-4308	-0.0037145	0.0002807	0.0035	0.61		1379.46	1379.46		0.93	No
SLV 11	ini.	371.24	208	-0.0004578	0.0002807	0.0035	0.61		1375.47	1375.47		3.71	Si
SLV 11	fin.	-1337.56	-3966	-0.0030035	0.0002807	0.0035	0.61		1379.46	1379.46		1.03	Si
SLV 13	ini.	655.02	1374	-0.0009272	0.0002807	0.0035	0.61		1375.47	1375.47		2.1	Si
SLV 13	fin.	-1155.61	-3029	-0.0021903	0.0002807	0.0035	0.61		1379.46	1379.46		1.19	Si
SLD 15	ini.	477.87	761	-0.0006212	0.0002807	0.0035	0.61		1375.47	1375.47		2.88	Si
SLD 15	fin.	-1161.14	-3230	-0.002211	0.0002807	0.0035	0.61		1379.46	1379.46		1.19	Si
SLV 1	ini.	-1328.12	-3511	-0.0029541	0.0002807	0.0035	0.61		1379.46	1379.46		1.04	Si
SLV 1	fin.	605.84	1219	-0.0008377	0.0002807	0.0035	0.61		1375.47	1375.47		2.27	Si
SLV 3	ini.	-1155.35	-3300	-0.0021894	0.0002807	0.0035	0.61		1379.46	1379.46		1.19	Si
SLV 3	fin.	252.78	139	-0.0002943	0.0002807	0.0035	0.61		1375.47	1375.47		5.44	Si
SLV 16	ini.	1048.02	2111	-0.0018379	0.0002807	0.0035	0.61		1375.47	1375.47		1.31	Si
SLV 16	fin.	-1713.72	-4618	-0.004768	0.0002807	0.0035	0.61		1379.46	1379.46		0.8	No
SLV 15	ini.	827.79	1586	-0.0012756	0.0002807	0.0035	0.61		1375.47	1375.47		1.66	Si
SLV 15	fin.	-1508.67	-4110	-0.0038714	0.0002807	0.0035	0.61		1379.46	1379.46		0.91	No
SLD 16	ini.	618.44	1097	-0.0008603	0.0002807	0.0035	0.61		1375.47	1375.47		2.22	Si
SLD 16	fin.	-1292.02	-3554	-0.0027724	0.0002807	0.0035	0.61		1379.46	1379.46		1.07	Si
SLV 14	ini.	875.25	1900	-0.0013827	0.0002807	0.0035	0.61		1375.47	1375.47		1.57	Si
SLV 14	fin.	-1360.66	-3537	-0.0031259	0.0002807	0.0035	0.61		1379.46	1379.46		1.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	875.25	-2803	0.61	0	1562	4837	3836	1556	5391		1.92	Si
SLV 14	fin.	-1360.66	-5257	0.61	0	1562	4837	3836	1556	5391		1.03	Si
SLV 13	ini.	655.02	-1977	0.61	0	1562	4837	3836	1556	5391		2.73	Si
SLV 13	fin.	-1155.61	-4561	0.61	0	1562	4837	3836	1556	5391		1.18	Si
SLD 15	ini.	477.87	-1347	0.61	0	1562	4837	3836	1556	5391		4	Si
SLD 15	fin.	-1161.14	-4562	0.61	0	1562	4837	3836	1556	5391		1.18	Si
SLV 16	ini.	1048.02	-3472	0.61	0	1562	4837	3836	1556	5391		1.55	Si
SLV 16	fin.	-1713.72	-6482	0.61	0	1562	4837	3836	1556	5391		0.83	No
SLV 12	ini.	519.51	-1548	0.61	0	1562	4837	3836	1556	5391		3.48	Si
SLV 12	fin.	-1475.62	-5634	0.61	0	1562	4837	3836	1556	5391		0.96	No
SLD 16	ini.	618.44	-1874	0.61	0	1562	4837	3836	1556	5391		2.88	Si
SLD 16	fin.	-1292.02	-5006	0.61	0	1562	4837	3836	1556	5391		1.08	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	371.24	-992	0.61	0	1562	4837	3836	1556	5391		5.44	Si
SLV 11	fin.	-1337.56	-5166	0.61	0	1562	4837	3836	1556	5391		1.04	Si
SLV 1	ini.	-1328.12	5364	0.61	0	1562	4837	3836	1556	5391		1.01	Si
SLV 1	fin.	605.84	1620	0.61	0	1562	4837	3836	1556	5391		3.33	Si
SLV 15	ini.	827.79	-2646	0.61	0	1562	4837	3836	1556	5391		2.04	Si
SLV 15	fin.	-1508.67	-5786	0.61	0	1562	4837	3836	1556	5391		0.93	No
SLV 3	ini.	-1155.35	4695	0.61	0	1562	4837	3836	1556	5391		1.15	Si
SLV 3	fin.	252.78	395	0.61	0	1562	4837	3836	1556	5391		13.64	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.805	SLV 16	No
V_SLV	0.832	SLV 16	No
PF_SLU	1.137	SLU 83	Si
V_SLU	0.477	SLU 83	No

Trave di accoppiamento 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.888	6.661	1.59	2.49	0.9	-11.888	6.661	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	113.72	-2876	-0.0000569	0.0001872	0.0035	0.9		2959	1717.92	Si	15.11	Si
SLU 74	fin.	1098.48	-4290	-0.0007097	0.0001872	0.0035	0.9		2959	1717.92	Si	1.56	Si
SLU 80	ini.	117.01	-2883	-0.0000586	0.0001872	0.0035	0.9		2959	1717.92	Si	14.68	Si
SLU 80	fin.	1095.97	-4288	-0.0007076	0.0001872	0.0035	0.9		2959	1717.92	Si	1.57	Si
SLU 77	ini.	124.09	-2933	-0.0000622	0.0001872	0.0035	0.9		2959	1717.92	Si	13.84	Si
SLU 77	fin.	1108.36	-4346	-0.0007177	0.0001872	0.0035	0.9		2959	1717.92	Si	1.55	Si
SLU 82	ini.	99.1	-2895	-0.0000494	0.0001872	0.0035	0.9		2959	1717.92	Si	17.34	Si
SLU 82	fin.	1130.52	-4377	-0.0007359	0.0001872	0.0035	0.9		2959	1717.92	Si	1.52	Si
SLU 75	ini.	106.59	-2852	-0.0000532	0.0001872	0.0035	0.9		2959	1717.92	Si	16.12	Si
SLU 75	fin.	1098.77	-4277	-0.0007099	0.0001872	0.0035	0.9		2959	1717.92	Si	1.56	Si
SLU 84	ini.	109.46	-2951	-0.0000547	0.0001872	0.0035	0.9		2959	1717.92	Si	15.69	Si
SLU 84	fin.	1140.39	-4432	-0.000744	0.0001872	0.0035	0.9		2959	1717.92	Si	1.51	Si
SLU 79	ini.	124.15	-2907	-0.0000622	0.0001872	0.0035	0.9		2959	1717.92	Si	13.84	Si
SLU 79	fin.	1095.68	-4302	-0.0007074	0.0001872	0.0035	0.9		2959	1717.92	Si	1.57	Si
SLU 83	ini.	116.59	-2976	-0.0000583	0.0001872	0.0035	0.9		2959	1717.92	Si	14.73	Si
SLU 83	fin.	1140.11	-4446	-0.0007438	0.0001872	0.0035	0.9		2959	1717.92	Si	1.51	Si
SLU 81	ini.	106.23	-2919	-0.000053	0.0001872	0.0035	0.9		2959	1717.92	Si	16.17	Si
SLU 81	fin.	1130.23	-4390	-0.0007356	0.0001872	0.0035	0.9		2959	1717.92	Si	1.52	Si
SLU 78	ini.	116.95	-2909	-0.0000585	0.0001872	0.0035	0.9		2959	1717.92	Si	14.69	Si
SLU 78	fin.	1108.64	-4333	-0.000718	0.0001872	0.0035	0.9		2959	1717.92	Si	1.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	109.46	707	0.9	0	1750	7137	3773	2295	2625	Si	3.71	Si
SLU 84	fin.	1140.39	2879	0.9	0	1750	7137	3773	2295	2625	Si	0.91	No
SLU 77	ini.	124.09	640	0.9	0	1750	7137	3773	2295	2625	Si	4.1	Si
SLU 77	fin.	1108.36	2788	0.9	0	1750	7137	3773	2295	2625	Si	0.94	No
SLU 82	ini.	99.1	729	0.9	0	1750	7137	3773	2295	2625	Si	3.6	Si
SLU 82	fin.	1130.52	2857	0.9	0	1750	7137	3773	2295	2625	Si	0.92	No
SLU 81	ini.	106.23	708	0.9	0	1750	7137	3773	2295	2625	Si	3.71	Si
SLU 81	fin.	1130.23	2854	0.9	0	1750	7137	3773	2295	2625	Si	0.92	No
SLU 78	ini.	116.95	661	0.9	0	1750	7137	3773	2295	2625	Si	3.97	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	1108.64	2791	0.9	0	1750	7137	3773	2295	2625	Si	0.94	No
SLU 75	ini.	106.59	684	0.9	0	1750	7137	3773	2295	2625	Si	3.84	Si
SLU 75	fin.	1098.77	2769	0.9	0	1750	7137	3773	2295	2625	Si	0.95	No
SLU 83	ini.	116.59	686	0.9	0	1750	7137	3773	2295	2625	Si	3.83	Si
SLU 83	fin.	1140.11	2876	0.9	0	1750	7137	3773	2295	2625	Si	0.91	No
SLU 80	ini.	117.01	653	0.9	0	1750	7137	3773	2295	2625	Si	4.02	Si
SLU 80	fin.	1095.97	2756	0.9	0	1750	7137	3773	2295	2625	Si	0.95	No
SLU 79	ini.	124.15	632	0.9	0	1750	7137	3773	2295	2625	Si	4.16	Si
SLU 79	fin.	1095.68	2753	0.9	0	1750	7137	3773	2295	2625	Si	0.95	No
SLU 74	ini.	113.72	662	0.9	0	1750	7137	3773	2295	2625	Si	3.96	Si
SLU 74	fin.	1098.48	2766	0.9	0	1750	7137	3773	2295	2625	Si	0.95	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1950.65	1224	-0.001433	0.0002807	0.0035	0.9		2995.37	2995.37		1.54	Si
SLV 1	fin.	2601.2	-5166	-0.0023673	0.0002807	0.0035	0.9		2989.59	2989.59		1.15	Si
SLD 3	ini.	-1042.58	-410	-0.0006234	0.0002807	0.0035	0.9		2995.37	2995.37		2.87	Si
SLD 3	fin.	1917.32	-4777	-0.0014006	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 3	ini.	-1665.53	429	-0.0011433	0.0002807	0.0035	0.9		2995.37	2995.37		1.8	Si
SLV 3	fin.	2585.72	-5865	-0.0023385	0.0002807	0.0035	0.9		2989.59	2989.59		1.16	Si
SLV 14	ini.	1809.27	-4268	-0.0012874	0.0002807	0.0035	0.9		2989.59	2989.59		1.65	Si
SLV 14	fin.	-1120.3	128	-0.0006816	0.0002807	0.0035	0.9		2995.37	2995.37		2.67	Si
SLV 15	ini.	1772.52	-4600	-0.0012503	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLV 15	fin.	-814.7	-1032	-0.0004625	0.0002807	0.0035	0.9		2995.37	2995.37		3.68	Si
SLV 16	ini.	2094.39	-5064	-0.0016024	0.0002807	0.0035	0.9		2989.59	2989.59		1.43	Si
SLV 16	fin.	-1135.77	-571	-0.0006934	0.0002807	0.0035	0.9		2995.37	2995.37		2.64	Si
SLD 1	ini.	-1218.5	83	-0.0007576	0.0002807	0.0035	0.9		2995.37	2995.37		2.46	Si
SLD 1	fin.	1928.23	-4346	-0.0014124	0.0002807	0.0035	0.9		2989.59	2989.59		1.55	Si
SLV 4	ini.	-1343.66	-35	-0.0008588	0.0002807	0.0035	0.9		2995.37	2995.37		2.23	Si
SLV 4	fin.	2264.65	-5404	-0.0018223	0.0002807	0.0035	0.9		2989.59	2989.59		1.32	Si
SLD 2	ini.	-1013.05	-213	-0.0006017	0.0002807	0.0035	0.9		2995.37	2995.37		2.96	Si
SLD 2	fin.	1723.3	-4052	-0.0012018	0.0002807	0.0035	0.9		2989.59	2989.59		1.73	Si
SLV 2	ini.	-1628.78	760	-0.0011088	0.0002807	0.0035	0.9		2995.37	2995.37		1.84	Si
SLV 2	fin.	2280.12	-4706	-0.0018439	0.0002807	0.0035	0.9		2989.59	2989.59		1.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-1218.5	4688	0.9	0	2577	7137	5660	2295	7955		1.7	Si
SLD 1	fin.	1928.23	5772	0.9	0	2577	7137	5660	2295	7954		1.38	Si
SLV 16	ini.	2094.39	-6137	0.9	0	2577	7137	5660	2295	7955		1.3	Si
SLV 16	fin.	-1135.77	-4339	0.9	0	2577	7137	5660	2295	7954		1.83	Si
SLV 14	ini.	1809.27	-5327	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 14	fin.	-1120.3	-4293	0.9	0	2577	7137	5660	2295	7954		1.85	Si
SLV 3	ini.	-1665.53	6268	0.9	0	2577	7137	5660	2295	7955		1.27	Si
SLV 3	fin.	2585.72	7953	0.9	0	2577	7137	5660	2295	7954		1	Si
SLD 2	ini.	-1013.05	4008	0.9	0	2577	7137	5660	2295	7955		1.98	Si
SLD 2	fin.	1723.3	5096	0.9	0	2577	7137	5660	2295	7954		1.56	Si
SLV 2	ini.	-1628.78	6015	0.9	0	2577	7137	5660	2295	7955		1.32	Si
SLV 2	fin.	2280.12	6939	0.9	0	2577	7137	5660	2295	7954		1.15	Si
SLV 1	ini.	-1950.65	7079	0.9	0	2577	7137	5660	2295	7955		1.12	Si
SLV 1	fin.	2601.2	7998	0.9	0	2577	7137	5660	2295	7954		0.99	No
SLV 4	ini.	-1343.66	5204	0.9	0	2577	7137	5660	2295	7955		1.53	Si
SLV 4	fin.	2264.65	6893	0.9	0	2577	7137	5660	2295	7954		1.15	Si
SLD 3	ini.	-1042.58	4188	0.9	0	2577	7137	5660	2295	7955		1.9	Si
SLD 3	fin.	1917.32	5749	0.9	0	2577	7137	5660	2295	7954		1.38	Si
SLV 15	ini.	1772.52	-5073	0.9	0	2577	7137	5660	2295	7955		1.57	Si
SLV 15	fin.	-814.7	-3279	0.9	0	2577	7137	5660	2295	7954		2.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.149	SLV 1	Si
V_SLV	0.995	SLV 1	No
PF_SLU	1.506	SLU 84	Si
V_SLU	0.912	SLU 84	No

Trave di accoppiamento 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.888	6.661	4.39	5	0.61	-11.888	6.661	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-900.44	-2625	-0.0015415	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.06	Si
SLU 74	fin.	-235.44	-1682	-0.000282	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.06	Si
SLU 84	ini.	-936.73	-2720	-0.0016389	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.02	Si
SLU 84	fin.	-240.08	-1732	-0.0002885	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.98	Si
SLU 82	ini.	-928	-2683	-0.001615	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.03	Si
SLU 82	fin.	-230.68	-1695	-0.0002755	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.15	Si
SLU 79	ini.	-898.95	-2633	-0.0015376	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.06	Si
SLU 79	fin.	-243.4	-1702	-0.0002931	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.93	Si
SLU 78	ini.	-909.8	-2656	-0.0015661	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.05	Si
SLU 78	fin.	-239.72	-1706	-0.000288	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.99	Si
SLU 75	ini.	-901.07	-2619	-0.0015431	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.06	Si
SLU 75	fin.	-230.32	-1669	-0.000275	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.15	Si
SLU 83	ini.	-936.1	-2726	-0.0016372	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.02	Si
SLU 83	fin.	-245.2	-1746	-0.0002956	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.9	Si
SLU 81	ini.	-927.37	-2689	-0.0016133	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.03	Si
SLU 81	fin.	-235.8	-1709	-0.0002825	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.06	Si
SLU 77	ini.	-909.17	-2662	-0.0015644	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.05	Si
SLU 77	fin.	-244.85	-1719	-0.0002951	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.91	Si
SLU 80	ini.	-899.58	-2627	-0.0015392	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.06	Si
SLU 80	fin.	-238.28	-1688	-0.000286	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-928	3211	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 82	fin.	-230.68	-1216	0.61	0	1186	4837	2557	1556	1779	Si	1.46	Si
SLU 84	ini.	-936.73	3243	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 84	fin.	-240.08	-1249	0.61	0	1186	4837	2557	1556	1779	Si	1.42	Si
SLU 77	ini.	-909.17	3150	0.61	0	1186	4837	2557	1556	1779	Si	0.56	No
SLU 77	fin.	-244.85	-1249	0.61	0	1186	4837	2557	1556	1779	Si	1.42	Si
SLU 79	ini.	-898.95	3117	0.61	0	1186	4837	2557	1556	1779	Si	0.57	No
SLU 79	fin.	-243.4	-1240	0.61	0	1186	4837	2557	1556	1779	Si	1.43	Si
SLU 83	ini.	-936.1	3242	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 83	fin.	-245.2	-1265	0.61	0	1186	4837	2557	1556	1779	Si	1.41	Si
SLU 75	ini.	-901.07	3120	0.61	0	1186	4837	2557	1556	1779	Si	0.57	No
SLU 75	fin.	-230.32	-1200	0.61	0	1186	4837	2557	1556	1779	Si	1.48	Si
SLU 78	ini.	-909.8	3151	0.61	0	1186	4837	2557	1556	1779	Si	0.56	No
SLU 78	fin.	-239.72	-1233	0.61	0	1186	4837	2557	1556	1779	Si	1.44	Si
SLU 74	ini.	-900.44	3119	0.61	0	1186	4837	2557	1556	1779	Si	0.57	No
SLU 74	fin.	-235.44	-1216	0.61	0	1186	4837	2557	1556	1779	Si	1.46	Si
SLU 81	ini.	-927.37	3211	0.61	0	1186	4837	2557	1556	1779	Si	0.55	No
SLU 81	fin.	-235.8	-1232	0.61	0	1186	4837	2557	1556	1779	Si	1.44	Si
SLU 80	ini.	-899.58	3118	0.61	0	1186	4837	2557	1556	1779	Si	0.57	No
SLU 80	fin.	-238.28	-1225	0.61	0	1186	4837	2557	1556	1779	Si	1.45	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2057.26	-3980	-0.0061221	0.0002807	0.0035	0.61		1379.46	1379.46		0.67	No
SLV 3	fin.	1230.63	746	-0.0025055	0.0002807	0.0035	0.61		1375.47	1375.47		1.12	Si
SLV 15	ini.	612.71	-223	-0.00085	0.0002807	0.0035	0.61		1375.47	1375.47		2.24	Si
SLV 15	fin.	-1475.62	-3112	-0.0037145	0.0002807	0.0035	0.61		1379.46	1379.46		0.93	No
SLV 16	ini.	872.13	142	-0.0013755	0.0002807	0.0035	0.61		1375.47	1375.47		1.58	Si
SLV 16	fin.	-1737.49	-3481	-0.0048661	0.0002807	0.0035	0.61		1379.46	1379.46		0.79	No
SLD 2	ini.	-1373.09	-2714	-0.0031921	0.0002807	0.0035	0.61		1379.46	1379.46		1	Si
SLD 2	fin.	693.9	174	-0.0010007	0.0002807	0.0035	0.61		1375.47	1375.47		1.98	Si
SLV 14	ini.	861.49	504	-0.001351	0.0002807	0.0035	0.61		1375.47	1375.47		1.6	Si
SLV 14	fin.	-1533.6	-2957	-0.0039868	0.0002807	0.0035	0.61		1379.46	1379.46		0.9	No
SLD 3	ini.	-1531.17	-3166	-0.0039756	0.0002807	0.0035	0.61		1379.46	1379.46		0.9	No
SLD 3	fin.	734.82	85	-0.001081	0.0002807	0.0035	0.61		1375.47	1375.47		1.87	Si
SLV 4	ini.	-1797.84	-3614	-0.0051113	0.0002807	0.0035	0.61		1379.46	1379.46		0.77	No
SLV 4	fin.	968.76	377	-0.0016137	0.0002807	0.0035	0.61		1375.47	1375.47		1.42	Si
SLV 1	ini.	-2067.9	-3619	-0.0061628	0.0002807	0.0035	0.61		1379.46	1379.46		0.67	No
SLV 1	fin.	1434.51	1271	-0.0035314	0.0002807	0.0035	0.61		1375.47	1375.47		0.96	No
SLD 1	ini.	-1538.67	-2948	-0.00401	0.0002807	0.0035	0.61		1379.46	1379.46		0.9	No
SLD 1	fin.	861.05	410	-0.00135	0.0002807	0.0035	0.61		1375.47	1375.47		1.6	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1808.48	-3253	-0.0051541	0.0002807	0.0035	0.61		1379.46	1379.46		0.76	No
SLV 2	fin.	1172.64	902	-0.002267	0.0002807	0.0035	0.61		1375.47	1375.47		1.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-2057.26	6248	0.61	0	1562	4837	3836	1556	5391		0.86	No
SLV 3	fin.	1230.63	3147	0.61	0	1562	4837	3836	1556	5391		1.71	Si
SLV 16	ini.	872.13	-2113	0.61	0	1562	4837	3836	1556	5391		2.55	Si
SLV 16	fin.	-1737.49	-5352	0.61	0	1562	4837	3836	1556	5391		1.01	Si
SLV 4	ini.	-1797.84	5509	0.61	0	1562	4837	3836	1556	5391		0.98	No
SLV 4	fin.	968.76	2398	0.61	0	1562	4837	3836	1556	5391		2.25	Si
SLV 2	ini.	-1808.48	5523	0.61	0	1562	4837	3836	1556	5391		0.98	No
SLV 2	fin.	1172.64	3007	0.61	0	1562	4837	3836	1556	5391		1.79	Si
SLD 3	ini.	-1531.17	4743	0.61	0	1562	4837	3836	1556	5391		1.14	Si
SLD 3	fin.	734.82	1732	0.61	0	1562	4837	3836	1556	5391		3.11	Si
SLD 2	ini.	-1373.09	4283	0.61	0	1562	4837	3836	1556	5391		1.26	Si
SLD 2	fin.	693.9	1631	0.61	0	1562	4837	3836	1556	5391		3.3	Si
SLV 14	ini.	861.49	-2098	0.61	0	1562	4837	3836	1556	5391		2.57	Si
SLV 14	fin.	-1533.6	-4742	0.61	0	1562	4837	3836	1556	5391		1.14	Si
SLV 1	ini.	-2067.9	6263	0.61	0	1562	4837	3836	1556	5391		0.86	No
SLV 1	fin.	1434.51	3757	0.61	0	1562	4837	3836	1556	5391		1.44	Si
SLD 1	ini.	-1538.67	4755	0.61	0	1562	4837	3836	1556	5391		1.13	Si
SLD 1	fin.	861.05	2110	0.61	0	1562	4837	3836	1556	5391		2.56	Si
SLV 15	ini.	612.71	-1374	0.61	0	1562	4837	3836	1556	5391		3.92	Si
SLV 15	fin.	-1475.62	-4602	0.61	0	1562	4837	3836	1556	5391		1.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.667	SLV 1	No
V_SLV	0.861	SLV 1	No
PF_SLU	1.021	SLU 84	Si
V_SLU	0.549	SLU 84	No

Trave di accoppiamento 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.008	6.661	1.59	2.49	0.9	-7.008	6.661	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fvd	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	272.82	-3035	-0.0001413	0.0001872	0.0035	0.9		2959	1717.92	Si	6.3	Si
SLU 78	fin.	960.27	-3905	-0.0006002	0.0001872	0.0035	0.9		2959	1717.92	Si	1.79	Si
SLU 75	ini.	279.44	-3002	-0.000145	0.0001872	0.0035	0.9		2959	1717.92	Si	6.15	Si
SLU 75	fin.	931.96	-3823	-0.0005785	0.0001872	0.0035	0.9		2959	1717.92	Si	1.84	Si
SLU 74	ini.	261.95	-2989	-0.0001354	0.0001872	0.0035	0.9		2959	1717.92	Si	6.56	Si
SLU 74	fin.	956.06	-3870	-0.000597	0.0001872	0.0035	0.9		2959	1717.92	Si	1.8	Si
SLU 83	ini.	283.42	-3101	-0.0001472	0.0001872	0.0035	0.9		2959	1717.92	Si	6.06	Si
SLU 83	fin.	974.5	-3971	-0.0006112	0.0001872	0.0035	0.9		2959	1717.92	Si	1.76	Si
SLU 69	ini.	188.33	-2679	-0.0000957	0.0001872	0.0035	0.9		2959	1717.92	Si	9.12	Si
SLU 69	fin.	929.5	-3644	-0.0005766	0.0001872	0.0035	0.9		2959	1717.92	Si	1.85	Si
SLU 77	ini.	255.32	-3022	-0.0001317	0.0001872	0.0035	0.9		2959	1717.92	Si	6.73	Si
SLU 77	fin.	984.36	-3952	-0.0006189	0.0001872	0.0035	0.9		2959	1717.92	Si	1.75	Si
SLU 80	ini.	265.58	-3000	-0.0001374	0.0001872	0.0035	0.9		2959	1717.92	Si	6.47	Si
SLU 80	fin.	955.2	-3875	-0.0005963	0.0001872	0.0035	0.9		2959	1717.92	Si	1.8	Si
SLU 84	ini.	300.92	-3114	-0.000157	0.0001872	0.0035	0.9		2959	1717.92	Si	5.71	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	950.4	-3924	-0.0005926	0.0001872	0.0035	0.9		2959	1717.92	Si	1.81	Si
SLU 79	ini.	248.09	-2987	-0.0001278	0.0001872	0.0035	0.9		2959	1717.92	Si	6.92	Si
SLU 79	fin.	979.29	-3921	-0.0006149	0.0001872	0.0035	0.9		2959	1717.92	Si	1.75	Si
SLU 81	ini.	290.05	-3067	-0.0001509	0.0001872	0.0035	0.9		2959	1717.92	Si	5.92	Si
SLU 81	fin.	946.19	-3889	-0.0005894	0.0001872	0.0035	0.9		2959	1717.92	Si	1.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	300.92	-250	0.9	0	1750	7137	3773	2295	2625	Si	10.48	Si
SLU 84	fin.	950.4	2111	0.9	0	1750	7137	3773	2295	2625	Si	1.24	Si
SLU 81	ini.	290.05	-225	0.9	0	1750	7137	3773	2295	2625	Si	11.66	Si
SLU 81	fin.	946.19	2111	0.9	0	1750	7137	3773	2295	2625	Si	1.24	Si
SLU 74	ini.	261.95	-131	0.9	0	1750	7137	3773	2295	2625	Si	19.98	Si
SLU 74	fin.	956.06	2149	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 79	ini.	248.09	-79	0.9	0	1750	7137	3773	2295	2625	Si	33.36	Si
SLU 79	fin.	979.29	2220	0.9	0	1750	7137	3773	2295	2625	Si	1.18	Si
SLU 83	ini.	283.42	-191	0.9	0	1750	7137	3773	2295	2625	Si	13.74	Si
SLU 83	fin.	974.5	2191	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 78	ini.	272.82	-157	0.9	0	1750	7137	3773	2295	2625	Si	16.75	Si
SLU 78	fin.	960.27	2149	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 71	ini.	181.09	104	0.9	0	1750	7137	3773	2295	2625	Si	25.29	Si
SLU 71	fin.	924.43	2099	0.9	0	1750	7137	3773	2295	2625	Si	1.25	Si
SLU 69	ini.	188.33	85	0.9	0	1750	7137	3773	2295	2625	Si	30.8	Si
SLU 69	fin.	929.5	2109	0.9	0	1750	7137	3773	2295	2625	Si	1.24	Si
SLU 80	ini.	265.58	-138	0.9	0	1750	7137	3773	2295	2625	Si	19	Si
SLU 80	fin.	955.2	2140	0.9	0	1750	7137	3773	2295	2625	Si	1.23	Si
SLU 77	ini.	255.32	-97	0.9	0	1750	7137	3773	2295	2625	Si	26.99	Si
SLU 77	fin.	984.36	2229	0.9	0	1750	7137	3773	2295	2625	Si	1.18	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1766.4	896	-0.001241	0.0002807	0.0035	0.9		2995.37	2995.37		1.7	Si
SLV 4	fin.	2534.73	-5257	-0.0022461	0.0002807	0.0035	0.9		2989.59	2989.59		1.18	Si
SLV 13	ini.	2076.29	-4872	-0.0015806	0.0002807	0.0035	0.9		2989.59	2989.59		1.44	Si
SLV 13	fin.	-1212.68	-25	-0.000753	0.0002807	0.0035	0.9		2995.37	2995.37		2.47	Si
SLV 1	ini.	-1610.87	1220	-0.0010922	0.0002807	0.0035	0.9		2995.37	2995.37		1.86	Si
SLV 1	fin.	2109.57	-4141	-0.0016208	0.0002807	0.0035	0.9		2989.59	2989.59		1.42	Si
SLV 14	ini.	2475.04	-5493	-0.0021433	0.0002807	0.0035	0.9		2989.59	2989.59		1.21	Si
SLV 14	fin.	-1592.84	487	-0.0010756	0.0002807	0.0035	0.9		2995.37	2995.37		1.88	Si
SLV 7	ini.	-1456.16	-369	-0.000954	0.0002807	0.0035	0.9		2995.37	2995.37		2.06	Si
SLV 7	fin.	2629.54	-6143	-0.0024213	0.0002807	0.0035	0.9		2989.59	2989.59		1.14	Si
SLV 8	ini.	-1187.69	-787	-0.0007335	0.0002807	0.0035	0.9		2995.37	2995.37		2.52	Si
SLV 8	fin.	2373.59	-5798	-0.0019809	0.0002807	0.0035	0.9		2989.59	2989.59		1.26	Si
SLV 3	ini.	-2165.15	1517	-0.0016851	0.0002807	0.0035	0.9		2995.37	2995.37		1.38	Si
SLV 3	fin.	2914.89	-5769	-0.0030475	0.0002807	0.0035	0.9		2989.59	2989.59		1.03	Si
SLV 16	ini.	1920.76	-5195	-0.0014043	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 16	fin.	-787.52	-1141	-0.0004443	0.0002807	0.0035	0.9		2995.37	2995.37		3.8	Si
SLD 3	ini.	-1323.52	251	-0.0008422	0.0002807	0.0035	0.9		2995.37	2995.37		2.26	Si
SLD 3	fin.	2094.25	-4624	-0.0016022	0.0002807	0.0035	0.9		2989.59	2989.59		1.43	Si
SLD 7	ini.	-852.78	-969	-0.0004884	0.0002807	0.0035	0.9		2995.37	2995.37		3.51	Si
SLD 7	fin.	1888.18	-4819	-0.0013694	0.0002807	0.0035	0.9		2989.59	2989.59		1.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	1766.06	-5850	0.9	0	2577	7137	5660	2295	7954		1.36	Si
SLV 10	fin.	-1307.49	-4981	0.9	0	2577	7137	5660	2295	7954		1.6	Si
SLD 3	ini.	-1323.52	4906	0.9	0	2577	7137	5660	2295	7954		1.62	Si
SLD 3	fin.	2094.25	6356	0.9	0	2577	7137	5660	2295	7954		1.25	Si
SLV 1	ini.	-1610.87	5519	0.9	0	2577	7137	5660	2295	7954		1.44	Si
SLV 1	fin.	2109.57	6576	0.9	0	2577	7137	5660	2295	7954		1.21	Si
SLV 3	ini.	-2165.15	7699	0.9	0	2577	7137	5660	2295	7954		1.03	Si
SLV 3	fin.	2914.89	9152	0.9	0	2577	7137	5660	2295	7954		0.87	No
SLV 13	ini.	2076.29	-6387	0.9	0	2577	7137	5660	2295	7954		1.25	Si
SLV 13	fin.	-1212.68	-4907	0.9	0	2577	7137	5660	2295	7954		1.62	Si
SLV 8	ini.	-1187.69	4989	0.9	0	2577	7137	5660	2295	7954		1.59	Si
SLV 8	fin.	2373.59	7048	0.9	0	2577	7137	5660	2295	7954		1.13	Si
SLV 7	ini.	-1456.16	5863	0.9	0	2577	7137	5660	2295	7954		1.36	Si
SLV 7	fin.	2629.54	7924	0.9	0	2577	7137	5660	2295	7954		1	Si
SLD 4	ini.	-1069	4077	0.9	0	2577	7137	5660	2295	7954		1.95	Si
SLD 4	fin.	1851.6	5526	0.9	0	2577	7137	5660	2295	7954		1.44	Si
SLV 14	ini.	2475.04	-7685	0.9	0	2577	7137	5660	2295	7954		1.04	Si
SLV 14	fin.	-1592.84	-6208	0.9	0	2577	7137	5660	2295	7954		1.28	Si
SLV 4	ini.	-1766.4	6400	0.9	0	2577	7137	5660	2295	7954		1.24	Si
SLV 4	fin.	2534.73	7850	0.9	0	2577	7137	5660	2295	7954		1.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.026	SLV 3	Si
V SLV	0.869	SLV 3	No
PF SLU	1.745	SLU 77	Si
V SLU	1.178	SLU 77	Si



Trave di accoppiamento 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.008	6.661	4.39	5	0.61	-7.008	6.661	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-729.8	-2375	-0.0011404	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.31	Si
SLU 75	fin.	-330.73	-1368	-0.0004203	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.89	Si
SLU 80	ini.	-739.33	-2406	-0.0011608	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.29	Si
SLU 80	fin.	-324.94	-1359	-0.0004116	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.94	Si
SLU 83	ini.	-766.15	-2482	-0.0012194	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.25	Si
SLU 83	fin.	-338.2	-1403	-0.0004317	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.83	Si
SLU 82	ini.	-737.37	-2393	-0.0011566	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.3	Si
SLU 82	fin.	-348.38	-1411	-0.0004474	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.75	Si
SLU 74	ini.	-743.13	-2411	-0.001169	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.29	Si
SLU 74	fin.	-320.59	-1346	-0.000405	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.98	Si
SLU 81	ini.	-750.7	-2430	-0.0011855	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.27	Si
SLU 81	fin.	-338.24	-1390	-0.0004318	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.83	Si
SLU 77	ini.	-758.58	-2464	-0.0012027	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.26	Si
SLU 77	fin.	-320.55	-1359	-0.0004049	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.98	Si
SLU 79	ini.	-752.67	-2442	-0.0011897	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.27	Si
SLU 79	fin.	-314.8	-1338	-0.0003963	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.04	Si
SLU 78	ini.	-745.25	-2427	-0.0011736	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.28	Si
SLU 78	fin.	-330.7	-1380	-0.0004203	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.89	Si
SLU 84	ini.	-752.81	-2446	-0.0011901	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.27	Si
SLU 84	fin.	-348.34	-1424	-0.0004473	0.0001872	0.0035	0.61		1371.37	956.67	Si	2.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-752.81	3416	0.61	0	1186	4837	2557	1556	1779	Si	0.52	No
SLU 84	fin.	-348.34	-1930	0.61	0	1186	4837	2557	1556	1779	Si	0.92	No
SLU 83	ini.	-766.15	3464	0.61	0	1186	4837	2557	1556	1779	Si	0.51	No
SLU 83	fin.	-338.2	-1893	0.61	0	1186	4837	2557	1556	1779	Si	0.94	No
SLU 80	ini.	-739.33	3331	0.61	0	1186	4837	2557	1556	1779	Si	0.53	No
SLU 80	fin.	-324.94	-1809	0.61	0	1186	4837	2557	1556	1779	Si	0.98	No
SLU 81	ini.	-750.7	3404	0.61	0	1186	4837	2557	1556	1779	Si	0.52	No
SLU 81	fin.	-338.24	-1891	0.61	0	1186	4837	2557	1556	1779	Si	0.94	No
SLU 75	ini.	-729.8	3300	0.61	0	1186	4837	2557	1556	1779	Si	0.54	No
SLU 75	fin.	-330.73	-1835	0.61	0	1186	4837	2557	1556	1779	Si	0.97	No
SLU 77	ini.	-758.58	3408	0.61	0	1186	4837	2557	1556	1779	Si	0.52	No
SLU 77	fin.	-320.55	-1800	0.61	0	1186	4837	2557	1556	1779	Si	0.99	No
SLU 82	ini.	-737.37	3356	0.61	0	1186	4837	2557	1556	1779	Si	0.53	No
SLU 82	fin.	-348.38	-1929	0.61	0	1186	4837	2557	1556	1779	Si	0.92	No
SLU 78	ini.	-745.25	3360	0.61	0	1186	4837	2557	1556	1779	Si	0.53	No
SLU 78	fin.	-330.7	-1837	0.61	0	1186	4837	2557	1556	1779	Si	0.97	No
SLU 74	ini.	-743.13	3348	0.61	0	1186	4837	2557	1556	1779	Si	0.53	No
SLU 74	fin.	-320.59	-1798	0.61	0	1186	4837	2557	1556	1779	Si	0.99	No
SLU 79	ini.	-752.67	3379	0.61	0	1186	4837	2557	1556	1779	Si	0.53	No
SLU 79	fin.	-314.8	-1772	0.61	0	1186	4837	2557	1556	1779	Si	1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	599.08	1108	-0.0008257	0.0002807	0.0035	0.61		1375.47	1375.47		2.3	Si
SLV 13	fin.	-1392.81	-3784	-0.0032966	0.0002807	0.0035	0.61		1379.46	1379.46		0.99	No
SLV 16	ini.	381.1	395	-0.0004722	0.0002807	0.0035	0.61		1375.47	1375.47		3.61	Si
SLV 16	fin.	-1335.83	-3797	-0.0029944	0.0002807	0.0035	0.61		1379.46	1379.46		1.03	Si
SLV 1	ini.	-1383.39	-3643	-0.0032467	0.0002807	0.0035	0.61		1379.46	1379.46		1	No
SLV 1	fin.	929.19	2046	-0.0015123	0.0002807	0.0035	0.61		1375.47	1375.47		1.48	Si
SLV 3	ini.	-1822.92	-4898	-0.0052119	0.0002807	0.0035	0.61		1379.46	1379.46		0.76	No
SLV 3	fin.	1236.26	2647	-0.0025301	0.0002807	0.0035	0.61		1375.47	1375.47		1.11	Si
SLV 4	ini.	-1601.37	-4357	-0.0042901	0.0002807	0.0035	0.61		1379.46	1379.46		0.86	No
SLV 4	fin.	986.17	2033	-0.0016603	0.0002807	0.0035	0.61		1375.47	1375.47		1.39	Si
SLV 14	ini.	820.63	1649	-0.0012599	0.0002807	0.0035	0.61		1375.47	1375.47		1.68	Si
SLV 14	fin.	-1642.89	-4398	-0.0044698	0.0002807	0.0035	0.61		1379.46	1379.46		0.84	No
SLD 3	ini.	-1341.78	-3703	-0.0030256	0.0002807	0.0035	0.61		1379.46	1379.46		1.03	Si
SLD 3	fin.	714.43	1372	-0.0010406	0.0002807	0.0035	0.61		1375.47	1375.47		1.93	Si
SLD 4	ini.	-1200.37	-3358	-0.0023645	0.0002807	0.0035	0.61		1379.46	1379.46		1.15	Si
SLD 4	fin.	554.81	980	-0.0007486	0.0002807	0.0035	0.61		1375.47	1375.47		2.48	Si
SLV 7	ini.	-1605.66	-4610	-0.0043088	0.0002807	0.0035	0.61		1379.46	1379.46		0.86	No
SLV 7	fin.	740.94	1207	-0.0010932	0.0002807	0.0035	0.61		1375.47	1375.47		1.86	Si
SLV 8	ini.	-1456.5	-4246	-0.0036214	0.0002807	0.0035	0.61		1379.46	1379.46		0.95	No
SLV 8	fin.	572.57	794	-0.0007792	0.0002807	0.0035	0.61		1375.47	1375.47		2.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	820.63	-2413	0.61	0	1562	4837	3836	1556	5391		2.23	Si
SLV 14	fin.	-1642.89	-6480	0.61	0	1562	4837	3836	1556	5391		0.83	No
SLV 16	ini.	381.1	-855	0.61	0	1562	4837	3836	1556	5391		6.31	Si
SLV 16	fin.	-1335.83	-5348	0.61	0	1562	4837	3836	1556	5391		1.01	Si
SLV 7	ini.	-1605.66	6147	0.61	0	1562	4837	3836	1556	5391		0.88	No
SLV 7	fin.	740.94	2335	0.61	0	1562	4837	3836	1556	5391		2.31	Si
SLV 13	ini.	599.08	-1652	0.61	0	1562	4837	3836	1556	5391		3.26	Si
SLV 13	fin.	-1392.81	-5547	0.61	0	1562	4837	3836	1556	5391		0.97	No
SLV 3	ini.	-1822.92	6902	0.61	0	1562	4837	3836	1556	5391		0.78	No
SLV 3	fin.	1236.26	4172	0.61	0	1562	4837	3836	1556	5391		1.29	Si
SLD 4	ini.	-1200.37	4717	0.61	0	1562	4837	3836	1556	5391		1.14	Si
SLD 4	fin.	554.81	1646	0.61	0	1562	4837	3836	1556	5391		3.28	Si
SLD 3	ini.	-1341.78	5203	0.61	0	1562	4837	3836	1556	5391		1.04	Si
SLD 3	fin.	714.43	2242	0.61	0	1562	4837	3836	1556	5391		2.41	Si
SLV 4	ini.	-1601.37	6141	0.61	0	1562	4837	3836	1556	5391		0.88	No
SLV 4	fin.	986.17	3239	0.61	0	1562	4837	3836	1556	5391		1.66	Si
SLV 8	ini.	-1456.5	5635	0.61	0	1562	4837	3836	1556	5391		0.96	No
SLV 8	fin.	572.57	1707	0.61	0	1562	4837	3836	1556	5391		3.16	Si
SLV 1	ini.	-1383.39	5344	0.61	0	1562	4837	3836	1556	5391		1.01	Si
SLV 1	fin.	929.19	3040	0.61	0	1562	4837	3836	1556	5391		1.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.757	SLV 3	No
V_SLV	0.781	SLV 3	No
PF_SLU	1.249	SLU 83	Si
V_SLU	0.514	SLU 83	No

Trave di accoppiamento 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.548	-3.359	3.69	5	1.31	-9.448	-3.359	3.69	5	1.31	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedlio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-128.18	-5032	-0.0000298	0.0001872	0.0035	1.31		6282.93	2794.17	Si	21.8	Si
SLU 75	fin.	-1474.03	-6095	-0.0004041	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.9	Si
SLU 84	ini.	-173.64	-5139	-0.0000406	0.0001872	0.0035	1.31		6282.93	2794.17	Si	16.09	Si
SLU 84	fin.	-1477.51	-6234	-0.0004052	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.89	Si
SLU 83	ini.	-176.07	-5081	-0.0000411	0.0001872	0.0035	1.31		6282.93	2794.17	Si	15.87	Si
SLU 83	fin.	-1459.73	-6170	-0.0003994	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.91	Si
SLU 82	ini.	-167.54	-5069	-0.0000391	0.0001872	0.0035	1.31		6282.93	2794.17	Si	16.68	Si
SLU 82	fin.	-1468.09	-6160	-0.0004021	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.9	Si
SLU 80	ini.	-136.33	-5060	-0.0000317	0.0001872	0.0035	1.31		6282.93	2794.17	Si	20.5	Si
SLU 80	fin.	-1470.96	-6118	-0.0004031	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.9	Si
SLU 77	ini.	-136.71	-5045	-0.0000318	0.0001872	0.0035	1.31		6282.93	2794.17	Si	20.44	Si
SLU 77	fin.	-1465.67	-6105	-0.0004014	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.91	Si
SLU 74	ini.	-130.62	-4975	-0.0000304	0.0001872	0.0035	1.31		6282.93	2794.17	Si	21.39	Si
SLU 74	fin.	-1456.25	-6031	-0.0003983	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.92	Si
SLU 73	ini.	-122.52	-4958	-0.0000285	0.0001872	0.0035	1.31		6282.93	2794.17	Si	22.81	Si
SLU 73	fin.	-1463.97	-6014	-0.0004008	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.91	Si
SLU 76	ini.	-128.62	-5028	-0.0000299	0.0001872	0.0035	1.31		6282.93	2794.17	Si	21.72	Si
SLU 76	fin.	-1473.39	-6087	-0.0004039	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.9	Si
SLU 78	ini.	-134.28	-5102	-0.0000313	0.0001872	0.0035	1.31		6282.93	2794.17	Si	20.81	Si
SLU 78	fin.	-1483.45	-6169	-0.0004072	0.0001872	0.0035	1.31		6282.93	2794.17	Si	1.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-122.52	-1405	1.31	0	2547	7137	5492	3341	3821	Si	2.72	Si
SLU 73	fin.	-1463.97	-3132	1.31	0	2547	7137	5492	3341	3821	Si	1.22	Si
SLU 80	ini.	-136.33	-1399	1.31	0	2547	7137	5492	3341	3821	Si	2.73	Si
SLU 80	fin.	-1470.96	-3126	1.31	0	2547	7137	5492	3341	3821	Si	1.22	Si
SLU 78	ini.	-134.28	-1421	1.31	0	2547	7137	5492	3341	3821	Si	2.69	Si
SLU 78	fin.	-1483.45	-3148	1.31	0	2547	7137	5492	3341	3821	Si	1.21	Si
SLU 84	ini.	-173.64	-1333	1.31	0	2547	7137	5492	3341	3821	Si	2.87	Si
SLU 84	fin.	-1477.51	-3178	1.31	0	2547	7137	5492	3341	3821	Si	1.2	Si
SLU 81	ini.	-169.97	-1300	1.31	0	2547	7137	5492	3341	3821	Si	2.94	Si
SLU 81	fin.	-1450.31	-3144	1.31	0	2547	7137	5492	3341	3821	Si	1.22	Si
SLU 83	ini.	-176.07	-1306	1.31	0	2547	7137	5492	3341	3821	Si	2.93	Si
SLU 83	fin.	-1459.73	-3150	1.31	0	2547	7137	5492	3341	3821	Si	1.21	Si
SLU 77	ini.	-136.71	-1394	1.31	0	2547	7137	5492	3341	3821	Si	2.74	Si
SLU 77	fin.	-1465.67	-3121	1.31	0	2547	7137	5492	3341	3821	Si	1.22	Si
SLU 76	ini.	-128.62	-1411	1.31	0	2547	7137	5492	3341	3821	Si	2.71	Si
SLU 76	fin.	-1473.39	-3138	1.31	0	2547	7137	5492	3341	3821	Si	1.22	Si
SLU 82	ini.	-167.54	-1327	1.31	0	2547	7137	5492	3341	3821	Si	2.88	Si
SLU 82	fin.	-1468.09	-3171	1.31	0	2547	7137	5492	3341	3821	Si	1.2	Si
SLU 75	ini.	-128.18	-1415	1.31	0	2547	7137	5492	3341	3821	Si	2.7	Si
SLU 75	fin.	-1474.03	-3142	1.31	0	2547	7137	5492	3341	3821	Si	1.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 1	ini.	1736.14	-3385	-0.0004652	0.0002807	0.0035	1.31		6269	6269		3.61	Si
SLD 1	fin.	-3067.74	-6064	-0.0009442	0.0002807	0.0035	1.31		6277.79	6277.79		2.05	Si
SLV 4	ini.	3310.11	-1618	-0.0010467	0.0002807	0.0035	1.31		6269	6269		1.89	Si
SLV 4	fin.	-4383.61	-5825	-0.0015624	0.0002807	0.0035	1.31		6277.79	6277.79		1.43	Si
SLV 15	ini.	-3401.63	-3522	-0.0010842	0.0002807	0.0035	1.31		6277.79	6277.79		1.85	Si
SLV 15	fin.	2762.83	-600	-0.0008253	0.0002807	0.0035	1.31		6269	6269		2.27	Si
SLD 4	ini.	2098.09	-2297	-0.0005846	0.0002807	0.0035	1.31		6269	6269		2.99	Si
SLD 4	fin.	-3183.61	-5250	-0.0009918	0.0002807	0.0035	1.31		6277.79	6277.79		1.97	Si
SLV 13	ini.	-3428.74	-5281	-0.001096	0.0002807	0.0035	1.31		6277.79	6277.79		1.83	Si
SLV 13	fin.	2320.14	-2501	-0.0006618	0.0002807	0.0035	1.31		6269	6269		2.7	Si
SLV 3	ini.	2771.27	-1621	-0.0008286	0.0002807	0.0035	1.31		6269	6269		2.26	Si
SLV 3	fin.	-3776	-5265	-0.0012531	0.0002807	0.0035	1.31		6277.79	6277.79		1.66	Si
SLV 6	ini.	1002.83	-6094	-0.0002492	0.0002807	0.0035	1.31		6269	6269		6.25	Si
SLV 6	fin.	-2954.93	-8220	-0.0008989	0.0002807	0.0035	1.31		6277.79	6277.79		2.12	Si
SLV 2	ini.	3283	-3377	-0.0010352	0.0002807	0.0035	1.31		6269	6269		1.91	Si
SLV 2	fin.	-4826.31	-7726	-0.0018284	0.0002807	0.0035	1.31		6277.79	6277.79		1.3	Si
SLV 1	ini.	2744.16	-3380	-0.0008182	0.0002807	0.0035	1.31		6269	6269		2.28	Si
SLV 1	fin.	-4218.69	-7166	-0.0014732	0.0002807	0.0035	1.31		6277.79	6277.79		1.49	Si
SLD 2	ini.	2080.07	-3382	-0.0005784	0.0002807	0.0035	1.31		6269	6269		3.01	Si
SLD 2	fin.	-3455.56	-6422	-0.0011077	0.0002807	0.0035	1.31		6277.79	6277.79		1.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	1736.14	-6698	1.31	0	3821	7137	8238	3341	10957		1.64	Si
SLD 1	fin.	-3067.74	-7838	1.31	0	3821	7137	8238	3341	10957		1.4	Si
SLV 4	ini.	3310.11	-11008	1.31	0	3821	7137	8238	3341	10957		1	No
SLV 4	fin.	-4383.61	-12143	1.31	0	3821	7137	8238	3341	10957		0.9	No
SLV 16	ini.	-2862.79	7802	1.31	0	3821	7137	8238	3341	10957		1.4	Si
SLV 16	fin.	2155.22	6686	1.31	0	3821	7137	8238	3341	10957		1.64	Si
SLV 15	ini.	-3401.63	9486	1.31	0	3821	7137	8238	3341	10957		1.16	Si
SLV 15	fin.	2762.83	8370	1.31	0	3821	7137	8238	3341	10957		1.31	Si
SLD 4	ini.	2098.09	-7430	1.31	0	3821	7137	8238	3341	10957		1.47	Si
SLD 4	fin.	-3183.61	-8564	1.31	0	3821	7137	8238	3341	10957		1.28	Si
SLV 3	ini.	2771.27	-9324	1.31	0	3821	7137	8238	3341	10957		1.18	Si
SLV 3	fin.	-3776	-10459	1.31	0	3821	7137	8238	3341	10957		1.05	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	2744.16	-9885	1.31	0	3821	7137	8238	3341	10957		1.11	Si
SLV 1	fin.	-4218.69	-11032	1.31	0	3821	7137	8238	3341	10957		0.99	No
SLD 2	ini.	2080.07	-7773	1.31	0	3821	7137	8238	3341	10957		1.41	Si
SLD 2	fin.	-3455.56	-8913	1.31	0	3821	7137	8238	3341	10957		1.23	Si
SLV 2	ini.	3283	-11569	1.31	0	3821	7137	8238	3341	10957		0.95	No
SLV 2	fin.	-4826.31	-12716	1.31	0	3821	7137	8238	3341	10957		0.86	No
SLV 13	ini.	-3428.74	8925	1.31	0	3821	7137	8238	3341	10957		1.23	Si
SLV 13	fin.	2320.14	7797	1.31	0	3821	7137	8238	3341	10957		1.41	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.301	SLV 2	Si
V_SLV	0.862	SLV 2	No
PF_SLU	1.884	SLU 78	Si
V_SLU	1.202	SLU 84	Si

Trave di accoppiamento 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	1.59	3.59	2	-5.158	6.506	1.59	3.59	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-3083.57	-361	-0.0003562	0.0001872	0.0035	2		14357.01	4605.42	Si	1.49	Si
SLU 84	fin.	-1366.99	-743	-0.0001432	0.0001872	0.0035	2		14357.01	4605.42	Si	3.37	Si
SLU 76	ini.	-2949.69	-341	-0.0003381	0.0001872	0.0035	2		14357.01	4605.42	Si	1.56	Si
SLU 76	fin.	-1312.52	-714	-0.0001371	0.0001872	0.0035	2		14357.01	4605.42	Si	3.51	Si
SLU 73	ini.	-2946.03	-294	-0.0003376	0.0001872	0.0035	2		14357.01	4605.42	Si	1.56	Si
SLU 73	fin.	-1282.71	-704	-0.0001338	0.0001872	0.0035	2		14357.01	4605.42	Si	3.59	Si
SLU 78	ini.	-2971.11	-418	-0.000341	0.0001872	0.0035	2		14357.01	4605.42	Si	1.55	Si
SLU 78	fin.	-1360.84	-733	-0.0001425	0.0001872	0.0035	2		14357.01	4605.42	Si	3.38	Si
SLU 81	ini.	-3042.08	-370	-0.0003506	0.0001872	0.0035	2		14357.01	4605.42	Si	1.51	Si
SLU 81	fin.	-1350.32	-737	-0.0001413	0.0001872	0.0035	2		14357.01	4605.42	Si	3.41	Si
SLU 75	ini.	-2967.45	-371	-0.0003405	0.0001872	0.0035	2		14357.01	4605.42	Si	1.55	Si
SLU 75	fin.	-1331.03	-723	-0.0001392	0.0001872	0.0035	2		14357.01	4605.42	Si	3.46	Si
SLU 82	ini.	-3079.91	-313	-0.0003557	0.0001872	0.0035	2		14357.01	4605.42	Si	1.5	Si
SLU 82	fin.	-1337.18	-733	-0.0001399	0.0001872	0.0035	2		14357.01	4605.42	Si	3.44	Si
SLU 83	ini.	-3045.74	-418	-0.0003511	0.0001872	0.0035	2		14357.01	4605.42	Si	1.51	Si
SLU 83	fin.	-1380.13	-747	-0.0001447	0.0001872	0.0035	2		14357.01	4605.42	Si	3.34	Si
SLU 74	ini.	-2929.62	-428	-0.0003354	0.0001872	0.0035	2		14357.01	4605.42	Si	1.57	Si
SLU 74	fin.	-1344.17	-727	-0.0001407	0.0001872	0.0035	2		14357.01	4605.42	Si	3.43	Si
SLU 77	ini.	-2933.28	-475	-0.0003359	0.0001872	0.0035	2		14357.01	4605.42	Si	1.57	Si
SLU 77	fin.	-1373.98	-737	-0.000144	0.0001872	0.0035	2		14357.01	4605.42	Si	3.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-2933.28	-3985	2	0	3889	3965	8384	5100	5833	Si	1.46	Si
SLU 77	fin.	-1373.98	11905	2	0	3889	3965	8384	5100	5833	Si	0.49	No
SLU 82	ini.	-3079.91	-3229	2	0	3889	3965	8384	5100	5833	Si	1.81	Si
SLU 82	fin.	-1337.18	12511	2	0	3889	3965	8384	5100	5833	Si	0.47	No
SLU 83	ini.	-3045.74	-3735	2	0	3889	3965	8384	5100	5833	Si	1.56	Si
SLU 83	fin.	-1380.13	12358	2	0	3889	3965	8384	5100	5833	Si	0.47	No
SLU 76	ini.	-2949.69	-3339	2	0	3889	3965	8384	5100	5833	Si	1.75	Si
SLU 76	fin.	-1312.52	11996	2	0	3889	3965	8384	5100	5833	Si	0.49	No
SLU 80	ini.	-2928.13	-3763	2	0	3889	3965	8384	5100	5833	Si	1.55	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-1351.09	11898	2	0	3889	3965	8384	5100	5833	Si	0.49	No
SLU 81	ini.	-3042.08	-3476	2	0	3889	3965	8384	5100	5833	Si	1.68	Si
SLU 81	fin.	-1350.32	12346	2	0	3889	3965	8384	5100	5833	Si	0.47	No
SLU 78	ini.	-2971.11	-3737	2	0	3889	3965	8384	5100	5833	Si	1.56	Si
SLU 78	fin.	-1360.84	12070	2	0	3889	3965	8384	5100	5833	Si	0.48	No
SLU 73	ini.	-2946.03	-3080	2	0	3889	3965	8384	5100	5833	Si	1.89	Si
SLU 73	fin.	-1282.71	11984	2	0	3889	3965	8384	5100	5833	Si	0.49	No
SLU 75	ini.	-2967.45	-3478	2	0	3889	3965	8384	5100	5833	Si	1.68	Si
SLU 75	fin.	-1331.03	12059	2	0	3889	3965	8384	5100	5833	Si	0.48	No
SLU 84	ini.	-3083.57	-3488	2	0	3889	3965	8384	5100	5833	Si	1.67	Si
SLU 84	fin.	-1366.99	12522	2	0	3889	3965	8384	5100	5833	Si	0.47	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-4169.58	1223	-0.0004824	0.0002807	0.0035	2		14215.41	14215.41		3.41	Si
SLD 13	fin.	-858.75	-694	-0.000087	0.0002807	0.0035	2		14215.41	14215.41		16.55	Si
SLV 15	ini.	-4385.44	378	-0.0005125	0.0002807	0.0035	2		14215.41	14215.41		3.24	Si
SLV 15	fin.	-1288.01	-825	-0.0001324	0.0002807	0.0035	2		14215.41	14215.41		11.04	Si
SLV 10	ini.	-4956.7	3320	-0.0005946	0.0002807	0.0035	2		14215.41	14215.41		2.87	Si
SLV 10	fin.	-154.78	-573	-0.0000154	0.0002807	0.0035	2		14215.41	14215.41		91.84	Si
SLV 16	ini.	-5146.43	925	-0.0006228	0.0002807	0.0035	2		14215.41	14215.41		2.76	Si
SLV 16	fin.	-1251.2	-859	-0.0001284	0.0002807	0.0035	2		14215.41	14215.41		11.36	Si
SLV 14	ini.	-6197.68	2666	-0.0007863	0.0002807	0.0035	2		14215.41	14215.41		2.29	Si
SLV 14	fin.	-780.01	-837	-0.0000789	0.0002807	0.0035	2		14215.41	14215.41		18.22	Si
SLV 13	ini.	-5436.69	2119	-0.0006666	0.0002807	0.0035	2		14215.41	14215.41		2.61	Si
SLV 13	fin.	-816.83	-803	-0.0000827	0.0002807	0.0035	2		14215.41	14215.41		17.4	Si
SLD 14	ini.	-4655.3	1573	-0.0005508	0.0002807	0.0035	2		14215.41	14215.41		3.05	Si
SLD 14	fin.	-835.25	-716	-0.0000846	0.0002807	0.0035	2		14215.41	14215.41		17.02	Si
SLD 16	ini.	-4010.16	500	-0.0004605	0.0002807	0.0035	2		14215.41	14215.41		3.54	Si
SLD 16	fin.	-1125.99	-728	-0.0001151	0.0002807	0.0035	2		14215.41	14215.41		12.62	Si
SLD 10	ini.	-3823.53	1940	-0.0004353	0.0002807	0.0035	2		14215.41	14215.41		3.72	Si
SLD 10	fin.	-447.68	-549	-0.0000448	0.0002807	0.0035	2		14215.41	14215.41		31.75	Si
SLV 9	ini.	-4444.35	2952	-0.0005208	0.0002807	0.0035	2		14215.41	14215.41		3.2	Si
SLV 9	fin.	-179.57	-550	-0.0000178	0.0002807	0.0035	2		14215.41	14215.41		79.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	-4655.3	6764	2	0	5833	3965	12577	5100	9798		1.45	Si
SLD 14	fin.	-835.25	18548	2	0	5833	3965	12577	5100	9798		0.53	No
SLV 3	ini.	2309.18	-17489	2	0	5833	3965	12577	5100	9798		0.56	No
SLV 3	fin.	-1055.08	-8776	2	0	5833	3965	12577	5100	9798		1.12	Si
SLV 14	ini.	-6197.68	12201	2	0	5833	3965	12577	5100	9798		0.8	No
SLV 14	fin.	-780.01	24610	2	0	5833	3965	12577	5100	9798		0.4	No
SLV 9	ini.	-4444.35	12930	2	0	5833	3965	12577	5100	9798		0.76	No
SLV 9	fin.	-179.57	19217	2	0	5833	3965	12577	5100	9798		0.51	No
SLV 10	ini.	-4956.7	14735	2	0	5833	3965	12577	5100	9798		0.66	No
SLV 10	fin.	-154.78	21186	2	0	5833	3965	12577	5100	9798		0.46	No
SLV 8	ini.	555.86	-18219	2	0	5833	3965	12577	5100	9798		0.54	No
SLV 8	fin.	-1655.52	-3382	2	0	5833	3965	12577	5100	9798		2.9	Si
SLD 13	ini.	-4169.58	5053	2	0	5833	3965	12577	5100	9798		1.94	Si
SLD 13	fin.	-858.75	16681	2	0	5833	3965	12577	5100	9798		0.59	No
SLV 13	ini.	-5436.69	9520	2	0	5833	3965	12577	5100	9798		1.03	Si
SLV 13	fin.	-816.83	21685	2	0	5833	3965	12577	5100	9798		0.45	No
SLV 16	ini.	-5146.43	4008	2	0	5833	3965	12577	5100	9798		2.44	Si
SLV 16	fin.	-1251.2	19523	2	0	5833	3965	12577	5100	9798		0.5	No
SLV 7	ini.	1068.2	-20024	2	0	5833	3965	12577	5100	9798		0.49	No
SLV 7	fin.	-1680.31	-5351	2	0	5833	3965	12577	5100	9798		1.83	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.294	SLV 14	Si
V_SLV	0.398	SLV 14	No
PF_SLU	1.494	SLU 84	Si
V_SLU	0.466	SLU 84	No

Trave di accoppiamento 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	4.39	5	0.61	-5.158	6.506	4.39	5	0.61	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-684.48	-2237	-0.0010457	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.4	Si
SLU 82	fin.	210.36	-297	-0.0002487	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.55	Si
SLU 83	ini.	-664.54	-2185	-0.0010053	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.44	Si
SLU 83	fin.	204.16	-278	-0.0002405	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.69	Si
SLU 76	ini.	-648.21	-2120	-0.0009727	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.48	Si
SLU 76	fin.	200.27	-268	-0.0002353	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.78	Si
SLU 75	ini.	-650.32	-2131	-0.0009769	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.47	Si
SLU 75	fin.	200.37	-269	-0.0002354	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.77	Si
SLU 74	ini.	-635.93	-2091	-0.0009485	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.5	Si
SLU 74	fin.	195.75	-260	-0.0002293	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.89	Si
SLU 84	ini.	-678.93	-2224	-0.0010344	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.41	Si
SLU 84	fin.	208.78	-287	-0.0002466	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.58	Si
SLU 78	ini.	-644.77	-2118	-0.0009659	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.48	Si
SLU 78	fin.	198.79	-259	-0.0002333	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.81	Si
SLU 81	ini.	-670.09	-2197	-0.0010165	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.43	Si
SLU 81	fin.	205.74	-288	-0.0002426	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.65	Si
SLU 73	ini.	-653.76	-2133	-0.0009837	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.46	Si
SLU 73	fin.	201.85	-278	-0.0002374	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.74	Si
SLU 80	ini.	-633.06	-2081	-0.0009429	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.51	Si
SLU 80	fin.	195.61	-252	-0.0002292	0.0001872	0.0035	0.61		1367.55	956.67	Si	4.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-633.06	3981	0.61	0	1186	3965	2557	1556	1779	Si	0.45	No
SLU 80	fin.	195.61	781	0.61	0	1186	3965	2557	1556	1779	Si	2.28	Si
SLU 77	ini.	-630.38	4001	0.61	0	1186	3965	2557	1556	1779	Si	0.44	No
SLU 77	fin.	194.17	727	0.61	0	1186	3965	2557	1556	1779	Si	2.45	Si
SLU 81	ini.	-670.09	4065	0.61	0	1186	3965	2557	1556	1779	Si	0.44	No
SLU 81	fin.	205.74	1014	0.61	0	1186	3965	2557	1556	1779	Si	1.75	Si
SLU 78	ini.	-644.77	4033	0.61	0	1186	3965	2557	1556	1779	Si	0.44	No
SLU 78	fin.	198.79	820	0.61	0	1186	3965	2557	1556	1779	Si	2.17	Si
SLU 75	ini.	-650.32	3997	0.61	0	1186	3965	2557	1556	1779	Si	0.45	No
SLU 75	fin.	200.37	919	0.61	0	1186	3965	2557	1556	1779	Si	1.94	Si
SLU 83	ini.	-664.54	4102	0.61	0	1186	3965	2557	1556	1779	Si	0.43	No
SLU 83	fin.	204.16	915	0.61	0	1186	3965	2557	1556	1779	Si	1.94	Si
SLU 74	ini.	-635.93	3964	0.61	0	1186	3965	2557	1556	1779	Si	0.45	No
SLU 74	fin.	195.75	826	0.61	0	1186	3965	2557	1556	1779	Si	2.15	Si
SLU 82	ini.	-684.48	4098	0.61	0	1186	3965	2557	1556	1779	Si	0.43	No
SLU 82	fin.	210.36	1107	0.61	0	1186	3965	2557	1556	1779	Si	1.61	Si
SLU 76	ini.	-648.21	3966	0.61	0	1186	3965	2557	1556	1779	Si	0.45	No
SLU 76	fin.	200.27	941	0.61	0	1186	3965	2557	1556	1779	Si	1.89	Si
SLU 84	ini.	-678.93	4135	0.61	0	1186	3965	2557	1556	1779	Si	0.43	No
SLU 84	fin.	208.78	1008	0.61	0	1186	3965	2557	1556	1779	Si	1.77	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1456.67	-4289	-0.0036223	0.0002807	0.0035	0.61		1379.46	1379.46		0.95	No
SLV 13	fin.	460.86	-722	-0.0005941	0.0002807	0.0035	0.61		1375.47	1375.47		2.98	Si
SLV 15	ini.	-1031.28	-3159	-0.0017797	0.0002807	0.0035	0.61		1379.46	1379.46		1.34	Si
SLV 15	fin.	305.89	-542	-0.0003652	0.0002807	0.0035	0.61		1375.47	1375.47		4.5	Si
SLD 14	ini.	-1225.93	-3644	-0.002471	0.0002807	0.0035	0.61		1379.46	1379.46		1.13	Si
SLD 14	fin.	385.32	-609	-0.0004785	0.0002807	0.0035	0.61		1375.47	1375.47		3.57	Si
SLD 13	ini.	-1078.13	-3228	-0.0019228	0.0002807	0.0035	0.61		1379.46	1379.46		1.28	Si
SLD 13	fin.	340.2	-519	-0.0004131	0.0002807	0.0035	0.61		1375.47	1375.47		4.04	Si
SLV 14	ini.	-1688.22	-4941	-0.0046617	0.0002807	0.0035	0.61		1379.46	1379.46		0.82	No
SLV 14	fin.	531.55	-862	-0.0007093	0.0002807	0.0035	0.61		1375.47	1375.47		2.59	Si
SLD 9	ini.	-985.94	-2910	-0.0016525	0.0002807	0.0035	0.61		1379.46	1379.46		1.4	Si
SLD 9	fin.	329.12	-424	-0.0003974	0.0002807	0.0035	0.61		1375.47	1375.47		4.18	Si
SLD 10	ini.	-1083.53	-3184	-0.0019402	0.0002807	0.0035	0.61		1379.46	1379.46		1.27	Si
SLD 10	fin.	358.92	-483	-0.0004399	0.0002807	0.0035	0.61		1375.47	1375.47		3.83	Si
SLV 10	ini.	-1486.71	-4278	-0.0037677	0.0002807	0.0035	0.61		1379.46	1379.46		0.93	No
SLV 10	fin.	498.7	-671	-0.0006549	0.0002807	0.0035	0.61		1375.47	1375.47		2.76	Si
SLV 9	ini.	-1330.81	-3839	-0.0029681	0.0002807	0.0035	0.61		1379.46	1379.46		1.04	Si
SLV 9	fin.	451.1	-576	-0.0005788	0.0002807	0.0035	0.61		1375.47	1375.47		3.05	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-1262.84	-3810	-0.0026345	0.0002807	0.0035	0.61		1379.46	1379.46		1.09	Si
SLV 16	fin.	376.58	-683	-0.0004656	0.0002807	0.0035	0.61		1375.47	1375.47		3.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1330.81	4878	0.61	0	1779	3965	3836	1556	5391		1.11	Si
SLV 9	fin.	451.1	6481	0.61	0	1779	3965	3836	1556	5391		0.83	No
SLV 7	ini.	652.83	-37	0.61	0	1779	3965	3836	1556	5391		143.79	Si
SLV 7	fin.	-238.7	-6364	0.61	0	1779	3965	3836	1556	5391		0.85	No
SLV 3	ini.	854.34	-1201	0.61	0	1779	3965	3836	1556	5391		4.49	Si
SLV 3	fin.	-271.55	-6486	0.61	0	1779	3965	3836	1556	5391		0.83	No
SLV 13	ini.	-1456.67	5822	0.61	0	1779	3965	3836	1556	5391		0.93	No
SLV 13	fin.	460.86	6188	0.61	0	1779	3965	3836	1556	5391		0.87	No
SLD 14	ini.	-1225.93	5098	0.61	0	1779	3965	3836	1556	5391		1.06	Si
SLD 14	fin.	385.32	4916	0.61	0	1779	3965	3836	1556	5391		1.1	Si
SLV 10	ini.	-1486.71	5332	0.61	0	1779	3965	3836	1556	5391		1.01	Si
SLV 10	fin.	498.7	7338	0.61	0	1779	3965	3836	1556	5391		0.73	No
SLV 4	ini.	622.79	-528	0.61	0	1779	3965	3836	1556	5391		10.22	Si
SLV 4	fin.	-200.86	-5213	0.61	0	1779	3965	3836	1556	5391		1.03	Si
SLV 14	ini.	-1688.22	6495	0.61	0	1779	3965	3836	1556	5391		0.83	No
SLV 14	fin.	531.55	7461	0.61	0	1779	3965	3836	1556	5391		0.72	No
SLV 8	ini.	496.93	416	0.61	0	1779	3965	3836	1556	5391		12.96	Si
SLV 8	fin.	-191.1	-5507	0.61	0	1779	3965	3836	1556	5391		0.98	No
SLV 16	ini.	-1262.84	5570	0.61	0	1779	3965	3836	1556	5391		0.97	No
SLV 16	fin.	376.58	4479	0.61	0	1779	3965	3836	1556	5391		1.2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.817	SLV 14	No
V_SLV	0.723	SLV 14	No
PF_SLU	1.398	SLU 82	Si
V_SLU	0.43	SLU 84	No

Trave di accoppiamento 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.463	-3.359	1.59	2.49	0.9	-7.463	-3.359	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{nk}	f _{vk0}	f _{medio}	τ0	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _f ,d	γ _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-699.79	-333	-0.0004079	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.45	Si
SLU 81	fin.	-569.21	-762	-0.0003197	0.0001872	0.0035	0.9		2964.67	1717.92	Si	3.02	Si
SLU 78	ini.	-677.6	-405	-0.0003926	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.54	Si
SLU 78	fin.	-606.41	-695	-0.0003443	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.83	Si
SLU 82	ini.	-698.5	-367	-0.000407	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.46	Si
SLU 82	fin.	-596.16	-726	-0.0003375	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.88	Si
SLU 75	ini.	-670.69	-398	-0.0003878	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.56	Si
SLU 75	fin.	-601.72	-682	-0.0003412	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.86	Si
SLU 83	ini.	-706.7	-339	-0.0004127	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.43	Si
SLU 83	fin.	-573.9	-774	-0.0003228	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.99	Si
SLU 80	ini.	-675.43	-395	-0.0003911	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.54	Si
SLU 80	fin.	-599.64	-694	-0.0003398	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.86	Si
SLU 77	ini.	-678.89	-370	-0.0003935	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.53	Si
SLU 77	fin.	-579.46	-730	-0.0003264	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.96	Si
SLU 84	ini.	-705.4	-374	-0.0004118	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.44	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-600.85	-739	-0.0003406	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.86	Si
SLU 74	ini.	-671.99	-363	-0.0003887	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.56	Si
SLU 74	fin.	-574.77	-717	-0.0003234	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.99	Si
SLU 79	ini.	-676.72	-360	-0.000392	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2.54	Si
SLU 79	fin.	-572.69	-729	-0.000322	0.0001872	0.0035	0.9		2964.67	1717.92	Si	3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-675.43	-3062	0.9	0	1750	7137	3773	2295	2625	Si	0.86	No
SLU 80	fin.	-599.64	2028	0.9	0	1750	7137	3773	2295	2625	Si	1.29	Si
SLU 73	ini.	-660.76	-3069	0.9	0	1750	7137	3773	2295	2625	Si	0.86	No
SLU 73	fin.	-608.23	1947	0.9	0	1750	7137	3773	2295	2625	Si	1.35	Si
SLU 83	ini.	-706.7	-2984	0.9	0	1750	7137	3773	2295	2625	Si	0.88	No
SLU 83	fin.	-573.9	2179	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 84	ini.	-705.4	-3100	0.9	0	1750	7137	3773	2295	2625	Si	0.85	No
SLU 84	fin.	-600.85	2145	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 78	ini.	-677.6	-3096	0.9	0	1750	7137	3773	2295	2625	Si	0.85	No
SLU 78	fin.	-606.41	2034	0.9	0	1750	7137	3773	2295	2625	Si	1.29	Si
SLU 81	ini.	-699.79	-2948	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 81	fin.	-569.21	2150	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 75	ini.	-670.69	-3061	0.9	0	1750	7137	3773	2295	2625	Si	0.86	No
SLU 75	fin.	-601.72	2005	0.9	0	1750	7137	3773	2295	2625	Si	1.31	Si
SLU 77	ini.	-678.89	-2980	0.9	0	1750	7137	3773	2295	2625	Si	0.88	No
SLU 77	fin.	-579.46	2069	0.9	0	1750	7137	3773	2295	2625	Si	1.27	Si
SLU 76	ini.	-667.66	-3104	0.9	0	1750	7137	3773	2295	2625	Si	0.85	No
SLU 76	fin.	-612.92	1976	0.9	0	1750	7137	3773	2295	2625	Si	1.33	Si
SLU 82	ini.	-698.5	-3064	0.9	0	1750	7137	3773	2295	2625	Si	0.86	No
SLU 82	fin.	-596.16	2116	0.9	0	1750	7137	3773	2295	2625	Si	1.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	199.6	-3205	-0.0001005	0.0002807	0.0035	0.9		2989.59	2989.59		14.98	Si
SLV 5	fin.	-1849.08	1060	-0.0013248	0.0002807	0.0035	0.9		2995.37	2995.37		1.62	Si
SLV 6	ini.	340.84	-3618	-0.0001757	0.0002807	0.0035	0.9		2989.59	2989.59		8.77	Si
SLV 6	fin.	-2106.17	1497	-0.001612	0.0002807	0.0035	0.9		2995.37	2995.37		1.42	Si
SLV 4	ini.	550.93	-2415	-0.0002955	0.0002807	0.0035	0.9		2989.59	2989.59		5.43	Si
SLV 4	fin.	-2044.33	3026	-0.0015386	0.0002807	0.0035	0.9		2995.37	2995.37		1.47	Si
SLV 15	ini.	-1710.46	3311	-0.0011863	0.0002807	0.0035	0.9		2995.37	2995.37		1.75	Si
SLV 15	fin.	1851.12	-4397	-0.0013305	0.0002807	0.0035	0.9		2989.59	2989.59		1.62	Si
SLV 1	ini.	591.41	-3229	-0.00032	0.0002807	0.0035	0.9		2989.59	2989.59		5.05	Si
SLV 1	fin.	-2287.39	2815	-0.0018482	0.0002807	0.0035	0.9		2995.37	2995.37		1.31	Si
SLD 1	ini.	212.45	-2148	-0.0001072	0.0002807	0.0035	0.9		2989.59	2989.59		14.07	Si
SLD 1	fin.	-1604.69	1630	-0.0010865	0.0002807	0.0035	0.9		2995.37	2995.37		1.87	Si
SLD 2	ini.	346.35	-2540	-0.0001787	0.0002807	0.0035	0.9		2989.59	2989.59		8.63	Si
SLD 2	fin.	-1848.42	2044	-0.0013241	0.0002807	0.0035	0.9		2995.37	2995.37		1.62	Si
SLV 2	ini.	801.19	-3843	-0.0004544	0.0002807	0.0035	0.9		2989.59	2989.59		3.73	Si
SLV 2	fin.	-2669.25	3464	-0.0024895	0.0002807	0.0035	0.9		2995.37	2995.37		1.12	Si
SLV 3	ini.	341.15	-1802	-0.0001759	0.0002807	0.0035	0.9		2989.59	2989.59		8.76	Si
SLV 3	fin.	-1662.47	2378	-0.0011404	0.0002807	0.0035	0.9		2995.37	2995.37		1.8	Si
SLV 16	ini.	-1500.68	2698	-0.0009928	0.0002807	0.0035	0.9		2995.37	2995.37		2	Si
SLV 16	fin.	1469.27	-3748	-0.0009677	0.0002807	0.0035	0.9		2989.59	2989.59		2.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1710.46	5100	0.9	0	2577	7137	5660	2295	7955		1.56	Si
SLV 15	fin.	1851.12	7926	0.9	0	2577	7137	5660	2295	7955		1	Si
SLV 6	ini.	340.84	-8717	0.9	0	2577	7137	5660	2295	7955		0.91	No
SLV 6	fin.	-2106.17	-2304	0.9	0	2577	7137	5660	2295	7955		3.45	Si
SLV 1	ini.	591.41	-7974	0.9	0	2577	7137	5660	2295	7955		1	No
SLV 1	fin.	-2287.39	-4155	0.9	0	2577	7137	5660	2295	7955		1.91	Si
SLD 6	ini.	44.12	-6200	0.9	0	2577	7137	5660	2295	7955		1.28	Si
SLD 6	fin.	-1469.18	-955	0.9	0	2577	7137	5660	2295	7955		8.33	Si
SLV 4	ini.	550.93	-6346	0.9	0	2577	7137	5660	2295	7955		1.25	Si
SLV 4	fin.	-2044.33	-4296	0.9	0	2577	7137	5660	2295	7955		1.85	Si
SLV 5	ini.	199.6	-7902	0.9	0	2577	7137	5660	2295	7955		1.01	Si
SLV 5	fin.	-1849.08	-1562	0.9	0	2577	7137	5660	2295	7955		5.09	Si
SLV 16	ini.	-1500.68	3889	0.9	0	2577	7137	5660	2295	7955		2.05	Si
SLV 16	fin.	1469.27	6824	0.9	0	2577	7137	5660	2295	7955		1.17	Si
SLV 2	ini.	801.19	-9185	0.9	0	2577	7137	5660	2295	7955		0.87	No
SLV 2	fin.	-2669.25	-5256	0.9	0	2577	7137	5660	2295	7955		1.51	Si
SLV 13	ini.	-1460.19	2261	0.9	0	2577	7137	5660	2295	7955		3.52	Si
SLV 13	fin.	1226.21	6966	0.9	0	2577	7137	5660	2295	7955		1.14	Si
SLD 2	ini.	346.35	-6582	0.9	0	2577	7137	5660	2295	7955		1.21	Si
SLD 2	fin.	-1848.42	-2874	0.9	0	2577	7137	5660	2295	7955		2.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.122	SLV 2	Si
V SLV	0.866	SLV 2	No
PF SLU	2.431	SLU 83	Si
V SLU	0.846	SLU 76	No



Trave di accoppiamento 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.463	-3.359	4.39	5	0.61	-7.463	-3.359	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-268.74	-2221	-0.0003288	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.56	Si
SLU 82	fin.	-214.45	-644	-0.0002535	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.46	Si
SLU 80	ini.	-253.42	-2134	-0.0003071	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.78	Si
SLU 80	fin.	-218.6	-647	-0.0002591	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.38	Si
SLU 78	ini.	-254.08	-2145	-0.000308	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.77	Si
SLU 78	fin.	-221.89	-656	-0.0002635	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.31	Si
SLU 79	ini.	-265.21	-2176	-0.0003238	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.61	Si
SLU 79	fin.	-203.61	-612	-0.000239	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.7	Si
SLU 74	ini.	-262.19	-2159	-0.0003195	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.65	Si
SLU 74	fin.	-203.85	-611	-0.0002393	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.69	Si
SLU 62	ini.	-254.65	-2039	-0.0003088	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.76	Si
SLU 62	fin.	-177.61	-550	-0.0002051	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.39	Si
SLU 77	ini.	-265.87	-2187	-0.0003247	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.6	Si
SLU 77	fin.	-206.9	-621	-0.0002434	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.62	Si
SLU 84	ini.	-272.42	-2249	-0.0003341	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.51	Si
SLU 84	fin.	-217.5	-654	-0.0002576	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.4	Si
SLU 83	ini.	-284.21	-2291	-0.0003512	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.37	Si
SLU 83	fin.	-202.51	-619	-0.0002375	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.72	Si
SLU 81	ini.	-280.53	-2263	-0.0003458	0.0001872	0.0035	0.61		1371.37	956.67	Si	3.41	Si
SLU 81	fin.	-199.46	-609	-0.0002335	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-254.08	4421	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 78	fin.	-221.89	-1980	0.61	0	1186	4837	2557	1556	1779	Si	0.9	No
SLU 74	ini.	-262.19	4405	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 74	fin.	-203.85	-1895	0.61	0	1186	4837	2557	1556	1779	Si	0.94	No
SLU 80	ini.	-253.42	4395	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 80	fin.	-218.6	-1960	0.61	0	1186	4837	2557	1556	1779	Si	0.91	No
SLU 77	ini.	-265.87	4459	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 77	fin.	-206.9	-1918	0.61	0	1186	4837	2557	1556	1779	Si	0.93	No
SLU 81	ini.	-280.53	4573	0.61	0	1186	4837	2557	1556	1779	Si	0.39	No
SLU 81	fin.	-199.46	-1906	0.61	0	1186	4837	2557	1556	1779	Si	0.93	No
SLU 84	ini.	-272.42	4589	0.61	0	1186	4837	2557	1556	1779	Si	0.39	No
SLU 84	fin.	-217.5	-1991	0.61	0	1186	4837	2557	1556	1779	Si	0.89	No
SLU 75	ini.	-250.4	4367	0.61	0	1186	4837	2557	1556	1779	Si	0.41	No
SLU 75	fin.	-218.84	-1957	0.61	0	1186	4837	2557	1556	1779	Si	0.91	No
SLU 83	ini.	-284.21	4627	0.61	0	1186	4837	2557	1556	1779	Si	0.38	No
SLU 83	fin.	-202.51	-1929	0.61	0	1186	4837	2557	1556	1779	Si	0.92	No
SLU 79	ini.	-265.21	4433	0.61	0	1186	4837	2557	1556	1779	Si	0.4	No
SLU 79	fin.	-203.61	-1898	0.61	0	1186	4837	2557	1556	1779	Si	0.94	No
SLU 82	ini.	-268.74	4535	0.61	0	1186	4837	2557	1556	1779	Si	0.39	No
SLU 82	fin.	-214.45	-1968	0.61	0	1186	4837	2557	1556	1779	Si	0.9	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	740.24	2287	-0.0010918	0.0002807	0.0035	0.61		1375.47	1375.47		1.86	Si
SLV 2	fin.	-849.04	-1669	-0.0013177	0.0002807	0.0035	0.61		1379.46	1379.46		1.62	Si
SLV 15	ini.	-1072.77	-5117	-0.0019058	0.0002807	0.0035	0.61		1379.46	1379.46		1.29	Si
SLV 15	fin.	560.49	828	-0.0007583	0.0002807	0.0035	0.61		1375.47	1375.47		2.45	Si
SLV 16	ini.	-921.13	-4510	-0.0014862	0.0002807	0.0035	0.61		1379.46	1379.46		1.5	Si
SLV 16	fin.	433.99	587	-0.0005521	0.0002807	0.0035	0.61		1375.47	1375.47		3.17	Si
SLV 1	ini.	588.6	1680	-0.0008072	0.0002807	0.0035	0.61		1375.47	1375.47		2.34	Si
SLV 1	fin.	-722.55	-1427	-0.0010527	0.0002807	0.0035	0.61		1379.46	1379.46		1.91	Si
SLV 6	ini.	449.03	820	-0.0005755	0.0002807	0.0035	0.61		1375.47	1375.47		3.06	Si
SLV 6	fin.	-946.62	-2241	-0.0015497	0.0002807	0.0035	0.61		1379.46	1379.46		1.46	Si
SLV 14	ini.	-713.41	-3843	-0.0010348	0.0002807	0.0035	0.61		1379.46	1379.46		1.93	Si
SLV 14	fin.	59.95	-337	-0.0000649	0.0002807	0.0035	0.61		1375.47	1375.47		22.94	Si
SLV 13	ini.	-865.05	-4450	-0.0013538	0.0002807	0.0035	0.61		1379.46	1379.46		1.59	Si
SLV 13	fin.	186.44	-96	-0.0002111	0.0002807	0.0035	0.61		1375.47	1375.47		7.38	Si
SLV 5	ini.	346.94	411	-0.0004227	0.0002807	0.0035	0.61		1375.47	1375.47		3.96	Si
SLV 5	fin.	-861.45	-2079	-0.0013456	0.0002807	0.0035	0.61		1379.46	1379.46		1.6	Si
SLD 15	ini.	-743.97	-3777	-0.0010953	0.0002807	0.0035	0.61		1379.46	1379.46		1.85	Si
SLD 15	fin.	302.4	368	-0.0003604	0.0002807	0.0035	0.61		1375.47	1375.47		4.55	Si
SLV 11	ini.	-781.56	-3649	-0.0011721	0.0002807	0.0035	0.61		1379.46	1379.46		1.77	Si
SLV 11	fin.	658.06	1400	-0.0009329	0.0002807	0.0035	0.61		1375.47	1375.47		2.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1072.77	6778	0.61	0	1562	4837	3836	1556	5391		0.8	No
SLV 15	fin.	560.49	1580	0.61	0	1562	4837	3836	1556	5391		3.41	Si
SLD 15	ini.	-743.97	5386	0.61	0	1562	4837	3836	1556	5391		1	Si
SLD 15	fin.	302.4	521	0.61	0	1562	4837	3836	1556	5391		10.34	Si
SLD 16	ini.	-647.18	4974	0.61	0	1562	4837	3836	1556	5391		1.08	Si
SLD 16	fin.	221.66	194	0.61	0	1562	4837	3836	1556	5391		27.79	Si
SLD 14	ini.	-519.35	4707	0.61	0	1562	4837	3836	1556	5391		1.15	Si
SLD 14	fin.	-9.11	-751	0.61	0	1562	4837	3836	1556	5391		7.18	Si
SLV 13	ini.	-865.05	6342	0.61	0	1562	4837	3836	1556	5391		0.85	No
SLV 13	fin.	186.44	49	0.61	0	1562	4837	3836	1556	5391		110.37	Si
SLD 13	ini.	-616.13	5119	0.61	0	1562	4837	3836	1556	5391		1.05	Si
SLD 13	fin.	71.63	-424	0.61	0	1562	4837	3836	1556	5391		12.72	Si
SLV 6	ini.	449.03	990	0.61	0	1562	4837	3836	1556	5391		5.45	Si
SLV 6	fin.	-946.62	-4597	0.61	0	1562	4837	3836	1556	5391		1.17	Si
SLV 14	ini.	-713.41	5696	0.61	0	1562	4837	3836	1556	5391		0.95	No
SLV 14	fin.	59.95	-464	0.61	0	1562	4837	3836	1556	5391		11.62	Si
SLV 16	ini.	-921.13	6132	0.61	0	1562	4837	3836	1556	5391		0.88	No
SLV 16	fin.	433.99	1067	0.61	0	1562	4837	3836	1556	5391		5.05	Si
SLV 11	ini.	-781.56	4863	0.61	0	1562	4837	3836	1556	5391		1.11	Si
SLV 11	fin.	658.06	1974	0.61	0	1562	4837	3836	1556	5391		2.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.286	SLV 15	Si
V_SLV	0.795	SLV 15	No
PF_SLU	3.366	SLU 83	Si
V_SLU	0.385	SLU 83	No

Trave di accoppiamento 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	4.39	5	0.61	-6.008	-3.359	4.39	5	0.61	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedlio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	976.12	-1645	-0.0017594	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.98	No
SLU 82	fin.	-742.27	-1645	-0.0011672	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.29	Si
SLU 73	ini.	967.01	-1527	-0.0017324	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.99	No
SLU 73	fin.	-713.5	-1527	-0.0011058	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.34	Si
SLU 81	ini.	950.77	-1671	-0.0016854	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.01	Si
SLU 81	fin.	-737.93	-1671	-0.0011578	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.3	Si
SLU 76	ini.	974.06	-1548	-0.0017532	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.98	No
SLU 76	fin.	-718.8	-1548	-0.001117	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.33	Si
SLU 84	ini.	983.17	-1666	-0.0017805	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.97	No
SLU 84	fin.	-747.58	-1666	-0.0011787	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.28	Si
SLU 75	ini.	964.55	-1575	-0.0017252	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.99	No
SLU 75	fin.	-719.8	-1575	-0.0011191	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.33	Si
SLU 80	ini.	964.21	-1587	-0.0017242	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.99	No
SLU 80	fin.	-721.22	-1587	-0.0011221	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.33	Si
SLU 78	ini.	971.6	-1597	-0.0017459	0.0001872	0.0035	0.61		1367.55	956.67	Si	0.98	No
SLU 78	fin.	-725.11	-1597	-0.0011304	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.32	Si
SLU 83	ini.	957.82	-1692	-0.0017057	0.0001872	0.0035	0.61		1367.55	956.67	Si	1	No
SLU 83	fin.	-743.24	-1692	-0.0011693	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.29	Si
SLU 77	ini.	946.25	-1623	-0.0016726	0.0001872	0.0035	0.61		1367.55	956.67	Si	1.01	Si
SLU 77	fin.	-720.77	-1623	-0.0011212	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	964.55	-3269	0.61	0	1186	3965	2557	1556	1779	Si	0.54	No
SLU 75	fin.	-719.8	-3469	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No
SLU 78	ini.	971.6	-3294	0.61	0	1186	3965	2557	1556	1779	Si	0.54	No
SLU 78	fin.	-725.11	-3493	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No
SLU 80	ini.	964.21	-3271	0.61	0	1186	3965	2557	1556	1779	Si	0.54	No
SLU 80	fin.	-721.22	-3471	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No
SLU 83	ini.	957.82	-3302	0.61	0	1186	3965	2557	1556	1779	Si	0.54	No
SLU 83	fin.	-743.24	-3502	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No
SLU 73	ini.	967.01	-3261	0.61	0	1186	3965	2557	1556	1779	Si	0.55	No
SLU 73	fin.	-713.5	-3461	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No
SLU 84	ini.	983.17	-3362	0.61	0	1186	3965	2557	1556	1779	Si	0.53	No
SLU 84	fin.	-747.58	-3561	0.61	0	1186	3965	2557	1556	1779	Si	0.5	No
SLU 77	ini.	946.25	-3234	0.61	0	1186	3965	2557	1556	1779	Si	0.55	No
SLU 77	fin.	-720.77	-3434	0.61	0	1186	3965	2557	1556	1779	Si	0.52	No
SLU 76	ini.	974.06	-3286	0.61	0	1186	3965	2557	1556	1779	Si	0.54	No
SLU 76	fin.	-718.8	-3486	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No
SLU 82	ini.	976.12	-3337	0.61	0	1186	3965	2557	1556	1779	Si	0.53	No
SLU 82	fin.	-742.27	-3537	0.61	0	1186	3965	2557	1556	1779	Si	0.5	No
SLU 81	ini.	950.77	-3277	0.61	0	1186	3965	2557	1556	1779	Si	0.54	No
SLU 81	fin.	-737.93	-3477	0.61	0	1186	3965	2557	1556	1779	Si	0.51	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1752.28	1075	-0.004946	0.0002807	0.0035	0.61		1375.47	1375.47		0.78	No
SLV 2	fin.	-360.18	1097	-0.0004403	0.0002807	0.0035	0.61		1379.46	1379.46		3.83	Si
SLD 4	ini.	1171.93	129	-0.0022643	0.0002807	0.0035	0.61		1375.47	1375.47		1.17	Si
SLD 4	fin.	-454.21	106	-0.0005817	0.0002807	0.0035	0.61		1379.46	1379.46		3.04	Si
SLD 2	ini.	1355.27	306	-0.0031166	0.0002807	0.0035	0.61		1375.47	1375.47		1.01	Si
SLD 2	fin.	-407.23	320	-0.0005096	0.0002807	0.0035	0.61		1379.46	1379.46		3.39	Si
SLD 1	ini.	1218.18	83	-0.002452	0.0002807	0.0035	0.61		1375.47	1375.47		1.13	Si
SLD 1	fin.	-404.83	97	-0.000506	0.0002807	0.0035	0.61		1379.46	1379.46		3.41	Si
SLV 4	ini.	1455.47	787	-0.0036356	0.0002807	0.0035	0.61		1375.47	1375.47		0.95	No
SLV 4	fin.	-436.08	749	-0.0005535	0.0002807	0.0035	0.61		1379.46	1379.46		3.16	Si
SLD 6	ini.	1171.83	-336	-0.0022639	0.0002807	0.0035	0.61		1375.47	1375.47		1.17	Si
SLD 6	fin.	-395.75	-276	-0.0004924	0.0002807	0.0035	0.61		1379.46	1379.46		3.49	Si
SLV 1	ini.	1537.49	726	-0.0040235	0.0002807	0.0035	0.61		1375.47	1375.47		0.89	No
SLV 1	fin.	-356.41	748	-0.0004349	0.0002807	0.0035	0.61		1379.46	1379.46		3.87	Si
SLV 5	ini.	1333.81	-147	-0.0030026	0.0002807	0.0035	0.61		1375.47	1375.47		1.03	Si
SLV 5	fin.	-335.48	-50	-0.0004051	0.0002807	0.0035	0.61		1379.46	1379.46		4.11	Si
SLV 3	ini.	1240.68	439	-0.0025497	0.0002807	0.0035	0.61		1375.47	1375.47		1.11	Si
SLV 3	fin.	-432.31	401	-0.0005477	0.0002807	0.0035	0.61		1379.46	1379.46		3.19	Si
SLV 6	ini.	1478.42	87	-0.0037471	0.0002807	0.0035	0.61		1375.47	1375.47		0.93	No
SLV 6	fin.	-338.02	185	-0.0004087	0.0002807	0.0035	0.61		1379.46	1379.46		4.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	1171.83	-2929	0.61	0	1779	3965	3836	1556	5391		1.84	Si
SLD 6	fin.	-395.75	-3196	0.61	0	1779	3965	3836	1556	5391		1.69	Si
SLD 2	ini.	1355.27	-3407	0.61	0	1779	3965	3836	1556	5391		1.58	Si
SLD 2	fin.	-407.23	-3582	0.61	0	1779	3965	3836	1556	5391		1.51	Si
SLV 4	ini.	1455.47	-3761	0.61	0	1779	3965	3836	1556	5391		1.43	Si
SLV 4	fin.	-436.08	-3836	0.61	0	1779	3965	3836	1556	5391		1.41	Si
SLD 1	ini.	1218.18	-3128	0.61	0	1779	3965	3836	1556	5391		1.72	Si
SLD 1	fin.	-404.83	-3303	0.61	0	1779	3965	3836	1556	5391		1.63	Si
SLD 4	ini.	1171.93	-3211	0.61	0	1779	3965	3836	1556	5391		1.68	Si
SLD 4	fin.	-454.21	-3315	0.61	0	1779	3965	3836	1556	5391		1.63	Si
SLV 5	ini.	1333.81	-3061	0.61	0	1779	3965	3836	1556	5391		1.76	Si
SLV 5	fin.	-335.48	-3391	0.61	0	1779	3965	3836	1556	5391		1.59	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1240.68	-3324	0.61	0	1779	3965	3836	1556	5391		1.62	Si
SLV 3	fin.	-432.31	-3399	0.61	0	1779	3965	3836	1556	5391		1.59	Si
SLV 1	ini.	1537.49	-3646	0.61	0	1779	3965	3836	1556	5391		1.48	Si
SLV 1	fin.	-356.41	-3831	0.61	0	1779	3965	3836	1556	5391		1.41	Si
SLV 2	ini.	1752.28	-4083	0.61	0	1779	3965	3836	1556	5391		1.32	Si
SLV 2	fin.	-360.18	-4268	0.61	0	1779	3965	3836	1556	5391		1.26	Si
SLV 6	ini.	1478.42	-3355	0.61	0	1779	3965	3836	1556	5391		1.61	Si
SLV 6	fin.	-338.02	-3685	0.61	0	1779	3965	3836	1556	5391		1.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.785	SLV 2	No
V_SLV	1.263	SLV 2	Si
PF_SLU	0.973	SLU 84	No
V_SLU	0.5	SLU 84	No

Trave di accoppiamento 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.233	-3.359	1.59	2.49	0.9	-3.233	-3.359	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	626.49	-2346	-0.0003585	0.0001872	0.0035	0.9		2959	1717.92	Si	2.74	Si
SLU 70	fin.	365.27	-1925	-0.0001938	0.0001872	0.0035	0.9		2959	1717.92	Si	4.7	Si
SLU 76	ini.	634.62	-2479	-0.000364	0.0001872	0.0035	0.9		2959	1717.92	Si	2.71	Si
SLU 76	fin.	441	-2140	-0.000239	0.0001872	0.0035	0.9		2959	1717.92	Si	3.9	Si
SLU 84	ini.	627.63	-2514	-0.0003593	0.0001872	0.0035	0.9		2959	1717.92	Si	2.74	Si
SLU 84	fin.	477.6	-2231	-0.0002617	0.0001872	0.0035	0.9		2959	1717.92	Si	3.6	Si
SLU 75	ini.	630.57	-2471	-0.0003613	0.0001872	0.0035	0.9		2959	1717.92	Si	2.72	Si
SLU 75	fin.	442.84	-2141	-0.0002401	0.0001872	0.0035	0.9		2959	1717.92	Si	3.88	Si
SLU 78	ini.	631.15	-2489	-0.0003617	0.0001872	0.0035	0.9		2959	1717.92	Si	2.72	Si
SLU 78	fin.	454.52	-2173	-0.0002473	0.0001872	0.0035	0.9		2959	1717.92	Si	3.78	Si
SLU 73	ini.	634.04	-2461	-0.0003636	0.0001872	0.0035	0.9		2959	1717.92	Si	2.71	Si
SLU 73	fin.	429.33	-2108	-0.0002319	0.0001872	0.0035	0.9		2959	1717.92	Si	4	Si
SLU 65	ini.	629.38	-2319	-0.0003605	0.0001872	0.0035	0.9		2959	1717.92	Si	2.73	Si
SLU 65	fin.	340.08	-1860	-0.0001792	0.0001872	0.0035	0.9		2959	1717.92	Si	5.05	Si
SLU 68	ini.	629.96	-2337	-0.0003609	0.0001872	0.0035	0.9		2959	1717.92	Si	2.73	Si
SLU 68	fin.	351.75	-1891	-0.0001859	0.0001872	0.0035	0.9		2959	1717.92	Si	4.88	Si
SLU 82	ini.	627.05	-2496	-0.0003589	0.0001872	0.0035	0.9		2959	1717.92	Si	2.74	Si
SLU 82	fin.	465.93	-2200	-0.0002544	0.0001872	0.0035	0.9		2959	1717.92	Si	3.69	Si
SLU 80	ini.	626.22	-2471	-0.0003583	0.0001872	0.0035	0.9		2959	1717.92	Si	2.74	Si
SLU 80	fin.	451.03	-2157	-0.0002452	0.0001872	0.0035	0.9		2959	1717.92	Si	3.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	613.01	-928	0.9	0	1750	7137	3773	2295	2625	Si	2.83	Si
SLU 69	fin.	362.79	130	0.9	0	1750	7137	3773	2295	2625	Si	20.19	Si
SLU 46	ini.	597.97	-911	0.9	0	1750	7137	3773	2295	2625	Si	2.88	Si
SLU 46	fin.	266.74	-151	0.9	0	1750	7137	3773	2295	2625	Si	17.37	Si
SLU 43	ini.	578.98	-938	0.9	0	1750	7137	3773	2295	2625	Si	2.8	Si
SLU 43	fin.	249.1	-121	0.9	0	1750	7137	3773	2295	2625	Si	21.71	Si
SLU 66	ini.	612.43	-935	0.9	0	1750	7137	3773	2295	2625	Si	2.81	Si
SLU 66	fin.	351.12	101	0.9	0	1750	7137	3773	2295	2625	Si	26.03	Si
SLU 45	ini.	584.49	-940	0.9	0	1750	7137	3773	2295	2625	Si	2.79	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 45	fin.	264.26	-87	0.9	0	1750	7137	3773	2295	2625	Si	30.28	Si
SLU 71	ini.	608.08	-918	0.9	0	1750	7137	3773	2295	2625	Si	2.86	Si
SLU 71	fin.	359.3	125	0.9	0	1750	7137	3773	2295	2625	Si	21.02	Si
SLU 64	ini.	606.91	-932	0.9	0	1750	7137	3773	2295	2625	Si	2.82	Si
SLU 64	fin.	335.95	67	0.9	0	1750	7137	3773	2295	2625	Si	39.41	Si
SLU 67	ini.	625.91	-905	0.9	0	1750	7137	3773	2295	2625	Si	2.9	Si
SLU 67	fin.	353.59	36	0.9	0	1750	7137	3773	2295	2625	Si	72.19	Si
SLU 48	ini.	585.07	-933	0.9	0	1750	7137	3773	2295	2625	Si	2.81	Si
SLU 48	fin.	275.94	-58	0.9	0	1750	7137	3773	2295	2625	Si	45.63	Si
SLU 50	ini.	580.14	-924	0.9	0	1750	7137	3773	2295	2625	Si	2.84	Si
SLU 50	fin.	272.45	-63	0.9	0	1750	7137	3773	2295	2625	Si	41.93	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	2040.35	-4789	-0.0015383	0.0002807	0.0035	0.9		2989.59	2989.59		1.47	Si
SLV 6	fin.	-672.83	-892	-0.0003698	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLV 16	ini.	-982.49	432	-0.0005795	0.0002807	0.0035	0.9		2995.37	2995.37		3.05	Si
SLV 16	fin.	1543.79	-2926	-0.0010337	0.0002807	0.0035	0.9		2989.59	2989.59		1.94	Si
SLV 5	ini.	1768.43	-4382	-0.0012463	0.0002807	0.0035	0.9		2989.59	2989.59		1.69	Si
SLV 5	fin.	-432.21	-1168	-0.000226	0.0002807	0.0035	0.9		2995.37	2995.37		6.93	Si
SLV 2	ini.	2310.47	-4494	-0.0018871	0.0002807	0.0035	0.9		2989.59	2989.59		1.29	Si
SLV 2	fin.	-1371.5	509	-0.0008819	0.0002807	0.0035	0.9		2995.37	2995.37		2.18	Si
SLV 15	ini.	-1386.37	1037	-0.0008944	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLV 15	fin.	1901.17	-3335	-0.0013832	0.0002807	0.0035	0.9		2989.59	2989.59		1.57	Si
SLV 1	ini.	1906.58	-3888	-0.001389	0.0002807	0.0035	0.9		2989.59	2989.59		1.57	Si
SLV 1	fin.	-1014.12	99	-0.0006025	0.0002807	0.0035	0.9		2995.37	2995.37		2.95	Si
SLD 6	ini.	1447.39	-3633	-0.0009487	0.0002807	0.0035	0.9		2989.59	2989.59		2.07	Si
SLD 6	fin.	-325.43	-1073	-0.000167	0.0002807	0.0035	0.9		2995.37	2995.37		9.2	Si
SLV 13	ini.	-761.05	-360	-0.0004268	0.0002807	0.0035	0.9		2995.37	2995.37		3.94	Si
SLV 13	fin.	1650.58	-3422	-0.0011321	0.0002807	0.0035	0.9		2989.59	2989.59		1.81	Si
SLD 2	ini.	1636.46	-3480	-0.001188	0.0002807	0.0035	0.9		2989.59	2989.59		1.83	Si
SLD 2	fin.	-778.88	-181	-0.0004386	0.0002807	0.0035	0.9		2995.37	2995.37		3.85	Si
SLV 4	ini.	1685.15	-3097	-0.0011649	0.0002807	0.0035	0.9		2989.59	2989.59		1.77	Si
SLV 4	fin.	-1120.91	596	-0.000682	0.0002807	0.0035	0.9		2995.37	2995.37		2.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	2040.35	-5059	0.9	0	2577	7137	5660	2295	7955		1.57	Si
SLV 6	fin.	-672.83	-4322	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLV 15	ini.	-1386.37	4779	0.9	0	2577	7137	5660	2295	7955		1.66	Si
SLV 15	fin.	1901.17	5913	0.9	0	2577	7137	5660	2295	7955		1.35	Si
SLV 5	ini.	1768.43	-4221	0.9	0	2577	7137	5660	2295	7955		1.88	Si
SLV 5	fin.	-432.21	-3516	0.9	0	2577	7137	5660	2295	7955		2.26	Si
SLV 1	ini.	1906.58	-4937	0.9	0	2577	7137	5660	2295	7955		1.61	Si
SLV 1	fin.	-1014.12	-4573	0.9	0	2577	7137	5660	2295	7955		1.74	Si
SLV 2	ini.	2310.47	-6181	0.9	0	2577	7137	5660	2295	7955		1.29	Si
SLV 2	fin.	-1371.5	-5770	0.9	0	2577	7137	5660	2295	7955		1.38	Si
SLD 2	ini.	1636.46	-4188	0.9	0	2577	7137	5660	2295	7955		1.9	Si
SLD 2	fin.	-778.88	-3650	0.9	0	2577	7137	5660	2295	7955		2.18	Si
SLV 13	ini.	-761.05	3143	0.9	0	2577	7137	5660	2295	7955		2.53	Si
SLV 13	fin.	1650.58	4319	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLV 11	ini.	-1116.26	3657	0.9	0	2577	7137	5660	2295	7955		2.18	Si
SLV 11	fin.	1202.49	4465	0.9	0	2577	7137	5660	2295	7955		1.78	Si
SLV 16	ini.	-982.49	3534	0.9	0	2577	7137	5660	2295	7955		2.25	Si
SLV 16	fin.	1543.79	4716	0.9	0	2577	7137	5660	2295	7955		1.69	Si
SLV 4	ini.	1685.15	-4545	0.9	0	2577	7137	5660	2295	7955		1.75	Si
SLV 4	fin.	-1120.91	-4176	0.9	0	2577	7137	5660	2295	7955		1.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.294	SLV 2	Si
V_SLV	1.287	SLV 2	Si
PF_SLU	2.707	SLU 76	Si
V_SLU	2.792	SLU 45	Si

Trave di accoppiamento 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.233	-3.359	4.39	5	0.61	-3.233	-3.359	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-186.94	-1191	-0.0002172	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.12	Si
SLU 75	fin.	-713.79	-2311	-0.0011064	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.34	Si
SLU 81	ini.	-203.03	-1228	-0.0002382	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.71	Si
SLU 81	fin.	-708.69	-2309	-0.0010958	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.35	Si
SLU 78	ini.	-193.99	-1215	-0.0002263	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.93	Si
SLU 78	fin.	-717.01	-2330	-0.0011132	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.33	Si
SLU 82	ini.	-202.08	-1238	-0.000237	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.73	Si
SLU 82	fin.	-720.45	-2343	-0.0011205	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.33	Si
SLU 80	ini.	-192.31	-1205	-0.0002241	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.97	Si
SLU 80	fin.	-711.65	-2311	-0.0011019	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.34	Si
SLU 83	ini.	-210.08	-1252	-0.0002476	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.55	Si
SLU 83	fin.	-711.92	-2328	-0.0011025	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.34	Si
SLU 84	ini.	-209.13	-1262	-0.0002463	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.57	Si
SLU 84	fin.	-723.67	-2362	-0.0011273	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.32	Si
SLU 73	ini.	-177.58	-1163	-0.0002051	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.39	Si
SLU 73	fin.	-713.04	-2296	-0.0011049	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.34	Si
SLU 76	ini.	-184.63	-1187	-0.0002142	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.18	Si
SLU 76	fin.	-716.26	-2315	-0.0011116	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.34	Si
SLU 77	ini.	-194.94	-1205	-0.0002276	0.0001872	0.0035	0.61		1371.37	956.67	Si	4.91	Si
SLU 77	fin.	-705.26	-2296	-0.0010886	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-209.13	1129	0.61	0	1186	4837	2557	1556	1779	Si	1.58	Si
SLU 84	fin.	-723.67	-2862	0.61	0	1186	4837	2557	1556	1779	Si	0.62	No
SLU 81	ini.	-203.03	1118	0.61	0	1186	4837	2557	1556	1779	Si	1.59	Si
SLU 81	fin.	-708.69	-2822	0.61	0	1186	4837	2557	1556	1779	Si	0.63	No
SLU 83	ini.	-210.08	1144	0.61	0	1186	4837	2557	1556	1779	Si	1.56	Si
SLU 83	fin.	-711.92	-2837	0.61	0	1186	4837	2557	1556	1779	Si	0.63	No
SLU 80	ini.	-192.31	1053	0.61	0	1186	4837	2557	1556	1779	Si	1.69	Si
SLU 80	fin.	-711.65	-2799	0.61	0	1186	4837	2557	1556	1779	Si	0.64	No
SLU 76	ini.	-184.63	1017	0.61	0	1186	4837	2557	1556	1779	Si	1.75	Si
SLU 76	fin.	-716.26	-2801	0.61	0	1186	4837	2557	1556	1779	Si	0.64	No
SLU 78	ini.	-193.99	1061	0.61	0	1186	4837	2557	1556	1779	Si	1.68	Si
SLU 78	fin.	-717.01	-2820	0.61	0	1186	4837	2557	1556	1779	Si	0.63	No
SLU 75	ini.	-186.94	1035	0.61	0	1186	4837	2557	1556	1779	Si	1.72	Si
SLU 75	fin.	-713.79	-2805	0.61	0	1186	4837	2557	1556	1779	Si	0.63	No
SLU 82	ini.	-202.08	1103	0.61	0	1186	4837	2557	1556	1779	Si	1.61	Si
SLU 82	fin.	-720.45	-2847	0.61	0	1186	4837	2557	1556	1779	Si	0.63	No
SLU 73	ini.	-177.58	991	0.61	0	1186	4837	2557	1556	1779	Si	1.8	Si
SLU 73	fin.	-713.04	-2786	0.61	0	1186	4837	2557	1556	1779	Si	0.64	No
SLU 77	ini.	-194.94	1076	0.61	0	1186	4837	2557	1556	1779	Si	1.65	Si
SLU 77	fin.	-705.26	-2795	0.61	0	1186	4837	2557	1556	1779	Si	0.64	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	865.03	1169	-0.0013591	0.0002807	0.0035	0.61		1375.47	1375.47		1.59	Si
SLV 1	fin.	-1500.16	-3604	-0.0038315	0.0002807	0.0035	0.61		1379.46	1379.46		0.92	No
SLD 2	ini.	688.92	814	-0.0009912	0.0002807	0.0035	0.61		1375.47	1375.47		2	Si
SLD 2	fin.	-1316.67	-3233	-0.0028951	0.0002807	0.0035	0.61		1379.46	1379.46		1.05	Si
SLV 6	ini.	688.19	431	-0.0008998	0.0002807	0.0035	0.61		1375.47	1375.47		2	Si
SLV 6	fin.	-1634.86	-4235	-0.0044353	0.0002807	0.0035	0.61		1379.46	1379.46		0.84	No
SLV 4	ini.	896.52	1468	-0.0014327	0.0002807	0.0035	0.61		1375.47	1375.47		1.53	Si
SLV 4	fin.	-1326.21	-3021	-0.0029442	0.0002807	0.0035	0.61		1379.46	1379.46		1.04	Si
SLV 15	ini.	-1337.84	-3189	-0.0030049	0.0002807	0.0035	0.61		1379.46	1379.46		1.03	Si
SLV 15	fin.	777.09	989	-0.0011672	0.0002807	0.0035	0.61		1375.47	1375.47		1.77	Si
SLD 1	ini.	514.82	477	-0.0006814	0.0002807	0.0035	0.61		1375.47	1375.47		2.67	Si
SLD 1	fin.	-1135.51	-2866	-0.002117	0.0002807	0.0035	0.61		1379.46	1379.46		1.21	Si
SLV 5	ini.	504.54	76	-0.0006644	0.0002807	0.0035	0.61		1375.47	1375.47		2.73	Si
SLV 5	fin.	-1443.77	-3848	-0.0035584	0.0002807	0.0035	0.61		1379.46	1379.46		0.96	No
SLV 2	ini.	1137.81	1697	-0.0021363	0.0002807	0.0035	0.61		1375.47	1375.47		1.21	Si
SLV 2	fin.	-1783.98	-4179	-0.0050555	0.0002807	0.0035	0.61		1379.46	1379.46		0.77	No
SLV 13	ini.	-1096.55	-2961	-0.0019828	0.0002807	0.0035	0.61		1379.46	1379.46		1.26	Si
SLV 13	fin.	319.33	-170	-0.0003837	0.0002807	0.0035	0.61		1375.47	1375.47		4.31	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	394.33	-3	-0.0004919	0.0002807	0.0035	0.61		1375.47	1375.47		3.49	Si
SLD 6	fin.	-1208.38	-3237	-0.0023973	0.0002807	0.0035	0.61		1379.46	1379.46		1.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	896.52	-2662	0.61	0	1562	4837	3836	1556	5391		2.03	Si
SLV 4	fin.	-1326.21	-4683	0.61	0	1562	4837	3836	1556	5391		1.15	Si
SLD 1	ini.	514.82	-1387	0.61	0	1562	4837	3836	1556	5391		3.89	Si
SLD 1	fin.	-1135.51	-4013	0.61	0	1562	4837	3836	1556	5391		1.34	Si
SLV 13	ini.	-1096.55	3897	0.61	0	1562	4837	3836	1556	5391		1.38	Si
SLV 13	fin.	319.33	751	0.61	0	1562	4837	3836	1556	5391		7.18	Si
SLV 5	ini.	504.54	-1302	0.61	0	1562	4837	3836	1556	5391		4.14	Si
SLV 5	fin.	-1443.77	-4945	0.61	0	1562	4837	3836	1556	5391		1.09	Si
SLV 15	ini.	-1337.84	4649	0.61	0	1562	4837	3836	1556	5391		1.16	Si
SLV 15	fin.	777.09	2190	0.61	0	1562	4837	3836	1556	5391		2.46	Si
SLD 2	ini.	688.92	-1953	0.61	0	1562	4837	3836	1556	5391		2.76	Si
SLD 2	fin.	-1316.67	-4605	0.61	0	1562	4837	3836	1556	5391		1.17	Si
SLV 6	ini.	688.19	-1898	0.61	0	1562	4837	3836	1556	5391		2.84	Si
SLV 6	fin.	-1634.86	-5569	0.61	0	1562	4837	3836	1556	5391		0.97	No
SLV 2	ini.	1137.81	-3414	0.61	0	1562	4837	3836	1556	5391		1.58	Si
SLV 2	fin.	-1783.98	-6122	0.61	0	1562	4837	3836	1556	5391		0.88	No
SLD 6	ini.	394.33	-962	0.61	0	1562	4837	3836	1556	5391		5.61	Si
SLD 6	fin.	-1208.38	-4213	0.61	0	1562	4837	3836	1556	5391		1.28	Si
SLV 1	ini.	865.03	-2528	0.61	0	1562	4837	3836	1556	5391		2.13	Si
SLV 1	fin.	-1500.16	-5195	0.61	0	1562	4837	3836	1556	5391		1.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.773	SLV 2	No
V_SLV	0.881	SLV 2	No
PF_SLU	1.322	SLU 84	Si
V_SLU	0.622	SLU 84	No

Trave di accoppiamento 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.013	5.951	1.59	2.49	0.9	-3.013	5.951	1.59	2.49	0.9	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{nk}	f _{vk0}	f _{medio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _s ,fd	γ _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	642.58	-2783	-0.0003694	0.0001872	0.0035	0.9		2959	1717.92	Si	2.67	Si
SLU 79	fin.	148.43	-2072	-0.0000748	0.0001872	0.0035	0.9		2959	1717.92	Si	11.57	Si
SLU 77	ini.	646.33	-2804	-0.000372	0.0001872	0.0035	0.9		2959	1717.92	Si	2.66	Si
SLU 77	fin.	152.47	-2094	-0.0000769	0.0001872	0.0035	0.9		2959	1717.92	Si	11.27	Si
SLU 83	ini.	633.65	-2795	-0.0003634	0.0001872	0.0035	0.9		2959	1717.92	Si	2.71	Si
SLU 83	fin.	166.65	-2122	-0.0000843	0.0001872	0.0035	0.9		2959	1717.92	Si	10.31	Si
SLU 81	ini.	621.42	-2739	-0.0003551	0.0001872	0.0035	0.9		2959	1717.92	Si	2.76	Si
SLU 81	fin.	160	-2073	-0.0000808	0.0001872	0.0035	0.9		2959	1717.92	Si	10.74	Si
SLU 71	ini.	634.88	-2623	-0.0003642	0.0001872	0.0035	0.9		2959	1717.92	Si	2.71	Si
SLU 71	fin.	90.41	-1844	-0.000045	0.0001872	0.0035	0.9		2959	1717.92	Si	19	Si
SLU 66	ini.	626.4	-2588	-0.0003585	0.0001872	0.0035	0.9		2959	1717.92	Si	2.74	Si
SLU 66	fin.	87.79	-1817	-0.0000437	0.0001872	0.0035	0.9		2959	1717.92	Si	19.57	Si
SLU 69	ini.	638.63	-2644	-0.0003667	0.0001872	0.0035	0.9		2959	1717.92	Si	2.69	Si
SLU 69	fin.	94.44	-1866	-0.000047	0.0001872	0.0035	0.9		2959	1717.92	Si	18.19	Si
SLU 74	ini.	634.1	-2748	-0.0003637	0.0001872	0.0035	0.9		2959	1717.92	Si	2.71	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	fin.	145.82	-2045	-0.0000734	0.0001872	0.0035	0.9		2959	1717.92	Si	11.78	Si
SLU 78	ini.	626.3	-2756	-0.0003584	0.0001872	0.0035	0.9		2959	1717.92	Si	2.74	Si
SLU 78	fin.	163.14	-2089	-0.0000824	0.0001872	0.0035	0.9		2959	1717.92	Si	10.53	Si
SLU 80	ini.	622.56	-2735	-0.0003559	0.0001872	0.0035	0.9		2959	1717.92	Si	2.76	Si
SLU 80	fin.	159.1	-2068	-0.0000803	0.0001872	0.0035	0.9		2959	1717.92	Si	10.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 48	ini.	604.14	-1237	0.9	0	1750	7137	3773	2295	2625	Si	2.12	Si
SLU 48	fin.	29.51	-479	0.9	0	1750	7137	3773	2295	2625	Si	5.48	Si
SLU 74	ini.	634.1	-1217	0.9	0	1750	7137	3773	2295	2625	Si	2.16	Si
SLU 74	fin.	145.82	-160	0.9	0	1750	7137	3773	2295	2625	Si	16.43	Si
SLU 69	ini.	638.63	-1269	0.9	0	1750	7137	3773	2295	2625	Si	2.07	Si
SLU 69	fin.	94.44	-311	0.9	0	1750	7137	3773	2295	2625	Si	8.44	Si
SLU 66	ini.	626.4	-1244	0.9	0	1750	7137	3773	2295	2625	Si	2.11	Si
SLU 66	fin.	87.79	-324	0.9	0	1750	7137	3773	2295	2625	Si	8.11	Si
SLU 71	ini.	634.88	-1263	0.9	0	1750	7137	3773	2295	2625	Si	2.08	Si
SLU 71	fin.	90.41	-321	0.9	0	1750	7137	3773	2295	2625	Si	8.17	Si
SLU 77	ini.	646.33	-1243	0.9	0	1750	7137	3773	2295	2625	Si	2.11	Si
SLU 77	fin.	152.47	-147	0.9	0	1750	7137	3773	2295	2625	Si	17.8	Si
SLU 45	ini.	591.91	-1211	0.9	0	1750	7137	3773	2295	2625	Si	2.17	Si
SLU 45	fin.	22.86	-491	0.9	0	1750	7137	3773	2295	2625	Si	5.35	Si
SLU 64	ini.	610.42	-1212	0.9	0	1750	7137	3773	2295	2625	Si	2.17	Si
SLU 64	fin.	77.11	-346	0.9	0	1750	7137	3773	2295	2625	Si	7.59	Si
SLU 50	ini.	600.4	-1230	0.9	0	1750	7137	3773	2295	2625	Si	2.13	Si
SLU 50	fin.	25.47	-489	0.9	0	1750	7137	3773	2295	2625	Si	5.37	Si
SLU 79	ini.	642.58	-1236	0.9	0	1750	7137	3773	2295	2625	Si	2.12	Si
SLU 79	fin.	148.43	-157	0.9	0	1750	7137	3773	2295	2625	Si	16.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1198.08	-2301	-0.0007433	0.0002807	0.0035	0.9		2989.59	2989.59		2.5	Si
SLV 1	fin.	-1002.01	779	-0.0005937	0.0002807	0.0035	0.9		2995.37	2995.37		2.99	Si
SLD 7	ini.	1362.65	-3833	-0.0008766	0.0002807	0.0035	0.9		2989.59	2989.59		2.19	Si
SLD 7	fin.	-512.61	-1242	-0.0002723	0.0002807	0.0035	0.9		2995.37	2995.37		5.84	Si
SLV 14	ini.	-910.77	58	-0.0005285	0.0002807	0.0035	0.9		2995.37	2995.37		3.29	Si
SLV 14	fin.	1423.36	-3147	-0.000928	0.0002807	0.0035	0.9		2989.59	2989.59		2.1	Si
SLD 8	ini.	1227.48	-3627	-0.0007665	0.0002807	0.0035	0.9		2989.59	2989.59		2.44	Si
SLD 8	fin.	-382.49	-1410	-0.0001982	0.0002807	0.0035	0.9		2995.37	2995.37		7.83	Si
SLD 3	ini.	1334.91	-3158	-0.0008536	0.0002807	0.0035	0.9		2989.59	2989.59		2.24	Si
SLD 3	fin.	-804.68	-184	-0.0004558	0.0002807	0.0035	0.9		2995.37	2995.37		3.72	Si
SLV 8	ini.	1692.81	-4686	-0.0011723	0.0002807	0.0035	0.9		2989.59	2989.59		1.77	Si
SLV 8	fin.	-648.8	-1468	-0.0003547	0.0002807	0.0035	0.9		2995.37	2995.37		4.62	Si
SLV 11	ini.	1372.3	-4453	-0.0008847	0.0002807	0.0035	0.9		2989.59	2989.59		2.18	Si
SLV 11	fin.	-221.68	-2260	-0.0001118	0.0002807	0.0035	0.9		2995.37	2995.37		13.51	Si
SLV 4	ini.	1518.4	-3404	-0.001011	0.0002807	0.0035	0.9		2989.59	2989.59		1.97	Si
SLV 4	fin.	-991.38	68	-0.000586	0.0002807	0.0035	0.9		2995.37	2995.37		3.02	Si
SLV 3	ini.	1839.11	-3892	-0.001318	0.0002807	0.0035	0.9		2989.59	2989.59		1.63	Si
SLV 3	fin.	-1300.13	465	-0.000823	0.0002807	0.0035	0.9		2995.37	2995.37		2.3	Si
SLV 7	ini.	1908.74	-5014	-0.0013913	0.0002807	0.0035	0.9		2989.59	2989.59		1.57	Si
SLV 7	fin.	-856.67	-1201	-0.000491	0.0002807	0.0035	0.9		2995.37	2995.37		3.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-910.77	3507	0.9	0	2577	7137	5660	2295	7955		2.27	Si
SLV 14	fin.	1423.36	4543	0.9	0	2577	7137	5660	2295	7955		1.75	Si
SLV 7	ini.	1908.74	-5124	0.9	0	2577	7137	5660	2295	7955		1.55	Si
SLV 7	fin.	-856.67	-4106	0.9	0	2577	7137	5660	2295	7955		1.94	Si
SLV 10	ini.	-980.39	3290	0.9	0	2577	7137	5660	2295	7955		2.42	Si
SLV 10	fin.	979.91	3594	0.9	0	2577	7137	5660	2295	7955		2.21	Si
SLD 3	ini.	1334.91	-3725	0.9	0	2577	7137	5660	2295	7955		2.14	Si
SLD 3	fin.	-804.68	-3307	0.9	0	2577	7137	5660	2295	7955		2.41	Si
SLV 1	ini.	1198.08	-3568	0.9	0	2577	7137	5660	2295	7955		2.23	Si
SLV 1	fin.	-1002.01	-3596	0.9	0	2577	7137	5660	2295	7955		2.21	Si
SLV 13	ini.	-590.05	2486	0.9	0	2577	7137	5660	2295	7955		3.2	Si
SLV 13	fin.	1114.62	3487	0.9	0	2577	7137	5660	2295	7955		2.28	Si
SLV 4	ini.	1518.4	-4320	0.9	0	2577	7137	5660	2295	7955		1.84	Si
SLV 4	fin.	-991.38	-3999	0.9	0	2577	7137	5660	2295	7955		1.99	Si
SLV 3	ini.	1839.11	-5341	0.9	0	2577	7137	5660	2295	7955		1.49	Si
SLV 3	fin.	-1300.13	-5055	0.9	0	2577	7137	5660	2295	7955		1.57	Si
SLV 8	ini.	1692.81	-4437	0.9	0	2577	7137	5660	2295	7955		1.79	Si
SLV 8	fin.	-648.8	-3395	0.9	0	2577	7137	5660	2295	7955		2.34	Si
SLD 7	ini.	1362.65	-3544	0.9	0	2577	7137	5660	2295	7955		2.24	Si
SLD 7	fin.	-512.61	-2665	0.9	0	2577	7137	5660	2295	7955		2.98	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.566	SLV 7	Si
V_SLV	1.489	SLV 3	Si
PF_SLU	2.658	SLU 77	Si
V_SLU	2.068	SLU 69	Si



Trave di accoppiamento 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.013	5.951	4.39	5	0.61	-3.013	5.951	4.39	5	0.61	1	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	e _u	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	e _m	e _{m_}	e _{mu}	d _f	M _{0d}	M _{1d}	M _{Rd}	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-179.14	-895	-0.0002071	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.34	Si
SLU 78	fin.	-670.81	-2180	-0.0010179	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.43	Si
SLU 81	ini.	-178.02	-880	-0.0002057	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.37	Si
SLU 81	fin.	-666.53	-2155	-0.0010093	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.44	Si
SLU 80	ini.	-176.07	-882	-0.0002032	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.43	Si
SLU 80	fin.	-666.98	-2165	-0.0010102	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.43	Si
SLU 75	ini.	-172.55	-865	-0.0001987	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.54	Si
SLU 75	fin.	-657.48	-2132	-0.0009912	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.46	Si
SLU 79	ini.	-169.21	-872	-0.0001945	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.65	Si
SLU 79	fin.	-680.27	-2204	-0.0010371	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.41	Si
SLU 69	ini.	-120.98	-730	-0.0001354	0.0001872	0.0035	0.61		1371.37	956.67	Si	7.91	Si
SLU 69	fin.	-653.97	-2110	-0.0009842	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.46	Si
SLU 74	ini.	-165.69	-856	-0.00019	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.77	Si
SLU 74	fin.	-670.78	-2172	-0.0010178	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.43	Si
SLU 77	ini.	-172.28	-885	-0.0001984	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.55	Si
SLU 77	fin.	-684.11	-2220	-0.0010449	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.4	Si
SLU 83	ini.	-184.6	-909	-0.0002141	0.0001872	0.0035	0.61		1371.37	956.67	Si	5.18	Si
SLU 83	fin.	-679.86	-2203	-0.0010363	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.41	Si
SLU 84	ini.	-191.46	-919	-0.000223	0.0001872	0.0035	0.61		1371.37	956.67	Si	5	Si
SLU 84	fin.	-666.56	-2163	-0.0010093	0.0001872	0.0035	0.61		1371.37	956.67	Si	1.44	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	d _f	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-172.55	1089	0.61	0	1186	4837	2557	1556	1779	Si	1.63	Si
SLU 75	fin.	-657.48	-2892	0.61	0	1186	4837	2557	1556	1779	Si	0.62	No
SLU 82	ini.	-184.88	1147	0.61	0	1186	4837	2557	1556	1779	Si	1.55	Si
SLU 82	fin.	-653.23	-2891	0.61	0	1186	4837	2557	1556	1779	Si	0.62	No
SLU 79	ini.	-169.21	1084	0.61	0	1186	4837	2557	1556	1779	Si	1.64	Si
SLU 79	fin.	-680.27	-2983	0.61	0	1186	4837	2557	1556	1779	Si	0.6	No
SLU 84	ini.	-191.46	1179	0.61	0	1186	4837	2557	1556	1779	Si	1.51	Si
SLU 84	fin.	-666.56	-2949	0.61	0	1186	4837	2557	1556	1779	Si	0.6	No
SLU 77	ini.	-172.28	1097	0.61	0	1186	4837	2557	1556	1779	Si	1.62	Si
SLU 77	fin.	-684.11	-2999	0.61	0	1186	4837	2557	1556	1779	Si	0.59	No
SLU 81	ini.	-178.02	1123	0.61	0	1186	4837	2557	1556	1779	Si	1.58	Si
SLU 81	fin.	-666.53	-2940	0.61	0	1186	4837	2557	1556	1779	Si	0.61	No
SLU 74	ini.	-165.69	1065	0.61	0	1186	4837	2557	1556	1779	Si	1.67	Si
SLU 74	fin.	-670.78	-2941	0.61	0	1186	4837	2557	1556	1779	Si	0.6	No
SLU 80	ini.	-176.07	1107	0.61	0	1186	4837	2557	1556	1779	Si	1.61	Si
SLU 80	fin.	-666.98	-2934	0.61	0	1186	4837	2557	1556	1779	Si	0.61	No
SLU 83	ini.	-184.6	1155	0.61	0	1186	4837	2557	1556	1779	Si	1.54	Si
SLU 83	fin.	-679.86	-2998	0.61	0	1186	4837	2557	1556	1779	Si	0.59	No
SLU 78	ini.	-179.14	1121	0.61	0	1186	4837	2557	1556	1779	Si	1.59	Si
SLU 78	fin.	-670.81	-2951	0.61	0	1186	4837	2557	1556	1779	Si	0.6	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	598.23	1304	-0.0008242	0.0002807	0.0035	0.61		1375.47	1375.47		2.3	Si
SLV 1	fin.	-978.41	-2582	-0.0016323	0.0002807	0.0035	0.61		1379.46	1379.46		1.41	Si
SLV 7	ini.	511.05	509	-0.0006752	0.0002807	0.0035	0.61		1375.47	1375.47		2.69	Si
SLV 7	fin.	-1466.87	-4436	-0.0036721	0.0002807	0.0035	0.61		1379.46	1379.46		0.94	No
SLV 14	ini.	-956.74	-2535	-0.0015756	0.0002807	0.0035	0.61		1379.46	1379.46		1.44	Si
SLV 14	fin.	465.99	901	-0.0006022	0.0002807	0.0035	0.61		1375.47	1375.47		2.95	Si
SLV 8	ini.	372.42	189	-0.0004595	0.0002807	0.0035	0.61		1375.47	1375.47		3.69	Si
SLV 8	fin.	-1317.03	-4051	-0.0028969	0.0002807	0.0035	0.61		1379.46	1379.46		1.05	Si
SLD 7	ini.	288.9	132	-0.0003421	0.0002807	0.0035	0.61		1375.47	1375.47		4.76	Si
SLD 7	fin.	-1091.58	-3331	-0.0019664	0.0002807	0.0035	0.61		1379.46	1379.46		1.26	Si
SLD 3	ini.	473.72	783	-0.0006145	0.0002807	0.0035	0.61		1375.47	1375.47		2.9	Si
SLD 3	fin.	-1072.61	-3059	-0.0019053	0.0002807	0.0035	0.61		1379.46	1379.46		1.29	Si
SLV 11	ini.	106.34	-500	-0.0001169	0.0002807	0.0035	0.61		1375.47	1375.47		12.94	Si
SLV 11	fin.	-1100.32	-3562	-0.0019953	0.0002807	0.0035	0.61		1379.46	1379.46		1.25	Si
SLV 4	ini.	585.54	1041	-0.0008018	0.0002807	0.0035	0.61		1375.47	1375.47		2.35	Si
SLV 4	fin.	-1195.45	-3380	-0.0023446	0.0002807	0.0035	0.61		1379.46	1379.46		1.15	Si
SLD 8	ini.	202.11	-68	-0.0002303	0.0002807	0.0035	0.61		1375.47	1375.47		6.81	Si
SLD 8	fin.	-997.78	-3091	-0.0016848	0.0002807	0.0035	0.61		1379.46	1379.46		1.38	Si
SLV 3	ini.	791.45	1516	-0.0011973	0.0002807	0.0035	0.61		1375.47	1375.47		1.74	Si
SLV 3	fin.	-1418.01	-3951	-0.0034278	0.0002807	0.0035	0.61		1379.46	1379.46		0.97	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-32.29	383	0.61	0	1562	4837	3836	1556	5391		14.08	Si
SLV 12	fin.	-950.48	-3794	0.61	0	1562	4837	3836	1556	5391		1.42	Si
SLV 1	ini.	598.23	-1811	0.61	0	1562	4837	3836	1556	5391		2.98	Si
SLV 1	fin.	-978.41	-3909	0.61	0	1562	4837	3836	1556	5391		1.38	Si
SLD 7	ini.	288.9	-742	0.61	0	1562	4837	3836	1556	5391		7.26	Si
SLD 7	fin.	-1091.58	-4312	0.61	0	1562	4837	3836	1556	5391		1.25	Si
SLV 11	ini.	106.34	-110	0.61	0	1562	4837	3836	1556	5391		49.13	Si
SLV 11	fin.	-1100.32	-4334	0.61	0	1562	4837	3836	1556	5391		1.24	Si
SLD 3	ini.	473.72	-1386	0.61	0	1562	4837	3836	1556	5391		3.89	Si
SLD 3	fin.	-1072.61	-4248	0.61	0	1562	4837	3836	1556	5391		1.27	Si
SLV 8	ini.	372.42	-1063	0.61	0	1562	4837	3836	1556	5391		5.07	Si
SLV 8	fin.	-1317.03	-5145	0.61	0	1562	4837	3836	1556	5391		1.05	Si
SLV 3	ini.	791.45	-2527	0.61	0	1562	4837	3836	1556	5391		2.13	Si
SLV 3	fin.	-1418.01	-5516	0.61	0	1562	4837	3836	1556	5391		0.98	No
SLD 8	ini.	202.11	-434	0.61	0	1562	4837	3836	1556	5391		12.43	Si
SLD 8	fin.	-997.78	-3974	0.61	0	1562	4837	3836	1556	5391		1.36	Si
SLV 7	ini.	511.05	-1556	0.61	0	1562	4837	3836	1556	5391		3.47	Si
SLV 7	fin.	-1466.87	-5685	0.61	0	1562	4837	3836	1556	5391		0.95	No
SLV 4	ini.	585.54	-1795	0.61	0	1562	4837	3836	1556	5391		3	Si
SLV 4	fin.	-1195.45	-4714	0.61	0	1562	4837	3836	1556	5391		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.94	SLV 7	No
V_SLV	0.948	SLV 7	No
PF_SLU	1.398	SLU 77	Si
V_SLU	0.593	SLU 77	No

Trave di accoppiamento 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.813	5.951	5	5.9	0.9	-22.713	5.951	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-341.75	-724	-0.0001798	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.03	Si
SLU 81	fin.	667.25	-2149	-0.0003863	0.0001872	0.0035	0.9		2959	1717.92	Si	2.57	Si
SLU 75	ini.	-325.97	-742	-0.0001708	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.27	Si
SLU 75	fin.	654.22	-2125	-0.0003774	0.0001872	0.0035	0.9		2959	1717.92	Si	2.63	Si
SLU 69	ini.	-335.22	-677	-0.0001761	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.12	Si
SLU 69	fin.	659.36	-2088	-0.0003809	0.0001872	0.0035	0.9		2959	1717.92	Si	2.61	Si
SLU 74	ini.	-339.22	-732	-0.0001783	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.06	Si
SLU 74	fin.	671.18	-2160	-0.000389	0.0001872	0.0035	0.9		2959	1717.92	Si	2.56	Si
SLU 78	ini.	-321.92	-779	-0.0001685	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.34	Si
SLU 78	fin.	660.61	-2163	-0.0003817	0.0001872	0.0035	0.9		2959	1717.92	Si	2.6	Si
SLU 84	ini.	-324.45	-771	-0.0001699	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.29	Si
SLU 84	fin.	656.68	-2152	-0.000379	0.0001872	0.0035	0.9		2959	1717.92	Si	2.62	Si
SLU 83	ini.	-337.7	-760	-0.0001775	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.09	Si
SLU 83	fin.	673.64	-2187	-0.0003907	0.0001872	0.0035	0.9		2959	1717.92	Si	2.55	Si
SLU 77	ini.	-335.17	-768	-0.000176	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.13	Si
SLU 77	fin.	677.58	-2197	-0.0003934	0.0001872	0.0035	0.9		2959	1717.92	Si	2.54	Si
SLU 80	ini.	-320.42	-768	-0.0001676	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.36	Si
SLU 80	fin.	655.26	-2143	-0.0003781	0.0001872	0.0035	0.9		2959	1717.92	Si	2.62	Si
SLU 79	ini.	-333.67	-757	-0.0001752	0.0001872	0.0035	0.9		2964.67	1717.92	Si	5.15	Si
SLU 79	fin.	672.23	-2177	-0.0003897	0.0001872	0.0035	0.9		2959	1717.92	Si	2.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-333.72	1077	0.9	0	1750	7137	3773	2295	2625	Si	2.44	Si
SLU 71	fin.	654.01	2563	0.9	0	1750	7137	3773	2295	2625	Si	1.02	Si
SLU 81	ini.	-341.75	1142	0.9	0	1750	7137	3773	2295	2625	Si	2.3	Si
SLU 81	fin.	667.25	2576	0.9	0	1750	7137	3773	2295	2625	Si	1.02	Si
SLU 80	ini.	-320.42	1045	0.9	0	1750	7137	3773	2295	2625	Si	2.51	Si
SLU 80	fin.	655.26	2550	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 66	ini.	-339.27	1098	0.9	0	1750	7137	3773	2295	2625	Si	2.39	Si
SLU 66	fin.	652.96	2559	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 83	ini.	-337.7	1118	0.9	0	1750	7137	3773	2295	2625	Si	2.35	Si
SLU 83	fin.	673.64	2608	0.9	0	1750	7137	3773	2295	2625	Si	1.01	Si
SLU 69	ini.	-335.22	1075	0.9	0	1750	7137	3773	2295	2625	Si	2.44	Si
SLU 69	fin.	659.36	2591	0.9	0	1750	7137	3773	2295	2625	Si	1.01	Si
SLU 78	ini.	-321.92	1043	0.9	0	1750	7137	3773	2295	2625	Si	2.52	Si
SLU 78	fin.	660.61	2578	0.9	0	1750	7137	3773	2295	2625	Si	1.02	Si
SLU 74	ini.	-339.22	1111	0.9	0	1750	7137	3773	2295	2625	Si	2.36	Si
SLU 74	fin.	671.18	2613	0.9	0	1750	7137	3773	2295	2625	Si	1	Si
SLU 77	ini.	-335.17	1087	0.9	0	1750	7137	3773	2295	2625	Si	2.41	Si
SLU 77	fin.	677.58	2645	0.9	0	1750	7137	3773	2295	2625	Si	0.99	No
SLU 79	ini.	-333.67	1089	0.9	0	1750	7137	3773	2295	2625	Si	2.41	Si
SLU 79	fin.	672.23	2617	0.9	0	1750	7137	3773	2295	2625	Si	1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-1424.6	632	-0.0009268	0.0002807	0.0035	0.9		2995.37	2995.37		2.1	Si
SLV 12	fin.	1937.22	-4349	-0.0014221	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si
SLV 15	ini.	-1143.56	720	-0.0006993	0.0002807	0.0035	0.9		2995.37	2995.37		2.62	Si
SLV 15	fin.	1477.64	-3182	-0.000975	0.0002807	0.0035	0.9		2989.59	2989.59		2.02	Si
SLD 11	ini.	-857.7	46	-0.0004917	0.0002807	0.0035	0.9		2995.37	2995.37		3.49	Si
SLD 11	fin.	1251.73	-3052	-0.0007859	0.0002807	0.0035	0.9		2989.59	2989.59		2.39	Si
SLV 11	ini.	-1217.45	342	-0.0007568	0.0002807	0.0035	0.9		2995.37	2995.37		2.46	Si
SLV 11	fin.	1713.94	-3985	-0.0011927	0.0002807	0.0035	0.9		2989.59	2989.59		1.74	Si
SLV 16	ini.	-1451.24	1150	-0.0009497	0.0002807	0.0035	0.9		2995.37	2995.37		2.06	Si
SLV 16	fin.	1809.28	-3723	-0.0012874	0.0002807	0.0035	0.9		2989.59	2989.59		1.65	Si
SLD 12	ini.	-987.38	228	-0.0005831	0.0002807	0.0035	0.9		2995.37	2995.37		3.03	Si
SLD 12	fin.	1391.5	-3280	-0.0009009	0.0002807	0.0035	0.9		2989.59	2989.59		2.15	Si
SLV 14	ini.	-957.49	805	-0.0005616	0.0002807	0.0035	0.9		2995.37	2995.37		3.13	Si
SLV 14	fin.	1156.41	-2360	-0.0007109	0.0002807	0.0035	0.9		2989.59	2989.59		2.59	Si
SLD 16	ini.	-1016.62	568	-0.0006043	0.0002807	0.0035	0.9		2995.37	2995.37		2.95	Si
SLD 16	fin.	1325.83	-2913	-0.0008461	0.0002807	0.0035	0.9		2989.59	2989.59		2.25	Si
SLV 8	ini.	-951.11	-98	-0.0005571	0.0002807	0.0035	0.9		2995.37	2995.37		3.15	Si
SLV 8	fin.	1440.45	-3599	-0.0009427	0.0002807	0.0035	0.9		2989.59	2989.59		2.08	Si
SLV 7	ini.	-743.96	-388	-0.0004156	0.0002807	0.0035	0.9		2995.37	2995.37		4.03	Si
SLV 7	fin.	1217.17	-3235	-0.0007584	0.0002807	0.0035	0.9		2989.59	2989.59		2.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-743.96	2362	0.9	0	2625	7137	5660	2295	7955		3.37	Si
SLV 7	fin.	1217.17	4911	0.9	0	2625	7137	5659	2295	7954		1.62	Si
SLD 8	ini.	-684.93	2247	0.9	0	2625	7137	5660	2295	7955		3.54	Si
SLD 8	fin.	1074.26	4274	0.9	0	2625	7137	5659	2295	7954		1.86	Si
SLD 16	ini.	-1016.62	3734	0.9	0	2625	7137	5660	2295	7955		2.13	Si
SLD 16	fin.	1325.83	4997	0.9	0	2625	7137	5659	2295	7954		1.59	Si
SLV 8	ini.	-951.11	3123	0.9	0	2625	7137	5660	2295	7955		2.55	Si
SLV 8	fin.	1440.45	5755	0.9	0	2625	7137	5659	2295	7954		1.38	Si
SLD 12	ini.	-987.38	3439	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLD 12	fin.	1391.5	5409	0.9	0	2625	7137	5659	2295	7954		1.47	Si
SLV 11	ini.	-1217.45	4229	0.9	0	2625	7137	5660	2295	7955		1.88	Si
SLV 11	fin.	1713.94	6690	0.9	0	2625	7137	5659	2295	7954		1.19	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 11	ini.	-857.7	2962	0.9	0	2625	7137	5660	2295	7955		2.69	Si
SLD 11	fin.	1251.73	4881	0.9	0	2625	7137	5659	2295	7954		1.63	Si
SLV 15	ini.	-1143.56	4254	0.9	0	2625	7137	5660	2295	7955		1.87	Si
SLV 15	fin.	1477.64	5535	0.9	0	2625	7137	5659	2295	7954		1.44	Si
SLV 16	ini.	-1451.24	5385	0.9	0	2625	7137	5660	2295	7955		1.48	Si
SLV 16	fin.	1809.28	6788	0.9	0	2625	7137	5659	2295	7954		1.17	Si
SLV 12	ini.	-1424.6	4991	0.9	0	2625	7137	5660	2295	7955		1.59	Si
SLV 12	fin.	1937.22	7534	0.9	0	2625	7137	5659	2295	7954		1.06	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.543	SLV 12	Si
V_SLV	1.056	SLV 12	Si
PF_SLU	2.535	SLU 77	Si
V_SLU	0.992	SLU 77	No

Trave di accoppiamento 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.813	5.951	7.7	8.55	0.85	-22.713	5.951	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-620.2	-1778	-0.0004037	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.56	Si
SLU 77	fin.	65.84	-345	-0.0000365	0.0001872	0.0035	0.85		2650.49	1586.67	Si	24.1	Si
SLU 83	ini.	-615.93	-1770	-0.0004004	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.58	Si
SLU 83	fin.	62.24	-352	-0.0000345	0.0001872	0.0035	0.85		2650.49	1586.67	Si	25.49	Si
SLU 69	ini.	-602.11	-1667	-0.0003897	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.64	Si
SLU 69	fin.	86.56	-243	-0.0000483	0.0001872	0.0035	0.85		2650.49	1586.67	Si	18.33	Si
SLU 74	ini.	-612.09	-1741	-0.0003974	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.59	Si
SLU 74	fin.	69.66	-319	-0.0000387	0.0001872	0.0035	0.85		2650.49	1586.67	Si	22.78	Si
SLU 71	ini.	-598.19	-1648	-0.0003867	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.65	Si
SLU 71	fin.	88.02	-233	-0.0000491	0.0001872	0.0035	0.85		2650.49	1586.67	Si	18.03	Si
SLU 78	ini.	-605.01	-1753	-0.0003919	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.62	Si
SLU 78	fin.	56.67	-368	-0.0000314	0.0001872	0.0035	0.85		2650.49	1586.67	Si	28	Si
SLU 79	ini.	-616.28	-1760	-0.0004006	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.57	Si
SLU 79	fin.	67.3	-334	-0.0000374	0.0001872	0.0035	0.85		2650.49	1586.67	Si	23.58	Si
SLU 81	ini.	-607.82	-1733	-0.0003941	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.61	Si
SLU 81	fin.	66.06	-326	-0.0000367	0.0001872	0.0035	0.85		2650.49	1586.67	Si	24.02	Si
SLU 80	ini.	-601.09	-1735	-0.0003889	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.64	Si
SLU 80	fin.	58.13	-357	-0.0000322	0.0001872	0.0035	0.85		2650.49	1586.67	Si	27.3	Si
SLU 84	ini.	-600.74	-1746	-0.0003887	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.64	Si
SLU 84	fin.	53.07	-375	-0.0000294	0.0001872	0.0035	0.85		2650.49	1586.67	Si	29.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-605.01	3191	0.85	0	1653	6740	3563	2168	2479	Si	0.78	No
SLU 78	fin.	56.67	-722	0.85	0	1653	6740	3563	2168	2479	Si	3.44	Si
SLU 79	ini.	-616.28	3220	0.85	0	1653	6740	3563	2168	2479	Si	0.77	No
SLU 79	fin.	67.3	-662	0.85	0	1653	6740	3563	2168	2479	Si	3.74	Si
SLU 82	ini.	-592.64	3163	0.85	0	1653	6740	3563	2168	2479	Si	0.78	No
SLU 82	fin.	56.89	-743	0.85	0	1653	6740	3563	2168	2479	Si	3.34	Si
SLU 80	ini.	-601.09	3165	0.85	0	1653	6740	3563	2168	2479	Si	0.78	No
SLU 80	fin.	58.13	-704	0.85	0	1653	6740	3563	2168	2479	Si	3.52	Si
SLU 81	ini.	-607.82	3219	0.85	0	1653	6740	3563	2168	2479	Si	0.77	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	fin.	66.06	-701	0.85	0	1653	6740	3563	2168	2479	Si	3.54	Si
SLU 74	ini.	-612.09	3207	0.85	0	1653	6740	3563	2168	2479	Si	0.77	No
SLU 74	fin.	69.66	-653	0.85	0	1653	6740	3563	2168	2479	Si	3.8	Si
SLU 75	ini.	-596.91	3152	0.85	0	1653	6740	3563	2168	2479	Si	0.79	No
SLU 75	fin.	60.49	-695	0.85	0	1653	6740	3563	2168	2479	Si	3.57	Si
SLU 83	ini.	-615.93	3258	0.85	0	1653	6740	3563	2168	2479	Si	0.76	No
SLU 83	fin.	62.24	-728	0.85	0	1653	6740	3563	2168	2479	Si	3.41	Si
SLU 84	ini.	-600.74	3202	0.85	0	1653	6740	3563	2168	2479	Si	0.77	No
SLU 84	fin.	53.07	-770	0.85	0	1653	6740	3563	2168	2479	Si	3.22	Si
SLU 77	ini.	-620.2	3246	0.85	0	1653	6740	3563	2168	2479	Si	0.76	No
SLU 77	fin.	65.84	-680	0.85	0	1653	6740	3563	2168	2479	Si	3.65	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-1334.32	-2764	-0.0009855	0.0002807	0.0035	0.85		2680.73	2680.73		2.01	Si
SLV 8	fin.	566.51	1001	-0.000346	0.0002807	0.0035	0.85		2675.27	2675.27		4.72	Si
SLV 15	ini.	-1288.75	-2456	-0.0009413	0.0002807	0.0035	0.85		2680.73	2680.73		2.08	Si
SLV 15	fin.	616.17	1230	-0.000381	0.0002807	0.0035	0.85		2675.27	2675.27		4.34	Si
SLD 12	ini.	-1260.33	-2532	-0.0009141	0.0002807	0.0035	0.85		2680.73	2680.73		2.13	Si
SLD 12	fin.	559.38	1038	-0.000341	0.0002807	0.0035	0.85		2675.27	2675.27		4.78	Si
SLV 12	ini.	-1753.9	-3339	-0.0014451	0.0002807	0.0035	0.85		2680.73	2680.73		1.53	Si
SLV 12	fin.	852.94	1746	-0.0005604	0.0002807	0.0035	0.85		2675.27	2675.27		3.14	Si
SLD 11	ini.	-1130.8	-2350	-0.0007945	0.0002807	0.0035	0.85		2680.73	2680.73		2.37	Si
SLD 11	fin.	471.89	809	-0.0002818	0.0002807	0.0035	0.85		2675.27	2675.27		5.67	Si
SLV 16	ini.	-1596.09	-2887	-0.0012598	0.0002807	0.0035	0.85		2680.73	2680.73		1.68	Si
SLV 16	fin.	823.76	1772	-0.0005372	0.0002807	0.0035	0.85		2675.27	2675.27		3.25	Si
SLD 16	ini.	-1174.23	-2269	-0.0008338	0.0002807	0.0035	0.85		2680.73	2680.73		2.28	Si
SLD 16	fin.	549.1	1074	-0.0003339	0.0002807	0.0035	0.85		2675.27	2675.27		4.87	Si
SLV 14	ini.	-998.19	-1865	-0.0006787	0.0002807	0.0035	0.85		2680.73	2680.73		2.69	Si
SLV 14	fin.	483.24	973	-0.0002893	0.0002807	0.0035	0.85		2675.27	2675.27		5.54	Si
SLV 7	ini.	-1127.4	-2473	-0.0007914	0.0002807	0.0035	0.85		2680.73	2680.73		2.38	Si
SLV 7	fin.	426.75	636	-0.0002523	0.0002807	0.0035	0.85		2675.27	2675.27		6.27	Si
SLV 11	ini.	-1546.99	-3048	-0.0012055	0.0002807	0.0035	0.85		2680.73	2680.73		1.73	Si
SLV 11	fin.	713.18	1381	-0.0004521	0.0002807	0.0035	0.85		2675.27	2675.27		3.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1288.75	5220	0.85	0	2479	6740	5345	2168	7513		1.44	Si
SLV 15	fin.	616.17	2196	0.85	0	2479	6740	5345	2168	7513		3.42	Si
SLV 7	ini.	-1127.4	4826	0.85	0	2479	6740	5345	2168	7513		1.56	Si
SLV 7	fin.	426.75	1306	0.85	0	2479	6740	5345	2168	7513		5.75	Si
SLD 12	ini.	-1260.33	5222	0.85	0	2479	6740	5345	2168	7513		1.44	Si
SLD 12	fin.	559.38	1917	0.85	0	2479	6740	5345	2168	7513		3.92	Si
SLV 12	ini.	-1753.9	7009	0.85	0	2479	6740	5345	2168	7513		1.07	Si
SLV 12	fin.	852.94	3263	0.85	0	2479	6740	5345	2168	7513		2.3	Si
SLV 8	ini.	-1334.32	5565	0.85	0	2479	6740	5345	2168	7513		1.35	Si
SLV 8	fin.	566.51	1942	0.85	0	2479	6740	5345	2168	7513		3.87	Si
SLV 16	ini.	-1596.09	6318	0.85	0	2479	6740	5345	2168	7513		1.19	Si
SLV 16	fin.	823.76	3141	0.85	0	2479	6740	5345	2168	7513		2.39	Si
SLD 8	ini.	-992.26	4300	0.85	0	2479	6740	5345	2168	7513		1.75	Si
SLD 8	fin.	376.39	1073	0.85	0	2479	6740	5345	2168	7513		7	Si
SLD 11	ini.	-1130.8	4759	0.85	0	2479	6740	5345	2168	7513		1.58	Si
SLD 11	fin.	471.89	1519	0.85	0	2479	6740	5345	2168	7513		4.95	Si
SLV 11	ini.	-1546.99	6270	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 11	fin.	713.18	2626	0.85	0	2479	6740	5345	2168	7513		2.86	Si
SLD 16	ini.	-1174.23	4834	0.85	0	2479	6740	5345	2168	7513		1.55	Si
SLD 16	fin.	549.1	1879	0.85	0	2479	6740	5345	2168	7513		4	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.528	SLV 12	Si
V_SLV	1.072	SLV 12	Si
PF_SLU	2.558	SLU 77	Si
V_SLU	0.761	SLU 83	No

Trave di accoppiamento 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.593	-3.359	5	5.9	0.9	-22.493	-3.359	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ϵ_c CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_s ,fd	γ_F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	11.43	-1321	-0.0000056	0.0001872	0.0035	0.9		2959	1717.92	Si	150.3	Si
SLU 70	fin.	488.86	-2073	-0.0002687	0.0001872	0.0035	0.9		2959	1717.92	Si	3.51	Si
SLU 67	ini.	6.84	-1291	-0.0000033	0.0001872	0.0035	0.9		2959	1717.92	Si	251.21	Si
SLU 67	fin.	483.65	-2042	-0.0002654	0.0001872	0.0035	0.9		2959	1717.92	Si	3.55	Si
SLU 76	ini.	47.4	-1453	-0.0000234	0.0001872	0.0035	0.9		2959	1717.92	Si	36.24	Si
SLU 76	fin.	478.51	-2127	-0.0002622	0.0001872	0.0035	0.9		2959	1717.92	Si	3.59	Si
SLU 69	ini.	18.52	-1331	-0.0000091	0.0001872	0.0035	0.9		2959	1717.92	Si	92.76	Si
SLU 69	fin.	479.6	-2057	-0.0002629	0.0001872	0.0035	0.9		2959	1717.92	Si	3.58	Si
SLU 80	ini.	56.72	-1490	-0.0000028	0.0001872	0.0035	0.9		2959	1717.92	Si	30.29	Si
SLU 80	fin.	477.55	-2148	-0.0002616	0.0001872	0.0035	0.9		2959	1717.92	Si	3.6	Si
SLU 71	ini.	14.81	-1312	-0.0000073	0.0001872	0.0035	0.9		2959	1717.92	Si	115.97	Si
SLU 71	fin.	477.69	-2041	-0.0002617	0.0001872	0.0035	0.9		2959	1717.92	Si	3.6	Si
SLU 65	ini.	-6.19	-1235	-0.0000003	0.0001872	0.0035	0.9		2964.67	1717.92	Si	277.68	Si
SLU 65	fin.	482.7	-2005	-0.0002649	0.0001872	0.0035	0.9		2959	1717.92	Si	3.56	Si
SLU 68	ini.	-1.59	-1265	-0.0000008	0.0001872	0.0035	0.9		2964.67	1717.92	Si	1077.19	Si
SLU 68	fin.	487.91	-2037	-0.0002681	0.0001872	0.0035	0.9		2959	1717.92	Si	3.52	Si
SLU 78	ini.	60.43	-1509	-0.0000299	0.0001872	0.0035	0.9		2959	1717.92	Si	28.43	Si
SLU 78	fin.	479.46	-2164	-0.0002628	0.0001872	0.0035	0.9		2959	1717.92	Si	3.58	Si
SLU 72	ini.	7.72	-1302	-0.0000038	0.0001872	0.0035	0.9		2959	1717.92	Si	222.43	Si
SLU 72	fin.	486.95	-2057	-0.0002675	0.0001872	0.0035	0.9		2959	1717.92	Si	3.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-1.59	114	0.9	0	1750	7137	3773	2295	2625	Si	23.01	Si
SLU 68	fin.	487.91	1743	0.9	0	1750	7137	3773	2295	2625	Si	1.51	Si
SLU 69	ini.	18.52	31	0.9	0	1750	7137	3773	2295	2625	Si	85.48	Si
SLU 69	fin.	479.6	1717	0.9	0	1750	7137	3773	2295	2625	Si	1.53	Si
SLU 67	ini.	6.84	80	0.9	0	1750	7137	3773	2295	2625	Si	32.96	Si
SLU 67	fin.	483.65	1729	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 47	ini.	-42.53	246	0.9	0	1750	7137	3773	2295	2625	Si	10.68	Si
SLU 47	fin.	473.9	1724	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 46	ini.	-34.1	211	0.9	0	1750	7137	3773	2295	2625	Si	12.42	Si
SLU 46	fin.	469.65	1709	0.9	0	1750	7137	3773	2295	2625	Si	1.54	Si
SLU 49	ini.	-29.51	188	0.9	0	1750	7137	3773	2295	2625	Si	13.94	Si
SLU 49	fin.	474.85	1734	0.9	0	1750	7137	3773	2295	2625	Si	1.51	Si
SLU 51	ini.	-33.21	206	0.9	0	1750	7137	3773	2295	2625	Si	12.77	Si
SLU 51	fin.	472.94	1724	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 70	ini.	11.43	57	0.9	0	1750	7137	3773	2295	2625	Si	46.41	Si
SLU 70	fin.	488.86	1753	0.9	0	1750	7137	3773	2295	2625	Si	1.5	Si
SLU 72	ini.	7.72	74	0.9	0	1750	7137	3773	2295	2625	Si	35.57	Si
SLU 72	fin.	486.95	1743	0.9	0	1750	7137	3773	2295	2625	Si	1.51	Si
SLU 65	ini.	-6.19	137	0.9	0	1750	7137	3773	2295	2625	Si	19.13	Si
SLU 65	fin.	482.7	1719	0.9	0	1750	7137	3773	2295	2625	Si	1.53	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	1081.76	-2572	-0.000654	0.0002807	0.0035	0.9		2989.59	2989.59		2.76	Si
SLV 3	fin.	-780.75	407	-0.0004398	0.0002807	0.0035	0.9		2995.37	2995.37		3.84	Si
SLD 13	ini.	-875.85	350	-0.0005042	0.0002807	0.0035	0.9		2995.37	2995.37		3.42	Si
SLD 13	fin.	1288.89	-3099	-0.0008158	0.0002807	0.0035	0.9		2989.59	2989.59		2.32	Si
SLD 9	ini.	-673.07	-196	-0.00037	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLD 9	fin.	1186.95	-3173	-0.0007346	0.0002807	0.0035	0.9		2989.59	2989.59		2.52	Si
SLV 15	ini.	-976.84	756	-0.0005755	0.0002807	0.0035	0.9		2995.37	2995.37		3.07	Si
SLV 15	fin.	1278.24	-2824	-0.0008072	0.0002807	0.0035	0.9		2989.59	2989.59		2.34	Si
SLV 14	ini.	-1063.09	633	-0.0006386	0.0002807	0.0035	0.9		2995.37	2995.37		2.82	Si
SLV 14	fin.	1488.11	-3431	-0.0009842	0.0002807	0.0035	0.9		2989.59	2989.59		2.01	Si
SLV 4	ini.	1398.73	-3038	-0.000907	0.0002807	0.0035	0.9		2989.59	2989.59		2.14	Si
SLV 4	fin.	-1117.07	989	-0.0006791	0.0002807	0.0035	0.9		2995.37	2995.37		2.68	Si
SLV 10	ini.	-864.79	-56	-0.0004966	0.0002807	0.0035	0.9		2995.37	2995.37		3.46	Si
SLV 10	fin.	1459.62	-3783	-0.0009593	0.0002807	0.0035	0.9		2989.59	2989.59		2.05	Si
SLV 9	ini.	-1078.19	257	-0.0006498	0.0002807	0.0035	0.9		2995.37	2995.37		2.78	Si
SLV 9	fin.	1686.05	-4175	-0.0011658	0.0002807	0.0035	0.9		2989.59	2989.59		1.77	Si
SLV 8	ini.	1096.86	-2196	-0.0006654	0.0002807	0.0035	0.9		2989.59	2989.59		2.73	Si
SLV 8	fin.	-978.7	1151	-0.0005768	0.0002807	0.0035	0.9		2995.37	2995.37		3.06	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1380.06	1098	-0.0008891	0.0002807	0.0035	0.9		2995.37	2995.37		2.17	Si
SLV 13	fin.	1824.43	-4013	-0.0013029	0.0002807	0.0035	0.9		2989.59	2989.59		1.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1380.06	5485	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 13	fin.	1824.43	6701	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 10	ini.	-864.79	3314	0.9	0	2625	7137	5660	2295	7955		2.4	Si
SLV 10	fin.	1459.62	5584	0.9	0	2625	7137	5660	2295	7955		1.42	Si
SLV 9	ini.	-1078.19	4125	0.9	0	2625	7137	5660	2295	7955		1.93	Si
SLV 9	fin.	1686.05	6428	0.9	0	2625	7137	5660	2295	7955		1.24	Si
SLV 15	ini.	-976.84	4024	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLV 15	fin.	1278.24	4520	0.9	0	2625	7137	5660	2295	7955		1.76	Si
SLD 13	ini.	-875.85	3510	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLD 13	fin.	1288.89	4714	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLV 3	ini.	1081.76	-4167	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 3	fin.	-780.75	-2945	0.9	0	2625	7137	5660	2295	7955		2.7	Si
SLV 4	ini.	1398.73	-5372	0.9	0	2625	7137	5660	2295	7955		1.48	Si
SLV 4	fin.	-1117.07	-4198	0.9	0	2625	7137	5660	2295	7955		1.89	Si
SLV 5	ini.	-460.61	1668	0.9	0	2625	7137	5660	2295	7955		4.77	Si
SLV 5	fin.	1068.35	4189	0.9	0	2625	7137	5660	2295	7955		1.9	Si
SLV 14	ini.	-1063.09	4279	0.9	0	2625	7137	5660	2295	7955		1.86	Si
SLV 14	fin.	1488.11	5448	0.9	0	2625	7137	5660	2295	7955		1.46	Si
SLD 9	ini.	-673.07	2605	0.9	0	2625	7137	5660	2295	7955		3.05	Si
SLD 9	fin.	1186.95	4485	0.9	0	2625	7137	5660	2295	7955		1.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.639	SLV 13	Si
V_SLV	1.187	SLV 13	Si
PF_SLU	3.514	SLU 70	Si
V_SLU	1.497	SLU 70	Si

Trave di accoppiamento 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.593	-3.359	7.7	8.55	0.85	-22.493	-3.359	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-538.9	-2477	-0.0003419	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.94	Si
SLU 73	fin.	27.23	-946	-0.0000015	0.0001872	0.0035	0.85		2650.49	1586.67	Si	58.27	Si
SLU 78	ini.	-554.33	-2565	-0.0003534	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.86	Si
SLU 78	fin.	10.68	-1030	-0.0000059	0.0001872	0.0035	0.85		2650.49	1586.67	Si	148.6	Si
SLU 79	ini.	-543.15	-2518	-0.000345	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.92	Si
SLU 79	fin.	4.08	-1028	-0.0000022	0.0001872	0.0035	0.85		2650.49	1586.67	Si	388.47	Si
SLU 83	ini.	-543.19	-2534	-0.0003451	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.92	Si
SLU 83	fin.	-12.88	-1078	-0.0000071	0.0001872	0.0035	0.85		2655.83	1586.67	Si	123.14	Si
SLU 84	ini.	-550.66	-2560	-0.0003506	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.88	Si
SLU 84	fin.	-3.08	-1063	-0.0000017	0.0001872	0.0035	0.85		2655.83	1586.67	Si	514.38	Si
SLU 82	ini.	-542.31	-2518	-0.0003444	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.93	Si
SLU 82	fin.	0.32	-1035	-0.0000002	0.0001872	0.0035	0.85		2650.49	1586.67	Si	4921	Si
SLU 76	ini.	-547.25	-2519	-0.0003481	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.9	Si
SLU 76	fin.	23.82	-974	-0.0000131	0.0001872	0.0035	0.85		2650.49	1586.67	Si	66.6	Si
SLU 80	ini.	-550.62	-2544	-0.0003506	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.88	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	fin.	13.88	-1013	-0.0000076	0.0001872	0.0035	0.85		2650.49	1586.67	Si	114.28	Si
SLU 77	ini.	-546.86	-2538	-0.0003478	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.9	Si
SLU 77	fin.	0.88	-1046	-0.0000005	0.0001872	0.0035	0.85		2650.49	1586.67	Si	1807.64	Si
SLU 75	ini.	-545.98	-2522	-0.0003471	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.91	Si
SLU 75	fin.	14.08	-1002	-0.0000077	0.0001872	0.0035	0.85		2650.49	1586.67	Si	112.65	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-543.19	3940	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 83	fin.	-12.88	-777	0.85	0	1653	6740	3563	2168	2479	Si	3.19	Si
SLU 80	ini.	-550.62	3946	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 80	fin.	13.88	-653	0.85	0	1653	6740	3563	2168	2479	Si	3.8	Si
SLU 76	ini.	-547.25	3907	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 76	fin.	23.82	-602	0.85	0	1653	6740	3563	2168	2479	Si	4.12	Si
SLU 77	ini.	-546.86	3938	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 77	fin.	0.88	-710	0.85	0	1653	6740	3563	2168	2479	Si	3.49	Si
SLU 84	ini.	-550.66	3978	0.85	0	1653	6740	3563	2168	2479	Si	0.62	No
SLU 84	fin.	-3.08	-737	0.85	0	1653	6740	3563	2168	2479	Si	3.36	Si
SLU 78	ini.	-554.33	3976	0.85	0	1653	6740	3563	2168	2479	Si	0.62	No
SLU 78	fin.	10.68	-671	0.85	0	1653	6740	3563	2168	2479	Si	3.7	Si
SLU 81	ini.	-534.83	3876	0.85	0	1653	6740	3563	2168	2479	Si	0.64	No
SLU 81	fin.	-9.48	-752	0.85	0	1653	6740	3563	2168	2479	Si	3.3	Si
SLU 79	ini.	-543.15	3907	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 79	fin.	4.08	-692	0.85	0	1653	6740	3563	2168	2479	Si	3.58	Si
SLU 75	ini.	-545.98	3912	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 75	fin.	14.08	-646	0.85	0	1653	6740	3563	2168	2479	Si	3.84	Si
SLU 82	ini.	-542.31	3915	0.85	0	1653	6740	3563	2168	2479	Si	0.63	No
SLU 82	fin.	0.32	-712	0.85	0	1653	6740	3563	2168	2479	Si	3.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1278.25	-4743	-0.0009312	0.0002807	0.0035	0.85		2680.73	2680.73		2.1	Si
SLV 13	fin.	1272.37	1439	-0.0009279	0.0002807	0.0035	0.85		2675.27	2675.27		2.1	Si
SLV 15	ini.	-904.49	-3390	-0.0006007	0.0002807	0.0035	0.85		2680.73	2680.73		2.96	Si
SLV 15	fin.	855.26	893	-0.0005623	0.0002807	0.0035	0.85		2675.27	2675.27		3.13	Si
SLV 10	ini.	-1118.91	-4361	-0.0007838	0.0002807	0.0035	0.85		2680.73	2680.73		2.4	Si
SLV 10	fin.	900.62	594	-0.0005989	0.0002807	0.0035	0.85		2675.27	2675.27		2.97	Si
SLV 3	ini.	295.59	525	-0.0001701	0.0002807	0.0035	0.85		2675.27	2675.27		9.05	Si
SLV 3	fin.	-901.42	-2190	-0.0005982	0.0002807	0.0035	0.85		2680.73	2680.73		2.97	Si
SLV 4	ini.	505.21	1231	-0.000304	0.0002807	0.0035	0.85		2675.27	2675.27		5.3	Si
SLV 4	fin.	-1192.52	-2673	-0.0008506	0.0002807	0.0035	0.85		2680.73	2680.73		2.25	Si
SLD 9	ini.	-932.11	-3678	-0.0006233	0.0002807	0.0035	0.85		2680.73	2680.73		2.88	Si
SLD 9	fin.	701.6	348	-0.0004434	0.0002807	0.0035	0.85		2675.27	2675.27		3.81	Si
SLV 14	ini.	-1068.64	-4037	-0.0007394	0.0002807	0.0035	0.85		2680.73	2680.73		2.51	Si
SLV 14	fin.	981.27	956	-0.000666	0.0002807	0.0035	0.85		2675.27	2675.27		2.73	Si
SLV 9	ini.	-1260.04	-4836	-0.0009138	0.0002807	0.0035	0.85		2680.73	2680.73		2.13	Si
SLV 9	fin.	1096.61	919	-0.0007659	0.0002807	0.0035	0.85		2675.27	2675.27		2.44	Si
SLV 8	ini.	487	1324	-0.0002918	0.0002807	0.0035	0.85		2675.27	2675.27		5.49	Si
SLV 8	fin.	-1016.76	-2153	-0.0006945	0.0002807	0.0035	0.85		2680.73	2680.73		2.64	Si
SLD 13	ini.	-953.04	-3653	-0.0006407	0.0002807	0.0035	0.85		2680.73	2680.73		2.81	Si
SLD 13	fin.	824.1	693	-0.0005375	0.0002807	0.0035	0.85		2675.27	2675.27		3.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	505.21	-2028	0.85	0	2479	6740	5345	2168	7513		3.7	Si
SLV 4	fin.	-1192.52	-5145	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLV 10	ini.	-1118.91	6693	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLV 10	fin.	900.62	2999	0.85	0	2479	6740	5345	2168	7513		2.5	Si
SLV 9	ini.	-1260.04	7438	0.85	0	2479	6740	5345	2168	7513		1.01	Si
SLV 9	fin.	1096.61	3759	0.85	0	2479	6740	5345	2168	7513		2	Si
SLD 9	ini.	-932.11	5665	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLD 9	fin.	701.6	2233	0.85	0	2479	6740	5345	2168	7513		3.36	Si
SLD 10	ini.	-843.77	5199	0.85	0	2479	6740	5345	2168	7513		1.45	Si
SLD 10	fin.	578.91	1757	0.85	0	2479	6740	5345	2168	7513		4.27	Si
SLV 14	ini.	-1068.64	6359	0.85	0	2479	6740	5345	2168	7513		1.18	Si
SLV 14	fin.	981.27	3377	0.85	0	2479	6740	5345	2168	7513		2.22	Si
SLD 13	ini.	-953.04	5731	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLD 13	fin.	824.1	2750	0.85	0	2479	6740	5345	2168	7513		2.73	Si
SLV 15	ini.	-904.49	5429	0.85	0	2479	6740	5345	2168	7513		1.38	Si
SLV 15	fin.	855.26	2911	0.85	0	2479	6740	5345	2168	7513		2.58	Si
SLV 5	ini.	-900.02	5533	0.85	0	2479	6740	5345	2168	7513		1.36	Si
SLV 5	fin.	569.6	1681	0.85	0	2479	6740	5345	2168	7513		4.47	Si
SLV 13	ini.	-1278.25	7466	0.85	0	2479	6740	5345	2168	7513		1.01	Si
SLV 13	fin.	1272.37	4506	0.85	0	2479	6740	5345	2168	7513		1.67	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.097	SLV 13	Si
V_SLV	1.006	SLV 13	Si
PF_SLU	2.862	SLU 78	Si
V_SLU	0.623	SLU 84	No



Trave di accoppiamento 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	5	7	2	-19.368	-3.359	5	7	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-1446.81	-3714	-0.0001522	0.0001872	0.0035	2		14357.01	4605.42	Si	3.18	Si
SLU 82	fin.	1469.05	-3714	-0.0001548	0.0001872	0.0035	2		14344.28	4605.42	Si	3.13	Si
SLU 84	ini.	-1470.79	-3792	-0.0001549	0.0001872	0.0035	2		14357.01	4605.42	Si	3.13	Si
SLU 84	fin.	1482.81	-3792	-0.0001564	0.0001872	0.0035	2		14344.28	4605.42	Si	3.11	Si
SLU 75	ini.	-1458.72	-3742	-0.0001535	0.0001872	0.0035	2		14357.01	4605.42	Si	3.16	Si
SLU 75	fin.	1439.89	-3742	-0.0001515	0.0001872	0.0035	2		14344.28	4605.42	Si	3.2	Si
SLU 78	ini.	-1482.69	-3821	-0.0001562	0.0001872	0.0035	2		14357.01	4605.42	Si	3.11	Si
SLU 78	fin.	1453.65	-3821	-0.0001531	0.0001872	0.0035	2		14344.28	4605.42	Si	3.17	Si
SLU 81	ini.	-1418.91	-3654	-0.000149	0.0001872	0.0035	2		14357.01	4605.42	Si	3.25	Si
SLU 81	fin.	1458.52	-3654	-0.0001536	0.0001872	0.0035	2		14344.28	4605.42	Si	3.16	Si
SLU 76	ini.	-1464.92	-3739	-0.0001542	0.0001872	0.0035	2		14357.01	4605.42	Si	3.14	Si
SLU 76	fin.	1440.89	-3739	-0.0001516	0.0001872	0.0035	2		14344.28	4605.42	Si	3.2	Si
SLU 77	ini.	-1454.79	-3761	-0.0001531	0.0001872	0.0035	2		14357.01	4605.42	Si	3.17	Si
SLU 77	fin.	1443.12	-3761	-0.0001519	0.0001872	0.0035	2		14344.28	4605.42	Si	3.19	Si
SLU 79	ini.	-1442.39	-3718	-0.0001517	0.0001872	0.0035	2		14357.01	4605.42	Si	3.19	Si
SLU 79	fin.	1437.1	-3718	-0.0001512	0.0001872	0.0035	2		14344.28	4605.42	Si	3.2	Si
SLU 83	ini.	-1442.88	-3733	-0.0001517	0.0001872	0.0035	2		14357.01	4605.42	Si	3.19	Si
SLU 83	fin.	1472.28	-3733	-0.0001552	0.0001872	0.0035	2		14344.28	4605.42	Si	3.13	Si
SLU 80	ini.	-1470.29	-3778	-0.0001548	0.0001872	0.0035	2		14357.01	4605.42	Si	3.13	Si
SLU 80	fin.	1447.63	-3778	-0.0001524	0.0001872	0.0035	2		14344.28	4605.42	Si	3.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-1442.88	6158	2	0	3889	3965	8384	5100	5833	Si	0.95	No
SLU 83	fin.	1472.28	5522	2	0	3889	3965	8384	5100	5833	Si	1.06	Si
SLU 78	ini.	-1482.69	6200	2	0	3889	3965	8384	5100	5833	Si	0.94	No
SLU 78	fin.	1453.65	5565	2	0	3889	3965	8384	5100	5833	Si	1.05	Si
SLU 80	ini.	-1470.29	6163	2	0	3889	3965	8384	5100	5833	Si	0.95	No
SLU 80	fin.	1447.63	5528	2	0	3889	3965	8384	5100	5833	Si	1.06	Si
SLU 75	ini.	-1458.72	6124	2	0	3889	3965	8384	5100	5833	Si	0.95	No
SLU 75	fin.	1439.89	5489	2	0	3889	3965	8384	5100	5833	Si	1.06	Si
SLU 76	ini.	-1464.92	6139	2	0	3889	3965	8384	5100	5833	Si	0.95	No
SLU 76	fin.	1440.89	5504	2	0	3889	3965	8384	5100	5833	Si	1.06	Si
SLU 79	ini.	-1442.39	6086	2	0	3889	3965	8384	5100	5833	Si	0.96	No
SLU 79	fin.	1437.1	5451	2	0	3889	3965	8384	5100	5833	Si	1.07	Si
SLU 84	ini.	-1470.79	6234	2	0	3889	3965	8384	5100	5833	Si	0.94	No
SLU 84	fin.	1482.81	5599	2	0	3889	3965	8384	5100	5833	Si	1.04	Si
SLU 82	ini.	-1446.81	6159	2	0	3889	3965	8384	5100	5833	Si	0.95	No
SLU 82	fin.	1469.05	5524	2	0	3889	3965	8384	5100	5833	Si	1.06	Si
SLU 81	ini.	-1418.91	6082	2	0	3889	3965	8384	5100	5833	Si	0.96	No
SLU 81	fin.	1458.52	5447	2	0	3889	3965	8384	5100	5833	Si	1.07	Si
SLU 77	ini.	-1454.79	6123	2	0	3889	3965	8384	5100	5833	Si	0.95	No
SLU 77	fin.	1443.12	5488	2	0	3889	3965	8384	5100	5833	Si	1.06	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-2980.82	-5352	-0.0003266	0.0002807	0.0035	2		14215.41	14215.41		4.77	Si
SLV 14	fin.	1981.57	-5280	-0.0002088	0.0002807	0.0035	2		14202.07	14202.07		7.17	Si
SLV 16	ini.	-2306.12	-3342	-0.0002457	0.0002807	0.0035	2		14215.41	14215.41		6.16	Si
SLV 16	fin.	2102.06	-3255	-0.0002224	0.0002807	0.0035	2		14202.07	14202.07		6.76	Si
SLD 15	ini.	-2148.06	-3476	-0.0002275	0.0002807	0.0035	2		14215.41	14215.41		6.62	Si
SLD 15	fin.	1906.98	-3420	-0.0002004	0.0002807	0.0035	2		14202.07	14202.07		7.45	Si
SLV 9	ini.	-2855.06	-6737	-0.0003111	0.0002807	0.0035	2		14215.41	14215.41		4.98	Si
SLV 9	fin.	1265.68	-6739	-0.0001301	0.0002807	0.0035	2		14202.07	14202.07		11.22	Si
SLV 15	ini.	-2778.1	-3967	-0.0003017	0.0002807	0.0035	2		14215.41	14215.41		5.12	Si
SLV 15	fin.	2421.89	-3879	-0.0002595	0.0002807	0.0035	2		14202.07	14202.07		5.86	Si
SLV 10	ini.	-2537.3	-6316	-0.0002728	0.0002807	0.0035	2		14215.41	14215.41		5.6	Si
SLV 10	fin.	1050.34	-6319	-0.0001072	0.0002807	0.0035	2		14202.07	14202.07		13.52	Si
SLV 13	ini.	-3452.8	-5977	-0.0003864	0.0002807	0.0035	2		14215.41	14215.41		4.12	Si
SLV 13	fin.	2301.4	-5905	-0.0002454	0.0002807	0.0035	2		14202.07	14202.07		6.17	Si
SLD 14	ini.	-2264.44	-4320	-0.0002409	0.0002807	0.0035	2		14215.41	14215.41		6.28	Si
SLD 14	fin.	1628.23	-4275	-0.0001694	0.0002807	0.0035	2		14202.07	14202.07		8.72	Si
SLD 13	ini.	-2565.69	-4719	-0.0002762	0.0002807	0.0035	2		14215.41	14215.41		5.54	Si
SLD 13	fin.	1832.37	-4673	-0.000192	0.0002807	0.0035	2		14202.07	14202.07		7.75	Si
SLD 9	ini.	-2165.23	-5153	-0.0002295	0.0002807	0.0035	2		14215.41	14215.41		6.57	Si
SLD 9	fin.	1171.63	-5155	-0.00012	0.0002807	0.0035	2		14202.07	14202.07		12.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-2537.3	7177	2	0	5833	3965	12577	5100	9798		1.37	Si
SLV 10	fin.	1050.34	6846	2	0	5833	3965	12577	5100	9798		1.43	Si
SLD 13	ini.	-2565.69	8991	2	0	5833	3965	12577	5100	9798		1.09	Si
SLD 13	fin.	1832.37	8576	2	0	5833	3965	12577	5100	9798		1.14	Si
SLD 15	ini.	-2148.06	8393	2	0	5833	3965	12577	5100	9798		1.17	Si
SLD 15	fin.	1906.98	7931	2	0	5833	3965	12577	5100	9798		1.24	Si
SLV 16	ini.	-2306.12	9120	2	0	5833	3965	12577	5100	9798		1.07	Si
SLV 16	fin.	2102.06	8671	2	0	5833	3965	12577	5100	9798		1.13	Si
SLV 14	ini.	-2980.82	10083	2	0	5833	3965	12577	5100	9798		0.97	No
SLV 14	fin.	1981.57	9713	2	0	5833	3965	12577	5100	9798		1.01	Si
SLD 16	ini.	-1846.8	7382	2	0	5833	3965	12577	5100	9798		1.33	Si
SLD 16	fin.	1702.83	6920	2	0	5833	3965	12577	5100	9798		1.42	Si
SLV 13	ini.	-3452.8	11666	2	0	5833	3965	12577	5100	9798		0.84	No
SLV 13	fin.	2301.4	11297	2	0	5833	3965	12577	5100	9798		0.87	No
SLV 9	ini.	-2855.06	8243	2	0	5833	3965	12577	5100	9798		1.19	Si
SLV 9	fin.	1265.68	7913	2	0	5833	3965	12577	5100	9798		1.24	Si
SLV 15	ini.	-2778.1	10703	2	0	5833	3965	12577	5100	9798		0.92	No
SLV 15	fin.	2421.89	10255	2	0	5833	3965	12577	5100	9798		0.96	No
SLD 14	ini.	-2264.44	7980	2	0	5833	3965	12577	5100	9798		1.23	Si
SLD 14	fin.	1628.23	7565	2	0	5833	3965	12577	5100	9798		1.3	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.117	SLV 13	Si
V_SLV	0.84	SLV 13	No
PF_SLU	3.106	SLU 84	Si
V_SLU	0.936	SLU 84	No

Trave di accoppiamento 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	7.8	8.55	0.75	-19.368	-3.359	7.8	8.55	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedlio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-451.19	-1500	-0.0003718	0.0001872	0.0035	0.75		2074.44	1324.17	Si	2.93	Si
SLU 84	fin.	25.59	-892	-0.0000181	0.0001872	0.0035	0.75		2069.77	1324.17	Si	51.75	Si
SLU 80	ini.	-436.14	-1426	-0.0003572	0.0001872	0.0035	0.75		2074.44	1324.17	Si	3.04	Si
SLU 80	fin.	32.91	-837	-0.0000233	0.0001872	0.0035	0.75		2069.77	1324.17	Si	40.24	Si
SLU 75	ini.	-434.5	-1419	-0.0003556	0.0001872	0.0035	0.75		2074.44	1324.17	Si	3.05	Si
SLU 75	fin.	32.24	-831	-0.0000228	0.0001872	0.0035	0.75		2069.77	1324.17	Si	41.07	Si
SLU 81	ini.	-449.17	-1507	-0.0003699	0.0001872	0.0035	0.75		2074.44	1324.17	Si	2.95	Si
SLU 81	fin.	18.74	-901	-0.0000132	0.0001872	0.0035	0.75		2069.77	1324.17	Si	70.66	Si
SLU 77	ini.	-438.88	-1463	-0.0003599	0.0001872	0.0035	0.75		2074.44	1324.17	Si	3.02	Si
SLU 77	fin.	27.14	-874	-0.0000192	0.0001872	0.0035	0.75		2069.77	1324.17	Si	48.8	Si
SLU 79	ini.	-437.32	-1451	-0.0003584	0.0001872	0.0035	0.75		2074.44	1324.17	Si	3.03	Si
SLU 79	fin.	26.93	-863	-0.000019	0.0001872	0.0035	0.75		2069.77	1324.17	Si	49.17	Si
SLU 78	ini.	-437.7	-1438	-0.0003587	0.0001872	0.0035	0.75		2074.44	1324.17	Si	3.03	Si
SLU 78	fin.	33.11	-848	-0.0000235	0.0001872	0.0035	0.75		2069.77	1324.17	Si	39.99	Si
SLU 74	ini.	-435.68	-1444	-0.0003568	0.0001872	0.0035	0.75		2074.44	1324.17	Si	3.04	Si
SLU 74	fin.	26.27	-858	-0.0000186	0.0001872	0.0035	0.75		2069.77	1324.17	Si	50.41	Si
SLU 83	ini.	-452.37	-1525	-0.000373	0.0001872	0.0035	0.75		2074.44	1324.17	Si	2.93	Si
SLU 83	fin.	19.61	-918	-0.0000138	0.0001872	0.0035	0.75		2069.77	1324.17	Si	67.52	Si
SLU 82	ini.	-448	-1482	-0.0003687	0.0001872	0.0035	0.75		2074.44	1324.17	Si	2.96	Si
SLU 82	fin.	24.72	-875	-0.0000175	0.0001872	0.0035	0.75		2069.77	1324.17	Si	53.57	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-449.17	2083	0.75	0	1458	3965	3144	1913	2188	Si	1.05	Si
SLU 81	fin.	18.74	-1278	0.75	0	1458	3965	3144	1913	2188	Si	1.71	Si
SLU 80	ini.	-436.14	2071	0.75	0	1458	3965	3144	1913	2188	Si	1.06	Si
SLU 80	fin.	32.91	-1280	0.75	0	1458	3965	3144	1913	2188	Si	1.71	Si
SLU 83	ini.	-452.37	2105	0.75	0	1458	3965	3144	1913	2188	Si	1.04	Si
SLU 83	fin.	19.61	-1323	0.75	0	1458	3965	3144	1913	2188	Si	1.65	Si
SLU 77	ini.	-438.88	2072	0.75	0	1458	3965	3144	1913	2188	Si	1.06	Si
SLU 77	fin.	27.14	-1319	0.75	0	1458	3965	3144	1913	2188	Si	1.66	Si
SLU 75	ini.	-434.5	2061	0.75	0	1458	3965	3144	1913	2188	Si	1.06	Si
SLU 75	fin.	32.24	-1263	0.75	0	1458	3965	3144	1913	2188	Si	1.73	Si
SLU 79	ini.	-437.32	2061	0.75	0	1458	3965	3144	1913	2188	Si	1.06	Si
SLU 79	fin.	26.93	-1290	0.75	0	1458	3965	3144	1913	2188	Si	1.7	Si
SLU 82	ini.	-448	2093	0.75	0	1458	3965	3144	1913	2188	Si	1.05	Si
SLU 82	fin.	24.72	-1268	0.75	0	1458	3965	3144	1913	2188	Si	1.73	Si
SLU 78	ini.	-437.7	2082	0.75	0	1458	3965	3144	1913	2188	Si	1.05	Si
SLU 78	fin.	33.11	-1309	0.75	0	1458	3965	3144	1913	2188	Si	1.67	Si
SLU 76	ini.	-432.16	2056	0.75	0	1458	3965	3144	1913	2188	Si	1.06	Si
SLU 76	fin.	36.02	-1228	0.75	0	1458	3965	3144	1913	2188	Si	1.78	Si
SLU 84	ini.	-451.19	2115	0.75	0	1458	3965	3144	1913	2188	Si	1.03	Si
SLU 84	fin.	25.59	-1313	0.75	0	1458	3965	3144	1913	2188	Si	1.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-515.37	-2383	-0.0004126	0.0002807	0.0035	0.75		2090.82	2090.82		4.06	Si
SLV 7	fin.	-296.87	-1708	-0.0002225	0.0002807	0.0035	0.75		2090.82	2090.82		7.04	Si
SLV 12	ini.	-551.52	-1517	-0.0004468	0.0002807	0.0035	0.75		2090.82	2090.82		3.79	Si
SLV 12	fin.	-79.19	-653	-0.0000564	0.0002807	0.0035	0.75		2090.82	2090.82		26.4	Si
SLV 15	ini.	-495.98	841	-0.0003945	0.0002807	0.0035	0.75		2090.82	2090.82		4.22	Si
SLV 15	fin.	513.61	1884	-0.000412	0.0002807	0.0035	0.75		2085.94	2085.94		4.06	Si
SLD 11	ini.	-473.43	-1123	-0.0003739	0.0002807	0.0035	0.75		2090.82	2090.82		4.42	Si
SLD 11	fin.	12.68	-373	-0.0000089	0.0002807	0.0035	0.75		2085.94	2085.94		164.45	Si
SLV 11	ini.	-578.12	-1249	-0.0004724	0.0002807	0.0035	0.75		2090.82	2090.82		3.62	Si
SLV 11	fin.	-0.66	-299	-0.0000005	0.0002807	0.0035	0.75		2090.82	2090.82		3155.73	Si
SLV 8	ini.	-488.76	-2651	-0.0003879	0.0002807	0.0035	0.75		2090.82	2090.82		4.28	Si
SLV 8	fin.	-375.39	-2063	-0.0002875	0.0002807	0.0035	0.75		2090.82	2090.82		5.57	Si
SLV 3	ini.	-286.81	-2940	-0.0002144	0.0002807	0.0035	0.75		2090.82	2090.82		7.29	Si
SLV 3	fin.	-473.75	-2813	-0.0003741	0.0002807	0.0035	0.75		2090.82	2090.82		4.41	Si
SLV 4	ini.	-247.28	-3339	-0.000183	0.0002807	0.0035	0.75		2090.82	2090.82		8.46	Si
SLV 4	fin.	-590.38	-3340	-0.0004844	0.0002807	0.0035	0.75		2090.82	2090.82		3.54	Si
SLV 14	ini.	-317.77	1042	-0.0002395	0.0002807	0.0035	0.75		2090.82	2090.82		6.58	Si
SLV 14	fin.	525.25	1746	-0.0004229	0.0002807	0.0035	0.75		2085.94	2085.94		3.97	Si
SLV 13	ini.	-357.29	1441	-0.0002722	0.0002807	0.0035	0.75		2090.82	2090.82		5.85	Si
SLV 13	fin.	641.87	2273	-0.0005371	0.0002807	0.0035	0.75		2085.94	2085.94		3.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-424.5	2514	0.75	0	2188	3965	4716	1913	6152		2.45	Si
SLD 15	fin.	339.22	851	0.75	0	2188	3965	4716	1913	6152		7.23	Si
SLV 14	ini.	-317.77	2616	0.75	0	2188	3965	4716	1913	6152		2.35	Si
SLV 14	fin.	525.25	788	0.75	0	2188	3965	4716	1913	6152		7.81	Si
SLV 2	ini.	-108.59	-259	0.75	0	2188	3965	4716	1913	6152		23.71	Si
SLV 2	fin.	-462.12	-3357	0.75	0	2188	3965	4716	1913	6152		1.83	Si
SLV 13	ini.	-357.29	3008	0.75	0	2188	3965	4716	1913	6152		2.05	Si
SLV 13	fin.	641.87	1255	0.75	0	2188	3965	4716	1913	6152		4.9	Si
SLV 4	ini.	-247.28	-139	0.75	0	2188	3965	4716	1913	6152		44.15	Si
SLV 4	fin.	-590.38	-2828	0.75	0	2188	3965	4716	1913	6152		2.18	Si
SLV 15	ini.	-495.98	3128	0.75	0	2188	3965	4716	1913	6152		1.97	Si
SLV 15	fin.	513.61	1784	0.75	0	2188	3965	4716	1913	6152		3.45	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-26.45	671	0.75	0	2188	3965	4716	1913	6152		9.17	Si
SLV 6	fin.	52.15	-2447	0.75	0	2188	3965	4716	1913	6152		2.51	Si
SLV 16	ini.	-456.46	2736	0.75	0	2188	3965	4716	1913	6152		2.25	Si
SLV 16	fin.	396.98	1317	0.75	0	2188	3965	4716	1913	6152		4.67	Si
SLV 1	ini.	-148.11	133	0.75	0	2188	3965	4716	1913	6152		46.28	Si
SLV 1	fin.	-345.49	-2890	0.75	0	2188	3965	4716	1913	6152		2.13	Si
SLD 13	ini.	-338.82	2441	0.75	0	2188	3965	4716	1913	6152		2.52	Si
SLD 13	fin.	418.68	526	0.75	0	2188	3965	4716	1913	6152		11.7	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.25	SLV 13	Si
V_SLV	1.833	SLV 2	Si
PF_SLU	2.927	SLU 83	Si
V_SLU	1.034	SLU 84	Si

Trave di accoppiamento 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.363	-3.359	5	5.9	0.9	-18.263	-3.359	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 61	ini.	257.37	-1450	-0.0001328	0.0001872	0.0035	0.9		2959	1717.92	Si	6.67	Si
SLU 61	fin.	79.31	-1209	-0.0000394	0.0001872	0.0035	0.9		2959	1717.92	Si	21.66	Si
SLU 74	ini.	251.34	-1532	-0.0001295	0.0001872	0.0035	0.9		2959	1717.92	Si	6.83	Si
SLU 74	fin.	108.36	-1391	-0.0000541	0.0001872	0.0035	0.9		2959	1717.92	Si	15.85	Si
SLU 60	ini.	275.57	-1476	-0.0001429	0.0001872	0.0035	0.9		2959	1717.92	Si	6.23	Si
SLU 60	fin.	61.7	-1146	-0.0000305	0.0001872	0.0035	0.9		2959	1717.92	Si	27.84	Si
SLU 62	ini.	273.13	-1489	-0.0001415	0.0001872	0.0035	0.9		2959	1717.92	Si	6.29	Si
SLU 62	fin.	69.81	-1190	-0.0000346	0.0001872	0.0035	0.9		2959	1717.92	Si	24.61	Si
SLU 81	ini.	282.55	-1598	-0.0001467	0.0001872	0.0035	0.9		2959	1717.92	Si	6.08	Si
SLU 81	fin.	85	-1320	-0.0000423	0.0001872	0.0035	0.9		2959	1717.92	Si	20.21	Si
SLU 63	ini.	254.93	-1463	-0.0001315	0.0001872	0.0035	0.9		2959	1717.92	Si	6.74	Si
SLU 63	fin.	87.42	-1253	-0.0000435	0.0001872	0.0035	0.9		2959	1717.92	Si	19.65	Si
SLU 83	ini.	280.11	-1611	-0.0001454	0.0001872	0.0035	0.9		2959	1717.92	Si	6.13	Si
SLU 83	fin.	93.11	-1364	-0.0000464	0.0001872	0.0035	0.9		2959	1717.92	Si	18.45	Si
SLU 82	ini.	264.35	-1571	-0.0001367	0.0001872	0.0035	0.9		2959	1717.92	Si	6.5	Si
SLU 82	fin.	102.61	-1383	-0.0000512	0.0001872	0.0035	0.9		2959	1717.92	Si	16.74	Si
SLU 84	ini.	261.91	-1585	-0.0001353	0.0001872	0.0035	0.9		2959	1717.92	Si	6.56	Si
SLU 84	fin.	110.72	-1427	-0.0000553	0.0001872	0.0035	0.9		2959	1717.92	Si	15.52	Si
SLU 79	ini.	249.34	-1536	-0.0001285	0.0001872	0.0035	0.9		2959	1717.92	Si	6.89	Si
SLU 79	fin.	112.47	-1411	-0.0000562	0.0001872	0.0035	0.9		2959	1717.92	Si	15.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	230.7	-1703	0.9	0	1750	7137	3773	2295	2625	Si	1.54	Si
SLU 78	fin.	134.08	2582	0.9	0	1750	7137	3773	2295	2625	Si	1.02	Si
SLU 77	ini.	248.91	-1770	0.9	0	1750	7137	3773	2295	2625	Si	1.48	Si
SLU 77	fin.	116.47	2483	0.9	0	1750	7137	3773	2295	2625	Si	1.06	Si
SLU 68	ini.	155.32	-1328	0.9	0	1750	7137	3773	2295	2625	Si	1.98	Si
SLU 68	fin.	159.96	2542	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 80	ini.	231.14	-1695	0.9	0	1750	7137	3773	2295	2625	Si	1.55	Si
SLU 80	fin.	130.08	2542	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 69	ini.	182.79	-1454	0.9	0	1750	7137	3773	2295	2625	Si	1.81	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	fin.	142.71	2492	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 70	ini.	164.58	-1386	0.9	0	1750	7137	3773	2295	2625	Si	1.89	Si
SLU 70	fin.	160.33	2591	0.9	0	1750	7137	3773	2295	2625	Si	1.01	Si
SLU 72	ini.	165.02	-1378	0.9	0	1750	7137	3773	2295	2625	Si	1.9	Si
SLU 72	fin.	156.33	2550	0.9	0	1750	7137	3773	2295	2625	Si	1.03	Si
SLU 75	ini.	233.14	-1697	0.9	0	1750	7137	3773	2295	2625	Si	1.55	Si
SLU 75	fin.	125.97	2508	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 67	ini.	167.02	-1380	0.9	0	1750	7137	3773	2295	2625	Si	1.9	Si
SLU 67	fin.	152.22	2517	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si
SLU 76	ini.	221.44	-1644	0.9	0	1750	7137	3773	2295	2625	Si	1.6	Si
SLU 76	fin.	133.71	2534	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1257.11	-2587	-0.0007902	0.0002807	0.0035	0.9		2989.59	2989.59		2.38	Si
SLV 7	fin.	-1011.71	2979	-0.0006007	0.0002807	0.0035	0.9		2995.37	2995.37		2.96	Si
SLV 9	ini.	-1128.77	877	-0.000688	0.0002807	0.0035	0.9		2995.37	2995.37		2.65	Si
SLV 9	fin.	1318.89	-5411	-0.0008404	0.0002807	0.0035	0.9		2989.59	2989.59		2.27	Si
SLV 14	ini.	-1233.67	1495	-0.0007696	0.0002807	0.0035	0.9		2995.37	2995.37		2.43	Si
SLV 14	fin.	1131.58	-4349	-0.0006918	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 10	ini.	-933.02	517	-0.0005442	0.0002807	0.0035	0.9		2995.37	2995.37		3.21	Si
SLV 10	fin.	1174.93	-4945	-0.0007252	0.0002807	0.0035	0.9		2989.59	2989.59		2.54	Si
SLV 8	ini.	1452.86	-2946	-0.0009534	0.0002807	0.0035	0.9		2989.59	2989.59		2.06	Si
SLV 8	fin.	-1155.67	3444	-0.0007086	0.0002807	0.0035	0.9		2995.37	2995.37		2.59	Si
SLD 4	ini.	1236.81	-2990	-0.0007739	0.0002807	0.0035	0.9		2989.59	2989.59		2.42	Si
SLD 4	fin.	-721.71	1592	-0.0004011	0.0002807	0.0035	0.9		2995.37	2995.37		4.15	Si
SLV 3	ini.	1557.76	-3564	-0.0010463	0.0002807	0.0035	0.9		2989.59	2989.59		1.92	Si
SLV 3	fin.	-968.37	2382	-0.0005694	0.0002807	0.0035	0.9		2995.37	2995.37		3.09	Si
SLV 2	ini.	1366.78	-3510	-0.0008801	0.0002807	0.0035	0.9		2989.59	2989.59		2.19	Si
SLV 2	fin.	-642.69	1041	-0.0003509	0.0002807	0.0035	0.9		2995.37	2995.37		4.66	Si
SLV 13	ini.	-1524.41	2029	-0.0010139	0.0002807	0.0035	0.9		2995.37	2995.37		1.96	Si
SLV 13	fin.	1345.4	-5040	-0.0008623	0.0002807	0.0035	0.9		2989.59	2989.59		2.22	Si
SLV 4	ini.	1848.51	-4098	-0.0013277	0.0002807	0.0035	0.9		2989.59	2989.59		1.62	Si
SLV 4	fin.	-1182.19	3073	-0.0007292	0.0002807	0.0035	0.9		2995.37	2995.37		2.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-933.02	3160	0.9	0	2625	7137	5660	2295	7955		2.52	Si
SLV 10	fin.	1174.93	7698	0.9	0	2625	7137	5660	2295	7955		1.03	Si
SLV 9	ini.	-1128.77	3952	0.9	0	2625	7137	5660	2295	7955		2.01	Si
SLV 9	fin.	1318.89	8430	0.9	0	2625	7137	5660	2295	7955		0.94	No
SLV 2	ini.	1366.78	-6277	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 2	fin.	-642.69	-1466	0.9	0	2625	7137	5660	2295	7955		5.43	Si
SLV 13	ini.	-1524.41	5788	0.9	0	2625	7137	5660	2295	7955		1.37	Si
SLV 13	fin.	1345.4	7946	0.9	0	2625	7137	5660	2295	7955		1	Si
SLV 14	ini.	-1233.67	4611	0.9	0	2625	7137	5660	2295	7955		1.73	Si
SLV 14	fin.	1131.58	6860	0.9	0	2625	7137	5660	2295	7955		1.16	Si
SLD 9	ini.	-646.75	2039	0.9	0	2625	7137	5660	2295	7955		3.9	Si
SLD 9	fin.	853.82	5898	0.9	0	2625	7137	5660	2295	7955		1.35	Si
SLV 5	ini.	-348.64	685	0.9	0	2625	7137	5660	2295	7955		11.6	Si
SLV 5	fin.	786.61	5932	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 3	ini.	1557.76	-6959	0.9	0	2625	7137	5660	2295	7955		1.14	Si
SLV 3	fin.	-968.37	-3444	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLV 8	ini.	1452.86	-6300	0.9	0	2625	7137	5660	2295	7955		1.26	Si
SLV 8	fin.	-1155.67	-5013	0.9	0	2625	7137	5660	2295	7955		1.59	Si
SLV 4	ini.	1848.51	-8135	0.9	0	2625	7137	5660	2295	7955		0.98	No
SLV 4	fin.	-1182.19	-4530	0.9	0	2625	7137	5660	2295	7955		1.76	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 4	Si
V_SLV	0.944	SLV 9	No
PF_SLU	6.08	SLU 81	Si
V_SLU	1.013	SLU 70	Si

Trave di accoppiamento 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.363	-3.359	7.7	8.55	0.85	-18.263	-3.359	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-168.38	-1253	-0.0000955	0.0001872	0.0035	0.85		2655.83	1586.67	Si	9.42	Si
SLU 78	fin.	-283.66	-2003	-0.0001659	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.59	Si
SLU 79	ini.	-150.56	-1203	-0.000085	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.54	Si
SLU 79	fin.	-293.29	-2020	-0.000172	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.41	Si
SLU 60	ini.	-111.77	-1032	-0.0000626	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.2	Si
SLU 60	fin.	-288.99	-1895	-0.0001692	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.49	Si
SLU 84	ini.	-151.85	-1231	-0.0000858	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.45	Si
SLU 84	fin.	-305.08	-2091	-0.0001795	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.2	Si
SLU 82	ini.	-145.09	-1199	-0.0000818	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.94	Si
SLU 82	fin.	-303.03	-2067	-0.0001782	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.24	Si
SLU 83	ini.	-137.68	-1199	-0.0000775	0.0001872	0.0035	0.85		2655.83	1586.67	Si	11.52	Si
SLU 83	fin.	-316.46	-2124	-0.0001868	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.01	Si
SLU 74	ini.	-147.45	-1190	-0.0000832	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.76	Si
SLU 74	fin.	-292.98	-2011	-0.0001718	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.42	Si
SLU 62	ini.	-118.54	-1064	-0.0000664	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.39	Si
SLU 62	fin.	-291.04	-1919	-0.0001705	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.45	Si
SLU 81	ini.	-130.92	-1168	-0.0000736	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.12	Si
SLU 81	fin.	-314.41	-2100	-0.0001855	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.05	Si
SLU 77	ini.	-154.21	-1221	-0.0000872	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.29	Si
SLU 77	fin.	-295.03	-2036	-0.0001731	0.0001872	0.0035	0.85		2655.83	1586.67	Si	5.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-151.85	1959	0.85	0	1653	6740	3563	2168	2479	Si	1.27	Si
SLU 84	fin.	-305.08	-3796	0.85	0	1653	6740	3563	2168	2479	Si	0.65	No
SLU 79	ini.	-150.56	1920	0.85	0	1653	6740	3563	2168	2479	Si	1.29	Si
SLU 79	fin.	-293.29	-3669	0.85	0	1653	6740	3563	2168	2479	Si	0.68	No
SLU 80	ini.	-164.73	1985	0.85	0	1653	6740	3563	2168	2479	Si	1.25	Si
SLU 80	fin.	-281.91	-3617	0.85	0	1653	6740	3563	2168	2479	Si	0.69	No
SLU 81	ini.	-130.92	1844	0.85	0	1653	6740	3563	2168	2479	Si	1.34	Si
SLU 81	fin.	-314.41	-3801	0.85	0	1653	6740	3563	2168	2479	Si	0.65	No
SLU 74	ini.	-147.45	1898	0.85	0	1653	6740	3563	2168	2479	Si	1.31	Si
SLU 74	fin.	-292.98	-3652	0.85	0	1653	6740	3563	2168	2479	Si	0.68	No
SLU 77	ini.	-154.21	1947	0.85	0	1653	6740	3563	2168	2479	Si	1.27	Si
SLU 77	fin.	-295.03	-3699	0.85	0	1653	6740	3563	2168	2479	Si	0.67	No
SLU 83	ini.	-137.68	1893	0.85	0	1653	6740	3563	2168	2479	Si	1.31	Si
SLU 83	fin.	-316.46	-3848	0.85	0	1653	6740	3563	2168	2479	Si	0.64	No
SLU 78	ini.	-168.38	2013	0.85	0	1653	6740	3563	2168	2479	Si	1.23	Si
SLU 78	fin.	-283.66	-3646	0.85	0	1653	6740	3563	2168	2479	Si	0.68	No
SLU 82	ini.	-145.09	1910	0.85	0	1653	6740	3563	2168	2479	Si	1.3	Si
SLU 82	fin.	-303.03	-3749	0.85	0	1653	6740	3563	2168	2479	Si	0.66	No
SLU 75	ini.	-161.62	1963	0.85	0	1653	6740	3563	2168	2479	Si	1.26	Si
SLU 75	fin.	-281.61	-3600	0.85	0	1653	6740	3563	2168	2479	Si	0.69	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	419.84	-23	-0.0002478	0.0002807	0.0035	0.85		2675.27	2675.27		6.37	Si
SLD 4	fin.	-867.03	-3494	-0.0005704	0.0002807	0.0035	0.85		2680.73	2680.73		3.09	Si
SLV 10	ini.	-982.23	-2752	-0.0006652	0.0002807	0.0035	0.85		2680.73	2680.73		2.73	Si
SLV 10	fin.	493.56	756	-0.0002962	0.0002807	0.0035	0.85		2675.27	2675.27		5.42	Si
SLV 3	ini.	570.92	191	-0.0003491	0.0002807	0.0035	0.85		2675.27	2675.27		4.69	Si
SLV 3	fin.	-1065.85	-4157	-0.0007369	0.0002807	0.0035	0.85		2680.73	2680.73		2.52	Si
SLV 13	ini.	-940.72	-2077	-0.0006305	0.0002807	0.0035	0.85		2680.73	2680.73		2.85	Si
SLV 13	fin.	876.7	2075	-0.0005795	0.0002807	0.0035	0.85		2675.27	2675.27		3.05	Si
SLV 9	ini.	-1085.63	-2922	-0.0007543	0.0002807	0.0035	0.85		2680.73	2680.73		2.47	Si
SLV 9	fin.	619.93	1140	-0.0003837	0.0002807	0.0035	0.85		2675.27	2675.27		4.32	Si
SLV 2	ini.	263.57	-664	-0.0001508	0.0002807	0.0035	0.85		2675.27	2675.27		10.15	Si
SLV 2	fin.	-954.35	-3845	-0.0006418	0.0002807	0.0035	0.85		2680.73	2680.73		2.81	Si
SLV 7	ini.	766.02	1118	-0.0004922	0.0002807	0.0035	0.85		2675.27	2675.27		3.49	Si
SLV 7	fin.	-870.41	-3408	-0.0005731	0.0002807	0.0035	0.85		2680.73	2680.73		3.08	Si
SLV 14	ini.	-787.13	-1825	-0.0005074	0.0002807	0.0035	0.85		2680.73	2680.73		3.41	Si
SLV 14	fin.	689	1505	-0.0004341	0.0002807	0.0035	0.85		2675.27	2675.27		3.88	Si
SLV 8	ini.	869.42	1288	-0.0005737	0.0002807	0.0035	0.85		2675.27	2675.27		3.08	Si
SLV 8	fin.	-996.78	-3792	-0.0006775	0.0002807	0.0035	0.85		2680.73	2680.73		2.69	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	724.5	443	-0.0004606	0.0002807	0.0035	0.85		2675.27	2675.27		3.69	Si
SLV 4	fin.	-1253.55	-4727	-0.0009077	0.0002807	0.0035	0.85		2680.73	2680.73		2.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	263.57	-647	0.85	0	2479	6740	5345	2168	7513		11.62	Si
SLV 2	fin.	-954.35	-5721	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLV 7	ini.	766.02	-2685	0.85	0	2479	6740	5345	2168	7513		2.8	Si
SLV 7	fin.	-870.41	-5647	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLD 4	ini.	419.84	-1244	0.85	0	2479	6740	5345	2168	7513		6.04	Si
SLD 4	fin.	-867.03	-5446	0.85	0	2479	6740	5345	2168	7513		1.38	Si
SLV 4	ini.	724.5	-2722	0.85	0	2479	6740	5345	2168	7513		2.76	Si
SLV 4	fin.	-1253.55	-7183	0.85	0	2479	6740	5345	2168	7513		1.05	Si
SLD 3	ini.	321.81	-778	0.85	0	2479	6740	5345	2168	7513		9.66	Si
SLD 3	fin.	-747.23	-4912	0.85	0	2479	6740	5345	2168	7513		1.53	Si
SLV 10	ini.	-982.23	5324	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLV 10	fin.	493.56	845	0.85	0	2479	6740	5345	2168	7513		8.89	Si
SLV 9	ini.	-1085.63	5817	0.85	0	2479	6740	5345	2168	7513		1.29	Si
SLV 9	fin.	619.93	1408	0.85	0	2479	6740	5345	2168	7513		5.34	Si
SLV 13	ini.	-940.72	5362	0.85	0	2479	6740	5345	2168	7513		1.4	Si
SLV 13	fin.	876.7	2381	0.85	0	2479	6740	5345	2168	7513		3.16	Si
SLV 8	ini.	869.42	-3177	0.85	0	2479	6740	5345	2168	7513		2.36	Si
SLV 8	fin.	-996.78	-6210	0.85	0	2479	6740	5345	2168	7513		1.21	Si
SLV 3	ini.	570.92	-1991	0.85	0	2479	6740	5345	2168	7513		3.77	Si
SLV 3	fin.	-1065.85	-6347	0.85	0	2479	6740	5345	2168	7513		1.18	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.139	SLV 4	Si
V_SLV	1.046	SLV 4	Si
PF_SLU	5.014	SLU 83	Si
V_SLU	0.644	SLU 83	No

Trave di accoppiamento 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.433	-3.359	7.1	8.55	1.45	-16.333	-3.359	7.1	8.55	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-538.17	-2970	-0.0001056	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.87	Si
SLU 75	fin.	160.77	-2707	-0.0000306	0.0001872	0.0035	1.45		7660.24	3161.67	Si	19.67	Si
SLU 70	ini.	-556.55	-2950	-0.0001093	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.68	Si
SLU 70	fin.	217.55	-2589	-0.0000416	0.0001872	0.0035	1.45		7660.24	3161.67	Si	14.53	Si
SLU 72	ini.	-548.09	-2908	-0.0001076	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.77	Si
SLU 72	fin.	211.67	-2554	-0.0000405	0.0001872	0.0035	1.45		7660.24	3161.67	Si	14.94	Si
SLU 67	ini.	-538.33	-2876	-0.0001056	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.87	Si
SLU 67	fin.	203.82	-2531	-0.000039	0.0001872	0.0035	1.45		7660.24	3161.67	Si	15.51	Si
SLU 76	ini.	-542.28	-2953	-0.0001064	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.83	Si
SLU 76	fin.	165.81	-2690	-0.0000316	0.0001872	0.0035	1.45		7660.24	3161.67	Si	19.07	Si
SLU 69	ini.	-537.68	-2912	-0.0001055	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.88	Si
SLU 69	fin.	201.17	-2562	-0.0000384	0.0001872	0.0035	1.45		7660.24	3161.67	Si	15.72	Si
SLU 78	ini.	-556.39	-3044	-0.0001093	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.68	Si
SLU 78	fin.	174.5	-2765	-0.0000333	0.0001872	0.0035	1.45		7660.24	3161.67	Si	18.12	Si
SLU 77	ini.	-537.52	-3007	-0.0001054	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.88	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	158.12	-2738	-0.0000301	0.0001872	0.0035	1.45		7660.24	3161.67	Si	20	Si
SLU 68	ini.	-542.44	-2859	-0.0001064	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.83	Si
SLU 68	fin.	208.87	-2514	-0.0000399	0.0001872	0.0035	1.45		7660.24	3161.67	Si	15.14	Si
SLU 80	ini.	-547.93	-3002	-0.0001076	0.0001872	0.0035	1.45		7669.58	3161.67	Si	5.77	Si
SLU 80	fin.	168.62	-2730	-0.0000321	0.0001872	0.0035	1.45		7660.24	3161.67	Si	18.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-529.06	1880	1.45	0	2819	7137	6079	3698	4229	Si	2.25	Si
SLU 79	fin.	152.24	32	1.45	0	2819	7137	6079	3698	4229	Si	130.97	Si
SLU 77	ini.	-537.52	1901	1.45	0	2819	7137	6079	3698	4229	Si	2.22	Si
SLU 77	fin.	158.12	54	1.45	0	2819	7137	6079	3698	4229	Si	78.32	Si
SLU 84	ini.	-529.64	1890	1.45	0	2819	7137	6079	3698	4229	Si	2.24	Si
SLU 84	fin.	136.44	-75	1.45	0	2819	7137	6079	3698	4229	Si	56.06	Si
SLU 75	ini.	-538.17	1901	1.45	0	2819	7137	6079	3698	4229	Si	2.22	Si
SLU 75	fin.	160.77	54	1.45	0	2819	7137	6079	3698	4229	Si	78.35	Si
SLU 68	ini.	-542.44	1888	1.45	0	2819	7137	6079	3698	4229	Si	2.24	Si
SLU 68	fin.	208.87	316	1.45	0	2819	7137	6079	3698	4229	Si	13.4	Si
SLU 76	ini.	-542.28	1912	1.45	0	2819	7137	6079	3698	4229	Si	2.21	Si
SLU 76	fin.	165.81	64	1.45	0	2819	7137	6079	3698	4229	Si	65.89	Si
SLU 70	ini.	-556.55	1925	1.45	0	2819	7137	6079	3698	4229	Si	2.2	Si
SLU 70	fin.	217.55	353	1.45	0	2819	7137	6079	3698	4229	Si	11.97	Si
SLU 78	ini.	-556.39	1949	1.45	0	2819	7137	6079	3698	4229	Si	2.17	Si
SLU 78	fin.	174.5	102	1.45	0	2819	7137	6079	3698	4229	Si	41.51	Si
SLU 80	ini.	-547.93	1928	1.45	0	2819	7137	6079	3698	4229	Si	2.19	Si
SLU 80	fin.	168.62	80	1.45	0	2819	7137	6079	3698	4229	Si	52.75	Si
SLU 72	ini.	-548.09	1904	1.45	0	2819	7137	6079	3698	4229	Si	2.22	Si
SLU 72	fin.	211.67	331	1.45	0	2819	7137	6079	3698	4229	Si	12.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-3269.05	-4841	-0.0007899	0.0002807	0.0035	1.45		7655.81	7655.81		2.34	Si
SLV 14	fin.	2690.59	-2282	-0.0006196	0.0002807	0.0035	1.45		7646.28	7646.28		2.84	Si
SLV 2	ini.	2588.21	-64	-0.0005908	0.0002807	0.0035	1.45		7646.28	7646.28		2.95	Si
SLV 2	fin.	-2622.38	-2461	-0.0005995	0.0002807	0.0035	1.45		7655.81	7655.81		2.92	Si
SLD 13	ini.	-2596.75	-4175	-0.0005923	0.0002807	0.0035	1.45		7655.81	7655.81		2.95	Si
SLD 13	fin.	2094.14	-2171	-0.0004577	0.0002807	0.0035	1.45		7646.28	7646.28		3.65	Si
SLD 15	ini.	-2225.89	-3301	-0.0004915	0.0002807	0.0035	1.45		7655.81	7655.81		3.44	Si
SLD 15	fin.	1834.79	-1454	-0.0003919	0.0002807	0.0035	1.45		7646.28	7646.28		4.17	Si
SLV 15	ini.	-3276.24	-3995	-0.0007921	0.0002807	0.0035	1.45		7655.81	7655.81		2.34	Si
SLV 15	fin.	2807.76	-1219	-0.0006532	0.0002807	0.0035	1.45		7646.28	7646.28		2.72	Si
SLV 16	ini.	-2671.4	-3429	-0.0006133	0.0002807	0.0035	1.45		7655.81	7655.81		2.87	Si
SLV 16	fin.	2273.05	-1124	-0.0005047	0.0002807	0.0035	1.45		7646.28	7646.28		3.36	Si
SLV 9	ini.	-2422.28	-5290	-0.0005442	0.0002807	0.0035	1.45		7655.81	7655.81		3.16	Si
SLV 9	fin.	1765.53	-3776	-0.0003748	0.0002807	0.0035	1.45		7646.28	7646.28		4.33	Si
SLV 13	ini.	-3873.88	-5407	-0.0009852	0.0002807	0.0035	1.45		7655.81	7655.81		1.98	Si
SLV 13	fin.	3225.3	-2378	-0.0007776	0.0002807	0.0035	1.45		7646.28	7646.28		2.37	Si
SLV 3	ini.	2581.02	782	-0.0005888	0.0002807	0.0035	1.45		7646.28	7646.28		2.96	Si
SLV 3	fin.	-2505.21	-1397	-0.0005669	0.0002807	0.0035	1.45		7655.81	7655.81		3.06	Si
SLV 4	ini.	3185.86	1347	-0.0007655	0.0002807	0.0035	1.45		7646.28	7646.28		2.4	Si
SLV 4	fin.	-3039.92	-1302	-0.0007204	0.0002807	0.0035	1.45		7655.81	7655.81		2.52	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2581.02	-6750	1.45	0	4229	7137	9118	3698	11366		1.68	Si
SLV 3	fin.	-2505.21	-7926	1.45	0	4229	7137	9118	3698	11366		1.43	Si
SLD 15	ini.	-2225.89	6550	1.45	0	4229	7137	9118	3698	11366		1.74	Si
SLD 15	fin.	1834.79	5299	1.45	0	4229	7137	9118	3698	11366		2.14	Si
SLV 13	ini.	-3873.88	10878	1.45	0	4229	7137	9118	3698	11366		1.04	Si
SLV 13	fin.	3225.3	9604	1.45	0	4229	7137	9118	3698	11366		1.18	Si
SLD 13	ini.	-2596.75	7393	1.45	0	4229	7137	9118	3698	11366		1.54	Si
SLD 13	fin.	2094.14	6139	1.45	0	4229	7137	9118	3698	11366		1.85	Si
SLV 1	ini.	1983.38	-5394	1.45	0	4229	7137	9118	3698	11366		2.11	Si
SLV 1	fin.	-2087.67	-6574	1.45	0	4229	7137	9118	3698	11366		1.73	Si
SLV 2	ini.	2588.21	-7039	1.45	0	4229	7137	9118	3698	11366		1.61	Si
SLV 2	fin.	-2622.38	-8219	1.45	0	4229	7137	9118	3698	11366		1.38	Si
SLV 16	ini.	-2671.4	7876	1.45	0	4229	7137	9118	3698	11366		1.44	Si
SLV 16	fin.	2273.05	6606	1.45	0	4229	7137	9118	3698	11366		1.72	Si
SLV 15	ini.	-3276.24	9522	1.45	0	4229	7137	9118	3698	11366		1.19	Si
SLV 15	fin.	2807.76	8251	1.45	0	4229	7137	9118	3698	11366		1.38	Si
SLV 4	ini.	3185.86	-8395	1.45	0	4229	7137	9118	3698	11366		1.35	Si
SLV 4	fin.	-3039.92	-9571	1.45	0	4229	7137	9118	3698	11366		1.19	Si
SLV 14	ini.	-3269.05	9233	1.45	0	4229	7137	9118	3698	11366		1.23	Si
SLV 14	fin.	2690.59	7958	1.45	0	4229	7137	9118	3698	11366		1.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.976	SLV 13	Si
V_SLV	1.045	SLV 13	Si
PF_SLU	5.681	SLU 70	Si
V_SLU	2.17	SLU 78	Si



Trave di accoppiamento 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	7.1	8.55	1.45	-15.058	2.206	7.1	8.55	1.45	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	880.44	-1853	-0.0001765	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.1	Si
SLU 82	fin.	-849.02	-2710	-0.0001695	0.0002246	0.0035	1.45		7958.5	2732.08	Si	3.22	Si
SLU 41	ini.	832.1	-1758	-0.0001661	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.28	Si
SLU 41	fin.	-927.86	-2643	-0.0001865	0.0002246	0.0035	1.45		7958.5	2732.08	Si	2.94	Si
SLU 78	ini.	885.21	-1864	-0.0001775	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.09	Si
SLU 78	fin.	-835.78	-2723	-0.0001667	0.0002246	0.0035	1.45		7958.5	2732.08	Si	3.27	Si
SLU 81	ini.	908.75	-1909	-0.0001826	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.01	Si
SLU 81	fin.	-936.12	-2829	-0.0001883	0.0002246	0.0035	1.45		7958.5	2732.08	Si	2.92	Si
SLU 74	ini.	889.78	-1868	-0.0001785	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.07	Si
SLU 74	fin.	-887.37	-2757	-0.0001778	0.0002246	0.0035	1.45		7958.5	2732.08	Si	3.08	Si
SLU 84	ini.	904.18	-1904	-0.0001816	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.02	Si
SLU 84	fin.	-884.53	-2795	-0.0001772	0.0002246	0.0035	1.45		7958.5	2732.08	Si	3.09	Si
SLU 39	ini.	808.36	-1706	-0.0001611	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.38	Si
SLU 39	fin.	-892.34	-2558	-0.0001788	0.0002246	0.0035	1.45		7958.5	2732.08	Si	3.06	Si
SLU 79	ini.	903.56	-1898	-0.0001815	0.0002246	0.0035	1.45		7949.58	2732.08	Si	3.02	Si
SLU 79	fin.	-913.86	-2809	-0.0001835	0.0002246	0.0035	1.45		7958.5	2732.08	Si	2.99	Si
SLU 77	ini.	913.53	-1920	-0.0001836	0.0002246	0.0035	1.45		7949.58	2732.08	Si	2.99	Si
SLU 77	fin.	-922.89	-2842	-0.0001854	0.0002246	0.0035	1.45		7958.5	2732.08	Si	2.96	Si
SLU 83	ini.	932.5	-1960	-0.0001877	0.0002246	0.0035	1.45		7949.58	2732.08	Si	2.93	Si
SLU 83	fin.	-971.64	-2914	-0.000196	0.0002246	0.0035	1.45		7958.5	2732.08	Si	2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 79	ini.	903.56	-2860	1.45	0	1692	6344	3648	3698	2538	Si	0.89	No
SLU 79	fin.	-913.86	-3329	1.45	0	1692	6344	3648	3698	2538	Si	0.76	No
SLU 74	ini.	889.78	-2789	1.45	0	1692	6344	3648	3698	2538	Si	0.91	No
SLU 74	fin.	-887.37	-3257	1.45	0	1692	6344	3648	3698	2538	Si	0.78	No
SLU 77	ini.	913.53	-2893	1.45	0	1692	6344	3648	3698	2538	Si	0.88	No
SLU 77	fin.	-922.89	-3362	1.45	0	1692	6344	3648	3698	2538	Si	0.75	No
SLU 80	ini.	875.25	-2658	1.45	0	1692	6344	3648	3698	2538	Si	0.95	No
SLU 80	fin.	-826.75	-3127	1.45	0	1692	6344	3648	3698	2538	Si	0.81	No
SLU 82	ini.	880.44	-2700	1.45	0	1692	6344	3648	3698	2538	Si	0.94	No
SLU 82	fin.	-849.02	-3169	1.45	0	1692	6344	3648	3698	2538	Si	0.8	No
SLU 41	ini.	832.1	-2815	1.45	0	1692	6344	3648	3698	2538	Si	0.9	No
SLU 41	fin.	-927.86	-3186	1.45	0	1692	6344	3648	3698	2538	Si	0.8	No
SLU 78	ini.	885.21	-2691	1.45	0	1692	6344	3648	3698	2538	Si	0.94	No
SLU 78	fin.	-835.78	-3160	1.45	0	1692	6344	3648	3698	2538	Si	0.8	No
SLU 81	ini.	908.75	-2902	1.45	0	1692	6344	3648	3698	2538	Si	0.87	No
SLU 81	fin.	-936.12	-3370	1.45	0	1692	6344	3648	3698	2538	Si	0.75	No
SLU 83	ini.	932.5	-3006	1.45	0	1692	6344	3648	3698	2538	Si	0.84	No
SLU 83	fin.	-971.64	-3475	1.45	0	1692	6344	3648	3698	2538	Si	0.73	No
SLU 84	ini.	904.18	-2805	1.45	0	1692	6344	3648	3698	2538	Si	0.9	No
SLU 84	fin.	-884.53	-3273	1.45	0	1692	6344	3648	3698	2538	Si	0.78	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 11	ini.	1556.15	-3552	-0.0003197	0.0003369	0.0035	1.45		8142.56	8142.56		5.23	Si
SLD 11	fin.	-3818.92	-6500	-0.000938	0.0003369	0.0035	1.45		8151.83	8151.83		2.13	Si
SLV 6	ini.	-1027.02	2638	-0.0002038	0.0003369	0.0035	1.45		8151.83	8151.83		7.94	Si
SLV 6	fin.	4864.9	6020	-0.0013091	0.0003369	0.0035	1.45		8142.56	8142.56		1.67	Si
SLV 9	ini.	-937.79	2478	-0.0001851	0.0003369	0.0035	1.45		8151.83	8151.83		8.69	Si
SLV 9	fin.	4546.38	5624	-0.0011893	0.0003369	0.0035	1.45		8142.56	8142.56		1.79	Si
SLV 11	ini.	2164.02	-5008	-0.0004652	0.0003369	0.0035	1.45		8142.56	8142.56		3.76	Si
SLV 11	fin.	-5861.74	-9445	-0.0017413	0.0003369	0.0035	1.45		8151.83	8151.83		1.39	Si
SLV 10	ini.	-926.53	2457	-0.0001828	0.0003369	0.0035	1.45		8151.83	8151.83		8.8	Si
SLV 10	fin.	4512.23	5579	-0.0011768	0.0003369	0.0035	1.45		8142.56	8142.56		1.8	Si
SLV 12	ini.	2175.28	-5029	-0.0004681	0.0003369	0.0035	1.45		8142.56	8142.56		3.74	Si
SLV 12	fin.	-5895.89	-9490	-0.0017583	0.0003369	0.0035	1.45		8151.83	8151.83		1.38	Si
SLV 7	ini.	2063.54	-4828	-0.0004401	0.0003369	0.0035	1.45		8142.56	8142.56		3.95	Si
SLV 7	fin.	-5509.07	-9004	-0.0015748	0.0003369	0.0035	1.45		8151.83	8151.83		1.48	Si
SLV 8	ini.	2074.8	-4849	-0.0004429	0.0003369	0.0035	1.45		8142.56	8142.56		3.92	Si
SLV 8	fin.	-5543.22	-9049	-0.0015902	0.0003369	0.0035	1.45		8151.83	8151.83		1.47	Si
SLV 5	ini.	-1038.27	2659	-0.0002062	0.0003369	0.0035	1.45		8151.83	8151.83		7.85	Si
SLV 5	fin.	4899.05	6065	-0.0013224	0.0003369	0.0035	1.45		8142.56	8142.56		1.66	Si
SLD 12	ini.	1563.19	-3565	-0.0003213	0.0003369	0.0035	1.45		8142.56	8142.56		5.21	Si
SLD 12	fin.	-3840.3	-6528	-0.0009449	0.0003369	0.0035	1.45		8151.83	8151.83		2.12	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-1038.27	10568	1.45	0	2538	6344	5471	3698	8881		0.84	No
SLV 5	fin.	4899.05	10222	1.45	16250	2538	6344	5471	3698	8881		0.87	No
SLD 12	ini.	1563.19	-9182	1.45	0	2538	6344	5471	3698	8881		0.97	No
SLD 12	fin.	-3840.3	-9543	1.45	16250	2538	6344	5471	3698	8881		0.93	No
SLV 11	ini.	2164.02	-13750	1.45	0	2538	6344	5471	3698	8881		0.65	No
SLV 11	fin.	-5861.74	-14115	1.45	16250	2538	6344	5471	3698	8881		0.63	No
SLV 7	ini.	2063.54	-12965	1.45	0	2538	6344	5471	3698	8881		0.68	No
SLV 7	fin.	-5509.07	-13331	1.45	16250	2538	6344	5471	3698	8881		0.67	No
SLD 11	ini.	1556.15	-9133	1.45	0	2538	6344	5471	3698	8881		0.97	No
SLD 11	fin.	-3818.92	-9493	1.45	16250	2538	6344	5471	3698	8881		0.94	No
SLV 6	ini.	-1027.02	10489	1.45	0	2538	6344	5471	3698	8881		0.85	No
SLV 6	fin.	4864.9	10144	1.45	16250	2538	6344	5471	3698	8881		0.88	No
SLV 8	ini.	2074.8	-13044	1.45	0	2538	6344	5471	3698	8881		0.68	No
SLV 8	fin.	-5543.22	-13410	1.45	16250	2538	6344	5471	3698	8881		0.66	No
SLV 9	ini.	-937.79	9784	1.45	0	2538	6344	5471	3698	8881		0.91	No
SLV 9	fin.	4546.38	9438	1.45	16250	2538	6344	5471	3698	8881		0.94	No
SLV 10	ini.	-926.53	9705	1.45	0	2538	6344	5471	3698	8881		0.92	No
SLV 10	fin.	4512.23	9359	1.45	16250	2538	6344	5471	3698	8881		0.95	No
SLV 12	ini.	2175.28	-13829	1.45	0	2538	6344	5471	3698	8881		0.64	No
SLV 12	fin.	-5895.89	-14194	1.45	16250	2538	6344	5471	3698	8881		0.63	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.383	SLV 12	Si
V_SLV	0.626	SLV 12	No
PF_SLU	2.812	SLU 83	Si
V_SLU	0.73	SLU 83	No

Trave di accoppiamento 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-13.753	-0.228	7.1	8.55	1.45	-13.753	0.672	7.1	8.55	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	1092.39	-523	-0.0002265	0.0001872	0.0035	1.45		7660.24	3161.67	Si	2.89	Si
SLU 81	fin.	518.17	-1219	-0.0001016	0.0001872	0.0035	1.45		7660.24	3161.67	Si	6.1	Si
SLU 62	ini.	1115.61	-308	-0.0002319	0.0001872	0.0035	1.45		7660.24	3161.67	Si	2.83	Si
SLU 62	fin.	430.39	-1079	-0.0000838	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.35	Si
SLU 82	ini.	1028.96	-617	-0.0002119	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3.07	Si
SLU 82	fin.	538.52	-1244	-0.0001058	0.0001872	0.0035	1.45		7660.24	3161.67	Si	5.87	Si
SLU 53	ini.	1043.66	-360	-0.0002153	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3.03	Si
SLU 53	fin.	420.17	-1064	-0.0000817	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.52	Si
SLU 63	ini.	1052.17	-402	-0.0002172	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3	Si
SLU 63	fin.	450.75	-1103	-0.0000879	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.01	Si
SLU 56	ini.	1042.74	-415	-0.000215	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3.03	Si
SLU 56	fin.	439.59	-1106	-0.0000856	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.19	Si
SLU 58	ini.	1046.76	-381	-0.000216	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3.02	Si
SLU 58	fin.	428.78	-1083	-0.0000834	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.37	Si
SLU 61	ini.	1053.09	-347	-0.0002174	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3	Si
SLU 61	fin.	431.33	-1062	-0.0000839	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.33	Si
SLU 60	ini.	1116.53	-253	-0.0002322	0.0001872	0.0035	1.45		7660.24	3161.67	Si	2.83	Si
SLU 60	fin.	410.97	-1037	-0.0000798	0.0001872	0.0035	1.45		7660.24	3161.67	Si	7.69	Si
SLU 83	ini.	1091.47	-578	-0.0002263	0.0001872	0.0035	1.45		7660.24	3161.67	Si	2.9	Si
SLU 83	fin.	537.59	-1261	-0.0001056	0.0001872	0.0035	1.45		7660.24	3161.67	Si	5.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 61	ini.	1053.09	-776	1.45	0	2819	7137	6079	3698	4229	Si	5.45	Si
SLU 61	fin.	431.33	-1688	1.45	0	2819	7137	6079	3698	4229	Si	2.51	Si
SLU 63	ini.	1052.17	-742	1.45	0	2819	7137	6079	3698	4229	Si	5.7	Si
SLU 63	fin.	450.75	-1655	1.45	0	2819	7137	6079	3698	4229	Si	2.56	Si
SLU 53	ini.	1043.66	-769	1.45	0	2819	7137	6079	3698	4229	Si	5.5	Si
SLU 53	fin.	420.17	-1681	1.45	0	2819	7137	6079	3698	4229	Si	2.52	Si
SLU 83	ini.	1091.47	-661	1.45	0	2819	7137	6079	3698	4229	Si	6.4	Si
SLU 83	fin.	537.59	-1603	1.45	0	2819	7137	6079	3698	4229	Si	2.64	Si
SLU 60	ini.	1116.53	-925	1.45	0	2819	7137	6079	3698	4229	Si	4.57	Si
SLU 60	fin.	410.97	-1837	1.45	0	2819	7137	6079	3698	4229	Si	2.3	Si
SLU 56	ini.	1042.74	-736	1.45	0	2819	7137	6079	3698	4229	Si	5.75	Si
SLU 56	fin.	439.59	-1648	1.45	0	2819	7137	6079	3698	4229	Si	2.57	Si
SLU 62	ini.	1115.61	-891	1.45	0	2819	7137	6079	3698	4229	Si	4.74	Si
SLU 62	fin.	430.39	-1804	1.45	0	2819	7137	6079	3698	4229	Si	2.34	Si
SLU 54	ini.	980.23	-620	1.45	0	2819	7137	6079	3698	4229	Si	6.82	Si
SLU 54	fin.	440.52	-1532	1.45	0	2819	7137	6079	3698	4229	Si	2.76	Si
SLU 58	ini.	1046.76	-761	1.45	0	2819	7137	6079	3698	4229	Si	5.55	Si
SLU 58	fin.	428.78	-1674	1.45	0	2819	7137	6079	3698	4229	Si	2.53	Si
SLU 81	ini.	1092.39	-694	1.45	0	2819	7137	6079	3698	4229	Si	6.1	Si
SLU 81	fin.	518.17	-1636	1.45	0	2819	7137	6079	3698	4229	Si	2.59	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	3213.83	3445	-0.0007741	0.0002807	0.0035	1.45		7646.28	7646.28		2.38	Si
SLD 8	fin.	-256.74	306	-0.000049	0.0002807	0.0035	1.45		7655.81	7655.81		29.82	Si
SLV 11	ini.	4460.08	5385	-0.0011953	0.0002807	0.0035	1.45		7646.28	7646.28		1.71	Si
SLV 11	fin.	-563.65	879	-0.0001094	0.0002807	0.0035	1.45		7655.81	7655.81		13.58	Si
SLV 10	ini.	-3323.64	-6558	-0.0008068	0.0002807	0.0035	1.45		7655.81	7655.81		2.3	Si
SLV 10	fin.	1291.34	-2657	-0.0002637	0.0002807	0.0035	1.45		7646.28	7646.28		5.92	Si
SLD 12	ini.	3023.6	3178	-0.0007166	0.0002807	0.0035	1.45		7646.28	7646.28		2.53	Si
SLD 12	fin.	-220.16	227	-0.0000419	0.0002807	0.0035	1.45		7655.81	7655.81		34.77	Si
SLV 9	ini.	-3316.69	-6551	-0.0008046	0.0002807	0.0035	1.45		7655.81	7655.81		2.31	Si
SLV 9	fin.	1291.43	-2657	-0.0002637	0.0002807	0.0035	1.45		7646.28	7646.28		5.92	Si
SLV 12	ini.	4453.12	5378	-0.0011927	0.0002807	0.0035	1.45		7646.28	7646.28		1.72	Si
SLV 12	fin.	-563.75	879	-0.0001095	0.0002807	0.0035	1.45		7655.81	7655.81		13.58	Si
SLV 7	ini.	4757.11	5803	-0.0013096	0.0002807	0.0035	1.45		7646.28	7646.28		1.61	Si
SLV 7	fin.	-621.11	1002	-0.000121	0.0002807	0.0035	1.45		7655.81	7655.81		12.33	Si
SLV 8	ini.	4750.15	5795	-0.0013068	0.0002807	0.0035	1.45		7646.28	7646.28		1.61	Si
SLV 8	fin.	-621.2	1002	-0.000121	0.0002807	0.0035	1.45		7655.81	7655.81		12.32	Si
SLD 7	ini.	3218.18	3450	-0.0007754	0.0002807	0.0035	1.45		7646.28	7646.28		2.38	Si
SLD 7	fin.	-256.68	305	-0.000049	0.0002807	0.0035	1.45		7655.81	7655.81		29.83	Si
SLD 11	ini.	3027.96	3182	-0.0007179	0.0002807	0.0035	1.45		7646.28	7646.28		2.53	Si
SLD 11	fin.	-220.1	227	-0.0000419	0.0002807	0.0035	1.45		7655.81	7655.81		34.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	4453.12	-8738	1.45	0	4229	7137	9118	3698	11366		1.3	Si
SLV 12	fin.	-563.75	-9402	1.45	0	4229	7137	9118	3698	11366		1.21	Si
SLD 7	ini.	3218.18	-5942	1.45	0	4229	7137	9118	3698	11366		1.91	Si
SLD 7	fin.	-256.68	-6646	1.45	0	4229	7137	9118	3698	11366		1.71	Si
SLV 7	ini.	4757.11	-9352	1.45	0	4229	7137	9118	3698	11366		1.22	Si
SLV 7	fin.	-621.11	-10045	1.45	0	4229	7137	9118	3698	11366		1.13	Si
SLV 8	ini.	4750.15	-9339	1.45	0	4229	7137	9118	3698	11366		1.22	Si
SLV 8	fin.	-621.2	-10032	1.45	0	4229	7137	9118	3698	11366		1.13	Si
SLV 5	ini.	-3019.66	7937	1.45	0	4229	7137	9118	3698	11366		1.43	Si
SLV 5	fin.	1233.98	7164	1.45	0	4229	7137	9118	3698	11366		1.59	Si
SLV 11	ini.	4460.08	-8752	1.45	0	4229	7137	9118	3698	11366		1.3	Si
SLV 11	fin.	-563.65	-9415	1.45	0	4229	7137	9118	3698	11366		1.21	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 8	ini.	3213.83	-5933	1.45	0	4229	7137	9118	3698	11366		1.92	Si
SLD 8	fin.	-256.74	-6638	1.45	0	4229	7137	9118	3698	11366		1.71	Si
SLV 10	ini.	-3323.64	8551	1.45	0	4229	7137	9118	3698	11366		1.33	Si
SLV 10	fin.	1291.34	7808	1.45	0	4229	7137	9118	3698	11366		1.46	Si
SLV 9	ini.	-3316.69	8537	1.45	0	4229	7137	9118	3698	11366		1.33	Si
SLV 9	fin.	1291.43	7794	1.45	0	4229	7137	9118	3698	11366		1.46	Si
SLV 6	ini.	-3026.62	7951	1.45	0	4229	7137	9118	3698	11366		1.43	Si
SLV 6	fin.	1233.88	7178	1.45	0	4229	7137	9118	3698	11366		1.58	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.607	SLV 7	Si
V_SLV	1.131	SLV 7	Si
PF_SLU	2.832	SLU 60	Si
V_SLU	2.302	SLU 60	Si

Trave di accoppiamento 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-19.868	1.046	7.1	8.55	1.45	-20.668	1.046	7.1	8.55	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-1724.65	-6828	-0.0003741	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.9	Si
SLU 75	fin.	627.71	-4903	-0.0001234	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.21	Si
SLU 81	ini.	-1776.65	-6907	-0.0003874	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.84	Si
SLU 81	fin.	672.76	-4904	-0.0001327	0.0002246	0.0035	1.45		7855.43	3269.17	Si	4.86	Si
SLU 73	ini.	-1724.32	-6649	-0.000374	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.9	Si
SLU 73	fin.	655.71	-4704	-0.0001291	0.0002246	0.0035	1.45		7855.43	3269.17	Si	4.99	Si
SLU 74	ini.	-1722.4	-6823	-0.0003736	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.9	Si
SLU 74	fin.	628.48	-4900	-0.0001235	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.2	Si
SLU 84	ini.	-1765.89	-7012	-0.0003847	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.85	Si
SLU 84	fin.	638.92	-5043	-0.0001257	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.12	Si
SLU 78	ini.	-1711.64	-6928	-0.0003708	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.91	Si
SLU 78	fin.	594.64	-5039	-0.0001166	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.5	Si
SLU 76	ini.	-1711.31	-6749	-0.0003707	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.91	Si
SLU 76	fin.	622.64	-4840	-0.0001223	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.25	Si
SLU 82	ini.	-1778.9	-6911	-0.000388	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.84	Si
SLU 82	fin.	672	-4907	-0.0001325	0.0002246	0.0035	1.45		7855.43	3269.17	Si	4.86	Si
SLU 83	ini.	-1763.64	-7007	-0.0003841	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.85	Si
SLU 83	fin.	639.69	-5040	-0.0001258	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.11	Si
SLU 77	ini.	-1709.39	-6924	-0.0003702	0.0002246	0.0035	1.45		7864.45	3269.17	Si	1.91	Si
SLU 77	fin.	595.4	-5036	-0.0001167	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-1763.64	6211	1.45	0	3383	6344	7295	3698	5075	Si	0.82	No
SLU 83	fin.	639.69	3307	1.45	0	3383	6344	7295	3698	5075	Si	1.53	Si
SLU 78	ini.	-1711.64	5907	1.45	0	3383	6344	7295	3698	5075	Si	0.86	No
SLU 78	fin.	594.64	3226	1.45	0	3383	6344	7295	3698	5075	Si	1.57	Si
SLU 74	ini.	-1722.4	5994	1.45	0	3383	6344	7295	3698	5075	Si	0.85	No
SLU 74	fin.	628.48	3313	1.45	0	3383	6344	7295	3698	5075	Si	1.53	Si
SLU 82	ini.	-1778.9	6304	1.45	0	3383	6344	7295	3698	5075	Si	0.81	No
SLU 82	fin.	672	3400	1.45	0	3383	6344	7295	3698	5075	Si	1.49	Si
SLU 81	ini.	-1776.65	6301	1.45	0	3383	6344	7295	3698	5075	Si	0.81	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	fin.	672.76	3397	1.45	0	3383	6344	7295	3698	5075	Si	1.49	Si
SLU 73	ini.	-1724.32	6050	1.45	0	3383	6344	7295	3698	5075	Si	0.84	No
SLU 73	fin.	655.71	3369	1.45	0	3383	6344	7295	3698	5075	Si	1.51	Si
SLU 77	ini.	-1709.39	5904	1.45	0	3383	6344	7295	3698	5075	Si	0.86	No
SLU 77	fin.	595.4	3223	1.45	0	3383	6344	7295	3698	5075	Si	1.57	Si
SLU 76	ini.	-1711.31	5960	1.45	0	3383	6344	7295	3698	5075	Si	0.85	No
SLU 76	fin.	622.64	3279	1.45	0	3383	6344	7295	3698	5075	Si	1.55	Si
SLU 75	ini.	-1724.65	5997	1.45	0	3383	6344	7295	3698	5075	Si	0.85	No
SLU 75	fin.	627.71	3316	1.45	0	3383	6344	7295	3698	5075	Si	1.53	Si
SLU 84	ini.	-1765.89	6214	1.45	0	3383	6344	7295	3698	5075	Si	0.82	No
SLU 84	fin.	638.92	3310	1.45	0	3383	6344	7295	3698	5075	Si	1.53	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-2556.09	-5244	-0.0005663	0.0003369	0.0035	1.45		7587.09	7587.09		2.97	Si
SLD 15	fin.	1924.59	-1717	-0.0004061	0.0003369	0.0035	1.45		7577.35	7577.35		3.94	Si
SLV 16	ini.	-3306.39	-5585	-0.0007787	0.0003369	0.0035	1.45		7587.09	7587.09		2.29	Si
SLV 16	fin.	2751.95	-838	-0.0006204	0.0003369	0.0035	1.45		7577.35	7577.35		2.75	Si
SLD 13	ini.	-2592.34	-5277	-0.000576	0.0003369	0.0035	1.45		7587.09	7587.09		2.93	Si
SLD 13	fin.	1897.11	-1721	-0.0003995	0.0003369	0.0035	1.45		7577.35	7577.35		3.99	Si
SLV 15	ini.	-3306.54	-5593	-0.0007787	0.0003369	0.0035	1.45		7587.09	7587.09		2.29	Si
SLV 15	fin.	2741.12	-859	-0.0006174	0.0003369	0.0035	1.45		7577.35	7577.35		2.76	Si
SLV 9	ini.	-1954.09	-5015	-0.0004127	0.0003369	0.0035	1.45		7587.09	7587.09		3.88	Si
SLV 9	fin.	1072.88	-2542	-0.0002137	0.0003369	0.0035	1.45		7577.35	7577.35		7.06	Si
SLV 14	ini.	-3365.17	-5639	-0.0007963	0.0003369	0.0035	1.45		7587.09	7587.09		2.25	Si
SLV 14	fin.	2707.19	-845	-0.000608	0.0003369	0.0035	1.45		7577.35	7577.35		2.8	Si
SLD 14	ini.	-2592.25	-5272	-0.000576	0.0003369	0.0035	1.45		7587.09	7587.09		2.93	Si
SLD 14	fin.	1904.02	-1707	-0.0004011	0.0003369	0.0035	1.45		7577.35	7577.35		3.98	Si
SLV 10	ini.	-1953.99	-5010	-0.0004127	0.0003369	0.0035	1.45		7587.09	7587.09		3.88	Si
SLV 10	fin.	1080.17	-2527	-0.0002153	0.0003369	0.0035	1.45		7577.35	7577.35		7.01	Si
SLD 16	ini.	-2555.99	-5239	-0.0005663	0.0003369	0.0035	1.45		7587.09	7587.09		2.97	Si
SLD 16	fin.	1931.5	-1703	-0.0004078	0.0003369	0.0035	1.45		7577.35	7577.35		3.92	Si
SLV 13	ini.	-3365.32	-5648	-0.0007964	0.0003369	0.0035	1.45		7587.09	7587.09		2.25	Si
SLV 13	fin.	2696.36	-866	-0.0006051	0.0003369	0.0035	1.45		7577.35	7577.35		2.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-3365.32	12652	1.45	0	5075	6344	10943	3698	11419		0.9	No
SLV 13	fin.	2696.36	11006	1.45	0	5075	6344	10943	3698	11419		1.04	Si
SLD 13	ini.	-2592.34	9605	1.45	0	5075	6344	10943	3698	11419		1.19	Si
SLD 13	fin.	1897.11	7941	1.45	0	5075	6344	10943	3698	11419		1.44	Si
SLD 15	ini.	-2556.09	9578	1.45	0	5075	6344	10943	3698	11419		1.19	Si
SLD 15	fin.	1924.59	7878	1.45	0	5075	6344	10943	3698	11419		1.45	Si
SLV 9	ini.	-1954.09	6799	1.45	0	5075	6344	10943	3698	11419		1.68	Si
SLV 9	fin.	1072.88	5210	1.45	0	5075	6344	10943	3698	11419		2.19	Si
SLD 16	ini.	-2555.99	9594	1.45	0	5075	6344	10943	3698	11419		1.19	Si
SLD 16	fin.	1931.5	7894	1.45	0	5075	6344	10943	3698	11419		1.45	Si
SLV 10	ini.	-1953.99	6816	1.45	0	5075	6344	10943	3698	11419		1.68	Si
SLV 10	fin.	1080.17	5227	1.45	0	5075	6344	10943	3698	11419		2.18	Si
SLV 15	ini.	-3306.54	12608	1.45	0	5075	6344	10943	3698	11419		0.91	No
SLV 15	fin.	2741.12	10903	1.45	0	5075	6344	10943	3698	11419		1.05	Si
SLD 14	ini.	-2592.25	9621	1.45	0	5075	6344	10943	3698	11419		1.19	Si
SLD 14	fin.	1904.02	7958	1.45	0	5075	6344	10943	3698	11419		1.43	Si
SLV 14	ini.	-3365.17	12677	1.45	0	5075	6344	10943	3698	11419		0.9	No
SLV 14	fin.	2707.19	11032	1.45	0	5075	6344	10943	3698	11419		1.04	Si
SLV 16	ini.	-3306.39	12634	1.45	0	5075	6344	10943	3698	11419		0.9	No
SLV 16	fin.	2751.95	10929	1.45	0	5075	6344	10943	3698	11419		1.04	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.254	SLV 13	Si
V_SLV	0.901	SLV 14	No
PF_SLU	1.838	SLU 82	Si
V_SLU	0.805	SLU 82	No

Trave di accoppiamento 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-11.163	1.046	7.5	8.55	1.05	-12.283	1.046	7.5	8.55	1.05	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-996.33	-4563	-0.0004194	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.23	Si
SLU 73	fin.	-168.29	-3962	-0.0000616	0.0002246	0.0035	1.05		4132.15	2219.17	Si	13.19	Si
SLU 76	ini.	-1011.83	-4673	-0.0004272	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.19	Si
SLU 76	fin.	-173.64	-4070	-0.0000636	0.0002246	0.0035	1.05		4132.15	2219.17	Si	12.78	Si
SLU 80	ini.	-1004.93	-4740	-0.0004237	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.21	Si
SLU 80	fin.	-196.86	-4192	-0.0000724	0.0002246	0.0035	1.05		4132.15	2219.17	Si	11.27	Si
SLU 84	ini.	-1052.78	-4820	-0.0004479	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.11	Si
SLU 84	fin.	-190.12	-4207	-0.0000698	0.0002246	0.0035	1.05		4132.15	2219.17	Si	11.67	Si
SLU 75	ini.	-1003.88	-4693	-0.0004232	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.21	Si
SLU 75	fin.	-185.83	-4128	-0.0000682	0.0002246	0.0035	1.05		4132.15	2219.17	Si	11.94	Si
SLU 42	ini.	-988.69	-4287	-0.0004156	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.24	Si
SLU 42	fin.	-124.29	-3593	-0.0000453	0.0002246	0.0035	1.05		4132.15	2219.17	Si	17.85	Si
SLU 78	ini.	-1019.39	-4803	-0.000431	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.18	Si
SLU 78	fin.	-191.19	-4236	-0.0000702	0.0002246	0.0035	1.05		4132.15	2219.17	Si	11.61	Si
SLU 81	ini.	-1003.67	-4646	-0.0004231	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.21	Si
SLU 81	fin.	-211.56	-4118	-0.0000779	0.0002246	0.0035	1.05		4132.15	2219.17	Si	10.49	Si
SLU 82	ini.	-1037.28	-4710	-0.00044	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.14	Si
SLU 82	fin.	-184.77	-4099	-0.0000678	0.0002246	0.0035	1.05		4132.15	2219.17	Si	12.01	Si
SLU 83	ini.	-1019.17	-4756	-0.0004308	0.0002246	0.0035	1.05		4132.15	2219.17	Si	2.18	Si
SLU 83	fin.	-216.92	-4226	-0.0000799	0.0002246	0.0035	1.05		4132.15	2219.17	Si	10.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-996.33	2380	1.05	0	2450	8326	5283	2678	3675	Si	1.54	Si
SLU 73	fin.	-168.29	-393	1.05	0	2450	8326	5283	2678	3675	Si	9.34	Si
SLU 39	ini.	-939.58	2375	1.05	0	2450	8326	5283	2678	3675	Si	1.55	Si
SLU 39	fin.	-145.73	-430	1.05	0	2450	8326	5283	2678	3675	Si	8.54	Si
SLU 76	ini.	-1011.83	2390	1.05	0	2450	8326	5283	2678	3675	Si	1.54	Si
SLU 76	fin.	-173.64	-383	1.05	0	2450	8326	5283	2678	3675	Si	9.58	Si
SLU 81	ini.	-1003.67	2451	1.05	0	2450	8326	5283	2678	3675	Si	1.5	Si
SLU 81	fin.	-211.56	-596	1.05	0	2450	8326	5283	2678	3675	Si	6.16	Si
SLU 83	ini.	-1019.17	2461	1.05	0	2450	8326	5283	2678	3675	Si	1.49	Si
SLU 83	fin.	-216.92	-586	1.05	0	2450	8326	5283	2678	3675	Si	6.27	Si
SLU 84	ini.	-1052.78	2554	1.05	0	2450	8326	5283	2678	3675	Si	1.44	Si
SLU 84	fin.	-190.12	-493	1.05	0	2450	8326	5283	2678	3675	Si	7.45	Si
SLU 41	ini.	-955.08	2385	1.05	0	2450	8326	5283	2678	3675	Si	1.54	Si
SLU 41	fin.	-151.09	-421	1.05	0	2450	8326	5283	2678	3675	Si	8.74	Si
SLU 40	ini.	-973.19	2468	1.05	0	2450	8326	5283	2678	3675	Si	1.49	Si
SLU 40	fin.	-118.94	-337	1.05	0	2450	8326	5283	2678	3675	Si	10.89	Si
SLU 42	ini.	-988.69	2478	1.05	0	2450	8326	5283	2678	3675	Si	1.48	Si
SLU 42	fin.	-124.29	-328	1.05	0	2450	8326	5283	2678	3675	Si	11.22	Si
SLU 82	ini.	-1037.28	2544	1.05	0	2450	8326	5283	2678	3675	Si	1.44	Si
SLU 82	fin.	-184.77	-503	1.05	0	2450	8326	5283	2678	3675	Si	7.3	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2144.54	-2183	-0.0010294	0.0003369	0.0035	1.05		4079.77	4079.77		1.9	Si
SLV 3	fin.	-4680.96	-11075	-0.0040553	0.0003369	0.0035	1.05		4086.9	4086.9		0.87	No
SLV 2	ini.	977.04	-4332	-0.0003915	0.0003369	0.0035	1.05		4079.77	4079.77		4.18	Si
SLV 2	fin.	-3750.47	-10370	-0.0025436	0.0003369	0.0035	1.05		4086.9	4086.9		1.09	Si
SLV 4	ini.	2161.24	-2199	-0.0010402	0.0003369	0.0035	1.05		4079.77	4079.77		1.89	Si
SLV 4	fin.	-4712.24	-11151	-0.0041018	0.0003369	0.0035	1.05		4086.9	4086.9		0.87	No
SLV 13	ini.	-3359.33	-3879	-0.0020375	0.0003369	0.0035	1.05		4086.9	4086.9		1.22	Si
SLV 13	fin.	4367.34	5499	-0.0035787	0.0003369	0.0035	1.05		4079.77	4079.77		0.93	No
SLV 16	ini.	-2158.42	-1761	-0.0010361	0.0003369	0.0035	1.05		4086.9	4086.9		1.89	Si
SLV 16	fin.	3374.29	4642	-0.0020607	0.0003369	0.0035	1.05		4079.77	4079.77		1.21	Si
SLV 9	ini.	-3226.28	-6524	-0.0018926	0.0003369	0.0035	1.05		4086.9	4086.9		1.27	Si
SLV 9	fin.	2654	870	-0.0013876	0.0003369	0.0035	1.05		4079.77	4079.77		1.54	Si
SLV 10	ini.	-3215.04	-6535	-0.0018809	0.0003369	0.0035	1.05		4086.9	4086.9		1.27	Si
SLV 10	fin.	2632.94	819	-0.0013714	0.0003369	0.0035	1.05		4079.77	4079.77		1.55	Si
SLV 15	ini.	-2175.13	-1745	-0.0010469	0.0003369	0.0035	1.05		4086.9	4086.9		1.88	Si
SLV 15	fin.	3405.58	4718	-0.0020972	0.0003369	0.0035	1.05		4079.77	4079.77		1.2	Si
SLV 14	ini.	-3342.62	-3895	-0.0020187	0.0003369	0.0035	1.05		4086.9	4086.9		1.22	Si
SLV 14	fin.	4336.06	5423	-0.0035275	0.0003369	0.0035	1.05		4079.77	4079.77		0.94	No



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	960.34	-4317	-0.0003839	0.0003369	0.0035	1.05		4079.77	4079.77		4.25	Si
SLV 1	fin.	-3719.19	-10294	-0.0024983	0.0003369	0.0035	1.05		4086.9	4086.9		1.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-3359.33	12109	1.05	0	2855	8326	7924	2678	10602		0.88	No
SLV 13	fin.	4367.34	10396	1.05	0	2855	8326	7924	2678	10602		1.02	Si
SLV 10	ini.	-3215.04	9548	1.05	0	2855	8326	7924	2678	10602		1.11	Si
SLV 10	fin.	2632.94	7795	1.05	0	2855	8326	7924	2678	10602		1.36	Si
SLV 14	ini.	-3342.62	12038	1.05	0	2855	8326	7924	2678	10602		0.88	No
SLV 14	fin.	4336.06	10325	1.05	0	2855	8326	7924	2678	10602		1.03	Si
SLV 4	ini.	2161.24	-9475	1.05	0	2855	8326	7924	2678	10602		1.12	Si
SLV 4	fin.	-4712.24	-11189	1.05	0	2855	8326	7924	2678	10602		0.95	No
SLV 8	ini.	2028.2	-6962	1.05	0	2855	8326	7924	2678	10602		1.52	Si
SLV 8	fin.	-2998.9	-8636	1.05	0	2855	8326	7924	2678	10602		1.23	Si
SLV 16	ini.	-2158.42	8722	1.05	0	2855	8326	7924	2678	10602		1.22	Si
SLV 16	fin.	3374.29	7036	1.05	0	2855	8326	7924	2678	10602		1.51	Si
SLV 7	ini.	2016.95	-6914	1.05	0	2855	8326	7924	2678	10602		1.53	Si
SLV 7	fin.	-2977.84	-8588	1.05	0	2855	8326	7924	2678	10602		1.23	Si
SLV 15	ini.	-2175.13	8793	1.05	0	2855	8326	7924	2678	10602		1.21	Si
SLV 15	fin.	3405.58	7107	1.05	0	2855	8326	7924	2678	10602		1.49	Si
SLV 3	ini.	2144.54	-9404	1.05	0	2855	8326	7924	2678	10602		1.13	Si
SLV 3	fin.	-4680.96	-11118	1.05	0	2855	8326	7924	2678	10602		0.95	No
SLV 9	ini.	-3226.28	9596	1.05	0	2855	8326	7924	2678	10602		1.1	Si
SLV 9	fin.	2654	7843	1.05	0	2855	8326	7924	2678	10602		1.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.867	SLV 4	No
V_SLV	0.876	SLV 13	No
PF_SLU	2.108	SLU 84	Si
V_SLU	1.439	SLU 84	Si

Trave di accoppiamento 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-9.386	1.046	7.5	8.55	1.05	-10.466	1.046	7.5	8.55	1.05	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-25.79	-3280	-0.0000093	0.0002246	0.0035	1.05		4132.15	2219.17	Si	86.04	Si
SLU 36	fin.	-693.69	-3972	-0.0002756	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.2	Si
SLU 42	ini.	-45.69	-3357	-0.0000165	0.0002246	0.0035	1.05		4132.15	2219.17	Si	48.57	Si
SLU 42	fin.	-702.13	-4015	-0.0002794	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.16	Si
SLU 80	ini.	-88.8	-3786	-0.0000322	0.0002246	0.0035	1.05		4132.15	2219.17	Si	24.99	Si
SLU 80	fin.	-712.14	-4404	-0.0002839	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.12	Si
SLU 82	ini.	-115.52	-3843	-0.000042	0.0002246	0.0035	1.05		4132.15	2219.17	Si	19.21	Si
SLU 82	fin.	-714.06	-4410	-0.0002848	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.11	Si
SLU 75	ini.	-95.62	-3767	-0.0000347	0.0002246	0.0035	1.05		4132.15	2219.17	Si	23.21	Si
SLU 75	fin.	-705.62	-4367	-0.000281	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.15	Si
SLU 83	ini.	-127.55	-3905	-0.0000465	0.0002246	0.0035	1.05		4132.15	2219.17	Si	17.4	Si
SLU 83	fin.	-699.12	-4438	-0.0002781	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.17	Si
SLU 84	ini.	-107.29	-3904	-0.000039	0.0002246	0.0035	1.05		4132.15	2219.17	Si	20.68	Si
SLU 84	fin.	-730.93	-4505	-0.0002925	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.04	Si
SLU 73	ini.	-91.75	-3664	-0.0000333	0.0002246	0.0035	1.05		4132.15	2219.17	Si	24.19	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	fin.	-699.61	-4259	-0.0002783	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.17	Si
SLU 76	ini.	-83.52	-3724	-0.0000303	0.0002246	0.0035	1.05		4132.15	2219.17	Si	26.57	Si
SLU 76	fin.	-716.48	-4354	-0.0002859	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.1	Si
SLU 78	ini.	-87.39	-3827	-0.0000317	0.0002246	0.0035	1.05		4132.15	2219.17	Si	25.39	Si
SLU 78	fin.	-722.48	-4462	-0.0002886	0.0002246	0.0035	1.05		4132.15	2219.17	Si	3.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-115.52	-1455	1.05	0	2450	8326	5283	2678	3675	Si	2.53	Si
SLU 82	fin.	-714.06	-1718	1.05	0	2450	8326	5283	2678	3675	Si	2.14	Si
SLU 40	ini.	-53.92	-1377	1.05	0	2450	8326	5283	2678	3675	Si	2.67	Si
SLU 40	fin.	-685.27	-1718	1.05	0	2450	8326	5283	2678	3675	Si	2.14	Si
SLU 84	ini.	-107.29	-1511	1.05	0	2450	8326	5283	2678	3675	Si	2.43	Si
SLU 84	fin.	-730.93	-1754	1.05	0	2450	8326	5283	2678	3675	Si	2.09	Si
SLU 38	ini.	-27.2	-1456	1.05	0	2450	8326	5283	2678	3675	Si	2.52	Si
SLU 38	fin.	-683.34	-1683	1.05	0	2450	8326	5283	2678	3675	Si	2.18	Si
SLU 36	ini.	-25.79	-1484	1.05	0	2450	8326	5283	2678	3675	Si	2.48	Si
SLU 36	fin.	-693.69	-1700	1.05	0	2450	8326	5283	2678	3675	Si	2.16	Si
SLU 76	ini.	-83.52	-1529	1.05	0	2450	8326	5283	2678	3675	Si	2.4	Si
SLU 76	fin.	-716.48	-1701	1.05	0	2450	8326	5283	2678	3675	Si	2.16	Si
SLU 80	ini.	-88.8	-1534	1.05	0	2450	8326	5283	2678	3675	Si	2.4	Si
SLU 80	fin.	-712.14	-1683	1.05	0	2450	8326	5283	2678	3675	Si	2.18	Si
SLU 34	ini.	-21.92	-1450	1.05	0	2450	8326	5283	2678	3675	Si	2.53	Si
SLU 34	fin.	-687.68	-1702	1.05	0	2450	8326	5283	2678	3675	Si	2.16	Si
SLU 78	ini.	-87.39	-1562	1.05	0	2450	8326	5283	2678	3675	Si	2.35	Si
SLU 78	fin.	-722.48	-1699	1.05	0	2450	8326	5283	2678	3675	Si	2.16	Si
SLU 42	ini.	-45.69	-1433	1.05	0	2450	8326	5283	2678	3675	Si	2.56	Si
SLU 42	fin.	-702.13	-1755	1.05	0	2450	8326	5283	2678	3675	Si	2.09	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	328.05	-4219	-0.0001216	0.0003369	0.0035	1.05		4079.77	4079.77		12.44	Si
SLV 9	fin.	-2074.22	-7416	-0.0009825	0.0003369	0.0035	1.05		4086.9	4086.9		1.97	Si
SLV 14	ini.	-2207.84	-8709	-0.0010683	0.0003369	0.0035	1.05		4086.9	4086.9		1.85	Si
SLV 14	fin.	-330.45	-6628	-0.0001223	0.0003369	0.0035	1.05		4086.9	4086.9		12.37	Si
SLV 2	ini.	2728.72	3816	-0.0014461	0.0003369	0.0035	1.05		4079.77	4079.77		1.5	Si
SLV 2	fin.	-1614.08	-1252	-0.0007115	0.0003369	0.0035	1.05		4086.9	4086.9		2.53	Si
SLV 10	ini.	340.65	-4191	-0.0001264	0.0003369	0.0035	1.05		4079.77	4079.77		11.98	Si
SLV 10	fin.	-2078.39	-7407	-0.0009851	0.0003369	0.0035	1.05		4086.9	4086.9		1.97	Si
SLV 13	ini.	-2226.55	-8751	-0.0010806	0.0003369	0.0035	1.05		4086.9	4086.9		1.84	Si
SLV 13	fin.	-324.26	-6642	-0.0001199	0.0003369	0.0035	1.05		4086.9	4086.9		12.6	Si
SLV 6	ini.	1821.62	-433	-0.000831	0.0003369	0.0035	1.05		4079.77	4079.77		2.24	Si
SLV 6	fin.	-2463.48	-5794	-0.0012432	0.0003369	0.0035	1.05		4086.9	4086.9		1.66	Si
SLV 1	ini.	2710.02	3773	-0.0014313	0.0003369	0.0035	1.05		4079.77	4079.77		1.51	Si
SLV 1	fin.	-1607.9	-1266	-0.0007081	0.0003369	0.0035	1.05		4086.9	4086.9		2.54	Si
SLV 5	ini.	1809.02	-462	-0.0008236	0.0003369	0.0035	1.05		4079.77	4079.77		2.26	Si
SLV 5	fin.	-2459.32	-5804	-0.0012402	0.0003369	0.0035	1.05		4086.9	4086.9		1.66	Si
SLV 16	ini.	-2913.91	-8830	-0.0015961	0.0003369	0.0035	1.05		4086.9	4086.9		1.4	Si
SLV 16	fin.	783.56	-4350	-0.0003058	0.0003369	0.0035	1.05		4079.77	4079.77		5.21	Si
SLV 15	ini.	-2932.62	-8873	-0.0016124	0.0003369	0.0035	1.05		4086.9	4086.9		1.39	Si
SLV 15	fin.	789.75	-4364	-0.0003085	0.0003369	0.0035	1.05		4079.77	4079.77		5.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 6	ini.	1103.05	-4498	1.05	0	2961	8326	7924	2678	10602		2.36	Si
SLD 6	fin.	-1684.11	-4783	1.05	0	2961	8326	7924	2678	10602		2.22	Si
SLV 16	ini.	-2913.91	4905	1.05	0	2961	8326	7924	2678	10602		2.16	Si
SLV 16	fin.	783.56	4926	1.05	0	2961	8326	7924	2678	10602		2.15	Si
SLV 6	ini.	1821.62	-6673	1.05	0	2961	8326	7924	2678	10602		1.59	Si
SLV 6	fin.	-2463.48	-7121	1.05	0	2961	8326	7924	2678	10602		1.49	Si
SLV 1	ini.	2710.02	-6709	1.05	0	2961	8326	7924	2678	10602		1.58	Si
SLV 1	fin.	-1607.9	-6769	1.05	0	2961	8326	7924	2678	10602		1.57	Si
SLV 15	ini.	-2932.62	4942	1.05	0	2961	8326	7924	2678	10602		2.15	Si
SLV 15	fin.	789.75	4963	1.05	0	2961	8326	7924	2678	10602		2.14	Si
SLV 11	ini.	-2025.51	4869	1.05	0	2961	8326	7924	2678	10602		2.18	Si
SLV 11	fin.	1639.15	5278	1.05	0	2961	8326	7924	2678	10602		2.01	Si
SLV 12	ini.	-2012.92	4844	1.05	0	2961	8326	7924	2678	10602		2.19	Si
SLV 12	fin.	1634.98	5253	1.05	0	2961	8326	7924	2678	10602		2.02	Si
SLV 5	ini.	1809.02	-6648	1.05	0	2961	8326	7924	2678	10602		1.59	Si
SLV 5	fin.	-2459.32	-7096	1.05	0	2961	8326	7924	2678	10602		1.49	Si
SLV 2	ini.	2728.72	-6746	1.05	0	2961	8326	7924	2678	10602		1.57	Si
SLV 2	fin.	-1614.08	-6806	1.05	0	2961	8326	7924	2678	10602		1.56	Si
SLD 5	ini.	1095.17	-4482	1.05	0	2961	8326	7924	2678	10602		2.37	Si
SLD 5	fin.	-1681.5	-4768	1.05	0	2961	8326	7924	2678	10602		2.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.394	SLV 15	Si
V_SLV	1.489	SLV 6	Si
PF_SLU	3.036	SLU 84	Si
V_SLU	2.094	SLU 42	Si



Trave di accoppiamento 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.478	1.046	7.1	8.55	1.45	-7.278	1.046	7.1	8.55	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	ini.	113.98	-4837	-0.0000216	0.0002246	0.0035	1.45		7855.43	3269.17	Si	28.68	Si
SLU 66	fin.	-838.21	-5551	-0.0001672	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.9	Si
SLU 46	ini.	184.94	-4101	-0.0000352	0.0002246	0.0035	1.45		7855.43	3269.17	Si	17.68	Si
SLU 46	fin.	-836.95	-4887	-0.000167	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.91	Si
SLU 44	ini.	200.11	-3911	-0.0000382	0.0002246	0.0035	1.45		7855.43	3269.17	Si	16.34	Si
SLU 44	fin.	-847.26	-4717	-0.0001692	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.86	Si
SLU 72	ini.	140.15	-4856	-0.0000266	0.0002246	0.0035	1.45		7855.43	3269.17	Si	23.33	Si
SLU 72	fin.	-849.77	-5600	-0.0001697	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.85	Si
SLU 70	ini.	136.48	-4923	-0.0000259	0.0002246	0.0035	1.45		7855.43	3269.17	Si	23.95	Si
SLU 70	fin.	-851.07	-5664	-0.00017	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.84	Si
SLU 67	ini.	134.38	-4815	-0.0000255	0.0002246	0.0035	1.45		7855.43	3269.17	Si	24.33	Si
SLU 67	fin.	-852.9	-5556	-0.0001704	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.83	Si
SLU 47	ini.	202.21	-4019	-0.0000386	0.0002246	0.0035	1.45		7855.43	3269.17	Si	16.17	Si
SLU 47	fin.	-845.43	-4826	-0.0001688	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.87	Si
SLU 65	ini.	149.56	-4626	-0.0000284	0.0002246	0.0035	1.45		7855.43	3269.17	Si	21.86	Si
SLU 65	fin.	-863.21	-5387	-0.0001726	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.79	Si
SLU 68	ini.	151.66	-4734	-0.0000288	0.0002246	0.0035	1.45		7855.43	3269.17	Si	21.56	Si
SLU 68	fin.	-861.38	-5495	-0.0001722	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.8	Si
SLU 64	ini.	115.55	-4662	-0.0000219	0.0002246	0.0035	1.45		7855.43	3269.17	Si	28.29	Si
SLU 64	fin.	-838.73	-5378	-0.0001674	0.0002246	0.0035	1.45		7864.45	3269.17	Si	3.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	116.08	-770	1.45	0	3383	6344	7295	3698	5075	Si	6.59	Si
SLU 69	fin.	-836.39	-2964	1.45	0	3383	6344	7295	3698	5075	Si	1.71	Si
SLU 65	ini.	149.56	-888	1.45	0	3383	6344	7295	3698	5075	Si	5.72	Si
SLU 65	fin.	-863.21	-3082	1.45	0	3383	6344	7295	3698	5075	Si	1.65	Si
SLU 70	ini.	136.48	-838	1.45	0	3383	6344	7295	3698	5075	Si	6.06	Si
SLU 70	fin.	-851.07	-3032	1.45	0	3383	6344	7295	3698	5075	Si	1.67	Si
SLU 68	ini.	151.66	-888	1.45	0	3383	6344	7295	3698	5075	Si	5.71	Si
SLU 68	fin.	-861.38	-3082	1.45	0	3383	6344	7295	3698	5075	Si	1.65	Si
SLU 71	ini.	119.75	-775	1.45	0	3383	6344	7295	3698	5075	Si	6.55	Si
SLU 71	fin.	-835.08	-2969	1.45	0	3383	6344	7295	3698	5075	Si	1.71	Si
SLU 76	ini.	27.85	-240	1.45	0	3383	6344	7295	3698	5075	Si	21.12	Si
SLU 76	fin.	-804.45	-2996	1.45	0	3383	6344	7295	3698	5075	Si	1.69	Si
SLU 73	ini.	25.75	-240	1.45	0	3383	6344	7295	3698	5075	Si	21.18	Si
SLU 73	fin.	-806.28	-2995	1.45	0	3383	6344	7295	3698	5075	Si	1.69	Si
SLU 64	ini.	115.55	-773	1.45	0	3383	6344	7295	3698	5075	Si	6.56	Si
SLU 64	fin.	-838.73	-2967	1.45	0	3383	6344	7295	3698	5075	Si	1.71	Si
SLU 67	ini.	134.38	-837	1.45	0	3383	6344	7295	3698	5075	Si	6.06	Si
SLU 67	fin.	-852.9	-3032	1.45	0	3383	6344	7295	3698	5075	Si	1.67	Si
SLU 72	ini.	140.15	-843	1.45	0	3383	6344	7295	3698	5075	Si	6.02	Si
SLU 72	fin.	-849.77	-3037	1.45	0	3383	6344	7295	3698	5075	Si	1.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2144.96	-5777	-0.0004598	0.0003369	0.0035	1.45		7587.09	7587.09		3.54	Si
SLV 16	fin.	1567.02	-3094	-0.0003222	0.0003369	0.0035	1.45		7577.35	7577.35		4.84	Si
SLV 4	ini.	1691.91	-2126	-0.0003509	0.0003369	0.0035	1.45		7577.35	7577.35		4.48	Si
SLV 4	fin.	-2397.11	-5067	-0.0005243	0.0003369	0.0035	1.45		7587.09	7587.09		3.17	Si
SLV 15	ini.	-2179.98	-5825	-0.0004686	0.0003369	0.0035	1.45		7587.09	7587.09		3.48	Si
SLV 15	fin.	1579.2	-3112	-0.000325	0.0003369	0.0035	1.45		7577.35	7577.35		4.8	Si
SLV 2	ini.	2309.23	-1388	-0.0005022	0.0003369	0.0035	1.45		7577.35	7577.35		3.28	Si
SLV 2	fin.	-2830.01	-5133	-0.0006411	0.0003369	0.0035	1.45		7587.09	7587.09		2.68	Si
SLD 2	ini.	1494.83	-2193	-0.0003059	0.0003369	0.0035	1.45		7577.35	7577.35		5.07	Si
SLD 2	fin.	-2031.64	-4767	-0.0004317	0.0003369	0.0035	1.45		7587.09	7587.09		3.73	Si
SLV 6	ini.	1680.81	-1812	-0.0003483	0.0003369	0.0035	1.45		7577.35	7577.35		4.51	Si
SLV 6	fin.	-1945.62	-4521	-0.0004107	0.0003369	0.0035	1.45		7587.09	7587.09		3.9	Si
SLD 1	ini.	1472.48	-2224	-0.0003008	0.0003369	0.0035	1.45		7577.35	7577.35		5.15	Si
SLD 1	fin.	-2023.86	-4778	-0.0004298	0.0003369	0.0035	1.45		7587.09	7587.09		3.75	Si
SLV 1	ini.	2274.21	-1435	-0.0004932	0.0003369	0.0035	1.45		7577.35	7577.35		3.33	Si
SLV 1	fin.	-2817.82	-5151	-0.0006377	0.0003369	0.0035	1.45		7587.09	7587.09		2.69	Si
SLV 3	ini.	1656.89	-2174	-0.0003428	0.0003369	0.0035	1.45		7577.35	7577.35		4.57	Si
SLV 3	fin.	-2384.92	-5085	-0.0005211	0.0003369	0.0035	1.45		7587.09	7587.09		3.18	Si
SLV 5	ini.	1657.23	-1844	-0.0003429	0.0003369	0.0035	1.45		7577.35	7577.35		4.57	Si
SLV 5	fin.	-1937.42	-4533	-0.0004087	0.0003369	0.0035	1.45		7587.09	7587.09		3.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2144.96	7846	1.45	0	5075	6344	10943	3698	11419		1.46	Si
SLV 16	fin.	1567.02	6121	1.45	0	5075	6344	10943	3698	11419		1.87	Si
SLV 3	ini.	1656.89	-6785	1.45	0	5075	6344	10943	3698	11419		1.68	Si
SLV 3	fin.	-2384.92	-8501	1.45	0	5075	6344	10943	3698	11419		1.34	Si
SLV 5	ini.	1657.23	-6078	1.45	0	5075	6344	10943	3698	11419		1.88	Si
SLV 5	fin.	-1937.42	-7803	1.45	0	5075	6344	10943	3698	11419		1.46	Si
SLV 15	ini.	-2179.98	7932	1.45	0	5075	6344	10943	3698	11419		1.44	Si
SLV 15	fin.	1579.2	6207	1.45	0	5075	6344	10943	3698	11419		1.84	Si
SLV 4	ini.	1691.91	-6871	1.45	0	5075	6344	10943	3698	11419		1.66	Si
SLV 4	fin.	-2397.11	-8587	1.45	0	5075	6344	10943	3698	11419		1.33	Si
SLV 6	ini.	1680.81	-6136	1.45	0	5075	6344	10943	3698	11419		1.86	Si
SLV 6	fin.	-1945.62	-7861	1.45	0	5075	6344	10943	3698	11419		1.45	Si
SLD 1	ini.	1472.48	-5805	1.45	0	5075	6344	10943	3698	11419		1.97	Si
SLD 1	fin.	-2023.86	-7524	1.45	0	5075	6344	10943	3698	11419		1.52	Si
SLD 2	ini.	1494.83	-5860	1.45	0	5075	6344	10943	3698	11419		1.95	Si
SLD 2	fin.	-2031.64	-7579	1.45	0	5075	6344	10943	3698	11419		1.51	Si
SLV 2	ini.	2309.23	-8916	1.45	0	5075	6344	10943	3698	11419		1.28	Si
SLV 2	fin.	-2830.01	-10634	1.45	0	5075	6344	10943	3698	11419		1.07	Si
SLV 1	ini.	2274.21	-8829	1.45	0	5075	6344	10943	3698	11419		1.29	Si
SLV 1	fin.	-2817.82	-10548	1.45	0	5075	6344	10943	3698	11419		1.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.681	SLV 2	Si
V_SLV	1.074	SLV 2	Si
PF_SLU	3.787	SLU 65	Si
V_SLU	1.646	SLU 68	Si

Trave di accoppiamento 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-4.168	1.046	7.1	8.55	1.45	-4.968	1.046	7.1	8.55	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	578.74	-4171	-0.0001133	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.65	Si
SLU 75	fin.	-1169.52	-5481	-0.0002402	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.8	Si
SLU 83	ini.	570.23	-4343	-0.0001116	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.73	Si
SLU 83	fin.	-1206.24	-5679	-0.0002485	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.71	Si
SLU 78	ini.	550.71	-4302	-0.0001076	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.94	Si
SLU 78	fin.	-1156.28	-5578	-0.0002371	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.83	Si
SLU 74	ini.	573.43	-4181	-0.0001122	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.7	Si
SLU 74	fin.	-1167.31	-5486	-0.0002396	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.8	Si
SLU 82	ini.	603.58	-4202	-0.0001184	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.42	Si
SLU 82	fin.	-1221.69	-5576	-0.0002521	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.68	Si
SLU 73	ini.	605.71	-3975	-0.0001188	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.4	Si
SLU 73	fin.	-1173.79	-5311	-0.0002411	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.79	Si
SLU 81	ini.	598.26	-4212	-0.0001173	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.46	Si
SLU 81	fin.	-1219.47	-5581	-0.0002516	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.68	Si
SLU 77	ini.	545.4	-4312	-0.0001065	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.99	Si
SLU 77	fin.	-1154.07	-5583	-0.0002366	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.83	Si
SLU 84	ini.	575.55	-4333	-0.0001127	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.68	Si
SLU 84	fin.	-1208.45	-5674	-0.0002491	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.71	Si
SLU 76	ini.	577.68	-4106	-0.0001131	0.0002246	0.0035	1.45		7855.43	3269.17	Si	5.66	Si
SLU 76	fin.	-1160.55	-5408	-0.0002381	0.0002246	0.0035	1.45		7864.45	3269.17	Si	2.82	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	605.71	-2057	1.45	0	3383	6344	7295	3698	5075	Si	2.47	Si
SLU 73	fin.	-1173.79	-4724	1.45	0	3383	6344	7295	3698	5075	Si	1.07	Si
SLU 84	ini.	575.55	-1955	1.45	0	3383	6344	7295	3698	5075	Si	2.6	Si
SLU 84	fin.	-1208.45	-4846	1.45	0	3383	6344	7295	3698	5075	Si	1.05	Si
SLU 75	ini.	578.74	-1994	1.45	0	3383	6344	7295	3698	5075	Si	2.54	Si
SLU 75	fin.	-1169.52	-4662	1.45	0	3383	6344	7295	3698	5075	Si	1.09	Si
SLU 81	ini.	598.26	-2024	1.45	0	3383	6344	7295	3698	5075	Si	2.51	Si
SLU 81	fin.	-1219.47	-4915	1.45	0	3383	6344	7295	3698	5075	Si	1.03	Si
SLU 78	ini.	550.71	-1912	1.45	0	3383	6344	7295	3698	5075	Si	2.65	Si
SLU 78	fin.	-1156.28	-4579	1.45	0	3383	6344	7295	3698	5075	Si	1.11	Si
SLU 83	ini.	570.23	-1941	1.45	0	3383	6344	7295	3698	5075	Si	2.61	Si
SLU 83	fin.	-1206.24	-4832	1.45	0	3383	6344	7295	3698	5075	Si	1.05	Si
SLU 76	ini.	577.68	-1975	1.45	0	3383	6344	7295	3698	5075	Si	2.57	Si
SLU 76	fin.	-1160.55	-4642	1.45	0	3383	6344	7295	3698	5075	Si	1.09	Si
SLU 77	ini.	545.4	-1898	1.45	0	3383	6344	7295	3698	5075	Si	2.67	Si
SLU 77	fin.	-1154.07	-4565	1.45	0	3383	6344	7295	3698	5075	Si	1.11	Si
SLU 82	ini.	603.58	-2037	1.45	0	3383	6344	7295	3698	5075	Si	2.49	Si
SLU 82	fin.	-1221.69	-4928	1.45	0	3383	6344	7295	3698	5075	Si	1.03	Si
SLU 74	ini.	573.43	-1981	1.45	0	3383	6344	7295	3698	5075	Si	2.56	Si
SLU 74	fin.	-1167.31	-4648	1.45	0	3383	6344	7295	3698	5075	Si	1.09	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	3131.91	1566	-0.0007282	0.0003369	0.0035	1.45		7577.35	7577.35		2.42	Si
SLV 1	fin.	-2184.99	-2385	-0.0004699	0.0003369	0.0035	1.45		7587.09	7587.09		3.47	Si
SLD 1	ini.	2163.56	29	-0.0004651	0.0003369	0.0035	1.45		7577.35	7577.35		3.5	Si
SLD 1	fin.	-1691.78	-2837	-0.0003505	0.0003369	0.0035	1.45		7587.09	7587.09		4.48	Si
SLV 2	ini.	3107.12	1541	-0.000721	0.0003369	0.0035	1.45		7577.35	7577.35		2.44	Si
SLV 2	fin.	-2171.8	-2370	-0.0004666	0.0003369	0.0035	1.45		7587.09	7587.09		3.49	Si
SLV 3	ini.	2942.11	1130	-0.0006736	0.0003369	0.0035	1.45		7577.35	7577.35		2.58	Si
SLV 3	fin.	-2154.84	-2690	-0.0004623	0.0003369	0.0035	1.45		7587.09	7587.09		3.52	Si
SLV 4	ini.	2917.31	1105	-0.0006665	0.0003369	0.0035	1.45		7577.35	7577.35		2.6	Si
SLV 4	fin.	-2141.65	-2675	-0.000459	0.0003369	0.0035	1.45		7587.09	7587.09		3.54	Si
SLD 3	ini.	2046.56	-239	-0.0004359	0.0003369	0.0035	1.45		7577.35	7577.35		3.7	Si
SLD 3	fin.	-1672.19	-3024	-0.0003459	0.0003369	0.0035	1.45		7587.09	7587.09		4.54	Si
SLV 16	ini.	-2233.6	-6942	-0.0004822	0.0003369	0.0035	1.45		7587.09	7587.09		3.4	Si
SLV 16	fin.	555.02	-4883	-0.0001074	0.0003369	0.0035	1.45		7577.35	7577.35		13.65	Si
SLV 15	ini.	-2208.81	-6917	-0.0004759	0.0003369	0.0035	1.45		7587.09	7587.09		3.43	Si
SLV 15	fin.	541.83	-4897	-0.0001048	0.0003369	0.0035	1.45		7577.35	7577.35		13.98	Si
SLV 14	ini.	-2043.8	-6506	-0.0004347	0.0003369	0.0035	1.45		7587.09	7587.09		3.71	Si
SLV 14	fin.	524.87	-4577	-0.0001014	0.0003369	0.0035	1.45		7577.35	7577.35		14.44	Si
SLD 2	ini.	2147.73	13	-0.0004611	0.0003369	0.0035	1.45		7577.35	7577.35		3.53	Si
SLD 2	fin.	-1683.36	-2828	-0.0003485	0.0003369	0.0035	1.45		7587.09	7587.09		4.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	1546.48	-4624	1.45	0	5075	6344	10943	3698	11419		2.47	Si
SLV 5	fin.	-1274.18	-6290	1.45	0	5075	6344	10943	3698	11419		1.82	Si
SLV 4	ini.	2917.31	-8791	1.45	0	5075	6344	10943	3698	11419		1.3	Si
SLV 4	fin.	-2141.65	-10439	1.45	0	5075	6344	10943	3698	11419		1.09	Si
SLV 1	ini.	3131.91	-9344	1.45	0	5075	6344	10943	3698	11419		1.22	Si
SLV 1	fin.	-2184.99	-10989	1.45	0	5075	6344	10943	3698	11419		1.04	Si
SLV 2	ini.	3107.12	-9261	1.45	0	5075	6344	10943	3698	11419		1.23	Si
SLV 2	fin.	-2171.8	-10906	1.45	0	5075	6344	10943	3698	11419		1.05	Si
SLV 6	ini.	1529.78	-4568	1.45	0	5075	6344	10943	3698	11419		2.5	Si
SLV 6	fin.	-1265.3	-6234	1.45	0	5075	6344	10943	3698	11419		1.83	Si
SLD 3	ini.	2046.56	-6242	1.45	0	5075	6344	10943	3698	11419		1.83	Si
SLD 3	fin.	-1672.19	-7905	1.45	0	5075	6344	10943	3698	11419		1.44	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	2163.56	-6532	1.45	0	5075	6344	10943	3698	11419		1.75	Si
SLD 1	fin.	-1691.78	-8194	1.45	0	5075	6344	10943	3698	11419		1.39	Si
SLV 3	ini.	2942.11	-8875	1.45	0	5075	6344	10943	3698	11419		1.29	Si
SLV 3	fin.	-2154.84	-10523	1.45	0	5075	6344	10943	3698	11419		1.09	Si
SLD 2	ini.	2147.73	-6479	1.45	0	5075	6344	10943	3698	11419		1.76	Si
SLD 2	fin.	-1683.36	-8140	1.45	0	5075	6344	10943	3698	11419		1.4	Si
SLD 4	ini.	2030.74	-6189	1.45	0	5075	6344	10943	3698	11419		1.85	Si
SLD 4	fin.	-1663.77	-7852	1.45	0	5075	6344	10943	3698	11419		1.45	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.419	SLV 1	Si
V_SLV	1.039	SLV 1	Si
PF_SLU	2.676	SLU 82	Si
V_SLU	1.03	SLU 82	Si

Trave di accoppiamento 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.718	6.661	5	5.9	0.9	-16.818	6.661	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	471.14	-2456	-0.0002576	0.0001872	0.0035	0.9		2959	1717.92	Si	3.65	Si
SLU 83	fin.	166.04	-2267	-0.000084	0.0001872	0.0035	0.9		2959	1717.92	Si	10.35	Si
SLU 74	ini.	465.26	-2394	-0.000254	0.0001872	0.0035	0.9		2959	1717.92	Si	3.69	Si
SLU 74	fin.	155.01	-2191	-0.0000782	0.0001872	0.0035	0.9		2959	1717.92	Si	11.08	Si
SLU 75	ini.	455.59	-2380	-0.000248	0.0001872	0.0035	0.9		2959	1717.92	Si	3.77	Si
SLU 75	fin.	164.14	-2203	-0.000083	0.0001872	0.0035	0.9		2959	1717.92	Si	10.47	Si
SLU 77	ini.	473.53	-2443	-0.0002591	0.0001872	0.0035	0.9		2959	1717.92	Si	3.63	Si
SLU 77	fin.	161.43	-2242	-0.0000815	0.0001872	0.0035	0.9		2959	1717.92	Si	10.64	Si
SLU 79	ini.	470.23	-2418	-0.0002571	0.0001872	0.0035	0.9		2959	1717.92	Si	3.65	Si
SLU 79	fin.	156.31	-2211	-0.0000789	0.0001872	0.0035	0.9		2959	1717.92	Si	10.99	Si
SLU 78	ini.	463.86	-2429	-0.0002531	0.0001872	0.0035	0.9		2959	1717.92	Si	3.7	Si
SLU 78	fin.	170.57	-2254	-0.0000863	0.0001872	0.0035	0.9		2959	1717.92	Si	10.07	Si
SLU 81	ini.	462.86	-2408	-0.0002525	0.0001872	0.0035	0.9		2959	1717.92	Si	3.71	Si
SLU 81	fin.	159.61	-2216	-0.0000806	0.0001872	0.0035	0.9		2959	1717.92	Si	10.76	Si
SLU 84	ini.	461.47	-2442	-0.0002516	0.0001872	0.0035	0.9		2959	1717.92	Si	3.72	Si
SLU 84	fin.	175.17	-2279	-0.0000887	0.0001872	0.0035	0.9		2959	1717.92	Si	9.81	Si
SLU 80	ini.	460.56	-2403	-0.0002511	0.0001872	0.0035	0.9		2959	1717.92	Si	3.73	Si
SLU 80	fin.	165.44	-2223	-0.0000836	0.0001872	0.0035	0.9		2959	1717.92	Si	10.38	Si
SLU 82	ini.	453.19	-2393	-0.0002465	0.0001872	0.0035	0.9		2959	1717.92	Si	3.79	Si
SLU 82	fin.	168.75	-2228	-0.0000854	0.0001872	0.0035	0.9		2959	1717.92	Si	10.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	470.23	-1745	0.9	0	1750	7137	3773	2295	2625	Si	1.5	Si
SLU 79	fin.	156.31	944	0.9	0	1750	7137	3773	2295	2625	Si	2.78	Si
SLU 83	ini.	471.14	-1722	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 83	fin.	166.04	960	0.9	0	1750	7137	3773	2295	2625	Si	2.74	Si
SLU 69	ini.	452.12	-1712	0.9	0	1750	7137	3773	2295	2625	Si	1.53	Si
SLU 69	fin.	123.73	836	0.9	0	1750	7137	3773	2295	2625	Si	3.14	Si
SLU 84	ini.	461.47	-1681	0.9	0	1750	7137	3773	2295	2625	Si	1.56	Si
SLU 84	fin.	175.17	986	0.9	0	1750	7137	3773	2295	2625	Si	2.66	Si
SLU 74	ini.	465.26	-1719	0.9	0	1750	7137	3773	2295	2625	Si	1.53	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	155.01	929	0.9	0	1750	7137	3773	2295	2625	Si	2.82	Si
SLU 80	ini.	460.56	-1704	0.9	0	1750	7137	3773	2295	2625	Si	1.54	Si
SLU 80	fin.	165.44	970	0.9	0	1750	7137	3773	2295	2625	Si	2.7	Si
SLU 71	ini.	448.82	-1694	0.9	0	1750	7137	3773	2295	2625	Si	1.55	Si
SLU 71	fin.	118.61	807	0.9	0	1750	7137	3773	2295	2625	Si	3.25	Si
SLU 81	ini.	462.86	-1678	0.9	0	1750	7137	3773	2295	2625	Si	1.56	Si
SLU 81	fin.	159.61	916	0.9	0	1750	7137	3773	2295	2625	Si	2.87	Si
SLU 77	ini.	473.53	-1763	0.9	0	1750	7137	3773	2295	2625	Si	1.49	Si
SLU 77	fin.	161.43	973	0.9	0	1750	7137	3773	2295	2625	Si	2.7	Si
SLU 78	ini.	463.86	-1722	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 78	fin.	170.57	999	0.9	0	1750	7137	3773	2295	2625	Si	2.63	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1077.65	104	-0.0006494	0.0002807	0.0035	0.9		2995.37	2995.37		2.78	Si
SLV 2	fin.	1592.2	-4076	-0.0010777	0.0002807	0.0035	0.9		2989.59	2989.59		1.88	Si
SLV 12	ini.	1504.89	-3214	-0.000999	0.0002807	0.0035	0.9		2989.59	2989.59		1.99	Si
SLV 12	fin.	-1104.5	440	-0.0006696	0.0002807	0.0035	0.9		2995.37	2995.37		2.71	Si
SLV 15	ini.	1737.84	-3350	-0.001216	0.0002807	0.0035	0.9		2989.59	2989.59		1.72	Si
SLV 15	fin.	-1427.71	1221	-0.0009295	0.0002807	0.0035	0.9		2995.37	2995.37		2.1	Si
SLV 11	ini.	1295.62	-2978	-0.0008213	0.0002807	0.0035	0.9		2989.59	2989.59		2.31	Si
SLV 11	fin.	-873.19	15	-0.0005024	0.0002807	0.0035	0.9		2995.37	2995.37		3.43	Si
SLD 16	ini.	1426.06	-2946	-0.0009303	0.0002807	0.0035	0.9		2989.59	2989.59		2.1	Si
SLD 16	fin.	-1100.43	667	-0.0006665	0.0002807	0.0035	0.9		2995.37	2995.37		2.72	Si
SLV 13	ini.	1341.44	-2755	-0.000859	0.0002807	0.0035	0.9		2989.59	2989.59		2.23	Si
SLV 13	fin.	-1054.15	716	-0.0006319	0.0002807	0.0035	0.9		2995.37	2995.37		2.84	Si
SLV 1	ini.	-1388.46	455	-0.0008962	0.0002807	0.0035	0.9		2995.37	2995.37		2.16	Si
SLV 1	fin.	1935.76	-4707	-0.0014206	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si
SLV 3	ini.	-992.06	-140	-0.0005865	0.0002807	0.0035	0.9		2995.37	2995.37		3.02	Si
SLV 3	fin.	1562.21	-4202	-0.0010503	0.0002807	0.0035	0.9		2989.59	2989.59		1.91	Si
SLV 16	ini.	2048.66	-3701	-0.001548	0.0002807	0.0035	0.9		2989.59	2989.59		1.46	Si
SLV 16	fin.	-1771.27	1852	-0.0012459	0.0002807	0.0035	0.9		2995.37	2995.37		1.69	Si
SLV 14	ini.	1652.26	-3106	-0.0011336	0.0002807	0.0035	0.9		2989.59	2989.59		1.81	Si
SLV 14	fin.	-1397.71	1347	-0.000904	0.0002807	0.0035	0.9		2995.37	2995.37		2.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	2048.66	-7539	0.9	0	2625	7137	5660	2295	7955		1.06	Si
SLV 16	fin.	-1771.27	-6238	0.9	0	2625	7137	5660	2295	7955		1.28	Si
SLV 14	ini.	1652.26	-5877	0.9	0	2625	7137	5660	2295	7955		1.35	Si
SLV 14	fin.	-1397.71	-5168	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLV 2	ini.	-1077.65	3968	0.9	0	2625	7137	5660	2295	7955		2	Si
SLV 2	fin.	1592.2	6075	0.9	0	2625	7137	5660	2295	7955		1.31	Si
SLV 3	ini.	-992.06	3438	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLV 3	fin.	1562.21	6265	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 11	ini.	1295.62	-5085	0.9	0	2625	7137	5660	2295	7955		1.56	Si
SLV 11	fin.	-873.19	-2497	0.9	0	2625	7137	5660	2295	7955		3.19	Si
SLD 16	ini.	1426.06	-5247	0.9	0	2625	7137	5660	2295	7955		1.52	Si
SLD 16	fin.	-1100.43	-3783	0.9	0	2625	7137	5660	2295	7955		2.1	Si
SLV 12	ini.	1504.89	-5847	0.9	0	2625	7137	5660	2295	7955		1.36	Si
SLV 12	fin.	-1104.5	-3346	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 15	ini.	1737.84	-6408	0.9	0	2625	7137	5660	2295	7955		1.24	Si
SLV 15	fin.	-1427.71	-4977	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 4	ini.	-681.24	2307	0.9	0	2625	7137	5660	2295	7955		3.45	Si
SLV 4	fin.	1218.64	5004	0.9	0	2625	7137	5660	2295	7955		1.59	Si
SLV 1	ini.	-1388.46	5099	0.9	0	2625	7137	5660	2295	7955		1.56	Si
SLV 1	fin.	1935.76	7336	0.9	0	2625	7137	5660	2295	7955		1.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 16	Si
V_SLV		SLV 16	Si
PF_SLU		SLU 77	Si
V_SLU		SLU 77	Si

Trave di accoppiamento 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.718	6.661	7.7	8.55	0.85	-16.818	6.661	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-134.95	-978	-0.0000759	0.0001872	0.0035	0.85		2655.83	1586.67	Si	11.76	Si
SLU 84	fin.	-528.98	-2484	-0.0003345	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3	Si
SLU 74	ini.	-117.77	-923	-0.000066	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.47	Si
SLU 74	fin.	-524.91	-2442	-0.0003315	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.02	Si
SLU 80	ini.	-127.68	-951	-0.0000717	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.43	Si
SLU 80	fin.	-522.13	-2446	-0.0003294	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.04	Si
SLU 77	ini.	-124.42	-957	-0.0000698	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.75	Si
SLU 77	fin.	-535.63	-2500	-0.0003394	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.96	Si
SLU 75	ini.	-124.29	-936	-0.0000698	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.77	Si
SLU 75	fin.	-517.6	-2420	-0.0003261	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.07	Si
SLU 82	ini.	-128.29	-945	-0.0000721	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.37	Si
SLU 82	fin.	-518.25	-2426	-0.0003266	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.06	Si
SLU 79	ini.	-121.17	-939	-0.000068	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.09	Si
SLU 79	fin.	-529.43	-2468	-0.0003348	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3	Si
SLU 78	ini.	-130.94	-969	-0.0000736	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.12	Si
SLU 78	fin.	-528.33	-2478	-0.000334	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3	Si
SLU 83	ini.	-128.43	-966	-0.0000722	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.35	Si
SLU 83	fin.	-536.28	-2506	-0.0003399	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.96	Si
SLU 81	ini.	-121.78	-932	-0.0000683	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.03	Si
SLU 81	fin.	-525.55	-2448	-0.000332	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-128.43	1379	0.85	0	1653	6740	3563	2168	2479	Si	1.8	Si
SLU 83	fin.	-536.28	-4419	0.85	0	1653	6740	3563	2168	2479	Si	0.56	No
SLU 82	ini.	-128.29	1365	0.85	0	1653	6740	3563	2168	2479	Si	1.82	Si
SLU 82	fin.	-518.25	-4289	0.85	0	1653	6740	3563	2168	2479	Si	0.58	No
SLU 79	ini.	-121.17	1328	0.85	0	1653	6740	3563	2168	2479	Si	1.87	Si
SLU 79	fin.	-529.43	-4341	0.85	0	1653	6740	3563	2168	2479	Si	0.57	No
SLU 81	ini.	-121.78	1339	0.85	0	1653	6740	3563	2168	2479	Si	1.85	Si
SLU 81	fin.	-525.55	-4327	0.85	0	1653	6740	3563	2168	2479	Si	0.57	No
SLU 74	ini.	-117.77	1307	0.85	0	1653	6740	3563	2168	2479	Si	1.9	Si
SLU 74	fin.	-524.91	-4298	0.85	0	1653	6740	3563	2168	2479	Si	0.58	No
SLU 80	ini.	-127.68	1355	0.85	0	1653	6740	3563	2168	2479	Si	1.83	Si
SLU 80	fin.	-522.13	-4303	0.85	0	1653	6740	3563	2168	2479	Si	0.58	No
SLU 78	ini.	-130.94	1374	0.85	0	1653	6740	3563	2168	2479	Si	1.8	Si
SLU 78	fin.	-528.33	-4352	0.85	0	1653	6740	3563	2168	2479	Si	0.57	No
SLU 84	ini.	-134.95	1405	0.85	0	1653	6740	3563	2168	2479	Si	1.76	Si
SLU 84	fin.	-528.98	-4381	0.85	0	1653	6740	3563	2168	2479	Si	0.57	No
SLU 75	ini.	-124.29	1334	0.85	0	1653	6740	3563	2168	2479	Si	1.86	Si
SLU 75	fin.	-517.6	-4260	0.85	0	1653	6740	3563	2168	2479	Si	0.58	No
SLU 77	ini.	-124.42	1348	0.85	0	1653	6740	3563	2168	2479	Si	1.84	Si
SLU 77	fin.	-535.63	-4390	0.85	0	1653	6740	3563	2168	2479	Si	0.56	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 16	ini.	775.33	1066	-0.0004994	0.0002807	0.0035	0.85		2675.27	2675.27		3.45	Si
SLD 16	fin.	-1099.32	-3516	-0.0007664	0.0002807	0.0035	0.85		2680.73	2680.73		2.44	Si
SLV 11	ini.	599.31	713	-0.000369	0.0002807	0.0035	0.85		2675.27	2675.27		4.46	Si
SLV 11	fin.	-1054.92	-3608	-0.0007274	0.0002807	0.0035	0.85		2680.73	2680.73		2.54	Si
SLV 15	ini.	993.73	1480	-0.0006765	0.0002807	0.0035	0.85		2675.27	2675.27		2.69	Si
SLV 15	fin.	-1305.19	-4060	-0.0009571	0.0002807	0.0035	0.85		2680.73	2680.73		2.05	Si
SLV 2	ini.	-1110.98	-2603	-0.0007767	0.0002807	0.0035	0.85		2680.73	2680.73		2.41	Si
SLV 2	fin.	590.49	805	-0.0003628	0.0002807	0.0035	0.85		2675.27	2675.27		4.53	Si
SLV 13	ini.	736.76	980	-0.0004699	0.0002807	0.0035	0.85		2675.27	2675.27		3.63	Si
SLV 13	fin.	-1006.15	-3170	-0.0006854	0.0002807	0.0035	0.85		2680.73	2680.73		2.66	Si
SLV 12	ini.	770.68	1056	-0.0004958	0.0002807	0.0035	0.85		2675.27	2675.27		3.47	Si
SLV 12	fin.	-1200.37	-3967	-0.0008579	0.0002807	0.0035	0.85		2680.73	2680.73		2.23	Si
SLV 3	ini.	-1108.54	-2614	-0.0007746	0.0002807	0.0035	0.85		2680.73	2680.73		2.42	Si
SLV 3	fin.	507.49	447	-0.0003056	0.0002807	0.0035	0.85		2675.27	2675.27		5.27	Si
SLV 14	ini.	991.29	1490	-0.0006745	0.0002807	0.0035	0.85		2675.27	2675.27		2.7	Si
SLV 14	fin.	-1222.19	-3703	-0.0008782	0.0002807	0.0035	0.85		2680.73	2680.73		2.19	Si
SLV 16	ini.	1248.25	1990	-0.0009049	0.0002807	0.0035	0.85		2675.27	2675.27		2.14	Si
SLV 16	fin.	-1521.22	-4593	-0.0011776	0.0002807	0.0035	0.85		2680.73	2680.73		1.76	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1365.51	-3113	-0.0010164	0.0002807	0.0035	0.85		2680.73	2680.73		1.96	Si
SLV 1	fin.	806.52	1337	-0.0005237	0.0002807	0.0035	0.85		2675.27	2675.27		3.32	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	599.31	-1972	0.85	0	2479	6740	5345	2168	7513		3.81	Si
SLV 11	fin.	-1054.92	-6345	0.85	0	2479	6740	5345	2168	7513		1.18	Si
SLV 1	ini.	-1365.51	6141	0.85	0	2479	6740	5345	2168	7513		1.22	Si
SLV 1	fin.	806.52	2452	0.85	0	2479	6740	5345	2168	7513		3.06	Si
SLD 12	ini.	462.82	-1379	0.85	0	2479	6740	5345	2168	7513		5.45	Si
SLD 12	fin.	-885.88	-5459	0.85	0	2479	6740	5345	2168	7513		1.38	Si
SLV 16	ini.	1248.25	-4539	0.85	0	2479	6740	5345	2168	7513		1.66	Si
SLV 16	fin.	-1521.22	-8220	0.85	0	2479	6740	5345	2168	7513		0.91	No
SLV 14	ini.	991.29	-3434	0.85	0	2479	6740	5345	2168	7513		2.19	Si
SLV 14	fin.	-1222.19	-6683	0.85	0	2479	6740	5345	2168	7513		1.12	Si
SLV 12	ini.	770.68	-2672	0.85	0	2479	6740	5345	2168	7513		2.81	Si
SLV 12	fin.	-1200.37	-6998	0.85	0	2479	6740	5345	2168	7513		1.07	Si
SLD 16	ini.	775.33	-2605	0.85	0	2479	6740	5345	2168	7513		2.88	Si
SLD 16	fin.	-1099.32	-6282	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 15	ini.	993.73	-3500	0.85	0	2479	6740	5345	2168	7513		2.15	Si
SLV 15	fin.	-1305.19	-7250	0.85	0	2479	6740	5345	2168	7513		1.04	Si
SLV 13	ini.	736.76	-2395	0.85	0	2479	6740	5345	2168	7513		3.14	Si
SLV 13	fin.	-1006.15	-5712	0.85	0	2479	6740	5345	2168	7513		1.32	Si
SLD 15	ini.	612.87	-1942	0.85	0	2479	6740	5345	2168	7513		3.87	Si
SLD 15	fin.	-961.43	-5663	0.85	0	2479	6740	5345	2168	7513		1.33	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.762	SLV 16	Si
V_SLV	0.914	SLV 16	No
PF_SLU	2.959	SLU 83	Si
V_SLU	0.561	SLU 83	No

Trave di accoppiamento 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.838	6.661	5	5.9	0.9	-11.938	6.661	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-102.66	-2493	-0.0000511	0.0001872	0.0035	0.9		2964.67	1717.92	Si	16.73	Si
SLU 82	fin.	1003.73	-3316	-0.000634	0.0001872	0.0035	0.9		2959	1717.92	Si	1.71	Si
SLU 74	ini.	-73.79	-2504	-0.0000365	0.0001872	0.0035	0.9		2964.67	1717.92	Si	23.28	Si
SLU 74	fin.	973.82	-3274	-0.0006107	0.0001872	0.0035	0.9		2959	1717.92	Si	1.76	Si
SLU 80	ini.	-66.27	-2517	-0.0000328	0.0001872	0.0035	0.9		2964.67	1717.92	Si	25.92	Si
SLU 80	fin.	968.31	-3274	-0.0006064	0.0001872	0.0035	0.9		2959	1717.92	Si	1.77	Si
SLU 81	ini.	-95.94	-2507	-0.0000477	0.0001872	0.0035	0.9		2964.67	1717.92	Si	17.91	Si
SLU 81	fin.	1000.23	-3321	-0.0006313	0.0001872	0.0035	0.9		2959	1717.92	Si	1.72	Si
SLU 76	ini.	-83.8	-2447	-0.0000416	0.0001872	0.0035	0.9		2964.67	1717.92	Si	20.5	Si
SLU 76	fin.	965.14	-3221	-0.000604	0.0001872	0.0035	0.9		2959	1717.92	Si	1.78	Si
SLU 83	ini.	-82.89	-2568	-0.0000411	0.0001872	0.0035	0.9		2964.67	1717.92	Si	20.72	Si
SLU 83	fin.	1005.74	-3371	-0.0006356	0.0001872	0.0035	0.9		2959	1717.92	Si	1.71	Si
SLU 75	ini.	-80.51	-2489	-0.0000399	0.0001872	0.0035	0.9		2964.67	1717.92	Si	21.34	Si
SLU 75	fin.	977.33	-3269	-0.0006134	0.0001872	0.0035	0.9		2959	1717.92	Si	1.76	Si
SLU 77	ini.	-60.75	-2565	-0.00003	0.0001872	0.0035	0.9		2964.67	1717.92	Si	28.28	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	979.33	-3324	-0.000615	0.0001872	0.0035	0.9		2959	1717.92	Si	1.75	Si
SLU 84	ini.	-89.61	-2554	-0.0000445	0.0001872	0.0035	0.9		2964.67	1717.92	Si	19.17	Si
SLU 84	fin.	1009.25	-3366	-0.0006384	0.0001872	0.0035	0.9		2959	1717.92	Si	1.7	Si
SLU 78	ini.	-67.46	-2550	-0.0000334	0.0001872	0.0035	0.9		2964.67	1717.92	Si	25.46	Si
SLU 78	fin.	982.84	-3319	-0.0006177	0.0001872	0.0035	0.9		2959	1717.92	Si	1.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-95.94	722	0.9	0	1750	7137	3773	2295	2625	Si	3.64	Si
SLU 81	fin.	1000.23	2185	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 74	ini.	-73.79	630	0.9	0	1750	7137	3773	2295	2625	Si	4.17	Si
SLU 74	fin.	973.82	2124	0.9	0	1750	7137	3773	2295	2625	Si	1.24	Si
SLU 77	ini.	-60.75	586	0.9	0	1750	7137	3773	2295	2625	Si	4.48	Si
SLU 77	fin.	979.33	2132	0.9	0	1750	7137	3773	2295	2625	Si	1.23	Si
SLU 80	ini.	-66.27	605	0.9	0	1750	7137	3773	2295	2625	Si	4.34	Si
SLU 80	fin.	968.31	2107	0.9	0	1750	7137	3773	2295	2625	Si	1.25	Si
SLU 78	ini.	-67.46	610	0.9	0	1750	7137	3773	2295	2625	Si	4.3	Si
SLU 78	fin.	982.84	2143	0.9	0	1750	7137	3773	2295	2625	Si	1.23	Si
SLU 84	ini.	-89.61	702	0.9	0	1750	7137	3773	2295	2625	Si	3.74	Si
SLU 84	fin.	1009.25	2203	0.9	0	1750	7137	3773	2295	2625	Si	1.19	Si
SLU 82	ini.	-102.66	746	0.9	0	1750	7137	3773	2295	2625	Si	3.52	Si
SLU 82	fin.	1003.73	2196	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 75	ini.	-80.51	654	0.9	0	1750	7137	3773	2295	2625	Si	4.01	Si
SLU 75	fin.	977.33	2135	0.9	0	1750	7137	3773	2295	2625	Si	1.23	Si
SLU 83	ini.	-82.89	679	0.9	0	1750	7137	3773	2295	2625	Si	3.87	Si
SLU 83	fin.	1005.74	2192	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 76	ini.	-83.8	664	0.9	0	1750	7137	3773	2295	2625	Si	3.95	Si
SLU 76	fin.	965.14	2106	0.9	0	1750	7137	3773	2295	2625	Si	1.25	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1741.68	-120	-0.0012167	0.0002807	0.0035	0.9		2995.37	2995.37		1.72	Si
SLV 4	fin.	2297.53	-3563	-0.0018685	0.0002807	0.0035	0.9		2989.59	2989.59		1.3	Si
SLD 1	ini.	-1563.5	-59	-0.0010489	0.0002807	0.0035	0.9		2995.37	2995.37		1.92	Si
SLD 1	fin.	2044.6	-3163	-0.0015433	0.0002807	0.0035	0.9		2989.59	2989.59		1.46	Si
SLV 1	ini.	-2418.35	856	-0.0020437	0.0002807	0.0035	0.9		2995.37	2995.37		1.24	Si
SLV 1	fin.	2830.54	-3709	-0.002846	0.0002807	0.0035	0.9		2989.59	2989.59		1.06	Si
SLV 2	ini.	-2021.36	450	-0.0015121	0.0002807	0.0035	0.9		2995.37	2995.37		1.48	Si
SLV 2	fin.	2457.61	-3427	-0.0021143	0.0002807	0.0035	0.9		2989.59	2989.59		1.22	Si
SLV 16	ini.	2316.5	-4199	-0.0018958	0.0002807	0.0035	0.9		2989.59	2989.59		1.29	Si
SLV 16	fin.	-1527.79	-666	-0.0010169	0.0002807	0.0035	0.9		2995.37	2995.37		1.96	Si
SLV 14	ini.	2036.82	-3629	-0.0015342	0.0002807	0.0035	0.9		2989.59	2989.59		1.47	Si
SLV 14	fin.	-1367.72	-530	-0.0008788	0.0002807	0.0035	0.9		2995.37	2995.37		2.19	Si
SLV 3	ini.	-2138.67	286	-0.0016519	0.0002807	0.0035	0.9		2995.37	2995.37		1.4	Si
SLV 3	fin.	2670.47	-3845	-0.0025016	0.0002807	0.0035	0.9		2989.59	2989.59		1.12	Si
SLD 3	ini.	-1390.19	-413	-0.0008976	0.0002807	0.0035	0.9		2995.37	2995.37		2.15	Si
SLD 3	fin.	1945.62	-3248	-0.0014313	0.0002807	0.0035	0.9		2989.59	2989.59		1.54	Si
SLD 2	ini.	-1310.11	-319	-0.0008312	0.0002807	0.0035	0.9		2995.37	2995.37		2.29	Si
SLD 2	fin.	1806.57	-2982	-0.0012847	0.0002807	0.0035	0.9		2989.59	2989.59		1.65	Si
SLV 15	ini.	1919.51	-3793	-0.0014029	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLV 15	fin.	-1154.86	-948	-0.000708	0.0002807	0.0035	0.9		2995.37	2995.37		2.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	-1310.11	4452	0.9	0	2625	7137	5660	2295	7955		1.79	Si
SLD 2	fin.	1806.57	4984	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 3	ini.	-2138.67	7048	0.9	0	2625	7137	5660	2295	7955		1.13	Si
SLV 3	fin.	2670.47	7729	0.9	0	2625	7137	5660	2295	7955		1.03	Si
SLV 14	ini.	2036.82	-6188	0.9	0	2625	7137	5660	2295	7955		1.29	Si
SLV 14	fin.	-1367.72	-4896	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 15	ini.	1919.51	-5861	0.9	0	2625	7137	5660	2295	7955		1.36	Si
SLV 15	fin.	-1154.86	-4156	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLD 3	ini.	-1390.19	4676	0.9	0	2625	7137	5660	2295	7955		1.7	Si
SLD 3	fin.	1945.62	5461	0.9	0	2625	7137	5660	2295	7955		1.46	Si
SLV 4	ini.	-1741.68	5786	0.9	0	2625	7137	5660	2295	7955		1.37	Si
SLV 4	fin.	2297.53	6566	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 16	ini.	2316.5	-7123	0.9	0	2625	7137	5660	2295	7955		1.12	Si
SLV 16	fin.	-1527.79	-5318	0.9	0	2625	7137	5660	2295	7955		1.5	Si
SLD 1	ini.	-1563.5	5257	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLD 1	fin.	2044.6	5726	0.9	0	2625	7137	5660	2295	7955		1.39	Si
SLV 1	ini.	-2418.35	7983	0.9	0	2625	7137	5660	2295	7955		1	No
SLV 1	fin.	2830.54	8151	0.9	0	2625	7137	5660	2295	7955		0.98	No
SLV 2	ini.	-2021.36	6721	0.9	0	2625	7137	5660	2295	7955		1.18	Si
SLV 2	fin.	2457.61	6988	0.9	0	2625	7137	5660	2295	7955		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.056	SLV 1	Si
V_SLV	0.976	SLV 1	No
PF_SLU	1.702	SLU 84	Si
V_SLU	1.192	SLU 84	Si



Trave di accoppiamento 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.838	6.661	7.7	8.55	0.85	-11.938	6.661	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-687.01	-4156	-0.0004563	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.31	Si
SLU 77	fin.	-52.89	-1815	-0.0000292	0.0001872	0.0035	0.85		2655.83	1586.67	Si	30	Si
SLU 79	ini.	-676.55	-4088	-0.000448	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.35	Si
SLU 79	fin.	-51.81	-1784	-0.0000286	0.0001872	0.0035	0.85		2655.83	1586.67	Si	30.62	Si
SLU 84	ini.	-703.36	-4241	-0.0004695	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.26	Si
SLU 84	fin.	-40.59	-1795	-0.0000224	0.0001872	0.0035	0.85		2655.83	1586.67	Si	39.09	Si
SLU 74	ini.	-679.62	-4103	-0.0004504	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.33	Si
SLU 74	fin.	-45.46	-1759	-0.0000251	0.0001872	0.0035	0.85		2655.83	1586.67	Si	34.9	Si
SLU 78	ini.	-688.32	-4161	-0.0004574	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.31	Si
SLU 78	fin.	-49.74	-1801	-0.0000275	0.0001872	0.0035	0.85		2655.83	1586.67	Si	31.9	Si
SLU 75	ini.	-680.92	-4108	-0.0004515	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.33	Si
SLU 75	fin.	-42.32	-1745	-0.0000233	0.0001872	0.0035	0.85		2655.83	1586.67	Si	37.49	Si
SLU 80	ini.	-677.85	-4093	-0.000449	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.34	Si
SLU 80	fin.	-48.67	-1771	-0.0000269	0.0001872	0.0035	0.85		2655.83	1586.67	Si	32.6	Si
SLU 83	ini.	-702.06	-4236	-0.0004684	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.26	Si
SLU 83	fin.	-43.74	-1809	-0.0000241	0.0001872	0.0035	0.85		2655.83	1586.67	Si	36.27	Si
SLU 81	ini.	-694.66	-4182	-0.0004625	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.28	Si
SLU 81	fin.	-36.32	-1752	-0.00002	0.0001872	0.0035	0.85		2655.83	1586.67	Si	43.69	Si
SLU 82	ini.	-695.97	-4187	-0.0004635	0.0001872	0.0035	0.85		2655.83	1586.67	Si	2.28	Si
SLU 82	fin.	-33.17	-1739	-0.0000182	0.0001872	0.0035	0.85		2655.83	1586.67	Si	47.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-702.06	5785	0.85	0	1653	6740	3563	2168	2479	Si	0.43	No
SLU 83	fin.	-43.74	-2781	0.85	0	1653	6740	3563	2168	2479	Si	0.89	No
SLU 82	ini.	-695.97	5702	0.85	0	1653	6740	3563	2168	2479	Si	0.43	No
SLU 82	fin.	-33.17	-2650	0.85	0	1653	6740	3563	2168	2479	Si	0.94	No
SLU 77	ini.	-687.01	5671	0.85	0	1653	6740	3563	2168	2479	Si	0.44	No
SLU 77	fin.	-52.89	-2795	0.85	0	1653	6740	3563	2168	2479	Si	0.89	No
SLU 79	ini.	-676.55	5589	0.85	0	1653	6740	3563	2168	2479	Si	0.44	No
SLU 79	fin.	-51.81	-2756	0.85	0	1653	6740	3563	2168	2479	Si	0.9	No
SLU 80	ini.	-677.85	5591	0.85	0	1653	6740	3563	2168	2479	Si	0.44	No
SLU 80	fin.	-48.67	-2728	0.85	0	1653	6740	3563	2168	2479	Si	0.91	No
SLU 75	ini.	-680.92	5589	0.85	0	1653	6740	3563	2168	2479	Si	0.44	No
SLU 75	fin.	-42.32	-2664	0.85	0	1653	6740	3563	2168	2479	Si	0.93	No
SLU 81	ini.	-694.66	5700	0.85	0	1653	6740	3563	2168	2479	Si	0.43	No
SLU 81	fin.	-36.32	-2678	0.85	0	1653	6740	3563	2168	2479	Si	0.93	No
SLU 84	ini.	-703.36	5787	0.85	0	1653	6740	3563	2168	2479	Si	0.43	No
SLU 84	fin.	-40.59	-2753	0.85	0	1653	6740	3563	2168	2479	Si	0.9	No
SLU 78	ini.	-688.32	5673	0.85	0	1653	6740	3563	2168	2479	Si	0.44	No
SLU 78	fin.	-49.74	-2767	0.85	0	1653	6740	3563	2168	2479	Si	0.9	No
SLU 74	ini.	-679.62	5587	0.85	0	1653	6740	3563	2168	2479	Si	0.44	No
SLU 74	fin.	-45.46	-2692	0.85	0	1653	6740	3563	2168	2479	Si	0.92	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	615.78	921	-0.0003808	0.0002807	0.0035	0.85		2675.27	2675.27		4.34	Si
SLV 16	fin.	-1031.54	-5968	-0.0007072	0.0002807	0.0035	0.85		2680.73	2680.73		2.6	Si
SLV 1	ini.	-1515.92	-6321	-0.0011719	0.0002807	0.0035	0.85		2680.73	2680.73		1.77	Si
SLV 1	fin.	975.55	3699	-0.0006612	0.0002807	0.0035	0.85		2675.27	2675.27		2.74	Si
SLV 3	ini.	-1457.98	-6099	-0.0011106	0.0002807	0.0035	0.85		2680.73	2680.73		1.84	Si
SLV 3	fin.	844.07	3077	-0.0005533	0.0002807	0.0035	0.85		2675.27	2675.27		3.17	Si
SLD 3	ini.	-1095.7	-4877	-0.0007632	0.0002807	0.0035	0.85		2680.73	2680.73		2.45	Si
SLD 3	fin.	531.48	1567	-0.0003218	0.0002807	0.0035	0.85		2675.27	2675.27		5.03	Si
SLD 2	ini.	-1009.86	-4598	-0.0006886	0.0002807	0.0035	0.85		2680.73	2680.73		2.65	Si
SLD 2	fin.	502.15	1400	-0.000302	0.0002807	0.0035	0.85		2675.27	2675.27		5.33	Si
SLV 2	ini.	-1324.86	-5669	-0.0009763	0.0002807	0.0035	0.85		2680.73	2680.73		2.02	Si
SLV 2	fin.	801.84	2833	-0.00052	0.0002807	0.0035	0.85		2675.27	2675.27		3.34	Si
SLV 14	ini.	557.85	698	-0.00034	0.0002807	0.0035	0.85		2675.27	2675.27		4.8	Si
SLV 14	fin.	-900.06	-5346	-0.0005971	0.0002807	0.0035	0.85		2680.73	2680.73		2.98	Si
SLV 4	ini.	-1266.92	-5446	-0.0009204	0.0002807	0.0035	0.85		2680.73	2680.73		2.12	Si
SLV 4	fin.	670.36	2211	-0.0004203	0.0002807	0.0035	0.85		2675.27	2675.27		3.99	Si
SLD 4	ini.	-973.76	-4461	-0.000658	0.0002807	0.0035	0.85		2680.73	2680.73		2.75	Si
SLD 4	fin.	420.6	1014	-0.0002483	0.0002807	0.0035	0.85		2675.27	2675.27		6.36	Si
SLD 1	ini.	-1131.81	-5015	-0.0007954	0.0002807	0.0035	0.85		2680.73	2680.73		2.37	Si
SLD 1	fin.	613.03	1953	-0.0003788	0.0002807	0.0035	0.85		2675.27	2675.27		4.36	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-1095.7	7498	0.85	0	2479	6740	5345	2168	7513		1	Si
SLD 3	fin.	531.48	1885	0.85	0	2479	6740	5345	2168	7513		3.99	Si
SLD 4	ini.	-973.76	6788	0.85	0	2479	6740	5345	2168	7513		1.11	Si
SLD 4	fin.	420.6	1158	0.85	0	2479	6740	5345	2168	7513		6.49	Si
SLV 14	ini.	557.85	-2322	0.85	0	2479	6740	5345	2168	7513		3.23	Si
SLV 14	fin.	-900.06	-7341	0.85	0	2479	6740	5345	2168	7513		1.02	Si
SLV 2	ini.	-1324.86	8536	0.85	0	2479	6740	5345	2168	7513		0.88	No
SLV 2	fin.	801.84	3882	0.85	0	2479	6740	5345	2168	7513		1.94	Si
SLD 1	ini.	-1131.81	7497	0.85	0	2479	6740	5345	2168	7513		1	Si
SLD 1	fin.	613.03	2581	0.85	0	2479	6740	5345	2168	7513		2.91	Si
SLV 16	ini.	615.78	-2313	0.85	0	2479	6740	5345	2168	7513		3.25	Si
SLV 16	fin.	-1031.54	-8464	0.85	0	2479	6740	5345	2168	7513		0.89	No
SLV 3	ini.	-1457.98	9658	0.85	0	2479	6740	5345	2168	7513		0.78	No
SLV 3	fin.	844.07	3898	0.85	0	2479	6740	5345	2168	7513		1.93	Si
SLV 4	ini.	-1266.92	8546	0.85	0	2479	6740	5345	2168	7513		0.88	No
SLV 4	fin.	670.36	2759	0.85	0	2479	6740	5345	2168	7513		2.72	Si
SLV 1	ini.	-1515.92	9648	0.85	0	2479	6740	5345	2168	7513		0.78	No
SLV 1	fin.	975.55	5021	0.85	0	2479	6740	5345	2168	7513		1.5	Si
SLV 15	ini.	424.73	-1201	0.85	0	2479	6740	5345	2168	7513		6.26	Si
SLV 15	fin.	-857.82	-7325	0.85	0	2479	6740	5345	2168	7513		1.03	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.768	SLV 1	Si
V_SLV	0.778	SLV 3	No
PF_SLU	2.256	SLU 84	Si
V_SLU	0.428	SLU 84	No

Trave di accoppiamento 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.958	6.661	5	5.9	0.9	-7.058	6.661	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	249.38	-2175	-0.0001285	0.0001872	0.0035	0.9		2959	1717.92	Si	6.89	Si
SLU 78	fin.	302.28	-2014	-0.0001577	0.0001872	0.0035	0.9		2959	1717.92	Si	5.68	Si
SLU 83	ini.	248.84	-2204	-0.0001282	0.0001872	0.0035	0.9		2959	1717.92	Si	6.9	Si
SLU 83	fin.	308.53	-2053	-0.0001613	0.0001872	0.0035	0.9		2959	1717.92	Si	5.57	Si
SLU 81	ini.	248.31	-2178	-0.0001279	0.0001872	0.0035	0.9		2959	1717.92	Si	6.92	Si
SLU 81	fin.	299.95	-2022	-0.0001564	0.0001872	0.0035	0.9		2959	1717.92	Si	5.73	Si
SLU 74	ini.	234.4	-2129	-0.0001203	0.0001872	0.0035	0.9		2959	1717.92	Si	7.33	Si
SLU 74	fin.	308.5	-2005	-0.0001612	0.0001872	0.0035	0.9		2959	1717.92	Si	5.57	Si
SLU 79	ini.	227.07	-2116	-0.0001164	0.0001872	0.0035	0.9		2959	1717.92	Si	7.57	Si
SLU 79	fin.	315.86	-2010	-0.0001654	0.0001872	0.0035	0.9		2959	1717.92	Si	5.44	Si
SLU 77	ini.	234.92	-2154	-0.0001206	0.0001872	0.0035	0.9		2959	1717.92	Si	7.31	Si
SLU 77	fin.	317.08	-2036	-0.0001661	0.0001872	0.0035	0.9		2959	1717.92	Si	5.42	Si
SLU 69	ini.	182.91	-1890	-0.0000928	0.0001872	0.0035	0.9		2959	1717.92	Si	9.39	Si
SLU 69	fin.	314.14	-1863	-0.0001644	0.0001872	0.0035	0.9		2959	1717.92	Si	5.47	Si
SLU 66	ini.	182.39	-1864	-0.0000926	0.0001872	0.0035	0.9		2959	1717.92	Si	9.42	Si
SLU 66	fin.	305.56	-1833	-0.0001596	0.0001872	0.0035	0.9		2959	1717.92	Si	5.62	Si
SLU 71	ini.	175.06	-1852	-0.0000887	0.0001872	0.0035	0.9		2959	1717.92	Si	9.81	Si
SLU 71	fin.	312.92	-1838	-0.0001637	0.0001872	0.0035	0.9		2959	1717.92	Si	5.49	Si
SLU 80	ini.	241.53	-2137	-0.0001242	0.0001872	0.0035	0.9		2959	1717.92	Si	7.11	Si
SLU 80	fin.	301.06	-1989	-0.0001571	0.0001872	0.0035	0.9		2959	1717.92	Si	5.71	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	262.77	-1441	0.9	0	1750	7137	3773	2295	2625	Si	1.82	Si
SLU 82	fin.	285.15	1200	0.9	0	1750	7137	3773	2295	2625	Si	2.19	Si
SLU 84	ini.	263.29	-1462	0.9	0	1750	7137	3773	2295	2625	Si	1.8	Si
SLU 84	fin.	293.73	1240	0.9	0	1750	7137	3773	2295	2625	Si	2.12	Si
SLU 73	ini.	250.12	-1383	0.9	0	1750	7137	3773	2295	2625	Si	1.9	Si
SLU 73	fin.	274.02	1160	0.9	0	1750	7137	3773	2295	2625	Si	2.26	Si
SLU 77	ini.	234.92	-1389	0.9	0	1750	7137	3773	2295	2625	Si	1.89	Si
SLU 77	fin.	317.08	1351	0.9	0	1750	7137	3773	2295	2625	Si	1.94	Si
SLU 76	ini.	250.64	-1404	0.9	0	1750	7137	3773	2295	2625	Si	1.87	Si
SLU 76	fin.	282.61	1201	0.9	0	1750	7137	3773	2295	2625	Si	2.19	Si
SLU 78	ini.	249.38	-1435	0.9	0	1750	7137	3773	2295	2625	Si	1.83	Si
SLU 78	fin.	302.28	1294	0.9	0	1750	7137	3773	2295	2625	Si	2.03	Si
SLU 81	ini.	248.31	-1394	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 81	fin.	299.95	1257	0.9	0	1750	7137	3773	2295	2625	Si	2.09	Si
SLU 83	ini.	248.84	-1415	0.9	0	1750	7137	3773	2295	2625	Si	1.85	Si
SLU 83	fin.	308.53	1298	0.9	0	1750	7137	3773	2295	2625	Si	2.02	Si
SLU 80	ini.	241.53	-1394	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 80	fin.	301.06	1279	0.9	0	1750	7137	3773	2295	2625	Si	2.05	Si
SLU 75	ini.	248.85	-1415	0.9	0	1750	7137	3773	2295	2625	Si	1.86	Si
SLU 75	fin.	293.7	1253	0.9	0	1750	7137	3773	2295	2625	Si	2.09	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 14	ini.	1482.46	-3778	-0.0009792	0.0002807	0.0035	0.9		2989.59	2989.59		2.02	Si
SLD 14	fin.	-1017.36	132	-0.0006049	0.0002807	0.0035	0.9		2995.37	2995.37		2.94	Si
SLV 7	ini.	-1258.88	817	-0.0007897	0.0002807	0.0035	0.9		2995.37	2995.37		2.38	Si
SLV 7	fin.	1604.71	-3216	-0.0010893	0.0002807	0.0035	0.9		2989.59	2989.59		1.86	Si
SLV 13	ini.	1877.49	-4451	-0.0013581	0.0002807	0.0035	0.9		2989.59	2989.59		1.59	Si
SLV 13	fin.	-1392.74	611	-0.0008998	0.0002807	0.0035	0.9		2995.37	2995.37		2.15	Si
SLV 14	ini.	2246.67	-5132	-0.0017976	0.0002807	0.0035	0.9		2989.59	2989.59		1.33	Si
SLV 14	fin.	-1723.29	983	-0.0011987	0.0002807	0.0035	0.9		2995.37	2995.37		1.74	Si
SLV 10	ini.	1534.46	-3597	-0.0010253	0.0002807	0.0035	0.9		2989.59	2989.59		1.95	Si
SLV 10	fin.	-1159.1	496	-0.0007113	0.0002807	0.0035	0.9		2995.37	2995.37		2.58	Si
SLV 1	ini.	-1512.77	1721	-0.0010035	0.0002807	0.0035	0.9		2995.37	2995.37		1.98	Si
SLV 1	fin.	1683.38	-2988	-0.0011632	0.0002807	0.0035	0.9		2989.59	2989.59		1.78	Si
SLV 3	ini.	-1971.08	2353	-0.0014555	0.0002807	0.0035	0.9		2995.37	2995.37		1.52	Si
SLV 3	fin.	2168.91	-3703	-0.0016949	0.0002807	0.0035	0.9		2989.59	2989.59		1.38	Si
SLV 16	ini.	1788.36	-4501	-0.0012662	0.0002807	0.0035	0.9		2989.59	2989.59		1.67	Si
SLV 16	fin.	-1237.77	269	-0.0007729	0.0002807	0.0035	0.9		2995.37	2995.37		2.42	Si
SLD 3	ini.	-1206.87	999	-0.0007485	0.0002807	0.0035	0.9		2995.37	2995.37		2.48	Si
SLD 3	fin.	1462.97	-2851	-0.0009622	0.0002807	0.0035	0.9		2989.59	2989.59		2.04	Si
SLV 4	ini.	-1601.9	1672	-0.001084	0.0002807	0.0035	0.9		2995.37	2995.37		1.87	Si
SLV 4	fin.	1838.36	-3331	-0.0013172	0.0002807	0.0035	0.9		2989.59	2989.59		1.63	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	1482.46	-5847	0.9	0	2625	7137	5660	2295	7955		1.36	Si
SLD 14	fin.	-1017.36	-3535	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLV 4	ini.	-1601.9	5619	0.9	0	2625	7137	5660	2295	7955		1.42	Si
SLV 4	fin.	1838.36	6772	0.9	0	2625	7137	5660	2295	7955		1.17	Si
SLV 16	ini.	1788.36	-7204	0.9	0	2625	7137	5660	2295	7955		1.1	Si
SLV 16	fin.	-1237.77	-4218	0.9	0	2625	7137	5660	2295	7955		1.89	Si
SLV 15	ini.	1419.17	-5841	0.9	0	2625	7137	5660	2295	7955		1.36	Si
SLV 15	fin.	-907.22	-3026	0.9	0	2625	7137	5660	2295	7955		2.63	Si
SLV 14	ini.	2246.67	-8685	0.9	0	2625	7137	5660	2295	7955		0.92	No
SLV 14	fin.	-1723.29	-6084	0.9	0	2625	7137	5660	2295	7955		1.31	Si
SLV 1	ini.	-1512.77	5501	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 1	fin.	1683.38	6098	0.9	0	2625	7137	5660	2295	7955		1.3	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-1258.88	3999	0.9	0	2625	7137	5660	2295	7955		1.99	Si
SLV 7	fin.	1604.71	6100	0.9	0	2625	7137	5660	2295	7955		1.3	Si
SLV 10	ini.	1534.46	-5702	0.9	0	2625	7137	5660	2295	7955		1.39	Si
SLV 10	fin.	-1159.1	-4220	0.9	0	2625	7137	5660	2295	7955		1.88	Si
SLV 3	ini.	-1971.08	6982	0.9	0	2625	7137	5660	2295	7955		1.14	Si
SLV 3	fin.	2168.91	7964	0.9	0	2625	7137	5660	2295	7955		1	No
SLV 13	ini.	1877.49	-7322	0.9	0	2625	7137	5660	2295	7955		1.09	Si
SLV 13	fin.	-1392.74	-4892	0.9	0	2625	7137	5660	2295	7955		1.63	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.331	SLV 14	Si
V_SLV	0.916	SLV 14	No
PF_SLU	5.418	SLU 77	Si
V_SLU	1.796	SLU 84	Si

Trave di accoppiamento 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.958	6.661	7.7	8.55	0.85	-7.058	6.661	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-411.04	-2253	-0.00025	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.86	Si
SLU 77	fin.	-112.12	-1517	-0.0000628	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.15	Si
SLU 82	ini.	-396.12	-2200	-0.0002398	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.01	Si
SLU 82	fin.	-129.79	-1511	-0.0000729	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.23	Si
SLU 75	ini.	-394.99	-2186	-0.000239	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.02	Si
SLU 75	fin.	-119.8	-1491	-0.0000672	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.24	Si
SLU 83	ini.	-412.17	-2267	-0.0002508	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.85	Si
SLU 83	fin.	-122.11	-1537	-0.0000685	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.99	Si
SLU 79	ini.	-406.45	-2219	-0.0002469	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.9	Si
SLU 79	fin.	-107.61	-1486	-0.0000602	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.75	Si
SLU 74	ini.	-405.15	-2210	-0.000246	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.92	Si
SLU 74	fin.	-110.11	-1478	-0.0000616	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.41	Si
SLU 80	ini.	-396.29	-2195	-0.0002399	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4	Si
SLU 80	fin.	-117.3	-1500	-0.0000657	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.53	Si
SLU 81	ini.	-406.28	-2224	-0.0002468	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.91	Si
SLU 81	fin.	-120.09	-1498	-0.0000673	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.21	Si
SLU 78	ini.	-400.87	-2229	-0.000243	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.96	Si
SLU 78	fin.	-121.81	-1531	-0.0000683	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.03	Si
SLU 84	ini.	-402.01	-2243	-0.0002438	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.95	Si
SLU 84	fin.	-131.8	-1551	-0.0000741	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-402.01	3355	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 84	fin.	-131.8	-1897	0.85	0	1653	6740	3563	2168	2479	Si	1.31	Si
SLU 81	ini.	-406.28	3360	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 81	fin.	-120.09	-1840	0.85	0	1653	6740	3563	2168	2479	Si	1.35	Si
SLU 80	ini.	-396.29	3262	0.85	0	1653	6740	3563	2168	2479	Si	0.76	No
SLU 80	fin.	-117.3	-1792	0.85	0	1653	6740	3563	2168	2479	Si	1.38	Si
SLU 78	ini.	-400.87	3306	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 78	fin.	-121.81	-1829	0.85	0	1653	6740	3563	2168	2479	Si	1.36	Si
SLU 79	ini.	-406.45	3305	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-107.61	-1755	0.85	0	1653	6740	3563	2168	2479	Si	1.41	Si
SLU 83	ini.	-412.17	3398	0.85	0	1653	6740	3563	2168	2479	Si	0.73	No
SLU 83	fin.	-122.11	-1861	0.85	0	1653	6740	3563	2168	2479	Si	1.33	Si
SLU 82	ini.	-396.12	3317	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 82	fin.	-129.79	-1877	0.85	0	1653	6740	3563	2168	2479	Si	1.32	Si
SLU 75	ini.	-394.99	3268	0.85	0	1653	6740	3563	2168	2479	Si	0.76	No
SLU 75	fin.	-119.8	-1808	0.85	0	1653	6740	3563	2168	2479	Si	1.37	Si
SLU 74	ini.	-405.15	3311	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 74	fin.	-110.11	-1771	0.85	0	1653	6740	3563	2168	2479	Si	1.4	Si
SLU 77	ini.	-411.04	3349	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 77	fin.	-112.12	-1792	0.85	0	1653	6740	3563	2168	2479	Si	1.38	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-1081.46	-3330	-0.0007506	0.0002807	0.0035	0.85		2680.73	2680.73		2.48	Si
SLV 8	fin.	729.82	222	-0.0004646	0.0002807	0.0035	0.85		2675.27	2675.27		3.67	Si
SLV 16	ini.	748.34	571	-0.0004787	0.0002807	0.0035	0.85		2675.27	2675.27		3.57	Si
SLV 16	fin.	-1196.44	-3045	-0.0008542	0.0002807	0.0035	0.85		2680.73	2680.73		2.24	Si
SLV 3	ini.	-1642.88	-4321	-0.0013129	0.0002807	0.0035	0.85		2680.73	2680.73		1.63	Si
SLV 3	fin.	1402.27	1611	-0.0010561	0.0002807	0.0035	0.85		2675.27	2675.27		1.91	Si
SLV 4	ini.	-1405.02	-3850	-0.0010562	0.0002807	0.0035	0.85		2680.73	2680.73		1.91	Si
SLV 4	fin.	1140.02	1115	-0.0008048	0.0002807	0.0035	0.85		2675.27	2675.27		2.35	Si
SLV 13	ini.	845.84	914	-0.0005548	0.0002807	0.0035	0.85		2675.27	2675.27		3.16	Si
SLV 13	fin.	-1246.8	-2962	-0.0009013	0.0002807	0.0035	0.85		2680.73	2680.73		2.15	Si
SLV 7	ini.	-1241.61	-3648	-0.0008964	0.0002807	0.0035	0.85		2680.73	2680.73		2.16	Si
SLV 7	fin.	906.39	556	-0.0006037	0.0002807	0.0035	0.85		2675.27	2675.27		2.95	Si
SLV 2	ini.	-1069.65	-3035	-0.0007403	0.0002807	0.0035	0.85		2680.73	2680.73		2.51	Si
SLV 2	fin.	827.41	702	-0.0005401	0.0002807	0.0035	0.85		2675.27	2675.27		3.23	Si
SLV 14	ini.	1083.7	1386	-0.0007545	0.0002807	0.0035	0.85		2675.27	2675.27		2.47	Si
SLV 14	fin.	-1509.05	-3458	-0.0011645	0.0002807	0.0035	0.85		2680.73	2680.73		1.78	Si
SLD 3	ini.	-1148.31	-3286	-0.0008102	0.0002807	0.0035	0.85		2680.73	2680.73		2.33	Si
SLD 3	fin.	874.54	693	-0.0005778	0.0002807	0.0035	0.85		2675.27	2675.27		3.06	Si
SLV 1	ini.	-1307.51	-3507	-0.0009594	0.0002807	0.0035	0.85		2680.73	2680.73		2.05	Si
SLV 1	fin.	1089.66	1198	-0.0007597	0.0002807	0.0035	0.85		2675.27	2675.27		2.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1642.88	7730	0.85	0	2479	6740	5345	2168	7513		0.97	No
SLV 3	fin.	1402.27	4748	0.85	0	2479	6740	5345	2168	7513		1.58	Si
SLV 7	ini.	-1241.61	6287	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 7	fin.	906.39	2634	0.85	0	2479	6740	5345	2168	7513		2.85	Si
SLV 13	ini.	845.84	-2305	0.85	0	2479	6740	5345	2168	7513		3.26	Si
SLV 13	fin.	-1246.8	-5897	0.85	0	2479	6740	5345	2168	7513		1.27	Si
SLV 4	ini.	-1405.02	6779	0.85	0	2479	6740	5345	2168	7513		1.11	Si
SLV 4	fin.	1140.02	3682	0.85	0	2479	6740	5345	2168	7513		2.04	Si
SLV 8	ini.	-1081.46	5646	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLV 8	fin.	729.82	1916	0.85	0	2479	6740	5345	2168	7513		3.92	Si
SLV 2	ini.	-1069.65	5312	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLV 2	fin.	827.41	2504	0.85	0	2479	6740	5345	2168	7513		3	Si
SLV 14	ini.	1083.7	-3255	0.85	0	2479	6740	5345	2168	7513		2.31	Si
SLV 14	fin.	-1509.05	-6964	0.85	0	2479	6740	5345	2168	7513		1.08	Si
SLV 16	ini.	748.34	-1789	0.85	0	2479	6740	5345	2168	7513		4.2	Si
SLV 16	fin.	-1196.44	-5786	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLD 3	ini.	-1148.31	5735	0.85	0	2479	6740	5345	2168	7513		1.31	Si
SLD 3	fin.	874.54	2626	0.85	0	2479	6740	5345	2168	7513		2.86	Si
SLV 1	ini.	-1307.51	6263	0.85	0	2479	6740	5345	2168	7513		1.2	Si
SLV 1	fin.	1089.66	3571	0.85	0	2479	6740	5345	2168	7513		2.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.632	SLV 3	Si
V_SLV	0.972	SLV 3	No
PF_SLU	3.85	SLU 83	Si
V_SLU	0.73	SLU 83	No

Trave di accoppiamento 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.548	-3.359	7.1	8.55	1.45	-9.448	-3.359	7.1	8.55	1.45	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	721.83	-2656	-0.0001441	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.38	Si
SLU 78	fin.	-1353.71	-3951	-0.0002888	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.34	Si
SLU 82	ini.	721.24	-2585	-0.000144	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.38	Si
SLU 82	fin.	-1342.71	-3837	-0.0002861	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.35	Si
SLU 83	ini.	709.19	-2618	-0.0001414	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.46	Si
SLU 83	fin.	-1333.73	-3863	-0.0002839	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.37	Si
SLU 84	ini.	725.55	-2641	-0.0001449	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.36	Si
SLU 84	fin.	-1354.15	-3904	-0.0002889	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.33	Si
SLU 73	ini.	716.36	-2525	-0.0001429	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.41	Si
SLU 73	fin.	-1330.62	-3795	-0.0002831	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.38	Si
SLU 75	ini.	717.51	-2600	-0.0001432	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.41	Si
SLU 75	fin.	-1342.27	-3883	-0.000286	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.36	Si
SLU 80	ini.	714.08	-2622	-0.0001425	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.43	Si
SLU 80	fin.	-1339.88	-3903	-0.0002854	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.36	Si
SLU 76	ini.	720.67	-2581	-0.0001439	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.39	Si
SLU 76	fin.	-1342.06	-3863	-0.0002859	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.36	Si
SLU 77	ini.	705.47	-2633	-0.0001406	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.48	Si
SLU 77	fin.	-1333.29	-3910	-0.0002837	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.37	Si
SLU 81	ini.	704.88	-2562	-0.0001405	0.0001872	0.0035	1.45		7660.24	3161.67	Si	4.49	Si
SLU 81	fin.	-1322.29	-3796	-0.0002811	0.0001872	0.0035	1.45		7669.58	3161.67	Si	2.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 73	ini.	716.36	-2196	1.45	0	2819	7137	6079	3698	4229	Si	1.93	Si
SLU 73	fin.	-1330.62	-4430	1.45	0	2819	7137	6079	3698	4229	Si	0.95	No
SLU 78	ini.	721.83	-2247	1.45	0	2819	7137	6079	3698	4229	Si	1.88	Si
SLU 78	fin.	-1353.71	-4482	1.45	0	2819	7137	6079	3698	4229	Si	0.94	No
SLU 77	ini.	705.47	-2192	1.45	0	2819	7137	6079	3698	4229	Si	1.93	Si
SLU 77	fin.	-1333.29	-4426	1.45	0	2819	7137	6079	3698	4229	Si	0.96	No
SLU 80	ini.	714.08	-2212	1.45	0	2819	7137	6079	3698	4229	Si	1.91	Si
SLU 80	fin.	-1339.88	-4446	1.45	0	2819	7137	6079	3698	4229	Si	0.95	No
SLU 75	ini.	717.51	-2221	1.45	0	2819	7137	6079	3698	4229	Si	1.9	Si
SLU 75	fin.	-1342.27	-4455	1.45	0	2819	7137	6079	3698	4229	Si	0.95	No
SLU 81	ini.	704.88	-2066	1.45	0	2819	7137	6079	3698	4229	Si	2.05	Si
SLU 81	fin.	-1322.29	-4457	1.45	0	2819	7137	6079	3698	4229	Si	0.95	No
SLU 82	ini.	721.24	-2121	1.45	0	2819	7137	6079	3698	4229	Si	1.99	Si
SLU 82	fin.	-1342.71	-4512	1.45	0	2819	7137	6079	3698	4229	Si	0.94	No
SLU 84	ini.	725.55	-2147	1.45	0	2819	7137	6079	3698	4229	Si	1.97	Si
SLU 84	fin.	-1354.15	-4539	1.45	0	2819	7137	6079	3698	4229	Si	0.93	No
SLU 76	ini.	720.67	-2222	1.45	0	2819	7137	6079	3698	4229	Si	1.9	Si
SLU 76	fin.	-1342.06	-4457	1.45	0	2819	7137	6079	3698	4229	Si	0.95	No
SLU 83	ini.	709.19	-2092	1.45	0	2819	7137	6079	3698	4229	Si	2.02	Si
SLU 83	fin.	-1333.73	-4484	1.45	0	2819	7137	6079	3698	4229	Si	0.94	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	2808.08	-509	-0.0006533	0.0002807	0.0035	1.45		7646.28	7646.28		2.72	Si
SLV 3	fin.	-3345.29	-4619	-0.0008135	0.0002807	0.0035	1.45		7655.81	7655.81		2.29	Si
SLV 2	ini.	3615.84	-1397	-0.000901	0.0002807	0.0035	1.45		7646.28	7646.28		2.11	Si
SLV 2	fin.	-4394.13	-6440	-0.0011689	0.0002807	0.0035	1.45		7655.81	7655.81		1.74	Si
SLD 3	ini.	1975.13	-972	-0.0004271	0.0002807	0.0035	1.45		7646.28	7646.28		3.87	Si
SLD 3	fin.	-2478.53	-3933	-0.0005596	0.0002807	0.0035	1.45		7655.81	7655.81		3.09	Si
SLV 1	ini.	3122.38	-1425	-0.0007462	0.0002807	0.0035	1.45		7646.28	7646.28		2.45	Si
SLV 1	fin.	-3836.1	-5815	-0.0009725	0.0002807	0.0035	1.45		7655.81	7655.81		2	Si
SLV 15	ini.	-2658.64	-2140	-0.0006097	0.0002807	0.0035	1.45		7655.81	7655.81		2.88	Si
SLV 15	fin.	2559.58	1093	-0.0005828	0.0002807	0.0035	1.45		7646.28	7646.28		2.99	Si
SLV 6	ini.	1988.56	-3041	-0.0004305	0.0002807	0.0035	1.45		7646.28	7646.28		3.85	Si
SLV 6	fin.	-2808.87	-5734	-0.0006526	0.0002807	0.0035	1.45		7655.81	7655.81		2.73	Si
SLD 2	ini.	2482.76	-1518	-0.0005615	0.0002807	0.0035	1.45		7646.28	7646.28		3.08	Si
SLD 2	fin.	-3135.55	-5067	-0.0007491	0.0002807	0.0035	1.45		7655.81	7655.81		2.44	Si
SLD 1	ini.	2167.8	-1536	-0.0004768	0.0002807	0.0035	1.45		7646.28	7646.28		3.53	Si
SLD 1	fin.	-2779.37	-4668	-0.0006441	0.0002807	0.0035	1.45		7655.81	7655.81		2.75	Si
SLV 4	ini.	3301.54	-481	-0.0008011	0.0002807	0.0035	1.45		7646.28	7646.28		2.32	Si
SLV 4	fin.	-3903.33	-5244	-0.0009952	0.0002807	0.0035	1.45		7655.81	7655.81		1.96	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	2290.1	-954	-0.0005092	0.0002807	0.0035	1.45		7646.28	7646.28		3.34	Si
SLD 4	fin.	-2834.71	-4332	-0.00066	0.0002807	0.0035	1.45		7655.81	7655.81		2.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	2482.76	-8358	1.45	0	4229	7137	9118	3698	11366		1.36	Si
SLD 2	fin.	-3135.55	-9836	1.45	0	4229	7137	9118	3698	11366		1.16	Si
SLV 3	ini.	2808.08	-9323	1.45	0	4229	7137	9118	3698	11366		1.22	Si
SLV 3	fin.	-3345.29	-10806	1.45	0	4229	7137	9118	3698	11366		1.05	Si
SLV 15	ini.	-2658.64	9082	1.45	0	4229	7137	9118	3698	11366		1.25	Si
SLV 15	fin.	2559.58	7653	1.45	0	4229	7137	9118	3698	11366		1.49	Si
SLV 4	ini.	3301.54	-11017	1.45	0	4229	7137	9118	3698	11366		1.03	Si
SLV 4	fin.	-3903.33	-12500	1.45	0	4229	7137	9118	3698	11366		0.91	No
SLV 1	ini.	3122.38	-10513	1.45	0	4229	7137	9118	3698	11366		1.08	Si
SLV 1	fin.	-3836.1	-12001	1.45	0	4229	7137	9118	3698	11366		0.95	No
SLD 4	ini.	2290.1	-7631	1.45	0	4229	7137	9118	3698	11366		1.49	Si
SLD 4	fin.	-2834.71	-9103	1.45	0	4229	7137	9118	3698	11366		1.25	Si
SLV 2	ini.	3615.84	-12207	1.45	0	4229	7137	9118	3698	11366		0.93	No
SLV 2	fin.	-4394.13	-13696	1.45	0	4229	7137	9118	3698	11366		0.83	No
SLV 6	ini.	1988.56	-6877	1.45	0	4229	7137	9118	3698	11366		1.65	Si
SLV 6	fin.	-2808.87	-8353	1.45	0	4229	7137	9118	3698	11366		1.36	Si
SLD 1	ini.	2167.8	-7277	1.45	0	4229	7137	9118	3698	11366		1.56	Si
SLD 1	fin.	-2779.37	-8754	1.45	0	4229	7137	9118	3698	11366		1.3	Si
SLD 3	ini.	1975.13	-6549	1.45	0	4229	7137	9118	3698	11366		1.74	Si
SLD 3	fin.	-2478.53	-8021	1.45	0	4229	7137	9118	3698	11366		1.42	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.742	SLV 2	Si
V_SLV	0.83	SLV 2	No
PF_SLU	2.335	SLU 84	Si
V_SLU	0.932	SLU 84	No

Trave di accoppiamento 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	5	7	2	-5.158	6.506	5	7	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-527.69	-725	-0.0000532	0.0001872	0.0035	2		14357.01	4605.42	Si	8.73	Si
SLU 81	fin.	-278.25	-419	-0.0000278	0.0001872	0.0035	2		14357.01	4605.42	Si	16.55	Si
SLU 80	ini.	-509.67	-877	-0.0000514	0.0001872	0.0035	2		14357.01	4605.42	Si	9.04	Si
SLU 80	fin.	-341.7	-509	-0.0000342	0.0001872	0.0035	2		14357.01	4605.42	Si	13.48	Si
SLU 78	ini.	-519.31	-867	-0.0000524	0.0001872	0.0035	2		14357.01	4605.42	Si	8.87	Si
SLU 78	fin.	-337.7	-503	-0.0000338	0.0001872	0.0035	2		14357.01	4605.42	Si	13.64	Si
SLU 74	ini.	-508.2	-832	-0.0000512	0.0001872	0.0035	2		14357.01	4605.42	Si	9.06	Si
SLU 74	fin.	-321.42	-481	-0.0000322	0.0001872	0.0035	2		14357.01	4605.42	Si	14.33	Si
SLU 82	ini.	-540.32	-668	-0.0000546	0.0001872	0.0035	2		14357.01	4605.42	Si	8.52	Si
SLU 82	fin.	-257.33	-389	-0.0000257	0.0001872	0.0035	2		14357.01	4605.42	Si	17.9	Si
SLU 76	ini.	-519.61	-746	-0.0000524	0.0001872	0.0035	2		14357.01	4605.42	Si	8.86	Si
SLU 76	fin.	-290.54	-436	-0.000029	0.0001872	0.0035	2		14357.01	4605.42	Si	15.85	Si
SLU 75	ini.	-520.84	-774	-0.0000525	0.0001872	0.0035	2		14357.01	4605.42	Si	8.84	Si
SLU 75	fin.	-300.5	-451	-0.00003	0.0001872	0.0035	2		14357.01	4605.42	Si	15.33	Si
SLU 84	ini.	-538.8	-760	-0.0000544	0.0001872	0.0035	2		14357.01	4605.42	Si	8.55	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-294.53	-441	-0.0000294	0.0001872	0.0035	2		14357.01	4605.42	Si	15.64	Si
SLU 73	ini.	-521.14	-653	-0.0000526	0.0001872	0.0035	2		14357.01	4605.42	Si	8.84	Si
SLU 73	fin.	-253.34	-384	-0.0000253	0.0001872	0.0035	2		14357.01	4605.42	Si	18.18	Si
SLU 83	ini.	-526.17	-818	-0.0000531	0.0001872	0.0035	2		14357.01	4605.42	Si	8.75	Si
SLU 83	fin.	-315.45	-471	-0.0000316	0.0001872	0.0035	2		14357.01	4605.42	Si	14.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-454.89	-1256	2	0	3889	3965	8384	5100	5833	Si	4.64	Si
SLU 70	fin.	-360.94	585	2	0	3889	3965	8384	5100	5833	Si	9.97	Si
SLU 77	ini.	-506.68	-1239	2	0	3889	3965	8384	5100	5833	Si	4.71	Si
SLU 77	fin.	-358.62	807	2	0	3889	3965	8384	5100	5833	Si	7.23	Si
SLU 79	ini.	-497.03	-1271	2	0	3889	3965	8384	5100	5833	Si	4.59	Si
SLU 79	fin.	-362.62	762	2	0	3889	3965	8384	5100	5833	Si	7.66	Si
SLU 71	ini.	-432.61	-1434	2	0	3889	3965	8384	5100	5833	Si	4.07	Si
SLU 71	fin.	-385.86	454	2	0	3889	3965	8384	5100	5833	Si	12.84	Si
SLU 51	ini.	-374.17	-1241	2	0	3889	3965	8384	5100	5833	Si	4.7	Si
SLU 51	fin.	-350	282	2	0	3889	3965	8384	5100	5833	Si	20.68	Si
SLU 50	ini.	-361.54	-1386	2	0	3889	3965	8384	5100	5833	Si	4.21	Si
SLU 50	fin.	-370.92	196	2	0	3889	3965	8384	5100	5833	Si	29.73	Si
SLU 72	ini.	-445.24	-1288	2	0	3889	3965	8384	5100	5833	Si	4.53	Si
SLU 72	fin.	-364.94	540	2	0	3889	3965	8384	5100	5833	Si	10.8	Si
SLU 48	ini.	-371.19	-1354	2	0	3889	3965	8384	5100	5833	Si	4.31	Si
SLU 48	fin.	-366.93	241	2	0	3889	3965	8384	5100	5833	Si	24.17	Si
SLU 69	ini.	-442.25	-1402	2	0	3889	3965	8384	5100	5833	Si	4.16	Si
SLU 69	fin.	-381.87	499	2	0	3889	3965	8384	5100	5833	Si	11.68	Si
SLU 29	ini.	-367.21	-1224	2	0	3889	3965	8384	5100	5833	Si	4.77	Si
SLU 29	fin.	-321.38	442	2	0	3889	3965	8384	5100	5833	Si	13.2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	145.53	-3400	-0.0000145	0.0002807	0.0035	2		14202.07	14202.07		97.59	Si
SLV 11	fin.	-1238.77	-1776	-0.0001271	0.0002807	0.0035	2		14215.41	14215.41		11.48	Si
SLV 8	ini.	524.59	-4372	-0.0000527	0.0002807	0.0035	2		14202.07	14202.07		27.07	Si
SLV 8	fin.	-1597.85	-2315	-0.0001659	0.0002807	0.0035	2		14215.41	14215.41		8.9	Si
SLV 13	ini.	-1325.12	2449	-0.0001363	0.0002807	0.0035	2		14215.41	14215.41		10.73	Si
SLV 13	fin.	887.44	1298	-0.0000901	0.0002807	0.0035	2		14202.07	14202.07		16	Si
SLV 14	ini.	-1571.95	3148	-0.0001631	0.0002807	0.0035	2		14215.41	14215.41		9.04	Si
SLV 14	fin.	1147.91	1682	-0.0001175	0.0002807	0.0035	2		14202.07	14202.07		12.37	Si
SLV 7	ini.	690.77	-4844	-0.0000697	0.0002807	0.0035	2		14202.07	14202.07		20.56	Si
SLV 7	fin.	-1773.22	-2573	-0.0001853	0.0002807	0.0035	2		14215.41	14215.41		8.02	Si
SLV 3	ini.	896.14	-4338	-0.000091	0.0002807	0.0035	2		14202.07	14202.07		15.85	Si
SLV 3	fin.	-1607.22	-2378	-0.0001669	0.0002807	0.0035	2		14215.41	14215.41		8.84	Si
SLD 7	ini.	302.88	-3234	-0.0000302	0.0002807	0.0035	2		14202.07	14202.07		46.89	Si
SLD 7	fin.	-1188.82	-1731	-0.0001218	0.0002807	0.0035	2		14215.41	14215.41		11.96	Si
SLV 9	ini.	-1200.4	3183	-0.000123	0.0002807	0.0035	2		14215.41	14215.41		11.84	Si
SLV 9	fin.	1138.54	1618	-0.0001165	0.0002807	0.0035	2		14202.07	14202.07		12.47	Si
SLV 10	ini.	-1366.58	3654	-0.0001408	0.0002807	0.0035	2		14215.41	14215.41		10.4	Si
SLV 10	fin.	1313.91	1877	-0.0001352	0.0002807	0.0035	2		14202.07	14202.07		10.81	Si
SLV 4	ini.	649.31	-3638	-0.0000655	0.0002807	0.0035	2		14202.07	14202.07		21.87	Si
SLV 4	fin.	-1346.75	-1994	-0.0001387	0.0002807	0.0035	2		14215.41	14215.41		10.56	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1325.12	7288	2	0	5833	3965	12577	5100	9798		1.34	Si
SLV 13	fin.	887.44	5947	2	0	5833	3965	12577	5100	9798		1.65	Si
SLV 11	ini.	145.53	-7735	2	0	5833	3965	12577	5100	9798		1.27	Si
SLV 11	fin.	-1238.77	-3339	2	0	5833	3965	12577	5100	9798		2.93	Si
SLV 14	ini.	-1571.95	9177	2	0	5833	3965	12577	5100	9798		1.07	Si
SLV 14	fin.	1147.91	7236	2	0	5833	3965	12577	5100	9798		1.35	Si
SLV 8	ini.	524.59	-10339	2	0	5833	3965	12577	5100	9798		0.95	No
SLV 8	fin.	-1597.85	-5264	2	0	5833	3965	12577	5100	9798		1.86	Si
SLV 9	ini.	-1200.4	8896	2	0	5833	3965	12577	5100	9798		1.1	Si
SLV 9	fin.	1138.54	6257	2	0	5833	3965	12577	5100	9798		1.57	Si
SLV 10	ini.	-1366.58	10167	2	0	5833	3965	12577	5100	9798		0.96	No
SLV 10	fin.	1313.91	7126	2	0	5833	3965	12577	5100	9798		1.38	Si
SLV 4	ini.	649.31	-8731	2	0	5833	3965	12577	5100	9798		1.12	Si
SLV 4	fin.	-1346.75	-4953	2	0	5833	3965	12577	5100	9798		1.98	Si
SLV 3	ini.	896.14	-10620	2	0	5833	3965	12577	5100	9798		0.92	No
SLV 3	fin.	-1607.22	-6243	2	0	5833	3965	12577	5100	9798		1.57	Si
SLV 7	ini.	690.77	-11610	2	0	5833	3965	12577	5100	9798		0.84	No
SLV 7	fin.	-1773.22	-6132	2	0	5833	3965	12577	5100	9798		1.6	Si
SLD 7	ini.	302.88	-7487	2	0	5833	3965	12577	5100	9798		1.31	Si
SLD 7	fin.	-1188.82	-3627	2	0	5833	3965	12577	5100	9798		2.7	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	8.017	SLV 7	Si
V SLV	0.844	SLV 7	No
PF SLU	8.523	SLU 82	Si
V SLU	4.069	SLU 71	Si



Trave di accoppiamento 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	7.8	8.55	0.75	-5.158	6.506	7.8	8.55	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 73	ini.	-309.48	-1405	-0.0002404	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.28	Si
SLU 73	fin.	303.45	-1055	-0.0002357	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.36	Si
SLU 83	ini.	-312.03	-1401	-0.0002426	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.24	Si
SLU 83	fin.	308.32	-1016	-0.0002399	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.29	Si
SLU 75	ini.	-308.67	-1379	-0.0002396	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.29	Si
SLU 75	fin.	302.35	-996	-0.0002347	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.38	Si
SLU 84	ini.	-320.99	-1442	-0.0002505	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.13	Si
SLU 84	fin.	315.02	-1057	-0.0002458	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.2	Si
SLU 81	ini.	-314.75	-1437	-0.000245	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.21	Si
SLU 81	fin.	312.17	-1084	-0.0002433	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.24	Si
SLU 80	ini.	-298.08	-1305	-0.0002304	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.44	Si
SLU 80	fin.	291.28	-892	-0.0002251	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.55	Si
SLU 76	ini.	-306.76	-1369	-0.000238	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.32	Si
SLU 76	fin.	299.6	-987	-0.0002323	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.42	Si
SLU 74	ini.	-299.71	-1337	-0.0002318	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.42	Si
SLU 74	fin.	295.65	-955	-0.0002289	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.48	Si
SLU 78	ini.	-305.96	-1343	-0.0002373	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.33	Si
SLU 78	fin.	298.51	-928	-0.0002313	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.44	Si
SLU 82	ini.	-323.7	-1478	-0.0002529	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.09	Si
SLU 82	fin.	318.87	-1125	-0.0002492	0.0001872	0.0035	0.75		2069.77	1324.17	Si	4.15	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-306.76	2498	0.75	0	1458	3965	3144	1913	2188	Si	0.88	No
SLU 76	fin.	299.6	622	0.75	0	1458	3965	3144	1913	2188	Si	3.52	Si
SLU 74	ini.	-299.71	2509	0.75	0	1458	3965	3144	1913	2188	Si	0.87	No
SLU 74	fin.	295.65	572	0.75	0	1458	3965	3144	1913	2188	Si	3.83	Si
SLU 84	ini.	-320.99	2579	0.75	0	1458	3965	3144	1913	2188	Si	0.85	No
SLU 84	fin.	315.02	670	0.75	0	1458	3965	3144	1913	2188	Si	3.27	Si
SLU 78	ini.	-305.96	2631	0.75	0	1458	3965	3144	1913	2188	Si	0.83	No
SLU 78	fin.	298.51	542	0.75	0	1458	3965	3144	1913	2188	Si	4.04	Si
SLU 80	ini.	-298.08	2599	0.75	0	1458	3965	3144	1913	2188	Si	0.84	No
SLU 80	fin.	291.28	511	0.75	0	1458	3965	3144	1913	2188	Si	4.28	Si
SLU 82	ini.	-323.7	2470	0.75	0	1458	3965	3144	1913	2188	Si	0.89	No
SLU 82	fin.	318.87	749	0.75	0	1458	3965	3144	1913	2188	Si	2.92	Si
SLU 79	ini.	-289.12	2586	0.75	0	1458	3965	3144	1913	2188	Si	0.85	No
SLU 79	fin.	284.58	461	0.75	0	1458	3965	3144	1913	2188	Si	4.74	Si
SLU 77	ini.	-297	2618	0.75	0	1458	3965	3144	1913	2188	Si	0.84	No
SLU 77	fin.	291.81	493	0.75	0	1458	3965	3144	1913	2188	Si	4.44	Si
SLU 83	ini.	-312.03	2566	0.75	0	1458	3965	3144	1913	2188	Si	0.85	No
SLU 83	fin.	308.32	621	0.75	0	1458	3965	3144	1913	2188	Si	3.52	Si
SLU 75	ini.	-308.67	2522	0.75	0	1458	3965	3144	1913	2188	Si	0.87	No
SLU 75	fin.	302.35	621	0.75	0	1458	3965	3144	1913	2188	Si	3.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-767.29	-3713	-0.0006668	0.0002807	0.0035	0.75		2090.82	2090.82		2.72	Si
SLV 9	fin.	699.13	-3444	-0.000596	0.0002807	0.0035	0.75		2085.94	2085.94		2.98	Si
SLV 14	ini.	-1006.56	-4309	-0.0009435	0.0002807	0.0035	0.75		2090.82	2090.82		2.08	Si
SLV 14	fin.	775.97	-3741	-0.0006781	0.0002807	0.0035	0.75		2085.94	2085.94		2.69	Si
SLV 3	ini.	621.33	2586	-0.0005164	0.0002807	0.0035	0.75		2085.94	2085.94		3.36	Si
SLV 3	fin.	-392.94	2530	-0.0003026	0.0002807	0.0035	0.75		2090.82	2090.82		5.32	Si
SLD 13	ini.	-709.74	-3048	-0.0006055	0.0002807	0.0035	0.75		2090.82	2090.82		2.95	Si
SLD 14	fin.	561.62	-2591	-0.0004577	0.0002807	0.0035	0.75		2085.94	2085.94		3.71	Si
SLV 10	ini.	-885.97	-4174	-0.0007995	0.0002807	0.0035	0.75		2090.82	2090.82		2.36	Si
SLV 10	fin.	774.23	-3838	-0.0006762	0.0002807	0.0035	0.75		2085.94	2085.94		2.69	Si
SLD 13	ini.	-597.23	-2611	-0.0004911	0.0002807	0.0035	0.75		2090.82	2090.82		3.5	Si
SLD 13	fin.	490.42	-2217	-0.0003904	0.0002807	0.0035	0.75		2085.94	2085.94		4.25	Si
SLV 15	ini.	-555.84	-2205	-0.0004509	0.0002807	0.0035	0.75		2090.82	2090.82		3.76	Si
SLV 15	fin.	409.55	-1717	-0.0003177	0.0002807	0.0035	0.75		2085.94	2085.94		5.09	Si
SLV 13	ini.	-830.3	-3623	-0.0007362	0.0002807	0.0035	0.75		2090.82	2090.82		2.52	Si
SLV 13	fin.	664.43	-3156	-0.00056	0.0002807	0.0035	0.75		2085.94	2085.94		3.14	Si
SLD 10	ini.	-623.61	-2917	-0.0005173	0.0002807	0.0035	0.75		2090.82	2090.82		3.35	Si
SLD 10	fin.	551.11	-2603	-0.0004475	0.0002807	0.0035	0.75		2085.94	2085.94		3.78	Si
SLV 16	ini.	-732.1	-2891	-0.0006291	0.0002807	0.0035	0.75		2090.82	2090.82		2.86	Si
SLV 16	fin.	521.1	-2302	-0.000419	0.0002807	0.0035	0.75		2085.94	2085.94		4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-555.84	3494	0.75	0	2188	3965	4716	1913	6152		1.76	Si
SLV 15	fin.	409.55	1379	0.75	0	2188	3965	4716	1913	6152		4.46	Si
SLD 16	ini.	-541.22	3258	0.75	0	2188	3965	4716	1913	6152		1.89	Si
SLD 16	fin.	406.18	1449	0.75	0	2188	3965	4716	1913	6152		4.24	Si
SLV 7	ini.	500.73	445	0.75	0	2188	3965	4716	1913	6152		13.83	Si
SLV 7	fin.	-391.2	-3433	0.75	0	2188	3965	4716	1913	6152		1.79	Si
SLV 16	ini.	-732.1	4165	0.75	0	2188	3965	4716	1913	6152		1.48	Si
SLV 16	fin.	521.1	2032	0.75	0	2188	3965	4716	1913	6152		3.03	Si
SLV 13	ini.	-830.3	3672	0.75	0	2188	3965	4716	1913	6152		1.68	Si
SLV 13	fin.	664.43	3119	0.75	0	2188	3965	4716	1913	6152		1.97	Si
SLV 10	ini.	-885.97	2853	0.75	0	2188	3965	4716	1913	6152		2.16	Si
SLV 10	fin.	774.23	4142	0.75	0	2188	3965	4716	1913	6152		1.49	Si
SLV 3	ini.	621.33	-1045	0.75	0	2188	3965	4716	1913	6152		5.89	Si
SLV 3	fin.	-392.94	-3063	0.75	0	2188	3965	4716	1913	6152		2.01	Si
SLD 14	ini.	-709.74	3367	0.75	0	2188	3965	4716	1913	6152		1.83	Si
SLD 14	fin.	561.62	2520	0.75	0	2188	3965	4716	1913	6152		2.44	Si
SLV 9	ini.	-767.29	2401	0.75	0	2188	3965	4716	1913	6152		2.56	Si
SLV 9	fin.	699.13	3702	0.75	0	2188	3965	4716	1913	6152		1.66	Si
SLV 14	ini.	-1006.56	4343	0.75	0	2188	3965	4716	1913	6152		1.42	Si
SLV 14	fin.	775.97	3773	0.75	0	2188	3965	4716	1913	6152		1.63	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.077	SLV 14	Si
V_SLV	1.417	SLV 14	Si
PF_SLU	4.091	SLU 82	Si
V_SLU	0.831	SLU 78	No

Trave di accoppiamento 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.513	-3.359	5	5.9	0.9	-7.413	-3.359	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	201.79	-1766	-0.0001028	0.0001872	0.0035	0.9		2959	1717.92	Si	8.51	Si
SLU 69	fin.	58.61	-1131	-0.000029	0.0001872	0.0035	0.9		2959	1717.92	Si	29.31	Si
SLU 66	ini.	198.4	-1735	-0.000101	0.0001872	0.0035	0.9		2959	1717.92	Si	8.66	Si
SLU 66	fin.	55.3	-1107	-0.0000273	0.0001872	0.0035	0.9		2959	1717.92	Si	31.06	Si
SLU 68	ini.	219.26	-1814	-0.0001122	0.0001872	0.0035	0.9		2959	1717.92	Si	7.84	Si
SLU 68	fin.	25.67	-1052	-0.0000126	0.0001872	0.0035	0.9		2959	1717.92	Si	66.94	Si
SLU 73	ini.	200.64	-1795	-0.0001022	0.0001872	0.0035	0.9		2959	1717.92	Si	8.56	Si
SLU 73	fin.	76.5	-1239	-0.000038	0.0001872	0.0035	0.9		2959	1717.92	Si	22.46	Si
SLU 76	ini.	204.03	-1826	-0.000104	0.0001872	0.0035	0.9		2959	1717.92	Si	8.42	Si
SLU 76	fin.	79.8	-1263	-0.0000396	0.0001872	0.0035	0.9		2959	1717.92	Si	21.53	Si
SLU 78	ini.	201.6	-1843	-0.0001027	0.0001872	0.0035	0.9		2959	1717.92	Si	8.52	Si
SLU 78	fin.	94.06	-1314	-0.0000469	0.0001872	0.0035	0.9		2959	1717.92	Si	18.26	Si
SLU 70	ini.	216.83	-1830	-0.0001109	0.0001872	0.0035	0.9		2959	1717.92	Si	7.92	Si
SLU 70	fin.	39.93	-1102	-0.0000197	0.0001872	0.0035	0.9		2959	1717.92	Si	43.03	Si
SLU 72	ini.	212.62	-1803	-0.0001086	0.0001872	0.0035	0.9		2959	1717.92	Si	8.08	Si
SLU 72	fin.	41.42	-1095	-0.0000204	0.0001872	0.0035	0.9		2959	1717.92	Si	41.47	Si
SLU 67	ini.	213.44	-1799	-0.0001091	0.0001872	0.0035	0.9		2959	1717.92	Si	8.05	Si
SLU 67	fin.	36.62	-1078	-0.000018	0.0001872	0.0035	0.9		2959	1717.92	Si	46.91	Si
SLU 65	ini.	215.87	-1783	-0.0001104	0.0001872	0.0035	0.9		2959	1717.92	Si	7.96	Si
SLU 65	fin.	22.36	-1028	-0.000011	0.0001872	0.0035	0.9		2959	1717.92	Si	76.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	204.03	-2966	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 76	fin.	79.8	731	0.9	0	1750	7137	3773	2295	2625	Si	3.59	Si
SLU 80	ini.	197.39	-2954	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 80	fin.	95.56	803	0.9	0	1750	7137	3773	2295	2625	Si	3.27	Si
SLU 78	ini.	201.6	-3000	0.9	0	1750	7137	3773	2295	2625	Si	0.88	No
SLU 78	fin.	94.06	803	0.9	0	1750	7137	3773	2295	2625	Si	3.27	Si
SLU 84	ini.	187.47	-2905	0.9	0	1750	7137	3773	2295	2625	Si	0.9	No
SLU 84	fin.	115.46	883	0.9	0	1750	7137	3773	2295	2625	Si	2.97	Si
SLU 68	ini.	219.26	-2957	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 68	fin.	25.67	487	0.9	0	1750	7137	3773	2295	2625	Si	5.39	Si
SLU 75	ini.	198.21	-2947	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 75	fin.	90.76	779	0.9	0	1750	7137	3773	2295	2625	Si	3.37	Si
SLU 72	ini.	212.62	-2946	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 72	fin.	41.42	559	0.9	0	1750	7137	3773	2295	2625	Si	4.69	Si
SLU 67	ini.	213.44	-2938	0.9	0	1750	7137	3773	2295	2625	Si	0.89	No
SLU 67	fin.	36.62	536	0.9	0	1750	7137	3773	2295	2625	Si	4.9	Si
SLU 70	ini.	216.83	-2991	0.9	0	1750	7137	3773	2295	2625	Si	0.88	No
SLU 70	fin.	39.93	560	0.9	0	1750	7137	3773	2295	2625	Si	4.69	Si
SLU 73	ini.	200.64	-2913	0.9	0	1750	7137	3773	2295	2625	Si	0.9	No
SLU 73	fin.	76.5	707	0.9	0	1750	7137	3773	2295	2625	Si	3.72	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1125.82	-4977	-0.0006874	0.0002807	0.0035	0.9		2989.59	2989.59		2.66	Si
SLV 1	fin.	-1504.01	2136	-0.0009958	0.0002807	0.0035	0.9		2995.37	2995.37		1.99	Si
SLV 15	ini.	-1041.87	3196	-0.0006229	0.0002807	0.0035	0.9		2995.37	2995.37		2.87	Si
SLV 15	fin.	1917.98	-4440	-0.0014013	0.0002807	0.0035	0.9		2989.59	2989.59		1.56	Si
SLD 15	ini.	-612.93	1575	-0.0003324	0.0002807	0.0035	0.9		2995.37	2995.37		4.89	Si
SLD 15	fin.	1243.35	-3146	-0.0007792	0.0002807	0.0035	0.9		2989.59	2989.59		2.4	Si
SLV 6	ini.	1162.74	-5574	-0.0007158	0.0002807	0.0035	0.9		2989.59	2989.59		2.57	Si
SLV 6	fin.	-1201.51	1112	-0.0007443	0.0002807	0.0035	0.9		2995.37	2995.37		2.49	Si
SLV 13	ini.	-621.44	1313	-0.0003377	0.0002807	0.0035	0.9		2995.37	2995.37		4.82	Si
SLV 13	fin.	1492.95	-3915	-0.0009884	0.0002807	0.0035	0.9		2989.59	2989.59		2	Si
SLV 11	ini.	-890	3075	-0.0005141	0.0002807	0.0035	0.9		2995.37	2995.37		3.37	Si
SLV 11	fin.	1315.99	-2840	-0.000838	0.0002807	0.0035	0.9		2989.59	2989.59		2.27	Si
SLV 16	ini.	-853.08	2479	-0.0004886	0.0002807	0.0035	0.9		2995.37	2995.37		3.51	Si
SLV 16	fin.	1618.5	-3863	-0.001102	0.0002807	0.0035	0.9		2989.59	2989.59		1.85	Si
SLV 2	ini.	1314.62	-5695	-0.0008369	0.0002807	0.0035	0.9		2989.59	2989.59		2.27	Si
SLV 2	fin.	-1803.5	2712	-0.0012782	0.0002807	0.0035	0.9		2995.37	2995.37		1.66	Si
SLV 14	ini.	-432.64	595	-0.0002263	0.0002807	0.0035	0.9		2995.37	2995.37		6.92	Si
SLV 14	fin.	1193.46	-3339	-0.0007397	0.0002807	0.0035	0.9		2989.59	2989.59		2.5	Si
SLV 4	ini.	894.18	-3811	-0.0005181	0.0002807	0.0035	0.9		2989.59	2989.59		3.34	Si
SLV 4	fin.	-1378.47	2188	-0.0008878	0.0002807	0.0035	0.9		2995.37	2995.37		2.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1314.62	-8702	0.9	0	2625	7137	5660	2295	7955		0.91	No
SLV 2	fin.	-1803.5	-7085	0.9	0	2625	7137	5660	2295	7955		1.12	Si
SLV 13	ini.	-621.44	1814	0.9	0	2625	7137	5660	2295	7955		4.38	Si
SLV 13	fin.	1492.95	6424	0.9	0	2625	7137	5660	2295	7955		1.24	Si
SLD 6	ini.	775.99	-6050	0.9	0	2625	7137	5660	2295	7955		1.31	Si
SLD 6	fin.	-730.07	-2654	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 15	ini.	-1041.87	4608	0.9	0	2625	7137	5660	2295	7955		1.73	Si
SLV 15	fin.	1917.98	8112	0.9	0	2625	7137	5660	2295	7955		0.98	No
SLV 16	ini.	-853.08	3532	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLV 16	fin.	1618.5	6903	0.9	0	2625	7137	5660	2295	7955		1.15	Si
SLV 6	ini.	1162.74	-8481	0.9	0	2625	7137	5660	2295	7955		0.94	No
SLV 6	fin.	-1201.51	-4552	0.9	0	2625	7137	5660	2295	7955		1.75	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	1125.82	-7625	0.9	0	2625	7137	5660	2295	7955		1.04	Si
SLV 1	fin.	-1504.01	-5876	0.9	0	2625	7137	5660	2295	7955		1.35	Si
SLV 4	ini.	894.18	-5908	0.9	0	2625	7137	5660	2295	7955		1.35	Si
SLV 4	fin.	-1378.47	-5397	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 5	ini.	1035.63	-7757	0.9	0	2625	7137	5660	2295	7955		1.03	Si
SLV 5	fin.	-999.88	-3738	0.9	0	2625	7137	5660	2295	7955		2.13	Si
SLD 2	ini.	885.67	-6273	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLD 2	fin.	-1128.87	-4330	0.9	0	2625	7137	5660	2295	7955		1.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.559	SLV 15	Si
V_SLV	0.914	SLV 2	No
PF_SLU	7.835	SLU 68	Si
V_SLU	0.875	SLU 78	No

Trave di accoppiamento 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.513	-3.359	7.7	8.55	0.85	-7.413	-3.359	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-105.42	-1241	-0.0000589	0.0001872	0.0035	0.85		2655.83	1586.67	Si	15.05	Si
SLU 67	fin.	-247.86	-1214	-0.0001435	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.4	Si
SLU 72	ini.	-109.1	-1258	-0.000061	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.54	Si
SLU 72	fin.	-246.86	-1219	-0.0001429	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.43	Si
SLU 76	ini.	-141.14	-1471	-0.0000795	0.0001872	0.0035	0.85		2655.83	1586.67	Si	11.24	Si
SLU 76	fin.	-241.05	-1267	-0.0001393	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.58	Si
SLU 69	ini.	-119.8	-1304	-0.0000672	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.24	Si
SLU 69	fin.	-236.74	-1206	-0.0001366	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.7	Si
SLU 73	ini.	-136.54	-1441	-0.0000769	0.0001872	0.0035	0.85		2655.83	1586.67	Si	11.62	Si
SLU 73	fin.	-237.4	-1243	-0.0001371	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.68	Si
SLU 78	ini.	-153.17	-1536	-0.0000866	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.36	Si
SLU 78	fin.	-239.49	-1289	-0.0001383	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.63	Si
SLU 68	ini.	-97.99	-1206	-0.0000547	0.0001872	0.0035	0.85		2655.83	1586.67	Si	16.19	Si
SLU 68	fin.	-253.06	-1216	-0.0001467	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.27	Si
SLU 75	ini.	-148.57	-1506	-0.0000839	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.68	Si
SLU 75	fin.	-235.84	-1265	-0.0001361	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.73	Si
SLU 65	ini.	-93.39	-1176	-0.000052	0.0001872	0.0035	0.85		2655.83	1586.67	Si	16.99	Si
SLU 65	fin.	-249.42	-1192	-0.0001445	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.36	Si
SLU 70	ini.	-110.02	-1271	-0.0000615	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.42	Si
SLU 70	fin.	-251.51	-1238	-0.0001458	0.0001872	0.0035	0.85		2655.83	1586.67	Si	6.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-162.95	3417	0.85	0	1653	6740	3563	2168	2479	Si	0.73	No
SLU 77	fin.	-224.72	-2228	0.85	0	1653	6740	3563	2168	2479	Si	1.11	Si
SLU 74	ini.	-158.35	3355	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 74	fin.	-221.08	-2195	0.85	0	1653	6740	3563	2168	2479	Si	1.13	Si
SLU 78	ini.	-153.17	3364	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 78	fin.	-239.49	-2292	0.85	0	1653	6740	3563	2168	2479	Si	1.08	Si
SLU 82	ini.	-161.55	3433	0.85	0	1653	6740	3563	2168	2479	Si	0.72	No
SLU 82	fin.	-222.4	-2222	0.85	0	1653	6740	3563	2168	2479	Si	1.12	Si
SLU 83	ini.	-175.92	3547	0.85	0	1653	6740	3563	2168	2479	Si	0.7	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	-211.28	-2192	0.85	0	1653	6740	3563	2168	2479	Si	1.13	Si
SLU 84	ini.	-166.15	3495	0.85	0	1653	6740	3563	2168	2479	Si	0.71	No
SLU 84	fin.	-226.05	-2256	0.85	0	1653	6740	3563	2168	2479	Si	1.1	Si
SLU 75	ini.	-148.57	3303	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 75	fin.	-235.84	-2258	0.85	0	1653	6740	3563	2168	2479	Si	1.1	Si
SLU 79	ini.	-162.03	3388	0.85	0	1653	6740	3563	2168	2479	Si	0.73	No
SLU 79	fin.	-220.07	-2198	0.85	0	1653	6740	3563	2168	2479	Si	1.13	Si
SLU 81	ini.	-171.32	3486	0.85	0	1653	6740	3563	2168	2479	Si	0.71	No
SLU 81	fin.	-207.63	-2158	0.85	0	1653	6740	3563	2168	2479	Si	1.15	Si
SLU 80	ini.	-152.25	3336	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 80	fin.	-234.84	-2262	0.85	0	1653	6740	3563	2168	2479	Si	1.1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-743.72	-3418	-0.0004741	0.0002807	0.0035	0.85		2680.73	2680.73		3.6	Si
SLV 11	fin.	808.65	1216	-0.0005254	0.0002807	0.0035	0.85		2675.27	2675.27		3.31	Si
SLV 15	ini.	-1072	-4584	-0.0007423	0.0002807	0.0035	0.85		2680.73	2680.73		2.5	Si
SLV 15	fin.	800.36	675	-0.0005189	0.0002807	0.0035	0.85		2675.27	2675.27		3.34	Si
SLV 5	ini.	449.48	1073	-0.0002671	0.0002807	0.0035	0.85		2675.27	2675.27		5.95	Si
SLV 5	fin.	-1024.62	-2740	-0.0007012	0.0002807	0.0035	0.85		2680.73	2680.73		2.62	Si
SLV 2	ini.	884.71	2611	-0.000586	0.0002807	0.0035	0.85		2675.27	2675.27		3.02	Si
SLV 2	fin.	-1128.41	-2394	-0.0007923	0.0002807	0.0035	0.85		2680.73	2680.73		2.38	Si
SLV 6	ini.	556.43	1444	-0.000339	0.0002807	0.0035	0.85		2675.27	2675.27		4.81	Si
SLV 6	fin.	-1136.7	-2935	-0.0007998	0.0002807	0.0035	0.85		2680.73	2680.73		2.36	Si
SLV 1	ini.	725.86	2059	-0.0004617	0.0002807	0.0035	0.85		2675.27	2675.27		3.69	Si
SLV 1	fin.	-961.93	-2105	-0.0006481	0.0002807	0.0035	0.85		2680.73	2680.73		2.79	Si
SLD 6	ini.	312.74	533	-0.0001806	0.0002807	0.0035	0.85		2675.27	2675.27		8.55	Si
SLD 6	fin.	-768.83	-2146	-0.0004933	0.0002807	0.0035	0.85		2680.73	2680.73		3.49	Si
SLD 2	ini.	529.9	1306	-0.0003208	0.0002807	0.0035	0.85		2675.27	2675.27		5.05	Si
SLD 2	fin.	-776.03	-1829	-0.0004988	0.0002807	0.0035	0.85		2680.73	2680.73		3.45	Si
SLV 16	ini.	-913.15	-4033	-0.0006078	0.0002807	0.0035	0.85		2680.73	2680.73		2.94	Si
SLV 16	fin.	633.88	386	-0.0003938	0.0002807	0.0035	0.85		2675.27	2675.27		4.22	Si
SLV 13	ini.	-856.45	-3761	-0.0005619	0.0002807	0.0035	0.85		2680.73	2680.73		3.13	Si
SLV 13	fin.	370.27	-355	-0.0002163	0.0002807	0.0035	0.85		2675.27	2675.27		7.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1072	7249	0.85	0	2479	6740	5345	2168	7513		1.04	Si
SLV 15	fin.	800.36	2779	0.85	0	2479	6740	5345	2168	7513		2.7	Si
SLV 11	ini.	-743.72	5793	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLV 11	fin.	808.65	2678	0.85	0	2479	6740	5345	2168	7513		2.81	Si
SLV 5	ini.	449.48	-897	0.85	0	2479	6740	5345	2168	7513		8.38	Si
SLV 5	fin.	-1024.62	-5286	0.85	0	2479	6740	5345	2168	7513		1.42	Si
SLV 6	ini.	556.43	-1454	0.85	0	2479	6740	5345	2168	7513		5.17	Si
SLV 6	fin.	-1136.7	-5775	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLV 1	ini.	725.86	-2083	0.85	0	2479	6740	5345	2168	7513		3.61	Si
SLV 1	fin.	-961.93	-5150	0.85	0	2479	6740	5345	2168	7513		1.46	Si
SLV 12	ini.	-636.77	5236	0.85	0	2479	6740	5345	2168	7513		1.43	Si
SLV 12	fin.	696.57	2188	0.85	0	2479	6740	5345	2168	7513		3.43	Si
SLV 2	ini.	884.71	-2910	0.85	0	2479	6740	5345	2168	7513		2.58	Si
SLV 2	fin.	-1128.41	-5877	0.85	0	2479	6740	5345	2168	7513		1.28	Si
SLV 13	ini.	-856.45	5967	0.85	0	2479	6740	5345	2168	7513		1.26	Si
SLV 13	fin.	370.27	937	0.85	0	2479	6740	5345	2168	7513		8.01	Si
SLD 15	ini.	-717.19	5404	0.85	0	2479	6740	5345	2168	7513		1.39	Si
SLD 15	fin.	447.98	1198	0.85	0	2479	6740	5345	2168	7513		6.27	Si
SLV 16	ini.	-913.15	6422	0.85	0	2479	6740	5345	2168	7513		1.17	Si
SLV 16	fin.	633.88	2052	0.85	0	2479	6740	5345	2168	7513		3.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.358	SLV 6	Si
V_SLV	1.036	SLV 15	Si
PF_SLU	6.27	SLU 68	Si
V_SLU	0.699	SLU 83	No

Trave di accoppiamento 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	5	7	2	-6.008	-3.359	5	7	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	1259.29	-3623	-0.0001314	0.0001872	0.0035	2		14344.28	4605.42	Si	3.66	Si
SLU 80	fin.	-1497.63	-3679	-0.0001579	0.0001872	0.0035	2		14357.01	4605.42	Si	3.08	Si
SLU 76	ini.	1265.84	-3606	-0.0001321	0.0001872	0.0035	2		14344.28	4605.42	Si	3.64	Si
SLU 76	fin.	-1506.42	-3662	-0.0001589	0.0001872	0.0035	2		14357.01	4605.42	Si	3.06	Si
SLU 78	ini.	1266.47	-3667	-0.0001322	0.0001872	0.0035	2		14344.28	4605.42	Si	3.64	Si
SLU 78	fin.	-1512.41	-3724	-0.0001596	0.0001872	0.0035	2		14357.01	4605.42	Si	3.05	Si
SLU 73	ini.	1263.91	-3549	-0.0001319	0.0001872	0.0035	2		14344.28	4605.42	Si	3.64	Si
SLU 73	fin.	-1494.3	-3605	-0.0001575	0.0001872	0.0035	2		14357.01	4605.42	Si	3.08	Si
SLU 75	ini.	1264.54	-3610	-0.0001319	0.0001872	0.0035	2		14344.28	4605.42	Si	3.64	Si
SLU 75	fin.	-1500.3	-3666	-0.0001582	0.0001872	0.0035	2		14357.01	4605.42	Si	3.07	Si
SLU 82	ini.	1295.97	-3589	-0.0001354	0.0001872	0.0035	2		14344.28	4605.42	Si	3.55	Si
SLU 82	fin.	-1495.57	-3646	-0.0001577	0.0001872	0.0035	2		14357.01	4605.42	Si	3.08	Si
SLU 77	ini.	1253.75	-3606	-0.0001307	0.0001872	0.0035	2		14344.28	4605.42	Si	3.67	Si
SLU 77	fin.	-1481.06	-3662	-0.000156	0.0001872	0.0035	2		14357.01	4605.42	Si	3.11	Si
SLU 84	ini.	1297.9	-3646	-0.0001356	0.0001872	0.0035	2		14344.28	4605.42	Si	3.55	Si
SLU 84	fin.	-1507.68	-3704	-0.0001591	0.0001872	0.0035	2		14357.01	4605.42	Si	3.05	Si
SLU 83	ini.	1285.18	-3586	-0.0001342	0.0001872	0.0035	2		14344.28	4605.42	Si	3.58	Si
SLU 83	fin.	-1476.33	-3642	-0.0001555	0.0001872	0.0035	2		14357.01	4605.42	Si	3.12	Si
SLU 74	ini.	1251.82	-3549	-0.0001305	0.0001872	0.0035	2		14344.28	4605.42	Si	3.68	Si
SLU 74	fin.	-1468.95	-3605	-0.0001547	0.0001872	0.0035	2		14357.01	4605.42	Si	3.14	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	1265.84	-5190	2	0	3889	3965	8384	5100	5833	Si	1.12	Si
SLU 76	fin.	-1506.42	-5896	2	0	3889	3965	8384	5100	5833	Si	0.99	No
SLU 78	ini.	1266.47	-5202	2	0	3889	3965	8384	5100	5833	Si	1.12	Si
SLU 78	fin.	-1512.41	-5911	2	0	3889	3965	8384	5100	5833	Si	0.99	No
SLU 73	ini.	1263.91	-5162	2	0	3889	3965	8384	5100	5833	Si	1.13	Si
SLU 73	fin.	-1494.3	-5867	2	0	3889	3965	8384	5100	5833	Si	0.99	No
SLU 80	ini.	1259.29	-5158	2	0	3889	3965	8384	5100	5833	Si	1.13	Si
SLU 80	fin.	-1497.63	-5866	2	0	3889	3965	8384	5100	5833	Si	0.99	No
SLU 82	ini.	1295.97	-5228	2	0	3889	3965	8384	5100	5833	Si	1.12	Si
SLU 82	fin.	-1495.57	-5936	2	0	3889	3965	8384	5100	5833	Si	0.98	No
SLU 81	ini.	1283.25	-5139	2	0	3889	3965	8384	5100	5833	Si	1.14	Si
SLU 81	fin.	-1464.22	-5846	2	0	3889	3965	8384	5100	5833	Si	1	No
SLU 77	ini.	1253.75	-5114	2	0	3889	3965	8384	5100	5833	Si	1.14	Si
SLU 77	fin.	-1481.06	-5821	2	0	3889	3965	8384	5100	5833	Si	1	Si
SLU 75	ini.	1264.54	-5174	2	0	3889	3965	8384	5100	5833	Si	1.13	Si
SLU 75	fin.	-1500.3	-5882	2	0	3889	3965	8384	5100	5833	Si	0.99	No
SLU 84	ini.	1297.9	-5255	2	0	3889	3965	8384	5100	5833	Si	1.11	Si
SLU 84	fin.	-1507.68	-5965	2	0	3889	3965	8384	5100	5833	Si	0.98	No
SLU 83	ini.	1285.18	-5167	2	0	3889	3965	8384	5100	5833	Si	1.13	Si
SLU 83	fin.	-1476.33	-5876	2	0	3889	3965	8384	5100	5833	Si	0.99	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	1733.65	-4967	-0.000181	0.0002807	0.0035	2		14202.07	14202.07		8.19	Si
SLD 2	fin.	-2737.86	-5072	-0.0002969	0.0002807	0.0035	2		14215.41	14215.41		5.19	Si
SLD 6	ini.	1040.74	-5038	-0.0001062	0.0002807	0.0035	2		14202.07	14202.07		13.65	Si
SLD 6	fin.	-2229.98	-5122	-0.0002369	0.0002807	0.0035	2		14215.41	14215.41		6.37	Si
SLV 4	ini.	2349.77	-4544	-0.000251	0.0002807	0.0035	2		14202.07	14202.07		6.04	Si
SLV 4	fin.	-3037.64	-4660	-0.0003337	0.0002807	0.0035	2		14215.41	14215.41		4.68	Si
SLV 6	ini.	1128.89	-6599	-0.0001155	0.0002807	0.0035	2		14202.07	14202.07		12.58	Si
SLV 6	fin.	-2939.79	-6710	-0.0003215	0.0002807	0.0035	2		14215.41	14215.41		4.84	Si
SLD 1	ini.	1536.87	-4537	-0.0001594	0.0002807	0.0035	2		14202.07	14202.07		9.24	Si
SLD 1	fin.	-2438.33	-4634	-0.0002612	0.0002807	0.0035	2		14215.41	14215.41		5.83	Si
SLV 5	ini.	921.32	-6146	-0.0000937	0.0002807	0.0035	2		14202.07	14202.07		15.41	Si
SLV 5	fin.	-2623.84	-6249	-0.0002831	0.0002807	0.0035	2		14215.41	14215.41		5.42	Si
SLV 3	ini.	2041.47	-3871	-0.0002156	0.0002807	0.0035	2		14202.07	14202.07		6.96	Si
SLV 3	fin.	-2568.36	-3974	-0.0002765	0.0002807	0.0035	2		14215.41	14215.41		5.53	Si
SLV 2	ini.	2211.06	-6404	-0.0002349	0.0002807	0.0035	2		14202.07	14202.07		6.42	Si
SLV 2	fin.	-3701.09	-6545	-0.000419	0.0002807	0.0035	2		14215.41	14215.41		3.84	Si
SLV 1	ini.	1902.76	-5731	-0.0001999	0.0002807	0.0035	2		14202.07	14202.07		7.46	Si
SLV 1	fin.	-3231.8	-5860	-0.0003581	0.0002807	0.0035	2		14215.41	14215.41		4.4	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	1821.49	-3820	-0.0001908	0.0002807	0.0035	2		14202.07	14202.07		7.8	Si
SLD 4	fin.	-2329.73	-3909	-0.0002485	0.0002807	0.0035	2		14215.41	14215.41		6.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1128.89	-7798	2	0	5833	3965	12577	5100	9798		1.26	Si
SLV 6	fin.	-2939.79	-8363	2	0	5833	3965	12577	5100	9798		1.17	Si
SLD 2	ini.	1733.65	-8689	2	0	5833	3965	12577	5100	9798		1.13	Si
SLD 2	fin.	-2737.86	-9260	2	0	5833	3965	12577	5100	9798		1.06	Si
SLD 1	ini.	1536.87	-7695	2	0	5833	3965	12577	5100	9798		1.27	Si
SLD 1	fin.	-2438.33	-8255	2	0	5833	3965	12577	5100	9798		1.19	Si
SLV 1	ini.	1902.76	-10026	2	0	5833	3965	12577	5100	9798		0.98	No
SLV 1	fin.	-3231.8	-10598	2	0	5833	3965	12577	5100	9798		0.92	No
SLV 4	ini.	2349.77	-10585	2	0	5833	3965	12577	5100	9798		0.93	No
SLV 4	fin.	-3037.64	-11167	2	0	5833	3965	12577	5100	9798		0.88	No
SLD 3	ini.	1624.7	-7086	2	0	5833	3965	12577	5100	9798		1.38	Si
SLD 3	fin.	-2030.2	-7639	2	0	5833	3965	12577	5100	9798		1.28	Si
SLV 2	ini.	2211.06	-11583	2	0	5833	3965	12577	5100	9798		0.85	No
SLV 2	fin.	-3701.09	-12173	2	0	5833	3965	12577	5100	9798		0.8	No
SLD 4	ini.	1821.49	-8080	2	0	5833	3965	12577	5100	9798		1.21	Si
SLD 4	fin.	-2329.73	-8644	2	0	5833	3965	12577	5100	9798		1.13	Si
SLV 5	ini.	921.32	-6750	2	0	5833	3965	12577	5100	9798		1.45	Si
SLV 5	fin.	-2623.84	-7303	2	0	5833	3965	12577	5100	9798		1.34	Si
SLV 3	ini.	2041.47	-9028	2	0	5833	3965	12577	5100	9798		1.09	Si
SLV 3	fin.	-2568.36	-9592	2	0	5833	3965	12577	5100	9798		1.02	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.841	SLV 2	Si
V_SLV	0.805	SLV 2	No
PF_SLU	3.045	SLU 78	Si
V_SLU	0.978	SLU 84	No

Trave di accoppiamento 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	7.8	8.55	0.75	-6.008	-3.359	7.8	8.55	0.75	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	235.89	-975	-0.0001783	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.61	Si
SLU 77	fin.	-304.83	-1518	-0.0002363	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.34	Si
SLU 81	ini.	235.4	-998	-0.0001779	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.63	Si
SLU 81	fin.	-312.84	-1558	-0.0002433	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.23	Si
SLU 75	ini.	244.22	-919	-0.0001852	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.42	Si
SLU 75	fin.	-299.47	-1469	-0.0002316	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.42	Si
SLU 74	ini.	236.56	-950	-0.0001789	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.6	Si
SLU 74	fin.	-301.77	-1494	-0.0002336	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.39	Si
SLU 83	ini.	234.73	-1023	-0.0001774	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.64	Si
SLU 83	fin.	-315.9	-1582	-0.000246	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.19	Si
SLU 84	ini.	242.39	-993	-0.0001837	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.46	Si
SLU 84	fin.	-313.59	-1557	-0.000244	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.22	Si
SLU 82	ini.	243.06	-968	-0.0001842	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.45	Si
SLU 82	fin.	-310.54	-1533	-0.0002413	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.26	Si
SLU 79	ini.	234.03	-965	-0.0001768	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.66	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-302.86	-1507	-0.0002346	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.37	Si
SLU 78	ini.	243.55	-944	-0.0001846	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.44	Si
SLU 78	fin.	-302.53	-1493	-0.0002343	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.38	Si
SLU 80	ini.	241.69	-935	-0.0001831	0.0001872	0.0035	0.75		2069.77	1324.17	Si	5.48	Si
SLU 80	fin.	-300.56	-1482	-0.0002326	0.0001872	0.0035	0.75		2074.44	1324.17	Si	4.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	234.73	-425	0.75	0	1458	3965	3144	1913	2188	Si	5.14	Si
SLU 83	fin.	-315.9	-3814	0.75	0	1458	3965	3144	1913	2188	Si	0.57	No
SLU 78	ini.	243.55	-420	0.75	0	1458	3965	3144	1913	2188	Si	5.2	Si
SLU 78	fin.	-302.53	-3770	0.75	0	1458	3965	3144	1913	2188	Si	0.58	No
SLU 84	ini.	242.39	-439	0.75	0	1458	3965	3144	1913	2188	Si	4.98	Si
SLU 84	fin.	-313.59	-3830	0.75	0	1458	3965	3144	1913	2188	Si	0.57	No
SLU 80	ini.	241.69	-423	0.75	0	1458	3965	3144	1913	2188	Si	5.17	Si
SLU 80	fin.	-300.56	-3733	0.75	0	1458	3965	3144	1913	2188	Si	0.59	No
SLU 79	ini.	234.03	-409	0.75	0	1458	3965	3144	1913	2188	Si	5.35	Si
SLU 79	fin.	-302.86	-3717	0.75	0	1458	3965	3144	1913	2188	Si	0.59	No
SLU 75	ini.	244.22	-435	0.75	0	1458	3965	3144	1913	2188	Si	5.03	Si
SLU 75	fin.	-299.47	-3723	0.75	0	1458	3965	3144	1913	2188	Si	0.59	No
SLU 77	ini.	235.89	-406	0.75	0	1458	3965	3144	1913	2188	Si	5.38	Si
SLU 77	fin.	-304.83	-3754	0.75	0	1458	3965	3144	1913	2188	Si	0.58	No
SLU 82	ini.	243.06	-454	0.75	0	1458	3965	3144	1913	2188	Si	4.82	Si
SLU 82	fin.	-310.54	-3782	0.75	0	1458	3965	3144	1913	2188	Si	0.58	No
SLU 74	ini.	236.56	-421	0.75	0	1458	3965	3144	1913	2188	Si	5.2	Si
SLU 74	fin.	-301.77	-3707	0.75	0	1458	3965	3144	1913	2188	Si	0.59	No
SLU 81	ini.	235.4	-440	0.75	0	1458	3965	3144	1913	2188	Si	4.98	Si
SLU 81	fin.	-312.84	-3766	0.75	0	1458	3965	3144	1913	2188	Si	0.58	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	871.76	1976	-0.0007854	0.0002807	0.0035	0.75		2085.94	2085.94		2.39	Si
SLV 4	fin.	-116.44	829	-0.0000836	0.0002807	0.0035	0.75		2090.82	2090.82		17.96	Si
SLD 4	ini.	622.18	1061	-0.0005172	0.0002807	0.0035	0.75		2085.94	2085.94		3.35	Si
SLD 4	fin.	-146.29	189	-0.0001057	0.0002807	0.0035	0.75		2090.82	2090.82		14.29	Si
SLD 3	ini.	526.95	734	-0.0004245	0.0002807	0.0035	0.75		2085.94	2085.94		3.96	Si
SLD 3	fin.	-156.06	-37	-0.000113	0.0002807	0.0035	0.75		2090.82	2090.82		13.4	Si
SLV 6	ini.	583.34	1284	-0.0004788	0.0002807	0.0035	0.75		2085.94	2085.94		3.58	Si
SLV 6	fin.	5.23	933	-0.0000037	0.0002807	0.0035	0.75		2085.94	2085.94		398.64	Si
SLD 1	ini.	584.48	1075	-0.0004799	0.0002807	0.0035	0.75		2085.94	2085.94		3.57	Si
SLD 1	fin.	-94.9	404	-0.0000678	0.0002807	0.0035	0.75		2090.82	2090.82		22.03	Si
SLV 1	ini.	816.56	2018	-0.0007229	0.0002807	0.0035	0.75		2085.94	2085.94		2.55	Si
SLV 1	fin.	-32.87	1190	-0.0000232	0.0002807	0.0035	0.75		2090.82	2090.82		63.61	Si
SLV 2	ini.	965.76	2529	-0.0008963	0.0002807	0.0035	0.75		2085.94	2085.94		2.16	Si
SLV 2	fin.	-17.55	1545	-0.0000123	0.0002807	0.0035	0.75		2090.82	2090.82		119.12	Si
SLV 15	ini.	-613.78	-3699	-0.0005075	0.0002807	0.0035	0.75		2090.82	2090.82		3.41	Si
SLV 15	fin.	-389.12	-3493	-0.0002993	0.0002807	0.0035	0.75		2090.82	2090.82		5.37	Si
SLD 2	ini.	679.72	1401	-0.0005758	0.0002807	0.0035	0.75		2085.94	2085.94		3.07	Si
SLD 2	fin.	-85.13	630	-0.0000607	0.0002807	0.0035	0.75		2090.82	2090.82		24.56	Si
SLV 3	ini.	722.56	1464	-0.0006206	0.0002807	0.0035	0.75		2085.94	2085.94		2.89	Si
SLV 3	fin.	-131.75	474	-0.0000949	0.0002807	0.0035	0.75		2090.82	2090.82		15.87	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	816.56	-1633	0.75	0	2188	3965	4716	1913	6152		3.77	Si
SLV 1	fin.	-32.87	-3565	0.75	0	2188	3965	4716	1913	6152		1.73	Si
SLD 1	ini.	584.48	-1168	0.75	0	2188	3965	4716	1913	6152		5.27	Si
SLD 1	fin.	-94.9	-3185	0.75	0	2188	3965	4716	1913	6152		1.93	Si
SLV 6	ini.	583.34	-536	0.75	0	2188	3965	4716	1913	6152		11.49	Si
SLV 6	fin.	5.23	-3175	0.75	0	2188	3965	4716	1913	6152		1.94	Si
SLV 2	ini.	965.76	-2032	0.75	0	2188	3965	4716	1913	6152		3.03	Si
SLV 2	fin.	-17.55	-3901	0.75	0	2188	3965	4716	1913	6152		1.58	Si
SLD 3	ini.	526.95	-1323	0.75	0	2188	3965	4716	1913	6152		4.65	Si
SLD 3	fin.	-156.06	-3117	0.75	0	2188	3965	4716	1913	6152		1.97	Si
SLV 5	ini.	482.88	-267	0.75	0	2188	3965	4716	1913	6152		23.06	Si
SLV 5	fin.	-5.08	-2948	0.75	0	2188	3965	4716	1913	6152		2.09	Si
SLD 4	ini.	622.18	-1578	0.75	0	2188	3965	4716	1913	6152		3.9	Si
SLD 4	fin.	-146.29	-3332	0.75	0	2188	3965	4716	1913	6152		1.85	Si
SLV 4	ini.	871.76	-2283	0.75	0	2188	3965	4716	1913	6152		2.7	Si
SLV 4	fin.	-116.44	-3788	0.75	0	2188	3965	4716	1913	6152		1.62	Si
SLV 3	ini.	722.56	-1883	0.75	0	2188	3965	4716	1913	6152		3.27	Si
SLV 3	fin.	-131.75	-3452	0.75	0	2188	3965	4716	1913	6152		1.78	Si
SLD 2	ini.	679.72	-1423	0.75	0	2188	3965	4716	1913	6152		4.32	Si
SLD 2	fin.	-85.13	-3400	0.75	0	2188	3965	4716	1913	6152		1.81	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.16	SLV 2	Si
V_SLV	1.577	SLV 2	Si
PF_SLU	4.192	SLU 83	Si
V_SLU	0.571	SLU 84	No



Trave di accoppiamento 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.283	-3.359	5	5.9	0.9	-3.183	-3.359	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	369.69	-1878	-0.0001963	0.0001872	0.0035	0.9		2959	1717.92	Si	4.65	Si
SLU 68	fin.	105.27	-1455	-0.0000526	0.0001872	0.0035	0.9		2959	1717.92	Si	16.32	Si
SLU 51	ini.	362.5	-1737	-0.0001922	0.0001872	0.0035	0.9		2959	1717.92	Si	4.74	Si
SLU 51	fin.	65.33	-1259	-0.0000324	0.0001872	0.0035	0.9		2959	1717.92	Si	26.3	Si
SLU 72	ini.	360.04	-1880	-0.0001907	0.0001872	0.0035	0.9		2959	1717.92	Si	4.77	Si
SLU 72	fin.	121.68	-1500	-0.000061	0.0001872	0.0035	0.9		2959	1717.92	Si	14.12	Si
SLU 70	ini.	362.61	-1899	-0.0001922	0.0001872	0.0035	0.9		2959	1717.92	Si	4.74	Si
SLU 70	fin.	125.09	-1520	-0.0000627	0.0001872	0.0035	0.9		2959	1717.92	Si	13.73	Si
SLU 46	ini.	367.62	-1740	-0.0001951	0.0001872	0.0035	0.9		2959	1717.92	Si	4.67	Si
SLU 46	fin.	58	-1242	-0.0000287	0.0001872	0.0035	0.9		2959	1717.92	Si	29.62	Si
SLU 49	ini.	365.08	-1755	-0.0001937	0.0001872	0.0035	0.9		2959	1717.92	Si	4.71	Si
SLU 49	fin.	68.73	-1279	-0.0000341	0.0001872	0.0035	0.9		2959	1717.92	Si	24.99	Si
SLU 44	ini.	374.69	-1719	-0.0001993	0.0001872	0.0035	0.9		2959	1717.92	Si	4.58	Si
SLU 44	fin.	38.17	-1177	-0.0000188	0.0001872	0.0035	0.9		2959	1717.92	Si	45.01	Si
SLU 47	ini.	372.15	-1734	-0.0001978	0.0001872	0.0035	0.9		2959	1717.92	Si	4.62	Si
SLU 47	fin.	48.91	-1214	-0.0000241	0.0001872	0.0035	0.9		2959	1717.92	Si	35.12	Si
SLU 65	ini.	372.23	-1862	-0.0001978	0.0001872	0.0035	0.9		2959	1717.92	Si	4.62	Si
SLU 65	fin.	94.53	-1418	-0.0000471	0.0001872	0.0035	0.9		2959	1717.92	Si	18.17	Si
SLU 67	ini.	365.16	-1883	-0.0001937	0.0001872	0.0035	0.9		2959	1717.92	Si	4.7	Si
SLU 67	fin.	114.35	-1483	-0.0000572	0.0001872	0.0035	0.9		2959	1717.92	Si	15.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 67	ini.	365.16	-1291	0.9	0	1750	7137	3773	2295	2625	Si	2.03	Si
SLU 67	fin.	114.35	279	0.9	0	1750	7137	3773	2295	2625	Si	9.39	Si
SLU 44	ini.	374.69	-1352	0.9	0	1750	7137	3773	2295	2625	Si	1.94	Si
SLU 44	fin.	38.17	6	0.9	0	1750	7137	3773	2295	2625	Si	468.53	Si
SLU 46	ini.	367.62	-1332	0.9	0	1750	7137	3773	2295	2625	Si	1.97	Si
SLU 46	fin.	58	89	0.9	0	1750	7137	3773	2295	2625	Si	29.43	Si
SLU 65	ini.	372.23	-1311	0.9	0	1750	7137	3773	2295	2625	Si	2	Si
SLU 65	fin.	94.53	196	0.9	0	1750	7137	3773	2295	2625	Si	13.4	Si
SLU 47	ini.	372.15	-1347	0.9	0	1750	7137	3773	2295	2625	Si	1.95	Si
SLU 47	fin.	48.91	52	0.9	0	1750	7137	3773	2295	2625	Si	50.58	Si
SLU 68	ini.	369.69	-1306	0.9	0	1750	7137	3773	2295	2625	Si	2.01	Si
SLU 68	fin.	105.27	242	0.9	0	1750	7137	3773	2295	2625	Si	10.84	Si
SLU 70	ini.	362.61	-1286	0.9	0	1750	7137	3773	2295	2625	Si	2.04	Si
SLU 70	fin.	125.09	326	0.9	0	1750	7137	3773	2295	2625	Si	8.06	Si
SLU 49	ini.	365.08	-1327	0.9	0	1750	7137	3773	2295	2625	Si	1.98	Si
SLU 49	fin.	68.73	135	0.9	0	1750	7137	3773	2295	2625	Si	19.38	Si
SLU 45	ini.	356.98	-1290	0.9	0	1750	7137	3773	2295	2625	Si	2.03	Si
SLU 45	fin.	66.52	121	0.9	0	1750	7137	3773	2295	2625	Si	21.71	Si
SLU 51	ini.	362.5	-1314	0.9	0	1750	7137	3773	2295	2625	Si	2	Si
SLU 51	fin.	65.33	119	0.9	0	1750	7137	3773	2295	2625	Si	21.99	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	1550.9	-3992	-0.0010401	0.0002807	0.0035	0.9		2989.59	2989.59		1.93	Si
SLV 6	fin.	-956.49	74	-0.0005609	0.0002807	0.0035	0.9		2995.37	2995.37		3.13	Si
SLD 2	ini.	1248.93	-3075	-0.0007836	0.0002807	0.0035	0.9		2989.59	2989.59		2.39	Si
SLD 2	fin.	-837.12	265	-0.0004777	0.0002807	0.0035	0.9		2995.37	2995.37		3.58	Si
SLV 1	ini.	1481.2	-3468	-0.0009781	0.0002807	0.0035	0.9		2989.59	2989.59		2.02	Si
SLV 1	fin.	-1052.81	587	-0.0006309	0.0002807	0.0035	0.9		2995.37	2995.37		2.85	Si
SLV 5	ini.	1328.84	-3608	-0.0008486	0.0002807	0.0035	0.9		2989.59	2989.59		2.25	Si
SLV 5	fin.	-746.53	-235	-0.0004172	0.0002807	0.0035	0.9		2995.37	2995.37		4.01	Si
SLV 16	ini.	-947.62	671	-0.0005546	0.0002807	0.0035	0.9		2995.37	2995.37		3.16	Si
SLV 16	fin.	1230.64	-2814	-0.000769	0.0002807	0.0035	0.9		2989.59	2989.59		2.43	Si
SLV 4	ini.	1310.4	-2921	-0.0008334	0.0002807	0.0035	0.9		2989.59	2989.59		2.28	Si
SLV 4	fin.	-1001.28	748	-0.0005931	0.0002807	0.0035	0.9		2995.37	2995.37		2.99	Si
SLV 11	ini.	-1017.32	1196	-0.0006048	0.0002807	0.0035	0.9		2995.37	2995.37		2.94	Si
SLV 11	fin.	1134.32	-2301	-0.0006939	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 2	ini.	1811.03	-4039	-0.0012892	0.0002807	0.0035	0.9		2989.59	2989.59		1.65	Si
SLV 2	fin.	-1364.66	1047	-0.0008762	0.0002807	0.0035	0.9		2995.37	2995.37		2.19	Si
SLV 15	ini.	-1277.45	1243	-0.0008047	0.0002807	0.0035	0.9		2995.37	2995.37		2.34	Si
SLV 15	fin.	1542.49	-3273	-0.0010325	0.0002807	0.0035	0.9		2989.59	2989.59		1.94	Si
SLV 13	ini.	-776.82	125	-0.0004372	0.0002807	0.0035	0.9		2995.37	2995.37		3.86	Si
SLV 13	fin.	1179.11	-2974	-0.0007285	0.0002807	0.0035	0.9		2989.59	2989.59		2.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1310.4	-4653	0.9	0	2625	7137	5660	2295	7955		1.71	Si
SLV 4	fin.	-1001.28	-4084	0.9	0	2625	7137	5660	2295	7955		1.95	Si
SLV 15	ini.	-1277.45	4809	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 15	fin.	1542.49	5951	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 1	ini.	1481.2	-5437	0.9	0	2625	7137	5660	2295	7955		1.46	Si
SLV 1	fin.	-1052.81	-4341	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 16	ini.	-947.62	3575	0.9	0	2625	7137	5660	2295	7955		2.23	Si
SLV 16	fin.	1230.64	4759	0.9	0	2625	7137	5660	2295	7955		1.67	Si
SLD 2	ini.	1248.93	-4579	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLD 2	fin.	-837.12	-3444	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLV 11	ini.	-1017.32	4081	0.9	0	2625	7137	5660	2295	7955		1.95	Si
SLV 11	fin.	1134.32	4352	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 2	ini.	1811.03	-6670	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 2	fin.	-1364.66	-5533	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLV 5	ini.	1328.84	-5112	0.9	0	2625	7137	5660	2295	7955		1.56	Si
SLV 5	fin.	-746.53	-3131	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 6	ini.	1550.9	-5943	0.9	0	2625	7137	5660	2295	7955		1.34	Si
SLV 6	fin.	-956.49	-3934	0.9	0	2625	7137	5660	2295	7955		2.02	Si
SLV 13	ini.	-776.82	2791	0.9	0	2625	7137	5660	2295	7955		2.85	Si
SLV 13	fin.	1179.11	4502	0.9	0	2625	7137	5660	2295	7955		1.77	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.651	SLV 2	Si
V_SLV	1.192	SLV 2	Si
PF_SLU	4.585	SLU 44	Si
V_SLU	1.941	SLU 44	Si

Trave di accoppiamento 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.283	-3.359	7.7	8.55	0.85	-3.183	-3.359	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-111.71	-1234	-0.0000625	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.2	Si
SLU 80	fin.	-478.2	-2195	-0.0002974	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.32	Si
SLU 84	ini.	-128.68	-1291	-0.0000723	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.33	Si
SLU 84	fin.	-480.24	-2219	-0.0002989	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.3	Si
SLU 76	ini.	-94.4	-1187	-0.0000526	0.0001872	0.0035	0.85		2655.83	1586.67	Si	16.81	Si
SLU 76	fin.	-482.04	-2195	-0.0003002	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.29	Si
SLU 70	ini.	-52.72	-1040	-0.0000291	0.0001872	0.0035	0.85		2655.83	1586.67	Si	30.1	Si
SLU 70	fin.	-472.57	-2115	-0.0002934	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.36	Si
SLU 77	ini.	-126.27	-1272	-0.0000709	0.0001872	0.0035	0.85		2655.83	1586.67	Si	12.57	Si
SLU 77	fin.	-473.51	-2188	-0.000294	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.35	Si
SLU 75	ini.	-105.09	-1218	-0.0000587	0.0001872	0.0035	0.85		2655.83	1586.67	Si	15.1	Si
SLU 75	fin.	-480.41	-2198	-0.000299	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.3	Si
SLU 73	ini.	-84.81	-1152	-0.0000472	0.0001872	0.0035	0.85		2655.83	1586.67	Si	18.71	Si
SLU 73	fin.	-479.73	-2175	-0.0002985	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.31	Si
SLU 82	ini.	-119.1	-1256	-0.0000668	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.32	Si
SLU 82	fin.	-477.94	-2199	-0.0002972	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.32	Si
SLU 68	ini.	-32.44	-974	-0.0000178	0.0001872	0.0035	0.85		2655.83	1586.67	Si	48.91	Si
SLU 68	fin.	-471.89	-2092	-0.0002929	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.36	Si
SLU 78	ini.	-114.68	-1252	-0.0000642	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.84	Si
SLU 78	fin.	-482.71	-2218	-0.0003007	0.0001872	0.0035	0.85		2655.83	1586.67	Si	3.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-128.68	1286	0.85	0	1653	6740	3563	2168	2479	Si	1.93	Si
SLU 84	fin.	-480.24	-3376	0.85	0	1653	6740	3563	2168	2479	Si	0.73	No
SLU 73	ini.	-84.81	1072	0.85	0	1653	6740	3563	2168	2479	Si	2.31	Si
SLU 73	fin.	-479.73	-3314	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 77	ini.	-126.27	1261	0.85	0	1653	6740	3563	2168	2479	Si	1.97	Si
SLU 77	fin.	-473.51	-3321	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 81	ini.	-130.69	1286	0.85	0	1653	6740	3563	2168	2479	Si	1.93	Si
SLU 81	fin.	-468.74	-3303	0.85	0	1653	6740	3563	2168	2479	Si	0.75	No
SLU 82	ini.	-119.1	1239	0.85	0	1653	6740	3563	2168	2479	Si	2	Si
SLU 82	fin.	-477.94	-3349	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 80	ini.	-111.71	1196	0.85	0	1653	6740	3563	2168	2479	Si	2.07	Si
SLU 80	fin.	-478.2	-3335	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 75	ini.	-105.09	1168	0.85	0	1653	6740	3563	2168	2479	Si	2.12	Si
SLU 75	fin.	-480.41	-3341	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 78	ini.	-114.68	1215	0.85	0	1653	6740	3563	2168	2479	Si	2.04	Si
SLU 78	fin.	-482.71	-3367	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 83	ini.	-140.28	1333	0.85	0	1653	6740	3563	2168	2479	Si	1.86	Si
SLU 83	fin.	-471.04	-3329	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No
SLU 76	ini.	-94.4	1119	0.85	0	1653	6740	3563	2168	2479	Si	2.22	Si
SLU 76	fin.	-482.04	-3340	0.85	0	1653	6740	3563	2168	2479	Si	0.74	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1339	-2980	-0.0009901	0.0002807	0.0035	0.85		2680.73	2680.73		2	Si
SLV 15	fin.	653.72	1598	-0.0004081	0.0002807	0.0035	0.85		2675.27	2675.27		4.09	Si
SLV 4	ini.	858.08	905	-0.0005645	0.0002807	0.0035	0.85		2675.27	2675.27		3.12	Si
SLV 4	fin.	-968.15	-3406	-0.0006533	0.0002807	0.0035	0.85		2680.73	2680.73		2.77	Si
SLV 16	ini.	-1055.26	-2494	-0.0007277	0.0002807	0.0035	0.85		2680.73	2680.73		2.54	Si
SLV 16	fin.	438.44	920	-0.0002599	0.0002807	0.0035	0.85		2675.27	2675.27		6.1	Si
SLV 1	ini.	978.78	977	-0.0006639	0.0002807	0.0035	0.85		2675.27	2675.27		2.73	Si
SLV 1	fin.	-1129.33	-4006	-0.0007931	0.0002807	0.0035	0.85		2680.73	2680.73		2.37	Si
SLV 2	ini.	1262.51	1464	-0.0009185	0.0002807	0.0035	0.85		2675.27	2675.27		2.12	Si
SLV 2	fin.	-1344.6	-4685	-0.0009957	0.0002807	0.0035	0.85		2680.73	2680.73		1.99	Si
SLV 5	ini.	827.3	519	-0.00054	0.0002807	0.0035	0.85		2675.27	2675.27		3.23	Si
SLV 5	fin.	-1111.39	-4096	-0.0007771	0.0002807	0.0035	0.85		2680.73	2680.73		2.41	Si
SLV 13	ini.	-934.57	-2422	-0.0006254	0.0002807	0.0035	0.85		2680.73	2680.73		2.87	Si
SLV 13	fin.	277.26	319	-0.000159	0.0002807	0.0035	0.85		2675.27	2675.27		9.65	Si
SLD 2	ini.	788.91	656	-0.0005099	0.0002807	0.0035	0.85		2675.27	2675.27		3.39	Si
SLD 2	fin.	-979.94	-3538	-0.0006632	0.0002807	0.0035	0.85		2680.73	2680.73		2.74	Si
SLV 11	ini.	-1094.81	-2362	-0.0007624	0.0002807	0.0035	0.85		2680.73	2680.73		2.45	Si
SLV 11	fin.	565.44	1466	-0.0003453	0.0002807	0.0035	0.85		2675.27	2675.27		4.73	Si
SLV 6	ini.	1018.32	846	-0.0006975	0.0002807	0.0035	0.85		2675.27	2675.27		2.63	Si
SLV 6	fin.	-1256.33	-4553	-0.0009103	0.0002807	0.0035	0.85		2680.73	2680.73		2.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	978.78	-3340	0.85	0	2479	6740	5345	2168	7513		2.25	Si
SLV 1	fin.	-1129.33	-6435	0.85	0	2479	6740	5345	2168	7513		1.17	Si
SLV 2	ini.	1262.51	-4449	0.85	0	2479	6740	5345	2168	7513		1.69	Si
SLV 2	fin.	-1344.6	-7547	0.85	0	2479	6740	5345	2168	7513		1	No
SLV 6	ini.	1018.32	-3426	0.85	0	2479	6740	5345	2168	7513		2.19	Si
SLV 6	fin.	-1256.33	-7152	0.85	0	2479	6740	5345	2168	7513		1.05	Si
SLD 2	ini.	788.91	-2587	0.85	0	2479	6740	5345	2168	7513		2.9	Si
SLD 2	fin.	-979.94	-5648	0.85	0	2479	6740	5345	2168	7513		1.33	Si
SLD 6	ini.	620.66	-1886	0.85	0	2479	6740	5345	2168	7513		3.98	Si
SLD 6	fin.	-912.24	-5338	0.85	0	2479	6740	5345	2168	7513		1.41	Si
SLV 4	ini.	858.08	-2900	0.85	0	2479	6740	5345	2168	7513		2.59	Si
SLV 4	fin.	-968.15	-5546	0.85	0	2479	6740	5345	2168	7513		1.35	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	444.32	-1156	0.85	0	2479	6740	5345	2168	7513		6.5	Si
SLV 10	fin.	-834.35	-4968	0.85	0	2479	6740	5345	2168	7513		1.51	Si
SLD 1	ini.	607.81	-1880	0.85	0	2479	6740	5345	2168	7513		4	Si
SLD 1	fin.	-842.53	-4938	0.85	0	2479	6740	5345	2168	7513		1.52	Si
SLV 15	ini.	-1339	5774	0.85	0	2479	6740	5345	2168	7513		1.3	Si
SLV 15	fin.	653.72	2845	0.85	0	2479	6740	5345	2168	7513		2.64	Si
SLV 5	ini.	827.3	-2680	0.85	0	2479	6740	5345	2168	7513		2.8	Si
SLV 5	fin.	-1111.39	-6403	0.85	0	2479	6740	5345	2168	7513		1.17	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.994	SLV 2	Si
V_SLV	0.995	SLV 2	No
PF_SLU	3.287	SLU 78	Si
V_SLU	0.734	SLU 84	No

Trave di accoppiamento 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.063	5.951	5	5.9	0.9	-2.963	5.951	5	5.9	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	409.39	-1522	-0.0002199	0.0001872	0.0035	0.9		2959	1717.92	Si	4.2	Si
SLU 49	fin.	-122.28	-813	-0.0000611	0.0001872	0.0035	0.9	2964.67	1717.92	Si		14.05	Si
SLU 48	ini.	425.15	-1554	-0.0002294	0.0001872	0.0035	0.9	2959	1717.92	Si		4.04	Si
SLU 48	fin.	-134.29	-804	-0.0000673	0.0001872	0.0035	0.9	2964.67	1717.92	Si		12.79	Si
SLU 70	ini.	408.87	-1647	-0.0002196	0.0001872	0.0035	0.9	2959	1717.92	Si		4.2	Si
SLU 70	fin.	-85.95	-1007	-0.0000427	0.0001872	0.0035	0.9	2964.67	1717.92	Si		19.99	Si
SLU 64	ini.	408.33	-1570	-0.0002192	0.0001872	0.0035	0.9	2959	1717.92	Si		4.21	Si
SLU 64	fin.	-115.32	-877	-0.0000576	0.0001872	0.0035	0.9	2964.67	1717.92	Si		14.9	Si
SLU 66	ini.	417.13	-1630	-0.0002245	0.0001872	0.0035	0.9	2959	1717.92	Si		4.12	Si
SLU 66	fin.	-105.8	-944	-0.0000527	0.0001872	0.0035	0.9	2964.67	1717.92	Si		16.24	Si
SLU 45	ini.	417.65	-1505	-0.0002248	0.0001872	0.0035	0.9	2959	1717.92	Si		4.11	Si
SLU 45	fin.	-142.13	-750	-0.0000714	0.0001872	0.0035	0.9	2964.67	1717.92	Si		12.09	Si
SLU 71	ini.	423.32	-1668	-0.0002283	0.0001872	0.0035	0.9	2959	1717.92	Si		4.06	Si
SLU 71	fin.	-99.64	-986	-0.0000496	0.0001872	0.0035	0.9	2964.67	1717.92	Si		17.24	Si
SLU 50	ini.	423.85	-1543	-0.0002286	0.0001872	0.0035	0.9	2959	1717.92	Si		4.05	Si
SLU 50	fin.	-135.98	-791	-0.0000682	0.0001872	0.0035	0.9	2964.67	1717.92	Si		12.63	Si
SLU 43	ini.	408.85	-1445	-0.0002195	0.0001872	0.0035	0.9	2959	1717.92	Si		4.2	Si
SLU 43	fin.	-151.65	-683	-0.0000763	0.0001872	0.0035	0.9	2964.67	1717.92	Si		11.33	Si
SLU 69	ini.	424.63	-1679	-0.0002291	0.0001872	0.0035	0.9	2959	1717.92	Si		4.05	Si
SLU 69	fin.	-97.96	-998	-0.0000487	0.0001872	0.0035	0.9	2964.67	1717.92	Si		17.54	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	403.2	-1655	0.9	0	1750	7137	3773	2295	2625	Si	1.59	Si
SLU 77	fin.	-59.84	156	0.9	0	1750	7137	3773	2295	2625	Si	16.84	Si
SLU 45	ini.	417.65	-1690	0.9	0	1750	7137	3773	2295	2625	Si	1.55	Si
SLU 45	fin.	-142.13	-201	0.9	0	1750	7137	3773	2295	2625	Si	13.05	Si
SLU 50	ini.	423.85	-1718	0.9	0	1750	7137	3773	2295	2625	Si	1.53	Si
SLU 50	fin.	-135.98	-168	0.9	0	1750	7137	3773	2295	2625	Si	15.61	Si
SLU 72	ini.	407.56	-1668	0.9	0	1750	7137	3773	2295	2625	Si	1.57	Si
SLU 72	fin.	-87.63	37	0.9	0	1750	7137	3773	2295	2625	Si	70.3	Si
SLU 66	ini.	417.13	-1703	0.9	0	1750	7137	3773	2295	2625	Si	1.54	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 66	fin.	-105.8	-34	0.9	0	1750	7137	3773	2295	2625	Si	77.8	Si
SLU 70	ini.	408.87	-1682	0.9	0	1750	7137	3773	2295	2625	Si	1.56	Si
SLU 70	fin.	-85.95	53	0.9	0	1750	7137	3773	2295	2625	Si	49.07	Si
SLU 69	ini.	424.63	-1745	0.9	0	1750	7137	3773	2295	2625	Si	1.5	Si
SLU 69	fin.	-97.96	16	0.9	0	1750	7137	3773	2295	2625	Si	169.33	Si
SLU 48	ini.	425.15	-1732	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 48	fin.	-134.29	-152	0.9	0	1750	7137	3773	2295	2625	Si	17.27	Si
SLU 49	ini.	409.39	-1669	0.9	0	1750	7137	3773	2295	2625	Si	1.57	Si
SLU 49	fin.	-122.28	-114	0.9	0	1750	7137	3773	2295	2625	Si	23.03	Si
SLU 71	ini.	423.32	-1731	0.9	0	1750	7137	3773	2295	2625	Si	1.52	Si
SLU 71	fin.	-99.64	-1	0.9	0	1750	7137	3773	2295	2625	Si	4005.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1577.3	-3725	-0.0010641	0.0002807	0.0035	0.9		2989.59	2989.59		1.9	Si
SLV 7	fin.	-1088.84	207	-0.0006578	0.0002807	0.0035	0.9		2995.37	2995.37		2.75	Si
SLV 3	ini.	1733.45	-3513	-0.0012117	0.0002807	0.0035	0.9		2989.59	2989.59		1.72	Si
SLV 3	fin.	-1419.87	1201	-0.0009228	0.0002807	0.0035	0.9		2995.37	2995.37		2.11	Si
SLD 3	ini.	1213.38	-2662	-0.0007554	0.0002807	0.0035	0.9		2989.59	2989.59		2.46	Si
SLD 3	fin.	-934.41	524	-0.0005452	0.0002807	0.0035	0.9		2995.37	2995.37		3.21	Si
SLD 7	ini.	1098.23	-2765	-0.0006664	0.0002807	0.0035	0.9		2989.59	2989.59		2.72	Si
SLD 7	fin.	-711.55	-119	-0.0003945	0.0002807	0.0035	0.9		2995.37	2995.37		4.21	Si
SLD 4	ini.	999.88	-2326	-0.0005935	0.0002807	0.0035	0.9		2989.59	2989.59		2.99	Si
SLD 4	fin.	-727.67	220	-0.000405	0.0002807	0.0035	0.9		2995.37	2995.37		4.12	Si
SLV 11	ini.	976.55	-2835	-0.0005766	0.0002807	0.0035	0.9		2989.59	2989.59		3.06	Si
SLV 11	fin.	-492.85	-729	-0.0002608	0.0002807	0.0035	0.9		2995.37	2995.37		6.08	Si
SLV 4	ini.	1398.97	-2986	-0.0009072	0.0002807	0.0035	0.9		2989.59	2989.59		2.14	Si
SLV 4	fin.	-1095.96	726	-0.0006632	0.0002807	0.0035	0.9		2995.37	2995.37		2.73	Si
SLV 1	ini.	1219.71	-2367	-0.0007604	0.0002807	0.0035	0.9		2989.59	2989.59		2.45	Si
SLV 1	fin.	-1062.27	1051	-0.000638	0.0002807	0.0035	0.9		2995.37	2995.37		2.82	Si
SLV 8	ini.	1352.11	-3371	-0.0008678	0.0002807	0.0035	0.9		2989.59	2989.59		2.21	Si
SLV 8	fin.	-870.77	-113	-0.0005007	0.0002807	0.0035	0.9		2995.37	2995.37		3.44	Si
SLV 14	ini.	-1117.28	1128	-0.0006793	0.0002807	0.0035	0.9		2995.37	2995.37		2.68	Si
SLV 14	fin.	1248.26	-2545	-0.0007831	0.0002807	0.0035	0.9		2989.59	2989.59		2.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1577.3	-6261	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 7	fin.	-1088.84	-3521	0.9	0	2625	7137	5660	2295	7955		2.26	Si
SLV 1	ini.	1219.71	-4383	0.9	0	2625	7137	5660	2295	7955		1.81	Si
SLV 1	fin.	-1062.27	-3910	0.9	0	2625	7137	5660	2295	7955		2.03	Si
SLV 11	ini.	976.55	-4113	0.9	0	2625	7137	5660	2295	7955		1.93	Si
SLV 11	fin.	-492.85	-1229	0.9	0	2625	7137	5660	2295	7955		6.47	Si
SLD 7	ini.	1098.23	-4360	0.9	0	2625	7137	5660	2295	7955		1.82	Si
SLD 7	fin.	-711.55	-2225	0.9	0	2625	7137	5660	2295	7955		3.57	Si
SLV 14	ini.	-1117.28	4021	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLV 14	fin.	1248.26	4907	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 4	ini.	1398.97	-5253	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 4	fin.	-1095.96	-3877	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLV 8	ini.	1352.11	-5421	0.9	0	2625	7137	5660	2295	7955		1.47	Si
SLV 8	fin.	-870.77	-2729	0.9	0	2625	7137	5660	2295	7955		2.91	Si
SLV 3	ini.	1733.45	-6500	0.9	0	2625	7137	5660	2295	7955		1.22	Si
SLV 3	fin.	-1419.87	-5053	0.9	0	2625	7137	5660	2295	7955		1.57	Si
SLD 3	ini.	1213.38	-4577	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLD 3	fin.	-934.41	-3242	0.9	0	2625	7137	5660	2295	7955		2.45	Si
SLD 8	ini.	957.26	-3835	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLD 8	fin.	-575.04	-1729	0.9	0	2625	7137	5660	2295	7955		4.6	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.725	SLV 3	Si
V_SLV	1.224	SLV 3	Si
PF_SLU	4.041	SLU 48	Si
V_SLU	1.504	SLU 69	Si

Trave di accoppiamento 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.063	5.951	7.7	8.55	0.85	-2.963	5.951	7.7	8.55	0.85	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-114.32	-927	-0.000064	0.0001872	0.0035	0.85		2655.83	1586.67	Si	13.88	Si
SLU 70	fin.	-374.49	-1458	-0.0002251	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.24	Si
SLU 69	ini.	-104.97	-909	-0.0000587	0.0001872	0.0035	0.85		2655.83	1586.67	Si	15.12	Si
SLU 69	fin.	-388.13	-1484	-0.0002343	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.09	Si
SLU 45	ini.	-40.28	-635	-0.0000222	0.0001872	0.0035	0.85		2655.83	1586.67	Si	39.39	Si
SLU 45	fin.	-371.6	-1287	-0.0002232	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.27	Si
SLU 66	ini.	-94.88	-855	-0.0000529	0.0001872	0.0035	0.85		2655.83	1586.67	Si	16.72	Si
SLU 66	fin.	-378.36	-1426	-0.0002277	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.19	Si
SLU 48	ini.	-50.37	-689	-0.0000278	0.0001872	0.0035	0.85		2655.83	1586.67	Si	31.5	Si
SLU 48	fin.	-381.38	-1345	-0.0002298	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.16	Si
SLU 72	ini.	-110.78	-912	-0.000062	0.0001872	0.0035	0.85		2655.83	1586.67	Si	14.32	Si
SLU 72	fin.	-374.02	-1448	-0.0002248	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.24	Si
SLU 50	ini.	-46.83	-673	-0.0000258	0.0001872	0.0035	0.85		2655.83	1586.67	Si	33.88	Si
SLU 50	fin.	-380.91	-1334	-0.0002294	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.17	Si
SLU 71	ini.	-101.43	-894	-0.0000566	0.0001872	0.0035	0.85		2655.83	1586.67	Si	15.64	Si
SLU 71	fin.	-387.66	-1473	-0.000234	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.09	Si
SLU 79	ini.	-152.16	-1070	-0.000086	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.43	Si
SLU 79	fin.	-373.29	-1532	-0.0002243	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.25	Si
SLU 77	ini.	-155.7	-1085	-0.000088	0.0001872	0.0035	0.85		2655.83	1586.67	Si	10.19	Si
SLU 77	fin.	-373.76	-1542	-0.0002246	0.0001872	0.0035	0.85		2655.83	1586.67	Si	4.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-145.6	1849	0.85	0	1653	6740	3563	2168	2479	Si	1.34	Si
SLU 74	fin.	-363.99	-2361	0.85	0	1653	6740	3563	2168	2479	Si	1.05	Si
SLU 78	ini.	-165.05	1957	0.85	0	1653	6740	3563	2168	2479	Si	1.27	Si
SLU 78	fin.	-360.12	-2366	0.85	0	1653	6740	3563	2168	2479	Si	1.05	Si
SLU 84	ini.	-173.15	2016	0.85	0	1653	6740	3563	2168	2479	Si	1.23	Si
SLU 84	fin.	-343.72	-2320	0.85	0	1653	6740	3563	2168	2479	Si	1.07	Si
SLU 80	ini.	-161.5	1929	0.85	0	1653	6740	3563	2168	2479	Si	1.29	Si
SLU 80	fin.	-359.65	-2354	0.85	0	1653	6740	3563	2168	2479	Si	1.05	Si
SLU 81	ini.	-153.71	1907	0.85	0	1653	6740	3563	2168	2479	Si	1.3	Si
SLU 81	fin.	-347.59	-2314	0.85	0	1653	6740	3563	2168	2479	Si	1.07	Si
SLU 71	ini.	-101.43	1529	0.85	0	1653	6740	3563	2168	2479	Si	1.62	Si
SLU 71	fin.	-387.66	-2353	0.85	0	1653	6740	3563	2168	2479	Si	1.05	Si
SLU 69	ini.	-104.97	1557	0.85	0	1653	6740	3563	2168	2479	Si	1.59	Si
SLU 69	fin.	-388.13	-2365	0.85	0	1653	6740	3563	2168	2479	Si	1.05	Si
SLU 77	ini.	-155.7	1917	0.85	0	1653	6740	3563	2168	2479	Si	1.29	Si
SLU 77	fin.	-373.76	-2419	0.85	0	1653	6740	3563	2168	2479	Si	1.03	Si
SLU 79	ini.	-152.16	1889	0.85	0	1653	6740	3563	2168	2479	Si	1.31	Si
SLU 79	fin.	-373.29	-2407	0.85	0	1653	6740	3563	2168	2479	Si	1.03	Si
SLU 83	ini.	-163.8	1975	0.85	0	1653	6740	3563	2168	2479	Si	1.26	Si
SLU 83	fin.	-357.36	-2372	0.85	0	1653	6740	3563	2168	2479	Si	1.05	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	540.45	801	-0.000328	0.0002807	0.0035	0.85		2675.27	2675.27		4.95	Si
SLV 1	fin.	-979.89	-2042	-0.0006632	0.0002807	0.0035	0.85		2680.73	2680.73		2.74	Si
SLV 4	ini.	599.12	787	-0.0003689	0.0002807	0.0035	0.85		2675.27	2675.27		4.47	Si
SLV 4	fin.	-1157.8	-2531	-0.0008188	0.0002807	0.0035	0.85		2680.73	2680.73		2.32	Si
SLV 14	ini.	-957.3	-2510	-0.0006442	0.0002807	0.0035	0.85		2680.73	2680.73		2.8	Si
SLV 14	fin.	887.02	924	-0.0005879	0.0002807	0.0035	0.85		2675.27	2675.27		3.02	Si
SLV 8	ini.	526.74	468	-0.0003186	0.0002807	0.0035	0.85		2675.27	2675.27		5.08	Si
SLV 8	fin.	-1189.7	-2825	-0.000848	0.0002807	0.0035	0.85		2680.73	2680.73		2.25	Si
SLV 11	ini.	299.52	-30	-0.0001725	0.0002807	0.0035	0.85		2675.27	2675.27		8.93	Si
SLV 11	fin.	-906.4	-2376	-0.0006022	0.0002807	0.0035	0.85		2680.73	2680.73		2.96	Si
SLD 8	ini.	303.35	64	-0.0001749	0.0002807	0.0035	0.85		2675.27	2675.27		8.82	Si
SLD 8	fin.	-844.15	-2143	-0.0005521	0.0002807	0.0035	0.85		2680.73	2680.73		3.18	Si
SLD 3	ini.	502.19	604	-0.000302	0.0002807	0.0035	0.85		2675.27	2675.27		5.33	Si
SLD 3	fin.	-1016.73	-2268	-0.0006945	0.0002807	0.0035	0.85		2680.73	2680.73		2.64	Si
SLV 3	ini.	827.32	1296	-0.0005401	0.0002807	0.0035	0.85		2675.27	2675.27		3.23	Si
SLV 3	fin.	-1442.17	-2984	-0.0010942	0.0002807	0.0035	0.85		2680.73	2680.73		1.86	Si
SLD 7	ini.	399.52	279	-0.0002348	0.0002807	0.0035	0.85		2675.27	2675.27		6.7	Si
SLD 7	fin.	-964	-2334	-0.0006498	0.0002807	0.0035	0.85		2680.73	2680.73		2.78	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	680.38	811	-0.0004277	0.0002807	0.0035	0.85		2675.27	2675.27		3.93	Si
SLV 7	fin.	-1381.16	-3130	-0.0010321	0.0002807	0.0035	0.85		2680.73	2680.73		1.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	680.38	-2206	0.85	0	2479	6740	5345	2168	7513		3.41	Si
SLV 7	fin.	-1381.16	-5890	0.85	0	2479	6740	5345	2168	7513		1.28	Si
SLV 3	ini.	827.32	-2903	0.85	0	2479	6740	5345	2168	7513		2.59	Si
SLV 3	fin.	-1442.17	-5999	0.85	0	2479	6740	5345	2168	7513		1.25	Si
SLV 14	ini.	-957.3	5071	0.85	0	2479	6740	5345	2168	7513		1.48	Si
SLV 14	fin.	887.02	2598	0.85	0	2479	6740	5345	2168	7513		2.89	Si
SLV 11	ini.	299.52	-490	0.85	0	2479	6740	5345	2168	7513		15.32	Si
SLV 11	fin.	-906.4	-4166	0.85	0	2479	6740	5345	2168	7513		1.8	Si
SLV 8	ini.	526.74	-1533	0.85	0	2479	6740	5345	2168	7513		4.9	Si
SLV 8	fin.	-1189.7	-5168	0.85	0	2479	6740	5345	2168	7513		1.45	Si
SLD 7	ini.	399.52	-964	0.85	0	2479	6740	5345	2168	7513		7.79	Si
SLD 7	fin.	-964	-4304	0.85	0	2479	6740	5345	2168	7513		1.75	Si
SLV 4	ini.	599.12	-1904	0.85	0	2479	6740	5345	2168	7513		3.95	Si
SLV 4	fin.	-1157.8	-4927	0.85	0	2479	6740	5345	2168	7513		1.52	Si
SLD 3	ini.	502.19	-1449	0.85	0	2479	6740	5345	2168	7513		5.18	Si
SLD 3	fin.	-1016.73	-4427	0.85	0	2479	6740	5345	2168	7513		1.7	Si
SLV 10	ini.	-810.36	4374	0.85	0	2479	6740	5345	2168	7513		1.72	Si
SLV 10	fin.	826.01	2488	0.85	0	2479	6740	5345	2168	7513		3.02	Si
SLV 1	ini.	540.45	-1646	0.85	0	2479	6740	5345	2168	7513		4.57	Si
SLV 1	fin.	-979.89	-4220	0.85	0	2479	6740	5345	2168	7513		1.78	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.859	SLV 3	Si
V_SLV	1.252	SLV 3	Si
PF_SLU	4.088	SLU 69	Si
V_SLU	1.025	SLU 77	Si

Trave di accoppiamento 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-0.123	1.266	7.1	8.55	1.45	-0.123	2.066	7.1	8.55	1.45	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 47	ini.	-646.2	-3034	-0.000128	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.89	Si
SLU 47	fin.	217.78	-1917	-0.0000417	0.0001872	0.0035	1.45		7660.24	3161.67	Si	14.52	Si
SLU 51	ini.	-641.23	-3090	-0.0001269	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.93	Si
SLU 51	fin.	190.57	-2015	-0.0000364	0.0001872	0.0035	1.45		7660.24	3161.67	Si	16.59	Si
SLU 72	ini.	-642.03	-3396	-0.0001271	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.92	Si
SLU 72	fin.	90.84	-2452	-0.0000172	0.0001872	0.0035	1.45		7660.24	3161.67	Si	34.81	Si
SLU 68	ini.	-647.01	-3339	-0.0001281	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.89	Si
SLU 68	fin.	118.06	-2354	-0.0000224	0.0001872	0.0035	1.45		7660.24	3161.67	Si	26.78	Si
SLU 57	ini.	-635.2	-3325	-0.0001257	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.98	Si
SLU 57	fin.	100.64	-2376	-0.0000191	0.0001872	0.0035	1.45		7660.24	3161.67	Si	31.42	Si
SLU 76	ini.	-638.84	-3536	-0.0001264	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.95	Si
SLU 76	fin.	33.29	-2676	-0.0000063	0.0001872	0.0035	1.45		7660.24	3161.67	Si	94.96	Si
SLU 49	ini.	-643.37	-3127	-0.0001274	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.91	Si
SLU 49	fin.	185.4	-2055	-0.0000354	0.0001872	0.0035	1.45		7660.24	3161.67	Si	17.05	Si
SLU 70	ini.	-644.18	-3432	-0.0001275	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.91	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	fin.	85.67	-2492	-0.0000162	0.0001872	0.0035	1.45		7660.24	3161.67	Si	36.9	Si
SLU 55	ini.	-638.03	-3231	-0.0001263	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.96	Si
SLU 55	fin.	133.02	-2239	-0.0000253	0.0001872	0.0035	1.45		7660.24	3161.67	Si	23.77	Si
SLU 78	ini.	-636	-3630	-0.0001258	0.0001872	0.0035	1.45		7669.58	3161.67	Si	4.97	Si
SLU 78	fin.	0.91	-2813	-0.0000002	0.0001872	0.0035	1.45		7660.24	3161.67	Si	3476.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-622.07	5060	1.45	0	2819	6344	6079	3698	4229	Si	0.84	No
SLU 75	fin.	3.16	-1333	1.45	0	2819	6344	6079	3698	4229	Si	3.17	Si
SLU 68	ini.	-647.01	5078	1.45	0	2819	6344	6079	3698	4229	Si	0.83	No
SLU 68	fin.	118.06	-754	1.45	0	2819	6344	6079	3698	4229	Si	5.61	Si
SLU 73	ini.	-624.91	5016	1.45	0	2819	6344	6079	3698	4229	Si	0.84	No
SLU 73	fin.	35.55	-1153	1.45	0	2819	6344	6079	3698	4229	Si	3.67	Si
SLU 67	ini.	-630.25	5016	1.45	0	2819	6344	6079	3698	4229	Si	0.84	No
SLU 67	fin.	87.93	-901	1.45	0	2819	6344	6079	3698	4229	Si	4.69	Si
SLU 76	ini.	-638.84	5121	1.45	0	2819	6344	6079	3698	4229	Si	0.83	No
SLU 76	fin.	33.29	-1186	1.45	0	2819	6344	6079	3698	4229	Si	3.56	Si
SLU 80	ini.	-633.86	5125	1.45	0	2819	6344	6079	3698	4229	Si	0.83	No
SLU 80	fin.	6.07	-1325	1.45	0	2819	6344	6079	3698	4229	Si	3.19	Si
SLU 84	ini.	-616.43	5038	1.45	0	2819	6344	6079	3698	4229	Si	0.84	No
SLU 84	fin.	-28	-1477	1.45	0	2819	6344	6079	3698	4229	Si	2.86	Si
SLU 70	ini.	-644.18	5122	1.45	0	2819	6344	6079	3698	4229	Si	0.83	No
SLU 70	fin.	85.67	-934	1.45	0	2819	6344	6079	3698	4229	Si	4.53	Si
SLU 78	ini.	-636	5165	1.45	0	2819	6344	6079	3698	4229	Si	0.82	No
SLU 78	fin.	0.91	-1366	1.45	0	2819	6344	6079	3698	4229	Si	3.1	Si
SLU 72	ini.	-642.03	5082	1.45	0	2819	6344	6079	3698	4229	Si	0.83	No
SLU 72	fin.	90.84	-893	1.45	0	2819	6344	6079	3698	4229	Si	4.74	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	1204.23	215	-0.0002443	0.0002807	0.0035	1.45		7646.28	7646.28		6.35	Si
SLV 7	fin.	-2032.79	-3840	-0.0004413	0.0002807	0.0035	1.45		7655.81	7655.81		3.77	Si
SLD 6	ini.	-1498.61	-3974	-0.0003107	0.0002807	0.0035	1.45		7655.81	7655.81		5.11	Si
SLD 6	fin.	1447.43	-276	-0.0002992	0.0002807	0.0035	1.45		7646.28	7646.28		5.28	Si
SLD 10	ini.	-1468.91	-4079	-0.0003038	0.0002807	0.0035	1.45		7655.81	7655.81		5.21	Si
SLD 10	fin.	1323.39	-544	-0.0002709	0.0002807	0.0035	1.45		7646.28	7646.28		5.78	Si
SLV 10	ini.	-2100.46	-5090	-0.0004587	0.0002807	0.0035	1.45		7655.81	7655.81		3.64	Si
SLV 10	fin.	2117.27	238	-0.0004637	0.0002807	0.0035	1.45		7646.28	7646.28		3.61	Si
SLV 11	ini.	1249.4	50	-0.0002543	0.0002807	0.0035	1.45		7646.28	7646.28		6.12	Si
SLV 11	fin.	-2227.46	-4263	-0.0004919	0.0002807	0.0035	1.45		7655.81	7655.81		3.44	Si
SLV 8	ini.	1039.13	-52	-0.0002083	0.0002807	0.0035	1.45		7646.28	7646.28		7.36	Si
SLV 8	fin.	-1826.92	-3653	-0.0003894	0.0002807	0.0035	1.45		7655.81	7655.81		4.19	Si
SLV 5	ini.	-1980.53	-4658	-0.0004279	0.0002807	0.0035	1.45		7655.81	7655.81		3.87	Si
SLV 5	fin.	2106.07	474	-0.0004607	0.0002807	0.0035	1.45		7646.28	7646.28		3.63	Si
SLV 6	ini.	-2145.63	-4925	-0.0004704	0.0002807	0.0035	1.45		7655.81	7655.81		3.57	Si
SLV 6	fin.	2311.94	661	-0.0005151	0.0002807	0.0035	1.45		7646.28	7646.28		3.31	Si
SLV 12	ini.	1084.3	-217	-0.0002181	0.0002807	0.0035	1.45		7646.28	7646.28		7.05	Si
SLV 12	fin.	-2021.59	-4076	-0.0004384	0.0002807	0.0035	1.45		7655.81	7655.81		3.79	Si
SLV 9	ini.	-1935.36	-4824	-0.0004165	0.0002807	0.0035	1.45		7655.81	7655.81		3.96	Si
SLV 9	fin.	1911.4	51	-0.000411	0.0002807	0.0035	1.45		7646.28	7646.28		4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-2100.46	12388	1.45	0	4229	6344	9118	3698	10573		0.85	No
SLV 10	fin.	2117.27	8244	1.45	0	4229	6344	9118	3698	10573		1.28	Si
SLV 12	ini.	1084.3	-4481	1.45	0	4229	6344	9118	3698	10573		2.36	Si
SLV 12	fin.	-2021.59	-9670	1.45	0	4229	6344	9118	3698	10573		1.09	Si
SLV 6	ini.	-2145.63	12569	1.45	0	4229	6344	9118	3698	10573		0.84	No
SLV 6	fin.	2311.94	9028	1.45	0	4229	6344	9118	3698	10573		1.17	Si
SLD 10	ini.	-1468.91	9030	1.45	0	4229	6344	9118	3698	10573		1.17	Si
SLD 10	fin.	1323.39	4798	1.45	0	4229	6344	9118	3698	10573		2.2	Si
SLV 11	ini.	1249.4	-5358	1.45	0	4229	6344	9118	3698	10573		1.97	Si
SLV 11	fin.	-2227.46	-10551	1.45	0	4229	6344	9118	3698	10573		1	Si
SLV 7	ini.	1204.23	-5176	1.45	0	4229	6344	9118	3698	10573		2.04	Si
SLV 7	fin.	-2032.79	-9767	1.45	0	4229	6344	9118	3698	10573		1.08	Si
SLV 8	ini.	1039.13	-4300	1.45	0	4229	6344	9118	3698	10573		2.46	Si
SLV 8	fin.	-1826.92	-8887	1.45	0	4229	6344	9118	3698	10573		1.19	Si
SLV 9	ini.	-1935.36	11511	1.45	0	4229	6344	9118	3698	10573		0.92	No
SLV 9	fin.	1911.4	7363	1.45	0	4229	6344	9118	3698	10573		1.44	Si
SLV 5	ini.	-1980.53	11692	1.45	0	4229	6344	9118	3698	10573		0.9	No
SLV 5	fin.	2106.07	8147	1.45	0	4229	6344	9118	3698	10573		1.3	Si
SLD 6	ini.	-1498.61	9152	1.45	0	4229	6344	9118	3698	10573		1.16	Si
SLD 6	fin.	1447.43	5298	1.45	0	4229	6344	9118	3698	10573		2	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	3.307	SLV 6	Si
V SLV	0.841	SLV 6	No
PF SLU	4.887	SLU 68	Si
V SLU	0.819	SLU 78	No



Trave di accoppiamento 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.813	5.951	8.55	9.45	0.9	-22.713	5.951	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-96.56	-834	-0.000048	0.0001872	0.0035	0.9		2964.67	1717.92	Si	17.79	Si
SLU 78	fin.	354.83	-1484	-0.0001877	0.0001872	0.0035	0.9		2959	1717.92	Si	4.84	Si
SLU 83	ini.	-100.72	-828	-0.0000501	0.0001872	0.0035	0.9		2964.67	1717.92	Si	17.06	Si
SLU 83	fin.	356.24	-1481	-0.0001885	0.0001872	0.0035	0.9		2959	1717.92	Si	4.82	Si
SLU 77	ini.	-107.83	-821	-0.0000538	0.0001872	0.0035	0.9		2964.67	1717.92	Si	15.93	Si
SLU 77	fin.	363.85	-1505	-0.0001929	0.0001872	0.0035	0.9		2959	1717.92	Si	4.72	Si
SLU 80	ini.	-100.32	-814	-0.0000499	0.0001872	0.0035	0.9		2964.67	1717.92	Si	17.12	Si
SLU 80	fin.	352.67	-1468	-0.0001865	0.0001872	0.0035	0.9		2959	1717.92	Si	4.87	Si
SLU 69	ini.	-128.74	-731	-0.0000645	0.0001872	0.0035	0.9		2964.67	1717.92	Si	13.34	Si
SLU 69	fin.	363.03	-1466	-0.0001925	0.0001872	0.0035	0.9		2959	1717.92	Si	4.73	Si
SLU 71	ini.	-132.5	-711	-0.0000664	0.0001872	0.0035	0.9		2964.67	1717.92	Si	12.97	Si
SLU 71	fin.	360.86	-1450	-0.0001912	0.0001872	0.0035	0.9		2959	1717.92	Si	4.76	Si
SLU 79	ini.	-111.59	-800	-0.0000557	0.0001872	0.0035	0.9		2964.67	1717.92	Si	15.39	Si
SLU 79	fin.	361.68	-1490	-0.0001917	0.0001872	0.0035	0.9		2959	1717.92	Si	4.75	Si
SLU 70	ini.	-117.46	-745	-0.0000587	0.0001872	0.0035	0.9		2964.67	1717.92	Si	14.63	Si
SLU 70	fin.	354.01	-1444	-0.0001872	0.0001872	0.0035	0.9		2959	1717.92	Si	4.85	Si
SLU 66	ini.	-126.83	-721	-0.0000635	0.0001872	0.0035	0.9		2964.67	1717.92	Si	13.55	Si
SLU 66	fin.	357.23	-1440	-0.0001891	0.0001872	0.0035	0.9		2959	1717.92	Si	4.81	Si
SLU 74	ini.	-105.92	-810	-0.0000528	0.0001872	0.0035	0.9		2964.67	1717.92	Si	16.22	Si
SLU 74	fin.	358.05	-1479	-0.0001896	0.0001872	0.0035	0.9		2959	1717.92	Si	4.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-111.59	163	0.9	0	1750	7137	3773	2295	2625	Si	16.1	Si
SLU 79	fin.	361.68	1870	0.9	0	1750	7137	3773	2295	2625	Si	1.4	Si
SLU 78	ini.	-96.56	104	0.9	0	1750	7137	3773	2295	2625	Si	25.23	Si
SLU 78	fin.	354.83	1846	0.9	0	1750	7137	3773	2295	2625	Si	1.42	Si
SLU 69	ini.	-128.74	200	0.9	0	1750	7137	3773	2295	2625	Si	13.11	Si
SLU 69	fin.	363.03	1925	0.9	0	1750	7137	3773	2295	2625	Si	1.36	Si
SLU 72	ini.	-121.23	190	0.9	0	1750	7137	3773	2295	2625	Si	13.84	Si
SLU 72	fin.	351.85	1857	0.9	0	1750	7137	3773	2295	2625	Si	1.41	Si
SLU 74	ini.	-105.92	153	0.9	0	1750	7137	3773	2295	2625	Si	17.2	Si
SLU 74	fin.	358.05	1835	0.9	0	1750	7137	3773	2295	2625	Si	1.43	Si
SLU 66	ini.	-126.83	214	0.9	0	1750	7137	3773	2295	2625	Si	12.27	Si
SLU 66	fin.	357.23	1867	0.9	0	1750	7137	3773	2295	2625	Si	1.41	Si
SLU 70	ini.	-117.46	165	0.9	0	1750	7137	3773	2295	2625	Si	15.87	Si
SLU 70	fin.	354.01	1879	0.9	0	1750	7137	3773	2295	2625	Si	1.4	Si
SLU 48	ini.	-147.58	287	0.9	0	1750	7137	3773	2295	2625	Si	9.15	Si
SLU 48	fin.	349.2	1855	0.9	0	1750	7137	3773	2295	2625	Si	1.42	Si
SLU 77	ini.	-107.83	139	0.9	0	1750	7137	3773	2295	2625	Si	18.91	Si
SLU 77	fin.	363.85	1892	0.9	0	1750	7137	3773	2295	2625	Si	1.39	Si
SLU 71	ini.	-132.5	224	0.9	0	1750	7137	3773	2295	2625	Si	11.7	Si
SLU 71	fin.	360.86	1903	0.9	0	1750	7137	3773	2295	2625	Si	1.38	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-697.45	107	-0.0003855	0.0002807	0.0035	0.9		2995.37	2995.37		4.29	Si
SLD 12	fin.	770.32	-2341	-0.0004338	0.0002807	0.0035	0.9		2989.59	2989.59		3.88	Si
SLV 16	ini.	-924.1	324	-0.0005379	0.0002807	0.0035	0.9		2995.37	2995.37		3.24	Si
SLV 16	fin.	980.49	-2854	-0.0005794	0.0002807	0.0035	0.9		2989.59	2989.59		3.05	Si
SLV 12	ini.	-1061.04	492	-0.000637	0.0002807	0.0035	0.9		2995.37	2995.37		2.82	Si
SLV 12	fin.	1074.93	-3113	-0.0006489	0.0002807	0.0035	0.9		2989.59	2989.59		2.78	Si
SLV 15	ini.	-693.83	89	-0.0003832	0.0002807	0.0035	0.9		2995.37	2995.37		4.32	Si
SLV 15	fin.	777.2	-2350	-0.0004384	0.0002807	0.0035	0.9		2989.59	2989.59		3.85	Si
SLV 11	ini.	-906.01	334	-0.0005252	0.0002807	0.0035	0.9		2995.37	2995.37		3.31	Si
SLV 11	fin.	938.06	-2774	-0.000549	0.0002807	0.0035	0.9		2989.59	2989.59		3.19	Si
SLV 8	ini.	-767.04	194	-0.0004307	0.0002807	0.0035	0.9		2995.37	2995.37		3.91	Si
SLV 8	fin.	817.27	-2471	-0.0004653	0.0002807	0.0035	0.9		2989.59	2989.59		3.66	Si
SLV 5	ini.	866.74	-1550	-0.0004991	0.0002807	0.0035	0.9		2989.59	2989.59		3.45	Si
SLV 5	fin.	-543.21	983	-0.0002903	0.0002807	0.0035	0.9		2995.37	2995.37		5.51	Si
SLV 6	ini.	711.71	-1392	-0.0003955	0.0002807	0.0035	0.9		2989.59	2989.59		4.2	Si
SLV 6	fin.	-406.34	644	-0.0002115	0.0002807	0.0035	0.9		2995.37	2995.37		7.37	Si
SLD 16	ini.	-620.4	11	-0.0003371	0.0002807	0.0035	0.9		2995.37	2995.37		4.83	Si
SLD 16	fin.	718.12	-2197	-0.0003996	0.0002807	0.0035	0.9		2989.59	2989.59		4.16	Si
SLV 1	ini.	729.8	-1381	-0.0004072	0.0002807	0.0035	0.9		2989.59	2989.59		4.1	Si
SLV 1	fin.	-448.77	724	-0.0002354	0.0002807	0.0035	0.9		2995.37	2995.37		6.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-697.45	2123	0.9	0	2625	7137	5660	2295	7955		3.75	Si
SLD 12	fin.	770.32	3915	0.9	0	2625	7137	5660	2295	7955		2.03	Si
SLD 8	ini.	-510.04	1425	0.9	0	2625	7137	5660	2295	7955		5.58	Si
SLD 8	fin.	606.22	3199	0.9	0	2625	7137	5660	2295	7955		2.49	Si
SLD 11	ini.	-600.4	1783	0.9	0	2625	7137	5660	2295	7955		4.46	Si
SLD 11	fin.	684.64	3532	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLV 12	ini.	-1061.04	3289	0.9	0	2625	7137	5660	2295	7955		2.42	Si
SLV 12	fin.	1074.93	5473	0.9	0	2625	7137	5660	2295	7955		1.45	Si
SLV 7	ini.	-612	1651	0.9	0	2625	7137	5660	2295	7955		4.82	Si
SLV 7	fin.	680.4	3739	0.9	0	2625	7137	5660	2295	7955		2.13	Si
SLV 15	ini.	-693.83	2299	0.9	0	2625	7137	5660	2295	7955		3.46	Si
SLV 15	fin.	777.2	3746	0.9	0	2625	7137	5660	2295	7955		2.12	Si
SLV 8	ini.	-767.04	2194	0.9	0	2625	7137	5660	2295	7955		3.63	Si
SLV 8	fin.	817.27	4349	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLD 16	ini.	-620.4	2038	0.9	0	2625	7137	5660	2295	7955		3.9	Si
SLD 16	fin.	718.12	3437	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLV 16	ini.	-924.1	3106	0.9	0	2625	7137	5660	2295	7955		2.56	Si
SLV 16	fin.	980.49	4653	0.9	0	2625	7137	5660	2295	7955		1.71	Si
SLV 11	ini.	-906.01	2746	0.9	0	2625	7137	5660	2295	7955		2.9	Si
SLV 11	fin.	938.06	4862	0.9	0	2625	7137	5660	2295	7955		1.64	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.781	SLV 12	Si
V_SLV	1.453	SLV 12	Si
PF_SLU	4.722	SLU 77	Si
V_SLU	1.364	SLU 69	Si

Trave di accoppiamento 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.813	5.951	11.25	12.05	0.8	-22.713	5.951	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-310.58	-879	-0.0002095	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.69	Si
SLU 74	fin.	-10.12	-247	-0.0000063	0.0001872	0.0035	0.8		2345.32	1455.42	Si	143.87	Si
SLU 69	ini.	-315.42	-856	-0.0002131	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.61	Si
SLU 69	fin.	11.41	-172	-0.0000071	0.0001872	0.0035	0.8		2340.32	1455.42	Si	127.6	Si
SLU 79	ini.	-314.7	-884	-0.0002126	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.62	Si
SLU 79	fin.	-7.31	-243	-0.0000045	0.0001872	0.0035	0.8		2345.32	1455.42	Si	198.98	Si
SLU 56	ini.	-306.38	-819	-0.0002063	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.75	Si
SLU 56	fin.	15.34	-147	-0.0000095	0.0001872	0.0035	0.8		2340.32	1455.42	Si	94.9	Si
SLU 48	ini.	-306.55	-779	-0.0002065	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.75	Si
SLU 48	fin.	38.54	-58	-0.0000241	0.0001872	0.0035	0.8		2340.32	1455.42	Si	37.76	Si
SLU 70	ini.	-306.37	-844	-0.0002063	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.75	Si
SLU 70	fin.	4.55	-194	-0.0000028	0.0001872	0.0035	0.8		2340.32	1455.42	Si	320.02	Si
SLU 66	ini.	-310.75	-838	-0.0002096	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.68	Si
SLU 66	fin.	13.09	-157	-0.0000081	0.0001872	0.0035	0.8		2340.32	1455.42	Si	111.21	Si
SLU 83	ini.	-309.95	-883	-0.0000209	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.7	Si
SLU 83	fin.	-15.58	-266	-0.0000097	0.0001872	0.0035	0.8		2345.32	1455.42	Si	93.43	Si
SLU 77	ini.	-315.25	-897	-0.000213	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.62	Si
SLU 77	fin.	-11.8	-262	-0.0000073	0.0001872	0.0035	0.8		2345.32	1455.42	Si	123.37	Si
SLU 71	ini.	-314.87	-843	-0.0002127	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.62	Si
SLU 71	fin.	15.89	-153	-0.0000099	0.0001872	0.0035	0.8		2340.32	1455.42	Si	91.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-309.95	1810	0.8	0	1556	6344	3354	2040	2333	Si	1.29	Si
SLU 83	fin.	-15.58	-882	0.8	0	1556	6344	3354	2040	2333	Si	2.64	Si
SLU 80	ini.	-305.65	1780	0.8	0	1556	6344	3354	2040	2333	Si	1.31	Si
SLU 80	fin.	-14.17	-864	0.8	0	1556	6344	3354	2040	2333	Si	2.7	Si
SLU 69	ini.	-315.42	1760	0.8	0	1556	6344	3354	2040	2333	Si	1.33	Si
SLU 69	fin.	11.41	-666	0.8	0	1556	6344	3354	2040	2333	Si	3.5	Si
SLU 77	ini.	-315.25	1827	0.8	0	1556	6344	3354	2040	2333	Si	1.28	Si
SLU 77	fin.	-11.8	-865	0.8	0	1556	6344	3354	2040	2333	Si	2.7	Si
SLU 75	ini.	-301.53	1761	0.8	0	1556	6344	3354	2040	2333	Si	1.32	Si
SLU 75	fin.	-16.98	-864	0.8	0	1556	6344	3354	2040	2333	Si	2.7	Si
SLU 74	ini.	-310.58	1795	0.8	0	1556	6344	3354	2040	2333	Si	1.3	Si
SLU 74	fin.	-10.12	-831	0.8	0	1556	6344	3354	2040	2333	Si	2.81	Si
SLU 81	ini.	-305.28	1777	0.8	0	1556	6344	3354	2040	2333	Si	1.31	Si
SLU 81	fin.	-13.9	-848	0.8	0	1556	6344	3354	2040	2333	Si	2.75	Si
SLU 79	ini.	-314.7	1813	0.8	0	1556	6344	3354	2040	2333	Si	1.29	Si
SLU 79	fin.	-7.31	-831	0.8	0	1556	6344	3354	2040	2333	Si	2.81	Si
SLU 78	ini.	-306.2	1794	0.8	0	1556	6344	3354	2040	2333	Si	1.3	Si
SLU 78	fin.	-18.66	-898	0.8	0	1556	6344	3354	2040	2333	Si	2.6	Si
SLU 84	ini.	-300.9	1776	0.8	0	1556	6344	3354	2040	2333	Si	1.31	Si
SLU 84	fin.	-22.44	-915	0.8	0	1556	6344	3354	2040	2333	Si	2.55	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-901.38	-1591	-0.0006964	0.0002807	0.0035	0.8		2369.14	2369.14		2.63	Si
SLV 11	fin.	492.82	1393	-0.0003395	0.0002807	0.0035	0.8		2363.93	2363.93		4.8	Si
SLD 16	ini.	-651.98	-1272	-0.000469	0.0002807	0.0035	0.8		2369.14	2369.14		3.63	Si
SLV 16	fin.	298.1	751	-0.0001956	0.0002807	0.0035	0.8		2363.93	2363.93		7.93	Si
SLD 11	ini.	-647.95	-1221	-0.0004656	0.0002807	0.0035	0.8		2369.14	2369.14		3.66	Si
SLD 11	fin.	311.16	828	-0.0002047	0.0002807	0.0035	0.8		2363.93	2363.93		7.6	Si
SLV 7	ini.	-681.05	-1231	-0.0004941	0.0002807	0.0035	0.8		2369.14	2369.14		3.48	Si
SLV 7	fin.	348.42	974	-0.0002313	0.0002807	0.0035	0.8		2363.93	2363.93		6.78	Si
SLV 12	ini.	-1048.31	-1820	-0.0008437	0.0002807	0.0035	0.8		2369.14	2369.14		2.26	Si
SLV 12	fin.	592.15	1690	-0.0004197	0.0002807	0.0035	0.8		2363.93	2363.93		3.99	Si
SLV 15	ini.	-680.62	-1319	-0.0004937	0.0002807	0.0035	0.8		2369.14	2369.14		3.48	Si
SLV 15	fin.	317.88	810	-0.0002095	0.0002807	0.0035	0.8		2363.93	2363.93		7.44	Si
SLD 12	ini.	-739.92	-1364	-0.000546	0.0002807	0.0035	0.8		2369.14	2369.14		3.2	Si
SLD 12	fin.	373.34	1014	-0.0002493	0.0002807	0.0035	0.8		2363.93	2363.93		6.33	Si
SLV 16	ini.	-898.85	-1659	-0.0006939	0.0002807	0.0035	0.8		2369.14	2369.14		2.64	Si
SLV 16	fin.	465.42	1251	-0.0003182	0.0002807	0.0035	0.8		2363.93	2363.93		5.08	Si
SLV 8	ini.	-827.98	-1459	-0.0006265	0.0002807	0.0035	0.8		2369.14	2369.14		2.86	Si
SLV 8	fin.	447.75	1271	-0.0003047	0.0002807	0.0035	0.8		2363.93	2363.93		5.28	Si
SLD 8	ini.	-600.78	-1137	-0.0004258	0.0002807	0.0035	0.8		2369.14	2369.14		3.94	Si
SLD 8	fin.	282.06	749	-0.0001844	0.0002807	0.0035	0.8		2363.93	2363.93		8.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	-827.98	3538	0.8	0	2333	6344	5031	2040	7071		2	Si
SLV 8	fin.	447.75	1560	0.8	0	2333	6344	5031	2040	7071		4.53	Si
SLV 16	ini.	-898.85	3566	0.8	0	2333	6344	5031	2040	7071		1.98	Si
SLV 16	fin.	465.42	1846	0.8	0	2333	6344	5031	2040	7071		3.83	Si
SLD 12	ini.	-739.92	3131	0.8	0	2333	6344	5031	2040	7071		2.26	Si
SLD 12	fin.	373.34	1277	0.8	0	2333	6344	5031	2040	7071		5.54	Si
SLV 5	ini.	582.27	-1689	0.8	0	2333	6344	5031	2040	7071		4.19	Si
SLV 5	fin.	-563.86	-3187	0.8	0	2333	6344	5031	2040	7071		2.22	Si
SLD 16	ini.	-651.98	2720	0.8	0	2333	6344	5031	2040	7071		2.6	Si
SLD 16	fin.	298.1	1001	0.8	0	2333	6344	5031	2040	7071		7.06	Si
SLD 11	ini.	-647.95	2814	0.8	0	2333	6344	5031	2040	7071		2.51	Si
SLD 11	fin.	311.16	958	0.8	0	2333	6344	5031	2040	7071		7.38	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-901.38	3750	0.8	0	2333	6344	5031	2040	7071		1.89	Si
SLV 11	fin.	492.82	1809	0.8	0	2333	6344	5031	2040	7071		3.91	Si
SLV 12	ini.	-1048.31	4256	0.8	0	2333	6344	5031	2040	7071		1.66	Si
SLV 12	fin.	592.15	2319	0.8	0	2333	6344	5031	2040	7071		3.05	Si
SLV 7	ini.	-681.05	3031	0.8	0	2333	6344	5031	2040	7071		2.33	Si
SLV 7	fin.	348.42	1050	0.8	0	2333	6344	5031	2040	7071		6.74	Si
SLV 15	ini.	-680.62	2813	0.8	0	2333	6344	5031	2040	7071		2.51	Si
SLV 15	fin.	317.88	1088	0.8	0	2333	6344	5031	2040	7071		6.5	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.26	SLV 12	Si
V_SLV	1.661	SLV 12	Si
PF_SLU	4.614	SLU 69	Si
V_SLU	1.277	SLU 77	Si

Trave di accoppiamento 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.593	-3.359	8.55	9.45	0.9	-22.493	-3.359	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	ini.	17.75	-635	-0.0000087	0.0001872	0.0035	0.9		2959	1717.92	Si	96.78	Si
SLU 44	fin.	362.24	-1208	-0.000192	0.0001872	0.0035	0.9		2959	1717.92	Si	4.74	Si
SLU 46	ini.	35.09	-718	-0.0000173	0.0001872	0.0035	0.9		2959	1717.92	Si	48.96	Si
SLU 46	fin.	361.72	-1241	-0.0001917	0.0001872	0.0035	0.9		2959	1717.92	Si	4.75	Si
SLU 48	ini.	48.91	-779	-0.0000242	0.0001872	0.0035	0.9		2959	1717.92	Si	35.12	Si
SLU 48	fin.	358.67	-1260	-0.0001899	0.0001872	0.0035	0.9		2959	1717.92	Si	4.79	Si
SLU 72	ini.	76.66	-916	-0.0000381	0.0001872	0.0035	0.9		2959	1717.92	Si	22.41	Si
SLU 72	fin.	359.61	-1325	-0.0001905	0.0001872	0.0035	0.9		2959	1717.92	Si	4.78	Si
SLU 49	ini.	42.41	-761	-0.0000209	0.0001872	0.0035	0.9		2959	1717.92	Si	40.51	Si
SLU 49	fin.	366.95	-1272	-0.0001948	0.0001872	0.0035	0.9		2959	1717.92	Si	4.68	Si
SLU 50	ini.	43.24	-751	-0.0000213	0.0001872	0.0035	0.9		2959	1717.92	Si	39.73	Si
SLU 50	fin.	358.9	-1249	-0.0001901	0.0001872	0.0035	0.9		2959	1717.92	Si	4.79	Si
SLU 70	ini.	82.34	-944	-0.0000409	0.0001872	0.0035	0.9		2959	1717.92	Si	20.86	Si
SLU 70	fin.	359.38	-1336	-0.0001903	0.0001872	0.0035	0.9		2959	1717.92	Si	4.78	Si
SLU 47	ini.	25.07	-678	-0.0000123	0.0001872	0.0035	0.9		2959	1717.92	Si	68.52	Si
SLU 47	fin.	367.47	-1239	-0.0001951	0.0001872	0.0035	0.9		2959	1717.92	Si	4.68	Si
SLU 68	ini.	65	-860	-0.0000322	0.0001872	0.0035	0.9		2959	1717.92	Si	26.43	Si
SLU 68	fin.	359.9	-1302	-0.0001906	0.0001872	0.0035	0.9		2959	1717.92	Si	4.77	Si
SLU 51	ini.	36.73	-733	-0.0000181	0.0001872	0.0035	0.9		2959	1717.92	Si	46.77	Si
SLU 51	fin.	367.18	-1261	-0.0001949	0.0001872	0.0035	0.9		2959	1717.92	Si	4.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 49	ini.	42.41	-521	0.9	0	1750	7137	3773	2295	2625	Si	5.04	Si
SLU 49	fin.	366.95	1342	0.9	0	1750	7137	3773	2295	2625	Si	1.96	Si
SLU 50	ini.	43.24	-510	0.9	0	1750	7137	3773	2295	2625	Si	5.15	Si
SLU 50	fin.	358.9	1306	0.9	0	1750	7137	3773	2295	2625	Si	2.01	Si
SLU 70	ini.	82.34	-742	0.9	0	1750	7137	3773	2295	2625	Si	3.54	Si
SLU 70	fin.	359.38	1302	0.9	0	1750	7137	3773	2295	2625	Si	2.02	Si
SLU 47	ini.	25.07	-396	0.9	0	1750	7137	3773	2295	2625	Si	6.63	Si
SLU 47	fin.	367.47	1329	0.9	0	1750	7137	3773	2295	2625	Si	1.97	Si
SLU 46	ini.	35.09	-461	0.9	0	1750	7137	3773	2295	2625	Si	5.7	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 46	fin.	361.72	1313	0.9	0	1750	7137	3773	2295	2625	Si	2	Si
SLU 48	ini.	48.91	-553	0.9	0	1750	7137	3773	2295	2625	Si	4.75	Si
SLU 48	fin.	358.67	1311	0.9	0	1750	7137	3773	2295	2625	Si	2	Si
SLU 44	ini.	17.75	-336	0.9	0	1750	7137	3773	2295	2625	Si	7.81	Si
SLU 44	fin.	362.24	1301	0.9	0	1750	7137	3773	2295	2625	Si	2.02	Si
SLU 51	ini.	36.73	-477	0.9	0	1750	7137	3773	2295	2625	Si	5.5	Si
SLU 51	fin.	367.18	1337	0.9	0	1750	7137	3773	2295	2625	Si	1.96	Si
SLU 72	ini.	76.66	-699	0.9	0	1750	7137	3773	2295	2625	Si	3.76	Si
SLU 72	fin.	359.61	1298	0.9	0	1750	7137	3773	2295	2625	Si	2.02	Si
SLU 68	ini.	65	-618	0.9	0	1750	7137	3773	2295	2625	Si	4.25	Si
SLU 68	fin.	359.9	1290	0.9	0	1750	7137	3773	2295	2625	Si	2.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-358.85	375	-0.0001852	0.0002807	0.0035	0.9		2995.37	2995.37		8.35	Si
SLD 9	fin.	889.54	-2079	-0.0005149	0.0002807	0.0035	0.9		2989.59	2989.59		3.36	Si
SLV 10	ini.	-487.72	666	-0.0002578	0.0002807	0.0035	0.9		2995.37	2995.37		6.14	Si
SLV 10	fin.	1103.72	-2484	-0.0006706	0.0002807	0.0035	0.9		2989.59	2989.59		2.71	Si
SLD 10	ini.	-284.58	174	-0.000145	0.0002807	0.0035	0.9		2995.37	2995.37		10.53	Si
SLD 10	fin.	785.52	-1906	-0.0004439	0.0002807	0.0035	0.9		2989.59	2989.59		3.81	Si
SLV 5	ini.	-313.3	157	-0.0001604	0.0002807	0.0035	0.9		2995.37	2995.37		9.56	Si
SLV 5	fin.	859.81	-2081	-0.0004943	0.0002807	0.0035	0.9		2989.59	2989.59		3.48	Si
SLD 13	ini.	-398.23	582	-0.000207	0.0002807	0.0035	0.9		2995.37	2995.37		7.52	Si
SLD 13	fin.	906.78	-2052	-0.0005269	0.0002807	0.0035	0.9		2989.59	2989.59		3.3	Si
SLV 13	ini.	-658.55	1291	-0.0003608	0.0002807	0.0035	0.9		2995.37	2995.37		4.55	Si
SLV 13	fin.	1281.22	-2689	-0.0008096	0.0002807	0.0035	0.9		2989.59	2989.59		2.33	Si
SLV 14	ini.	-482.33	813	-0.0002547	0.0002807	0.0035	0.9		2995.37	2995.37		6.21	Si
SLV 14	fin.	1034.4	-2278	-0.0006187	0.0002807	0.0035	0.9		2989.59	2989.59		2.89	Si
SLV 9	ini.	-606.37	988	-0.0003284	0.0002807	0.0035	0.9		2995.37	2995.37		4.94	Si
SLV 9	fin.	1269.89	-2761	-0.0008005	0.0002807	0.0035	0.9		2989.59	2989.59		2.35	Si
SLV 15	ini.	-385.54	653	-0.0001999	0.0002807	0.0035	0.9		2995.37	2995.37		7.77	Si
SLV 15	fin.	846.28	-1889	-0.000485	0.0002807	0.0035	0.9		2989.59	2989.59		3.53	Si
SLV 4	ini.	767.57	-2594	-0.000432	0.0002807	0.0035	0.9		2989.59	2989.59		3.89	Si
SLV 4	fin.	-767.46	790	-0.000431	0.0002807	0.0035	0.9		2995.37	2995.37		3.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	767.57	-4425	0.9	0	2625	7137	5660	2295	7955		1.8	Si
SLV 4	fin.	-767.46	-2858	0.9	0	2625	7137	5660	2295	7955		2.78	Si
SLD 9	ini.	-358.85	1604	0.9	0	2625	7137	5660	2295	7955		4.96	Si
SLD 9	fin.	889.54	3346	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 10	ini.	-487.72	2229	0.9	0	2625	7137	5660	2295	7955		3.57	Si
SLV 10	fin.	1103.72	4210	0.9	0	2625	7137	5660	2295	7955		1.89	Si
SLV 9	ini.	-606.37	2852	0.9	0	2625	7137	5660	2295	7955		2.79	Si
SLV 9	fin.	1269.89	4819	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 3	ini.	591.35	-3499	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 3	fin.	-520.64	-1955	0.9	0	2625	7137	5660	2295	7955		4.07	Si
SLV 13	ini.	-658.55	3479	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 13	fin.	1281.22	4674	0.9	0	2625	7137	5660	2295	7955		1.7	Si
SLV 5	ini.	-313.3	1148	0.9	0	2625	7137	5660	2295	7955		6.93	Si
SLV 5	fin.	859.81	3347	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 8	ini.	715.39	-3799	0.9	0	2625	7137	5660	2295	7955		2.09	Si
SLV 8	fin.	-756.13	-3004	0.9	0	2625	7137	5660	2295	7955		2.65	Si
SLD 13	ini.	-398.23	2033	0.9	0	2625	7137	5660	2295	7955		3.91	Si
SLD 13	fin.	906.78	3294	0.9	0	2625	7137	5660	2295	7955		2.41	Si
SLV 14	ini.	-482.33	2553	0.9	0	2625	7137	5660	2295	7955		3.12	Si
SLV 14	fin.	1034.4	3770	0.9	0	2625	7137	5660	2295	7955		2.11	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.333	SLV 13	Si
V_SLV	1.651	SLV 9	Si
PF_SLU	4.675	SLU 47	Si
V_SLU	1.956	SLU 49	Si

Trave di accoppiamento 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.593	-3.359	11.25	12.05	0.8	-22.493	-3.359	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 47	ini.	-390.99	-982	-0.0002716	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.72	Si
SLU 47	fin.	23.73	-105	-0.0000148	0.0001872	0.0035	0.8		2340.32	1455.42	Si	61.34	Si
SLU 70	ini.	-394.93	-1112	-0.0002748	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.69	Si
SLU 70	fin.	-28.26	-349	-0.0000176	0.0001872	0.0035	0.8		2345.32	1455.42	Si	51.49	Si
SLU 72	ini.	-394.66	-1098	-0.0002745	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.69	Si
SLU 72	fin.	-23.12	-326	-0.0000144	0.0001872	0.0035	0.8		2345.32	1455.42	Si	62.94	Si
SLU 68	ini.	-393.5	-1069	-0.0002736	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.7	Si
SLU 68	fin.	-12.52	-274	-0.0000078	0.0001872	0.0035	0.8		2345.32	1455.42	Si	116.22	Si
SLU 65	ini.	-386.04	-1032	-0.0002677	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.77	Si
SLU 65	fin.	-6.19	-239	-0.0000038	0.0001872	0.0035	0.8		2345.32	1455.42	Si	235.23	Si
SLU 71	ini.	-385.22	-1087	-0.000267	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.78	Si
SLU 71	fin.	-29.52	-351	-0.0000184	0.0001872	0.0035	0.8		2345.32	1455.42	Si	49.3	Si
SLU 51	ini.	-392.15	-1011	-0.0002725	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.71	Si
SLU 51	fin.	13.13	-156	-0.0000081	0.0001872	0.0035	0.8		2340.32	1455.42	Si	110.88	Si
SLU 69	ini.	-385.48	-1101	-0.0002672	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.78	Si
SLU 69	fin.	-34.66	-374	-0.0000216	0.0001872	0.0035	0.8		2345.32	1455.42	Si	41.99	Si
SLU 67	ini.	-387.47	-1075	-0.0002688	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.76	Si
SLU 67	fin.	-21.93	-314	-0.0000136	0.0001872	0.0035	0.8		2345.32	1455.42	Si	66.37	Si
SLU 49	ini.	-392.42	-1025	-0.0002728	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.71	Si
SLU 49	fin.	7.99	-180	-0.0000049	0.0001872	0.0035	0.8		2340.32	1455.42	Si	182.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-387.47	1788	0.8	0	1556	6344	3354	2040	2333	Si	1.3	Si
SLU 67	fin.	-21.93	-735	0.8	0	1556	6344	3354	2040	2333	Si	3.17	Si
SLU 69	ini.	-385.48	1794	0.8	0	1556	6344	3354	2040	2333	Si	1.3	Si
SLU 69	fin.	-34.66	-828	0.8	0	1556	6344	3354	2040	2333	Si	2.82	Si
SLU 78	ini.	-376.98	1813	0.8	0	1556	6344	3354	2040	2333	Si	1.29	Si
SLU 78	fin.	-62.86	-1066	0.8	0	1556	6344	3354	2040	2333	Si	2.19	Si
SLU 71	ini.	-385.22	1785	0.8	0	1556	6344	3354	2040	2333	Si	1.31	Si
SLU 71	fin.	-29.52	-789	0.8	0	1556	6344	3354	2040	2333	Si	2.96	Si
SLU 77	ini.	-367.53	1781	0.8	0	1556	6344	3354	2040	2333	Si	1.31	Si
SLU 77	fin.	-69.26	-1102	0.8	0	1556	6344	3354	2040	2333	Si	2.12	Si
SLU 68	ini.	-393.5	1801	0.8	0	1556	6344	3354	2040	2333	Si	1.3	Si
SLU 68	fin.	-12.52	-672	0.8	0	1556	6344	3354	2040	2333	Si	3.47	Si
SLU 70	ini.	-394.93	1827	0.8	0	1556	6344	3354	2040	2333	Si	1.28	Si
SLU 70	fin.	-28.26	-792	0.8	0	1556	6344	3354	2040	2333	Si	2.94	Si
SLU 80	ini.	-376.71	1804	0.8	0	1556	6344	3354	2040	2333	Si	1.29	Si
SLU 80	fin.	-57.72	-1027	0.8	0	1556	6344	3354	2040	2333	Si	2.27	Si
SLU 72	ini.	-394.66	1817	0.8	0	1556	6344	3354	2040	2333	Si	1.28	Si
SLU 72	fin.	-23.12	-753	0.8	0	1556	6344	3354	2040	2333	Si	3.1	Si
SLU 76	ini.	-375.55	1787	0.8	0	1556	6344	3354	2040	2333	Si	1.31	Si
SLU 76	fin.	-47.12	-945	0.8	0	1556	6344	3354	2040	2333	Si	2.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1266.17	-2169	-0.001083	0.0002807	0.0035	0.8		2369.14	2369.14		1.87	Si
SLV 9	fin.	564.21	1906	-0.0003966	0.0002807	0.0035	0.8		2363.93	2363.93		4.19	Si
SLD 9	ini.	-894.57	-1641	-0.0006898	0.0002807	0.0035	0.8		2369.14	2369.14		2.65	Si
SLD 9	fin.	346.36	1105	-0.0002298	0.0002807	0.0035	0.8		2363.93	2363.93		6.83	Si
SLV 13	ini.	-1208.45	-2090	-0.001017	0.0002807	0.0035	0.8		2369.14	2369.14		1.96	Si
SLV 13	fin.	536.2	1763	-0.0003739	0.0002807	0.0035	0.8		2363.93	2363.93		4.41	Si
SLD 10	ini.	-792.1	-1501	-0.0005933	0.0002807	0.0035	0.8		2369.14	2369.14		2.99	Si
SLD 10	fin.	284.08	878	-0.0001858	0.0002807	0.0035	0.8		2363.93	2363.93		8.32	Si
SLV 15	ini.	-771.4	-1469	-0.0005744	0.0002807	0.0035	0.8		2369.14	2369.14		3.07	Si
SLV 15	fin.	281.57	819	-0.000184	0.0002807	0.0035	0.8		2363.93	2363.93		8.4	Si
SLD 13	ini.	-866.66	-1604	-0.000663	0.0002807	0.0035	0.8		2369.14	2369.14		2.73	Si
SLD 13	fin.	333.58	1032	-0.0002206	0.0002807	0.0035	0.8		2363.93	2363.93		7.09	Si
SLV 10	ini.	-1102.48	-1945	-0.0009008	0.0002807	0.0035	0.8		2369.14	2369.14		2.15	Si
SLV 10	fin.	464.72	1543	-0.0003177	0.0002807	0.0035	0.8		2363.93	2363.93		5.09	Si
SLV 14	ini.	-965.32	-1759	-0.0007592	0.0002807	0.0035	0.8		2369.14	2369.14		2.45	Si
SLV 14	fin.	388.42	1224	-0.0002603	0.0002807	0.0035	0.8		2363.93	2363.93		6.09	Si
SLV 6	ini.	-748.96	-1438	-0.0005541	0.0002807	0.0035	0.8		2369.14	2369.14		3.16	Si
SLV 6	fin.	254.79	796	-0.0001656	0.0002807	0.0035	0.8		2363.93	2363.93		9.28	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-912.65	-1661	-0.0007073	0.0002807	0.0035	0.8		2369.14	2369.14		2.6	Si
SLV 5	fin.	354.29	1160	-0.0002355	0.0002807	0.0035	0.8		2363.93	2363.93		6.67	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	650.12	-1826	0.8	0	2333	6344	5031	2040	7071		3.87	Si
SLV 4	fin.	-565.96	-3646	0.8	0	2333	6344	5031	2040	7071		1.94	Si
SLV 7	ini.	544.16	-1551	0.8	0	2333	6344	5031	2040	7071		4.56	Si
SLV 7	fin.	-494.48	-3166	0.8	0	2333	6344	5031	2040	7071		2.23	Si
SLV 14	ini.	-965.32	3593	0.8	0	2333	6344	5031	2040	7071		1.97	Si
SLV 14	fin.	388.42	1757	0.8	0	2333	6344	5031	2040	7071		4.02	Si
SLD 9	ini.	-894.57	3411	0.8	0	2333	6344	5031	2040	7071		2.07	Si
SLD 9	fin.	346.36	1467	0.8	0	2333	6344	5031	2040	7071		4.82	Si
SLV 5	ini.	-912.65	3522	0.8	0	2333	6344	5031	2040	7071		2.01	Si
SLV 5	fin.	354.29	1466	0.8	0	2333	6344	5031	2040	7071		4.82	Si
SLV 13	ini.	-1208.45	4414	0.8	0	2333	6344	5031	2040	7071		1.6	Si
SLV 13	fin.	536.2	2589	0.8	0	2333	6344	5031	2040	7071		2.73	Si
SLV 8	ini.	707.85	-2104	0.8	0	2333	6344	5031	2040	7071		3.36	Si
SLV 8	fin.	-593.97	-3727	0.8	0	2333	6344	5031	2040	7071		1.9	Si
SLV 10	ini.	-1102.48	4139	0.8	0	2333	6344	5031	2040	7071		1.71	Si
SLV 10	fin.	464.72	2109	0.8	0	2333	6344	5031	2040	7071		3.35	Si
SLV 9	ini.	-1266.17	4691	0.8	0	2333	6344	5031	2040	7071		1.51	Si
SLV 9	fin.	564.21	2670	0.8	0	2333	6344	5031	2040	7071		2.65	Si
SLD 13	ini.	-866.66	3265	0.8	0	2333	6344	5031	2040	7071		2.17	Si
SLD 13	fin.	333.58	1444	0.8	0	2333	6344	5031	2040	7071		4.9	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.871	SLV 9	Si
V_SLV	1.507	SLV 9	Si
PF_SLU	3.685	SLU 70	Si
V_SLU	1.277	SLU 70	Si

Trave di accoppiamento 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	8.55	10.55	2	-19.368	-3.359	8.55	10.55	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-796.59	-2563	-0.0000813	0.0001872	0.0035	2		14357.01	4605.42	Si	5.78	Si
SLU 77	fin.	275.06	-3197	-0.0000275	0.0001872	0.0035	2		14344.28	4605.42	Si	16.74	Si
SLU 72	ini.	-813.36	-2482	-0.0000831	0.0001872	0.0035	2		14357.01	4605.42	Si	5.66	Si
SLU 72	fin.	268.33	-3062	-0.0000268	0.0001872	0.0035	2		14344.28	4605.42	Si	17.16	Si
SLU 68	ini.	-808.72	-2416	-0.0000826	0.0001872	0.0035	2		14357.01	4605.42	Si	5.69	Si
SLU 68	fin.	267.09	-2987	-0.0000267	0.0001872	0.0035	2		14344.28	4605.42	Si	17.24	Si
SLU 75	ini.	-798.88	-2509	-0.0000815	0.0001872	0.0035	2		14357.01	4605.42	Si	5.76	Si
SLU 75	fin.	275.13	-3133	-0.0000275	0.0001872	0.0035	2		14344.28	4605.42	Si	16.74	Si
SLU 67	ini.	-805.17	-2442	-0.0000822	0.0001872	0.0035	2		14357.01	4605.42	Si	5.72	Si
SLU 67	fin.	264.91	-3018	-0.0000265	0.0001872	0.0035	2		14344.28	4605.42	Si	17.38	Si
SLU 78	ini.	-817.39	-2599	-0.0000835	0.0001872	0.0035	2		14357.01	4605.42	Si	5.63	Si
SLU 78	fin.	279.01	-3231	-0.0000279	0.0001872	0.0035	2		14344.28	4605.42	Si	16.51	Si
SLU 69	ini.	-802.88	-2496	-0.000082	0.0001872	0.0035	2		14357.01	4605.42	Si	5.74	Si
SLU 69	fin.	264.84	-3082	-0.0000265	0.0001872	0.0035	2		14344.28	4605.42	Si	17.39	Si
SLU 76	ini.	-802.43	-2483	-0.0000819	0.0001872	0.0035	2		14357.01	4605.42	Si	5.74	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	fin.	277.31	-3102	-0.0000277	0.0001872	0.0035	2		14344.28	4605.42	Si	16.61	Si
SLU 70	ini.	-823.68	-2533	-0.0000842	0.0001872	0.0035	2		14357.01	4605.42	Si	5.59	Si
SLU 70	fin.	268.78	-3117	-0.0000269	0.0001872	0.0035	2		14344.28	4605.42	Si	17.13	Si
SLU 80	ini.	-807.07	-2549	-0.0000824	0.0001872	0.0035	2		14357.01	4605.42	Si	5.71	Si
SLU 80	fin.	278.55	-3177	-0.0000279	0.0001872	0.0035	2		14344.28	4605.42	Si	16.53	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	-802.43	3295	2	0	3889	3965	8384	5100	5833	Si	1.77	Si
SLU 76	fin.	277.31	5023	2	0	3889	3965	8384	5100	5833	Si	1.16	Si
SLU 77	ini.	-796.59	3290	2	0	3889	3965	8384	5100	5833	Si	1.77	Si
SLU 77	fin.	275.06	5124	2	0	3889	3965	8384	5100	5833	Si	1.14	Si
SLU 82	ini.	-767.35	3249	2	0	3889	3965	8384	5100	5833	Si	1.8	Si
SLU 82	fin.	275.19	4966	2	0	3889	3965	8384	5100	5833	Si	1.17	Si
SLU 83	ini.	-765.06	3253	2	0	3889	3965	8384	5100	5833	Si	1.79	Si
SLU 83	fin.	275.12	5036	2	0	3889	3965	8384	5100	5833	Si	1.16	Si
SLU 78	ini.	-817.39	3336	2	0	3889	3965	8384	5100	5833	Si	1.75	Si
SLU 78	fin.	279.01	5170	2	0	3889	3965	8384	5100	5833	Si	1.13	Si
SLU 84	ini.	-785.86	3299	2	0	3889	3965	8384	5100	5833	Si	1.77	Si
SLU 84	fin.	279.06	5082	2	0	3889	3965	8384	5100	5833	Si	1.15	Si
SLU 80	ini.	-807.07	3314	2	0	3889	3965	8384	5100	5833	Si	1.76	Si
SLU 80	fin.	278.55	5108	2	0	3889	3965	8384	5100	5833	Si	1.14	Si
SLU 79	ini.	-786.27	3268	2	0	3889	3965	8384	5100	5833	Si	1.79	Si
SLU 79	fin.	274.61	5062	2	0	3889	3965	8384	5100	5833	Si	1.15	Si
SLU 74	ini.	-778.08	3240	2	0	3889	3965	8384	5100	5833	Si	1.8	Si
SLU 74	fin.	271.19	5007	2	0	3889	3965	8384	5100	5833	Si	1.16	Si
SLU 75	ini.	-798.88	3286	2	0	3889	3965	8384	5100	5833	Si	1.78	Si
SLU 75	fin.	275.13	5054	2	0	3889	3965	8384	5100	5833	Si	1.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-1506.13	-3642	-0.0001559	0.0002807	0.0035	2		14215.41	14215.41		9.44	Si
SLD 9	fin.	416.6	-3999	-0.0000417	0.0002807	0.0035	2		14202.07	14202.07		34.09	Si
SLV 10	ini.	-1822.16	-4490	-0.0001907	0.0002807	0.0035	2		14215.41	14215.41		7.8	Si
SLV 10	fin.	417.87	-4730	-0.0000418	0.0002807	0.0035	2		14202.07	14202.07		33.99	Si
SLV 15	ini.	-1839.86	-2888	-0.0001927	0.0002807	0.0035	2		14215.41	14215.41		7.73	Si
SLV 15	fin.	869.87	-3747	-0.0000883	0.0002807	0.0035	2		14202.07	14202.07		16.33	Si
SLD 15	ini.	-1381.93	-2474	-0.0001425	0.0002807	0.0035	2		14215.41	14215.41		10.29	Si
SLD 15	fin.	625.33	-3176	-0.0000663	0.0002807	0.0035	2		14202.07	14202.07		22.71	Si
SLD 13	ini.	-1743.03	-3385	-0.0001819	0.0002807	0.0035	2		14215.41	14215.41		8.16	Si
SLD 13	fin.	664.46	-3994	-0.000067	0.0002807	0.0035	2		14202.07	14202.07		21.37	Si
SLV 16	ini.	-1468.86	-2393	-0.0001519	0.0002807	0.0035	2		14215.41	14215.41		9.68	Si
SLV 16	fin.	681.08	-3155	-0.0000687	0.0002807	0.0035	2		14202.07	14202.07		20.85	Si
SLV 9	ini.	-2071.94	-4823	-0.0002188	0.0002807	0.0035	2		14215.41	14215.41		6.86	Si
SLV 9	fin.	544.98	-5128	-0.0000548	0.0002807	0.0035	2		14202.07	14202.07		26.06	Si
SLD 14	ini.	-1506.23	-3069	-0.0001559	0.0002807	0.0035	2		14215.41	14215.41		9.44	Si
SLD 14	fin.	543.96	-3616	-0.0000547	0.0002807	0.0035	2		14202.07	14202.07		26.11	Si
SLV 13	ini.	-2422.15	-4361	-0.0002593	0.0002807	0.0035	2		14215.41	14215.41		5.87	Si
SLV 13	fin.	931.84	-5068	-0.0000948	0.0002807	0.0035	2		14202.07	14202.07		15.24	Si
SLV 14	ini.	-2051.16	-3866	-0.0002165	0.0002807	0.0035	2		14215.41	14215.41		6.93	Si
SLV 14	fin.	743.05	-4476	-0.0000751	0.0002807	0.0035	2		14202.07	14202.07		19.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-1506.13	4418	2	0	5833	3965	12577	5100	9798		2.22	Si
SLD 9	fin.	416.6	5819	2	0	5833	3965	12577	5100	9798		1.68	Si
SLV 9	ini.	-2071.94	5638	2	0	5833	3965	12577	5100	9798		1.74	Si
SLV 9	fin.	544.98	7187	2	0	5833	3965	12577	5100	9798		1.36	Si
SLD 15	ini.	-1381.93	5790	2	0	5833	3965	12577	5100	9798		1.69	Si
SLD 15	fin.	625.33	6201	2	0	5833	3965	12577	5100	9798		1.58	Si
SLV 10	ini.	-1822.16	4742	2	0	5833	3965	12577	5100	9798		2.07	Si
SLV 10	fin.	417.87	6342	2	0	5833	3965	12577	5100	9798		1.55	Si
SLD 13	ini.	-1743.03	6283	2	0	5833	3965	12577	5100	9798		1.56	Si
SLD 13	fin.	664.46	6950	2	0	5833	3965	12577	5100	9798		1.41	Si
SLV 16	ini.	-1468.86	6423	2	0	5833	3965	12577	5100	9798		1.53	Si
SLV 16	fin.	681.08	6464	2	0	5833	3965	12577	5100	9798		1.52	Si
SLV 14	ini.	-2051.16	7211	2	0	5833	3965	12577	5100	9798		1.36	Si
SLV 14	fin.	743.05	7666	2	0	5833	3965	12577	5100	9798		1.28	Si
SLD 14	ini.	-1506.23	5434	2	0	5833	3965	12577	5100	9798		1.8	Si
SLD 14	fin.	543.96	6149	2	0	5833	3965	12577	5100	9798		1.59	Si
SLV 15	ini.	-1839.86	7754	2	0	5833	3965	12577	5100	9798		1.26	Si
SLV 15	fin.	869.87	7720	2	0	5833	3965	12577	5100	9798		1.27	Si
SLV 13	ini.	-2422.15	8542	2	0	5833	3965	12577	5100	9798		1.15	Si
SLV 13	fin.	931.84	8922	2	0	5833	3965	12577	5100	9798		1.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.869	SLV 13	Si
V_SLV	1.098	SLV 13	Si
PF_SLU	5.591	SLU 70	Si
V_SLU	1.128	SLU 78	Si



Trave di accoppiamento 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	11.35	12.05	0.7	-19.368	-3.359	11.35	12.05	0.7	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-250.5	-727	-0.0002217	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.76	Si
SLU 78	fin.	31.42	-462	-0.0000256	0.0001872	0.0035	0.7		1796.43	1192.92	Si	37.97	Si
SLU 80	ini.	-248.7	-715	-0.0002199	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.8	Si
SLU 80	fin.	32.01	-449	-0.0000261	0.0001872	0.0035	0.7		1796.43	1192.92	Si	37.27	Si
SLU 83	ini.	-255.97	-772	-0.0002271	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.66	Si
SLU 83	fin.	22.74	-495	-0.0000185	0.0001872	0.0035	0.7		1796.43	1192.92	Si	52.47	Si
SLU 75	ini.	-246.94	-706	-0.0002182	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.83	Si
SLU 75	fin.	32.34	-440	-0.0000264	0.0001872	0.0035	0.7		1796.43	1192.92	Si	36.89	Si
SLU 84	ini.	-254.51	-749	-0.0002257	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.69	Si
SLU 84	fin.	27.45	-473	-0.0000224	0.0001872	0.0035	0.7		1796.43	1192.92	Si	43.45	Si
SLU 79	ini.	-250.17	-738	-0.0002213	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.77	Si
SLU 79	fin.	27.29	-472	-0.0000222	0.0001872	0.0035	0.7		1796.43	1192.92	Si	43.71	Si
SLU 77	ini.	-251.96	-750	-0.0002231	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.73	Si
SLU 77	fin.	26.7	-485	-0.0000217	0.0001872	0.0035	0.7		1796.43	1192.92	Si	44.67	Si
SLU 74	ini.	-248.4	-729	-0.0002196	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.8	Si
SLU 74	fin.	27.62	-462	-0.0000225	0.0001872	0.0035	0.7		1796.43	1192.92	Si	43.19	Si
SLU 81	ini.	-252.42	-751	-0.0002236	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.73	Si
SLU 81	fin.	23.66	-473	-0.0000192	0.0001872	0.0035	0.7		1796.43	1192.92	Si	50.43	Si
SLU 82	ini.	-250.95	-728	-0.0002221	0.0001872	0.0035	0.7		1800.85	1192.92	Si	4.75	Si
SLU 82	fin.	28.37	-450	-0.0000231	0.0001872	0.0035	0.7		1796.43	1192.92	Si	42.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-252.42	1328	0.7	0	1361	3965	2935	1785	2042	Si	1.54	Si
SLU 81	fin.	23.66	-509	0.7	0	1361	3965	2935	1785	2042	Si	4.01	Si
SLU 80	ini.	-248.7	1347	0.7	0	1361	3965	2935	1785	2042	Si	1.52	Si
SLU 80	fin.	32.01	-553	0.7	0	1361	3965	2935	1785	2042	Si	3.69	Si
SLU 84	ini.	-254.51	1357	0.7	0	1361	3965	2935	1785	2042	Si	1.5	Si
SLU 84	fin.	27.45	-545	0.7	0	1361	3965	2935	1785	2042	Si	3.74	Si
SLU 79	ini.	-250.17	1342	0.7	0	1361	3965	2935	1785	2042	Si	1.52	Si
SLU 79	fin.	27.29	-561	0.7	0	1361	3965	2935	1785	2042	Si	3.64	Si
SLU 74	ini.	-248.4	1332	0.7	0	1361	3965	2935	1785	2042	Si	1.53	Si
SLU 74	fin.	27.62	-545	0.7	0	1361	3965	2935	1785	2042	Si	3.74	Si
SLU 75	ini.	-246.94	1337	0.7	0	1361	3965	2935	1785	2042	Si	1.53	Si
SLU 75	fin.	32.34	-537	0.7	0	1361	3965	2935	1785	2042	Si	3.8	Si
SLU 83	ini.	-255.97	1352	0.7	0	1361	3965	2935	1785	2042	Si	1.51	Si
SLU 83	fin.	22.74	-554	0.7	0	1361	3965	2935	1785	2042	Si	3.69	Si
SLU 78	ini.	-250.5	1361	0.7	0	1361	3965	2935	1785	2042	Si	1.5	Si
SLU 78	fin.	31.42	-581	0.7	0	1361	3965	2935	1785	2042	Si	3.51	Si
SLU 77	ini.	-251.96	1356	0.7	0	1361	3965	2935	1785	2042	Si	1.51	Si
SLU 77	fin.	26.7	-590	0.7	0	1361	3965	2935	1785	2042	Si	3.46	Si
SLU 82	ini.	-250.95	1333	0.7	0	1361	3965	2935	1785	2042	Si	1.53	Si
SLU 82	fin.	28.37	-501	0.7	0	1361	3965	2935	1785	2042	Si	4.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-372.91	-1223	-0.0003337	0.0002807	0.0035	0.7		1814.08	1814.08		4.86	Si
SLV 12	fin.	-100.13	-853	-0.0000826	0.0002807	0.0035	0.7		1814.08	1814.08		18.12	Si
SLV 7	ini.	-353.6	-1798	-0.0003143	0.0002807	0.0035	0.7		1814.08	1814.08		5.13	Si
SLV 7	fin.	-240.41	-1520	-0.000206	0.0002807	0.0035	0.7		1814.08	1814.08		7.55	Si
SLV 8	ini.	-331.39	-2013	-0.0002923	0.0002807	0.0035	0.7		1814.08	1814.08		5.47	Si
SLV 8	fin.	-305.1	-1800	-0.0002668	0.0002807	0.0035	0.7		1814.08	1814.08		5.95	Si
SLV 15	ini.	-315.02	703	-0.0002763	0.0002807	0.0035	0.7		1814.08	1814.08		5.76	Si
SLV 15	fin.	358.27	1245	-0.0003198	0.0002807	0.0035	0.7		1809.55	1809.55		5.05	Si
SLV 13	ini.	-200.23	1334	-0.0001696	0.0002807	0.0035	0.7		1814.08	1814.08		9.06	Si
SLV 13	fin.	477.33	1800	-0.0004454	0.0002807	0.0035	0.7		1809.55	1809.55		3.79	Si
SLV 4	ini.	-143.65	-2251	-0.0001198	0.0002807	0.0035	0.7		1814.08	1814.08		12.63	Si
SLV 4	fin.	-421.02	-2326	-0.0003835	0.0002807	0.0035	0.7		1814.08	1814.08		4.31	Si
SLV 3	ini.	-176.64	-1931	-0.0001486	0.0002807	0.0035	0.7		1814.08	1814.08		10.27	Si
SLV 3	fin.	-324.94	-1910	-0.000286	0.0002807	0.0035	0.7		1814.08	1814.08		5.58	Si
SLV 14	ini.	-167.24	1014	-0.0001404	0.0002807	0.0035	0.7		1814.08	1814.08		10.85	Si
SLV 14	fin.	381.24	1384	-0.0003431	0.0002807	0.0035	0.7		1809.55	1809.55		4.75	Si
SLV 11	ini.	-395.12	-1008	-0.0003565	0.0002807	0.0035	0.7		1814.08	1814.08		4.59	Si
SLV 11	fin.	-35.44	-574	-0.0000288	0.0002807	0.0035	0.7		1814.08	1814.08		51.18	Si
SLV 9	ini.	-12.48	1096	-0.0000101	0.0002807	0.0035	0.7		1814.08	1814.08		145.31	Si
SLV 9	fin.	361.4	1274	-0.000323	0.0002807	0.0035	0.7		1809.55	1809.55		5.01	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-167.24	1693	0.7	0	2042	3965	4402	1785	6006		3.55	Si
SLV 14	fin.	381.24	691	0.7	0	2042	3965	4402	1785	6006		8.7	Si
SLV 4	ini.	-143.65	-136	0.7	0	2042	3965	4402	1785	6006		44.26	Si
SLV 4	fin.	-421.02	-1657	0.7	0	2042	3965	4402	1785	6006		3.63	Si
SLV 2	ini.	-28.86	-198	0.7	0	2042	3965	4402	1785	6006		30.27	Si
SLV 2	fin.	-301.97	-1864	0.7	0	2042	3965	4402	1785	6006		3.22	Si
SLV 13	ini.	-200.23	1998	0.7	0	2042	3965	4402	1785	6006		3.01	Si
SLV 13	fin.	477.33	1064	0.7	0	2042	3965	4402	1785	6006		5.64	Si
SLD 16	ini.	-240.48	1451	0.7	0	2042	3965	4402	1785	6006		4.14	Si
SLD 16	fin.	178.83	462	0.7	0	2042	3965	4402	1785	6006		13	Si
SLV 15	ini.	-315.02	2060	0.7	0	2042	3965	4402	1785	6006		2.92	Si
SLV 15	fin.	358.27	1272	0.7	0	2042	3965	4402	1785	6006		4.72	Si
SLD 15	ini.	-261.53	1646	0.7	0	2042	3965	4402	1785	6006		3.65	Si
SLD 15	fin.	240.16	701	0.7	0	2042	3965	4402	1785	6006		8.57	Si
SLV 1	ini.	-61.85	106	0.7	0	2042	3965	4402	1785	6006		56.45	Si
SLV 1	fin.	-205.88	-1490	0.7	0	2042	3965	4402	1785	6006		4.03	Si
SLV 16	ini.	-282.03	1756	0.7	0	2042	3965	4402	1785	6006		3.42	Si
SLV 16	fin.	262.19	898	0.7	0	2042	3965	4402	1785	6006		6.69	Si
SLD 13	ini.	-190.81	1609	0.7	0	2042	3965	4402	1785	6006		3.73	Si
SLD 13	fin.	313.99	576	0.7	0	2042	3965	4402	1785	6006		10.43	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.791	SLV 13	Si
V_SLV	2.915	SLV 15	Si
PF_SLU	4.66	SLU 83	Si
V_SLU	1.5	SLU 78	Si

Trave di accoppiamento 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.363	-3.359	8.55	9.45	0.9	-18.263	-3.359	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	16.98	-662	-0.0000083	0.0001872	0.0035	0.9		2959	1717.92	Si	101.18	Si
SLU 67	fin.	182.03	-1264	-0.0000924	0.0001872	0.0035	0.9		2959	1717.92	Si	9.44	Si
SLU 68	ini.	8.92	-639	-0.0000044	0.0001872	0.0035	0.9		2959	1717.92	Si	192.54	Si
SLU 68	fin.	185.2	-1265	-0.000094	0.0001872	0.0035	0.9		2959	1717.92	Si	9.28	Si
SLU 71	ini.	29.52	-688	-0.0000145	0.0001872	0.0035	0.9		2959	1717.92	Si	58.19	Si
SLU 71	fin.	173.42	-1241	-0.0000878	0.0001872	0.0035	0.9		2959	1717.92	Si	9.91	Si
SLU 70	ini.	13.42	-674	-0.0000066	0.0001872	0.0035	0.9		2959	1717.92	Si	128	Si
SLU 70	fin.	192.47	-1319	-0.0000979	0.0001872	0.0035	0.9		2959	1717.92	Si	8.93	Si
SLU 65	ini.	12.48	-626	-0.0000061	0.0001872	0.0035	0.9		2959	1717.92	Si	137.65	Si
SLU 65	fin.	174.76	-1210	-0.0000885	0.0001872	0.0035	0.9		2959	1717.92	Si	9.83	Si
SLU 66	ini.	31.47	-684	-0.0000155	0.0001872	0.0035	0.9		2959	1717.92	Si	54.58	Si
SLU 66	fin.	168.7	-1217	-0.0000853	0.0001872	0.0035	0.9		2959	1717.92	Si	10.18	Si
SLU 78	ini.	62.2	-794	-0.0000308	0.0001872	0.0035	0.9		2959	1717.92	Si	27.62	Si
SLU 78	fin.	167.08	-1270	-0.0000845	0.0001872	0.0035	0.9		2959	1717.92	Si	10.28	Si
SLU 72	ini.	15.03	-666	-0.0000074	0.0001872	0.0035	0.9		2959	1717.92	Si	114.31	Si
SLU 72	fin.	186.75	-1288	-0.0000949	0.0001872	0.0035	0.9		2959	1717.92	Si	9.2	Si
SLU 69	ini.	27.92	-696	-0.0000137	0.0001872	0.0035	0.9		2959	1717.92	Si	61.54	Si
SLU 69	fin.	179.14	-1271	-0.0000908	0.0001872	0.0035	0.9		2959	1717.92	Si	9.59	Si
SLU 28	ini.	-1.46	-539	-0.0000007	0.0001872	0.0035	0.9		2964.67	1717.92	Si	1178.87	Si
SLU 28	fin.	171.07	-1132	-0.0000866	0.0001872	0.0035	0.9		2959	1717.92	Si	10.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	8.92	-568	0.9	0	1750	7137	3773	2295	2625	Si	4.62	Si
SLU 68	fin.	185.2	2209	0.9	0	1750	7137	3773	2295	2625	Si	1.19	Si
SLU 69	ini.	27.92	-675	0.9	0	1750	7137	3773	2295	2625	Si	3.89	Si
SLU 69	fin.	179.14	2233	0.9	0	1750	7137	3773	2295	2625	Si	1.18	Si
SLU 70	ini.	13.42	-616	0.9	0	1750	7137	3773	2295	2625	Si	4.26	Si
SLU 70	fin.	192.47	2305	0.9	0	1750	7137	3773	2295	2625	Si	1.14	Si
SLU 78	ini.	62.2	-837	0.9	0	1750	7137	3773	2295	2625	Si	3.14	Si
SLU 78	fin.	167.08	2232	0.9	0	1750	7137	3773	2295	2625	Si	1.18	Si
SLU 72	ini.	15.03	-611	0.9	0	1750	7137	3773	2295	2625	Si	4.29	Si
SLU 72	fin.	186.75	2253	0.9	0	1750	7137	3773	2295	2625	Si	1.17	Si
SLU 77	ini.	76.7	-896	0.9	0	1750	7137	3773	2295	2625	Si	2.93	Si
SLU 77	fin.	153.74	2159	0.9	0	1750	7137	3773	2295	2625	Si	1.22	Si
SLU 66	ini.	31.47	-671	0.9	0	1750	7137	3773	2295	2625	Si	3.91	Si
SLU 66	fin.	168.7	2141	0.9	0	1750	7137	3773	2295	2625	Si	1.23	Si
SLU 71	ini.	29.52	-671	0.9	0	1750	7137	3773	2295	2625	Si	3.91	Si
SLU 71	fin.	173.42	2180	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 80	ini.	63.81	-832	0.9	0	1750	7137	3773	2295	2625	Si	3.15	Si
SLU 80	fin.	161.35	2179	0.9	0	1750	7137	3773	2295	2625	Si	1.2	Si
SLU 67	ini.	16.98	-612	0.9	0	1750	7137	3773	2295	2625	Si	4.29	Si
SLU 67	fin.	182.03	2213	0.9	0	1750	7137	3773	2295	2625	Si	1.19	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1055.89	1449	-0.0006332	0.0002807	0.0035	0.9		2995.37	2995.37		2.84	Si
SLV 14	fin.	935.92	-3483	-0.0005475	0.0002807	0.0035	0.9		2989.59	2989.59		3.19	Si
SLD 4	ini.	898.02	-2082	-0.0005208	0.0002807	0.0035	0.9		2989.59	2989.59		3.33	Si
SLD 4	fin.	-535.41	1218	-0.0002857	0.0002807	0.0035	0.9		2995.37	2995.37		5.59	Si
SLV 7	ini.	1019.79	-2077	-0.000608	0.0002807	0.0035	0.9		2989.59	2989.59		2.93	Si
SLV 7	fin.	-806.92	2370	-0.0004573	0.0002807	0.0035	0.9		2995.37	2995.37		3.71	Si
SLV 9	ini.	-1091.9	1301	-0.0006601	0.0002807	0.0035	0.9		2995.37	2995.37		2.74	Si
SLV 9	fin.	1132.84	-4395	-0.0006928	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 10	ini.	-929.84	1003	-0.000542	0.0002807	0.0035	0.9		2995.37	2995.37		3.22	Si
SLV 10	fin.	1014.81	-4017	-0.0006043	0.0002807	0.0035	0.9		2989.59	2989.59		2.95	Si
SLV 13	ini.	-1296.59	1891	-0.0008202	0.0002807	0.0035	0.9		2995.37	2995.37		2.31	Si
SLV 13	fin.	1111.23	-4044	-0.0006763	0.0002807	0.0035	0.9		2989.59	2989.59		2.69	Si
SLV 8	ini.	1181.85	-2375	-0.0007306	0.0002807	0.0035	0.9		2989.59	2989.59		2.53	Si
SLV 8	fin.	-924.95	2747	-0.0005385	0.0002807	0.0035	0.9		2995.37	2995.37		3.24	Si
SLV 2	ini.	931.94	-2288	-0.0005447	0.0002807	0.0035	0.9		2989.59	2989.59		3.21	Si
SLV 2	fin.	-445.77	747	-0.0002337	0.0002807	0.0035	0.9		2995.37	2995.37		6.72	Si
SLV 4	ini.	1386.54	-2965	-0.0008967	0.0002807	0.0035	0.9		2989.59	2989.59		2.16	Si
SLV 4	fin.	-903.34	2396	-0.0005234	0.0002807	0.0035	0.9		2995.37	2995.37		3.32	Si
SLV 3	ini.	1145.84	-2523	-0.0007027	0.0002807	0.0035	0.9		2989.59	2989.59		2.61	Si
SLV 3	fin.	-728.04	1835	-0.0004052	0.0002807	0.0035	0.9		2995.37	2995.37		4.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-1055.89	4127	0.9	0	2625	7137	5660	2295	7955		1.93	Si
SLV 14	fin.	935.92	5569	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLD 9	ini.	-665.9	2400	0.9	0	2625	7137	5660	2295	7955		3.31	Si
SLD 9	fin.	745.67	4883	0.9	0	2625	7137	5660	2295	7955		1.63	Si
SLV 3	ini.	1145.84	-5275	0.9	0	2625	7137	5660	2295	7955		1.51	Si
SLV 3	fin.	-728.04	-2649	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 7	ini.	1019.79	-4655	0.9	0	2625	7137	5660	2295	7955		1.71	Si
SLV 7	fin.	-806.92	-3432	0.9	0	2625	7137	5660	2295	7955		2.32	Si
SLV 10	ini.	-929.84	3507	0.9	0	2625	7137	5660	2295	7955		2.27	Si
SLV 10	fin.	1014.81	6352	0.9	0	2625	7137	5660	2295	7955		1.25	Si
SLV 8	ini.	1181.85	-5328	0.9	0	2625	7137	5660	2295	7955		1.49	Si
SLV 8	fin.	-924.95	-4034	0.9	0	2625	7137	5660	2295	7955		1.97	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-495.55	1624	0.9	0	2625	7137	5660	2295	7955		4.9	Si
SLV 5	fin.	718.33	4977	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 4	ini.	1386.54	-6275	0.9	0	2625	7137	5660	2295	7955		1.27	Si
SLV 4	fin.	-903.34	-3543	0.9	0	2625	7137	5660	2295	7955		2.24	Si
SLV 13	ini.	-1296.59	5127	0.9	0	2625	7137	5660	2295	7955		1.55	Si
SLV 13	fin.	1111.23	6464	0.9	0	2625	7137	5660	2295	7955		1.23	Si
SLV 9	ini.	-1091.9	4180	0.9	0	2625	7137	5660	2295	7955		1.9	Si
SLV 9	fin.	1132.84	6954	0.9	0	2625	7137	5660	2295	7955		1.14	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.156	SLV 4	Si
V_SLV	1.144	SLV 9	Si
PF_SLU	8.925	SLU 70	Si
V_SLU	1.139	SLU 70	Si

Trave di accoppiamento 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.363	-3.359	11.25	12.05	0.8	-18.263	-3.359	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 63	ini.	-76.57	-479	-0.0000482	0.0001872	0.0035	0.8		2345.32	1455.42	Si	19.01	Si
SLU 63	fin.	-131.2	-948	-0.0000837	0.0001872	0.0035	0.8		2345.32	1455.42	Si	11.09	Si
SLU 74	ini.	-93.1	-556	-0.0000588	0.0001872	0.0035	0.8		2345.32	1455.42	Si	15.63	Si
SLU 74	fin.	-134.55	-1011	-0.0000859	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.82	Si
SLU 77	ini.	-98.77	-583	-0.0000625	0.0001872	0.0035	0.8		2345.32	1455.42	Si	14.73	Si
SLU 77	fin.	-137.73	-1039	-0.000088	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.57	Si
SLU 81	ini.	-75.2	-503	-0.0000473	0.0001872	0.0035	0.8		2345.32	1455.42	Si	19.35	Si
SLU 81	fin.	-145.04	-1041	-0.0000929	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.03	Si
SLU 82	ini.	-86.89	-524	-0.0000548	0.0001872	0.0035	0.8		2345.32	1455.42	Si	16.75	Si
SLU 82	fin.	-135.34	-1010	-0.0000865	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.75	Si
SLU 62	ini.	-64.88	-458	-0.0000407	0.0001872	0.0035	0.8		2345.32	1455.42	Si	22.43	Si
SLU 62	fin.	-140.9	-979	-0.0000901	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.33	Si
SLU 83	ini.	-80.87	-530	-0.0000509	0.0001872	0.0035	0.8		2345.32	1455.42	Si	18	Si
SLU 83	fin.	-148.22	-1069	-0.000095	0.0001872	0.0035	0.8		2345.32	1455.42	Si	9.82	Si
SLU 79	ini.	-95.17	-566	-0.0000601	0.0001872	0.0035	0.8		2345.32	1455.42	Si	15.29	Si
SLU 79	fin.	-135.73	-1022	-0.0000867	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.72	Si
SLU 60	ini.	-59.21	-431	-0.0000371	0.0001872	0.0035	0.8		2345.32	1455.42	Si	24.58	Si
SLU 60	fin.	-137.72	-951	-0.000088	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.57	Si
SLU 84	ini.	-92.56	-551	-0.0000585	0.0001872	0.0035	0.8		2345.32	1455.42	Si	15.72	Si
SLU 84	fin.	-138.52	-1038	-0.0000886	0.0001872	0.0035	0.8		2345.32	1455.42	Si	10.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-104.8	1323	0.8	0	1556	6344	3354	2040	2333	Si	1.76	Si
SLU 75	fin.	-124.84	-2037	0.8	0	1556	6344	3354	2040	2333	Si	1.15	Si
SLU 79	ini.	-95.17	1296	0.8	0	1556	6344	3354	2040	2333	Si	1.8	Si
SLU 79	fin.	-135.73	-2107	0.8	0	1556	6344	3354	2040	2333	Si	1.11	Si
SLU 83	ini.	-80.87	1236	0.8	0	1556	6344	3354	2040	2333	Si	1.89	Si
SLU 83	fin.	-148.22	-2189	0.8	0	1556	6344	3354	2040	2333	Si	1.07	Si
SLU 82	ini.	-86.89	1231	0.8	0	1556	6344	3354	2040	2333	Si	1.9	Si
SLU 82	fin.	-135.34	-2084	0.8	0	1556	6344	3354	2040	2333	Si	1.12	Si
SLU 84	ini.	-92.56	1285	0.8	0	1556	6344	3354	2040	2333	Si	1.82	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-138.52	-2143	0.8	0	1556	6344	3354	2040	2333	Si	1.09	Si
SLU 77	ini.	-98.77	1328	0.8	0	1556	6344	3354	2040	2333	Si	1.76	Si
SLU 77	fin.	-137.73	-2142	0.8	0	1556	6344	3354	2040	2333	Si	1.09	Si
SLU 80	ini.	-106.86	1344	0.8	0	1556	6344	3354	2040	2333	Si	1.74	Si
SLU 80	fin.	-126.03	-2061	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 81	ini.	-75.2	1182	0.8	0	1556	6344	3354	2040	2333	Si	1.97	Si
SLU 81	fin.	-145.04	-2130	0.8	0	1556	6344	3354	2040	2333	Si	1.1	Si
SLU 74	ini.	-93.1	1275	0.8	0	1556	6344	3354	2040	2333	Si	1.83	Si
SLU 74	fin.	-134.55	-2083	0.8	0	1556	6344	3354	2040	2333	Si	1.12	Si
SLU 78	ini.	-110.47	1377	0.8	0	1556	6344	3354	2040	2333	Si	1.69	Si
SLU 78	fin.	-128.02	-2096	0.8	0	1556	6344	3354	2040	2333	Si	1.11	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	716.73	1146	-0.0005267	0.0002807	0.0035	0.8		2363.93	2363.93		3.3	Si
SLV 8	fin.	-787.14	-3004	-0.0005888	0.0002807	0.0035	0.8		2369.14	2369.14		3.01	Si
SLV 4	ini.	559.81	592	-0.0003931	0.0002807	0.0035	0.8		2363.93	2363.93		4.22	Si
SLV 4	fin.	-868.79	-3281	-0.0006651	0.0002807	0.0035	0.8		2369.14	2369.14		2.73	Si
SLV 9	ini.	-858.12	-1920	-0.0006549	0.0002807	0.0035	0.8		2369.14	2369.14		2.76	Si
SLV 9	fin.	626.67	1725	-0.0004486	0.0002807	0.0035	0.8		2363.93	2363.93		3.77	Si
SLV 7	ini.	635.59	997	-0.0004562	0.0002807	0.0035	0.8		2363.93	2363.93		3.72	Si
SLV 7	fin.	-687.7	-2686	-0.0004999	0.0002807	0.0035	0.8		2369.14	2369.14		3.45	Si
SLD 4	ini.	327.88	229	-0.0002166	0.0002807	0.0035	0.8		2363.93	2363.93		7.21	Si
SLD 4	fin.	-580.94	-2317	-0.0004094	0.0002807	0.0035	0.8		2369.14	2369.14		4.08	Si
SLV 3	ini.	439.3	371	-0.0002983	0.0002807	0.0035	0.8		2363.93	2363.93		5.38	Si
SLV 3	fin.	-721.08	-2809	-0.0005292	0.0002807	0.0035	0.8		2369.14	2369.14		3.29	Si
SLV 14	ini.	-580.7	-1145	-0.0004092	0.0002807	0.0035	0.8		2369.14	2369.14		4.08	Si
SLV 14	fin.	560.61	1530	-0.0003937	0.0002807	0.0035	0.8		2363.93	2363.93		4.22	Si
SLV 5	ini.	-629.86	-1636	-0.0004502	0.0002807	0.0035	0.8		2369.14	2369.14		3.76	Si
SLV 5	fin.	285.43	575	-0.0001867	0.0002807	0.0035	0.8		2363.93	2363.93		8.28	Si
SLV 10	ini.	-776.98	-1771	-0.0005795	0.0002807	0.0035	0.8		2369.14	2369.14		3.05	Si
SLV 10	fin.	527.23	1407	-0.0003667	0.0002807	0.0035	0.8		2363.93	2363.93		4.48	Si
SLV 13	ini.	-701.21	-1366	-0.0005117	0.0002807	0.0035	0.8		2369.14	2369.14		3.38	Si
SLV 13	fin.	708.32	2002	-0.0005192	0.0002807	0.0035	0.8		2363.93	2363.93		3.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	439.3	-1502	0.8	0	2333	6344	5031	2040	7071		4.71	Si
SLV 3	fin.	-721.08	-4151	0.8	0	2333	6344	5031	2040	7071		1.7	Si
SLV 13	ini.	-701.21	3829	0.8	0	2333	6344	5031	2040	7071		1.85	Si
SLV 13	fin.	708.32	2188	0.8	0	2333	6344	5031	2040	7071		3.23	Si
SLV 8	ini.	716.73	-2576	0.8	0	2333	6344	5031	2040	7071		2.74	Si
SLV 8	fin.	-787.14	-4732	0.8	0	2333	6344	5031	2040	7071		1.49	Si
SLD 4	ini.	327.88	-990	0.8	0	2333	6344	5031	2040	7071		7.15	Si
SLD 4	fin.	-580.94	-3537	0.8	0	2333	6344	5031	2040	7071		2	Si
SLV 9	ini.	-858.12	4332	0.8	0	2333	6344	5031	2040	7071		1.63	Si
SLV 9	fin.	626.67	2102	0.8	0	2333	6344	5031	2040	7071		3.36	Si
SLD 8	ini.	418.95	-1271	0.8	0	2333	6344	5031	2040	7071		5.57	Si
SLD 8	fin.	-521.73	-3446	0.8	0	2333	6344	5031	2040	7071		2.05	Si
SLV 10	ini.	-776.98	3947	0.8	0	2333	6344	5031	2040	7071		1.79	Si
SLV 10	fin.	527.23	1653	0.8	0	2333	6344	5031	2040	7071		4.28	Si
SLV 4	ini.	559.81	-2074	0.8	0	2333	6344	5031	2040	7071		3.41	Si
SLV 4	fin.	-868.79	-4818	0.8	0	2333	6344	5031	2040	7071		1.47	Si
SLV 2	ini.	180.18	-450	0.8	0	2333	6344	5031	2040	7071		15.7	Si
SLV 2	fin.	-576.85	-3340	0.8	0	2333	6344	5031	2040	7071		2.12	Si
SLV 7	ini.	635.59	-2191	0.8	0	2333	6344	5031	2040	7071		3.23	Si
SLV 7	fin.	-687.7	-4283	0.8	0	2333	6344	5031	2040	7071		1.65	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.727	SLV 4	Si
V_SLV	1.468	SLV 4	Si
PF_SLU	9.819	SLU 83	Si
V_SLU	1.066	SLU 83	Si

Trave di accoppiamento 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.433	-3.359	10.65	12.05	1.4	-16.333	-3.359	10.65	12.05	1.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_m u	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-939.17	-2415	-0.0002064	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.23	Si
SLU 80	fin.	458.84	-1611	-0.0000961	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.6	Si
SLU 75	ini.	-925.08	-2376	-0.000203	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.28	Si
SLU 75	fin.	446.01	-1586	-0.0000933	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.79	Si
SLU 78	ini.	-957.61	-2473	-0.0002109	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.16	Si
SLU 78	fin.	473.34	-1652	-0.0000993	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.4	Si
SLU 77	ini.	-936.27	-2445	-0.0002057	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.24	Si
SLU 77	fin.	455.81	-1637	-0.0000955	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.65	Si
SLU 79	ini.	-917.83	-2386	-0.0002012	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.3	Si
SLU 79	fin.	441.31	-1596	-0.0000923	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.87	Si
SLU 70	ini.	-950.65	-2416	-0.0002092	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.19	Si
SLU 70	fin.	503.89	-1632	-0.000106	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.01	Si
SLU 69	ini.	-929.31	-2387	-0.000204	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.26	Si
SLU 69	fin.	486.36	-1617	-0.0001022	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.23	Si
SLU 72	ini.	-932.21	-2357	-0.0002047	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.25	Si
SLU 72	fin.	489.38	-1592	-0.0001028	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.19	Si
SLU 67	ini.	-918.12	-2318	-0.0002013	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.3	Si
SLU 67	fin.	476.55	-1566	-0.0001	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.36	Si
SLU 76	ini.	-920.86	-2337	-0.0002019	0.0001872	0.0035	1.4		7159.73	3030.42	Si	3.29	Si
SLU 76	fin.	443.19	-1556	-0.0000927	0.0001872	0.0035	1.4		7150.76	3030.42	Si	6.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-950.65	2985	1.4	0	2722	7137	5869	3570	4083	Si	1.37	Si
SLU 70	fin.	503.89	1444	1.4	0	2722	7137	5869	3570	4083	Si	2.83	Si
SLU 78	ini.	-957.61	3126	1.4	0	2722	7137	5869	3570	4083	Si	1.31	Si
SLU 78	fin.	473.34	1309	1.4	0	2722	7137	5869	3570	4083	Si	3.12	Si
SLU 76	ini.	-920.86	3021	1.4	0	2722	7137	5869	3570	4083	Si	1.35	Si
SLU 76	fin.	443.19	1204	1.4	0	2722	7137	5869	3570	4083	Si	3.39	Si
SLU 74	ini.	-903.75	2982	1.4	0	2722	7137	5869	3570	4083	Si	1.37	Si
SLU 74	fin.	428.48	1165	1.4	0	2722	7137	5869	3570	4083	Si	3.51	Si
SLU 79	ini.	-917.83	3022	1.4	0	2722	7137	5869	3570	4083	Si	1.35	Si
SLU 79	fin.	441.31	1205	1.4	0	2722	7137	5869	3570	4083	Si	3.39	Si
SLU 84	ini.	-909.62	3045	1.4	0	2722	7137	5869	3570	4083	Si	1.34	Si
SLU 84	fin.	418.42	1110	1.4	0	2722	7137	5869	3570	4083	Si	3.68	Si
SLU 77	ini.	-936.27	3073	1.4	0	2722	7137	5869	3570	4083	Si	1.33	Si
SLU 77	fin.	455.81	1256	1.4	0	2722	7137	5869	3570	4083	Si	3.25	Si
SLU 75	ini.	-925.08	3035	1.4	0	2722	7137	5869	3570	4083	Si	1.35	Si
SLU 75	fin.	446.01	1218	1.4	0	2722	7137	5869	3570	4083	Si	3.35	Si
SLU 83	ini.	-888.29	2992	1.4	0	2722	7137	5869	3570	4083	Si	1.36	Si
SLU 83	fin.	400.89	1057	1.4	0	2722	7137	5869	3570	4083	Si	3.86	Si
SLU 80	ini.	-939.17	3076	1.4	0	2722	7137	5869	3570	4083	Si	1.33	Si
SLU 80	fin.	458.84	1259	1.4	0	2722	7137	5869	3570	4083	Si	3.24	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_m u	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-2530.55	-4121	-0.0006244	0.0002807	0.0035	1.4		7146.28	7146.28		2.82	Si
SLV 9	fin.	1851.04	-2253	-0.0004291	0.0002807	0.0035	1.4		7137.1	7137.1		3.86	Si
SLD 14	ini.	-1924.48	-2831	-0.0004486	0.0002807	0.0035	1.4		7146.28	7146.28		3.71	Si
SLD 14	fin.	1516.6	-1202	-0.0003408	0.0002807	0.0035	1.4		7137.1	7137.1		4.71	Si
SLD 9	ini.	-1811.72	-3162	-0.0004178	0.0002807	0.0035	1.4		7146.28	7146.28		3.94	Si
SLD 9	fin.	1267.31	-1802	-0.0002786	0.0002807	0.0035	1.4		7137.1	7137.1		5.63	Si
SLV 10	ini.	-2206.01	-3812	-0.0005281	0.0002807	0.0035	1.4		7146.28	7146.28		3.24	Si
SLV 10	fin.	1559.6	-2206	-0.0003518	0.0002807	0.0035	1.4		7137.1	7137.1		4.58	Si
SLV 4	ini.	1951.23	874	-0.0004566	0.0002807	0.0035	1.4		7137.1	7137.1		3.66	Si
SLV 4	fin.	-2091.16	-788	-0.0004952	0.0002807	0.0035	1.4		7146.28	7146.28		3.42	Si
SLD 13	ini.	-2232.15	-3124	-0.0005357	0.0002807	0.0035	1.4		7146.28	7146.28		3.2	Si
SLD 13	fin.	1792.9	-1247	-0.0004133	0.0002807	0.0035	1.4		7137.1	7137.1		3.98	Si
SLV 13	ini.	-3163	-4021	-0.0008269	0.0002807	0.0035	1.4		7146.28	7146.28		2.26	Si
SLV 13	fin.	2654.02	-1359	-0.0006634	0.0002807	0.0035	1.4		7137.1	7137.1		2.69	Si
SLV 15	ini.	-2459.11	-2882	-0.0006028	0.0002807	0.0035	1.4		7146.28	7146.28		2.91	Si
SLV 15	fin.	2141.68	-647	-0.0005103	0.0002807	0.0035	1.4		7137.1	7137.1		3.33	Si
SLV 16	ini.	-1977.07	-2424	-0.0004632	0.0002807	0.0035	1.4		7146.28	7146.28		3.61	Si
SLV 16	fin.	1708.8	-576	-0.0003908	0.0002807	0.0035	1.4		7137.1	7137.1		4.18	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-2680.96	-3563	-0.0006708	0.0002807	0.0035	1.4		7146.28	7146.28		2.67	Si
SLV 14	fin.	2221.14	-1288	-0.0005332	0.0002807	0.0035	1.4		7137.1	7137.1		3.21	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-2232.15	6434	1.4	0	4083	7137	8804	3570	11220		1.74	Si
SLD 13	fin.	1792.9	5239	1.4	0	4083	7137	8804	3570	11220		2.14	Si
SLV 13	ini.	-3163	8985	1.4	0	4083	7137	8804	3570	11220		1.25	Si
SLV 13	fin.	2654.02	7795	1.4	0	4083	7137	8804	3570	11220		1.44	Si
SLD 15	ini.	-1795.32	5384	1.4	0	4083	7137	8804	3570	11220		2.08	Si
SLD 15	fin.	1474.66	4182	1.4	0	4083	7137	8804	3570	11220		2.68	Si
SLV 14	ini.	-2680.96	7667	1.4	0	4083	7137	8804	3570	11220		1.46	Si
SLV 14	fin.	2221.14	6477	1.4	0	4083	7137	8804	3570	11220		1.73	Si
SLV 15	ini.	-2459.11	7293	1.4	0	4083	7137	8804	3570	11220		1.54	Si
SLV 15	fin.	2141.68	6092	1.4	0	4083	7137	8804	3570	11220		1.84	Si
SLV 10	ini.	-2206.01	5998	1.4	0	4083	7137	8804	3570	11220		1.87	Si
SLV 10	fin.	1559.6	4815	1.4	0	4083	7137	8804	3570	11220		2.33	Si
SLV 16	ini.	-1977.07	5975	1.4	0	4083	7137	8804	3570	11220		1.88	Si
SLV 16	fin.	1708.8	4774	1.4	0	4083	7137	8804	3570	11220		2.35	Si
SLV 9	ini.	-2530.55	6885	1.4	0	4083	7137	8804	3570	11220		1.63	Si
SLV 9	fin.	1851.04	5703	1.4	0	4083	7137	8804	3570	11220		1.97	Si
SLD 14	ini.	-1924.48	5593	1.4	0	4083	7137	8804	3570	11220		2.01	Si
SLD 14	fin.	1516.6	4398	1.4	0	4083	7137	8804	3570	11220		2.55	Si
SLV 4	ini.	1951.23	-5052	1.4	0	4083	7137	8804	3570	11220		2.22	Si
SLV 4	fin.	-2091.16	-6266	1.4	0	4083	7137	8804	3570	11220		1.79	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.259	SLV 13	Si
V_SLV	1.249	SLV 13	Si
PF_SLU	3.165	SLU 78	Si
V_SLU	1.306	SLU 78	Si

Trave di accoppiamento 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	10.65	12.05	1.4	-15.058	2.206	10.65	12.05	1.4	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	652.52	-1386	-0.0001381	0.0002246	0.0035	1.4		7429.07	2600.83	Si	3.99	Si
SLU 74	fin.	-1074.38	-2325	-0.0002359	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.42	Si
SLU 35	ini.	615.69	-1307	-0.0001299	0.0002246	0.0035	1.4		7429.07	2600.83	Si	4.22	Si
SLU 35	fin.	-1059.27	-2222	-0.0002322	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.46	Si
SLU 79	ini.	670.76	-1423	-0.0001422	0.0002246	0.0035	1.4		7429.07	2600.83	Si	3.88	Si
SLU 79	fin.	-1116.48	-2398	-0.0002462	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.33	Si
SLU 78	ini.	661.02	-1409	-0.00014	0.0002246	0.0035	1.4		7429.07	2600.83	Si	3.93	Si
SLU 78	fin.	-1073.89	-2357	-0.0002358	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.42	Si
SLU 81	ini.	647.84	-1377	-0.0001371	0.0002246	0.0035	1.4		7429.07	2600.83	Si	4.01	Si
SLU 81	fin.	-1078.11	-2308	-0.0002368	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.41	Si
SLU 84	ini.	656.34	-1400	-0.000139	0.0002246	0.0035	1.4		7429.07	2600.83	Si	3.96	Si
SLU 84	fin.	-1077.62	-2339	-0.0002367	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.41	Si
SLU 83	ini.	678.27	-1440	-0.0001439	0.0002246	0.0035	1.4		7429.07	2600.83	Si	3.83	Si
SLU 83	fin.	-1140.31	-2426	-0.000252	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.28	Si
SLU 77	ini.	682.95	-1449	-0.0001449	0.0002246	0.0035	1.4		7429.07	2600.83	Si	3.81	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-1136.58	-2443	-0.0002511	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.29	Si
SLU 41	ini.	611.01	-1298	-0.0001289	0.0002246	0.0035	1.4		7429.07	2600.83	Si	4.26	Si
SLU 41	fin.	-1063	-2205	-0.0002331	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.45	Si
SLU 80	ini.	648.83	-1383	-0.0001373	0.0002246	0.0035	1.4		7429.07	2600.83	Si	4.01	Si
SLU 80	fin.	-1053.79	-2311	-0.0002309	0.0002246	0.0035	1.4		7437.92	2600.83	Si	2.47	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	615.69	-2726	1.4	0	1633	6344	3522	3570	2450	Si	0.9	No
SLU 35	fin.	-1059.27	-3050	1.4	0	1633	6344	3522	3570	2450	Si	0.8	No
SLU 84	ini.	656.34	-2780	1.4	0	1633	6344	3522	3570	2450	Si	0.88	No
SLU 84	fin.	-1077.62	-3187	1.4	0	1633	6344	3522	3570	2450	Si	0.77	No
SLU 78	ini.	661.02	-2788	1.4	0	1633	6344	3522	3570	2450	Si	0.88	No
SLU 78	fin.	-1073.89	-3195	1.4	0	1633	6344	3522	3570	2450	Si	0.77	No
SLU 80	ini.	648.83	-2731	1.4	0	1633	6344	3522	3570	2450	Si	0.9	No
SLU 80	fin.	-1053.79	-3138	1.4	0	1633	6344	3522	3570	2450	Si	0.78	No
SLU 83	ini.	678.27	-2926	1.4	0	1633	6344	3522	3570	2450	Si	0.84	No
SLU 83	fin.	-1140.31	-3334	1.4	0	1633	6344	3522	3570	2450	Si	0.73	No
SLU 81	ini.	647.84	-2762	1.4	0	1633	6344	3522	3570	2450	Si	0.89	No
SLU 81	fin.	-1078.11	-3170	1.4	0	1633	6344	3522	3570	2450	Si	0.77	No
SLU 74	ini.	652.52	-2771	1.4	0	1633	6344	3522	3570	2450	Si	0.88	No
SLU 74	fin.	-1074.38	-3178	1.4	0	1633	6344	3522	3570	2450	Si	0.77	No
SLU 79	ini.	670.76	-2878	1.4	0	1633	6344	3522	3570	2450	Si	0.85	No
SLU 79	fin.	-1116.48	-3285	1.4	0	1633	6344	3522	3570	2450	Si	0.75	No
SLU 77	ini.	682.95	-2935	1.4	0	1633	6344	3522	3570	2450	Si	0.83	No
SLU 77	fin.	-1136.58	-3342	1.4	0	1633	6344	3522	3570	2450	Si	0.73	No
SLU 41	ini.	611.01	-2717	1.4	0	1633	6344	3522	3570	2450	Si	0.9	No
SLU 41	fin.	-1063	-3041	1.4	0	1633	6344	3522	3570	2450	Si	0.81	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-570.33	2226	-0.0001185	0.0003369	0.0035	1.4		7610.85	7610.85		13.34	Si
SLV 9	fin.	3357.68	4608	-0.0008687	0.0003369	0.0035	1.4		7601.87	7601.87		2.26	Si
SLV 12	ini.	1470.59	-4065	-0.0003241	0.0003369	0.0035	1.4		7601.87	7601.87		5.17	Si
SLV 12	fin.	-4895.36	-7780	-0.0014597	0.0003369	0.0035	1.4		7610.85	7610.85		1.55	Si
SLD 11	ini.	1059.14	-2832	-0.0002269	0.0003369	0.0035	1.4		7601.87	7601.87		7.18	Si
SLD 11	fin.	-3252.29	-5335	-0.0008324	0.0003369	0.0035	1.4		7610.85	7610.85		2.34	Si
SLV 7	ini.	1368.26	-3924	-0.0002993	0.0003369	0.0035	1.4		7601.87	7601.87		5.56	Si
SLV 7	fin.	-4576.03	-7399	-0.0013213	0.0003369	0.0035	1.4		7610.85	7610.85		1.66	Si
SLV 10	ini.	-562.72	2213	-0.0001168	0.0003369	0.0035	1.4		7610.85	7610.85		13.53	Si
SLV 10	fin.	3337.49	4580	-0.000862	0.0003369	0.0035	1.4		7601.87	7601.87		2.28	Si
SLD 12	ini.	1063.9	-2840	-0.000228	0.0003369	0.0035	1.4		7601.87	7601.87		7.15	Si
SLD 12	fin.	-3264.93	-5352	-0.0008366	0.0003369	0.0035	1.4		7610.85	7610.85		2.33	Si
SLV 11	ini.	1462.98	-4051	-0.0003222	0.0003369	0.0035	1.4		7601.87	7601.87		5.2	Si
SLV 11	fin.	-4875.17	-7753	-0.0014506	0.0003369	0.0035	1.4		7610.85	7610.85		1.56	Si
SLV 6	ini.	-657.43	2340	-0.0001372	0.0003369	0.0035	1.4		7610.85	7610.85		11.58	Si
SLV 6	fin.	3636.63	4933	-0.0009644	0.0003369	0.0035	1.4		7601.87	7601.87		2.09	Si
SLV 5	ini.	-665.04	2354	-0.0001389	0.0003369	0.0035	1.4		7610.85	7610.85		11.44	Si
SLV 5	fin.	3656.82	4961	-0.0009715	0.0003369	0.0035	1.4		7601.87	7601.87		2.08	Si
SLV 8	ini.	1375.87	-3938	-0.0003011	0.0003369	0.0035	1.4		7601.87	7601.87		5.53	Si
SLV 8	fin.	-4596.22	-7427	-0.0013297	0.0003369	0.0035	1.4		7610.85	7610.85		1.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	1063.9	-7350	1.4	0	2450	6344	5283	3570	8794		1.2	Si
SLD 12	fin.	-3264.93	-7653	1.4	16250	2450	6344	5283	3570	8794		1.15	Si
SLV 8	ini.	1375.87	-10219	1.4	0	2450	6344	5283	3570	8794		0.86	No
SLV 8	fin.	-4596.22	-10521	1.4	16250	2450	6344	5283	3570	8794		0.84	No
SLD 8	ini.	1003.36	-6918	1.4	0	2450	6344	5283	3570	8794		1.27	Si
SLD 8	fin.	-3073.62	-7223	1.4	16250	2450	6344	5283	3570	8794		1.22	Si
SLV 11	ini.	1462.98	-10848	1.4	0	2450	6344	5283	3570	8794		0.81	No
SLV 11	fin.	-4875.17	-11148	1.4	16250	2450	6344	5283	3570	8794		0.79	No
SLV 6	ini.	-657.43	7640	1.4	0	2450	6344	5283	3570	8794		1.15	Si
SLV 6	fin.	3636.63	7322	1.4	16250	2450	6344	5283	3570	8794		1.2	Si
SLV 5	ini.	-665.04	7686	1.4	0	2450	6344	5283	3570	8794		1.14	Si
SLV 5	fin.	3656.82	7369	1.4	16250	2450	6344	5283	3570	8794		1.19	Si
SLV 12	ini.	1470.59	-10895	1.4	0	2450	6344	5283	3570	8794		0.81	No
SLV 12	fin.	-4895.36	-11194	1.4	16250	2450	6344	5283	3570	8794		0.79	No
SLD 7	ini.	998.6	-6889	1.4	0	2450	6344	5283	3570	8794		1.28	Si
SLD 7	fin.	-3060.98	-7193	1.4	16250	2450	6344	5283	3570	8794		1.22	Si
SLV 7	ini.	1368.26	-10172	1.4	0	2450	6344	5283	3570	8794		0.86	No
SLV 7	fin.	-4576.03	-10475	1.4	16250	2450	6344	5283	3570	8794		0.84	No
SLD 11	ini.	1059.14	-7321	1.4	0	2450	6344	5283	3570	8794		1.2	Si
SLD 11	fin.	-3252.29	-7624	1.4	16250	2450	6344	5283	3570	8794		1.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.555	SLV 12	Si
V SLV	0.786	SLV 12	No
PF SLU	2.281	SLU 83	Si
V SLU	0.733	SLU 77	No



Trave di accoppiamento 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-13.753	-0.228	10.65	12.05	1.4	-13.753	0.672	10.65	12.05	1.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-219.08	-1718	-0.0000449	0.0001872	0.0035	1.4		7159.73	3030.42	Si	13.83	Si
SLU 36	fin.	625.97	-1304	-0.0001332	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.84	Si
SLU 76	ini.	-89.17	-1586	-0.0000181	0.0001872	0.0035	1.4		7159.73	3030.42	Si	33.99	Si
SLU 76	fin.	610.66	-1252	-0.0001298	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.96	Si
SLU 78	ini.	-126.15	-1725	-0.0000257	0.0001872	0.0035	1.4		7159.73	3030.42	Si	24.02	Si
SLU 78	fin.	657.26	-1339	-0.0001403	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.61	Si
SLU 75	ini.	-87.56	-1603	-0.0000178	0.0001872	0.0035	1.4		7159.73	3030.42	Si	34.61	Si
SLU 75	fin.	618.21	-1261	-0.0001315	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.9	Si
SLU 38	ini.	-188.89	-1637	-0.0000386	0.0001872	0.0035	1.4		7159.73	3030.42	Si	16.04	Si
SLU 38	fin.	601.42	-1254	-0.0001277	0.0001872	0.0035	1.4		7150.76	3030.42	Si	5.04	Si
SLU 77	ini.	-78.46	-1628	-0.0000159	0.0001872	0.0035	1.4		7159.73	3030.42	Si	38.62	Si
SLU 77	fin.	631.77	-1277	-0.0001345	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.8	Si
SLU 80	ini.	-95.96	-1644	-0.0000195	0.0001872	0.0035	1.4		7159.73	3030.42	Si	31.58	Si
SLU 80	fin.	632.71	-1289	-0.0001348	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.79	Si
SLU 70	ini.	-159.95	-1630	-0.0000326	0.0001872	0.0035	1.4		7159.73	3030.42	Si	18.95	Si
SLU 70	fin.	616.82	-1229	-0.0001312	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.91	Si
SLU 79	ini.	-48.27	-1547	-0.0000098	0.0001872	0.0035	1.4		7159.73	3030.42	Si	62.78	Si
SLU 79	fin.	607.21	-1227	-0.000129	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.99	Si
SLU 84	ini.	-42.89	-1562	-0.0000087	0.0001872	0.0035	1.4		7159.73	3030.42	Si	70.66	Si
SLU 84	fin.	610.99	-1259	-0.0001299	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-126.15	1629	1.4	0	2722	7137	5869	3570	4083	Si	2.51	Si
SLU 78	fin.	657.26	729	1.4	0	2722	7137	5869	3570	4083	Si	5.6	Si
SLU 30	ini.	-222.7	1539	1.4	0	2722	7137	5869	3570	4083	Si	2.65	Si
SLU 30	fin.	560.98	834	1.4	0	2722	7137	5869	3570	4083	Si	4.89	Si
SLU 72	ini.	-129.76	1548	1.4	0	2722	7137	5869	3570	4083	Si	2.64	Si
SLU 72	fin.	592.27	648	1.4	0	2722	7137	5869	3570	4083	Si	6.3	Si
SLU 28	ini.	-252.89	1624	1.4	0	2722	7137	5869	3570	4083	Si	2.51	Si
SLU 28	fin.	585.53	920	1.4	0	2722	7137	5869	3570	4083	Si	4.44	Si
SLU 36	ini.	-219.08	1620	1.4	0	2722	7137	5869	3570	4083	Si	2.52	Si
SLU 36	fin.	625.97	915	1.4	0	2722	7137	5869	3570	4083	Si	4.46	Si
SLU 80	ini.	-95.96	1544	1.4	0	2722	7137	5869	3570	4083	Si	2.65	Si
SLU 80	fin.	632.71	644	1.4	0	2722	7137	5869	3570	4083	Si	6.34	Si
SLU 77	ini.	-78.46	1520	1.4	0	2722	7137	5869	3570	4083	Si	2.69	Si
SLU 77	fin.	631.77	621	1.4	0	2722	7137	5869	3570	4083	Si	6.58	Si
SLU 69	ini.	-112.26	1525	1.4	0	2722	7137	5869	3570	4083	Si	2.68	Si
SLU 69	fin.	591.32	625	1.4	0	2722	7137	5869	3570	4083	Si	6.53	Si
SLU 38	ini.	-188.89	1535	1.4	0	2722	7137	5869	3570	4083	Si	2.66	Si
SLU 38	fin.	601.42	830	1.4	0	2722	7137	5869	3570	4083	Si	4.92	Si
SLU 70	ini.	-159.95	1633	1.4	0	2722	7137	5869	3570	4083	Si	2.5	Si
SLU 70	fin.	616.82	733	1.4	0	2722	7137	5869	3570	4083	Si	5.57	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-3154.77	-7269	-0.0008242	0.0002807	0.0035	1.4		7146.28	7146.28		2.27	Si
SLV 6	fin.	1891.65	-4419	-0.0004402	0.0002807	0.0035	1.4		7137.1	7137.1		3.77	Si
SLV 11	ini.	3250.16	5598	-0.0008578	0.0002807	0.0035	1.4		7137.1	7137.1		2.2	Si
SLV 11	fin.	-1189.16	3042	-0.0002594	0.0002807	0.0035	1.4		7146.28	7146.28		6.01	Si
SLV 8	ini.	3484.1	6018	-0.0009393	0.0002807	0.0035	1.4		7137.1	7137.1		2.05	Si
SLV 8	fin.	-1276.43	3385	-0.0002805	0.0002807	0.0035	1.4		7146.28	7146.28		5.6	Si
SLV 7	ini.	3504.4	6047	-0.0009465	0.0002807	0.0035	1.4		7137.1	7137.1		2.04	Si
SLV 7	fin.	-1283.22	3399	-0.0002821	0.0002807	0.0035	1.4		7146.28	7146.28		5.57	Si
SLV 9	ini.	-3388.71	-7689	-0.0009043	0.0002807	0.0035	1.4		7146.28	7146.28		2.11	Si
SLV 9	fin.	1978.93	-4763	-0.0004643	0.0002807	0.0035	1.4		7137.1	7137.1		3.61	Si
SLD 7	ini.	2182.99	3419	-0.0005222	0.0002807	0.0035	1.4		7137.1	7137.1		3.27	Si
SLD 7	fin.	-662.31	1836	-0.000139	0.0002807	0.0035	1.4		7146.28	7146.28		10.79	Si
SLD 8	ini.	2170.28	3401	-0.0005185	0.0002807	0.0035	1.4		7137.1	7137.1		3.29	Si
SLD 8	fin.	-658.06	1827	-0.0001381	0.0002807	0.0035	1.4		7146.28	7146.28		10.86	Si
SLV 5	ini.	-3134.47	-7240	-0.0008174	0.0002807	0.0035	1.4		7146.28	7146.28		2.28	Si
SLV 5	fin.	1884.87	-4406	-0.0004383	0.0002807	0.0035	1.4		7137.1	7137.1		3.79	Si
SLV 10	ini.	-3409.01	-7718	-0.0009113	0.0002807	0.0035	1.4		7146.28	7146.28		2.1	Si
SLV 10	fin.	1985.71	-4776	-0.0004662	0.0002807	0.0035	1.4		7137.1	7137.1		3.59	Si
SLV 12	ini.	3229.86	5568	-0.0008509	0.0002807	0.0035	1.4		7137.1	7137.1		2.21	Si
SLV 12	fin.	-1182.37	3029	-0.0002578	0.0002807	0.0035	1.4		7146.28	7146.28		6.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-2074.89	5278	1.4	0	4083	7137	8804	3570	11220		2.13	Si
SLD 9	fin.	1360.55	4642	1.4	0	4083	7137	8804	3570	11220		2.42	Si
SLV 10	ini.	-3409.01	8098	1.4	0	4083	7137	8804	3570	11220		1.39	Si
SLV 10	fin.	1985.71	7495	1.4	0	4083	7137	8804	3570	11220		1.5	Si
SLV 5	ini.	-3134.47	7561	1.4	0	4083	7137	8804	3570	11220		1.48	Si
SLV 5	fin.	1884.87	6915	1.4	0	4083	7137	8804	3570	11220		1.62	Si
SLV 11	ini.	3250.16	-6002	1.4	0	4083	7137	8804	3570	11220		1.87	Si
SLV 11	fin.	-1189.16	-6729	1.4	0	4083	7137	8804	3570	11220		1.67	Si
SLV 6	ini.	-3154.77	7604	1.4	0	4083	7137	8804	3570	11220		1.48	Si
SLV 6	fin.	1891.65	6958	1.4	0	4083	7137	8804	3570	11220		1.61	Si
SLV 12	ini.	3229.86	-5959	1.4	0	4083	7137	8804	3570	11220		1.88	Si
SLV 12	fin.	-1182.37	-6686	1.4	0	4083	7137	8804	3570	11220		1.68	Si
SLV 8	ini.	3484.1	-6453	1.4	0	4083	7137	8804	3570	11220		1.74	Si
SLV 8	fin.	-1276.43	-7223	1.4	0	4083	7137	8804	3570	11220		1.55	Si
SLD 10	ini.	-2087.59	5305	1.4	0	4083	7137	8804	3570	11220		2.11	Si
SLD 10	fin.	1364.8	4669	1.4	0	4083	7137	8804	3570	11220		2.4	Si
SLV 7	ini.	3504.4	-6496	1.4	0	4083	7137	8804	3570	11220		1.73	Si
SLV 7	fin.	-1283.22	-7266	1.4	0	4083	7137	8804	3570	11220		1.54	Si
SLV 9	ini.	-3388.71	8055	1.4	0	4083	7137	8804	3570	11220		1.39	Si
SLV 9	fin.	1978.93	7452	1.4	0	4083	7137	8804	3570	11220		1.51	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.037	SLV 7	Si
V_SLV	1.386	SLV 10	Si
PF_SLU	4.611	SLU 78	Si
V_SLU	2.5	SLU 70	Si

Trave di accoppiamento 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-19.868	1.046	10.65	12.05	1.4	-20.668	1.046	10.65	12.05	1.4	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-1053.32	-4053	-0.0002308	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.98	Si
SLU 78	fin.	293.51	-2911	-0.0000604	0.0002246	0.0035	1.4		7327.32	3137.92	Si	10.69	Si
SLU 81	ini.	-1153.05	-3938	-0.0002552	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.72	Si
SLU 81	fin.	424.74	-2609	-0.0000883	0.0002246	0.0035	1.4		7327.32	3137.92	Si	7.39	Si
SLU 73	ini.	-1127.93	-3824	-0.000249	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.78	Si
SLU 73	fin.	417.89	-2523	-0.0000868	0.0002246	0.0035	1.4		7327.32	3137.92	Si	7.51	Si
SLU 75	ini.	-1101.35	-3986	-0.0002425	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.85	Si
SLU 75	fin.	362.09	-2750	-0.0000749	0.0002246	0.0035	1.4		7327.32	3137.92	Si	8.67	Si
SLU 74	ini.	-1097.27	-3982	-0.0002415	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.86	Si
SLU 74	fin.	359.54	-2751	-0.0000744	0.0002246	0.0035	1.4		7327.32	3137.92	Si	8.73	Si
SLU 65	ini.	-1053.44	-3545	-0.0002308	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.98	Si
SLU 65	fin.	391.99	-2329	-0.0000813	0.0002246	0.0035	1.4		7327.32	3137.92	Si	8.01	Si
SLU 76	ini.	-1079.9	-3891	-0.0002372	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.91	Si
SLU 76	fin.	349.32	-2684	-0.0000722	0.0002246	0.0035	1.4		7327.32	3137.92	Si	8.98	Si
SLU 84	ini.	-1109.1	-4008	-0.0002444	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.83	Si
SLU 84	fin.	358.72	-2768	-0.0000742	0.0002246	0.0035	1.4		7327.32	3137.92	Si	8.75	Si
SLU 82	ini.	-1157.13	-3941	-0.0002562	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.71	Si
SLU 82	fin.	427.29	-2607	-0.0000888	0.0002246	0.0035	1.4		7327.32	3137.92	Si	7.34	Si
SLU 83	ini.	-1105.01	-4005	-0.0002434	0.0002246	0.0035	1.4		7336.02	3137.92	Si	2.84	Si
SLU 83	fin.	356.17	-2770	-0.0000737	0.0002246	0.0035	1.4		7327.32	3137.92	Si	8.81	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 60	ini.	-1047.4	4008	1.4	0	3267	6344	7044	3570	4900	Si	1.22	Si
SLU 60	fin.	398	1665	1.4	0	3267	6344	7044	3570	4900	Si	2.94	Si
SLU 75	ini.	-1101.35	4209	1.4	0	3267	6344	7044	3570	4900	Si	1.16	Si
SLU 75	fin.	362.09	1554	1.4	0	3267	6344	7044	3570	4900	Si	3.15	Si
SLU 61	ini.	-1051.49	4022	1.4	0	3267	6344	7044	3570	4900	Si	1.22	Si
SLU 61	fin.	400.55	1679	1.4	0	3267	6344	7044	3570	4900	Si	2.92	Si
SLU 83	ini.	-1105.01	4316	1.4	0	3267	6344	7044	3570	4900	Si	1.14	Si
SLU 83	fin.	356.17	1437	1.4	0	3267	6344	7044	3570	4900	Si	3.41	Si
SLU 74	ini.	-1097.27	4196	1.4	0	3267	6344	7044	3570	4900	Si	1.17	Si
SLU 74	fin.	359.54	1541	1.4	0	3267	6344	7044	3570	4900	Si	3.18	Si
SLU 73	ini.	-1127.93	4369	1.4	0	3267	6344	7044	3570	4900	Si	1.12	Si
SLU 73	fin.	417.89	1714	1.4	0	3267	6344	7044	3570	4900	Si	2.86	Si
SLU 76	ini.	-1079.9	4140	1.4	0	3267	6344	7044	3570	4900	Si	1.18	Si
SLU 76	fin.	349.32	1485	1.4	0	3267	6344	7044	3570	4900	Si	3.3	Si
SLU 81	ini.	-1153.05	4545	1.4	0	3267	6344	7044	3570	4900	Si	1.08	Si
SLU 81	fin.	424.74	1666	1.4	0	3267	6344	7044	3570	4900	Si	2.94	Si
SLU 84	ini.	-1109.1	4329	1.4	0	3267	6344	7044	3570	4900	Si	1.13	Si
SLU 84	fin.	358.72	1451	1.4	0	3267	6344	7044	3570	4900	Si	3.38	Si
SLU 82	ini.	-1157.13	4558	1.4	0	3267	6344	7044	3570	4900	Si	1.08	Si
SLU 82	fin.	427.29	1679	1.4	0	3267	6344	7044	3570	4900	Si	2.92	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-1382.33	-3039	-0.0003023	0.0003369	0.0035	1.4		7080.95	7080.95		5.12	Si
SLV 9	fin.	852.39	-1195	-0.0001802	0.0003369	0.0035	1.4		7071.56	7071.56		8.3	Si
SLD 15	ini.	-1665.61	-3193	-0.0003721	0.0003369	0.0035	1.4		7080.95	7080.95		4.25	Si
SLD 15	fin.	1227.98	-837	-0.000266	0.0003369	0.0035	1.4		7071.56	7071.56		5.76	Si
SLV 16	ini.	-2187.71	-3498	-0.0005104	0.0003369	0.0035	1.4		7080.95	7080.95		3.24	Si
SLV 16	fin.	1796.34	-271	-0.000406	0.0003369	0.0035	1.4		7071.56	7071.56		3.94	Si
SLV 15	ini.	-2157.57	-3478	-0.000502	0.0003369	0.0035	1.4		7080.95	7080.95		3.28	Si
SLV 15	fin.	1757.75	-307	-0.0003961	0.0003369	0.0035	1.4		7071.56	7071.56		4.02	Si
SLD 16	ini.	-1684.85	-3205	-0.0003769	0.0003369	0.0035	1.4		7080.95	7080.95		4.2	Si
SLD 16	fin.	1252.61	-814	-0.0002718	0.0003369	0.0035	1.4		7071.56	7071.56		5.65	Si
SLV 10	ini.	-1402.62	-3052	-0.0003072	0.0003369	0.0035	1.4		7080.95	7080.95		5.05	Si
SLV 10	fin.	878.37	-1171	-0.000186	0.0003369	0.0035	1.4		7071.56	7071.56		8.05	Si
SLV 13	ini.	-2255.81	-3539	-0.0005293	0.0003369	0.0035	1.4		7080.95	7080.95		3.14	Si
SLV 13	fin.	1825.13	-229	-0.0004135	0.0003369	0.0035	1.4		7071.56	7071.56		3.87	Si
SLD 13	ini.	-1726.11	-3230	-0.0003874	0.0003369	0.0035	1.4		7080.95	7080.95		4.1	Si
SLD 13	fin.	1269.4	-789	-0.0002758	0.0003369	0.0035	1.4		7071.56	7071.56		5.57	Si
SLD 14	ini.	-1745.35	-3243	-0.0003924	0.0003369	0.0035	1.4		7080.95	7080.95		4.06	Si
SLD 14	fin.	1294.03	-766	-0.0002816	0.0003369	0.0035	1.4		7071.56	7071.56		5.46	Si
SLV 14	ini.	-2285.94	-3559	-0.0005378	0.0003369	0.0035	1.4		7080.95	7080.95		3.1	Si
SLV 14	fin.	1863.72	-193	-0.0004236	0.0003369	0.0035	1.4		7071.56	7071.56		3.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-1665.61	6428	1.4	0	4900	6344	10566	3570	11244		1.75	Si
SLD 15	fin.	1227.98	4766	1.4	0	4900	6344	10566	3570	11244		2.36	Si
SLD 13	ini.	-1726.11	6611	1.4	0	4900	6344	10566	3570	11244		1.7	Si
SLD 13	fin.	1269.4	4968	1.4	0	4900	6344	10566	3570	11244		2.26	Si
SLV 10	ini.	-1402.62	5219	1.4	0	4900	6344	10566	3570	11244		2.15	Si
SLV 10	fin.	878.37	3612	1.4	0	4900	6344	10566	3570	11244		3.11	Si
SLV 9	ini.	-1382.33	5128	1.4	0	4900	6344	10566	3570	11244		2.19	Si
SLV 9	fin.	852.39	3522	1.4	0	4900	6344	10566	3570	11244		3.19	Si
SLD 14	ini.	-1745.35	6697	1.4	0	4900	6344	10566	3570	11244		1.68	Si
SLD 14	fin.	1294.03	5054	1.4	0	4900	6344	10566	3570	11244		2.22	Si
SLV 13	ini.	-2255.81	8682	1.4	0	4900	6344	10566	3570	11244		1.3	Si
SLV 13	fin.	1825.13	7058	1.4	0	4900	6344	10566	3570	11244		1.59	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-2187.71	8521	1.4	0	4900	6344	10566	3570	11244		1.32	Si
SLV 16	fin.	1796.34	6864	1.4	0	4900	6344	10566	3570	11244		1.64	Si
SLV 15	ini.	-2157.57	8387	1.4	0	4900	6344	10566	3570	11244		1.34	Si
SLV 15	fin.	1757.75	6730	1.4	0	4900	6344	10566	3570	11244		1.67	Si
SLD 16	ini.	-1684.85	6514	1.4	0	4900	6344	10566	3570	11244		1.73	Si
SLD 16	fin.	1252.61	4852	1.4	0	4900	6344	10566	3570	11244		2.32	Si
SLV 14	ini.	-2285.94	8816	1.4	0	4900	6344	10566	3570	11244		1.28	Si
SLV 14	fin.	1863.72	7193	1.4	0	4900	6344	10566	3570	11244		1.56	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.098	SLV 14	Si
V_SLV	1.275	SLV 14	Si
PF_SLU	2.712	SLU 82	Si
V_SLU	1.075	SLU 82	Si

Trave di accoppiamento 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-11.163	1.046	11.05	12.05	1	-12.283	1.046	11.05	12.05	1	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-931.43	-3312	-0.0004337	0.0002246	0.0035	1		3749.66	2087.92	Si	2.24	Si
SLU 74	fin.	-51.97	-2187	-0.0000206	0.0002246	0.0035	1		3749.66	2087.92	Si	40.18	Si
SLU 77	ini.	-952.2	-3440	-0.0004453	0.0002246	0.0035	1		3749.66	2087.92	Si	2.19	Si
SLU 77	fin.	-57.69	-2299	-0.0000229	0.0002246	0.0035	1		3749.66	2087.92	Si	36.19	Si
SLU 84	ini.	-990.63	-3387	-0.0004669	0.0002246	0.0035	1		3749.66	2087.92	Si	2.11	Si
SLU 84	fin.	-36.41	-2156	-0.0000144	0.0002246	0.0035	1		3749.66	2087.92	Si	57.34	Si
SLU 75	ini.	-955.31	-3359	-0.000447	0.0002246	0.0035	1		3749.66	2087.92	Si	2.19	Si
SLU 75	fin.	-32	-2171	-0.0000127	0.0002246	0.0035	1		3749.66	2087.92	Si	65.24	Si
SLU 82	ini.	-969.85	-3259	-0.0004552	0.0002246	0.0035	1		3749.66	2087.92	Si	2.15	Si
SLU 82	fin.	-30.69	-2044	-0.0000122	0.0002246	0.0035	1		3749.66	2087.92	Si	68.03	Si
SLU 78	ini.	-976.08	-3487	-0.0004587	0.0002246	0.0035	1		3749.66	2087.92	Si	2.14	Si
SLU 78	fin.	-37.73	-2284	-0.000015	0.0002246	0.0035	1		3749.66	2087.92	Si	55.34	Si
SLU 81	ini.	-945.97	-3212	-0.0004418	0.0002246	0.0035	1		3749.66	2087.92	Si	2.21	Si
SLU 81	fin.	-50.65	-2059	-0.0000201	0.0002246	0.0035	1		3749.66	2087.92	Si	41.22	Si
SLU 80	ini.	-954.22	-3411	-0.0004464	0.0002246	0.0035	1		3749.66	2087.92	Si	2.19	Si
SLU 80	fin.	-48.94	-2250	-0.0000194	0.0002246	0.0035	1		3749.66	2087.92	Si	42.66	Si
SLU 83	ini.	-966.74	-3340	-0.0004534	0.0002246	0.0035	1		3749.66	2087.92	Si	2.16	Si
SLU 83	fin.	-56.37	-2172	-0.0000224	0.0002246	0.0035	1		3749.66	2087.92	Si	37.04	Si
SLU 76	ini.	-949.37	-3314	-0.0004437	0.0002246	0.0035	1		3749.66	2087.92	Si	2.2	Si
SLU 76	fin.	-29.91	-2127	-0.0000119	0.0002246	0.0035	1		3749.66	2087.92	Si	69.8	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 41	ini.	-905.2	2824	1	0	2333	7930	5031	2550	3500	Si	1.24	Si
SLU 41	fin.	-13.51	-125	1	0	2333	7930	5031	2550	3500	Si	28.03	Si
SLU 84	ini.	-990.63	3028	1	0	2333	7930	5031	2550	3500	Si	1.16	Si
SLU 84	fin.	-36.41	-146	1	0	2333	7930	5031	2550	3500	Si	23.98	Si
SLU 76	ini.	-949.37	2822	1	0	2333	7930	5031	2550	3500	Si	1.24	Si
SLU 76	fin.	-29.91	-51	1	0	2333	7930	5031	2550	3500	Si	69.09	Si
SLU 42	ini.	-929.09	2891	1	0	2333	7930	5031	2550	3500	Si	1.21	Si
SLU 42	fin.	6.45	-58	1	0	2333	7930	5031	2550	3500	Si	60.29	Si
SLU 78	ini.	-976.08	2846	1	0	2333	7930	5031	2550	3500	Si	1.23	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-37.73	-27	1	0	2333	7930	5031	2550	3500	Si	131.39	Si
SLU 82	ini.	-969.85	3007	1	0	2333	7930	5031	2550	3500	Si	1.16	Si
SLU 82	fin.	-30.69	-166	1	0	2333	7930	5031	2550	3500	Si	21.03	Si
SLU 83	ini.	-966.74	2961	1	0	2333	7930	5031	2550	3500	Si	1.18	Si
SLU 83	fin.	-56.37	-213	1	0	2333	7930	5031	2550	3500	Si	16.45	Si
SLU 81	ini.	-945.97	2940	1	0	2333	7930	5031	2550	3500	Si	1.19	Si
SLU 81	fin.	-50.65	-233	1	0	2333	7930	5031	2550	3500	Si	15.01	Si
SLU 40	ini.	-908.32	2870	1	0	2333	7930	5031	2550	3500	Si	1.22	Si
SLU 40	fin.	12.18	-79	1	0	2333	7930	5031	2550	3500	Si	44.57	Si
SLU 75	ini.	-955.31	2826	1	0	2333	7930	5031	2550	3500	Si	1.24	Si
SLU 75	fin.	-32	-47	1	0	2333	7930	5031	2550	3500	Si	74.28	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	536.32	-3620	-0.000225	0.0003369	0.0035	1		3684.51	3684.51		6.87	Si
SLV 1	fin.	-2683.94	-7872	-0.0016304	0.0003369	0.0035	1		3691.28	3691.28		1.38	Si
SLV 3	ini.	1435.14	-1923	-0.0006937	0.0003369	0.0035	1		3684.51	3684.51		2.57	Si
SLV 3	fin.	-3441.9	-8508	-0.0025978	0.0003369	0.0035	1		3691.28	3691.28		1.07	Si
SLV 14	ini.	-2573.23	-2355	-0.001526	0.0003369	0.0035	1		3691.28	3691.28		1.43	Si
SLV 14	fin.	3315.08	5513	-0.002406	0.0003369	0.0035	1		3684.51	3684.51		1.11	Si
SLV 10	ini.	-2531.06	-4774	-0.0014878	0.0003369	0.0035	1		3691.28	3691.28		1.46	Si
SLV 10	fin.	2097.15	1567	-0.0011373	0.0003369	0.0035	1		3684.51	3684.51		1.76	Si
SLV 4	ini.	1448.33	-1910	-0.0007016	0.0003369	0.0035	1		3684.51	3684.51		2.54	Si
SLV 4	fin.	-3455.58	-8529	-0.0026205	0.0003369	0.0035	1		3691.28	3691.28		1.07	Si
SLV 16	ini.	-1674.4	-659	-0.0008414	0.0003369	0.0035	1		3691.28	3691.28		2.2	Si
SLV 16	fin.	2557.12	4877	-0.0015151	0.0003369	0.0035	1		3684.51	3684.51		1.44	Si
SLV 2	ini.	549.5	-3606	-0.0002309	0.0003369	0.0035	1		3684.51	3684.51		6.71	Si
SLV 2	fin.	-2697.62	-7893	-0.0016438	0.0003369	0.0035	1		3691.28	3691.28		1.37	Si
SLV 15	ini.	-1687.59	-673	-0.00085	0.0003369	0.0035	1		3691.28	3691.28		2.19	Si
SLV 15	fin.	2570.8	4898	-0.0015276	0.0003369	0.0035	1		3684.51	3684.51		1.43	Si
SLV 9	ini.	-2539.94	-4784	-0.0014958	0.0003369	0.0035	1		3691.28	3691.28		1.45	Si
SLV 9	fin.	2106.37	1581	-0.0011442	0.0003369	0.0035	1		3684.51	3684.51		1.75	Si
SLV 13	ini.	-2586.42	-2369	-0.0015381	0.0003369	0.0035	1		3691.28	3691.28		1.43	Si
SLV 13	fin.	3328.76	5534	-0.0024269	0.0003369	0.0035	1		3684.51	3684.51		1.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1687.59	7113	1	0	2699	7930	7547	2550	10097		1.42	Si
SLV 15	fin.	2570.8	5384	1	0	2699	7930	7547	2550	10097		1.88	Si
SLV 10	ini.	-2531.06	7863	1	0	2699	7930	7547	2550	10097		1.28	Si
SLV 10	fin.	2097.15	6093	1	0	2699	7930	7547	2550	10097		1.66	Si
SLD 13	ini.	-1850.49	6735	1	0	2699	7930	7547	2550	10097		1.5	Si
SLD 13	fin.	2098.86	4988	1	0	2699	7930	7547	2550	10097		2.02	Si
SLV 13	ini.	-2586.42	9649	1	0	2699	7930	7547	2550	10097		1.05	Si
SLV 13	fin.	3328.76	7903	1	0	2699	7930	7547	2550	10097		1.28	Si
SLV 3	ini.	1435.14	-6345	1	0	2699	7930	7547	2550	10097		1.59	Si
SLV 3	fin.	-3441.9	-8095	1	0	2699	7930	7547	2550	10097		1.25	Si
SLD 14	ini.	-1842.07	6709	1	0	2699	7930	7547	2550	10097		1.5	Si
SLD 14	fin.	2090.13	4963	1	0	2699	7930	7547	2550	10097		2.03	Si
SLV 14	ini.	-2573.23	9609	1	0	2699	7930	7547	2550	10097		1.05	Si
SLV 14	fin.	3315.08	7864	1	0	2699	7930	7547	2550	10097		1.28	Si
SLV 9	ini.	-2539.94	7890	1	0	2699	7930	7547	2550	10097		1.28	Si
SLV 9	fin.	2106.37	6119	1	0	2699	7930	7547	2550	10097		1.65	Si
SLV 16	ini.	-1674.4	7074	1	0	2699	7930	7547	2550	10097		1.43	Si
SLV 16	fin.	2557.12	5344	1	0	2699	7930	7547	2550	10097		1.89	Si
SLV 4	ini.	1448.33	-6384	1	0	2699	7930	7547	2550	10097		1.58	Si
SLV 4	fin.	-3455.58	-8134	1	0	2699	7930	7547	2550	10097		1.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.068	SLV 4	Si
V_SLV	1.046	SLV 13	Si
PF_SLU	2.108	SLU 84	Si
V_SLU	1.156	SLU 84	Si

Trave di accoppiamento 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-9.386	1.046	11.05	12.05	1	-10.466	1.046	11.05	12.05	1	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedeo	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	298.13	-1951	-0.000123	0.0002246	0.0035	1		3743.39	2087.92	Si	7	Si
SLU 84	fin.	-858.1	-3199	-0.0003935	0.0002246	0.0035	1		3749.66	2087.92	Si	2.43	Si
SLU 74	ini.	290.3	-1903	-0.0001196	0.0002246	0.0035	1		3743.39	2087.92	Si	7.19	Si
SLU 74	fin.	-818.26	-3108	-0.0003721	0.0002246	0.0035	1		3749.66	2087.92	Si	2.55	Si
SLU 79	ini.	306.1	-1902	-0.0001264	0.0002246	0.0035	1		3743.39	2087.92	Si	6.82	Si
SLU 79	fin.	-829.51	-3144	-0.0003781	0.0002246	0.0035	1		3749.66	2087.92	Si	2.52	Si
SLU 83	ini.	283.55	-1951	-0.0001167	0.0002246	0.0035	1		3743.39	2087.92	Si	7.36	Si
SLU 83	fin.	-835.9	-3148	-0.0003815	0.0002246	0.0035	1		3749.66	2087.92	Si	2.5	Si
SLU 76	ini.	305.3	-1869	-0.0001261	0.0002246	0.0035	1		3743.39	2087.92	Si	6.84	Si
SLU 76	fin.	-837.29	-3121	-0.0003823	0.0002246	0.0035	1		3749.66	2087.92	Si	2.49	Si
SLU 82	ini.	273.03	-1918	-0.0001122	0.0002246	0.0035	1		3743.39	2087.92	Si	7.65	Si
SLU 82	fin.	-828.87	-3090	-0.0003778	0.0002246	0.0035	1		3749.66	2087.92	Si	2.52	Si
SLU 77	ini.	315.4	-1936	-0.0001304	0.0002246	0.0035	1		3743.39	2087.92	Si	6.62	Si
SLU 77	fin.	-847.49	-3216	-0.0003878	0.0002246	0.0035	1		3749.66	2087.92	Si	2.46	Si
SLU 80	ini.	320.68	-1902	-0.0001327	0.0002246	0.0035	1		3743.39	2087.92	Si	6.51	Si
SLU 80	fin.	-851.72	-3195	-0.0003901	0.0002246	0.0035	1		3749.66	2087.92	Si	2.45	Si
SLU 75	ini.	304.87	-1903	-0.0001259	0.0002246	0.0035	1		3743.39	2087.92	Si	6.85	Si
SLU 75	fin.	-840.47	-3159	-0.000384	0.0002246	0.0035	1		3749.66	2087.92	Si	2.48	Si
SLU 78	ini.	329.97	-1935	-0.0001368	0.0002246	0.0035	1		3743.39	2087.92	Si	6.33	Si
SLU 78	fin.	-869.7	-3267	-0.0003998	0.0002246	0.0035	1		3749.66	2087.92	Si	2.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	320.68	-2012	1	0	2333	7930	5031	2550	3500	Si	1.74	Si
SLU 80	fin.	-851.72	-2536	1	0	2333	7930	5031	2550	3500	Si	1.38	Si
SLU 42	ini.	300.26	-1784	1	0	2333	7930	5031	2550	3500	Si	1.96	Si
SLU 42	fin.	-804.49	-2455	1	0	2333	7930	5031	2550	3500	Si	1.43	Si
SLU 79	ini.	306.1	-1955	1	0	2333	7930	5031	2550	3500	Si	1.79	Si
SLU 79	fin.	-829.51	-2477	1	0	2333	7930	5031	2550	3500	Si	1.41	Si
SLU 84	ini.	298.13	-1944	1	0	2333	7930	5031	2550	3500	Si	1.8	Si
SLU 84	fin.	-858.1	-2583	1	0	2333	7930	5031	2550	3500	Si	1.36	Si
SLU 76	ini.	305.3	-1951	1	0	2333	7930	5031	2550	3500	Si	1.79	Si
SLU 76	fin.	-837.29	-2493	1	0	2333	7930	5031	2550	3500	Si	1.4	Si
SLU 77	ini.	315.4	-2006	1	0	2333	7930	5031	2550	3500	Si	1.74	Si
SLU 77	fin.	-847.49	-2518	1	0	2333	7930	5031	2550	3500	Si	1.39	Si
SLU 83	ini.	283.55	-1888	1	0	2333	7930	5031	2550	3500	Si	1.85	Si
SLU 83	fin.	-835.9	-2525	1	0	2333	7930	5031	2550	3500	Si	1.39	Si
SLU 78	ini.	329.97	-2062	1	0	2333	7930	5031	2550	3500	Si	1.7	Si
SLU 78	fin.	-869.7	-2576	1	0	2333	7930	5031	2550	3500	Si	1.36	Si
SLU 75	ini.	304.87	-1964	1	0	2333	7930	5031	2550	3500	Si	1.78	Si
SLU 75	fin.	-840.47	-2494	1	0	2333	7930	5031	2550	3500	Si	1.4	Si
SLU 82	ini.	273.03	-1846	1	0	2333	7930	5031	2550	3500	Si	1.9	Si
SLU 82	fin.	-828.87	-2501	1	0	2333	7930	5031	2550	3500	Si	1.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	1814.07	3693	-0.0009359	0.0003369	0.0035	1		3684.51	3684.51		2.03	Si
SLV 4	fin.	-679.03	828	-0.0002898	0.0003369	0.0035	1		3691.28	3691.28		5.44	Si
SLV 9	ini.	508.91	-2677	-0.0002128	0.0003369	0.0035	1		3684.51	3684.51		7.24	Si
SLV 9	fin.	-1726.32	-5628	-0.0008753	0.0003369	0.0035	1		3691.28	3691.28		2.14	Si
SLV 5	ini.	1662.77	331	-0.0008357	0.0003369	0.0035	1		3684.51	3684.51		2.22	Si
SLV 5	fin.	-2083.54	-4481	-0.0011246	0.0003369	0.0035	1		3691.28	3691.28		1.77	Si
SLV 1	ini.	2366.9	3757	-0.0013497	0.0003369	0.0035	1		3684.51	3684.51		1.56	Si
SLV 1	fin.	-1524.11	-1017	-0.0007464	0.0003369	0.0035	1		3691.28	3691.28		2.42	Si
SLV 10	ini.	507.42	-2673	-0.0002121	0.0003369	0.0035	1		3684.51	3684.51		7.26	Si
SLV 10	fin.	-1721.4	-5615	-0.000872	0.0003369	0.0035	1		3691.28	3691.28		2.14	Si
SLV 15	ini.	-2029.92	-6338	-0.0010852	0.0003369	0.0035	1		3691.28	3691.28		1.82	Si
SLV 15	fin.	504.38	-3015	-0.0002108	0.0003369	0.0035	1		3684.51	3684.51		7.3	Si
SLV 3	ini.	1816.28	3687	-0.0009374	0.0003369	0.0035	1		3684.51	3684.51		2.03	Si
SLV 3	fin.	-686.35	809	-0.0002932	0.0003369	0.0035	1		3691.28	3691.28		5.38	Si
SLV 16	ini.	-2032.13	-6332	-0.0010868	0.0003369	0.0035	1		3691.28	3691.28		1.82	Si
SLV 16	fin.	511.7	-2996	-0.000214	0.0003369	0.0035	1		3684.51	3684.51		7.2	Si
SLV 6	ini.	1661.28	335	-0.0008347	0.0003369	0.0035	1		3684.51	3684.51		2.22	Si
SLV 6	fin.	-2078.62	-4468	-0.0011209	0.0003369	0.0035	1		3691.28	3691.28		1.78	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	2364.7	3763	-0.0013479	0.0003369	0.0035	1		3684.51	3684.51		1.56	Si
SLV 2	fin.	-1516.79	-997	-0.0007419	0.0003369	0.0035	1		3691.28	3691.28		2.43	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	1567.36	-4171	1	0	2799	7930	7547	2550	10097		2.42	Si
SLD 1	fin.	-1147.12	-4528	1	0	2799	7930	7547	2550	10097		2.23	Si
SLV 9	ini.	508.91	-3647	1	0	2799	7930	7547	2550	10097		2.77	Si
SLV 9	fin.	-1726.32	-4160	1	0	2799	7930	7547	2550	10097		2.43	Si
SLD 6	ini.	1102.54	-4069	1	0	2799	7930	7547	2550	10097		2.48	Si
SLD 6	fin.	-1481.19	-4511	1	0	2799	7930	7547	2550	10097		2.24	Si
SLV 1	ini.	2366.9	-5880	1	0	2799	7930	7547	2550	10097		1.72	Si
SLV 1	fin.	-1524.11	-6287	1	0	2799	7930	7547	2550	10097		1.61	Si
SLD 2	ini.	1565.95	-4161	1	0	2799	7930	7547	2550	10097		2.43	Si
SLD 2	fin.	-1142.45	-4519	1	0	2799	7930	7547	2550	10097		2.23	Si
SLD 5	ini.	1103.47	-4075	1	0	2799	7930	7547	2550	10097		2.48	Si
SLD 5	fin.	-1484.27	-4517	1	0	2799	7930	7547	2550	10097		2.24	Si
SLV 10	ini.	507.42	-3638	1	0	2799	7930	7547	2550	10097		2.78	Si
SLV 10	fin.	-1721.4	-4150	1	0	2799	7930	7547	2550	10097		2.43	Si
SLV 2	ini.	2364.7	-5866	1	0	2799	7930	7547	2550	10097		1.72	Si
SLV 2	fin.	-1516.79	-6271	1	0	2799	7930	7547	2550	10097		1.61	Si
SLV 5	ini.	1662.77	-5810	1	0	2799	7930	7547	2550	10097		1.74	Si
SLV 5	fin.	-2083.54	-6358	1	0	2799	7930	7547	2550	10097		1.59	Si
SLV 6	ini.	1661.28	-5801	1	0	2799	7930	7547	2550	10097		1.74	Si
SLV 6	fin.	-2078.62	-6348	1	0	2799	7930	7547	2550	10097		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.557	SLV 1	Si
V_SLV	1.588	SLV 5	Si
PF_SLU	2.401	SLU 78	Si
V_SLU	1.355	SLU 84	Si

Trave di accoppiamento 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.478	1.046	10.65	12.05	1.4	-7.278	1.046	10.65	12.05	1.4	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	ini.	41.74	-2213	-0.0000084	0.0002246	0.0035	1.4		7327.32	3137.92	Si	75.17	Si
SLU 43	fin.	-373.03	-2507	-0.0000771	0.0002246	0.0035	1.4		7336.02	3137.92	Si	8.41	Si
SLU 46	ini.	43.38	-2370	-0.0000088	0.0002246	0.0035	1.4		7327.32	3137.92	Si	72.33	Si
SLU 46	fin.	-357.13	-2651	-0.0000738	0.0002246	0.0035	1.4		7336.02	3137.92	Si	8.79	Si
SLU 47	ini.	69.92	-2277	-0.0000142	0.0002246	0.0035	1.4		7327.32	3137.92	Si	44.88	Si
SLU 47	fin.	-377.17	-2597	-0.0000078	0.0002246	0.0035	1.4		7336.02	3137.92	Si	8.32	Si
SLU 51	ini.	55.31	-2382	-0.0000112	0.0002246	0.0035	1.4		7327.32	3137.92	Si	56.73	Si
SLU 51	fin.	-343.87	-2663	-0.0000071	0.0002246	0.0035	1.4		7336.02	3137.92	Si	9.13	Si
SLU 44	ini.	72.31	-2185	-0.0000147	0.0002246	0.0035	1.4		7327.32	3137.92	Si	43.4	Si
SLU 44	fin.	-399.77	-2524	-0.0000828	0.0002246	0.0035	1.4		7336.02	3137.92	Si	7.85	Si
SLU 50	ini.	36.97	-2399	-0.0000075	0.0002246	0.0035	1.4		7327.32	3137.92	Si	84.87	Si
SLU 50	fin.	-327.82	-2652	-0.0000676	0.0002246	0.0035	1.4		7336.02	3137.92	Si	9.57	Si
SLU 65	ini.	-6.17	-2582	-0.0000012	0.0002246	0.0035	1.4		7336.02	3137.92	Si	508.46	Si
SLU 65	fin.	-344.57	-2793	-0.0000711	0.0002246	0.0035	1.4		7336.02	3137.92	Si	9.11	Si
SLU 45	ini.	25.04	-2387	-0.0000051	0.0002246	0.0035	1.4		7327.32	3137.92	Si	125.31	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 45	fin.	-341.09	-2640	-0.0000704	0.0002246	0.0035	1.4		7336.02	3137.92	Si	9.2	Si
SLU 68	ini.	-8.56	-2675	-0.0000017	0.0002246	0.0035	1.4		7336.02	3137.92	Si	366.7	Si
SLU 68	fin.	-321.96	-2865	-0.0000663	0.0002246	0.0035	1.4		7336.02	3137.92	Si	9.75	Si
SLU 49	ini.	41	-2463	-0.0000083	0.0002246	0.0035	1.4		7327.32	3137.92	Si	76.54	Si
SLU 49	fin.	-334.53	-2724	-0.000069	0.0002246	0.0035	1.4		7336.02	3137.92	Si	9.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 47	ini.	69.92	-71	1.4	0	3267	6344	7044	3570	4900	Si	68.57	Si
SLU 47	fin.	-377.17	-1664	1.4	0	3267	6344	7044	3570	4900	Si	2.95	Si
SLU 40	ini.	-241.19	1718	1.4	0	3267	6344	7044	3570	4900	Si	2.85	Si
SLU 40	fin.	-91.18	-1035	1.4	0	3267	6344	7044	3570	4900	Si	4.73	Si
SLU 83	ini.	-231.59	1682	1.4	0	3267	6344	7044	3570	4900	Si	2.91	Si
SLU 83	fin.	-153.17	-1287	1.4	0	3267	6344	7044	3570	4900	Si	3.81	Si
SLU 65	ini.	-6.17	448	1.4	0	3267	6344	7044	3570	4900	Si	10.94	Si
SLU 65	fin.	-344.57	-1719	1.4	0	3267	6344	7044	3570	4900	Si	2.85	Si
SLU 81	ini.	-229.2	1633	1.4	0	3267	6344	7044	3570	4900	Si	3	Si
SLU 81	fin.	-175.77	-1336	1.4	0	3267	6344	7044	3570	4900	Si	3.67	Si
SLU 39	ini.	-259.53	1785	1.4	0	3267	6344	7044	3570	4900	Si	2.75	Si
SLU 39	fin.	-75.13	-968	1.4	0	3267	6344	7044	3570	4900	Si	5.06	Si
SLU 42	ini.	-243.58	1766	1.4	0	3267	6344	7044	3570	4900	Si	2.77	Si
SLU 42	fin.	-68.57	-986	1.4	0	3267	6344	7044	3570	4900	Si	4.97	Si
SLU 44	ini.	72.31	-120	1.4	0	3267	6344	7044	3570	4900	Si	40.75	Si
SLU 44	fin.	-399.77	-1712	1.4	0	3267	6344	7044	3570	4900	Si	2.86	Si
SLU 68	ini.	-8.56	497	1.4	0	3267	6344	7044	3570	4900	Si	9.87	Si
SLU 68	fin.	-321.96	-1670	1.4	0	3267	6344	7044	3570	4900	Si	2.93	Si
SLU 41	ini.	-261.92	1833	1.4	0	3267	6344	7044	3570	4900	Si	2.67	Si
SLU 41	fin.	-52.53	-919	1.4	0	3267	6344	7044	3570	4900	Si	5.33	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1863.66	-4081	-0.000423	0.0003369	0.0035	1.4		7080.95	7080.95		3.8	Si
SLV 15	fin.	1403.37	-1607	-0.0003078	0.0003369	0.0035	1.4		7071.56	7071.56		5.04	Si
SLV 4	ini.	1211.87	-484	-0.0002622	0.0003369	0.0035	1.4		7071.56	7071.56		5.84	Si
SLV 4	fin.	-1387.19	-2338	-0.0003035	0.0003369	0.0035	1.4		7080.95	7080.95		5.1	Si
SLV 2	ini.	1764.66	61	-0.0003978	0.0003369	0.0035	1.4		7071.56	7071.56		4.01	Si
SLV 2	fin.	-1859.78	-2608	-0.000422	0.0003369	0.0035	1.4		7080.95	7080.95		3.81	Si
SLV 5	ini.	1326.25	-582	-0.0002893	0.0003369	0.0035	1.4		7071.56	7071.56		5.33	Si
SLV 5	fin.	-1438.08	-2683	-0.0003158	0.0003369	0.0035	1.4		7080.95	7080.95		4.92	Si
SLV 3	ini.	1197.73	-522	-0.0002589	0.0003369	0.0035	1.4		7071.56	7071.56		5.9	Si
SLV 3	fin.	-1394.67	-2370	-0.0003053	0.0003369	0.0035	1.4		7080.95	7080.95		5.08	Si
SLV 11	ini.	-1434.78	-3464	-0.000315	0.0003369	0.0035	1.4		7080.95	7080.95		4.94	Si
SLV 11	fin.	976.64	-1554	-0.0002081	0.0003369	0.0035	1.4		7071.56	7071.56		7.24	Si
SLV 12	ini.	-1425.26	-3438	-0.0003126	0.0003369	0.0035	1.4		7080.95	7080.95		4.97	Si
SLV 12	fin.	981.68	-1532	-0.0002092	0.0003369	0.0035	1.4		7071.56	7071.56		7.2	Si
SLV 16	ini.	-1849.52	-4042	-0.0004193	0.0003369	0.0035	1.4		7080.95	7080.95		3.83	Si
SLV 16	fin.	1410.85	-1575	-0.0003096	0.0003369	0.0035	1.4		7071.56	7071.56		5.01	Si
SLV 6	ini.	1335.78	-556	-0.0002915	0.0003369	0.0035	1.4		7071.56	7071.56		5.29	Si
SLV 6	fin.	-1433.05	-2661	-0.0003145	0.0003369	0.0035	1.4		7080.95	7080.95		4.94	Si
SLV 1	ini.	1750.51	22	-0.0003942	0.0003369	0.0035	1.4		7071.56	7071.56		4.04	Si
SLV 1	fin.	-1867.26	-2640	-0.000424	0.0003369	0.0035	1.4		7080.95	7080.95		3.79	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	1764.66	-5931	1.4	0	4900	6344	10566	3570	11244		1.9	Si
SLV 2	fin.	-1859.78	-7615	1.4	0	4900	6344	10566	3570	11244		1.48	Si
SLV 5	ini.	1326.25	-4435	1.4	0	4900	6344	10566	3570	11244		2.54	Si
SLV 5	fin.	-1438.08	-6130	1.4	0	4900	6344	10566	3570	11244		1.83	Si
SLV 16	ini.	-1849.52	6958	1.4	0	4900	6344	10566	3570	11244		1.62	Si
SLV 16	fin.	1410.85	5239	1.4	0	4900	6344	10566	3570	11244		2.15	Si
SLV 11	ini.	-1434.78	5485	1.4	0	4900	6344	10566	3570	11244		2.05	Si
SLV 11	fin.	976.64	3779	1.4	0	4900	6344	10566	3570	11244		2.98	Si
SLV 4	ini.	1211.87	-3936	1.4	0	4900	6344	10566	3570	11244		2.86	Si
SLV 4	fin.	-1387.19	-5619	1.4	0	4900	6344	10566	3570	11244		2	Si
SLV 3	ini.	1197.73	-3921	1.4	0	4900	6344	10566	3570	11244		2.87	Si
SLV 3	fin.	-1394.67	-5605	1.4	0	4900	6344	10566	3570	11244		2.01	Si
SLV 12	ini.	-1425.26	5476	1.4	0	4900	6344	10566	3570	11244		2.05	Si
SLV 12	fin.	981.68	3769	1.4	0	4900	6344	10566	3570	11244		2.98	Si
SLV 15	ini.	-1863.66	6972	1.4	0	4900	6344	10566	3570	11244		1.61	Si
SLV 15	fin.	1403.37	5253	1.4	0	4900	6344	10566	3570	11244		2.14	Si
SLV 6	ini.	1335.78	-4445	1.4	0	4900	6344	10566	3570	11244		2.53	Si
SLV 6	fin.	-1433.05	-6140	1.4	0	4900	6344	10566	3570	11244		1.83	Si
SLV 1	ini.	1750.51	-5917	1.4	0	4900	6344	10566	3570	11244		1.9	Si
SLV 1	fin.	-1867.26	-7600	1.4	0	4900	6344	10566	3570	11244		1.48	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	3.792	SLV 1	Si
V SLV	1.477	SLV 2	Si
PF SLU	7.849	SLU 44	Si
V SLU	2.673	SLU 41	Si



Trave di accoppiamento 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-4.168	1.046	10.65	12.05	1.4	-4.968	1.046	10.65	12.05	1.4	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 76	ini.	168.95	-2406	-0.0000345	0.0002246	0.0035	1.4		7327.32	3137.92	Si	18.57	Si
SLU 76	fin.	-632.62	-3042	-0.0001335	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.96	Si
SLU 60	ini.	204.58	-2017	-0.0000418	0.0002246	0.0035	1.4		7327.32	3137.92	Si	15.34	Si
SLU 60	fin.	-612.89	-2669	-0.0001291	0.0002246	0.0035	1.4		7336.02	3137.92	Si	5.12	Si
SLU 74	ini.	164.13	-2495	-0.0000335	0.0002246	0.0035	1.4		7327.32	3137.92	Si	19.12	Si
SLU 74	fin.	-641.49	-3137	-0.0001355	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.89	Si
SLU 84	ini.	152.87	-2535	-0.0000312	0.0002246	0.0035	1.4		7327.32	3137.92	Si	20.53	Si
SLU 84	fin.	-656.61	-3182	-0.0001388	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.78	Si
SLU 75	ini.	172.73	-2480	-0.0000353	0.0002246	0.0035	1.4		7327.32	3137.92	Si	18.17	Si
SLU 75	fin.	-645.84	-3132	-0.0001364	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.86	Si
SLU 83	ini.	144.26	-2550	-0.0000294	0.0002246	0.0035	1.4		7327.32	3137.92	Si	21.75	Si
SLU 83	fin.	-652.26	-3187	-0.0001379	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.81	Si
SLU 82	ini.	210.48	-2377	-0.0000431	0.0002246	0.0035	1.4		7327.32	3137.92	Si	14.91	Si
SLU 82	fin.	-691.97	-3101	-0.0001468	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.53	Si
SLU 73	ini.	226.56	-2248	-0.0000464	0.0002246	0.0035	1.4		7327.32	3137.92	Si	13.85	Si
SLU 73	fin.	-667.98	-2961	-0.0001414	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.7	Si
SLU 81	ini.	201.88	-2391	-0.0000413	0.0002246	0.0035	1.4		7327.32	3137.92	Si	15.54	Si
SLU 81	fin.	-687.62	-3106	-0.0001458	0.0002246	0.0035	1.4		7336.02	3137.92	Si	4.56	Si
SLU 61	ini.	213.19	-2002	-0.0000436	0.0002246	0.0035	1.4		7327.32	3137.92	Si	14.72	Si
SLU 61	fin.	-617.24	-2664	-0.0001301	0.0002246	0.0035	1.4		7336.02	3137.92	Si	5.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 40	ini.	154.6	-109	1.4	0	3267	6344	7044	3570	4900	Si	44.99	Si
SLU 40	fin.	-590.93	-2747	1.4	0	3267	6344	7044	3570	4900	Si	1.78	Si
SLU 73	ini.	226.56	-380	1.4	0	3267	6344	7044	3570	4900	Si	12.89	Si
SLU 73	fin.	-667.98	-3019	1.4	0	3267	6344	7044	3570	4900	Si	1.62	Si
SLU 61	ini.	213.19	-409	1.4	0	3267	6344	7044	3570	4900	Si	11.99	Si
SLU 61	fin.	-617.24	-2736	1.4	0	3267	6344	7044	3570	4900	Si	1.79	Si
SLU 81	ini.	201.88	-263	1.4	0	3267	6344	7044	3570	4900	Si	18.61	Si
SLU 81	fin.	-687.62	-3125	1.4	0	3267	6344	7044	3570	4900	Si	1.57	Si
SLU 74	ini.	164.13	-207	1.4	0	3267	6344	7044	3570	4900	Si	23.7	Si
SLU 74	fin.	-641.49	-2845	1.4	0	3267	6344	7044	3570	4900	Si	1.72	Si
SLU 75	ini.	172.73	-231	1.4	0	3267	6344	7044	3570	4900	Si	21.19	Si
SLU 75	fin.	-645.84	-2870	1.4	0	3267	6344	7044	3570	4900	Si	1.71	Si
SLU 84	ini.	152.87	-104	1.4	0	3267	6344	7044	3570	4900	Si	47.2	Si
SLU 84	fin.	-656.61	-2966	1.4	0	3267	6344	7044	3570	4900	Si	1.65	Si
SLU 82	ini.	210.48	-288	1.4	0	3267	6344	7044	3570	4900	Si	17.02	Si
SLU 82	fin.	-691.97	-3150	1.4	0	3267	6344	7044	3570	4900	Si	1.56	Si
SLU 83	ini.	144.26	-79	1.4	0	3267	6344	7044	3570	4900	Si	61.82	Si
SLU 83	fin.	-652.26	-2941	1.4	0	3267	6344	7044	3570	4900	Si	1.67	Si
SLU 76	ini.	168.95	-196	1.4	0	3267	6344	7044	3570	4900	Si	24.97	Si
SLU 76	fin.	-632.62	-2835	1.4	0	3267	6344	7044	3570	4900	Si	1.73	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-1423.99	-4184	-0.0003123	0.0003369	0.0035	1.4		7080.95	7080.95		4.97	Si
SLV 13	fin.	287.08	-2908	-0.0000588	0.0003369	0.0035	1.4		7071.56	7071.56		24.63	Si
SLD 2	ini.	1373.43	478	-0.0003005	0.0003369	0.0035	1.4		7071.56	7071.56		5.15	Si
SLD 2	fin.	-1031.01	-1363	-0.0002202	0.0003369	0.0035	1.4		7080.95	7080.95		6.87	Si
SLV 16	ini.	-1752.92	-4737	-0.0003943	0.0003369	0.0035	1.4		7080.95	7080.95		4.04	Si
SLV 16	fin.	462.26	-3075	-0.0000955	0.0003369	0.0035	1.4		7071.56	7071.56		15.3	Si
SLV 14	ini.	-1467.17	-4232	-0.0003228	0.0003369	0.0035	1.4		7080.95	7080.95		4.83	Si
SLV 14	fin.	312.07	-2901	-0.000064	0.0003369	0.0035	1.4		7071.56	7071.56		22.66	Si
SLV 4	ini.	1775.03	1120	-0.0004005	0.0003369	0.0035	1.4		7071.56	7071.56		3.98	Si
SLV 4	fin.	-1210.06	-1162	-0.0002615	0.0003369	0.0035	1.4		7080.95	7080.95		5.85	Si
SLV 2	ini.	2060.78	1625	-0.0004762	0.0003369	0.0035	1.4		7071.56	7071.56		3.43	Si
SLV 2	fin.	-1360.25	-988	-0.000297	0.0003369	0.0035	1.4		7080.95	7080.95		5.21	Si
SLV 3	ini.	1818.2	1169	-0.0004117	0.0003369	0.0035	1.4		7071.56	7071.56		3.89	Si
SLV 3	fin.	-1235.05	-1170	-0.0002673	0.0003369	0.0035	1.4		7080.95	7080.95		5.73	Si
SLD 1	ini.	1400.98	509	-0.0003072	0.0003369	0.0035	1.4		7071.56	7071.56		5.05	Si
SLD 1	fin.	-1046.96	-1368	-0.0002238	0.0003369	0.0035	1.4		7080.95	7080.95		6.76	Si
SLV 1	ini.	2103.95	1674	-0.000488	0.0003369	0.0035	1.4		7071.56	7071.56		3.36	Si
SLV 1	fin.	-1385.24	-995	-0.000303	0.0003369	0.0035	1.4		7080.95	7080.95		5.11	Si
SLV 15	ini.	-1709.74	-4688	-0.0003833	0.0003369	0.0035	1.4		7080.95	7080.95		4.14	Si
SLV 15	fin.	437.27	-3082	-0.0000903	0.0003369	0.0035	1.4		7071.56	7071.56		16.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-1709.74	4849	1.4	0	4900	6344	10566	3570	11244		2.32	Si
SLV 15	fin.	437.27	3139	1.4	0	4900	6344	10566	3570	11244		3.58	Si
SLD 1	ini.	1400.98	-3770	1.4	0	4900	6344	10566	3570	11244		2.98	Si
SLD 1	fin.	-1046.96	-5402	1.4	0	4900	6344	10566	3570	11244		2.08	Si
SLV 2	ini.	2060.78	-5596	1.4	0	4900	6344	10566	3570	11244		2.01	Si
SLV 2	fin.	-1360.25	-7206	1.4	0	4900	6344	10566	3570	11244		1.56	Si
SLV 4	ini.	1775.03	-4772	1.4	0	4900	6344	10566	3570	11244		2.36	Si
SLV 4	fin.	-1210.06	-6379	1.4	0	4900	6344	10566	3570	11244		1.76	Si
SLD 3	ini.	1224.31	-3261	1.4	0	4900	6344	10566	3570	11244		3.45	Si
SLD 3	fin.	-954.2	-4890	1.4	0	4900	6344	10566	3570	11244		2.3	Si
SLV 5	ini.	1195.5	-3255	1.4	0	4900	6344	10566	3570	11244		3.45	Si
SLV 5	fin.	-971.07	-4906	1.4	0	4900	6344	10566	3570	11244		2.29	Si
SLD 2	ini.	1373.43	-3685	1.4	0	4900	6344	10566	3570	11244		3.05	Si
SLD 2	fin.	-1031.01	-5316	1.4	0	4900	6344	10566	3570	11244		2.12	Si
SLV 1	ini.	2103.95	-5730	1.4	0	4900	6344	10566	3570	11244		1.96	Si
SLV 1	fin.	-1385.24	-7340	1.4	0	4900	6344	10566	3570	11244		1.53	Si
SLV 16	ini.	-1752.92	4983	1.4	0	4900	6344	10566	3570	11244		2.26	Si
SLV 16	fin.	462.26	3273	1.4	0	4900	6344	10566	3570	11244		3.43	Si
SLV 3	ini.	1818.2	-4906	1.4	0	4900	6344	10566	3570	11244		2.29	Si
SLV 3	fin.	-1235.05	-6513	1.4	0	4900	6344	10566	3570	11244		1.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.361	SLV 1	Si
V_SLV	1.532	SLV 1	Si
PF_SLU	4.535	SLU 82	Si
V_SLU	1.556	SLU 82	Si

Trave di accoppiamento 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.718	6.661	8.55	9.45	0.9	-16.818	6.661	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	323.3	-1702	-0.0001696	0.0001872	0.0035	0.9		2959	1717.92	Si	5.31	Si
SLU 77	fin.	222.26	-1541	-0.0001138	0.0001872	0.0035	0.9		2959	1717.92	Si	7.73	Si
SLU 69	ini.	309.11	-1592	-0.0001616	0.0001872	0.0035	0.9		2959	1717.92	Si	5.56	Si
SLU 69	fin.	200.35	-1419	-0.0001021	0.0001872	0.0035	0.9		2959	1717.92	Si	8.57	Si
SLU 80	ini.	311.38	-1661	-0.0001629	0.0001872	0.0035	0.9		2959	1717.92	Si	5.52	Si
SLU 80	fin.	221.64	-1519	-0.0001135	0.0001872	0.0035	0.9		2959	1717.92	Si	7.75	Si
SLU 79	ini.	317.97	-1671	-0.0001666	0.0001872	0.0035	0.9		2959	1717.92	Si	5.4	Si
SLU 79	fin.	216.47	-1507	-0.0001107	0.0001872	0.0035	0.9		2959	1717.92	Si	7.94	Si
SLU 75	ini.	310.98	-1642	-0.0001626	0.0001872	0.0035	0.9		2959	1717.92	Si	5.52	Si
SLU 75	fin.	214.28	-1486	-0.0001095	0.0001872	0.0035	0.9		2959	1717.92	Si	8.02	Si
SLU 81	ini.	312.62	-1619	-0.0001636	0.0001872	0.0035	0.9		2959	1717.92	Si	5.5	Si
SLU 81	fin.	199.55	-1425	-0.0001016	0.0001872	0.0035	0.9		2959	1717.92	Si	8.61	Si
SLU 83	ini.	318.34	-1668	-0.0001668	0.0001872	0.0035	0.9		2959	1717.92	Si	5.4	Si
SLU 83	fin.	212.7	-1492	-0.0001087	0.0001872	0.0035	0.9		2959	1717.92	Si	8.08	Si
SLU 78	ini.	316.7	-1692	-0.0001659	0.0001872	0.0035	0.9		2959	1717.92	Si	5.42	Si
SLU 78	fin.	227.43	-1553	-0.0001166	0.0001872	0.0035	0.9		2959	1717.92	Si	7.55	Si
SLU 74	ini.	317.58	-1652	-0.0001664	0.0001872	0.0035	0.9		2959	1717.92	Si	5.41	Si
SLU 74	fin.	209.1	-1474	-0.0001067	0.0001872	0.0035	0.9		2959	1717.92	Si	8.22	Si
SLU 84	ini.	311.74	-1658	-0.0001631	0.0001872	0.0035	0.9		2959	1717.92	Si	5.51	Si
SLU 84	fin.	217.88	-1504	-0.0001114	0.0001872	0.0035	0.9		2959	1717.92	Si	7.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	316.7	-1324	0.9	0	1750	7137	3773	2295	2625	Si	1.98	Si
SLU 78	fin.	227.43	1421	0.9	0	1750	7137	3773	2295	2625	Si	1.85	Si
SLU 79	ini.	317.97	-1325	0.9	0	1750	7137	3773	2295	2625	Si	1.98	Si
SLU 79	fin.	216.47	1363	0.9	0	1750	7137	3773	2295	2625	Si	1.93	Si
SLU 77	ini.	323.3	-1353	0.9	0	1750	7137	3773	2295	2625	Si	1.94	Si
SLU 77	fin.	222.26	1404	0.9	0	1750	7137	3773	2295	2625	Si	1.87	Si
SLU 83	ini.	318.34	-1301	0.9	0	1750	7137	3773	2295	2625	Si	2.02	Si
SLU 83	fin.	212.7	1308	0.9	0	1750	7137	3773	2295	2625	Si	2.01	Si
SLU 70	ini.	302.51	-1289	0.9	0	1750	7137	3773	2295	2625	Si	2.04	Si
SLU 70	fin.	205.53	1333	0.9	0	1750	7137	3773	2295	2625	Si	1.97	Si
SLU 84	ini.	311.74	-1272	0.9	0	1750	7137	3773	2295	2625	Si	2.06	Si
SLU 84	fin.	217.88	1325	0.9	0	1750	7137	3773	2295	2625	Si	1.98	Si
SLU 74	ini.	317.58	-1314	0.9	0	1750	7137	3773	2295	2625	Si	2	Si
SLU 74	fin.	209.1	1311	0.9	0	1750	7137	3773	2295	2625	Si	2	Si
SLU 80	ini.	311.38	-1296	0.9	0	1750	7137	3773	2295	2625	Si	2.03	Si
SLU 80	fin.	221.64	1380	0.9	0	1750	7137	3773	2295	2625	Si	1.9	Si
SLU 75	ini.	310.98	-1284	0.9	0	1750	7137	3773	2295	2625	Si	2.04	Si
SLU 75	fin.	214.28	1328	0.9	0	1750	7137	3773	2295	2625	Si	1.98	Si
SLU 69	ini.	309.11	-1318	0.9	0	1750	7137	3773	2295	2625	Si	1.99	Si
SLU 69	fin.	200.35	1315	0.9	0	1750	7137	3773	2295	2625	Si	2	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	1322.67	-2564	-0.0008435	0.0002807	0.0035	0.9		2989.59	2989.59		2.26	Si
SLV 16	fin.	-818.35	1564	-0.000465	0.0002807	0.0035	0.9		2995.37	2995.37		3.66	Si
SLV 1	ini.	-877.02	337	-0.0005051	0.0002807	0.0035	0.9		2995.37	2995.37		3.42	Si
SLV 1	fin.	1073.11	-3464	-0.0006475	0.0002807	0.0035	0.9		2989.59	2989.59		2.79	Si
SLV 11	ini.	861.86	-2065	-0.0004957	0.0002807	0.0035	0.9		2989.59	2989.59		3.47	Si
SLV 11	fin.	-382.23	275	-0.0001981	0.0002807	0.0035	0.9		2995.37	2995.37		7.84	Si
SLV 2	ini.	-658.38	65	-0.0003607	0.0002807	0.0035	0.9		2995.37	2995.37		4.55	Si
SLV 2	fin.	874.97	-2929	-0.0005047	0.0002807	0.0035	0.9		2989.59	2989.59		3.42	Si
SLV 15	ini.	1104.03	-2292	-0.0006708	0.0002807	0.0035	0.9		2989.59	2989.59		2.71	Si
SLV 15	fin.	-620.22	1029	-0.0003369	0.0002807	0.0035	0.9		2995.37	2995.37		4.83	Si
SLV 13	ini.	830.09	-1864	-0.0004739	0.0002807	0.0035	0.9		2989.59	2989.59		3.6	Si
SLV 13	fin.	-407.71	547	-0.0002123	0.0002807	0.0035	0.9		2995.37	2995.37		7.35	Si
SLV 12	ini.	1009.06	-2248	-0.0006001	0.0002807	0.0035	0.9		2989.59	2989.59		2.96	Si
SLV 12	fin.	-515.63	635	-0.000274	0.0002807	0.0035	0.9		2995.37	2995.37		5.81	Si
SLV 14	ini.	1048.73	-2136	-0.0006293	0.0002807	0.0035	0.9		2989.59	2989.59		2.85	Si
SLV 14	fin.	-605.84	1082	-0.0003281	0.0002807	0.0035	0.9		2995.37	2995.37		4.94	Si
SLV 3	ini.	-603.07	-91	-0.0003264	0.0002807	0.0035	0.9		2995.37	2995.37		4.97	Si
SLV 3	fin.	860.6	-2982	-0.0004948	0.0002807	0.0035	0.9		2989.59	2989.59		3.47	Si
SLD 16	ini.	923.35	-2037	-0.0005386	0.0002807	0.0035	0.9		2989.59	2989.59		3.24	Si
SLD 16	fin.	-475.32	651	-0.0002506	0.0002807	0.0035	0.9		2995.37	2995.37		6.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	1009.06	-4205	0.9	0	2625	7137	5660	2295	7955		1.89	Si
SLV 12	fin.	-515.63	-1797	0.9	0	2625	7137	5660	2295	7955		4.43	Si
SLV 11	ini.	861.86	-3638	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLV 11	fin.	-382.23	-1183	0.9	0	2625	7137	5660	2295	7955		6.72	Si
SLV 15	ini.	1104.03	-4378	0.9	0	2625	7137	5660	2295	7955		1.82	Si
SLV 15	fin.	-620.22	-2651	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 16	ini.	1322.67	-5220	0.9	0	2625	7137	5660	2295	7955		1.52	Si
SLV 16	fin.	-818.35	-3562	0.9	0	2625	7137	5660	2295	7955		2.23	Si
SLV 14	ini.	1048.73	-4007	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLV 14	fin.	-605.84	-2817	0.9	0	2625	7137	5660	2295	7955		2.82	Si
SLV 1	ini.	-877.02	3384	0.9	0	2625	7137	5660	2295	7955		2.35	Si
SLV 1	fin.	1073.11	5195	0.9	0	2625	7137	5660	2295	7955		1.53	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-603.07	2172	0.9	0	2625	7137	5660	2295	7955		3.66	Si
SLV 3	fin.	860.6	4450	0.9	0	2625	7137	5660	2295	7955		1.79	Si
SLD 16	ini.	923.35	-3656	0.9	0	2625	7137	5660	2295	7955		2.18	Si
SLD 16	fin.	-475.32	-1971	0.9	0	2625	7137	5660	2295	7955		4.04	Si
SLD 1	ini.	-477.7	1820	0.9	0	2625	7137	5660	2295	7955		4.37	Si
SLD 1	fin.	730.08	3604	0.9	0	2625	7137	5660	2295	7955		2.21	Si
SLV 2	ini.	-658.38	2542	0.9	0	2625	7137	5660	2295	7955		3.13	Si
SLV 2	fin.	874.97	4284	0.9	0	2625	7137	5660	2295	7955		1.86	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.26	SLV 16	Si
V_SLV	1.524	SLV 16	Si
PF_SLU	5.314	SLU 77	Si
V_SLU	1.847	SLU 78	Si

Trave di accoppiamento 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.718	6.661	11.25	12.05	0.8	-16.818	6.661	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-102.34	-703	-0.0000648	0.0001872	0.0035	0.8		2345.32	1455.42	Si	14.22	Si
SLU 69	fin.	-176.87	-1410	-0.0001143	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.23	Si
SLU 74	ini.	-105.7	-730	-0.000067	0.0001872	0.0035	0.8		2345.32	1455.42	Si	13.77	Si
SLU 74	fin.	-182.59	-1467	-0.0001182	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.97	Si
SLU 83	ini.	-108.93	-746	-0.0000691	0.0001872	0.0035	0.8		2345.32	1455.42	Si	13.36	Si
SLU 83	fin.	-181.46	-1474	-0.0001174	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.02	Si
SLU 80	ini.	-117.97	-782	-0.000075	0.0001872	0.0035	0.8		2345.32	1455.42	Si	12.34	Si
SLU 80	fin.	-177.15	-1456	-0.0001145	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.22	Si
SLU 84	ini.	-112.84	-759	-0.0000716	0.0001872	0.0035	0.8		2345.32	1455.42	Si	12.9	Si
SLU 84	fin.	-177.77	-1453	-0.0001149	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.19	Si
SLU 79	ini.	-114.06	-768	-0.0000724	0.0001872	0.0035	0.8		2345.32	1455.42	Si	12.76	Si
SLU 79	fin.	-180.84	-1477	-0.000117	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.05	Si
SLU 75	ini.	-109.6	-743	-0.0000695	0.0001872	0.0035	0.8		2345.32	1455.42	Si	13.28	Si
SLU 75	fin.	-178.9	-1446	-0.0001157	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.14	Si
SLU 81	ini.	-97.45	-686	-0.0000616	0.0001872	0.0035	0.8		2345.32	1455.42	Si	14.94	Si
SLU 81	fin.	-178.25	-1426	-0.0001152	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.17	Si
SLU 77	ini.	-117.19	-790	-0.0000745	0.0001872	0.0035	0.8		2345.32	1455.42	Si	12.42	Si
SLU 77	fin.	-185.8	-1515	-0.0001204	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.83	Si
SLU 78	ini.	-121.09	-803	-0.0000771	0.0001872	0.0035	0.8		2345.32	1455.42	Si	12.02	Si
SLU 78	fin.	-182.11	-1494	-0.0001179	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-121.09	1634	0.8	0	1556	6344	3354	2040	2333	Si	1.43	Si
SLU 78	fin.	-182.11	-2897	0.8	0	1556	6344	3354	2040	2333	Si	0.81	No
SLU 75	ini.	-109.6	1538	0.8	0	1556	6344	3354	2040	2333	Si	1.52	Si
SLU 75	fin.	-178.9	-2796	0.8	0	1556	6344	3354	2040	2333	Si	0.83	No
SLU 80	ini.	-117.97	1601	0.8	0	1556	6344	3354	2040	2333	Si	1.46	Si
SLU 80	fin.	-177.15	-2836	0.8	0	1556	6344	3354	2040	2333	Si	0.82	No
SLU 79	ini.	-114.06	1583	0.8	0	1556	6344	3354	2040	2333	Si	1.47	Si
SLU 79	fin.	-180.84	-2868	0.8	0	1556	6344	3354	2040	2333	Si	0.81	No
SLU 82	ini.	-101.35	1493	0.8	0	1556	6344	3354	2040	2333	Si	1.56	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	fin.	-174.56	-2738	0.8	0	1556	6344	3354	2040	2333	Si	0.85	No
SLU 77	ini.	-117.19	1616	0.8	0	1556	6344	3354	2040	2333	Si	1.44	Si
SLU 77	fin.	-185.8	-2929	0.8	0	1556	6344	3354	2040	2333	Si	0.8	No
SLU 81	ini.	-97.45	1475	0.8	0	1556	6344	3354	2040	2333	Si	1.58	Si
SLU 81	fin.	-178.25	-2769	0.8	0	1556	6344	3354	2040	2333	Si	0.84	No
SLU 74	ini.	-105.7	1520	0.8	0	1556	6344	3354	2040	2333	Si	1.53	Si
SLU 74	fin.	-182.59	-2828	0.8	0	1556	6344	3354	2040	2333	Si	0.83	No
SLU 83	ini.	-108.93	1571	0.8	0	1556	6344	3354	2040	2333	Si	1.48	Si
SLU 83	fin.	-181.46	-2870	0.8	0	1556	6344	3354	2040	2333	Si	0.81	No
SLU 84	ini.	-112.84	1589	0.8	0	1556	6344	3354	2040	2333	Si	1.47	Si
SLU 84	fin.	-177.77	-2838	0.8	0	1556	6344	3354	2040	2333	Si	0.82	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-524.94	-2111	-0.0003641	0.0002807	0.0035	0.8		2369.14	2369.14		4.51	Si
SLV 3	fin.	256.71	941	-0.0001669	0.0002807	0.0035	0.8		2363.93	2363.93		9.21	Si
SLD 16	ini.	342.75	994	-0.0002272	0.0002807	0.0035	0.8		2363.93	2363.93		6.9	Si
SLD 16	fin.	-467.35	-2741	-0.000319	0.0002807	0.0035	0.8		2369.14	2369.14		5.07	Si
SLV 1	ini.	-686.7	-2657	-0.000499	0.0002807	0.0035	0.8		2369.14	2369.14		3.45	Si
SLV 1	fin.	411.89	1818	-0.0002777	0.0002807	0.0035	0.8		2363.93	2363.93		5.74	Si
SLV 15	ini.	429.57	1292	-0.0002909	0.0002807	0.0035	0.8		2363.93	2363.93		5.5	Si
SLV 15	fin.	-547.86	-3172	-0.0003824	0.0002807	0.0035	0.8		2369.14	2369.14		4.32	Si
SLV 11	ini.	307.51	821	-0.0002022	0.0002807	0.0035	0.8		2363.93	2363.93		7.69	Si
SLV 11	fin.	-466.16	-2852	-0.0003181	0.0002807	0.0035	0.8		2369.14	2369.14		5.08	Si
SLV 14	ini.	410.46	1262	-0.0002766	0.0002807	0.0035	0.8		2363.93	2363.93		5.76	Si
SLV 14	fin.	-508.1	-2880	-0.0003507	0.0002807	0.0035	0.8		2369.14	2369.14		4.66	Si
SLV 2	ini.	-544.05	-2140	-0.0003794	0.0002807	0.0035	0.8		2369.14	2369.14		4.35	Si
SLV 2	fin.	296.47	1233	-0.0001944	0.0002807	0.0035	0.8		2363.93	2363.93		7.97	Si
SLV 12	ini.	403.55	1169	-0.0002715	0.0002807	0.0035	0.8		2363.93	2363.93		5.86	Si
SLV 12	fin.	-543.87	-3246	-0.0003792	0.0002807	0.0035	0.8		2369.14	2369.14		4.36	Si
SLV 16	ini.	572.22	1808	-0.0004032	0.0002807	0.0035	0.8		2363.93	2363.93		4.13	Si
SLV 16	fin.	-663.28	-3757	-0.0004787	0.0002807	0.0035	0.8		2369.14	2369.14		3.57	Si
SLV 5	ini.	-518.04	-2018	-0.0003586	0.0002807	0.0035	0.8		2369.14	2369.14		4.57	Si
SLV 5	fin.	292.47	1307	-0.0001916	0.0002807	0.0035	0.8		2363.93	2363.93		8.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	572.22	-2438	0.8	0	2333	6344	5031	2040	7071		2.9	Si
SLV 16	fin.	-663.28	-5786	0.8	0	2333	6344	5031	2040	7071		1.22	Si
SLD 15	ini.	251.7	-729	0.8	0	2333	6344	5031	2040	7071		9.7	Si
SLD 15	fin.	-393.68	-3829	0.8	0	2333	6344	5031	2040	7071		1.85	Si
SLV 11	ini.	307.51	-840	0.8	0	2333	6344	5031	2040	7071		8.41	Si
SLV 11	fin.	-466.16	-4624	0.8	0	2333	6344	5031	2040	7071		1.53	Si
SLV 12	ini.	403.55	-1358	0.8	0	2333	6344	5031	2040	7071		5.21	Si
SLV 12	fin.	-543.87	-5172	0.8	0	2333	6344	5031	2040	7071		1.37	Si
SLV 14	ini.	410.46	-1701	0.8	0	2333	6344	5031	2040	7071		4.16	Si
SLV 14	fin.	-508.1	-4473	0.8	0	2333	6344	5031	2040	7071		1.58	Si
SLV 1	ini.	-686.7	4257	0.8	0	2333	6344	5031	2040	7071		1.66	Si
SLV 1	fin.	411.89	2090	0.8	0	2333	6344	5031	2040	7071		3.38	Si
SLD 12	ini.	231.38	-512	0.8	0	2333	6344	5031	2040	7071		13.8	Si
SLD 12	fin.	-387.29	-3924	0.8	0	2333	6344	5031	2040	7071		1.8	Si
SLV 15	ini.	429.57	-1670	0.8	0	2333	6344	5031	2040	7071		4.23	Si
SLV 15	fin.	-547.86	-4972	0.8	0	2333	6344	5031	2040	7071		1.42	Si
SLD 16	ini.	342.75	-1219	0.8	0	2333	6344	5031	2040	7071		5.8	Si
SLD 16	fin.	-467.35	-4348	0.8	0	2333	6344	5031	2040	7071		1.63	Si
SLV 13	ini.	267.81	-932	0.8	0	2333	6344	5031	2040	7071		7.59	Si
SLV 13	fin.	-392.68	-3659	0.8	0	2333	6344	5031	2040	7071		1.93	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.45	SLV 1	Si
V_SLV	1.222	SLV 16	Si
PF_SLU	7.833	SLU 77	Si
V_SLU	0.797	SLU 77	No

Trave di accoppiamento 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.838	6.661	8.55	9.45	0.9	-11.938	6.661	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-83.91	-994	-0.0000416	0.0001872	0.0035	0.9		2964.67	1717.92	Si	20.47	Si
SLU 81	fin.	467.47	-3424	-0.0002553	0.0001872	0.0035	0.9		2959	1717.92	Si	3.67	Si
SLU 83	ini.	-76.63	-1053	-0.000038	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.42	Si
SLU 83	fin.	474.07	-3480	-0.0002595	0.0001872	0.0035	0.9		2959	1717.92	Si	3.62	Si
SLU 79	ini.	-61.31	-1100	-0.0000303	0.0001872	0.0035	0.9		2964.67	1717.92	Si	28.02	Si
SLU 79	fin.	459.88	-3404	-0.0002506	0.0001872	0.0035	0.9		2959	1717.92	Si	3.74	Si
SLU 78	ini.	-63.33	-1124	-0.0000313	0.0001872	0.0035	0.9		2964.67	1717.92	Si	27.13	Si
SLU 78	fin.	470.5	-3484	-0.0002572	0.0001872	0.0035	0.9		2959	1717.92	Si	3.65	Si
SLU 75	ini.	-70.62	-1065	-0.0000349	0.0001872	0.0035	0.9		2964.67	1717.92	Si	24.33	Si
SLU 75	fin.	463.9	-3428	-0.0002531	0.0001872	0.0035	0.9		2959	1717.92	Si	3.7	Si
SLU 82	ini.	-86.72	-982	-0.0000431	0.0001872	0.0035	0.9		2964.67	1717.92	Si	19.81	Si
SLU 82	fin.	469.08	-3431	-0.0002563	0.0001872	0.0035	0.9		2959	1717.92	Si	3.66	Si
SLU 74	ini.	-67.81	-1077	-0.0000335	0.0001872	0.0035	0.9		2964.67	1717.92	Si	25.34	Si
SLU 74	fin.	462.29	-3421	-0.0002521	0.0001872	0.0035	0.9		2959	1717.92	Si	3.72	Si
SLU 77	ini.	-60.52	-1136	-0.0000299	0.0001872	0.0035	0.9		2964.67	1717.92	Si	28.39	Si
SLU 77	fin.	468.89	-3477	-0.0002562	0.0001872	0.0035	0.9		2959	1717.92	Si	3.66	Si
SLU 80	ini.	-64.12	-1089	-0.0000317	0.0001872	0.0035	0.9		2964.67	1717.92	Si	26.79	Si
SLU 80	fin.	461.49	-3411	-0.0002516	0.0001872	0.0035	0.9		2959	1717.92	Si	3.72	Si
SLU 84	ini.	-79.44	-1042	-0.0000394	0.0001872	0.0035	0.9		2964.67	1717.92	Si	21.63	Si
SLU 84	fin.	475.68	-3487	-0.0002605	0.0001872	0.0035	0.9		2959	1717.92	Si	3.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-83.91	-227	0.9	0	1750	7137	3773	2295	2625	Si	11.56	Si
SLU 81	fin.	467.47	4385	0.9	0	1750	7137	3773	2295	2625	Si	0.6	No
SLU 77	ini.	-60.52	-478	0.9	0	1750	7137	3773	2295	2625	Si	5.49	Si
SLU 77	fin.	468.89	4530	0.9	0	1750	7137	3773	2295	2625	Si	0.58	No
SLU 83	ini.	-76.63	-315	0.9	0	1750	7137	3773	2295	2625	Si	8.33	Si
SLU 83	fin.	474.07	4485	0.9	0	1750	7137	3773	2295	2625	Si	0.59	No
SLU 79	ini.	-61.31	-452	0.9	0	1750	7137	3773	2295	2625	Si	5.81	Si
SLU 79	fin.	459.88	4435	0.9	0	1750	7137	3773	2295	2625	Si	0.59	No
SLU 74	ini.	-67.81	-390	0.9	0	1750	7137	3773	2295	2625	Si	6.74	Si
SLU 74	fin.	462.29	4430	0.9	0	1750	7137	3773	2295	2625	Si	0.59	No
SLU 82	ini.	-86.72	-201	0.9	0	1750	7137	3773	2295	2625	Si	13.06	Si
SLU 82	fin.	469.08	4385	0.9	0	1750	7137	3773	2295	2625	Si	0.6	No
SLU 80	ini.	-64.12	-426	0.9	0	1750	7137	3773	2295	2625	Si	6.16	Si
SLU 80	fin.	461.49	4435	0.9	0	1750	7137	3773	2295	2625	Si	0.59	No
SLU 84	ini.	-79.44	-289	0.9	0	1750	7137	3773	2295	2625	Si	9.08	Si
SLU 84	fin.	475.68	4485	0.9	0	1750	7137	3773	2295	2625	Si	0.59	No
SLU 78	ini.	-63.33	-452	0.9	0	1750	7137	3773	2295	2625	Si	5.81	Si
SLU 78	fin.	470.5	4530	0.9	0	1750	7137	3773	2295	2625	Si	0.58	No
SLU 75	ini.	-70.62	-364	0.9	0	1750	7137	3773	2295	2625	Si	7.22	Si
SLU 75	fin.	463.9	4430	0.9	0	1750	7137	3773	2295	2625	Si	0.59	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-832.91	2742	-0.0004748	0.0002807	0.0035	0.9		2995.37	2995.37		3.6	Si
SLV 2	fin.	927.46	-5367	-0.0005415	0.0002807	0.0035	0.9		2989.59	2989.59		3.22	Si
SLV 14	ini.	802	-4430	-0.000455	0.0002807	0.0035	0.9		2989.59	2989.59		3.73	Si
SLV 14	fin.	-402.08	1221	-0.0002091	0.0002807	0.0035	0.9		2995.37	2995.37		7.45	Si
SLD 1	ini.	-666.89	2003	-0.0003661	0.0002807	0.0035	0.9		2995.37	2995.37		4.49	Si
SLD 1	fin.	799.82	-4711	-0.0004535	0.0002807	0.0035	0.9		2989.59	2989.59		3.74	Si
SLD 3	ini.	-589.73	1669	-0.0003183	0.0002807	0.0035	0.9		2995.37	2995.37		5.08	Si
SLD 3	fin.	758.01	-4523	-0.0004257	0.0002807	0.0035	0.9		2989.59	2989.59		3.94	Si
SLV 3	ini.	-894.6	3001	-0.0005173	0.0002807	0.0035	0.9		2995.37	2995.37		3.35	Si
SLV 3	fin.	1012.88	-5782	-0.0006029	0.0002807	0.0035	0.9		2989.59	2989.59		2.95	Si
SLD 2	ini.	-548.1	1493	-0.0002932	0.0002807	0.0035	0.9		2995.37	2995.37		5.47	Si
SLD 2	fin.	702.56	-4252	-0.0003896	0.0002807	0.0035	0.9		2989.59	2989.59		4.26	Si
SLV 15	ini.	740.31	-4171	-0.0004141	0.0002807	0.0035	0.9		2989.59	2989.59		4.04	Si
SLV 15	fin.	-316.65	806	-0.0001622	0.0002807	0.0035	0.9		2995.37	2995.37		9.46	Si
SLV 4	ini.	-708.48	2202	-0.0003926	0.0002807	0.0035	0.9		2995.37	2995.37		4.23	Si
SLV 4	fin.	860.5	-5062	-0.0004948	0.0002807	0.0035	0.9		2989.59	2989.59		3.47	Si
SLV 1	ini.	-1019.03	3540	-0.0006061	0.0002807	0.0035	0.9		2995.37	2995.37		2.94	Si
SLV 1	fin.	1079.84	-6087	-0.0006526	0.0002807	0.0035	0.9		2989.59	2989.59		2.77	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	926.43	-4969	-0.0005408	0.0002807	0.0035	0.9		2989.59	2989.59		3.23	Si
SLV 16	fin.	-469.03	1526	-0.000247	0.0002807	0.0035	0.9		2995.37	2995.37		6.39	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	926.43	-6521	0.9	0	2625	7137	5660	2295	7955		1.22	Si
SLV 16	fin.	-469.03	-2530	0.9	0	2625	7137	5660	2295	7955		3.14	Si
SLV 14	ini.	802	-5452	0.9	0	2625	7137	5660	2295	7955		1.46	Si
SLV 14	fin.	-402.08	-2554	0.9	0	2625	7137	5660	2295	7955		3.11	Si
SLV 2	ini.	-832.91	4833	0.9	0	2625	7137	5660	2295	7955		1.65	Si
SLV 2	fin.	927.46	7339	0.9	0	2625	7137	5660	2295	7955		1.08	Si
SLD 2	ini.	-548.1	2982	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLD 2	fin.	702.56	5765	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLD 3	ini.	-589.73	3050	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLD 3	fin.	758.01	6490	0.9	0	2625	7137	5660	2295	7955		1.23	Si
SLV 4	ini.	-708.48	3764	0.9	0	2625	7137	5660	2295	7955		2.11	Si
SLV 4	fin.	860.5	7364	0.9	0	2625	7137	5660	2295	7955		1.08	Si
SLD 4	ini.	-470.93	2319	0.9	0	2625	7137	5660	2295	7955		3.43	Si
SLD 4	fin.	660.75	5775	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLD 1	ini.	-666.89	3714	0.9	0	2625	7137	5660	2295	7955		2.14	Si
SLD 1	fin.	799.82	6479	0.9	0	2625	7137	5660	2295	7955		1.23	Si
SLV 3	ini.	-894.6	4910	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLV 3	fin.	1012.88	8483	0.9	0	2625	7137	5660	2295	7955		0.94	No
SLV 1	ini.	-1019.03	5979	0.9	0	2625	7137	5660	2295	7955		1.33	Si
SLV 1	fin.	1079.84	8458	0.9	0	2625	7137	5660	2295	7955		0.94	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.769	SLV 1	Si
V_SLV	0.938	SLV 3	No
PF_SLU	3.611	SLU 84	Si
V_SLU	0.579	SLU 78	No

Trave di accoppiamento 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.838	6.661	11.25	12.05	0.8	-11.938	6.661	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-451.99	-2577	-0.0003212	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.22	Si
SLU 74	fin.	107.73	-142	-0.0000685	0.0001872	0.0035	0.8		2340.32	1455.42	Si	13.51	Si
SLU 84	ini.	-463.42	-2637	-0.0003307	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.14	Si
SLU 84	fin.	118.56	-101	-0.0000756	0.0001872	0.0035	0.8		2340.32	1455.42	Si	12.28	Si
SLU 83	ini.	-461.97	-2632	-0.0003295	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.15	Si
SLU 83	fin.	116.35	-113	-0.0000741	0.0001872	0.0035	0.8		2340.32	1455.42	Si	12.51	Si
SLU 78	ini.	-462.33	-2647	-0.0003298	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.15	Si
SLU 78	fin.	105.69	-179	-0.0000671	0.0001872	0.0035	0.8		2340.32	1455.42	Si	13.77	Si
SLU 79	ini.	-450.93	-2583	-0.0000673	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.23	Si
SLU 79	fin.	103.69	-169	-0.0000658	0.0001872	0.0035	0.8		2340.32	1455.42	Si	14.04	Si
SLU 80	ini.	-452.39	-2588	-0.0003215	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.22	Si
SLU 80	fin.	105.89	-157	-0.0000673	0.0001872	0.0035	0.8		2340.32	1455.42	Si	13.74	Si
SLU 77	ini.	-460.88	-2642	-0.0003286	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.16	Si
SLU 77	fin.	103.49	-191	-0.0000657	0.0001872	0.0035	0.8		2340.32	1455.42	Si	14.06	Si
SLU 81	ini.	-453.08	-2568	-0.0003221	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.21	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	fin.	120.59	-64	-0.0000769	0.0001872	0.0035	0.8		2340.32	1455.42	Si	12.07	Si
SLU 82	ini.	-454.53	-2573	-0.0003233	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.2	Si
SLU 82	fin.	122.8	-52	-0.0000783	0.0001872	0.0035	0.8		2340.32	1455.42	Si	11.85	Si
SLU 75	ini.	-453.44	-2583	-0.0003224	0.0001872	0.0035	0.8		2345.32	1455.42	Si	3.21	Si
SLU 75	fin.	109.93	-130	-0.0000699	0.0001872	0.0035	0.8		2340.32	1455.42	Si	13.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-454.53	4053	0.8	0	1556	6344	3354	2040	2333	Si	0.58	No
SLU 82	fin.	122.8	-873	0.8	0	1556	6344	3354	2040	2333	Si	2.67	Si
SLU 81	ini.	-453.08	4047	0.8	0	1556	6344	3354	2040	2333	Si	0.58	No
SLU 81	fin.	120.59	-891	0.8	0	1556	6344	3354	2040	2333	Si	2.62	Si
SLU 75	ini.	-453.44	4059	0.8	0	1556	6344	3354	2040	2333	Si	0.57	No
SLU 75	fin.	109.93	-981	0.8	0	1556	6344	3354	2040	2333	Si	2.38	Si
SLU 84	ini.	-463.42	4159	0.8	0	1556	6344	3354	2040	2333	Si	0.56	No
SLU 84	fin.	118.56	-969	0.8	0	1556	6344	3354	2040	2333	Si	2.41	Si
SLU 83	ini.	-461.97	4152	0.8	0	1556	6344	3354	2040	2333	Si	0.56	No
SLU 83	fin.	116.35	-986	0.8	0	1556	6344	3354	2040	2333	Si	2.37	Si
SLU 74	ini.	-451.99	4053	0.8	0	1556	6344	3354	2040	2333	Si	0.58	No
SLU 74	fin.	107.73	-998	0.8	0	1556	6344	3354	2040	2333	Si	2.34	Si
SLU 80	ini.	-452.39	4078	0.8	0	1556	6344	3354	2040	2333	Si	0.57	No
SLU 80	fin.	105.89	-1032	0.8	0	1556	6344	3354	2040	2333	Si	2.26	Si
SLU 79	ini.	-450.93	4072	0.8	0	1556	6344	3354	2040	2333	Si	0.57	No
SLU 79	fin.	103.69	-1049	0.8	0	1556	6344	3354	2040	2333	Si	2.22	Si
SLU 77	ini.	-460.88	4158	0.8	0	1556	6344	3354	2040	2333	Si	0.56	No
SLU 77	fin.	103.49	-1094	0.8	0	1556	6344	3354	2040	2333	Si	2.13	Si
SLU 78	ini.	-462.33	4165	0.8	0	1556	6344	3354	2040	2333	Si	0.56	No
SLU 78	fin.	105.69	-1076	0.8	0	1556	6344	3354	2040	2333	Si	2.17	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	-618.73	-3156	-0.0004408	0.0002807	0.0035	0.8		2369.14	2369.14		3.83	Si
SLD 4	fin.	373.83	1589	-0.0002496	0.0002807	0.0035	0.8		2363.93	2363.93		6.32	Si
SLV 16	ini.	424.87	1593	-0.0002874	0.0002807	0.0035	0.8		2363.93	2363.93		5.56	Si
SLV 16	fin.	-635.04	-3940	-0.0004546	0.0002807	0.0035	0.8		2369.14	2369.14		3.73	Si
SLV 1	ini.	-1016.65	-4939	-0.0008111	0.0002807	0.0035	0.8		2369.14	2369.14		2.33	Si
SLV 1	fin.	781.03	3828	-0.0005846	0.0002807	0.0035	0.8		2363.93	2363.93		3.03	Si
SLV 4	ini.	-800.48	-3992	-0.000601	0.0002807	0.0035	0.8		2369.14	2369.14		2.96	Si
SLV 4	fin.	542.39	2511	-0.0003789	0.0002807	0.0035	0.8		2363.93	2363.93		4.36	Si
SLV 3	ini.	-947.95	-4670	-0.000742	0.0002807	0.0035	0.8		2369.14	2369.14		2.5	Si
SLV 3	fin.	681.58	3287	-0.0004958	0.0002807	0.0035	0.8		2363.93	2363.93		3.47	Si
SLD 1	ini.	-755.52	-3756	-0.00056	0.0002807	0.0035	0.8		2369.14	2369.14		3.14	Si
SLD 1	fin.	524.32	2420	-0.0003644	0.0002807	0.0035	0.8		2363.93	2363.93		4.51	Si
SLV 2	ini.	-869.18	-4261	-0.0006654	0.0002807	0.0035	0.8		2369.14	2369.14		2.73	Si
SLV 2	fin.	641.83	3052	-0.0004615	0.0002807	0.0035	0.8		2363.93	2363.93		3.68	Si
SLD 2	ini.	-661.39	-3323	-0.0004771	0.0002807	0.0035	0.8		2369.14	2369.14		3.58	Si
SLD 2	fin.	435.47	1925	-0.0002954	0.0002807	0.0035	0.8		2363.93	2363.93		5.43	Si
SLD 3	ini.	-712.86	-3589	-0.0005219	0.0002807	0.0035	0.8		2369.14	2369.14		3.32	Si
SLD 3	fin.	462.68	2084	-0.0003161	0.0002807	0.0035	0.8		2363.93	2363.93		5.11	Si
SLV 5	ini.	-643.83	-3187	-0.0004621	0.0002807	0.0035	0.8		2369.14	2369.14		3.68	Si
SLV 5	fin.	462.2	2075	-0.0003158	0.0002807	0.0035	0.8		2363.93	2363.93		5.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-1016.65	7247	0.8	0	2333	6344	5031	2040	7071		0.98	No
SLV 1	fin.	781.03	4721	0.8	0	2333	6344	5031	2040	7071		1.5	Si
SLD 3	ini.	-712.86	5355	0.8	0	2333	6344	5031	2040	7071		1.32	Si
SLD 3	fin.	462.68	2325	0.8	0	2333	6344	5031	2040	7071		3.04	Si
SLV 4	ini.	-800.48	5952	0.8	0	2333	6344	5031	2040	7071		1.19	Si
SLV 4	fin.	542.39	2898	0.8	0	2333	6344	5031	2040	7071		2.44	Si
SLV 3	ini.	-947.95	6895	0.8	0	2333	6344	5031	2040	7071		1.03	Si
SLV 3	fin.	681.58	3959	0.8	0	2333	6344	5031	2040	7071		1.79	Si
SLV 14	ini.	356.17	-1651	0.8	0	2333	6344	5031	2040	7071		4.28	Si
SLV 14	fin.	-535.6	-5122	0.8	0	2333	6344	5031	2040	7071		1.38	Si
SLV 2	ini.	-869.18	6304	0.8	0	2333	6344	5031	2040	7071		1.12	Si
SLV 2	fin.	641.83	3660	0.8	0	2333	6344	5031	2040	7071		1.93	Si
SLD 1	ini.	-755.52	5573	0.8	0	2333	6344	5031	2040	7071		1.27	Si
SLD 1	fin.	524.32	2798	0.8	0	2333	6344	5031	2040	7071		2.53	Si
SLV 15	ini.	277.4	-1060	0.8	0	2333	6344	5031	2040	7071		6.67	Si
SLV 15	fin.	-495.84	-4822	0.8	0	2333	6344	5031	2040	7071		1.47	Si
SLV 16	ini.	424.87	-2003	0.8	0	2333	6344	5031	2040	7071		3.53	Si
SLV 16	fin.	-635.04	-5884	0.8	0	2333	6344	5031	2040	7071		1.2	Si
SLD 2	ini.	-661.39	4971	0.8	0	2333	6344	5031	2040	7071		1.42	Si
SLD 2	fin.	435.47	2120	0.8	0	2333	6344	5031	2040	7071		3.33	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	2.33	SLV 1	Si
V SLV	0.976	SLV 1	No
PF SLU	3.141	SLU 84	Si
V SLU	0.56	SLU 78	No



Trave di accoppiamento 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.958	6.661	8.55	9.45	0.9	-7.058	6.661	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	102.15	-1479	-0.000051	0.0001872	0.0035	0.9		2959	1717.92	Si	16.82	Si
SLU 77	fin.	285.78	-2215	-0.0001485	0.0001872	0.0035	0.9		2959	1717.92	Si	6.01	Si
SLU 74	ini.	95.87	-1437	-0.0000478	0.0001872	0.0035	0.9		2959	1717.92	Si	17.92	Si
SLU 74	fin.	284.14	-2169	-0.0001476	0.0001872	0.0035	0.9		2959	1717.92	Si	6.05	Si
SLU 83	ini.	99.58	-1463	-0.0000497	0.0001872	0.0035	0.9		2959	1717.92	Si	17.25	Si
SLU 83	fin.	281.73	-2193	-0.0001463	0.0001872	0.0035	0.9		2959	1717.92	Si	6.1	Si
SLU 69	ini.	79.87	-1321	-0.0000397	0.0001872	0.0035	0.9		2959	1717.92	Si	21.51	Si
SLU 69	fin.	278.5	-2055	-0.0001445	0.0001872	0.0035	0.9		2959	1717.92	Si	6.17	Si
SLU 75	ini.	104.06	-1456	-0.0000519	0.0001872	0.0035	0.9		2959	1717.92	Si	16.51	Si
SLU 75	fin.	276.31	-2151	-0.0001433	0.0001872	0.0035	0.9		2959	1717.92	Si	6.22	Si
SLU 66	ini.	73.58	-1279	-0.0000365	0.0001872	0.0035	0.9		2959	1717.92	Si	23.35	Si
SLU 66	fin.	276.86	-2009	-0.0001436	0.0001872	0.0035	0.9		2959	1717.92	Si	6.21	Si
SLU 78	ini.	110.35	-1499	-0.0000551	0.0001872	0.0035	0.9		2959	1717.92	Si	15.57	Si
SLU 78	fin.	277.96	-2197	-0.0001442	0.0001872	0.0035	0.9		2959	1717.92	Si	6.18	Si
SLU 79	ini.	96.32	-1438	-0.000048	0.0001872	0.0035	0.9		2959	1717.92	Si	17.84	Si
SLU 79	fin.	280.25	-2170	-0.0001455	0.0001872	0.0035	0.9		2959	1717.92	Si	6.13	Si
SLU 81	ini.	93.3	-1421	-0.0000465	0.0001872	0.0035	0.9		2959	1717.92	Si	18.41	Si
SLU 81	fin.	280.09	-2147	-0.0001454	0.0001872	0.0035	0.9		2959	1717.92	Si	6.13	Si
SLU 84	ini.	107.78	-1483	-0.0000538	0.0001872	0.0035	0.9		2959	1717.92	Si	15.94	Si
SLU 84	fin.	273.9	-2175	-0.0001419	0.0001872	0.0035	0.9		2959	1717.92	Si	6.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 75	ini.	104.06	-598	0.9	0	1750	7137	3773	2295	2625	Si	4.39	Si
SLU 75	fin.	276.31	1519	0.9	0	1750	7137	3773	2295	2625	Si	1.73	Si
SLU 83	ini.	99.58	-559	0.9	0	1750	7137	3773	2295	2625	Si	4.69	Si
SLU 83	fin.	281.73	1535	0.9	0	1750	7137	3773	2295	2625	Si	1.71	Si
SLU 74	ini.	95.87	-565	0.9	0	1750	7137	3773	2295	2625	Si	4.65	Si
SLU 74	fin.	284.14	1558	0.9	0	1750	7137	3773	2295	2625	Si	1.68	Si
SLU 70	ini.	88.06	-549	0.9	0	1750	7137	3773	2295	2625	Si	4.78	Si
SLU 70	fin.	270.67	1505	0.9	0	1750	7137	3773	2295	2625	Si	1.74	Si
SLU 81	ini.	93.3	-524	0.9	0	1750	7137	3773	2295	2625	Si	5.01	Si
SLU 81	fin.	280.09	1512	0.9	0	1750	7137	3773	2295	2625	Si	1.74	Si
SLU 69	ini.	79.87	-516	0.9	0	1750	7137	3773	2295	2625	Si	5.08	Si
SLU 69	fin.	278.5	1544	0.9	0	1750	7137	3773	2295	2625	Si	1.7	Si
SLU 66	ini.	73.58	-481	0.9	0	1750	7137	3773	2295	2625	Si	5.46	Si
SLU 66	fin.	276.86	1521	0.9	0	1750	7137	3773	2295	2625	Si	1.73	Si
SLU 77	ini.	102.15	-600	0.9	0	1750	7137	3773	2295	2625	Si	4.37	Si
SLU 77	fin.	285.78	1581	0.9	0	1750	7137	3773	2295	2625	Si	1.66	Si
SLU 78	ini.	110.35	-633	0.9	0	1750	7137	3773	2295	2625	Si	4.15	Si
SLU 78	fin.	277.96	1542	0.9	0	1750	7137	3773	2295	2625	Si	1.7	Si
SLU 79	ini.	96.32	-559	0.9	0	1750	7137	3773	2295	2625	Si	4.7	Si
SLU 79	fin.	280.25	1542	0.9	0	1750	7137	3773	2295	2625	Si	1.7	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-727.17	965	-0.0004046	0.0002807	0.0035	0.9		2995.37	2995.37		4.12	Si
SLD 3	fin.	930.67	-2835	-0.0005438	0.0002807	0.0035	0.9		2989.59	2989.59		3.21	Si
SLV 16	ini.	997.6	-3260	-0.0005918	0.0002807	0.0035	0.9		2989.59	2989.59		3	Si
SLV 16	fin.	-676.63	78	-0.0003722	0.0002807	0.0035	0.9		2995.37	2995.37		4.43	Si
SLV 2	ini.	-661.35	826	-0.0003626	0.0002807	0.0035	0.9		2995.37	2995.37		4.53	Si
SLV 2	fin.	867.34	-2632	-0.0004995	0.0002807	0.0035	0.9		2989.59	2989.59		3.45	Si
SLV 10	ini.	866.95	-2847	-0.0004992	0.0002807	0.0035	0.9		2989.59	2989.59		3.45	Si
SLV 10	fin.	-576.05	187	-0.00031	0.0002807	0.0035	0.9		2995.37	2995.37		5.2	Si
SLV 13	ini.	1027.84	-3273	-0.0006139	0.0002807	0.0035	0.9		2989.59	2989.59		2.91	Si
SLV 13	fin.	-721.73	326	-0.0004011	0.0002807	0.0035	0.9		2995.37	2995.37		4.15	Si
SLV 3	ini.	-1169.48	2040	-0.0007193	0.0002807	0.0035	0.9		2995.37	2995.37		2.56	Si
SLV 3	fin.	1345.37	-3615	-0.0008622	0.0002807	0.0035	0.9		2989.59	2989.59		2.22	Si
SLV 1	ini.	-900.29	1426	-0.0005212	0.0002807	0.0035	0.9		2995.37	2995.37		3.33	Si
SLV 1	fin.	1083.81	-3000	-0.0006556	0.0002807	0.0035	0.9		2989.59	2989.59		2.76	Si
SLV 4	ini.	-930.54	1440	-0.0005425	0.0002807	0.0035	0.9		2995.37	2995.37		3.22	Si
SLV 4	fin.	1128.9	-3248	-0.0006897	0.0002807	0.0035	0.9		2989.59	2989.59		2.65	Si
SLV 14	ini.	1266.78	-3874	-0.000798	0.0002807	0.0035	0.9		2989.59	2989.59		2.36	Si
SLV 14	fin.	-938.19	693	-0.0005479	0.0002807	0.0035	0.9		2995.37	2995.37		3.19	Si
SLV 7	ini.	-769.65	1014	-0.0004324	0.0002807	0.0035	0.9		2995.37	2995.37		3.89	Si
SLV 7	fin.	983.22	-3109	-0.0005814	0.0002807	0.0035	0.9		2989.59	2989.59		3.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	-900.29	4091	0.9	0	2625	7137	5660	2295	7955		1.94	Si
SLV 1	fin.	1083.81	4777	0.9	0	2625	7137	5660	2295	7955		1.67	Si
SLV 14	ini.	1266.78	-5771	0.9	0	2625	7137	5660	2295	7955		1.38	Si
SLV 14	fin.	-938.19	-3915	0.9	0	2625	7137	5660	2295	7955		2.03	Si
SLV 4	ini.	-930.54	4101	0.9	0	2625	7137	5660	2295	7955		1.94	Si
SLV 4	fin.	1128.9	5174	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLV 7	ini.	-769.65	3137	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 7	fin.	983.22	4798	0.9	0	2625	7137	5660	2295	7955		1.66	Si
SLV 13	ini.	1027.84	-4719	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLV 13	fin.	-721.73	-2979	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 8	ini.	-608.78	2429	0.9	0	2625	7137	5660	2295	7955		3.27	Si
SLV 8	fin.	837.48	4168	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 16	ini.	997.6	-4709	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLV 16	fin.	-676.63	-2582	0.9	0	2625	7137	5660	2295	7955		3.08	Si
SLV 2	ini.	-661.35	3039	0.9	0	2625	7137	5660	2295	7955		2.62	Si
SLV 2	fin.	867.34	3841	0.9	0	2625	7137	5660	2295	7955		2.07	Si
SLV 3	ini.	-1169.48	5153	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLV 3	fin.	1345.37	6110	0.9	0	2625	7137	5660	2295	7955		1.3	Si
SLD 3	ini.	-727.17	3168	0.9	0	2625	7137	5660	2295	7955		2.51	Si
SLD 3	fin.	930.67	4289	0.9	0	2625	7137	5660	2295	7955		1.85	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.222	SLV 3	Si
V_SLV	1.302	SLV 3	Si
PF_SLU	6.011	SLU 77	Si
V_SLU	1.66	SLU 77	Si

Trave di accoppiamento 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.958	6.661	11.25	12.05	0.8	-7.058	6.661	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedlio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-319.53	-1300	-0.0002162	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.55	Si
SLU 80	fin.	-96.02	-812	-0.0000607	0.0001872	0.0035	0.8		2345.32	1455.42	Si	15.16	Si
SLU 82	ini.	-327.81	-1303	-0.0002225	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.44	Si
SLU 82	fin.	-87.62	-790	-0.0000553	0.0001872	0.0035	0.8		2345.32	1455.42	Si	16.61	Si
SLU 75	ini.	-328.69	-1321	-0.0002231	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.43	Si
SLU 75	fin.	-89.96	-806	-0.0000568	0.0001872	0.0035	0.8		2345.32	1455.42	Si	16.18	Si
SLU 81	ini.	-334.29	-1321	-0.0002274	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.35	Si
SLU 81	fin.	-79.9	-774	-0.0000503	0.0001872	0.0035	0.8		2345.32	1455.42	Si	18.22	Si
SLU 84	ini.	-328.09	-1322	-0.0002227	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.44	Si
SLU 84	fin.	-97.73	-826	-0.0000618	0.0001872	0.0035	0.8		2345.32	1455.42	Si	14.89	Si
SLU 77	ini.	-335.45	-1358	-0.0002283	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.34	Si
SLU 77	fin.	-92.35	-827	-0.0000583	0.0001872	0.0035	0.8		2345.32	1455.42	Si	15.76	Si
SLU 83	ini.	-334.57	-1340	-0.0002276	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.35	Si
SLU 83	fin.	-90.01	-811	-0.0000568	0.0001872	0.0035	0.8		2345.32	1455.42	Si	16.17	Si
SLU 74	ini.	-335.17	-1339	-0.0002281	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.34	Si
SLU 74	fin.	-82.24	-791	-0.0000518	0.0001872	0.0035	0.8		2345.32	1455.42	Si	17.7	Si
SLU 78	ini.	-328.97	-1340	-0.0002233	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.42	Si
SLU 78	fin.	-100.07	-843	-0.0000633	0.0001872	0.0035	0.8		2345.32	1455.42	Si	14.54	Si
SLU 79	ini.	-326.01	-1318	-0.0002211	0.0001872	0.0035	0.8		2345.32	1455.42	Si	4.46	Si
SLU 79	fin.	-88.3	-796	-0.0000557	0.0001872	0.0035	0.8		2345.32	1455.42	Si	16.48	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-319.53	2051	0.8	0	1556	6344	3354	2040	2333	Si	1.14	Si
SLU 80	fin.	-96.02	-1043	0.8	0	1556	6344	3354	2040	2333	Si	2.24	Si
SLU 79	ini.	-326.01	2083	0.8	0	1556	6344	3354	2040	2333	Si	1.12	Si
SLU 79	fin.	-88.3	-1013	0.8	0	1556	6344	3354	2040	2333	Si	2.3	Si
SLU 84	ini.	-328.09	2125	0.8	0	1556	6344	3354	2040	2333	Si	1.1	Si
SLU 84	fin.	-97.73	-1096	0.8	0	1556	6344	3354	2040	2333	Si	2.13	Si
SLU 83	ini.	-334.57	2157	0.8	0	1556	6344	3354	2040	2333	Si	1.08	Si
SLU 83	fin.	-90.01	-1066	0.8	0	1556	6344	3354	2040	2333	Si	2.19	Si
SLU 82	ini.	-327.81	2126	0.8	0	1556	6344	3354	2040	2333	Si	1.1	Si
SLU 82	fin.	-87.62	-1067	0.8	0	1556	6344	3354	2040	2333	Si	2.19	Si
SLU 78	ini.	-328.97	2110	0.8	0	1556	6344	3354	2040	2333	Si	1.11	Si
SLU 78	fin.	-100.07	-1078	0.8	0	1556	6344	3354	2040	2333	Si	2.16	Si
SLU 75	ini.	-328.69	2111	0.8	0	1556	6344	3354	2040	2333	Si	1.11	Si
SLU 75	fin.	-89.96	-1049	0.8	0	1556	6344	3354	2040	2333	Si	2.22	Si
SLU 74	ini.	-335.17	2143	0.8	0	1556	6344	3354	2040	2333	Si	1.09	Si
SLU 74	fin.	-82.24	-1020	0.8	0	1556	6344	3354	2040	2333	Si	2.29	Si
SLU 81	ini.	-334.29	2158	0.8	0	1556	6344	3354	2040	2333	Si	1.08	Si
SLU 81	fin.	-79.9	-1037	0.8	0	1556	6344	3354	2040	2333	Si	2.25	Si
SLU 77	ini.	-335.45	2142	0.8	0	1556	6344	3354	2040	2333	Si	1.09	Si
SLU 77	fin.	-92.35	-1049	0.8	0	1556	6344	3354	2040	2333	Si	2.23	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-769.38	-2378	-0.0005725	0.0002807	0.0035	0.8		2369.14	2369.14		3.08	Si
SLD 3	fin.	622.75	858	-0.0004453	0.0002807	0.0035	0.8		2363.93	2363.93		3.8	Si
SLV 13	ini.	447.56	978	-0.0003046	0.0002807	0.0035	0.8		2363.93	2363.93		5.28	Si
SLV 13	fin.	-853.83	-2107	-0.0006508	0.0002807	0.0035	0.8		2369.14	2369.14		2.77	Si
SLV 16	ini.	390.68	800	-0.000262	0.0002807	0.0035	0.8		2363.93	2363.93		6.05	Si
SLV 16	fin.	-802.77	-2031	-0.0006031	0.0002807	0.0035	0.8		2369.14	2369.14		2.95	Si
SLV 8	ini.	-744.9	-2335	-0.0005505	0.0002807	0.0035	0.8		2369.14	2369.14		3.18	Si
SLV 8	fin.	571.13	726	-0.0004023	0.0002807	0.0035	0.8		2363.93	2363.93		4.14	Si
SLV 4	ini.	-909.08	-2771	-0.0007038	0.0002807	0.0035	0.8		2369.14	2369.14		2.61	Si
SLV 4	fin.	787.75	1181	-0.0005908	0.0002807	0.0035	0.8		2363.93	2363.93		3	Si
SLV 7	ini.	-858.49	-2641	-0.0006553	0.0002807	0.0035	0.8		2369.14	2369.14		2.76	Si
SLV 7	fin.	713.13	1019	-0.0005235	0.0002807	0.0035	0.8		2363.93	2363.93		3.31	Si
SLV 10	ini.	396.97	848	-0.0002666	0.0002807	0.0035	0.8		2363.93	2363.93		5.95	Si
SLV 10	fin.	-779.2	-1945	-0.0005815	0.0002807	0.0035	0.8		2369.14	2369.14		3.04	Si
SLV 3	ini.	-1077.78	-3226	-0.0008746	0.0002807	0.0035	0.8		2369.14	2369.14		2.2	Si
SLV 3	fin.	998.65	1616	-0.0007949	0.0002807	0.0035	0.8		2363.93	2363.93		2.37	Si
SLV 1	ini.	-852.2	-2593	-0.0006493	0.0002807	0.0035	0.8		2369.14	2369.14		2.78	Si
SLV 1	fin.	736.7	1104	-0.0005445	0.0002807	0.0035	0.8		2363.93	2363.93		3.21	Si
SLV 14	ini.	616.26	1433	-0.0004398	0.0002807	0.0035	0.8		2363.93	2363.93		3.84	Si
SLV 14	fin.	-1064.73	-2543	-0.0008609	0.0002807	0.0035	0.8		2369.14	2369.14		2.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 3	ini.	-769.38	4010	0.8	0	2333	6344	5031	2040	7071		1.76	Si
SLD 3	fin.	622.75	1987	0.8	0	2333	6344	5031	2040	7071		3.56	Si
SLV 2	ini.	-683.49	3536	0.8	0	2333	6344	5031	2040	7071		2	Si
SLV 2	fin.	525.8	1649	0.8	0	2333	6344	5031	2040	7071		4.29	Si
SLV 16	ini.	390.68	-1440	0.8	0	2333	6344	5031	2040	7071		4.91	Si
SLV 16	fin.	-802.77	-3665	0.8	0	2333	6344	5031	2040	7071		1.93	Si
SLV 14	ini.	616.26	-2562	0.8	0	2333	6344	5031	2040	7071		2.76	Si
SLV 14	fin.	-1064.73	-4656	0.8	0	2333	6344	5031	2040	7071		1.52	Si
SLV 4	ini.	-909.08	4659	0.8	0	2333	6344	5031	2040	7071		1.52	Si
SLV 4	fin.	787.75	2641	0.8	0	2333	6344	5031	2040	7071		2.68	Si
SLV 8	ini.	-744.9	3967	0.8	0	2333	6344	5031	2040	7071		1.78	Si
SLV 8	fin.	571.13	1726	0.8	0	2333	6344	5031	2040	7071		4.1	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1077.78	5474	0.8	0	2333	6344	5031	2040	7071		1.29	Si
SLV 3	fin.	998.65	3466	0.8	0	2333	6344	5031	2040	7071		2.04	Si
SLV 13	ini.	447.56	-1747	0.8	0	2333	6344	5031	2040	7071		4.05	Si
SLV 13	fin.	-853.83	-3831	0.8	0	2333	6344	5031	2040	7071		1.85	Si
SLV 7	ini.	-858.49	4516	0.8	0	2333	6344	5031	2040	7071		1.57	Si
SLV 7	fin.	713.13	2281	0.8	0	2333	6344	5031	2040	7071		3.1	Si
SLV 1	ini.	-852.2	4351	0.8	0	2333	6344	5031	2040	7071		1.62	Si
SLV 1	fin.	736.7	2475	0.8	0	2333	6344	5031	2040	7071		2.86	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.198	SLV 3	Si
V_SLV	1.292	SLV 3	Si
PF_SLU	4.339	SLU 77	Si
V_SLU	1.081	SLU 81	Si

Trave di accoppiamento 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.548	-3.359	10.65	12.05	1.4	-9.448	-3.359	10.65	12.05	1.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	694.95	-1405	-0.0001489	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.36	Si
SLU 78	fin.	-1260.82	-2898	-0.000288	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.4	Si
SLU 79	ini.	666.28	-1363	-0.0001424	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.55	Si
SLU 79	fin.	-1221.42	-2812	-0.0002776	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.48	Si
SLU 75	ini.	680.15	-1351	-0.0001455	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.46	Si
SLU 75	fin.	-1239.31	-2813	-0.0002823	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.45	Si
SLU 76	ini.	676.05	-1323	-0.0001446	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.48	Si
SLU 76	fin.	-1231.25	-2773	-0.0002802	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.46	Si
SLU 77	ini.	680.2	-1396	-0.0001456	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.46	Si
SLU 77	fin.	-1242.02	-2870	-0.000283	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.44	Si
SLU 74	ini.	665.4	-1342	-0.0001422	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.55	Si
SLU 74	fin.	-1220.5	-2786	-0.0002774	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.48	Si
SLU 84	ini.	668.45	-1331	-0.0001429	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.53	Si
SLU 84	fin.	-1229.44	-2791	-0.0002797	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.46	Si
SLU 69	ini.	675	-1365	-0.0001444	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.49	Si
SLU 69	fin.	-1216.98	-2785	-0.0002765	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.49	Si
SLU 80	ini.	681.03	-1371	-0.0001457	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.45	Si
SLU 80	fin.	-1240.23	-2840	-0.0002826	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.44	Si
SLU 70	ini.	689.75	-1373	-0.0001477	0.0001872	0.0035	1.4		7150.76	3030.42	Si	4.39	Si
SLU 70	fin.	-1235.78	-2813	-0.0002814	0.0001872	0.0035	1.4		7159.73	3030.42	Si	2.45	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	653.65	-2018	1.4	0	2722	7137	5869	3570	4083	Si	2.02	Si
SLU 82	fin.	-1207.93	-4363	1.4	0	2722	7137	5869	3570	4083	Si	0.94	No
SLU 79	ini.	666.28	-2141	1.4	0	2722	7137	5869	3570	4083	Si	1.91	Si
SLU 79	fin.	-1221.42	-4329	1.4	0	2722	7137	5869	3570	4083	Si	0.94	No
SLU 77	ini.	680.2	-2199	1.4	0	2722	7137	5869	3570	4083	Si	1.86	Si
SLU 77	fin.	-1242.02	-4387	1.4	0	2722	7137	5869	3570	4083	Si	0.93	No
SLU 75	ini.	680.15	-2187	1.4	0	2722	7137	5869	3570	4083	Si	1.87	Si
SLU 75	fin.	-1239.31	-4375	1.4	0	2722	7137	5869	3570	4083	Si	0.93	No
SLU 74	ini.	665.4	-2134	1.4	0	2722	7137	5869	3570	4083	Si	1.91	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	fin.	-1220.5	-4322	1.4	0	2722	7137	5869	3570	4083	Si	0.94	No
SLU 76	ini.	676.05	-2164	1.4	0	2722	7137	5869	3570	4083	Si	1.89	Si
SLU 76	fin.	-1231.25	-4352	1.4	0	2722	7137	5869	3570	4083	Si	0.94	No
SLU 78	ini.	694.95	-2251	1.4	0	2722	7137	5869	3570	4083	Si	1.81	Si
SLU 78	fin.	-1260.82	-4439	1.4	0	2722	7137	5869	3570	4083	Si	0.92	No
SLU 80	ini.	681.03	-2193	1.4	0	2722	7137	5869	3570	4083	Si	1.86	Si
SLU 80	fin.	-1240.23	-4381	1.4	0	2722	7137	5869	3570	4083	Si	0.93	No
SLU 83	ini.	653.7	-2030	1.4	0	2722	7137	5869	3570	4083	Si	2.01	Si
SLU 83	fin.	-1210.64	-4375	1.4	0	2722	7137	5869	3570	4083	Si	0.93	No
SLU 84	ini.	668.45	-2082	1.4	0	2722	7137	5869	3570	4083	Si	1.96	Si
SLU 84	fin.	-1229.44	-4428	1.4	0	2722	7137	5869	3570	4083	Si	0.92	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2592.66	20	-0.0006444	0.0002807	0.0035	1.4		7137.1	7137.1		2.75	Si
SLV 4	fin.	-3031.58	-3819	-0.0007832	0.0002807	0.0035	1.4		7146.28	7146.28		2.36	Si
SLD 1	ini.	1781.95	-610	-0.0004104	0.0002807	0.0035	1.4		7137.1	7137.1		4.01	Si
SLD 1	fin.	-2257.11	-3357	-0.0005429	0.0002807	0.0035	1.4		7146.28	7146.28		3.17	Si
SLV 6	ini.	1805.77	-1355	-0.0004168	0.0002807	0.0035	1.4		7137.1	7137.1		3.95	Si
SLV 6	fin.	-2443.65	-4118	-0.0005981	0.0002807	0.0035	1.4		7146.28	7146.28		2.92	Si
SLV 5	ini.	1534.1	-1397	-0.0003453	0.0002807	0.0035	1.4		7137.1	7137.1		4.65	Si
SLV 5	fin.	-2147.59	-3799	-0.0005113	0.0002807	0.0035	1.4		7146.28	7146.28		3.33	Si
SLV 15	ini.	-2035.97	-1460	-0.0004796	0.0002807	0.0035	1.4		7146.28	7146.28		3.51	Si
SLV 15	fin.	1818.39	879	-0.0004202	0.0002807	0.0035	1.4		7137.1	7137.1		3.92	Si
SLV 2	ini.	2942.42	-381	-0.0007552	0.0002807	0.0035	1.4		7137.1	7137.1		2.43	Si
SLV 2	fin.	-3505.81	-4675	-0.0009455	0.0002807	0.0035	1.4		7146.28	7146.28		2.04	Si
SLV 1	ini.	2538.91	-444	-0.0006279	0.0002807	0.0035	1.4		7137.1	7137.1		2.81	Si
SLV 1	fin.	-3066.07	-4201	-0.0007946	0.0002807	0.0035	1.4		7146.28	7146.28		2.33	Si
SLD 2	ini.	2039.51	-569	-0.0004813	0.0002807	0.0035	1.4		7137.1	7137.1		3.5	Si
SLD 2	fin.	-2537.79	-3659	-0.0006266	0.0002807	0.0035	1.4		7146.28	7146.28		2.82	Si
SLV 3	ini.	2189.14	-44	-0.000524	0.0002807	0.0035	1.4		7137.1	7137.1		3.26	Si
SLV 3	fin.	-2591.84	-3345	-0.0006432	0.0002807	0.0035	1.4		7146.28	7146.28		2.76	Si
SLD 4	ini.	1825.37	-322	-0.0004221	0.0002807	0.0035	1.4		7137.1	7137.1		3.91	Si
SLD 4	fin.	-2247.01	-3133	-0.00054	0.0002807	0.0035	1.4		7146.28	7146.28		3.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	2592.66	-8455	1.4	0	4083	7137	8804	3570	11220		1.33	Si
SLV 4	fin.	-3031.58	-9878	1.4	0	4083	7137	8804	3570	11220		1.14	Si
SLV 2	ini.	2942.42	-9694	1.4	0	4083	7137	8804	3570	11220		1.16	Si
SLV 2	fin.	-3505.81	-11126	1.4	0	4083	7137	8804	3570	11220		1.01	Si
SLV 5	ini.	1534.1	-5176	1.4	0	4083	7137	8804	3570	11220		2.17	Si
SLV 5	fin.	-2147.59	-6616	1.4	0	4083	7137	8804	3570	11220		1.7	Si
SLV 6	ini.	1805.77	-6088	1.4	0	4083	7137	8804	3570	11220		1.84	Si
SLV 6	fin.	-2443.65	-7528	1.4	0	4083	7137	8804	3570	11220		1.49	Si
SLD 4	ini.	1825.37	-5959	1.4	0	4083	7137	8804	3570	11220		1.88	Si
SLD 4	fin.	-2247.01	-7382	1.4	0	4083	7137	8804	3570	11220		1.52	Si
SLV 3	ini.	2189.14	-7101	1.4	0	4083	7137	8804	3570	11220		1.58	Si
SLV 3	fin.	-2591.84	-8524	1.4	0	4083	7137	8804	3570	11220		1.32	Si
SLD 2	ini.	2039.51	-6718	1.4	0	4083	7137	8804	3570	11220		1.67	Si
SLD 2	fin.	-2537.79	-8146	1.4	0	4083	7137	8804	3570	11220		1.38	Si
SLV 1	ini.	2538.91	-8340	1.4	0	4083	7137	8804	3570	11220		1.35	Si
SLV 1	fin.	-3066.07	-9772	1.4	0	4083	7137	8804	3570	11220		1.15	Si
SLD 1	ini.	1781.95	-5853	1.4	0	4083	7137	8804	3570	11220		1.92	Si
SLD 1	fin.	-2257.11	-7282	1.4	0	4083	7137	8804	3570	11220		1.54	Si
SLV 15	ini.	-2035.97	6699	1.4	0	4083	7137	8804	3570	11220		1.67	Si
SLV 15	fin.	1818.39	5284	1.4	0	4083	7137	8804	3570	11220		2.12	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.038	SLV 2	Si
V_SLV	1.008	SLV 2	Si
PF_SLU	2.404	SLU 78	Si
V_SLU	0.92	SLU 78	No

Trave di accoppiamento 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	8.55	10.55	2	-5.158	6.506	8.55	10.55	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-45.13	-775	-0.0000045	0.0001872	0.0035	2		14357.01	4605.42	Si	102.04	Si
SLU 71	fin.	-436.88	-462	-0.0000439	0.0001872	0.0035	2		14357.01	4605.42	Si	10.54	Si
SLU 70	ini.	-48.61	-749	-0.0000048	0.0001872	0.0035	2		14357.01	4605.42	Si	94.74	Si
SLU 70	fin.	-420.97	-445	-0.0000423	0.0001872	0.0035	2		14357.01	4605.42	Si	10.94	Si
SLU 80	ini.	-54.2	-737	-0.0000054	0.0001872	0.0035	2		14357.01	4605.42	Si	84.97	Si
SLU 80	fin.	-408.75	-431	-0.000041	0.0001872	0.0035	2		14357.01	4605.42	Si	11.27	Si
SLU 78	ini.	-55.19	-734	-0.0000055	0.0001872	0.0035	2		14357.01	4605.42	Si	83.45	Si
SLU 78	fin.	-405.41	-427	-0.0000407	0.0001872	0.0035	2		14357.01	4605.42	Si	11.36	Si
SLU 79	ini.	-51.71	-760	-0.0000051	0.0001872	0.0035	2		14357.01	4605.42	Si	89.06	Si
SLU 79	fin.	-421.31	-445	-0.0000423	0.0001872	0.0035	2		14357.01	4605.42	Si	10.93	Si
SLU 77	ini.	-52.7	-757	-0.0000052	0.0001872	0.0035	2		14357.01	4605.42	Si	87.39	Si
SLU 77	fin.	-417.96	-441	-0.000042	0.0001872	0.0035	2		14357.01	4605.42	Si	11.02	Si
SLU 72	ini.	-47.63	-752	-0.0000047	0.0001872	0.0035	2		14357.01	4605.42	Si	96.7	Si
SLU 72	fin.	-424.32	-449	-0.0000426	0.0001872	0.0035	2		14357.01	4605.42	Si	10.85	Si
SLU 48	ini.	-46.17	-709	-0.0000046	0.0001872	0.0035	2		14357.01	4605.42	Si	99.75	Si
SLU 48	fin.	-405.76	-430	-0.0000407	0.0001872	0.0035	2		14357.01	4605.42	Si	11.35	Si
SLU 50	ini.	-45.18	-712	-0.0000045	0.0001872	0.0035	2		14357.01	4605.42	Si	101.93	Si
SLU 50	fin.	-409.11	-434	-0.0000411	0.0001872	0.0035	2		14357.01	4605.42	Si	11.26	Si
SLU 69	ini.	-46.12	-772	-0.0000046	0.0001872	0.0035	2		14357.01	4605.42	Si	99.86	Si
SLU 69	fin.	-433.53	-458	-0.0000436	0.0001872	0.0035	2		14357.01	4605.42	Si	10.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-46.12	-2026	2	0	3889	3965	8384	5100	5833	Si	2.88	Si
SLU 69	fin.	-433.53	-841	2	0	3889	3965	8384	5100	5833	Si	6.94	Si
SLU 72	ini.	-47.63	-1965	2	0	3889	3965	8384	5100	5833	Si	2.97	Si
SLU 72	fin.	-424.32	-817	2	0	3889	3965	8384	5100	5833	Si	7.14	Si
SLU 79	ini.	-51.71	-2007	2	0	3889	3965	8384	5100	5833	Si	2.91	Si
SLU 79	fin.	-421.31	-803	2	0	3889	3965	8384	5100	5833	Si	7.27	Si
SLU 78	ini.	-55.19	-1932	2	0	3889	3965	8384	5100	5833	Si	3.02	Si
SLU 78	fin.	-405.41	-764	2	0	3889	3965	8384	5100	5833	Si	7.64	Si
SLU 71	ini.	-45.13	-2032	2	0	3889	3965	8384	5100	5833	Si	2.87	Si
SLU 71	fin.	-436.88	-848	2	0	3889	3965	8384	5100	5833	Si	6.88	Si
SLU 80	ini.	-54.2	-1939	2	0	3889	3965	8384	5100	5833	Si	3.01	Si
SLU 80	fin.	-408.75	-771	2	0	3889	3965	8384	5100	5833	Si	7.56	Si
SLU 48	ini.	-46.17	-1809	2	0	3889	3965	8384	5100	5833	Si	3.23	Si
SLU 48	fin.	-405.76	-799	2	0	3889	3965	8384	5100	5833	Si	7.3	Si
SLU 70	ini.	-48.61	-1958	2	0	3889	3965	8384	5100	5833	Si	2.98	Si
SLU 70	fin.	-420.97	-809	2	0	3889	3965	8384	5100	5833	Si	7.21	Si
SLU 50	ini.	-45.18	-1815	2	0	3889	3965	8384	5100	5833	Si	3.21	Si
SLU 50	fin.	-409.11	-807	2	0	3889	3965	8384	5100	5833	Si	7.23	Si
SLU 77	ini.	-52.7	-2000	2	0	3889	3965	8384	5100	5833	Si	2.92	Si
SLU 77	fin.	-417.96	-795	2	0	3889	3965	8384	5100	5833	Si	7.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 7	ini.	54.59	-2185	-0.0000054	0.0002807	0.0035	2		14202.07	14202.07		260.14	Si
SLV 7	fin.	-1319.57	-1431	-0.0001357	0.0002807	0.0035	2		14215.41	14215.41		10.77	Si
SLV 4	ini.	-108.6	-1454	-0.0000108	0.0002807	0.0035	2		14215.41	14215.41		130.9	Si
SLV 4	fin.	-853.7	-946	-0.0000865	0.0002807	0.0035	2		14215.41	14215.41		16.65	Si
SLV 11	ini.	125.92	-1793	-0.0000125	0.0002807	0.0035	2		14202.07	14202.07		112.79	Si
SLV 11	fin.	-1089.64	-1165	-0.0001113	0.0002807	0.0035	2		14215.41	14215.41		13.05	Si
SLD 8	ini.	24.45	-1449	-0.0000024	0.0002807	0.0035	2		14202.07	14202.07		580.93	Si
SLD 8	fin.	-868.28	-938	-0.000088	0.0002807	0.0035	2		14215.41	14215.41		16.37	Si
SLV 8	ini.	79.59	-2063	-0.0000079	0.0002807	0.0035	2		14202.07	14202.07		178.44	Si
SLV 8	fin.	-1248.49	-1354	-0.0001281	0.0002807	0.0035	2		14215.41	14215.41		11.39	Si
SLD 11	ini.	54.31	-1275	-0.0000054	0.0002807	0.0035	2		14202.07	14202.07		261.48	Si
SLD 11	fin.	-765.47	-816	-0.0000774	0.0002807	0.0035	2		14215.41	14215.41		18.57	Si
SLD 7	ini.	8.8	-1526	-0.0000009	0.0002807	0.0035	2		14202.07	14202.07		1613.92	Si
SLD 7	fin.	-912.77	-986	-0.0000927	0.0002807	0.0035	2		14215.41	14215.41		15.57	Si
SLV 12	ini.	150.92	-1671	-0.000015	0.0002807	0.0035	2		14202.07	14202.07		94.11	Si
SLV 12	fin.	-1018.56	-1088	-0.0001038	0.0002807	0.0035	2		14215.41	14215.41		13.96	Si
SLV 3	ini.	-145.73	-1636	-0.0000145	0.0002807	0.0035	2		14215.41	14215.41		97.55	Si
SLV 3	fin.	-959.28	-1061	-0.0000975	0.0002807	0.0035	2		14215.41	14215.41		14.82	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-166.34	1291	-0.0000165	0.0002807	0.0035	2		14215.41	14215.41		85.46	Si
SLV 10	fin.	826.59	911	-0.0000838	0.0002807	0.0035	2		14202.07	14202.07		17.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 9	ini.	-191.34	3759	2	0	5833	3965	12577	5100	9798		2.61	Si
SLV 9	fin.	755.51	1850	2	0	5833	3965	12577	5100	9798		5.3	Si
SLV 7	ini.	54.59	-6061	2	0	5833	3965	12577	5100	9798		1.62	Si
SLV 7	fin.	-1319.57	-2986	2	0	5833	3965	12577	5100	9798		3.28	Si
SLD 7	ini.	8.8	-4155	2	0	5833	3965	12577	5100	9798		2.36	Si
SLD 7	fin.	-912.77	-2033	2	0	5833	3965	12577	5100	9798		4.82	Si
SLV 12	ini.	150.92	-5309	2	0	5833	3965	12577	5100	9798		1.85	Si
SLV 12	fin.	-1018.56	-2197	2	0	5833	3965	12577	5100	9798		4.46	Si
SLV 11	ini.	125.92	-5479	2	0	5833	3965	12577	5100	9798		1.79	Si
SLV 11	fin.	-1089.64	-2379	2	0	5833	3965	12577	5100	9798		4.12	Si
SLV 10	ini.	-166.34	3929	2	0	5833	3965	12577	5100	9798		2.49	Si
SLV 10	fin.	826.59	2031	2	0	5833	3965	12577	5100	9798		4.82	Si
SLD 12	ini.	69.96	-3676	2	0	5833	3965	12577	5100	9798		2.67	Si
SLD 12	fin.	-720.97	-1531	2	0	5833	3965	12577	5100	9798		6.4	Si
SLD 11	ini.	54.31	-3782	2	0	5833	3965	12577	5100	9798		2.59	Si
SLD 11	fin.	-765.47	-1645	2	0	5833	3965	12577	5100	9798		5.96	Si
SLD 8	ini.	24.45	-4048	2	0	5833	3965	12577	5100	9798		2.42	Si
SLD 8	fin.	-868.28	-1920	2	0	5833	3965	12577	5100	9798		5.1	Si
SLV 8	ini.	79.59	-5891	2	0	5833	3965	12577	5100	9798		1.66	Si
SLV 8	fin.	-1248.49	-2805	2	0	5833	3965	12577	5100	9798		3.49	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.773	SLV 7	Si
V_SLV	1.616	SLV 7	Si
PF_SLU	10.542	SLU 71	Si
V_SLU	2.87	SLU 71	Si

Trave di accoppiamento 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	11.35	12.05	0.7	-5.158	6.506	11.35	12.05	0.7	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-143.31	-1403	-0.0001212	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.32	Si
SLU 70	fin.	127.76	-414	-0.0001077	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.34	Si
SLU 78	ini.	-149.82	-1462	-0.000127	0.0001872	0.0035	0.7		1800.85	1192.92	Si	7.96	Si
SLU 78	fin.	133.15	-431	-0.0001124	0.0001872	0.0035	0.7		1796.43	1192.92	Si	8.96	Si
SLU 77	ini.	-148.59	-1455	-0.0001259	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.03	Si
SLU 77	fin.	132.6	-429	-0.0001119	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9	Si
SLU 83	ini.	-140.35	-1357	-0.0001185	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.5	Si
SLU 83	fin.	123.24	-398	-0.0001037	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.68	Si
SLU 84	ini.	-141.59	-1364	-0.0001196	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.43	Si
SLU 84	fin.	123.79	-400	-0.0001042	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.64	Si
SLU 72	ini.	-142.79	-1402	-0.0001207	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.35	Si
SLU 72	fin.	127.56	-413	-0.0001075	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.35	Si
SLU 79	ini.	-148.06	-1453	-0.0001254	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.06	Si
SLU 79	fin.	132.39	-428	-0.0001117	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.01	Si
SLU 71	ini.	-141.55	-1394	-0.0001196	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.43	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	fin.	127.01	-411	-0.000107	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.39	Si
SLU 80	ini.	-149.3	-1461	-0.0001265	0.0001872	0.0035	0.7		1800.85	1192.92	Si	7.99	Si
SLU 80	fin.	132.94	-430	-0.0001122	0.0001872	0.0035	0.7		1796.43	1192.92	Si	8.97	Si
SLU 69	ini.	-142.07	-1396	-0.0001201	0.0001872	0.0035	0.7		1800.85	1192.92	Si	8.4	Si
SLU 69	fin.	127.22	-412	-0.0001072	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-140.35	2875	0.7	0	1361	3965	2935	1785	2042	Si	0.71	No
SLU 83	fin.	123.24	302	0.7	0	1361	3965	2935	1785	2042	Si	6.76	Si
SLU 70	ini.	-143.31	2994	0.7	0	1361	3965	2935	1785	2042	Si	0.68	No
SLU 70	fin.	127.76	302	0.7	0	1361	3965	2935	1785	2042	Si	6.76	Si
SLU 72	ini.	-142.79	2995	0.7	0	1361	3965	2935	1785	2042	Si	0.68	No
SLU 72	fin.	127.56	300	0.7	0	1361	3965	2935	1785	2042	Si	6.81	Si
SLU 79	ini.	-148.06	3103	0.7	0	1361	3965	2935	1785	2042	Si	0.66	No
SLU 79	fin.	132.39	315	0.7	0	1361	3965	2935	1785	2042	Si	6.49	Si
SLU 69	ini.	-142.07	2984	0.7	0	1361	3965	2935	1785	2042	Si	0.68	No
SLU 69	fin.	127.22	297	0.7	0	1361	3965	2935	1785	2042	Si	6.87	Si
SLU 78	ini.	-149.82	3112	0.7	0	1361	3965	2935	1785	2042	Si	0.66	No
SLU 78	fin.	133.15	322	0.7	0	1361	3965	2935	1785	2042	Si	6.34	Si
SLU 80	ini.	-149.3	3113	0.7	0	1361	3965	2935	1785	2042	Si	0.66	No
SLU 80	fin.	132.94	320	0.7	0	1361	3965	2935	1785	2042	Si	6.38	Si
SLU 77	ini.	-148.59	3102	0.7	0	1361	3965	2935	1785	2042	Si	0.66	No
SLU 77	fin.	132.6	317	0.7	0	1361	3965	2935	1785	2042	Si	6.44	Si
SLU 71	ini.	-141.55	2985	0.7	0	1361	3965	2935	1785	2042	Si	0.68	No
SLU 71	fin.	127.01	295	0.7	0	1361	3965	2935	1785	2042	Si	6.93	Si
SLU 84	ini.	-141.59	2885	0.7	0	1361	3965	2935	1785	2042	Si	0.71	No
SLU 84	fin.	123.79	307	0.7	0	1361	3965	2935	1785	2042	Si	6.65	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-124.71	-1046	-0.0001035	0.0002807	0.0035	0.7		1814.08	1814.08		14.55	Si
SLD 6	fin.	86.34	-291	-0.0000711	0.0002807	0.0035	0.7		1809.55	1809.55		20.96	Si
SLV 6	ini.	-145.18	-1152	-0.0001211	0.0002807	0.0035	0.7		1814.08	1814.08		12.5	Si
SLV 6	fin.	90.95	-314	-0.000075	0.0002807	0.0035	0.7		1809.55	1809.55		19.9	Si
SLD 9	ini.	-124.33	-1057	-0.0001032	0.0002807	0.0035	0.7		1814.08	1814.08		14.59	Si
SLD 9	fin.	87.18	-293	-0.0000718	0.0002807	0.0035	0.7		1809.55	1809.55		20.76	Si
SLD 10	ini.	-127.06	-1076	-0.0001055	0.0002807	0.0035	0.7		1814.08	1814.08		14.28	Si
SLD 10	fin.	89.14	-299	-0.0000735	0.0002807	0.0035	0.7		1809.55	1809.55		20.3	Si
SLV 13	ini.	-110.34	-1014	-0.0000912	0.0002807	0.0035	0.7		1814.08	1814.08		16.44	Si
SLV 13	fin.	87.54	-284	-0.0000722	0.0002807	0.0035	0.7		1809.55	1809.55		20.67	Si
SLV 5	ini.	-140.82	-1122	-0.0001174	0.0002807	0.0035	0.7		1814.08	1814.08		12.88	Si
SLV 5	fin.	87.82	-304	-0.0000724	0.0002807	0.0035	0.7		1809.55	1809.55		20.6	Si
SLV 9	ini.	-144.46	-1169	-0.0001205	0.0002807	0.0035	0.7		1814.08	1814.08		12.56	Si
SLV 9	fin.	92.17	-316	-0.0000761	0.0002807	0.0035	0.7		1809.55	1809.55		19.63	Si
SLV 14	ini.	-116.82	-1059	-0.0000968	0.0002807	0.0035	0.7		1814.08	1814.08		15.53	Si
SLV 14	fin.	92.19	-299	-0.0000761	0.0002807	0.0035	0.7		1809.55	1809.55		19.63	Si
SLD 5	ini.	-121.98	-1027	-0.0001012	0.0002807	0.0035	0.7		1814.08	1814.08		14.87	Si
SLD 5	fin.	84.39	-285	-0.0000695	0.0002807	0.0035	0.7		1809.55	1809.55		21.44	Si
SLV 10	ini.	-148.83	-1199	-0.0001243	0.0002807	0.0035	0.7		1814.08	1814.08		12.19	Si
SLV 10	fin.	95.3	-325	-0.0000787	0.0002807	0.0035	0.7		1809.55	1809.55		18.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-84.85	2041	0.7	0	2042	3965	4402	1785	6006		2.94	Si
SLV 16	fin.	84.51	141	0.7	0	2042	3965	4402	1785	6006		42.56	Si
SLV 10	ini.	-148.83	2096	0.7	0	2042	3965	4402	1785	6006		2.87	Si
SLV 10	fin.	95.3	461	0.7	0	2042	3965	4402	1785	6006		13.03	Si
SLD 13	ini.	-103.27	1974	0.7	0	2042	3965	4402	1785	6006		3.04	Si
SLD 13	fin.	84.34	246	0.7	0	2042	3965	4402	1785	6006		24.46	Si
SLV 14	ini.	-116.82	2141	0.7	0	2042	3965	4402	1785	6006		2.81	Si
SLV 14	fin.	92.19	296	0.7	0	2042	3965	4402	1785	6006		20.3	Si
SLV 9	ini.	-144.46	2036	0.7	0	2042	3965	4402	1785	6006		2.95	Si
SLV 9	fin.	92.17	449	0.7	0	2042	3965	4402	1785	6006		13.37	Si
SLV 6	ini.	-145.18	1972	0.7	0	2042	3965	4402	1785	6006		3.05	Si
SLV 6	fin.	90.95	450	0.7	0	2042	3965	4402	1785	6006		13.34	Si
SLD 14	ini.	-107.41	2031	0.7	0	2042	3965	4402	1785	6006		2.96	Si
SLD 14	fin.	87.31	257	0.7	0	2042	3965	4402	1785	6006		23.41	Si
SLV 13	ini.	-110.34	2050	0.7	0	2042	3965	4402	1785	6006		2.93	Si
SLV 13	fin.	87.54	279	0.7	0	2042	3965	4402	1785	6006		21.55	Si
SLD 10	ini.	-127.06	2001	0.7	0	2042	3965	4402	1785	6006		3	Si
SLD 10	fin.	89.14	358	0.7	0	2042	3965	4402	1785	6006		16.79	Si
SLD 16	ini.	-87.61	1969	0.7	0	2042	3965	4402	1785	6006		3.05	Si
SLD 16	fin.	82.52	161	0.7	0	2042	3965	4402	1785	6006		37.22	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.189	SLV 10	Si
V_SLV	2.806	SLV 14	Si
PF_SLU	7.962	SLU 78	Si
V_SLU	0.656	SLU 80	No



Trave di accoppiamento 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.513	-3.359	8.55	9.45	0.9	-7.413	-3.359	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	ini.	216.52	-1563	-0.0001107	0.0001872	0.0035	0.9		2959	1717.92	Si	7.93	Si
SLU 66	fin.	-77.16	-479	-0.0000382	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.26	Si
SLU 69	ini.	221.08	-1602	-0.0001132	0.0001872	0.0035	0.9		2959	1717.92	Si	7.77	Si
SLU 69	fin.	-74.09	-504	-0.0000367	0.0001872	0.0035	0.9		2964.67	1717.92	Si	23.19	Si
SLU 70	ini.	232.74	-1651	-0.0001194	0.0001872	0.0035	0.9		2959	1717.92	Si	7.38	Si
SLU 70	fin.	-89.18	-479	-0.0000443	0.0001872	0.0035	0.9		2964.67	1717.92	Si	19.26	Si
SLU 76	ini.	211.74	-1567	-0.0001081	0.0001872	0.0035	0.9		2959	1717.92	Si	8.11	Si
SLU 76	fin.	-58.43	-528	-0.0000289	0.0001872	0.0035	0.9		2964.67	1717.92	Si	29.4	Si
SLU 65	ini.	225.87	-1569	-0.0001157	0.0001872	0.0035	0.9		2959	1717.92	Si	7.61	Si
SLU 65	fin.	-102.75	-407	-0.0000512	0.0001872	0.0035	0.9		2964.67	1717.92	Si	16.72	Si
SLU 72	ini.	227.21	-1615	-0.0001165	0.0001872	0.0035	0.9		2959	1717.92	Si	7.56	Si
SLU 72	fin.	-86.55	-473	-0.000043	0.0001872	0.0035	0.9		2964.67	1717.92	Si	19.85	Si
SLU 71	ini.	215.54	-1566	-0.0001102	0.0001872	0.0035	0.9		2959	1717.92	Si	7.97	Si
SLU 71	fin.	-71.45	-498	-0.0000354	0.0001872	0.0035	0.9		2964.67	1717.92	Si	24.04	Si
SLU 78	ini.	214.05	-1609	-0.0001094	0.0001872	0.0035	0.9		2959	1717.92	Si	8.03	Si
SLU 78	fin.	-47.94	-575	-0.0000236	0.0001872	0.0035	0.9		2964.67	1717.92	Si	35.84	Si
SLU 67	ini.	228.19	-1611	-0.000117	0.0001872	0.0035	0.9		2959	1717.92	Si	7.53	Si
SLU 67	fin.	-92.26	-454	-0.0000459	0.0001872	0.0035	0.9		2964.67	1717.92	Si	18.62	Si
SLU 68	ini.	230.43	-1609	-0.0001182	0.0001872	0.0035	0.9		2959	1717.92	Si	7.46	Si
SLU 68	fin.	-99.68	-431	-0.0000496	0.0001872	0.0035	0.9		2964.67	1717.92	Si	17.23	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 77	ini.	202.39	-2663	0.9	0	1750	7137	3773	2295	2625	Si	0.99	No
SLU 77	fin.	-32.85	279	0.9	0	1750	7137	3773	2295	2625	Si	9.41	Si
SLU 75	ini.	209.5	-2669	0.9	0	1750	7137	3773	2295	2625	Si	0.98	No
SLU 75	fin.	-51.01	189	0.9	0	1750	7137	3773	2295	2625	Si	13.87	Si
SLU 80	ini.	208.52	-2676	0.9	0	1750	7137	3773	2295	2625	Si	0.98	No
SLU 80	fin.	-45.3	219	0.9	0	1750	7137	3773	2295	2625	Si	12	Si
SLU 68	ini.	230.43	-2708	0.9	0	1750	7137	3773	2295	2625	Si	0.97	No
SLU 68	fin.	-99.68	-26	0.9	0	1750	7137	3773	2295	2625	Si	100.67	Si
SLU 72	ini.	227.21	-2727	0.9	0	1750	7137	3773	2295	2625	Si	0.96	No
SLU 72	fin.	-86.55	43	0.9	0	1750	7137	3773	2295	2625	Si	60.81	Si
SLU 76	ini.	211.74	-2658	0.9	0	1750	7137	3773	2295	2625	Si	0.99	No
SLU 76	fin.	-58.43	149	0.9	0	1750	7137	3773	2295	2625	Si	17.57	Si
SLU 78	ini.	214.05	-2736	0.9	0	1750	7137	3773	2295	2625	Si	0.96	No
SLU 78	fin.	-47.94	217	0.9	0	1750	7137	3773	2295	2625	Si	12.08	Si
SLU 67	ini.	228.19	-2720	0.9	0	1750	7137	3773	2295	2625	Si	0.97	No
SLU 67	fin.	-92.26	14	0.9	0	1750	7137	3773	2295	2625	Si	191.68	Si
SLU 69	ini.	221.08	-2714	0.9	0	1750	7137	3773	2295	2625	Si	0.97	No
SLU 69	fin.	-74.09	103	0.9	0	1750	7137	3773	2295	2625	Si	25.37	Si
SLU 70	ini.	232.74	-2786	0.9	0	1750	7137	3773	2295	2625	Si	0.94	No
SLU 70	fin.	-89.18	42	0.9	0	1750	7137	3773	2295	2625	Si	62.67	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-839.98	2640	-0.0004796	0.0002807	0.0035	0.9		2995.37	2995.37		3.57	Si
SLV 15	fin.	1528.53	-3387	-0.00102	0.0002807	0.0035	0.9		2989.59	2989.59		1.96	Si
SLV 16	ini.	-683.56	2046	-0.0003766	0.0002807	0.0035	0.9		2995.37	2995.37		4.38	Si
SLV 16	fin.	1274.57	-2895	-0.0008042	0.0002807	0.0035	0.9		2989.59	2989.59		2.35	Si
SLV 11	ini.	-720.73	2462	-0.0004005	0.0002807	0.0035	0.9		2995.37	2995.37		4.16	Si
SLV 11	fin.	1091.04	-2301	-0.000661	0.0002807	0.0035	0.9		2989.59	2989.59		2.74	Si
SLV 13	ini.	-482.49	1107	-0.0002547	0.0002807	0.0035	0.9		2995.37	2995.37		6.21	Si
SLV 13	fin.	1122.98	-2770	-0.0006852	0.0002807	0.0035	0.9		2989.59	2989.59		2.66	Si
SLV 1	ini.	976.88	-4233	-0.0005768	0.0002807	0.0035	0.9		2989.59	2989.59		3.06	Si
SLV 1	fin.	-1360.28	2156	-0.0008726	0.0002807	0.0035	0.9		2995.37	2995.37		2.2	Si
SLV 4	ini.	775.8	-3294	-0.0004375	0.0002807	0.0035	0.9		2989.59	2989.59		3.85	Si
SLV 4	fin.	-1208.69	2032	-0.0007499	0.0002807	0.0035	0.9		2995.37	2995.37		2.48	Si
SLD 2	ini.	773.18	-3461	-0.0004357	0.0002807	0.0035	0.9		2989.59	2989.59		3.87	Si
SLD 2	fin.	-1042.34	1552	-0.0006232	0.0002807	0.0035	0.9		2995.37	2995.37		2.87	Si
SLV 2	ini.	1133.3	-4826	-0.0006931	0.0002807	0.0035	0.9		2989.59	2989.59		2.64	Si
SLV 2	fin.	-1614.24	2648	-0.0010953	0.0002807	0.0035	0.9		2995.37	2995.37		1.86	Si
SLV 6	ini.	1014.05	-4648	-0.0006038	0.0002807	0.0035	0.9		2989.59	2989.59		2.95	Si
SLV 6	fin.	-1176.75	1562	-0.000725	0.0002807	0.0035	0.9		2995.37	2995.37		2.55	Si
SLV 5	ini.	908.73	-4249	-0.0005283	0.0002807	0.0035	0.9		2989.59	2989.59		3.29	Si
SLV 5	fin.	-1005.77	1231	-0.0005964	0.0002807	0.0035	0.9		2995.37	2995.37		2.98	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	908.73	-6574	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 5	fin.	-1005.77	-3881	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLD 1	ini.	673.34	-4924	0.9	0	2625	7137	5660	2295	7955		1.62	Si
SLD 1	fin.	-880.24	-3363	0.9	0	2625	7137	5660	2295	7955		2.37	Si
SLV 2	ini.	1133.3	-7627	0.9	0	2625	7137	5660	2295	7955		1.04	Si
SLV 2	fin.	-1614.24	-6376	0.9	0	2625	7137	5660	2295	7955		1.25	Si
SLV 16	ini.	-683.56	2978	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 16	fin.	1274.57	5548	0.9	0	2625	7137	5660	2295	7955		1.43	Si
SLD 6	ini.	686.4	-5179	0.9	0	2625	7137	5660	2295	7955		1.54	Si
SLD 6	fin.	-750.07	-2816	0.9	0	2625	7137	5660	2295	7955		2.82	Si
SLV 15	ini.	-839.98	3907	0.9	0	2625	7137	5660	2295	7955		2.04	Si
SLV 15	fin.	1528.53	6578	0.9	0	2625	7137	5660	2295	7955		1.21	Si
SLV 4	ini.	775.8	-5362	0.9	0	2625	7137	5660	2295	7955		1.48	Si
SLV 4	fin.	-1208.69	-4702	0.9	0	2625	7137	5660	2295	7955		1.69	Si
SLV 6	ini.	1014.05	-7200	0.9	0	2625	7137	5660	2295	7955		1.1	Si
SLV 6	fin.	-1176.75	-4574	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLV 1	ini.	976.88	-6698	0.9	0	2625	7137	5660	2295	7955		1.19	Si
SLV 1	fin.	-1360.28	-5346	0.9	0	2625	7137	5660	2295	7955		1.49	Si
SLD 2	ini.	773.18	-5517	0.9	0	2625	7137	5660	2295	7955		1.44	Si
SLD 2	fin.	-1042.34	-4020	0.9	0	2625	7137	5660	2295	7955		1.98	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.856	SLV 2	Si
V_SLV	1.043	SLV 2	Si
PF_SLU	7.381	SLU 70	Si
V_SLU	0.942	SLU 70	No

Trave di accoppiamento 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.513	-3.359	11.25	12.05	0.8	-7.413	-3.359	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-30.78	-549	-0.0000191	0.0001872	0.0035	0.8		2345.32	1455.42	Si	47.29	Si
SLU 71	fin.	-184.85	-578	-0.0001197	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.87	Si
SLU 67	ini.	-17.33	-494	-0.0000107	0.0001872	0.0035	0.8		2345.32	1455.42	Si	83.99	Si
SLU 67	fin.	-196.05	-608	-0.0001274	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.42	Si
SLU 70	ini.	-23.57	-530	-0.0000146	0.0001872	0.0035	0.8		2345.32	1455.42	Si	61.76	Si
SLU 70	fin.	-199.08	-625	-0.0001295	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.31	Si
SLU 78	ini.	-50.53	-684	-0.0000316	0.0001872	0.0035	0.8		2345.32	1455.42	Si	28.81	Si
SLU 78	fin.	-177.4	-584	-0.0001147	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.2	Si
SLU 69	ini.	-32.02	-561	-0.0000199	0.0001872	0.0035	0.8		2345.32	1455.42	Si	45.45	Si
SLU 69	fin.	-189.74	-595	-0.0001231	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.67	Si
SLU 64	ini.	-18.31	-477	-0.0000114	0.0001872	0.0035	0.8		2345.32	1455.42	Si	79.51	Si
SLU 64	fin.	-178.79	-544	-0.0001156	0.0001872	0.0035	0.8		2345.32	1455.42	Si	8.14	Si
SLU 68	ini.	-10.45	-460	-0.0000065	0.0001872	0.0035	0.8		2345.32	1455.42	Si	139.28	Si
SLU 68	fin.	-197.38	-610	-0.0001283	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.37	Si
SLU 66	ini.	-25.78	-526	-0.000016	0.0001872	0.0035	0.8		2345.32	1455.42	Si	56.45	Si
SLU 66	fin.	-186.71	-579	-0.000121	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.79	Si
SLU 72	ini.	-22.32	-517	-0.0000139	0.0001872	0.0035	0.8		2345.32	1455.42	Si	65.2	Si
SLU 72	fin.	-194.18	-607	-0.0001261	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.5	Si
SLU 65	ini.	-4.21	-424	-0.0000026	0.0001872	0.0035	0.8		2345.32	1455.42	Si	345.39	Si
SLU 65	fin.	-194.35	-593	-0.0001262	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-56.82	1942	0.8	0	1556	6344	3354	2040	2333	Si	1.2	Si
SLU 81	fin.	-147.82	-1458	0.8	0	1556	6344	3354	2040	2333	Si	1.6	Si
SLU 80	ini.	-49.28	1906	0.8	0	1556	6344	3354	2040	2333	Si	1.22	Si
SLU 80	fin.	-172.5	-1584	0.8	0	1556	6344	3354	2040	2333	Si	1.47	Si
SLU 77	ini.	-58.98	1986	0.8	0	1556	6344	3354	2040	2333	Si	1.17	Si
SLU 77	fin.	-168.06	-1571	0.8	0	1556	6344	3354	2040	2333	Si	1.49	Si
SLU 82	ini.	-48.37	1896	0.8	0	1556	6344	3354	2040	2333	Si	1.23	Si
SLU 82	fin.	-157.15	-1506	0.8	0	1556	6344	3354	2040	2333	Si	1.55	Si
SLU 83	ini.	-63.06	2019	0.8	0	1556	6344	3354	2040	2333	Si	1.16	Si
SLU 83	fin.	-150.85	-1494	0.8	0	1556	6344	3354	2040	2333	Si	1.56	Si
SLU 79	ini.	-57.74	1952	0.8	0	1556	6344	3354	2040	2333	Si	1.2	Si
SLU 79	fin.	-163.17	-1535	0.8	0	1556	6344	3354	2040	2333	Si	1.52	Si
SLU 74	ini.	-52.74	1909	0.8	0	1556	6344	3354	2040	2333	Si	1.22	Si
SLU 74	fin.	-165.03	-1534	0.8	0	1556	6344	3354	2040	2333	Si	1.52	Si
SLU 84	ini.	-54.6	1973	0.8	0	1556	6344	3354	2040	2333	Si	1.18	Si
SLU 84	fin.	-160.18	-1543	0.8	0	1556	6344	3354	2040	2333	Si	1.51	Si
SLU 78	ini.	-50.53	1940	0.8	0	1556	6344	3354	2040	2333	Si	1.2	Si
SLU 78	fin.	-177.4	-1619	0.8	0	1556	6344	3354	2040	2333	Si	1.44	Si
SLU 75	ini.	-44.29	1863	0.8	0	1556	6344	3354	2040	2333	Si	1.25	Si
SLU 75	fin.	-174.37	-1583	0.8	0	1556	6344	3354	2040	2333	Si	1.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-599.88	-2553	-0.0004251	0.0002807	0.0035	0.8		2369.14	2369.14		3.95	Si
SLV 13	fin.	268.39	140	-0.0001749	0.0002807	0.0035	0.8		2363.93	2363.93		8.81	Si
SLD 6	ini.	336.78	1061	-0.0002229	0.0002807	0.0035	0.8		2363.93	2363.93		7.02	Si
SLD 6	fin.	-564.54	-1498	-0.000396	0.0002807	0.0035	0.8		2369.14	2369.14		4.2	Si
SLV 16	ini.	-675.7	-2962	-0.0004894	0.0002807	0.0035	0.8		2369.14	2369.14		3.51	Si
SLV 16	fin.	455.98	746	-0.000311	0.0002807	0.0035	0.8		2363.93	2363.93		5.18	Si
SLV 15	ini.	-807.59	-3438	-0.0006076	0.0002807	0.0035	0.8		2369.14	2369.14		2.93	Si
SLV 15	fin.	579.06	1008	-0.0004088	0.0002807	0.0035	0.8		2363.93	2363.93		4.08	Si
SLV 2	ini.	764.01	2641	-0.0005691	0.0002807	0.0035	0.8		2363.93	2363.93		3.09	Si
SLV 2	fin.	-832.09	-1794	-0.0006304	0.0002807	0.0035	0.8		2369.14	2369.14		2.85	Si
SLV 6	ini.	553.59	1945	-0.000388	0.0002807	0.0035	0.8		2363.93	2363.93		4.27	Si
SLV 6	fin.	-832.34	-2179	-0.0006306	0.0002807	0.0035	0.8		2369.14	2369.14		2.85	Si
SLD 2	ini.	477.56	1533	-0.0003276	0.0002807	0.0035	0.8		2363.93	2363.93		4.95	Si
SLD 2	fin.	-573.09	-1276	-0.000403	0.0002807	0.0035	0.8		2369.14	2369.14		4.13	Si
SLV 11	ini.	-597.17	-2742	-0.0004228	0.0002807	0.0035	0.8		2369.14	2369.14		3.97	Si
SLV 11	fin.	579.32	1393	-0.000409	0.0002807	0.0035	0.8		2363.93	2363.93		4.08	Si
SLV 1	ini.	632.12	2165	-0.0004532	0.0002807	0.0035	0.8		2363.93	2363.93		3.74	Si
SLV 1	fin.	-709.01	-1532	-0.0005185	0.0002807	0.0035	0.8		2369.14	2369.14		3.34	Si
SLV 5	ini.	464.8	1625	-0.0003178	0.0002807	0.0035	0.8		2363.93	2363.93		5.09	Si
SLV 5	fin.	-749.48	-2002	-0.0005546	0.0002807	0.0035	0.8		2369.14	2369.14		3.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	553.59	-2064	0.8	0	2333	6344	5031	2040	7071		3.43	Si
SLV 6	fin.	-832.34	-4427	0.8	0	2333	6344	5031	2040	7071		1.6	Si
SLV 16	ini.	-675.7	4456	0.8	0	2333	6344	5031	2040	7071		1.59	Si
SLV 16	fin.	455.98	1742	0.8	0	2333	6344	5031	2040	7071		4.06	Si
SLD 15	ini.	-521.14	3681	0.8	0	2333	6344	5031	2040	7071		1.92	Si
SLD 15	fin.	320.06	1077	0.8	0	2333	6344	5031	2040	7071		6.57	Si
SLV 1	ini.	632.12	-2122	0.8	0	2333	6344	5031	2040	7071		3.33	Si
SLV 1	fin.	-709.01	-3908	0.8	0	2333	6344	5031	2040	7071		1.81	Si
SLV 15	ini.	-807.59	5126	0.8	0	2333	6344	5031	2040	7071		1.38	Si
SLV 15	fin.	579.06	2328	0.8	0	2333	6344	5031	2040	7071		3.04	Si
SLV 2	ini.	764.01	-2793	0.8	0	2333	6344	5031	2040	7071		2.53	Si
SLV 2	fin.	-832.09	-4493	0.8	0	2333	6344	5031	2040	7071		1.57	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-599.88	3862	0.8	0	2333	6344	5031	2040	7071		1.83	Si
SLV 13	fin.	268.39	870	0.8	0	2333	6344	5031	2040	7071		8.13	Si
SLV 12	ini.	-508.38	3946	0.8	0	2333	6344	5031	2040	7071		1.79	Si
SLV 12	fin.	496.45	1867	0.8	0	2333	6344	5031	2040	7071		3.79	Si
SLV 11	ini.	-597.17	4398	0.8	0	2333	6344	5031	2040	7071		1.61	Si
SLV 11	fin.	579.32	2261	0.8	0	2333	6344	5031	2040	7071		3.13	Si
SLV 5	ini.	464.8	-1613	0.8	0	2333	6344	5031	2040	7071		4.38	Si
SLV 5	fin.	-749.48	-4032	0.8	0	2333	6344	5031	2040	7071		1.75	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.846	SLV 6	Si
V_SLV	1.379	SLV 15	Si
PF_SLU	7.311	SLU 70	Si
V_SLU	1.156	SLU 83	Si

Trave di accoppiamento 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	8.55	10.55	2	-6.008	-3.359	8.55	10.55	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	455.7	-2912	-0.0000459	0.0001872	0.0035	2		14344.28	4605.42	Si	10.11	Si
SLU 78	fin.	-225.25	-2261	-0.0000225	0.0001872	0.0035	2		14357.01	4605.42	Si	20.45	Si
SLU 80	ini.	453.08	-2857	-0.0000456	0.0001872	0.0035	2		14344.28	4605.42	Si	10.16	Si
SLU 80	fin.	-220.06	-2212	-0.0000219	0.0001872	0.0035	2		14357.01	4605.42	Si	20.93	Si
SLU 83	ini.	461.89	-2778	-0.0000465	0.0001872	0.0035	2		14344.28	4605.42	Si	9.97	Si
SLU 83	fin.	-178.1	-2120	-0.0000177	0.0001872	0.0035	2		14357.01	4605.42	Si	25.86	Si
SLU 82	ini.	469.65	-2750	-0.0000473	0.0001872	0.0035	2		14344.28	4605.42	Si	9.81	Si
SLU 82	fin.	-200.32	-2095	-0.00002	0.0001872	0.0035	2		14357.01	4605.42	Si	22.99	Si
SLU 84	ini.	466.29	-2818	-0.000047	0.0001872	0.0035	2		14344.28	4605.42	Si	9.88	Si
SLU 84	fin.	-199.35	-2160	-0.0000199	0.0001872	0.0035	2		14357.01	4605.42	Si	23.1	Si
SLU 74	ini.	454.67	-2803	-0.0000458	0.0001872	0.0035	2		14344.28	4605.42	Si	10.13	Si
SLU 74	fin.	-204.97	-2157	-0.0000204	0.0001872	0.0035	2		14357.01	4605.42	Si	22.47	Si
SLU 81	ini.	465.25	-2709	-0.0000469	0.0001872	0.0035	2		14344.28	4605.42	Si	9.9	Si
SLU 81	fin.	-179.07	-2056	-0.0000178	0.0001872	0.0035	2		14357.01	4605.42	Si	25.72	Si
SLU 75	ini.	459.07	-2843	-0.0000462	0.0001872	0.0035	2		14344.28	4605.42	Si	10.03	Si
SLU 75	fin.	-226.22	-2196	-0.0000226	0.0001872	0.0035	2		14357.01	4605.42	Si	20.36	Si
SLU 76	ini.	459.37	-2815	-0.0000463	0.0001872	0.0035	2		14344.28	4605.42	Si	10.03	Si
SLU 76	fin.	-235.2	-2174	-0.0000235	0.0001872	0.0035	2		14357.01	4605.42	Si	19.58	Si
SLU 73	ini.	462.74	-2746	-0.0000466	0.0001872	0.0035	2		14344.28	4605.42	Si	9.95	Si
SLU 73	fin.	-236.17	-2110	-0.0000236	0.0001872	0.0035	2		14357.01	4605.42	Si	19.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	ini.	453.08	-2992	2	0	3889	3965	8384	5100	5833	Si	1.95	Si
SLU 80	fin.	-220.06	-1184	2	0	3889	3965	8384	5100	5833	Si	4.93	Si
SLU 75	ini.	459.07	-3014	2	0	3889	3965	8384	5100	5833	Si	1.94	Si
SLU 75	fin.	-226.22	-1228	2	0	3889	3965	8384	5100	5833	Si	4.75	Si
SLU 73	ini.	462.74	-2990	2	0	3889	3965	8384	5100	5833	Si	1.95	Si
SLU 73	fin.	-236.17	-1304	2	0	3889	3965	8384	5100	5833	Si	4.47	Si
SLU 74	ini.	454.67	-2961	2	0	3889	3965	8384	5100	5833	Si	1.97	Si
SLU 74	fin.	-204.97	-1177	2	0	3889	3965	8384	5100	5833	Si	4.96	Si
SLU 77	ini.	451.31	-2980	2	0	3889	3965	8384	5100	5833	Si	1.96	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-204	-1134	2	0	3889	3965	8384	5100	5833	Si	5.15	Si
SLU 82	ini.	469.65	-2985	2	0	3889	3965	8384	5100	5833	Si	1.95	Si
SLU 82	fin.	-200.32	-1245	2	0	3889	3965	8384	5100	5833	Si	4.69	Si
SLU 84	ini.	466.29	-3004	2	0	3889	3965	8384	5100	5833	Si	1.94	Si
SLU 84	fin.	-199.35	-1202	2	0	3889	3965	8384	5100	5833	Si	4.85	Si
SLU 76	ini.	459.37	-3009	2	0	3889	3965	8384	5100	5833	Si	1.94	Si
SLU 76	fin.	-235.2	-1261	2	0	3889	3965	8384	5100	5833	Si	4.62	Si
SLU 70	ini.	432.73	-2962	2	0	3889	3965	8384	5100	5833	Si	1.97	Si
SLU 70	fin.	-275.84	-1244	2	0	3889	3965	8384	5100	5833	Si	4.69	Si
SLU 78	ini.	455.7	-3033	2	0	3889	3965	8384	5100	5833	Si	1.92	Si
SLU 78	fin.	-225.25	-1185	2	0	3889	3965	8384	5100	5833	Si	4.92	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-395.21	807	-0.0000395	0.0002807	0.0035	2		14215.41	14215.41		35.97	Si
SLV 16	fin.	1265.41	973	-0.00013	0.0002807	0.0035	2		14202.07	14202.07		11.22	Si
SLD 2	ini.	946.63	-4086	-0.0000963	0.0002807	0.0035	2		14202.07	14202.07		15	Si
SLD 2	fin.	-1266.11	-3364	-0.00013	0.0002807	0.0035	2		14215.41	14215.41		11.23	Si
SLV 11	ini.	102.42	1188	-0.0000102	0.0002807	0.0035	2		14202.07	14202.07		138.66	Si
SLV 11	fin.	1257.01	1650	-0.0001292	0.0002807	0.0035	2		14202.07	14202.07		11.3	Si
SLV 6	ini.	558.36	-5100	-0.0000561	0.0002807	0.0035	2		14202.07	14202.07		25.44	Si
SLV 6	fin.	-1604.19	-4656	-0.0001666	0.0002807	0.0035	2		14215.41	14215.41		8.86	Si
SLV 3	ini.	1126.73	-3384	-0.0001153	0.0002807	0.0035	2		14202.07	14202.07		12.6	Si
SLV 3	fin.	-1045.02	-2539	-0.0001065	0.0002807	0.0035	2		14215.41	14215.41		13.6	Si
SLV 5	ini.	395.69	-4700	-0.0000396	0.0002807	0.0035	2		14202.07	14202.07		35.89	Si
SLV 5	fin.	-1413.14	-4345	-0.0001458	0.0002807	0.0035	2		14215.41	14215.41		10.06	Si
SLV 15	ini.	-636.82	1402	-0.0000641	0.0002807	0.0035	2		14215.41	14215.41		22.32	Si
SLV 15	fin.	1549.16	1436	-0.0001607	0.0002807	0.0035	2		14202.07	14202.07		9.17	Si
SLV 4	ini.	1368.34	-3979	-0.0001411	0.0002807	0.0035	2		14202.07	14202.07		10.38	Si
SLV 4	fin.	-1328.77	-3002	-0.0001367	0.0002807	0.0035	2		14215.41	14215.41		10.7	Si
SLV 1	ini.	1055.99	-4720	-0.0001078	0.0002807	0.0035	2		14202.07	14202.07		13.45	Si
SLV 1	fin.	-1612.59	-3980	-0.0001675	0.0002807	0.0035	2		14215.41	14215.41		8.82	Si
SLV 2	ini.	1297.6	-5314	-0.0001335	0.0002807	0.0035	2		14202.07	14202.07		10.94	Si
SLV 2	fin.	-1896.34	-4442	-0.000199	0.0002807	0.0035	2		14215.41	14215.41		7.5	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-636.82	4161	2	0	5833	3965	12577	5100	9798		2.35	Si
SLV 15	fin.	1549.16	5812	2	0	5833	3965	12577	5100	9798		1.69	Si
SLD 2	ini.	946.63	-6126	2	0	5833	3965	12577	5100	9798		1.6	Si
SLD 2	fin.	-1266.11	-5240	2	0	5833	3965	12577	5100	9798		1.87	Si
SLD 1	ini.	792.41	-5295	2	0	5833	3965	12577	5100	9798		1.85	Si
SLD 1	fin.	-1084.99	-4369	2	0	5833	3965	12577	5100	9798		2.24	Si
SLV 2	ini.	1297.6	-8416	2	0	5833	3965	12577	5100	9798		1.16	Si
SLV 2	fin.	-1896.34	-7694	2	0	5833	3965	12577	5100	9798		1.27	Si
SLD 4	ini.	991.01	-5568	2	0	5833	3965	12577	5100	9798		1.76	Si
SLD 4	fin.	-916.89	-4894	2	0	5833	3965	12577	5100	9798		2	Si
SLV 4	ini.	1368.34	-7503	2	0	5833	3965	12577	5100	9798		1.31	Si
SLV 4	fin.	-1328.77	-7127	2	0	5833	3965	12577	5100	9798		1.37	Si
SLV 13	ini.	-707.56	3249	2	0	5833	3965	12577	5100	9798		3.02	Si
SLV 13	fin.	981.59	5245	2	0	5833	3965	12577	5100	9798		1.87	Si
SLV 6	ini.	558.36	-5641	2	0	5833	3965	12577	5100	9798		1.74	Si
SLV 6	fin.	-1604.19	-4082	2	0	5833	3965	12577	5100	9798		2.4	Si
SLV 3	ini.	1126.73	-6202	2	0	5833	3965	12577	5100	9798		1.58	Si
SLV 3	fin.	-1045.02	-5763	2	0	5833	3965	12577	5100	9798		1.7	Si
SLV 1	ini.	1055.99	-7115	2	0	5833	3965	12577	5100	9798		1.38	Si
SLV 1	fin.	-1612.59	-6330	2	0	5833	3965	12577	5100	9798		1.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.496	SLV 2	Si
V_SLV	1.164	SLV 2	Si
PF_SLU	9.806	SLU 82	Si
V_SLU	1.923	SLU 78	Si

Trave di accoppiamento 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	11.35	12.05	0.7	-6.008	-3.359	11.35	12.05	0.7	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fthk	fvk0	fthmedio	td	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 44	ini.	117.82	-190	-0.0000989	0.0001872	0.0035	0.7		1796.43	1192.92	Si	10.12	Si
SLU 44	fin.	-80.33	-390	-0.0000664	0.0001872	0.0035	0.7		1800.85	1192.92	Si	14.85	Si
SLU 68	ini.	123.86	-275	-0.0001042	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.63	Si
SLU 68	fin.	-91.94	-480	-0.0000763	0.0001872	0.0035	0.7		1800.85	1192.92	Si	12.97	Si
SLU 73	ini.	116.01	-366	-0.0000973	0.0001872	0.0035	0.7		1796.43	1192.92	Si	10.28	Si
SLU 73	fin.	-105.1	-580	-0.0000876	0.0001872	0.0035	0.7		1800.85	1192.92	Si	11.35	Si
SLU 72	ini.	117.12	-323	-0.0000983	0.0001872	0.0035	0.7		1796.43	1192.92	Si	10.19	Si
SLU 72	fin.	-95.85	-523	-0.0000796	0.0001872	0.0035	0.7		1800.85	1192.92	Si	12.45	Si
SLU 64	ini.	116.79	-287	-0.000098	0.0001872	0.0035	0.7		1796.43	1192.92	Si	10.21	Si
SLU 64	fin.	-93.13	-490	-0.0000773	0.0001872	0.0035	0.7		1800.85	1192.92	Si	12.81	Si
SLU 84	ini.	104.71	-467	-0.0000875	0.0001872	0.0035	0.7		1796.43	1192.92	Si	11.39	Si
SLU 84	fin.	-115.69	-678	-0.0000968	0.0001872	0.0035	0.7		1800.85	1192.92	Si	10.31	Si
SLU 67	ini.	120.61	-304	-0.0001014	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.89	Si
SLU 67	fin.	-94.67	-507	-0.0000786	0.0001872	0.0035	0.7		1800.85	1192.92	Si	12.6	Si
SLU 70	ini.	117.81	-335	-0.0000989	0.0001872	0.0035	0.7		1796.43	1192.92	Si	10.13	Si
SLU 70	fin.	-97.12	-534	-0.0000807	0.0001872	0.0035	0.7		1800.85	1192.92	Si	12.28	Si
SLU 83	ini.	98.8	-493	-0.0000824	0.0001872	0.0035	0.7		1796.43	1192.92	Si	12.07	Si
SLU 83	fin.	-117.87	-700	-0.0000987	0.0001872	0.0035	0.7		1800.85	1192.92	Si	10.12	Si
SLU 65	ini.	126.65	-244	-0.0001067	0.0001872	0.0035	0.7		1796.43	1192.92	Si	9.42	Si
SLU 65	fin.	-89.49	-453	-0.0000742	0.0001872	0.0035	0.7		1800.85	1192.92	Si	13.33	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	ini.	100.57	31	0.7	0	1361	3965	2935	1785	2042	Si	66.16	Si
SLU 79	fin.	-113.63	-1829	0.7	0	1361	3965	2935	1785	2042	Si	1.12	Si
SLU 80	ini.	106.48	21	0.7	0	1361	3965	2935	1785	2042	Si	98.23	Si
SLU 80	fin.	-111.45	-1836	0.7	0	1361	3965	2935	1785	2042	Si	1.11	Si
SLU 84	ini.	104.71	14	0.7	0	1361	3965	2935	1785	2042	Si	149.68	Si
SLU 84	fin.	-115.69	-1851	0.7	0	1361	3965	2935	1785	2042	Si	1.1	Si
SLU 83	ini.	98.8	24	0.7	0	1361	3965	2935	1785	2042	Si	86.08	Si
SLU 83	fin.	-117.87	-1843	0.7	0	1361	3965	2935	1785	2042	Si	1.11	Si
SLU 81	ini.	101.59	3	0.7	0	1361	3965	2935	1785	2042	Si	783.73	Si
SLU 81	fin.	-115.42	-1800	0.7	0	1361	3965	2935	1785	2042	Si	1.13	Si
SLU 78	ini.	107.17	29	0.7	0	1361	3965	2935	1785	2042	Si	71.45	Si
SLU 78	fin.	-112.72	-1869	0.7	0	1361	3965	2935	1785	2042	Si	1.09	Si
SLU 82	ini.	107.5	-7	0.7	0	1361	3965	2935	1785	2042	Si	273.26	Si
SLU 82	fin.	-113.24	-1808	0.7	0	1361	3965	2935	1785	2042	Si	1.13	Si
SLU 75	ini.	109.96	7	0.7	0	1361	3965	2935	1785	2042	Si	273.65	Si
SLU 75	fin.	-110.27	-1827	0.7	0	1361	3965	2935	1785	2042	Si	1.12	Si
SLU 77	ini.	101.26	39	0.7	0	1361	3965	2935	1785	2042	Si	52.82	Si
SLU 77	fin.	-114.91	-1862	0.7	0	1361	3965	2935	1785	2042	Si	1.1	Si
SLU 74	ini.	104.05	18	0.7	0	1361	3965	2935	1785	2042	Si	116.42	Si
SLU 74	fin.	-112.46	-1819	0.7	0	1361	3965	2935	1785	2042	Si	1.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	469.14	1319	-0.0004364	0.0002807	0.0035	0.7		1809.55	1809.55		3.86	Si
SLD 2	fin.	15.22	908	-0.0000123	0.0002807	0.0035	0.7		1809.55	1809.55		118.87	Si
SLV 16	ini.	-395.8	-2283	-0.0003572	0.0002807	0.0035	0.7		1814.08	1814.08		4.58	Si
SLV 16	fin.	-207.14	-2172	-0.0001758	0.0002807	0.0035	0.7		1814.08	1814.08		8.76	Si
SLV 1	ini.	565.52	1795	-0.0005455	0.0002807	0.0035	0.7		1809.55	1809.55		3.2	Si
SLV 1	fin.	58.97	1372	-0.0000483	0.0002807	0.0035	0.7		1809.55	1809.55		30.68	Si
SLV 13	ini.	-420.19	-2056	-0.0003826	0.0002807	0.0035	0.7		1814.08	1814.08		4.32	Si
SLV 13	fin.	-133.82	-1783	-0.0001113	0.0002807	0.0035	0.7		1814.08	1814.08		13.56	Si
SLV 4	ini.	589.91	1567	-0.0005743	0.0002807	0.0035	0.7		1809.55	1809.55		3.07	Si
SLV 4	fin.	-14.35	983	-0.0000116	0.0002807	0.0035	0.7		1814.08	1814.08		126.42	Si
SLV 6	ini.	441.46	1560	-0.0004063	0.0002807	0.0035	0.7		1809.55	1809.55		4.1	Si
SLV 6	fin.	92.56	1301	-0.0000764	0.0002807	0.0035	0.7		1809.55	1809.55		19.55	Si
SLV 2	ini.	690.01	2218	-0.0006972	0.0002807	0.0035	0.7		1809.55	1809.55		2.62	Si
SLV 2	fin.	66.72	1662	-0.0000547	0.0002807	0.0035	0.7		1809.55	1809.55		27.12	Si
SLV 15	ini.	-520.29	-2706	-0.000492	0.0002807	0.0035	0.7		1814.08	1814.08		3.49	Si
SLV 15	fin.	-214.88	-2461	-0.0001828	0.0002807	0.0035	0.7		1814.08	1814.08		8.44	Si
SLV 3	ini.	465.42	1144	-0.0004323	0.0002807	0.0035	0.7		1809.55	1809.55		3.89	Si
SLV 3	fin.	-22.09	694	-0.0000179	0.0002807	0.0035	0.7		1814.08	1814.08		82.11	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	407.72	921	-0.0003706	0.0002807	0.0035	0.7		1809.55	1809.55		4.44	Si
SLD 4	fin.	-34.82	492	-0.0000283	0.0002807	0.0035	0.7		1814.08	1814.08		52.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	690.01	-1287	0.7	0	2042	3965	4402	1785	6006		4.67	Si
SLV 2	fin.	66.72	-2008	0.7	0	2042	3965	4402	1785	6006		2.99	Si
SLD 3	ini.	328.27	-623	0.7	0	2042	3965	4402	1785	6006		9.64	Si
SLD 3	fin.	-39.76	-1555	0.7	0	2042	3965	4402	1785	6006		3.86	Si
SLD 2	ini.	469.14	-832	0.7	0	2042	3965	4402	1785	6006		7.22	Si
SLD 2	fin.	15.22	-1723	0.7	0	2042	3965	4402	1785	6006		3.49	Si
SLD 1	ini.	389.68	-615	0.7	0	2042	3965	4402	1785	6006		9.77	Si
SLD 1	fin.	10.28	-1557	0.7	0	2042	3965	4402	1785	6006		3.86	Si
SLV 8	ini.	107.79	-494	0.7	0	2042	3965	4402	1785	6006		12.16	Si
SLV 8	fin.	-177.67	-1498	0.7	0	2042	3965	4402	1785	6006		4.01	Si
SLD 4	ini.	407.72	-841	0.7	0	2042	3965	4402	1785	6006		7.15	Si
SLD 4	fin.	-34.82	-1721	0.7	0	2042	3965	4402	1785	6006		3.49	Si
SLV 1	ini.	565.52	-946	0.7	0	2042	3965	4402	1785	6006		6.35	Si
SLV 1	fin.	58.97	-1748	0.7	0	2042	3965	4402	1785	6006		3.44	Si
SLV 3	ini.	465.42	-959	0.7	0	2042	3965	4402	1785	6006		6.27	Si
SLV 3	fin.	-22.09	-1741	0.7	0	2042	3965	4402	1785	6006		3.45	Si
SLV 4	ini.	589.91	-1299	0.7	0	2042	3965	4402	1785	6006		4.62	Si
SLV 4	fin.	-14.35	-2001	0.7	0	2042	3965	4402	1785	6006		3	Si
SLV 6	ini.	441.46	-453	0.7	0	2042	3965	4402	1785	6006		13.26	Si
SLV 6	fin.	92.56	-1522	0.7	0	2042	3965	4402	1785	6006		3.95	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.622	SLV 2	Si
V_SLV	2.991	SLV 2	Si
PF_SLU	9.419	SLU 65	Si
V_SLU	1.092	SLU 78	Si

Trave di accoppiamento 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.283	-3.359	8.55	9.45	0.9	-3.183	-3.359	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	155.43	-1099	-0.0000784	0.0001872	0.0035	0.9		2959	1717.92	Si	11.05	Si
SLU 79	fin.	265.04	-1296	-0.0001371	0.0001872	0.0035	0.9		2959	1717.92	Si	6.48	Si
SLU 81	ini.	150.19	-1073	-0.0000757	0.0001872	0.0035	0.9		2959	1717.92	Si	11.44	Si
SLU 81	fin.	258.93	-1265	-0.0001337	0.0001872	0.0035	0.9		2959	1717.92	Si	6.63	Si
SLU 84	ini.	154.05	-1097	-0.0000777	0.0001872	0.0035	0.9		2959	1717.92	Si	11.15	Si
SLU 84	fin.	265.2	-1296	-0.0001371	0.0001872	0.0035	0.9		2959	1717.92	Si	6.48	Si
SLU 78	ini.	165.38	-1127	-0.0000836	0.0001872	0.0035	0.9		2959	1717.92	Si	10.39	Si
SLU 78	fin.	263.72	-1302	-0.0001363	0.0001872	0.0035	0.9		2959	1717.92	Si	6.51	Si
SLU 80	ini.	165.41	-1114	-0.0000836	0.0001872	0.0035	0.9		2959	1717.92	Si	10.39	Si
SLU 80	fin.	257.11	-1274	-0.0001327	0.0001872	0.0035	0.9		2959	1717.92	Si	6.68	Si
SLU 35	ini.	94.78	-881	-0.0000472	0.0001872	0.0035	0.9		2959	1717.92	Si	18.13	Si
SLU 35	fin.	257.1	-1193	-0.0001327	0.0001872	0.0035	0.9		2959	1717.92	Si	6.68	Si
SLU 77	ini.	155.4	-1113	-0.0000784	0.0001872	0.0035	0.9		2959	1717.92	Si	11.05	Si
SLU 77	fin.	271.65	-1323	-0.0001407	0.0001872	0.0035	0.9		2959	1717.92	Si	6.32	Si
SLU 41	ini.	83.45	-851	-0.0000415	0.0001872	0.0035	0.9		2959	1717.92	Si	20.59	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 41	fin.	258.58	-1188	-0.0001335	0.0001872	0.0035	0.9		2959	1717.92	Si	6.64	Si
SLU 74	ini.	161.52	-1103	-0.0000816	0.0001872	0.0035	0.9		2959	1717.92	Si	10.64	Si
SLU 74	fin.	257.45	-1271	-0.0001329	0.0001872	0.0035	0.9		2959	1717.92	Si	6.67	Si
SLU 83	ini.	144.07	-1083	-0.0000725	0.0001872	0.0035	0.9		2959	1717.92	Si	11.92	Si
SLU 83	fin.	273.13	-1318	-0.0001415	0.0001872	0.0035	0.9		2959	1717.92	Si	6.29	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	171.49	-685	0.9	0	1750	7137	3773	2295	2625	Si	3.83	Si
SLU 75	fin.	249.52	1384	0.9	0	1750	7137	3773	2295	2625	Si	1.9	Si
SLU 79	ini.	155.43	-627	0.9	0	1750	7137	3773	2295	2625	Si	4.18	Si
SLU 79	fin.	265.04	1464	0.9	0	1750	7137	3773	2295	2625	Si	1.79	Si
SLU 80	ini.	165.41	-665	0.9	0	1750	7137	3773	2295	2625	Si	3.95	Si
SLU 80	fin.	257.11	1426	0.9	0	1750	7137	3773	2295	2625	Si	1.84	Si
SLU 35	ini.	94.78	-399	0.9	0	1750	7137	3773	2295	2625	Si	6.58	Si
SLU 35	fin.	257.1	1399	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 84	ini.	154.05	-606	0.9	0	1750	7137	3773	2295	2625	Si	4.33	Si
SLU 84	fin.	265.2	1443	0.9	0	1750	7137	3773	2295	2625	Si	1.82	Si
SLU 77	ini.	155.4	-635	0.9	0	1750	7137	3773	2295	2625	Si	4.13	Si
SLU 77	fin.	271.65	1507	0.9	0	1750	7137	3773	2295	2625	Si	1.74	Si
SLU 74	ini.	161.52	-647	0.9	0	1750	7137	3773	2295	2625	Si	4.05	Si
SLU 74	fin.	257.45	1422	0.9	0	1750	7137	3773	2295	2625	Si	1.85	Si
SLU 83	ini.	144.07	-568	0.9	0	1750	7137	3773	2295	2625	Si	4.62	Si
SLU 83	fin.	273.13	1481	0.9	0	1750	7137	3773	2295	2625	Si	1.77	Si
SLU 81	ini.	150.19	-580	0.9	0	1750	7137	3773	2295	2625	Si	4.52	Si
SLU 81	fin.	258.93	1396	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 78	ini.	165.38	-673	0.9	0	1750	7137	3773	2295	2625	Si	3.9	Si
SLU 78	fin.	263.72	1469	0.9	0	1750	7137	3773	2295	2625	Si	1.79	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	883	-2032	-0.0005103	0.0002807	0.0035	0.9		2989.59	2989.59		3.39	Si
SLD 2	fin.	-368.12	562	-0.0001903	0.0002807	0.0035	0.9		2995.37	2995.37		8.14	Si
SLV 1	ini.	1050.18	-2318	-0.0006304	0.0002807	0.0035	0.9		2989.59	2989.59		2.85	Si
SLV 1	fin.	-481.27	849	-0.000254	0.0002807	0.0035	0.9		2995.37	2995.37		6.22	Si
SLV 5	ini.	1016.6	-2358	-0.0006057	0.0002807	0.0035	0.9		2989.59	2989.59		2.94	Si
SLV 5	fin.	-423.02	618	-0.0002209	0.0002807	0.0035	0.9		2995.37	2995.37		7.08	Si
SLV 2	ini.	1303.78	-2728	-0.000828	0.0002807	0.0035	0.9		2989.59	2989.59		2.29	Si
SLV 2	fin.	-664.06	1338	-0.0003643	0.0002807	0.0035	0.9		2995.37	2995.37		4.51	Si
SLV 6	ini.	1187.34	-2634	-0.0007349	0.0002807	0.0035	0.9		2989.59	2989.59		2.52	Si
SLV 6	fin.	-546.09	947	-0.000292	0.0002807	0.0035	0.9		2995.37	2995.37		5.49	Si
SLV 11	ini.	-878.84	975	-0.0005063	0.0002807	0.0035	0.9		2995.37	2995.37		3.41	Si
SLV 11	fin.	834.89	-2519	-0.0004772	0.0002807	0.0035	0.9		2989.59	2989.59		3.58	Si
SLV 15	ini.	-995.28	1070	-0.0005888	0.0002807	0.0035	0.9		2995.37	2995.37		3.01	Si
SLV 15	fin.	952.86	-2910	-0.0005595	0.0002807	0.0035	0.9		2989.59	2989.59		3.14	Si
SLD 6	ini.	796.2	-1949	-0.0004511	0.0002807	0.0035	0.9		2989.59	2989.59		3.75	Si
SLD 6	fin.	-285.12	293	-0.0001453	0.0002807	0.0035	0.9		2995.37	2995.37		10.51	Si
SLV 4	ini.	881.2	-1964	-0.0005091	0.0002807	0.0035	0.9		2989.59	2989.59		3.39	Si
SLV 4	fin.	-391.2	676	-0.0002031	0.0002807	0.0035	0.9		2995.37	2995.37		7.66	Si
SLV 16	ini.	-741.68	660	-0.0004141	0.0002807	0.0035	0.9		2995.37	2995.37		4.04	Si
SLV 16	fin.	770.06	-2422	-0.0004336	0.0002807	0.0035	0.9		2989.59	2989.59		3.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-708.1	2778	0.9	0	2625	7137	5660	2295	7955		2.86	Si
SLV 12	fin.	711.81	3476	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 6	ini.	1187.34	-4610	0.9	0	2625	7137	5660	2295	7955		1.73	Si
SLV 6	fin.	-546.09	-2459	0.9	0	2625	7137	5660	2295	7955		3.23	Si
SLV 13	ini.	-572.7	1881	0.9	0	2625	7137	5660	2295	7955		4.23	Si
SLV 13	fin.	680	3794	0.9	0	2625	7137	5660	2295	7955		2.1	Si
SLV 16	ini.	-741.68	2651	0.9	0	2625	7137	5660	2295	7955		3	Si
SLV 16	fin.	770.06	4087	0.9	0	2625	7137	5660	2295	7955		1.95	Si
SLV 2	ini.	1303.78	-4786	0.9	0	2625	7137	5660	2295	7955		1.66	Si
SLV 2	fin.	-664.06	-3373	0.9	0	2625	7137	5660	2295	7955		2.36	Si
SLV 5	ini.	1016.6	-3983	0.9	0	2625	7137	5660	2295	7955		2	Si
SLV 5	fin.	-423.02	-1836	0.9	0	2625	7137	5660	2295	7955		4.33	Si
SLV 1	ini.	1050.18	-3856	0.9	0	2625	7137	5660	2295	7955		2.06	Si
SLV 1	fin.	-481.27	-2447	0.9	0	2625	7137	5660	2295	7955		3.25	Si
SLV 11	ini.	-878.84	3405	0.9	0	2625	7137	5660	2295	7955		2.34	Si
SLV 11	fin.	834.89	4100	0.9	0	2625	7137	5660	2295	7955		1.94	Si
SLD 15	ini.	-574.5	2047	0.9	0	2625	7137	5660	2295	7955		3.89	Si
SLD 15	fin.	656.91	3480	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 15	ini.	-995.28	3581	0.9	0	2625	7137	5660	2295	7955		2.22	Si
SLV 15	fin.	952.86	5013	0.9	0	2625	7137	5660	2295	7955		1.59	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.293	SLV 2	Si
V_SLV	1.587	SLV 15	Si
PF_SLU	6.29	SLU 83	Si
V_SLU	1.742	SLU 77	Si



Trave di accoppiamento 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.283	-3.359	11.25	12.05	0.8	-3.183	-3.359	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-89.27	-635	-0.0000563	0.0001872	0.0035	0.8		2345.32	1455.42	Si	16.3	Si
SLU 72	fin.	-240.09	-1086	-0.0001582	0.0001872	0.0035	0.8		2345.32	1455.42	Si	6.06	Si
SLU 65	ini.	-56.98	-533	-0.0000357	0.0001872	0.0035	0.8		2345.32	1455.42	Si	25.54	Si
SLU 65	fin.	-245.88	-1072	-0.0001623	0.0001872	0.0035	0.8		2345.32	1455.42	Si	5.92	Si
SLU 51	ini.	-34.23	-459	-0.0000213	0.0001872	0.0035	0.8		2345.32	1455.42	Si	42.52	Si
SLU 51	fin.	-238.76	-1025	-0.0001572	0.0001872	0.0035	0.8		2345.32	1455.42	Si	6.1	Si
SLU 49	ini.	-39.82	-481	-0.0000248	0.0001872	0.0035	0.8		2345.32	1455.42	Si	36.55	Si
SLU 49	fin.	-241.48	-1042	-0.0001591	0.0001872	0.0035	0.8		2345.32	1455.42	Si	6.03	Si
SLU 46	ini.	-26.92	-437	-0.0000167	0.0001872	0.0035	0.8		2345.32	1455.42	Si	54.07	Si
SLU 46	fin.	-241.91	-1028	-0.0001594	0.0001872	0.0035	0.8		2345.32	1455.42	Si	6.02	Si
SLU 70	ini.	-94.86	-658	-0.00006	0.0001872	0.0035	0.8		2345.32	1455.42	Si	15.34	Si
SLU 70	fin.	-242.82	-1103	-0.0001601	0.0001872	0.0035	0.8		2345.32	1455.42	Si	5.99	Si
SLU 47	ini.	-14.84	-400	-0.0000092	0.0001872	0.0035	0.8		2345.32	1455.42	Si	98.05	Si
SLU 47	fin.	-244.12	-1025	-0.000161	0.0001872	0.0035	0.8		2345.32	1455.42	Si	5.96	Si
SLU 44	ini.	-1.94	-356	-0.0000012	0.0001872	0.0035	0.8		2345.32	1455.42	Si	750.25	Si
SLU 44	fin.	-244.54	-1011	-0.0001613	0.0001872	0.0035	0.8		2345.32	1455.42	Si	5.95	Si
SLU 67	ini.	-81.96	-613	-0.0000516	0.0001872	0.0035	0.8		2345.32	1455.42	Si	17.76	Si
SLU 67	fin.	-243.24	-1089	-0.0001604	0.0001872	0.0035	0.8		2345.32	1455.42	Si	5.98	Si
SLU 68	ini.	-69.88	-577	-0.0000439	0.0001872	0.0035	0.8		2345.32	1455.42	Si	20.83	Si
SLU 68	fin.	-245.45	-1086	-0.000162	0.0001872	0.0035	0.8		2345.32	1455.42	Si	5.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	-69.88	787	0.8	0	1556	6344	3354	2040	2333	Si	2.96	Si
SLU 68	fin.	-245.45	-1832	0.8	0	1556	6344	3354	2040	2333	Si	1.27	Si
SLU 69	ini.	-104.59	948	0.8	0	1556	6344	3354	2040	2333	Si	2.46	Si
SLU 69	fin.	-235.42	-1815	0.8	0	1556	6344	3354	2040	2333	Si	1.29	Si
SLU 67	ini.	-81.96	844	0.8	0	1556	6344	3354	2040	2333	Si	2.76	Si
SLU 67	fin.	-243.24	-1834	0.8	0	1556	6344	3354	2040	2333	Si	1.27	Si
SLU 78	ini.	-151.04	1187	0.8	0	1556	6344	3354	2040	2333	Si	1.97	Si
SLU 78	fin.	-226.26	-1852	0.8	0	1556	6344	3354	2040	2333	Si	1.26	Si
SLU 75	ini.	-138.13	1122	0.8	0	1556	6344	3354	2040	2333	Si	2.08	Si
SLU 75	fin.	-226.68	-1834	0.8	0	1556	6344	3354	2040	2333	Si	1.27	Si
SLU 76	ini.	-126.06	1065	0.8	0	1556	6344	3354	2040	2333	Si	2.19	Si
SLU 76	fin.	-228.89	-1831	0.8	0	1556	6344	3354	2040	2333	Si	1.27	Si
SLU 72	ini.	-89.27	878	0.8	0	1556	6344	3354	2040	2333	Si	2.66	Si
SLU 72	fin.	-240.09	-1825	0.8	0	1556	6344	3354	2040	2333	Si	1.28	Si
SLU 80	ini.	-145.44	1156	0.8	0	1556	6344	3354	2040	2333	Si	2.02	Si
SLU 80	fin.	-223.54	-1824	0.8	0	1556	6344	3354	2040	2333	Si	1.28	Si
SLU 70	ini.	-94.86	909	0.8	0	1556	6344	3354	2040	2333	Si	2.57	Si
SLU 70	fin.	-242.82	-1853	0.8	0	1556	6344	3354	2040	2333	Si	1.26	Si
SLU 77	ini.	-160.76	1226	0.8	0	1556	6344	3354	2040	2333	Si	1.9	Si
SLU 77	fin.	-218.86	-1815	0.8	0	1556	6344	3354	2040	2333	Si	1.29	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	723.98	1080	-0.0005331	0.0002807	0.0035	0.8		2363.93	2363.93		3.27	Si
SLV 6	fin.	-867.03	-2828	-0.0006634	0.0002807	0.0035	0.8		2369.14	2369.14		2.73	Si
SLD 2	ini.	449.51	539	-0.000306	0.0002807	0.0035	0.8		2363.93	2363.93		5.26	Si
SLD 2	fin.	-626.31	-2119	-0.0004472	0.0002807	0.0035	0.8		2369.14	2369.14		3.78	Si
SLV 16	ini.	-668.85	-1602	-0.0004835	0.0002807	0.0035	0.8		2369.14	2369.14		3.54	Si
SLV 16	fin.	372.42	846	-0.0002486	0.0002807	0.0035	0.8		2363.93	2363.93		6.35	Si
SLV 2	ini.	746.69	1111	-0.0005534	0.0002807	0.0035	0.8		2363.93	2363.93		3.17	Si
SLV 2	fin.	-889.51	-2899	-0.0006849	0.0002807	0.0035	0.8		2369.14	2369.14		2.66	Si
SLV 5	ini.	590.44	817	-0.0004182	0.0002807	0.0035	0.8		2363.93	2363.93		4	Si
SLV 5	fin.	-754.04	-2497	-0.0005587	0.0002807	0.0035	0.8		2369.14	2369.14		3.14	Si
SLD 6	ini.	426.39	503	-0.0002885	0.0002807	0.0035	0.8		2363.93	2363.93		5.54	Si
SLD 6	fin.	-603.82	-2049	-0.0004283	0.0002807	0.0035	0.8		2369.14	2369.14		3.92	Si
SLV 15	ini.	-867.19	-1993	-0.0006635	0.0002807	0.0035	0.8		2369.14	2369.14		2.73	Si
SLV 15	fin.	540.25	1337	-0.0003772	0.0002807	0.0035	0.8		2363.93	2363.93		4.38	Si
SLV 12	ini.	-710.94	-1699	-0.0005202	0.0002807	0.0035	0.8		2369.14	2369.14		3.33	Si
SLV 12	fin.	404.78	934	-0.0002724	0.0002807	0.0035	0.8		2363.93	2363.93		5.84	Si
SLV 11	ini.	-844.48	-1963	-0.000642	0.0002807	0.0035	0.8		2369.14	2369.14		2.81	Si
SLV 11	fin.	517.77	1266	-0.0003592	0.0002807	0.0035	0.8		2363.93	2363.93		4.57	Si
SLV 1	ini.	548.34	719	-0.0003837	0.0002807	0.0035	0.8		2363.93	2363.93		4.31	Si
SLV 1	fin.	-721.68	-2408	-0.0005297	0.0002807	0.0035	0.8		2369.14	2369.14		3.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-867.19	3926	0.8	0	2333	6344	5031	2040	7071		1.8	Si
SLV 15	fin.	540.25	2143	0.8	0	2333	6344	5031	2040	7071		3.3	Si
SLV 2	ini.	746.69	-2684	0.8	0	2333	6344	5031	2040	7071		2.63	Si
SLV 2	fin.	-889.51	-4785	0.8	0	2333	6344	5031	2040	7071		1.48	Si
SLV 4	ini.	413.64	-1354	0.8	0	2333	6344	5031	2040	7071		5.22	Si
SLV 4	fin.	-595.04	-3289	0.8	0	2333	6344	5031	2040	7071		2.15	Si
SLD 2	ini.	449.51	-1467	0.8	0	2333	6344	5031	2040	7071		4.82	Si
SLD 2	fin.	-626.31	-3509	0.8	0	2333	6344	5031	2040	7071		2.02	Si
SLD 6	ini.	426.39	-1339	0.8	0	2333	6344	5031	2040	7071		5.28	Si
SLD 6	fin.	-603.82	-3467	0.8	0	2333	6344	5031	2040	7071		2.04	Si
SLV 5	ini.	590.44	-1994	0.8	0	2333	6344	5031	2040	7071		3.55	Si
SLV 5	fin.	-754.04	-4228	0.8	0	2333	6344	5031	2040	7071		1.67	Si
SLV 6	ini.	723.98	-2538	0.8	0	2333	6344	5031	2040	7071		2.79	Si
SLV 6	fin.	-867.03	-4783	0.8	0	2333	6344	5031	2040	7071		1.48	Si
SLV 11	ini.	-844.48	3780	0.8	0	2333	6344	5031	2040	7071		1.87	Si
SLV 11	fin.	517.77	2141	0.8	0	2333	6344	5031	2040	7071		3.3	Si
SLV 1	ini.	548.34	-1876	0.8	0	2333	6344	5031	2040	7071		3.77	Si
SLV 1	fin.	-721.68	-3961	0.8	0	2333	6344	5031	2040	7071		1.78	Si
SLV 10	ini.	399.23	-1196	0.8	0	2333	6344	5031	2040	7071		5.91	Si
SLV 10	fin.	-576.79	-3401	0.8	0	2333	6344	5031	2040	7071		2.08	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.663	SLV 2	Si
V_SLV	1.478	SLV 2	Si
PF_SLU	5.919	SLU 65	Si
V_SLU	1.259	SLU 70	Si

Trave di accoppiamento 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.063	5.951	8.55	9.45	0.9	-2.963	5.951	8.55	9.45	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e,fd	y _F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 46	ini.	196.83	-927	-0.0001002	0.0001872	0.0035	0.9		2959	1717.92	Si	8.73	Si
SLU 46	fin.	46.82	-887	-0.0000231	0.0001872	0.0035	0.9		2959	1717.92	Si	36.69	Si
SLU 51	ini.	199.24	-944	-0.0001015	0.0001872	0.0035	0.9		2959	1717.92	Si	8.62	Si
SLU 51	fin.	52.72	-918	-0.0000261	0.0001872	0.0035	0.9		2959	1717.92	Si	32.59	Si
SLU 47	ini.	191.43	-907	-0.0000973	0.0001872	0.0035	0.9		2959	1717.92	Si	8.97	Si
SLU 47	fin.	48.23	-875	-0.0000238	0.0001872	0.0035	0.9		2959	1717.92	Si	35.62	Si
SLU 45	ini.	204.89	-946	-0.0001045	0.0001872	0.0035	0.9		2959	1717.92	Si	8.38	Si
SLU 45	fin.	36.56	-876	-0.000018	0.0001872	0.0035	0.9		2959	1717.92	Si	46.99	Si
SLU 69	ini.	191.12	-992	-0.0000972	0.0001872	0.0035	0.9		2959	1717.92	Si	8.99	Si
SLU 69	fin.	105.84	-1103	-0.0000528	0.0001872	0.0035	0.9		2959	1717.92	Si	16.23	Si
SLU 43	ini.	202.43	-914	-0.0001032	0.0001872	0.0035	0.9		2959	1717.92	Si	8.49	Si
SLU 43	fin.	19.78	-806	-0.000097	0.0001872	0.0035	0.9		2959	1717.92	Si	86.83	Si
SLU 48	ini.	207.32	-971	-0.0001058	0.0001872	0.0035	0.9		2959	1717.92	Si	8.29	Si
SLU 48	fin.	47.9	-926	-0.0000236	0.0001872	0.0035	0.9		2959	1717.92	Si	35.87	Si
SLU 50	ini.	207.3	-963	-0.0001058	0.0001872	0.0035	0.9		2959	1717.92	Si	8.29	Si
SLU 50	fin.	42.46	-906	-0.0000209	0.0001872	0.0035	0.9		2959	1717.92	Si	40.46	Si
SLU 49	ini.	199.26	-952	-0.0001015	0.0001872	0.0035	0.9		2959	1717.92	Si	8.62	Si
SLU 49	fin.	58.16	-937	-0.0000288	0.0001872	0.0035	0.9		2959	1717.92	Si	29.54	Si
SLU 71	ini.	191.09	-985	-0.0000972	0.0001872	0.0035	0.9		2959	1717.92	Si	8.99	Si
SLU 71	fin.	100.4	-1083	-0.0000501	0.0001872	0.0035	0.9		2959	1717.92	Si	17.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	183.06	-1021	0.9	0	1750	7137	3773	2295	2625	Si	2.57	Si
SLU 70	fin.	116.1	805	0.9	0	1750	7137	3773	2295	2625	Si	3.26	Si
SLU 50	ini.	207.3	-1115	0.9	0	1750	7137	3773	2295	2625	Si	2.35	Si
SLU 50	fin.	42.46	508	0.9	0	1750	7137	3773	2295	2625	Si	5.17	Si
SLU 48	ini.	207.32	-1125	0.9	0	1750	7137	3773	2295	2625	Si	2.33	Si
SLU 48	fin.	47.9	538	0.9	0	1750	7137	3773	2295	2625	Si	4.88	Si
SLU 46	ini.	196.83	-1037	0.9	0	1750	7137	3773	2295	2625	Si	2.53	Si
SLU 46	fin.	46.82	489	0.9	0	1750	7137	3773	2295	2625	Si	5.37	Si
SLU 43	ini.	202.43	-1022	0.9	0	1750	7137	3773	2295	2625	Si	2.57	Si
SLU 43	fin.	19.78	350	0.9	0	1750	7137	3773	2295	2625	Si	7.5	Si
SLU 51	ini.	199.24	-1074	0.9	0	1750	7137	3773	2295	2625	Si	2.44	Si
SLU 51	fin.	52.72	537	0.9	0	1750	7137	3773	2295	2625	Si	4.88	Si
SLU 45	ini.	204.89	-1079	0.9	0	1750	7137	3773	2295	2625	Si	2.43	Si
SLU 45	fin.	36.56	459	0.9	0	1750	7137	3773	2295	2625	Si	5.72	Si
SLU 49	ini.	199.26	-1084	0.9	0	1750	7137	3773	2295	2625	Si	2.42	Si
SLU 49	fin.	58.16	567	0.9	0	1750	7137	3773	2295	2625	Si	4.63	Si
SLU 69	ini.	191.12	-1063	0.9	0	1750	7137	3773	2295	2625	Si	2.47	Si
SLU 69	fin.	105.84	775	0.9	0	1750	7137	3773	2295	2625	Si	3.39	Si
SLU 71	ini.	191.09	-1053	0.9	0	1750	7137	3773	2295	2625	Si	2.49	Si
SLU 71	fin.	100.4	745	0.9	0	1750	7137	3773	2295	2625	Si	3.52	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-415.89	654	-0.0002168	0.0002807	0.0035	0.9		2995.37	2995.37		7.2	Si
SLV 13	fin.	733.56	-1450	-0.0004097	0.0002807	0.0035	0.9		2989.59	2989.59		4.08	Si
SLV 3	ini.	895.16	-2560	-0.0005188	0.0002807	0.0035	0.9		2989.59	2989.59		3.34	Si
SLV 3	fin.	-846.36	179	-0.000484	0.0002807	0.0035	0.9		2995.37	2995.37		3.54	Si
SLV 4	ini.	693.18	-2065	-0.0003836	0.0002807	0.0035	0.9		2989.59	2989.59		4.31	Si
SLV 4	fin.	-608.04	-56	-0.0003295	0.0002807	0.0035	0.9		2995.37	2995.37		4.93	Si
SLD 14	ini.	-340.69	469	-0.0001753	0.0002807	0.0035	0.9		2995.37	2995.37		8.79	Si
SLD 14	fin.	639.03	-1344	-0.0003493	0.0002807	0.0035	0.9		2989.59	2989.59		4.68	Si
SLV 9	ini.	-418.89	667	-0.0002185	0.0002807	0.0035	0.9		2995.37	2995.37		7.15	Si
SLV 9	fin.	745.28	-1458	-0.0004173	0.0002807	0.0035	0.9		2989.59	2989.59		4.01	Si
SLV 7	ini.	832.16	-2411	-0.0004754	0.0002807	0.0035	0.9		2989.59	2989.59		3.59	Si
SLV 7	fin.	-780.21	110	-0.0004394	0.0002807	0.0035	0.9		2995.37	2995.37		3.84	Si
SLV 14	ini.	-617.88	1149	-0.0003355	0.0002807	0.0035	0.9		2995.37	2995.37		4.85	Si
SLV 14	fin.	971.88	-1685	-0.0005732	0.0002807	0.0035	0.9		2989.59	2989.59		3.08	Si
SLV 8	ini.	696.18	-2078	-0.0003855	0.0002807	0.0035	0.9		2989.59	2989.59		4.29	Si
SLV 8	fin.	-619.76	-48	-0.0003367	0.0002807	0.0035	0.9		2995.37	2995.37		4.83	Si
SLV 10	ini.	-554.88	1000	-0.0002973	0.0002807	0.0035	0.9		2995.37	2995.37		5.4	Si
SLV 10	fin.	905.73	-1616	-0.0005262	0.0002807	0.0035	0.9		2989.59	2989.59		3.3	Si
SLV 16	ini.	-335.11	452	-0.0001722	0.0002807	0.0035	0.9		2995.37	2995.37		8.94	Si
SLV 16	fin.	625.22	-1329	-0.0003407	0.0002807	0.0035	0.9		2989.59	2989.59		4.78	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 7	ini.	569.39	-2887	0.9	0	2625	7137	5660	2295	7955		2.75	Si
SLD 7	fin.	-461.19	-1122	0.9	0	2625	7137	5660	2295	7955		7.09	Si
SLV 11	ini.	523.68	-2907	0.9	0	2625	7137	5660	2295	7955		2.74	Si
SLV 11	fin.	-410.23	-769	0.9	0	2625	7137	5660	2295	7955		10.35	Si
SLV 13	ini.	-415.89	1824	0.9	0	2625	7137	5660	2295	7955		4.36	Si
SLV 13	fin.	733.56	2709	0.9	0	2625	7137	5660	2295	7955		2.94	Si
SLV 3	ini.	895.16	-4115	0.9	0	2625	7137	5660	2295	7955		1.93	Si
SLV 3	fin.	-846.36	-2611	0.9	0	2625	7137	5660	2295	7955		3.05	Si
SLV 10	ini.	-554.88	2815	0.9	0	2625	7137	5660	2295	7955		2.83	Si
SLV 10	fin.	905.73	2980	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLD 3	ini.	617.98	-2862	0.9	0	2625	7137	5660	2295	7955		2.78	Si
SLD 3	fin.	-513.51	-1492	0.9	0	2625	7137	5660	2295	7955		5.33	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-617.88	2703	0.9	0	2625	7137	5660	2295	7955		2.94	Si
SLV 14	fin.	971.88	3515	0.9	0	2625	7137	5660	2295	7955		2.26	Si
SLV 8	ini.	696.18	-3635	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLV 8	fin.	-619.76	-1533	0.9	0	2625	7137	5660	2295	7955		5.19	Si
SLV 7	ini.	832.16	-4227	0.9	0	2625	7137	5660	2295	7955		1.88	Si
SLV 7	fin.	-780.21	-2076	0.9	0	2625	7137	5660	2295	7955		3.83	Si
SLV 4	ini.	693.18	-3236	0.9	0	2625	7137	5660	2295	7955		2.46	Si
SLV 4	fin.	-608.04	-1805	0.9	0	2625	7137	5660	2295	7955		4.41	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.076	SLV 14	Si
V_SLV	1.882	SLV 7	Si
PF_SLU	8.286	SLU 48	Si
V_SLU	2.333	SLU 48	Si

Trave di accoppiamento 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.063	5.951	11.25	12.05	0.8	-2.963	5.951	11.25	12.05	0.8	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-207.13	-986	-0.0001351	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.03	Si
SLU 84	fin.	-14.71	-702	-0.0000091	0.0001872	0.0035	0.8		2345.32	1455.42	Si	98.95	Si
SLU 80	ini.	-202.29	-975	-0.0001317	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.19	Si
SLU 80	fin.	-21.92	-739	-0.0000136	0.0001872	0.0035	0.8		2345.32	1455.42	Si	66.4	Si
SLU 35	ini.	-197.94	-929	-0.0001287	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.35	Si
SLU 35	fin.	-6.06	-609	-0.0000037	0.0001872	0.0035	0.8		2345.32	1455.42	Si	240.21	Si
SLU 41	ini.	-197.81	-917	-0.0001286	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.36	Si
SLU 41	fin.	0.83	-562	-0.0000005	0.0001872	0.0035	0.8		2340.32	1455.42	Si	1756.99	Si
SLU 78	ini.	-207.26	-998	-0.0001351	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.02	Si
SLU 78	fin.	-21.6	-748	-0.0000134	0.0001872	0.0035	0.8		2345.32	1455.42	Si	67.39	Si
SLU 42	ini.	-203.44	-936	-0.0001325	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.15	Si
SLU 42	fin.	4.84	-543	-0.0000003	0.0001872	0.0035	0.8		2340.32	1455.42	Si	301	Si
SLU 77	ini.	-201.63	-979	-0.0001313	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.22	Si
SLU 77	fin.	-25.6	-768	-0.0000159	0.0001872	0.0035	0.8		2345.32	1455.42	Si	56.85	Si
SLU 38	ini.	-198.6	-925	-0.0001292	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.33	Si
SLU 38	fin.	-2.38	-580	-0.0000015	0.0001872	0.0035	0.8		2345.32	1455.42	Si	612.5	Si
SLU 83	ini.	-201.5	-967	-0.0001312	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.22	Si
SLU 83	fin.	-18.72	-721	-0.0000116	0.0001872	0.0035	0.8		2345.32	1455.42	Si	77.77	Si
SLU 36	ini.	-203.57	-948	-0.0001326	0.0001872	0.0035	0.8		2345.32	1455.42	Si	7.15	Si
SLU 36	fin.	-2.05	-590	-0.0000013	0.0001872	0.0035	0.8		2345.32	1455.42	Si	709.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-158.45	1746	0.8	0	1556	6344	3354	2040	2333	Si	1.34	Si
SLU 69	fin.	-46.3	-2088	0.8	0	1556	6344	3354	2040	2333	Si	1.12	Si
SLU 77	ini.	-201.63	2074	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 77	fin.	-25.6	-2150	0.8	0	1556	6344	3354	2040	2333	Si	1.09	Si
SLU 79	ini.	-196.66	2036	0.8	0	1556	6344	3354	2040	2333	Si	1.15	Si
SLU 79	fin.	-25.93	-2125	0.8	0	1556	6344	3354	2040	2333	Si	1.1	Si
SLU 70	ini.	-164.08	1773	0.8	0	1556	6344	3354	2040	2333	Si	1.32	Si
SLU 70	fin.	-42.29	-2057	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 78	ini.	-207.26	2101	0.8	0	1556	6344	3354	2040	2333	Si	1.11	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-21.6	-2119	0.8	0	1556	6344	3354	2040	2333	Si	1.1	Si
SLU 83	ini.	-201.5	2063	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 83	fin.	-18.72	-2067	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 74	ini.	-187.96	1960	0.8	0	1556	6344	3354	2040	2333	Si	1.19	Si
SLU 74	fin.	-27.26	-2065	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 84	ini.	-207.13	2090	0.8	0	1556	6344	3354	2040	2333	Si	1.12	Si
SLU 84	fin.	-14.71	-2035	0.8	0	1556	6344	3354	2040	2333	Si	1.15	Si
SLU 80	ini.	-202.29	2063	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si
SLU 80	fin.	-21.92	-2094	0.8	0	1556	6344	3354	2040	2333	Si	1.11	Si
SLU 71	ini.	-153.49	1708	0.8	0	1556	6344	3354	2040	2333	Si	1.37	Si
SLU 71	fin.	-46.62	-2063	0.8	0	1556	6344	3354	2040	2333	Si	1.13	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-378.59	-1412	-0.0002525	0.0002807	0.0035	0.8		2369.14	2369.14		6.26	Si
SLD 10	fin.	180.93	490	-0.0001158	0.0002807	0.0035	0.8		2363.93	2363.93		13.07	Si
SLV 9	ini.	-457.04	-1669	-0.0003111	0.0002807	0.0035	0.8		2369.14	2369.14		5.18	Si
SLV 9	fin.	238.3	772	-0.0001543	0.0002807	0.0035	0.8		2363.93	2363.93		9.92	Si
SLV 13	ini.	-409.76	-1464	-0.0002755	0.0002807	0.0035	0.8		2369.14	2369.14		5.78	Si
SLV 13	fin.	222.51	646	-0.0001436	0.0002807	0.0035	0.8		2363.93	2363.93		10.62	Si
SLV 3	ini.	352.18	865	-0.000234	0.0002807	0.0035	0.8		2363.93	2363.93		6.71	Si
SLV 3	fin.	-407.25	-2294	-0.0002736	0.0002807	0.0035	0.8		2369.14	2369.14		5.82	Si
SLD 14	ini.	-382.14	-1386	-0.0002551	0.0002807	0.0035	0.8		2369.14	2369.14		6.2	Si
SLD 14	fin.	198.15	540	-0.0001272	0.0002807	0.0035	0.8		2363.93	2363.93		11.93	Si
SLV 7	ini.	354.18	929	-0.0002354	0.0002807	0.0035	0.8		2363.93	2363.93		6.67	Si
SLV 7	fin.	-386.25	-2243	-0.0002581	0.0002807	0.0035	0.8		2369.14	2369.14		6.13	Si
SLV 14	ini.	-548.33	-1896	-0.0003828	0.0002807	0.0035	0.8		2369.14	2369.14		4.32	Si
SLV 14	fin.	335.12	1183	-0.0002217	0.0002807	0.0035	0.8		2363.93	2363.93		7.05	Si
SLV 6	ini.	-379.37	-1450	-0.0002531	0.0002807	0.0035	0.8		2369.14	2369.14		6.24	Si
SLV 6	fin.	168.28	462	-0.0001074	0.0002807	0.0035	0.8		2363.93	2363.93		14.05	Si
SLV 10	ini.	-550.33	-1960	-0.0003844	0.0002807	0.0035	0.8		2369.14	2369.14		4.3	Si
SLV 10	fin.	314.13	1133	-0.0002068	0.0002807	0.0035	0.8		2363.93	2363.93		7.53	Si
SLV 16	ini.	-356.25	-1270	-0.0002364	0.0002807	0.0035	0.8		2369.14	2369.14		6.65	Si
SLV 16	fin.	191.51	480	-0.0001228	0.0002807	0.0035	0.8		2363.93	2363.93		12.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	260.89	-509	0.8	0	2333	6344	5031	2040	7071		13.88	Si
SLV 8	fin.	-310.43	-3602	0.8	0	2333	6344	5031	2040	7071		1.96	Si
SLV 4	ini.	213.61	-435	0.8	0	2333	6344	5031	2040	7071		16.27	Si
SLV 4	fin.	-294.63	-3207	0.8	0	2333	6344	5031	2040	7071		2.21	Si
SLD 7	ini.	182.44	-191	0.8	0	2333	6344	5031	2040	7071		37.11	Si
SLD 7	fin.	-253.05	-3086	0.8	0	2333	6344	5031	2040	7071		2.29	Si
SLV 3	ini.	352.18	-1166	0.8	0	2333	6344	5031	2040	7071		6.06	Si
SLV 3	fin.	-407.25	-3956	0.8	0	2333	6344	5031	2040	7071		1.79	Si
SLV 9	ini.	-457.04	2791	0.8	0	2333	6344	5031	2040	7071		2.53	Si
SLV 9	fin.	238.3	739	0.8	0	2333	6344	5031	2040	7071		9.57	Si
SLV 10	ini.	-550.33	3284	0.8	0	2333	6344	5031	2040	7071		2.15	Si
SLV 10	fin.	314.13	1244	0.8	0	2333	6344	5031	2040	7071		5.68	Si
SLV 7	ini.	354.18	-1002	0.8	0	2333	6344	5031	2040	7071		7.06	Si
SLV 7	fin.	-386.25	-4107	0.8	0	2333	6344	5031	2040	7071		1.72	Si
SLD 3	ini.	185.99	-316	0.8	0	2333	6344	5031	2040	7071		22.4	Si
SLD 3	fin.	-270.27	-3022	0.8	0	2333	6344	5031	2040	7071		2.34	Si
SLV 11	ini.	183.22	-97	0.8	0	2333	6344	5031	2040	7071		72.7	Si
SLV 11	fin.	-240.41	-3169	0.8	0	2333	6344	5031	2040	7071		2.23	Si
SLV 14	ini.	-548.33	3448	0.8	0	2333	6344	5031	2040	7071		2.05	Si
SLV 14	fin.	335.12	1093	0.8	0	2333	6344	5031	2040	7071		6.47	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.305	SLV 10	Si
V_SLV	1.722	SLV 7	Si
PF_SLU	7.022	SLU 78	Si
V_SLU	1.085	SLU 77	Si

Trave di accoppiamento 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.813	5.951	12.05	12.95	0.9	-22.713	5.951	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 50	ini.	-159.45	-107	-0.0000804	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.77	Si
SLU 50	fin.	171.12	-597	-0.0000866	0.0001872	0.0035	0.9		2959	1717.92	Si	10.04	Si
SLU 45	ini.	-154.9	-108	-0.000078	0.0001872	0.0035	0.9		2964.67	1717.92	Si	11.09	Si
SLU 45	fin.	164.62	-576	-0.0000832	0.0001872	0.0035	0.9		2959	1717.92	Si	10.44	Si
SLU 47	ini.	-144.37	-117	-0.0000725	0.0001872	0.0035	0.9		2964.67	1717.92	Si	11.9	Si
SLU 47	fin.	157.72	-560	-0.0000796	0.0001872	0.0035	0.9		2959	1717.92	Si	10.89	Si
SLU 48	ini.	-156.31	-115	-0.0000787	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.99	Si
SLU 48	fin.	167.76	-591	-0.0000849	0.0001872	0.0035	0.9		2959	1717.92	Si	10.24	Si
SLU 49	ini.	-148.11	-125	-0.0000745	0.0001872	0.0035	0.9		2964.67	1717.92	Si	11.6	Si
SLU 49	fin.	161.61	-579	-0.0000816	0.0001872	0.0035	0.9		2959	1717.92	Si	10.63	Si
SLU 71	ini.	-142.06	-158	-0.0000713	0.0001872	0.0035	0.9		2964.67	1717.92	Si	12.09	Si
SLU 71	fin.	159.92	-592	-0.0000808	0.0001872	0.0035	0.9		2959	1717.92	Si	10.74	Si
SLU 51	ini.	-151.25	-117	-0.0000761	0.0001872	0.0035	0.9		2964.67	1717.92	Si	11.36	Si
SLU 51	fin.	164.96	-584	-0.0000834	0.0001872	0.0035	0.9		2959	1717.92	Si	10.41	Si
SLU 43	ini.	-156.63	-93	-0.0000789	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.97	Si
SLU 43	fin.	164.83	-566	-0.0000833	0.0001872	0.0035	0.9		2959	1717.92	Si	10.42	Si
SLU 58	ini.	-142	-139	-0.0000713	0.0001872	0.0035	0.9		2964.67	1717.92	Si	12.1	Si
SLU 58	fin.	157.36	-572	-0.0000794	0.0001872	0.0035	0.9		2959	1717.92	Si	10.92	Si
SLU 46	ini.	-146.7	-118	-0.0000737	0.0001872	0.0035	0.9		2964.67	1717.92	Si	11.71	Si
SLU 46	fin.	158.46	-564	-0.00008	0.0001872	0.0035	0.9		2959	1717.92	Si	10.84	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-142.06	513	0.9	0	1750	7137	3773	2295	2625	Si	5.12	Si
SLU 71	fin.	159.92	821	0.9	0	1750	7137	3773	2295	2625	Si	3.2	Si
SLU 49	ini.	-148.11	501	0.9	0	1750	7137	3773	2295	2625	Si	5.23	Si
SLU 49	fin.	161.61	878	0.9	0	1750	7137	3773	2295	2625	Si	2.99	Si
SLU 70	ini.	-130.72	460	0.9	0	1750	7137	3773	2295	2625	Si	5.7	Si
SLU 70	fin.	150.4	805	0.9	0	1750	7137	3773	2295	2625	Si	3.26	Si
SLU 45	ini.	-154.9	539	0.9	0	1750	7137	3773	2295	2625	Si	4.87	Si
SLU 45	fin.	164.62	859	0.9	0	1750	7137	3773	2295	2625	Si	3.05	Si
SLU 43	ini.	-156.63	577	0.9	0	1750	7137	3773	2295	2625	Si	4.55	Si
SLU 43	fin.	164.83	799	0.9	0	1750	7137	3773	2295	2625	Si	3.29	Si
SLU 48	ini.	-156.31	528	0.9	0	1750	7137	3773	2295	2625	Si	4.98	Si
SLU 48	fin.	167.76	907	0.9	0	1750	7137	3773	2295	2625	Si	2.89	Si
SLU 50	ini.	-159.45	554	0.9	0	1750	7137	3773	2295	2625	Si	4.74	Si
SLU 50	fin.	171.12	895	0.9	0	1750	7137	3773	2295	2625	Si	2.93	Si
SLU 46	ini.	-146.7	513	0.9	0	1750	7137	3773	2295	2625	Si	5.12	Si
SLU 46	fin.	158.46	830	0.9	0	1750	7137	3773	2295	2625	Si	3.16	Si
SLU 51	ini.	-151.25	528	0.9	0	1750	7137	3773	2295	2625	Si	4.97	Si
SLU 51	fin.	164.96	866	0.9	0	1750	7137	3773	2295	2625	Si	3.03	Si
SLU 69	ini.	-138.92	486	0.9	0	1750	7137	3773	2295	2625	Si	5.4	Si
SLU 69	fin.	156.56	834	0.9	0	1750	7137	3773	2295	2625	Si	3.15	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	463.43	-719	-0.0002443	0.0002807	0.0035	0.9		2989.59	2989.59		6.45	Si
SLV 6	fin.	-345.64	621	-0.000178	0.0002807	0.0035	0.9		2995.37	2995.37		8.67	Si
SLV 5	ini.	598.24	-915	-0.0003241	0.0002807	0.0035	0.9		2989.59	2989.59		5	Si
SLV 5	fin.	-434.17	786	-0.0002271	0.0002807	0.0035	0.9		2995.37	2995.37		6.9	Si
SLD 11	ini.	-458.59	270	-0.000241	0.0002807	0.0035	0.9		2995.37	2995.37		6.53	Si
SLD 11	fin.	402.55	-1072	-0.0002098	0.0002807	0.0035	0.9		2989.59	2989.59		7.43	Si
SLV 12	ini.	-810.12	698	-0.0004594	0.0002807	0.0035	0.9		2995.37	2995.37		3.7	Si
SLV 12	fin.	667.58	-1638	-0.0003673	0.0002807	0.0035	0.9		2989.59	2989.59		4.48	Si
SLV 7	ini.	-525.72	254	-0.00028	0.0002807	0.0035	0.9		2995.37	2995.37		5.7	Si
SLV 7	fin.	496.47	-1337	-0.0002634	0.0002807	0.0035	0.9		2989.59	2989.59		6.02	Si
SLV 8	ini.	-660.52	450	-0.0003621	0.0002807	0.0035	0.9		2995.37	2995.37		4.53	Si
SLV 8	fin.	585	-1502	-0.000316	0.0002807	0.0035	0.9		2989.59	2989.59		5.11	Si
SLV 16	ini.	-623.97	626	-0.0003393	0.0002807	0.0035	0.9		2995.37	2995.37		4.8	Si
SLV 16	fin.	459.68	-1092	-0.0002421	0.0002807	0.0035	0.9		2989.59	2989.59		6.5	Si
SLV 11	ini.	-675.31	501	-0.0003714	0.0002807	0.0035	0.9		2995.37	2995.37		4.44	Si
SLV 11	fin.	579.05	-1473	-0.0003124	0.0002807	0.0035	0.9		2989.59	2989.59		5.16	Si
SLD 12	ini.	-542.98	393	-0.0002902	0.0002807	0.0035	0.9		2995.37	2995.37		5.52	Si
SLD 12	fin.	457.96	-1175	-0.0002411	0.0002807	0.0035	0.9		2989.59	2989.59		6.53	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-449.67	238	-0.0002359	0.0002807	0.0035	0.9		2995.37	2995.37		6.66	Si
SLD 8	fin.	406.97	-1092	-0.0002123	0.0002807	0.0035	0.9		2989.59	2989.59		7.35	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	-542.98	1830	0.9	0	2625	7137	5660	2295	7955		4.35	Si
SLD 12	fin.	457.96	2184	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLV 5	ini.	598.24	-1861	0.9	0	2625	7137	5660	2295	7955		4.28	Si
SLV 5	fin.	-434.17	-2127	0.9	0	2625	7137	5660	2295	7955		3.74	Si
SLV 7	ini.	-525.72	1777	0.9	0	2625	7137	5660	2295	7955		4.48	Si
SLV 7	fin.	496.47	2248	0.9	0	2625	7137	5660	2295	7955		3.54	Si
SLV 12	ini.	-810.12	2694	0.9	0	2625	7137	5660	2295	7955		2.95	Si
SLV 12	fin.	667.58	3196	0.9	0	2625	7137	5660	2295	7955		2.49	Si
SLV 8	ini.	-660.52	2196	0.9	0	2625	7137	5660	2295	7955		3.62	Si
SLV 8	fin.	585	2695	0.9	0	2625	7137	5660	2295	7955		2.95	Si
SLV 15	ini.	-423.74	1481	0.9	0	2625	7137	5660	2295	7955		5.37	Si
SLV 15	fin.	328.19	1694	0.9	0	2625	7137	5660	2295	7955		4.7	Si
SLD 8	ini.	-449.67	1519	0.9	0	2625	7137	5660	2295	7955		5.24	Si
SLD 8	fin.	406.97	1873	0.9	0	2625	7137	5660	2295	7955		4.25	Si
SLV 11	ini.	-675.31	2275	0.9	0	2625	7137	5660	2295	7955		3.5	Si
SLV 11	fin.	579.05	2749	0.9	0	2625	7137	5660	2295	7955		2.89	Si
SLD 11	ini.	-458.59	1568	0.9	0	2625	7137	5660	2295	7955		5.07	Si
SLD 11	fin.	402.55	1904	0.9	0	2625	7137	5660	2295	7955		4.18	Si
SLV 16	ini.	-623.97	2103	0.9	0	2625	7137	5660	2295	7955		3.78	Si
SLV 16	fin.	459.68	2358	0.9	0	2625	7137	5660	2295	7955		3.37	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.697	SLV 12	Si
V_SLV	2.489	SLV 12	Si
PF_SLU	10.039	SLU 50	Si
V_SLU	2.894	SLU 48	Si

Trave di accoppiamento 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.813	5.951	14.75	15.15	0.4	-22.713	5.951	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-114.87	-53	-0.000327	0.0001872	0.0035	0.4		588.62	426.13	Si	3.71	Si
SLU 77	fin.	-19.54	263	-0.0000491	0.0001872	0.0035	0.4		588.62	426.13	Si	21.81	Si
SLU 69	ini.	-125.46	-84	-0.0003627	0.0001872	0.0035	0.4		588.62	426.13	Si	3.4	Si
SLU 69	fin.	-8.07	304	-0.0000201	0.0001872	0.0035	0.4		588.62	426.13	Si	52.77	Si
SLU 51	ini.	-118.04	-132	-0.0003376	0.0001872	0.0035	0.4		588.62	426.13	Si	3.61	Si
SLU 51	fin.	18.09	317	-0.0000456	0.0001872	0.0035	0.4		586.12	426.13	Si	23.56	Si
SLU 71	ini.	-122.35	-102	-0.0003521	0.0001872	0.0035	0.4		588.62	426.13	Si	3.48	Si
SLU 71	fin.	0.81	305	-0.000002	0.0001872	0.0035	0.4		586.12	426.13	Si	525.12	Si
SLU 70	ini.	-122.18	-73	-0.0003516	0.0001872	0.0035	0.4		588.62	426.13	Si	3.49	Si
SLU 70	fin.	-11.43	292	-0.0000285	0.0001872	0.0035	0.4		588.62	426.13	Si	37.29	Si
SLU 49	ini.	-121.15	-113	-0.0003481	0.0001872	0.0035	0.4		588.62	426.13	Si	3.52	Si
SLU 49	fin.	9.2	316	-0.000023	0.0001872	0.0035	0.4		586.12	426.13	Si	46.31	Si
SLU 72	ini.	-119.07	-92	-0.0003411	0.0001872	0.0035	0.4		588.62	426.13	Si	3.58	Si
SLU 72	fin.	-2.54	293	-0.0000063	0.0001872	0.0035	0.4		588.62	426.13	Si	167.68	Si
SLU 66	ini.	-115.1	-74	-0.0003278	0.0001872	0.0035	0.4		588.62	426.13	Si	3.7	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 66	fin.	-7.72	280	-0.0000192	0.0001872	0.0035	0.4		588.62	426.13	Si	55.17	Si
SLU 50	ini.	-121.32	-142	-0.0003486	0.0001872	0.0035	0.4		588.62	426.13	Si	3.51	Si
SLU 50	fin.	21.44	328	-0.0000542	0.0001872	0.0035	0.4		586.12	426.13	Si	19.88	Si
SLU 48	ini.	-124.43	-124	-0.0003592	0.0001872	0.0035	0.4		588.62	426.13	Si	3.42	Si
SLU 48	fin.	12.55	327	-0.0000315	0.0001872	0.0035	0.4		586.12	426.13	Si	33.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-114.87	599	0.4	0	631	3172	1677	1020	947	Si	1.58	Si
SLU 77	fin.	-19.54	-256	0.4	0	631	3172	1677	1020	947	Si	3.7	Si
SLU 71	ini.	-122.35	616	0.4	0	631	3172	1677	1020	947	Si	1.54	Si
SLU 71	fin.	0.81	-173	0.4	0	631	3172	1677	1020	947	Si	5.49	Si
SLU 66	ini.	-115.1	591	0.4	0	631	3172	1677	1020	947	Si	1.6	Si
SLU 66	fin.	-7.72	-205	0.4	0	631	3172	1677	1020	947	Si	4.62	Si
SLU 48	ini.	-124.43	616	0.4	0	631	3172	1677	1020	947	Si	1.54	Si
SLU 48	fin.	12.55	-124	0.4	0	631	3172	1677	1020	947	Si	7.64	Si
SLU 70	ini.	-122.18	627	0.4	0	631	3172	1677	1020	947	Si	1.51	Si
SLU 70	fin.	-11.43	-228	0.4	0	631	3172	1677	1020	947	Si	4.15	Si
SLU 49	ini.	-121.15	604	0.4	0	631	3172	1677	1020	947	Si	1.57	Si
SLU 49	fin.	9.2	-136	0.4	0	631	3172	1677	1020	947	Si	6.97	Si
SLU 72	ini.	-119.07	604	0.4	0	631	3172	1677	1020	947	Si	1.57	Si
SLU 72	fin.	-2.54	-184	0.4	0	631	3172	1677	1020	947	Si	5.13	Si
SLU 78	ini.	-111.59	588	0.4	0	631	3172	1677	1020	947	Si	1.61	Si
SLU 78	fin.	-22.89	-268	0.4	0	631	3172	1677	1020	947	Si	3.54	Si
SLU 69	ini.	-125.46	638	0.4	0	631	3172	1677	1020	947	Si	1.48	Si
SLU 69	fin.	-8.07	-216	0.4	0	631	3172	1677	1020	947	Si	4.38	Si
SLU 50	ini.	-121.32	594	0.4	0	631	3172	1677	1020	947	Si	1.6	Si
SLU 50	fin.	21.44	-81	0.4	0	631	3172	1677	1020	947	Si	11.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 7	ini.	-219.59	-569	-0.0006733	0.0002807	0.0035	0.4		594.74	594.74		2.71	Si
SLD 7	fin.	148.79	663	-0.0004227	0.0002807	0.0035	0.4		592.15	592.15		3.98	Si
SLV 11	ini.	-287.87	-726	-0.0009525	0.0002807	0.0035	0.4		594.74	594.74		2.07	Si
SLV 11	fin.	207.6	846	-0.0006312	0.0002807	0.0035	0.4		592.15	592.15		2.85	Si
SLV 10	ini.	158.78	754	-0.0004563	0.0002807	0.0035	0.4		592.15	592.15		3.73	Si
SLV 10	fin.	-234.06	-572	-0.0007295	0.0002807	0.0035	0.4		594.74	594.74		2.54	Si
SLD 8	ini.	-245.61	-642	-0.0007754	0.0002807	0.0035	0.4		594.74	594.74		2.42	Si
SLD 8	fin.	177.12	767	-0.00052	0.0002807	0.0035	0.4		592.15	592.15		3.34	Si
SLV 7	ini.	-308.63	-880	-0.0010451	0.0002807	0.0035	0.4		594.74	594.74		1.93	Si
SLV 7	fin.	238.9	954	-0.0007525	0.0002807	0.0035	0.4		592.15	592.15		2.48	Si
SLV 8	ini.	-350.21	-997	-0.001244	0.0002807	0.0035	0.4		594.74	594.74		1.7	Si
SLV 8	fin.	284.17	1121	-0.0009414	0.0002807	0.0035	0.4		592.15	592.15		2.08	Si
SLV 12	ini.	-329.45	-843	-0.0011423	0.0002807	0.0035	0.4		594.74	594.74		1.81	Si
SLV 12	fin.	252.87	1012	-0.000809	0.0002807	0.0035	0.4		592.15	592.15		2.34	Si
SLD 12	ini.	-232.58	-546	-0.0007236	0.0002807	0.0035	0.4		594.74	594.74		2.56	Si
SLD 12	fin.	157.65	701	-0.0004525	0.0002807	0.0035	0.4		592.15	592.15		3.76	Si
SLV 9	ini.	200.35	871	-0.0006042	0.0002807	0.0035	0.4		592.15	592.15		2.96	Si
SLV 9	fin.	-279.33	-738	-0.0009154	0.0002807	0.0035	0.4		594.74	594.74		2.13	Si
SLV 5	ini.	179.59	717	-0.0005288	0.0002807	0.0035	0.4		592.15	592.15		3.3	Si
SLV 5	fin.	-248.02	-630	-0.0007851	0.0002807	0.0035	0.4		594.74	594.74		2.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-329.45	1275	0.4	0	919	3172	2515	1020	3535		2.77	Si
SLV 12	fin.	252.87	782	0.4	0	919	3172	2515	1020	3535		4.52	Si
SLV 10	ini.	158.78	-469	0.4	0	919	3172	2515	1020	3535		7.54	Si
SLV 10	fin.	-234.06	-959	0.4	0	919	3172	2515	1020	3535		3.69	Si
SLV 7	ini.	-308.63	1238	0.4	0	919	3172	2515	1020	3535		2.86	Si
SLV 7	fin.	238.9	745	0.4	0	919	3172	2515	1020	3535		4.75	Si
SLV 9	ini.	200.35	-623	0.4	0	919	3172	2515	1020	3535		5.67	Si
SLV 9	fin.	-279.33	-1115	0.4	0	919	3172	2515	1020	3535		3.17	Si
SLD 8	ini.	-245.61	1009	0.4	0	919	3172	2515	1020	3535		3.5	Si
SLD 8	fin.	177.12	518	0.4	0	919	3172	2515	1020	3535		6.83	Si
SLV 4	ini.	-213.64	957	0.4	0	919	3172	2515	1020	3535		3.7	Si
SLV 4	fin.	161.26	468	0.4	0	919	3172	2515	1020	3535		7.56	Si
SLV 11	ini.	-287.87	1120	0.4	0	919	3172	2515	1020	3535		3.16	Si
SLV 11	fin.	207.6	626	0.4	0	919	3172	2515	1020	3535		5.65	Si
SLV 8	ini.	-350.21	1392	0.4	0	919	3172	2515	1020	3535		2.54	Si
SLV 8	fin.	284.17	901	0.4	0	919	3172	2515	1020	3535		3.92	Si
SLV 5	ini.	179.59	-506	0.4	0	919	3172	2515	1020	3535		6.99	Si
SLV 5	fin.	-248.02	-996	0.4	0	919	3172	2515	1020	3535		3.55	Si
SLD 12	ini.	-232.58	936	0.4	0	919	3172	2515	1020	3535		3.78	Si
SLD 12	fin.	157.65	444	0.4	0	919	3172	2515	1020	3535		7.96	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.698	SLV 8	Si
V_SLV	2.539	SLV 8	Si
PF_SLU	3.396	SLU 69	Si
V_SLU	1.483	SLU 69	Si



Trave di accoppiamento 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.593	-3.359	12.05	12.95	0.9	-22.493	-3.359	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 51	ini.	-84.67	-399	-0.000042	0.0001872	0.0035	0.9		2964.67	1717.92	Si	20.29	Si
SLU 51	fin.	201.44	-851	-0.0001026	0.0001872	0.0035	0.9		2959	1717.92	Si	8.53	Si
SLU 47	ini.	-101.35	-342	-0.0000505	0.0001872	0.0035	0.9		2964.67	1717.92	Si	16.95	Si
SLU 47	fin.	199.46	-822	-0.0001016	0.0001872	0.0035	0.9		2959	1717.92	Si	8.61	Si
SLU 46	ini.	-86.06	-375	-0.0000427	0.0001872	0.0035	0.9		2964.67	1717.92	Si	19.96	Si
SLU 46	fin.	193.59	-811	-0.0000985	0.0001872	0.0035	0.9		2959	1717.92	Si	8.87	Si
SLU 50	ini.	-76.52	-411	-0.0000379	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.45	Si
SLU 50	fin.	196.34	-838	-0.0000999	0.0001872	0.0035	0.9		2959	1717.92	Si	8.75	Si
SLU 49	ini.	-74.82	-425	-0.0000371	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.96	Si
SLU 49	fin.	198.97	-848	-0.0001013	0.0001872	0.0035	0.9		2959	1717.92	Si	8.63	Si
SLU 44	ini.	-112.6	-292	-0.0000562	0.0001872	0.0035	0.9		2964.67	1717.92	Si	15.26	Si
SLU 44	fin.	194.09	-785	-0.0000987	0.0001872	0.0035	0.9		2959	1717.92	Si	8.85	Si
SLU 43	ini.	-99.01	-311	-0.0000493	0.0001872	0.0035	0.9		2964.67	1717.92	Si	17.35	Si
SLU 43	fin.	185.59	-764	-0.0000942	0.0001872	0.0035	0.9		2959	1717.92	Si	9.26	Si
SLU 45	ini.	-77.91	-386	-0.0000386	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.05	Si
SLU 45	fin.	188.49	-799	-0.0000958	0.0001872	0.0035	0.9		2959	1717.92	Si	9.11	Si
SLU 48	ini.	-66.67	-436	-0.0000333	0.0001872	0.0035	0.9		2964.67	1717.92	Si	25.77	Si
SLU 48	fin.	193.87	-835	-0.0000986	0.0001872	0.0035	0.9		2959	1717.92	Si	8.86	Si
SLU 72	ini.	-39.96	-503	-0.0000197	0.0001872	0.0035	0.9		2964.67	1717.92	Si	42.99	Si
SLU 72	fin.	185.46	-820	-0.0000942	0.0001872	0.0035	0.9		2959	1717.92	Si	9.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 44	ini.	-112.6	489	0.9	0	1750	7137	3773	2295	2625	Si	5.36	Si
SLU 44	fin.	194.09	969	0.9	0	1750	7137	3773	2295	2625	Si	2.71	Si
SLU 46	ini.	-86.06	375	0.9	0	1750	7137	3773	2295	2625	Si	7	Si
SLU 46	fin.	193.59	1002	0.9	0	1750	7137	3773	2295	2625	Si	2.62	Si
SLU 70	ini.	-30.1	193	0.9	0	1750	7137	3773	2295	2625	Si	13.57	Si
SLU 70	fin.	182.98	907	0.9	0	1750	7137	3773	2295	2625	Si	2.89	Si
SLU 50	ini.	-76.52	344	0.9	0	1750	7137	3773	2295	2625	Si	7.63	Si
SLU 50	fin.	196.34	1022	0.9	0	1750	7137	3773	2295	2625	Si	2.57	Si
SLU 51	ini.	-84.67	372	0.9	0	1750	7137	3773	2295	2625	Si	7.06	Si
SLU 51	fin.	201.44	1046	0.9	0	1750	7137	3773	2295	2625	Si	2.51	Si
SLU 47	ini.	-101.35	440	0.9	0	1750	7137	3773	2295	2625	Si	5.97	Si
SLU 47	fin.	199.46	1016	0.9	0	1750	7137	3773	2295	2625	Si	2.58	Si
SLU 45	ini.	-77.91	347	0.9	0	1750	7137	3773	2295	2625	Si	7.56	Si
SLU 45	fin.	188.49	977	0.9	0	1750	7137	3773	2295	2625	Si	2.69	Si
SLU 48	ini.	-66.67	298	0.9	0	1750	7137	3773	2295	2625	Si	8.81	Si
SLU 48	fin.	193.87	1024	0.9	0	1750	7137	3773	2295	2625	Si	2.56	Si
SLU 43	ini.	-99.01	443	0.9	0	1750	7137	3773	2295	2625	Si	5.93	Si
SLU 43	fin.	185.59	929	0.9	0	1750	7137	3773	2295	2625	Si	2.83	Si
SLU 49	ini.	-74.82	326	0.9	0	1750	7137	3773	2295	2625	Si	8.06	Si
SLU 49	fin.	198.97	1049	0.9	0	1750	7137	3773	2295	2625	Si	2.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-699.31	364	-0.0003867	0.0002807	0.0035	0.9		2995.37	2995.37		4.28	Si
SLV 10	fin.	619.37	-2046	-0.0003371	0.0002807	0.0035	0.9		2989.59	2989.59		4.83	Si
SLV 6	ini.	-490.29	157	-0.0002593	0.0002807	0.0035	0.9		2995.37	2995.37		6.11	Si
SLV 6	fin.	461.49	-1558	-0.0002432	0.0002807	0.0035	0.9		2989.59	2989.59		6.48	Si
SLV 5	ini.	-622.64	307	-0.0003384	0.0002807	0.0035	0.9		2995.37	2995.37		4.81	Si
SLV 5	fin.	556.52	-1837	-0.0002989	0.0002807	0.0035	0.9		2989.59	2989.59		5.37	Si
SLV 12	ini.	540.51	-927	-0.0002893	0.0002807	0.0035	0.9		2989.59	2989.59		5.53	Si
SLV 12	fin.	-303.53	743	-0.0001552	0.0002807	0.0035	0.9		2995.37	2995.37		9.87	Si
SLV 4	ini.	591.55	-959	-0.00032	0.0002807	0.0035	0.9		2989.59	2989.59		5.05	Si
SLV 4	fin.	-345.65	891	-0.000178	0.0002807	0.0035	0.9		2995.37	2995.37		8.67	Si
SLV 7	ini.	617.18	-984	-0.0003358	0.0002807	0.0035	0.9		2989.59	2989.59		4.84	Si
SLV 7	fin.	-366.38	952	-0.0001893	0.0002807	0.0035	0.9		2995.37	2995.37		8.18	Si
SLV 8	ini.	749.53	-1133	-0.0004201	0.0002807	0.0035	0.9		2989.59	2989.59		3.99	Si
SLV 8	fin.	-461.41	1231	-0.0002426	0.0002807	0.0035	0.9		2995.37	2995.37		6.49	Si
SLV 9	ini.	-831.65	513	-0.000474	0.0002807	0.0035	0.9		2995.37	2995.37		3.6	Si
SLV 9	fin.	714.41	-2325	-0.0003972	0.0002807	0.0035	0.9		2989.59	2989.59		4.18	Si
SLV 13	ini.	-673.68	339	-0.0003704	0.0002807	0.0035	0.9		2995.37	2995.37		4.45	Si
SLV 13	fin.	598.65	-1985	-0.0003244	0.0002807	0.0035	0.9		2989.59	2989.59		4.99	Si
SLD 9	ini.	-533.08	202	-0.0002843	0.0002807	0.0035	0.9		2995.37	2995.37		5.62	Si
SLD 9	fin.	492.35	-1653	-0.000261	0.0002807	0.0035	0.9		2989.59	2989.59		6.07	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	749.53	-2533	0.9	0	2625	7137	5660	2295	7955		3.14	Si
SLV 8	fin.	-461.41	-2376	0.9	0	2625	7137	5660	2295	7955		3.35	Si
SLV 5	ini.	-622.64	2200	0.9	0	2625	7137	5660	2295	7955		3.62	Si
SLV 5	fin.	556.52	2795	0.9	0	2625	7137	5660	2295	7955		2.85	Si
SLV 6	ini.	-490.29	1732	0.9	0	2625	7137	5660	2295	7955		4.59	Si
SLV 6	fin.	461.49	2335	0.9	0	2625	7137	5660	2295	7955		3.41	Si
SLV 10	ini.	-699.31	2551	0.9	0	2625	7137	5660	2295	7955		3.12	Si
SLV 10	fin.	619.37	3068	0.9	0	2625	7137	5660	2295	7955		2.59	Si
SLD 10	ini.	-450.23	1678	0.9	0	2625	7137	5660	2295	7955		4.74	Si
SLD 10	fin.	432.86	2124	0.9	0	2625	7137	5660	2295	7955		3.75	Si
SLV 9	ini.	-831.65	3018	0.9	0	2625	7137	5660	2295	7955		2.64	Si
SLV 9	fin.	714.41	3528	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLD 9	ini.	-533.08	1970	0.9	0	2625	7137	5660	2295	7955		4.04	Si
SLD 9	fin.	492.35	2412	0.9	0	2625	7137	5660	2295	7955		3.3	Si
SLV 13	ini.	-673.68	2594	0.9	0	2625	7137	5660	2295	7955		3.07	Si
SLV 13	fin.	598.65	2847	0.9	0	2625	7137	5660	2295	7955		2.79	Si
SLV 14	ini.	-477.11	1899	0.9	0	2625	7137	5660	2295	7955		4.19	Si
SLV 14	fin.	457.49	2164	0.9	0	2625	7137	5660	2295	7955		3.68	Si
SLV 4	ini.	591.55	-2109	0.9	0	2625	7137	5660	2295	7955		3.77	Si
SLV 4	fin.	-345.65	-1694	0.9	0	2625	7137	5660	2295	7955		4.69	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.602	SLV 9	Si
V_SLV	2.255	SLV 9	Si
PF_SLU	8.528	SLU 51	Si
V_SLU	2.504	SLU 49	Si

Trave di accoppiamento 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-21.593	-3.359	14.75	15.15	0.4	-22.493	-3.359	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-126.26	-606	-0.0003655	0.0001872	0.0035	0.4		588.62	426.13	Si	3.38	Si
SLU 49	fin.	12.04	142	-0.0000302	0.0001872	0.0035	0.4		586.12	426.13	Si	35.4	Si
SLU 51	ini.	-120.9	-598	-0.0003472	0.0001872	0.0035	0.4		588.62	426.13	Si	3.52	Si
SLU 51	fin.	18.72	166	-0.0000472	0.0001872	0.0035	0.4		586.12	426.13	Si	22.76	Si
SLU 48	ini.	-123.09	-586	-0.0003547	0.0001872	0.0035	0.4		588.62	426.13	Si	3.46	Si
SLU 48	fin.	8.82	125	-0.000022	0.0001872	0.0035	0.4		586.12	426.13	Si	48.3	Si
SLU 72	ini.	-121.73	-564	-0.0003501	0.0001872	0.0035	0.4		588.62	426.13	Si	3.5	Si
SLU 72	fin.	-3.69	66	-0.0000091	0.0001872	0.0035	0.4		588.62	426.13	Si	115.44	Si
SLU 50	ini.	-117.73	-578	-0.0003366	0.0001872	0.0035	0.4		588.62	426.13	Si	3.62	Si
SLU 50	fin.	15.5	148	-0.000039	0.0001872	0.0035	0.4		586.12	426.13	Si	27.48	Si
SLU 70	ini.	-127.1	-571	-0.0003683	0.0001872	0.0035	0.4		588.62	426.13	Si	3.35	Si
SLU 70	fin.	-10.37	42	-0.0000258	0.0001872	0.0035	0.4		588.62	426.13	Si	41.08	Si
SLU 46	ini.	-119.4	-584	-0.0003422	0.0001872	0.0035	0.4		588.62	426.13	Si	3.57	Si
SLU 46	fin.	18.4	163	-0.0000464	0.0001872	0.0035	0.4		586.12	426.13	Si	23.15	Si
SLU 69	ini.	-123.93	-551	-0.0003575	0.0001872	0.0035	0.4		588.62	426.13	Si	3.44	Si
SLU 69	fin.	-13.59	25	-0.000034	0.0001872	0.0035	0.4		588.62	426.13	Si	31.36	Si
SLU 67	ini.	-120.24	-549	-0.000345	0.0001872	0.0035	0.4		588.62	426.13	Si	3.54	Si
SLU 67	fin.	-4.01	63	-0.0000099	0.0001872	0.0035	0.4		588.62	426.13	Si	106.35	Si
SLU 71	ini.	-118.57	-544	-0.0003394	0.0001872	0.0035	0.4		588.62	426.13	Si	3.59	Si
SLU 71	fin.	-6.91	49	-0.0000172	0.0001872	0.0035	0.4		588.62	426.13	Si	61.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 67	ini.	-120.24	968	0.4	0	631	3172	1677	1020	947	Si	0.98	No
SLU 67	fin.	-4.01	-322	0.4	0	631	3172	1677	1020	947	Si	2.95	Si
SLU 78	ini.	-112.05	952	0.4	0	631	3172	1677	1020	947	Si	1	No
SLU 78	fin.	-26	-444	0.4	0	631	3172	1677	1020	947	Si	2.13	Si
SLU 49	ini.	-126.26	979	0.4	0	631	3172	1677	1020	947	Si	0.97	No
SLU 49	fin.	12.04	-225	0.4	0	631	3172	1677	1020	947	Si	4.22	Si
SLU 70	ini.	-127.1	1030	0.4	0	631	3172	1677	1020	947	Si	0.92	No
SLU 70	fin.	-10.37	-367	0.4	0	631	3172	1677	1020	947	Si	2.58	Si
SLU 71	ini.	-118.57	958	0.4	0	631	3172	1677	1020	947	Si	0.99	No
SLU 71	fin.	-6.91	-328	0.4	0	631	3172	1677	1020	947	Si	2.88	Si
SLU 66	ini.	-117.07	952	0.4	0	631	3172	1677	1020	947	Si	0.99	No
SLU 66	fin.	-7.22	-338	0.4	0	631	3172	1677	1020	947	Si	2.8	Si
SLU 77	ini.	-108.89	935	0.4	0	631	3172	1677	1020	947	Si	1.01	Si
SLU 77	fin.	-29.22	-460	0.4	0	631	3172	1677	1020	947	Si	2.06	Si
SLU 48	ini.	-123.09	963	0.4	0	631	3172	1677	1020	947	Si	0.98	No
SLU 48	fin.	8.82	-241	0.4	0	631	3172	1677	1020	947	Si	3.93	Si
SLU 72	ini.	-121.73	974	0.4	0	631	3172	1677	1020	947	Si	0.97	No
SLU 72	fin.	-3.69	-312	0.4	0	631	3172	1677	1020	947	Si	3.03	Si
SLU 69	ini.	-123.93	1013	0.4	0	631	3172	1677	1020	947	Si	0.93	No
SLU 69	fin.	-13.59	-383	0.4	0	631	3172	1677	1020	947	Si	2.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-252.5	-1494	-0.0008032	0.0002807	0.0035	0.4		594.74	594.74		2.36	Si
SLV 6	fin.	175.64	980	-0.0005148	0.0002807	0.0035	0.4		592.15	592.15		3.37	Si
SLV 5	ini.	-300.4	-1802	-0.0010079	0.0002807	0.0035	0.4		594.74	594.74		1.98	Si
SLV 5	fin.	221.33	1224	-0.0006835	0.0002807	0.0035	0.4		592.15	592.15		2.68	Si
SLV 13	ini.	-276.19	-1678	-0.000902	0.0002807	0.0035	0.4		594.74	594.74		2.15	Si
SLV 13	fin.	189.59	1048	-0.0005647	0.0002807	0.0035	0.4		592.15	592.15		3.12	Si
SLD 9	ini.	-251.23	-1497	-0.0007981	0.0002807	0.0035	0.4		594.74	594.74		2.37	Si
SLD 9	fin.	171.07	953	-0.0004987	0.0002807	0.0035	0.4		592.15	592.15		3.46	Si
SLV 7	ini.	157.61	1147	-0.0004523	0.0002807	0.0035	0.4		592.15	592.15		3.76	Si
SLV 7	fin.	-216.76	-1114	-0.0006626	0.0002807	0.0035	0.4		594.74	594.74		2.74	Si
SLV 9	ini.	-357.85	-2187	-0.0012827	0.0002807	0.0035	0.4		594.74	594.74		1.66	Si
SLV 9	fin.	272.33	1493	-0.0008904	0.0002807	0.0035	0.4		592.15	592.15		2.17	Si
SLV 8	ini.	205.51	1456	-0.0006234	0.0002807	0.0035	0.4		592.15	592.15		2.88	Si
SLV 8	fin.	-262.45	-1358	-0.0008442	0.0002807	0.0035	0.4		594.74	594.74		2.27	Si
SLD 10	ini.	-221.25	-1304	-0.0006797	0.0002807	0.0035	0.4		594.74	594.74		2.69	Si
SLD 10	fin.	142.47	801	-0.0004018	0.0002807	0.0035	0.4		592.15	592.15		4.16	Si
SLV 10	ini.	-309.95	-1878	-0.0010511	0.0002807	0.0035	0.4		594.74	594.74		1.92	Si
SLV 10	fin.	226.64	1249	-0.0007041	0.0002807	0.0035	0.4		592.15	592.15		2.61	Si
SLD 5	ini.	-215.25	-1256	-0.0006568	0.0002807	0.0035	0.4		594.74	594.74		2.76	Si
SLD 5	fin.	139.18	785	-0.000391	0.0002807	0.0035	0.4		592.15	592.15		4.25	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-252.5	1502	0.4	0	919	3172	2515	1020	3535		2.35	Si
SLV 6	fin.	175.64	704	0.4	0	919	3172	2515	1020	3535		5.02	Si
SLV 10	ini.	-309.95	1783	0.4	0	919	3172	2515	1020	3535		1.98	Si
SLV 10	fin.	226.64	976	0.4	0	919	3172	2515	1020	3535		3.62	Si
SLV 5	ini.	-300.4	1743	0.4	0	919	3172	2515	1020	3535		2.03	Si
SLV 5	fin.	221.33	941	0.4	0	919	3172	2515	1020	3535		3.76	Si
SLD 5	ini.	-215.25	1312	0.4	0	919	3172	2515	1020	3535		2.69	Si
SLD 5	fin.	139.18	517	0.4	0	919	3172	2515	1020	3535		6.83	Si
SLV 7	ini.	157.61	-566	0.4	0	919	3172	2515	1020	3535		6.25	Si
SLV 7	fin.	-216.76	-1325	0.4	0	919	3172	2515	1020	3535		2.67	Si
SLV 8	ini.	205.51	-807	0.4	0	919	3172	2515	1020	3535		4.38	Si
SLV 8	fin.	-262.45	-1561	0.4	0	919	3172	2515	1020	3535		2.26	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-251.23	1489	0.4	0	919	3172	2515	1020	3535		2.38	Si
SLD 9	fin.	171.07	688	0.4	0	919	3172	2515	1020	3535		5.14	Si
SLV 9	ini.	-357.85	2025	0.4	0	919	3172	2515	1020	3535		1.75	Si
SLV 9	fin.	272.33	1213	0.4	0	919	3172	2515	1020	3535		2.92	Si
SLV 13	ini.	-276.19	1604	0.4	0	919	3172	2515	1020	3535		2.2	Si
SLV 13	fin.	189.59	794	0.4	0	919	3172	2515	1020	3535		4.45	Si
SLD 10	ini.	-221.25	1338	0.4	0	919	3172	2515	1020	3535		2.64	Si
SLD 10	fin.	142.47	540	0.4	0	919	3172	2515	1020	3535		6.55	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.662	SLV 9	Si
V_SLV	1.746	SLV 9	Si
PF_SLU	3.353	SLU 70	Si
V_SLU	0.92	SLU 70	No

Trave di accoppiamento 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	12.05	14.05	2	-19.368	-3.359	12.05	14.05	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{vd}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-427.51	-1381	-0.000043	0.0001872	0.0035	2		14357.01	4605.42	Si	10.77	Si
SLU 70	fin.	350.73	-1778	-0.0000352	0.0001872	0.0035	2		14344.28	4605.42	Si	13.13	Si
SLU 66	ini.	-409.7	-1254	-0.0000411	0.0001872	0.0035	2		14357.01	4605.42	Si	11.24	Si
SLU 66	fin.	333.89	-1642	-0.0000335	0.0001872	0.0035	2		14344.28	4605.42	Si	13.79	Si
SLU 73	ini.	-411.67	-1034	-0.0000413	0.0001872	0.0035	2		14357.01	4605.42	Si	11.19	Si
SLU 73	fin.	324.1	-1425	-0.0000325	0.0001872	0.0035	2		14344.28	4605.42	Si	14.21	Si
SLU 67	ini.	-428.07	-1283	-0.000043	0.0001872	0.0035	2		14357.01	4605.42	Si	10.76	Si
SLU 67	fin.	337.8	-1670	-0.0000339	0.0001872	0.0035	2		14344.28	4605.42	Si	13.63	Si
SLU 69	ini.	-409.14	-1352	-0.0000411	0.0001872	0.0035	2		14357.01	4605.42	Si	11.26	Si
SLU 69	fin.	346.82	-1749	-0.0000348	0.0001872	0.0035	2		14344.28	4605.42	Si	13.28	Si
SLU 64	ini.	-408.19	-1086	-0.000041	0.0001872	0.0035	2		14357.01	4605.42	Si	11.28	Si
SLU 64	fin.	309.75	-1455	-0.000031	0.0001872	0.0035	2		14344.28	4605.42	Si	14.87	Si
SLU 76	ini.	-411.1	-1132	-0.0000413	0.0001872	0.0035	2		14357.01	4605.42	Si	11.2	Si
SLU 76	fin.	337.02	-1533	-0.0000338	0.0001872	0.0035	2		14344.28	4605.42	Si	13.67	Si
SLU 65	ini.	-438.81	-1134	-0.0000441	0.0001872	0.0035	2		14357.01	4605.42	Si	10.5	Si
SLU 65	fin.	316.27	-1501	-0.0000317	0.0001872	0.0035	2		14344.28	4605.42	Si	14.56	Si
SLU 72	ini.	-425.43	-1311	-0.0000428	0.0001872	0.0035	2		14357.01	4605.42	Si	10.83	Si
SLU 72	fin.	339.51	-1698	-0.000034	0.0001872	0.0035	2		14344.28	4605.42	Si	13.56	Si
SLU 68	ini.	-438.24	-1232	-0.0000441	0.0001872	0.0035	2		14357.01	4605.42	Si	10.51	Si
SLU 68	fin.	329.2	-1609	-0.000033	0.0001872	0.0035	2		14344.28	4605.42	Si	13.99	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-407.06	2323	2	0	3889	3965	8384	5100	5833	Si	2.51	Si
SLU 71	fin.	335.6	2724	2	0	3889	3965	8384	5100	5833	Si	2.14	Si
SLU 77	ini.	-381.99	2372	2	0	3889	3965	8384	5100	5833	Si	2.46	Si
SLU 77	fin.	354.64	2786	2	0	3889	3965	8384	5100	5833	Si	2.09	Si
SLU 70	ini.	-427.51	2401	2	0	3889	3965	8384	5100	5833	Si	2.43	Si
SLU 70	fin.	350.73	2840	2	0	3889	3965	8384	5100	5833	Si	2.05	Si
SLU 72	ini.	-425.43	2368	2	0	3889	3965	8384	5100	5833	Si	2.46	Si
SLU 72	fin.	339.51	2765	2	0	3889	3965	8384	5100	5833	Si	2.11	Si
SLU 79	ini.	-379.92	2339	2	0	3889	3965	8384	5100	5833	Si	2.49	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 79	fin.	343.43	2711	2	0	3889	3965	8384	5100	5833	Si	2.15	Si
SLU 78	ini.	-400.36	2417	2	0	3889	3965	8384	5100	5833	Si	2.41	Si
SLU 78	fin.	358.55	2827	2	0	3889	3965	8384	5100	5833	Si	2.06	Si
SLU 80	ini.	-398.29	2384	2	0	3889	3965	8384	5100	5833	Si	2.45	Si
SLU 80	fin.	347.34	2752	2	0	3889	3965	8384	5100	5833	Si	2.12	Si
SLU 69	ini.	-409.14	2356	2	0	3889	3965	8384	5100	5833	Si	2.48	Si
SLU 69	fin.	346.82	2799	2	0	3889	3965	8384	5100	5833	Si	2.08	Si
SLU 75	ini.	-400.93	2392	2	0	3889	3965	8384	5100	5833	Si	2.44	Si
SLU 75	fin.	345.63	2734	2	0	3889	3965	8384	5100	5833	Si	2.13	Si
SLU 67	ini.	-428.07	2376	2	0	3889	3965	8384	5100	5833	Si	2.45	Si
SLU 67	fin.	337.8	2748	2	0	3889	3965	8384	5100	5833	Si	2.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-908.34	-1965	-0.0000922	0.0002807	0.0035	2		14215.41	14215.41		15.65	Si
SLD 10	fin.	317.75	-2182	-0.0000317	0.0002807	0.0035	2		14202.07	14202.07		44.7	Si
SLV 8	ini.	865.7	1396	-0.0000878	0.0002807	0.0035	2		14202.07	14202.07		16.41	Si
SLV 8	fin.	3.48	1053	-0.0000003	0.0002807	0.0035	2		14202.07	14202.07		4079.68	Si
SLV 14	ini.	-1170.8	-2229	-0.0001199	0.0002807	0.0035	2		14215.41	14215.41		12.14	Si
SLV 14	fin.	365.51	-2548	-0.0000365	0.0002807	0.0035	2		14202.07	14202.07		38.86	Si
SLV 13	ini.	-1450.14	-2596	-0.0001498	0.0002807	0.0035	2		14215.41	14215.41		9.8	Si
SLV 13	fin.	503.64	-2983	-0.0000505	0.0002807	0.0035	2		14202.07	14202.07		28.2	Si
SLV 9	ini.	-1464.08	-2941	-0.0001513	0.0002807	0.0035	2		14215.41	14215.41		9.71	Si
SLV 9	fin.	461.18	-3163	-0.0000462	0.0002807	0.0035	2		14202.07	14202.07		30.8	Si
SLD 13	ini.	-1026.68	-1924	-0.0001046	0.0002807	0.0035	2		14215.41	14215.41		13.85	Si
SLD 13	fin.	404.01	-2271	-0.0000404	0.0002807	0.0035	2		14202.07	14202.07		35.15	Si
SLV 15	ini.	-944.11	-1573	-0.000096	0.0002807	0.0035	2		14215.41	14215.41		15.06	Si
SLV 15	fin.	423.41	-2028	-0.0000424	0.0002807	0.0035	2		14202.07	14202.07		33.54	Si
SLD 9	ini.	-1026.07	-2120	-0.0001046	0.0002807	0.0035	2		14215.41	14215.41		13.85	Si
SLD 9	fin.	375.96	-2366	-0.0000376	0.0002807	0.0035	2		14202.07	14202.07		37.78	Si
SLV 10	ini.	-1276.01	-2694	-0.0001311	0.0002807	0.0035	2		14215.41	14215.41		11.14	Si
SLV 10	fin.	368.18	-2870	-0.0000368	0.0002807	0.0035	2		14202.07	14202.07		38.57	Si
SLV 5	ini.	-1009.12	-2264	-0.0001028	0.0002807	0.0035	2		14215.41	14215.41		14.09	Si
SLV 5	fin.	363.9	-2423	-0.0000364	0.0002807	0.0035	2		14202.07	14202.07		39.03	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-712.49	3160	2	0	5833	3965	12577	5100	9798		3.1	Si
SLD 15	fin.	353.74	3050	2	0	5833	3965	12577	5100	9798		3.21	Si
SLV 9	ini.	-1464.08	4330	2	0	5833	3965	12577	5100	9798		2.26	Si
SLV 9	fin.	461.18	4383	2	0	5833	3965	12577	5100	9798		2.24	Si
SLD 14	ini.	-848.38	3130	2	0	5833	3965	12577	5100	9798		3.13	Si
SLD 14	fin.	315.85	3070	2	0	5833	3965	12577	5100	9798		3.19	Si
SLV 10	ini.	-1276.01	3663	2	0	5833	3965	12577	5100	9798		2.67	Si
SLV 10	fin.	368.18	3762	2	0	5833	3965	12577	5100	9798		2.6	Si
SLV 14	ini.	-1170.8	3958	2	0	5833	3965	12577	5100	9798		2.48	Si
SLV 14	fin.	365.51	3762	2	0	5833	3965	12577	5100	9798		2.6	Si
SLV 5	ini.	-1009.12	2974	2	0	5833	3965	12577	5100	9798		3.29	Si
SLV 5	fin.	363.9	3279	2	0	5833	3965	12577	5100	9798		2.99	Si
SLV 13	ini.	-1450.14	4949	2	0	5833	3965	12577	5100	9798		1.98	Si
SLV 13	fin.	503.64	4683	2	0	5833	3965	12577	5100	9798		2.09	Si
SLD 13	ini.	-1026.68	3762	2	0	5833	3965	12577	5100	9798		2.6	Si
SLD 13	fin.	404.01	3658	2	0	5833	3965	12577	5100	9798		2.68	Si
SLV 15	ini.	-944.11	3984	2	0	5833	3965	12577	5100	9798		2.46	Si
SLV 15	fin.	423.41	3708	2	0	5833	3965	12577	5100	9798		2.64	Si
SLD 9	ini.	-1026.07	3352	2	0	5833	3965	12577	5100	9798		2.92	Si
SLD 9	fin.	375.96	3452	2	0	5833	3965	12577	5100	9798		2.84	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	9.709	SLV 9	Si
V_SLV	1.98	SLV 13	Si
PF_SLU	10.495	SLU 65	Si
V_SLU	2.054	SLU 70	Si

Trave di accoppiamento 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-18.868	-3.359	14.85	15.15	0.3	-19.368	-3.359	14.85	15.15	0.3	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε _{CNR DT-200}						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	-113.03	-181	-0.0006389	0.0001872	0.0035	0.3		333.12	239.7	Si	2.12	Si
SLU 83	fin.	104.32	-181	-0.0005826	0.0001872	0.0035	0.3		331.24	239.7	Si	2.3	Si
SLU 76	ini.	-113.21	-164	-0.0006402	0.0001872	0.0035	0.3		333.12	239.7	Si	2.12	Si
SLU 76	fin.	106.35	-164	-0.0005966	0.0001872	0.0035	0.3		331.24	239.7	Si	2.25	Si
SLU 84	ini.	-114.19	-175	-0.0006471	0.0001872	0.0035	0.3		333.12	239.7	Si	2.1	Si
SLU 84	fin.	106.16	-175	-0.0005952	0.0001872	0.0035	0.3		331.24	239.7	Si	2.26	Si
SLU 77	ini.	-116.4	-217	-0.0006628	0.0001872	0.0035	0.3		333.12	239.7	Si	2.06	Si
SLU 77	fin.	106.54	-217	-0.0005979	0.0001872	0.0035	0.3		331.24	239.7	Si	2.25	Si
SLU 70	ini.	-113.48	-195	-0.0006421	0.0001872	0.0035	0.3		333.12	239.7	Si	2.11	Si
SLU 70	fin.	105.98	-195	-0.000594	0.0001872	0.0035	0.3		331.24	239.7	Si	2.26	Si
SLU 78	ini.	-117.56	-211	-0.000671	0.0001872	0.0035	0.3		333.12	239.7	Si	2.04	Si
SLU 78	fin.	108.38	-211	-0.0006106	0.0001872	0.0035	0.3		331.24	239.7	Si	2.21	Si
SLU 75	ini.	-114.4	-184	-0.0006486	0.0001872	0.0035	0.3		333.12	239.7	Si	2.1	Si
SLU 75	fin.	106.33	-184	-0.0005964	0.0001872	0.0035	0.3		331.24	239.7	Si	2.25	Si
SLU 74	ini.	-113.24	-190	-0.0006404	0.0001872	0.0035	0.3		333.12	239.7	Si	2.12	Si
SLU 74	fin.	104.5	-190	-0.0005837	0.0001872	0.0035	0.3		331.24	239.7	Si	2.29	Si
SLU 79	ini.	-114.44	-201	-0.0006489	0.0001872	0.0035	0.3		333.12	239.7	Si	2.09	Si
SLU 79	fin.	105.34	-201	-0.0005896	0.0001872	0.0035	0.3		331.24	239.7	Si	2.28	Si
SLU 80	ini.	-115.6	-194	-0.0006571	0.0001872	0.0035	0.3		333.12	239.7	Si	2.07	Si
SLU 80	fin.	107.18	-194	-0.0006023	0.0001872	0.0035	0.3		331.24	239.7	Si	2.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-114.4	491	0.3	0	583	2379	1258	765	875	Si	1.78	Si
SLU 75	fin.	106.33	392	0.3	0	583	2379	1258	765	875	Si	2.23	Si
SLU 76	ini.	-113.21	488	0.3	0	583	2379	1258	765	875	Si	1.79	Si
SLU 76	fin.	106.35	390	0.3	0	583	2379	1258	765	875	Si	2.24	Si
SLU 77	ini.	-116.4	495	0.3	0	583	2379	1258	765	875	Si	1.77	Si
SLU 77	fin.	106.54	397	0.3	0	583	2379	1258	765	875	Si	2.21	Si
SLU 84	ini.	-114.19	490	0.3	0	583	2379	1258	765	875	Si	1.79	Si
SLU 84	fin.	106.16	392	0.3	0	583	2379	1258	765	875	Si	2.23	Si
SLU 70	ini.	-113.48	488	0.3	0	583	2379	1258	765	875	Si	1.79	Si
SLU 70	fin.	105.98	390	0.3	0	583	2379	1258	765	875	Si	2.24	Si
SLU 79	ini.	-114.44	489	0.3	0	583	2379	1258	765	875	Si	1.79	Si
SLU 79	fin.	105.34	390	0.3	0	583	2379	1258	765	875	Si	2.24	Si
SLU 74	ini.	-113.24	485	0.3	0	583	2379	1258	765	875	Si	1.81	Si
SLU 74	fin.	104.5	386	0.3	0	583	2379	1258	765	875	Si	2.26	Si
SLU 78	ini.	-117.56	501	0.3	0	583	2379	1258	765	875	Si	1.75	Si
SLU 78	fin.	108.38	403	0.3	0	583	2379	1258	765	875	Si	2.17	Si
SLU 80	ini.	-115.6	495	0.3	0	583	2379	1258	765	875	Si	1.77	Si
SLU 80	fin.	107.18	396	0.3	0	583	2379	1258	765	875	Si	2.21	Si
SLU 83	ini.	-113.03	484	0.3	0	583	2379	1258	765	875	Si	1.81	Si
SLU 83	fin.	104.32	386	0.3	0	583	2379	1258	765	875	Si	2.27	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 15	ini.	-115.35	121	-0.000616	0.0002807	0.0035	0.3		335.87	335.87		2.91	Si
SLV 15	fin.	124.74	161	-0.0006835	0.0002807	0.0035	0.3		333.9	333.9		2.68	Si
SLV 9	ini.	-112.19	405	-0.0005953	0.0002807	0.0035	0.3		335.87	335.87		2.99	Si
SLV 9	fin.	151.03	436	-0.0008719	0.0002807	0.0035	0.3		333.9	333.9		2.21	Si
SLD 13	ini.	-107.5	185	-0.0005651	0.0002807	0.0035	0.3		335.87	335.87		3.12	Si
SLD 13	fin.	125.24	215	-0.0006869	0.0002807	0.0035	0.3		333.9	333.9		2.67	Si
SLD 5	ini.	-91.05	101	-0.0004628	0.0002807	0.0035	0.3		335.87	335.87		3.69	Si
SLD 5	fin.	106.2	104	-0.0005605	0.0002807	0.0035	0.3		333.9	333.9		3.14	Si
SLD 9	ini.	-100.05	213	-0.000518	0.0002807	0.0035	0.3		335.87	335.87		3.36	Si
SLD 9	fin.	122.85	231	-0.0006706	0.0002807	0.0035	0.3		333.9	333.9		2.72	Si
SLV 5	ini.	-97.67	229	-0.0005032	0.0002807	0.0035	0.3		335.87	335.87		3.44	Si
SLV 5	fin.	124.85	233	-0.0006843	0.0002807	0.0035	0.3		333.9	333.9		2.67	Si
SLV 10	ini.	-90.3	346	-0.0004583	0.0002807	0.0035	0.3		335.87	335.87		3.72	Si
SLV 10	fin.	122.98	377	-0.0006714	0.0002807	0.0035	0.3		333.9	333.9		2.72	Si
SLV 14	ini.	-91.65	266	-0.0004664	0.0002807	0.0035	0.3		335.87	335.87		3.66	Si
SLV 14	fin.	112.44	316	-0.000601	0.0002807	0.0035	0.3		333.9	333.9		2.97	Si
SLV 13	ini.	-124.16	354	-0.0006749	0.0002807	0.0035	0.3		335.87	335.87		2.71	Si
SLV 13	fin.	154.11	404	-0.0008951	0.0002807	0.0035	0.3		333.9	333.9		2.17	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-101.87	42	-0.0005294	0.0002807	0.0035	0.3		335.87	335.87		3.3	Si
SLD 15	fin.	106.77	65	-0.0005641	0.0002807	0.0035	0.3		333.9	333.9		3.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 10	ini.	-90.3	480	0.3	0	875	2379	1887	765	2652		5.52	Si
SLV 10	fin.	122.98	438	0.3	0	875	2379	1887	765	2652		6.05	Si
SLV 5	ini.	-97.67	486	0.3	0	875	2379	1887	765	2652		5.45	Si
SLV 5	fin.	124.85	431	0.3	0	875	2379	1887	765	2652		6.15	Si
SLV 9	ini.	-112.19	580	0.3	0	875	2379	1887	765	2652		4.57	Si
SLV 9	fin.	151.03	538	0.3	0	875	2379	1887	765	2652		4.93	Si
SLD 5	ini.	-91.05	434	0.3	0	875	2379	1887	765	2652		6.11	Si
SLD 5	fin.	106.2	370	0.3	0	875	2379	1887	765	2652		7.17	Si
SLV 13	ini.	-124.16	619	0.3	0	875	2379	1887	765	2652		4.29	Si
SLV 13	fin.	154.11	572	0.3	0	875	2379	1887	765	2652		4.63	Si
SLD 9	ini.	-100.05	493	0.3	0	875	2379	1887	765	2652		5.38	Si
SLD 9	fin.	122.85	436	0.3	0	875	2379	1887	765	2652		6.08	Si
SLD 13	ini.	-107.5	517	0.3	0	875	2379	1887	765	2652		5.12	Si
SLD 13	fin.	125.24	459	0.3	0	875	2379	1887	765	2652		5.78	Si
SLV 14	ini.	-91.65	470	0.3	0	875	2379	1887	765	2652		5.64	Si
SLV 14	fin.	112.44	424	0.3	0	875	2379	1887	765	2652		6.26	Si
SLV 15	ini.	-115.35	536	0.3	0	875	2379	1887	765	2652		4.94	Si
SLV 15	fin.	124.74	474	0.3	0	875	2379	1887	765	2652		5.6	Si
SLD 15	ini.	-101.87	466	0.3	0	875	2379	1887	765	2652		5.69	Si
SLD 15	fin.	106.77	398	0.3	0	875	2379	1887	765	2652		6.66	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.167	SLV 13	Si
V_SLV	4.286	SLV 13	Si
PF_SLU	2.039	SLU 78	Si
V_SLU	1.746	SLU 78	Si

Trave di accoppiamento 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.363	-3.359	12.05	12.95	0.9	-18.263	-3.359	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 30	ini.	-74.26	-198	-0.0000368	0.0001872	0.0035	0.9		2964.67	1717.92	Si	23.13	Si
SLU 30	fin.	105.33	-616	-0.0000526	0.0001872	0.0035	0.9		2959	1717.92	Si	16.31	Si
SLU 68	ini.	-85.58	-216	-0.0000425	0.0001872	0.0035	0.9		2964.67	1717.92	Si	20.07	Si
SLU 68	fin.	117.25	-689	-0.0000587	0.0001872	0.0035	0.9		2959	1717.92	Si	14.65	Si
SLU 26	ini.	-84.28	-154	-0.0000418	0.0001872	0.0035	0.9		2964.67	1717.92	Si	20.38	Si
SLU 26	fin.	106.33	-594	-0.0000531	0.0001872	0.0035	0.9		2959	1717.92	Si	16.16	Si
SLU 28	ini.	-74.87	-216	-0.0000371	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.95	Si
SLU 28	fin.	110.99	-651	-0.0000555	0.0001872	0.0035	0.9		2959	1717.92	Si	15.48	Si
SLU 65	ini.	-86.5	-185	-0.0000429	0.0001872	0.0035	0.9		2964.67	1717.92	Si	19.86	Si
SLU 65	fin.	110.64	-641	-0.0000553	0.0001872	0.0035	0.9		2959	1717.92	Si	15.53	Si
SLU 69	ini.	-62.51	-298	-0.0000309	0.0001872	0.0035	0.9		2964.67	1717.92	Si	27.48	Si
SLU 69	fin.	110.5	-707	-0.0000552	0.0001872	0.0035	0.9		2959	1717.92	Si	15.55	Si
SLU 70	ini.	-76.16	-278	-0.0000377	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.56	Si
SLU 70	fin.	121.91	-746	-0.0000611	0.0001872	0.0035	0.9		2959	1717.92	Si	14.09	Si
SLU 71	ini.	-61.91	-280	-0.0000306	0.0001872	0.0035	0.9		2964.67	1717.92	Si	27.75	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	fin.	104.85	-672	-0.0000523	0.0001872	0.0035	0.9		2959	1717.92	Si	16.39	Si
SLU 72	ini.	-75.56	-261	-0.0000374	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.74	Si
SLU 72	fin.	116.26	-711	-0.0000582	0.0001872	0.0035	0.9		2959	1717.92	Si	14.78	Si
SLU 67	ini.	-77.08	-247	-0.0000382	0.0001872	0.0035	0.9		2964.67	1717.92	Si	22.29	Si
SLU 67	fin.	115.3	-698	-0.0000577	0.0001872	0.0035	0.9		2959	1717.92	Si	14.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 28	ini.	-74.87	126	0.9	0	1750	7137	3773	2295	2625	Si	20.9	Si
SLU 28	fin.	110.99	993	0.9	0	1750	7137	3773	2295	2625	Si	2.64	Si
SLU 68	ini.	-85.58	194	0.9	0	1750	7137	3773	2295	2625	Si	13.51	Si
SLU 68	fin.	117.25	1051	0.9	0	1750	7137	3773	2295	2625	Si	2.5	Si
SLU 67	ini.	-77.08	143	0.9	0	1750	7137	3773	2295	2625	Si	18.4	Si
SLU 67	fin.	115.3	1065	0.9	0	1750	7137	3773	2295	2625	Si	2.47	Si
SLU 49	ini.	-49.03	1	0.9	0	1750	7137	3773	2295	2625	Si	2139.19	Si
SLU 49	fin.	101.24	1029	0.9	0	1750	7137	3773	2295	2625	Si	2.55	Si
SLU 72	ini.	-75.56	121	0.9	0	1750	7137	3773	2295	2625	Si	21.76	Si
SLU 72	fin.	116.26	1088	0.9	0	1750	7137	3773	2295	2625	Si	2.41	Si
SLU 71	ini.	-61.91	65	0.9	0	1750	7137	3773	2295	2625	Si	40.2	Si
SLU 71	fin.	104.85	1030	0.9	0	1750	7137	3773	2295	2625	Si	2.55	Si
SLU 70	ini.	-76.16	106	0.9	0	1750	7137	3773	2295	2625	Si	24.79	Si
SLU 70	fin.	121.91	1141	0.9	0	1750	7137	3773	2295	2625	Si	2.3	Si
SLU 69	ini.	-62.51	51	0.9	0	1750	7137	3773	2295	2625	Si	51.91	Si
SLU 69	fin.	110.5	1083	0.9	0	1750	7137	3773	2295	2625	Si	2.42	Si
SLU 51	ini.	-48.42	16	0.9	0	1750	7137	3773	2295	2625	Si	164.49	Si
SLU 51	fin.	95.59	976	0.9	0	1750	7137	3773	2295	2625	Si	2.69	Si
SLU 66	ini.	-63.44	87	0.9	0	1750	7137	3773	2295	2625	Si	30.05	Si
SLU 66	fin.	103.89	1007	0.9	0	1750	7137	3773	2295	2625	Si	2.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	922.37	-1618	-0.0005379	0.0002807	0.0035	0.9		2989.59	2989.59		3.24	Si
SLV 8	fin.	-763.39	2299	-0.0004283	0.0002807	0.0035	0.9		2995.37	2995.37		3.92	Si
SLV 14	ini.	-753.91	987	-0.0004221	0.0002807	0.0035	0.9		2995.37	2995.37		3.97	Si
SLV 14	fin.	653.7	-2252	-0.0003585	0.0002807	0.0035	0.9		2989.59	2989.59		4.57	Si
SLV 9	ini.	-992	1263	-0.0005864	0.0002807	0.0035	0.9		2995.37	2995.37		3.02	Si
SLV 9	fin.	877.21	-3082	-0.0005063	0.0002807	0.0035	0.9		2989.59	2989.59		3.41	Si
SLV 13	ini.	-939.72	1315	-0.000549	0.0002807	0.0035	0.9		2995.37	2995.37		3.19	Si
SLV 13	fin.	795.77	-2687	-0.0004508	0.0002807	0.0035	0.9		2989.59	2989.59		3.76	Si
SLD 9	ini.	-631.62	722	-0.000344	0.0002807	0.0035	0.9		2995.37	2995.37		4.74	Si
SLD 9	fin.	567.82	-2066	-0.0003056	0.0002807	0.0035	0.9		2989.59	2989.59		5.27	Si
SLV 3	ini.	684.28	-1341	-0.0003779	0.0002807	0.0035	0.9		2989.59	2989.59		4.37	Si
SLV 3	fin.	-539.88	1470	-0.0002883	0.0002807	0.0035	0.9		2995.37	2995.37		5.55	Si
SLV 5	ini.	-633.58	650	-0.0003452	0.0002807	0.0035	0.9		2995.37	2995.37		4.73	Si
SLV 5	fin.	589.68	-2215	-0.0003189	0.0002807	0.0035	0.9		2989.59	2989.59		5.07	Si
SLV 4	ini.	870.1	-1670	-0.0005014	0.0002807	0.0035	0.9		2989.59	2989.59		3.44	Si
SLV 4	fin.	-681.95	1904	-0.0003756	0.0002807	0.0035	0.9		2995.37	2995.37		4.39	Si
SLV 7	ini.	797.27	-1396	-0.0004518	0.0002807	0.0035	0.9		2989.59	2989.59		3.75	Si
SLV 7	fin.	-667.74	2007	-0.0003666	0.0002807	0.0035	0.9		2995.37	2995.37		4.49	Si
SLV 10	ini.	-866.9	1041	-0.0004981	0.0002807	0.0035	0.9		2995.37	2995.37		3.46	Si
SLV 10	fin.	781.56	-2790	-0.0004413	0.0002807	0.0035	0.9		2989.59	2989.59		3.83	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	870.1	-3907	0.9	0	2625	7137	5660	2295	7955		2.04	Si
SLV 4	fin.	-681.95	-2855	0.9	0	2625	7137	5660	2295	7955		2.79	Si
SLV 10	ini.	-866.9	3482	0.9	0	2625	7137	5660	2295	7955		2.28	Si
SLV 10	fin.	781.56	4171	0.9	0	2625	7137	5660	2295	7955		1.91	Si
SLV 9	ini.	-992	4008	0.9	0	2625	7137	5660	2295	7955		1.98	Si
SLV 9	fin.	877.21	4632	0.9	0	2625	7137	5660	2295	7955		1.72	Si
SLV 14	ini.	-753.91	3248	0.9	0	2625	7137	5660	2295	7955		2.45	Si
SLV 14	fin.	653.7	3360	0.9	0	2625	7137	5660	2295	7955		2.37	Si
SLD 9	ini.	-631.62	2523	0.9	0	2625	7137	5660	2295	7955		3.15	Si
SLD 9	fin.	567.82	3107	0.9	0	2625	7137	5660	2295	7955		2.56	Si
SLV 3	ini.	684.28	-3127	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 3	fin.	-539.88	-2170	0.9	0	2625	7137	5660	2295	7955		3.67	Si
SLV 7	ini.	797.27	-3361	0.9	0	2625	7137	5660	2295	7955		2.37	Si
SLV 7	fin.	-667.74	-2981	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 13	ini.	-939.72	4029	0.9	0	2625	7137	5660	2295	7955		1.97	Si
SLV 13	fin.	795.77	4045	0.9	0	2625	7137	5660	2295	7955		1.97	Si
SLV 5	ini.	-633.58	2377	0.9	0	2625	7137	5660	2295	7955		3.35	Si
SLV 5	fin.	589.68	3336	0.9	0	2625	7137	5660	2295	7955		2.38	Si
SLV 8	ini.	922.37	-3886	0.9	0	2625	7137	5660	2295	7955		2.05	Si
SLV 8	fin.	-763.39	-3442	0.9	0	2625	7137	5660	2295	7955		2.31	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.02	SLV 9	Si
V_SLV	1.717	SLV 9	Si
PF_SLU	14.091	SLU 70	Si
V_SLU	2.301	SLU 70	Si



Trave di accoppiamento 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.363	-3.359	14.75	15.15	0.4	-18.263	-3.359	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-29.74	210	-0.0000756	0.0001872	0.0035	0.4		588.62	426.13	Si	14.33	Si
SLU 77	fin.	-80.97	-346	-0.0002192	0.0001872	0.0035	0.4		588.62	426.13	Si	5.26	Si
SLU 57	ini.	-25.85	170	-0.0000654	0.0001872	0.0035	0.4		588.62	426.13	Si	16.49	Si
SLU 57	fin.	-69.33	-310	-0.0001847	0.0001872	0.0035	0.4		588.62	426.13	Si	6.15	Si
SLU 36	ini.	-30.69	178	-0.0000781	0.0001872	0.0035	0.4		588.62	426.13	Si	13.88	Si
SLU 36	fin.	-71.35	-292	-0.0001906	0.0001872	0.0035	0.4		588.62	426.13	Si	5.97	Si
SLU 78	ini.	-33.94	193	-0.0000866	0.0001872	0.0035	0.4		588.62	426.13	Si	12.56	Si
SLU 78	fin.	-76.7	-325	-0.0002064	0.0001872	0.0035	0.4		588.62	426.13	Si	5.56	Si
SLU 56	ini.	-21.65	187	-0.0000546	0.0001872	0.0035	0.4		588.62	426.13	Si	19.68	Si
SLU 56	fin.	-73.59	-331	-0.0001972	0.0001872	0.0035	0.4		588.62	426.13	Si	5.79	Si
SLU 69	ini.	-43.76	144	-0.0001129	0.0001872	0.0035	0.4		588.62	426.13	Si	9.74	Si
SLU 69	fin.	-70.41	-296	-0.0001879	0.0001872	0.0035	0.4		588.62	426.13	Si	6.05	Si
SLU 80	ini.	-30.79	188	-0.0000783	0.0001872	0.0035	0.4		588.62	426.13	Si	13.84	Si
SLU 80	fin.	-69.98	-299	-0.0001866	0.0001872	0.0035	0.4		588.62	426.13	Si	6.09	Si
SLU 79	ini.	-26.59	205	-0.0000673	0.0001872	0.0035	0.4		588.62	426.13	Si	16.03	Si
SLU 79	fin.	-74.24	-321	-0.0001991	0.0001872	0.0035	0.4		588.62	426.13	Si	5.74	Si
SLU 35	ini.	-26.5	196	-0.0000671	0.0001872	0.0035	0.4		588.62	426.13	Si	16.08	Si
SLU 35	fin.	-75.62	-313	-0.0002032	0.0001872	0.0035	0.4		588.62	426.13	Si	5.64	Si
SLU 37	ini.	-23.34	190	-0.0000589	0.0001872	0.0035	0.4		588.62	426.13	Si	18.25	Si
SLU 37	fin.	-68.89	-288	-0.0001834	0.0001872	0.0035	0.4		588.62	426.13	Si	6.19	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 80	ini.	-30.79	435	0.4	0	631	3172	1677	1020	947	Si	2.18	Si
SLU 80	fin.	-69.98	-869	0.4	0	631	3172	1677	1020	947	Si	1.09	Si
SLU 77	ini.	-29.74	445	0.4	0	631	3172	1677	1020	947	Si	2.13	Si
SLU 77	fin.	-80.97	-949	0.4	0	631	3172	1677	1020	947	Si	1	No
SLU 78	ini.	-33.94	463	0.4	0	631	3172	1677	1020	947	Si	2.04	Si
SLU 78	fin.	-76.7	-929	0.4	0	631	3172	1677	1020	947	Si	1.02	Si
SLU 56	ini.	-21.65	371	0.4	0	631	3172	1677	1020	947	Si	2.55	Si
SLU 56	fin.	-73.59	-840	0.4	0	631	3172	1677	1020	947	Si	1.13	Si
SLU 74	ini.	-25.14	400	0.4	0	631	3172	1677	1020	947	Si	2.37	Si
SLU 74	fin.	-68.61	-843	0.4	0	631	3172	1677	1020	947	Si	1.12	Si
SLU 69	ini.	-43.76	502	0.4	0	631	3172	1677	1020	947	Si	1.89	Si
SLU 69	fin.	-70.41	-896	0.4	0	631	3172	1677	1020	947	Si	1.06	Si
SLU 70	ini.	-47.95	520	0.4	0	631	3172	1677	1020	947	Si	1.82	Si
SLU 70	fin.	-66.15	-877	0.4	0	631	3172	1677	1020	947	Si	1.08	Si
SLU 36	ini.	-30.69	412	0.4	0	631	3172	1677	1020	947	Si	2.3	Si
SLU 36	fin.	-71.35	-839	0.4	0	631	3172	1677	1020	947	Si	1.13	Si
SLU 35	ini.	-26.5	394	0.4	0	631	3172	1677	1020	947	Si	2.41	Si
SLU 35	fin.	-75.62	-859	0.4	0	631	3172	1677	1020	947	Si	1.1	Si
SLU 79	ini.	-26.59	417	0.4	0	631	3172	1677	1020	947	Si	2.27	Si
SLU 79	fin.	-74.24	-889	0.4	0	631	3172	1677	1020	947	Si	1.07	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-268.87	-812	-0.000871	0.0002807	0.0035	0.4		594.74	594.74		2.21	Si
SLV 13	fin.	261.32	1292	-0.000844	0.0002807	0.0035	0.4		592.15	592.15		2.27	Si
SLV 12	ini.	205.57	1019	-0.0006236	0.0002807	0.0035	0.4		592.15	592.15		2.88	Si
SLV 12	fin.	-250.65	-1225	-0.0007957	0.0002807	0.0035	0.4		594.74	594.74		2.37	Si
SLV 4	ini.	232.12	1014	-0.0007256	0.0002807	0.0035	0.4		592.15	592.15		2.55	Si
SLV 4	fin.	-324.08	-1583	-0.0011168	0.0002807	0.0035	0.4		594.74	594.74		1.84	Si
SLV 3	ini.	175.25	805	-0.0005134	0.0002807	0.0035	0.4		592.15	592.15		3.38	Si
SLV 3	fin.	-256.17	-1264	-0.0008183	0.0002807	0.0035	0.4		594.74	594.74		2.32	Si
SLV 5	ini.	-242.31	-817	-0.0007622	0.0002807	0.0035	0.4		594.74	594.74		2.45	Si
SLV 5	fin.	187.9	933	-0.0005586	0.0002807	0.0035	0.4		592.15	592.15		3.15	Si
SLD 8	ini.	175.92	861	-0.0005158	0.0002807	0.0035	0.4		592.15	592.15		3.37	Si
SLD 8	fin.	-236.5	-1156	-0.0007391	0.0002807	0.0035	0.4		594.74	594.74		2.51	Si
SLV 10	ini.	-292.44	-982	-0.0009725	0.0002807	0.0035	0.4		594.74	594.74		2.03	Si
SLV 10	fin.	252.17	1261	-0.0008062	0.0002807	0.0035	0.4		592.15	592.15		2.35	Si
SLV 8	ini.	293.98	1324	-0.0009847	0.0002807	0.0035	0.4		592.15	592.15		2.01	Si
SLV 8	fin.	-360.64	-1768	-0.0012971	0.0002807	0.0035	0.4		594.74	594.74		1.65	Si
SLV 9	ini.	-330.73	-1122	-0.0011484	0.0002807	0.0035	0.4		594.74	594.74		1.8	Si
SLV 9	fin.	297.89	1476	-0.0010022	0.0002807	0.0035	0.4		592.15	592.15		1.99	Si
SLV 7	ini.	255.69	1184	-0.0008206	0.0002807	0.0035	0.4		592.15	592.15		2.32	Si
SLV 7	fin.	-314.93	-1553	-0.001074	0.0002807	0.0035	0.4		594.74	594.74		1.89	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 12	ini.	205.57	-692	0.4	0	919	3172	2515	1020	3535		5.11	Si
SLV 12	fin.	-250.65	-1460	0.4	0	919	3172	2515	1020	3535		2.42	Si
SLV 7	ini.	255.69	-926	0.4	0	919	3172	2515	1020	3535		3.82	Si
SLV 7	fin.	-314.93	-1706	0.4	0	919	3172	2515	1020	3535		2.07	Si
SLV 4	ini.	232.12	-861	0.4	0	919	3172	2515	1020	3535		4.1	Si
SLV 4	fin.	-324.08	-1671	0.4	0	919	3172	2515	1020	3535		2.12	Si
SLV 9	ini.	-330.73	1622	0.4	0	919	3172	2515	1020	3535		2.18	Si
SLV 9	fin.	297.89	953	0.4	0	919	3172	2515	1020	3535		3.71	Si
SLV 3	ini.	175.25	-607	0.4	0	919	3172	2515	1020	3535		5.83	Si
SLV 3	fin.	-256.17	-1389	0.4	0	919	3172	2515	1020	3535		2.55	Si
SLV 10	ini.	-292.44	1451	0.4	0	919	3172	2515	1020	3535		2.44	Si
SLV 10	fin.	252.17	764	0.4	0	919	3172	2515	1020	3535		4.63	Si
SLV 13	ini.	-268.87	1386	0.4	0	919	3172	2515	1020	3535		2.55	Si
SLV 13	fin.	261.32	728	0.4	0	919	3172	2515	1020	3535		4.85	Si
SLD 8	ini.	175.92	-584	0.4	0	919	3172	2515	1020	3535		6.06	Si
SLD 8	fin.	-236.5	-1358	0.4	0	919	3172	2515	1020	3535		2.6	Si
SLV 11	ini.	167.27	-521	0.4	0	919	3172	2515	1020	3535		6.79	Si
SLV 11	fin.	-204.93	-1271	0.4	0	919	3172	2515	1020	3535		2.78	Si
SLV 8	ini.	293.98	-1097	0.4	0	919	3172	2515	1020	3535		3.22	Si
SLV 8	fin.	-360.64	-1895	0.4	0	919	3172	2515	1020	3535		1.87	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.649	SLV 8	Si
V_SLV	1.865	SLV 8	Si
PF_SLU	5.263	SLU 77	Si
V_SLU	0.998	SLU 77	No

Trave di accoppiamento 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.433	-3.359	14.15	15.15	1	-16.333	-3.359	14.15	15.15	1	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	e _{f,d}	y _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-319.24	-1543	-0.0001329	0.0001872	0.0035	1		3678.84	1980.42	Si	6.2	Si
SLU 77	fin.	306.51	-167	-0.0001275	0.0001872	0.0035	1		3672.61	1980.42	Si	6.46	Si
SLU 67	ini.	-304.92	-1405	-0.0001266	0.0001872	0.0035	1		3678.84	1980.42	Si	6.49	Si
SLU 67	fin.	297.69	-123	-0.0001236	0.0001872	0.0035	1		3672.61	1980.42	Si	6.65	Si
SLU 71	ini.	-305.96	-1429	-0.0001271	0.0001872	0.0035	1		3678.84	1980.42	Si	6.47	Si
SLU 71	fin.	291.75	-145	-0.000121	0.0001872	0.0035	1		3672.61	1980.42	Si	6.79	Si
SLU 75	ini.	-307.28	-1456	-0.0001276	0.0001872	0.0035	1		3678.84	1980.42	Si	6.45	Si
SLU 75	fin.	305.4	-124	-0.000127	0.0001872	0.0035	1		3672.61	1980.42	Si	6.48	Si
SLU 79	ini.	-308.31	-1480	-0.0001281	0.0001872	0.0035	1		3678.84	1980.42	Si	6.42	Si
SLU 79	fin.	299.46	-146	-0.0001244	0.0001872	0.0035	1		3672.61	1980.42	Si	6.61	Si
SLU 80	ini.	-314.19	-1500	-0.0001307	0.0001872	0.0035	1		3678.84	1980.42	Si	6.3	Si
SLU 80	fin.	309.09	-141	-0.0001287	0.0001872	0.0035	1		3672.61	1980.42	Si	6.41	Si
SLU 69	ini.	-316.89	-1492	-0.0001319	0.0001872	0.0035	1		3678.84	1980.42	Si	6.25	Si
SLU 69	fin.	298.8	-166	-0.0001241	0.0001872	0.0035	1		3672.61	1980.42	Si	6.63	Si
SLU 72	ini.	-311.84	-1449	-0.0001296	0.0001872	0.0035	1		3678.84	1980.42	Si	6.35	Si
SLU 72	fin.	301.38	-139	-0.0001253	0.0001872	0.0035	1		3672.61	1980.42	Si	6.57	Si
SLU 70	ini.	-322.77	-1512	-0.0001345	0.0001872	0.0035	1		3678.84	1980.42	Si	6.14	Si
SLU 70	fin.	308.43	-160	-0.0001284	0.0001872	0.0035	1		3672.61	1980.42	Si	6.42	Si
SLU 78	ini.	-325.12	-1564	-0.0001355	0.0001872	0.0035	1		3678.84	1980.42	Si	6.09	Si
SLU 78	fin.	316.14	-162	-0.0001318	0.0001872	0.0035	1		3672.61	1980.42	Si	6.26	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	-311.84	2647	1	0	1944	7137	4192	2550	2917	Si	1.1	Si
SLU 72	fin.	301.38	566	1	0	1944	7137	4192	2550	2917	Si	5.15	Si
SLU 74	ini.	-301.4	2570	1	0	1944	7137	4192	2550	2917	Si	1.13	Si
SLU 74	fin.	295.78	576	1	0	1944	7137	4192	2550	2917	Si	5.06	Si
SLU 69	ini.	-316.89	2737	1	0	1944	7137	4192	2550	2917	Si	1.07	Si
SLU 69	fin.	298.8	538	1	0	1944	7137	4192	2550	2917	Si	5.42	Si
SLU 80	ini.	-314.19	2688	1	0	1944	7137	4192	2550	2917	Si	1.09	Si
SLU 80	fin.	309.09	604	1	0	1944	7137	4192	2550	2917	Si	4.83	Si
SLU 75	ini.	-307.28	2601	1	0	1944	7137	4192	2550	2917	Si	1.12	Si
SLU 75	fin.	305.4	607	1	0	1944	7137	4192	2550	2917	Si	4.8	Si
SLU 77	ini.	-319.24	2778	1	0	1944	7137	4192	2550	2917	Si	1.05	Si
SLU 77	fin.	306.51	576	1	0	1944	7137	4192	2550	2917	Si	5.06	Si
SLU 71	ini.	-305.96	2616	1	0	1944	7137	4192	2550	2917	Si	1.12	Si
SLU 71	fin.	291.75	535	1	0	1944	7137	4192	2550	2917	Si	5.45	Si
SLU 78	ini.	-325.12	2809	1	0	1944	7137	4192	2550	2917	Si	1.04	Si
SLU 78	fin.	316.14	607	1	0	1944	7137	4192	2550	2917	Si	4.8	Si
SLU 79	ini.	-308.31	2656	1	0	1944	7137	4192	2550	2917	Si	1.1	Si
SLU 79	fin.	299.46	573	1	0	1944	7137	4192	2550	2917	Si	5.09	Si
SLU 70	ini.	-322.77	2768	1	0	1944	7137	4192	2550	2917	Si	1.05	Si
SLU 70	fin.	308.43	569	1	0	1944	7137	4192	2550	2917	Si	5.12	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-489.03	-1783	-0.0002053	0.0002807	0.0035	1		3712.06	3712.06		7.59	Si
SLD 9	fin.	684.19	293	-0.0002966	0.0002807	0.0035	1		3705.31	3705.31		5.42	Si
SLV 13	ini.	-756.89	-2525	-0.0003316	0.0002807	0.0035	1		3712.06	3712.06		4.9	Si
SLV 13	fin.	1116.06	699	-0.0005233	0.0002807	0.0035	1		3705.31	3705.31		3.32	Si
SLV 9	ini.	-665.93	-2322	-0.0002873	0.0002807	0.0035	1		3712.06	3712.06		5.57	Si
SLV 9	fin.	978.5	499	-0.0004473	0.0002807	0.0035	1		3705.31	3705.31		3.79	Si
SLD 14	ini.	-470.35	-1662	-0.0001969	0.0002807	0.0035	1		3712.06	3712.06		7.89	Si
SLD 14	fin.	651.32	338	-0.0002808	0.0002807	0.0035	1		3705.31	3705.31		5.69	Si
SLD 13	ini.	-551.15	-1925	-0.0002335	0.0002807	0.0035	1		3712.06	3712.06		6.74	Si
SLD 13	fin.	779.06	426	-0.0003433	0.0002807	0.0035	1		3705.31	3705.31		4.76	Si
SLV 16	ini.	-445.74	-1539	-0.0001859	0.0002807	0.0035	1		3712.06	3712.06		8.33	Si
SLV 16	fin.	604.91	363	-0.0002589	0.0002807	0.0035	1		3705.31	3705.31		6.13	Si
SLV 14	ini.	-630.31	-2113	-0.0002703	0.0002807	0.0035	1		3712.06	3712.06		5.89	Si
SLV 14	fin.	915.91	562	-0.0004138	0.0002807	0.0035	1		3705.31	3705.31		4.05	Si
SLV 15	ini.	-572.32	-1951	-0.0002432	0.0002807	0.0035	1		3712.06	3712.06		6.49	Si
SLV 15	fin.	805.05	501	-0.0003565	0.0002807	0.0035	1		3705.31	3705.31		4.6	Si
SLV 10	ini.	-580.71	-2045	-0.0002471	0.0002807	0.0035	1		3712.06	3712.06		6.39	Si
SLV 10	fin.	843.75	406	-0.0003762	0.0002807	0.0035	1		3705.31	3705.31		4.39	Si
SLV 4	ini.	370.27	761	-0.0001531	0.0002807	0.0035	1		3705.31	3705.31		10.01	Si
SLV 4	fin.	-731.37	-806	-0.000319	0.0002807	0.0035	1		3712.06	3712.06		5.08	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-630.31	3840	1	0	2917	7137	6288	2550	8838		2.3	Si
SLV 14	fin.	915.91	2588	1	0	2917	7137	6288	2550	8838		3.42	Si
SLV 13	ini.	-756.89	4505	1	0	2917	7137	6288	2550	8838		1.96	Si
SLV 13	fin.	1116.06	3246	1	0	2917	7137	6288	2550	8838		2.72	Si
SLD 13	ini.	-551.15	3442	1	0	2917	7137	6288	2550	8838		2.57	Si
SLD 13	fin.	779.06	2196	1	0	2917	7137	6288	2550	8838		4.02	Si
SLV 15	ini.	-572.32	3529	1	0	2917	7137	6288	2550	8838		2.5	Si
SLV 15	fin.	805.05	2279	1	0	2917	7137	6288	2550	8838		3.88	Si
SLV 10	ini.	-580.71	3622	1	0	2917	7137	6288	2550	8838		2.44	Si
SLV 10	fin.	843.75	2378	1	0	2917	7137	6288	2550	8838		3.72	Si
SLD 10	ini.	-435.68	2862	1	0	2917	7137	6288	2550	8838		3.09	Si
SLD 10	fin.	599.83	1626	1	0	2917	7137	6288	2550	8838		5.44	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 9	ini.	-489.03	3143	1	0	2917	7137	6288	2550	8838		2.81	Si
SLD 9	fin.	684.19	1903	1	0	2917	7137	6288	2550	8838		4.64	Si
SLV 9	ini.	-665.93	4070	1	0	2917	7137	6288	2550	8838		2.17	Si
SLV 9	fin.	978.5	2821	1	0	2917	7137	6288	2550	8838		3.13	Si
SLD 14	ini.	-470.35	3018	1	0	2917	7137	6288	2550	8838		2.93	Si
SLD 14	fin.	651.32	1776	1	0	2917	7137	6288	2550	8838		4.98	Si
SLV 16	ini.	-445.74	2864	1	0	2917	7137	6288	2550	8838		3.09	Si
SLV 16	fin.	604.91	1621	1	0	2917	7137	6288	2550	8838		5.45	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.32	SLV 13	Si
V_SLV	1.962	SLV 13	Si
PF_SLU	6.091	SLU 78	Si
V_SLU	1.038	SLU 78	Si

Trave di accoppiamento 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-15.058	1.406	14.15	15.15	1	-15.058	2.206	14.15	15.15	1	0.8	0.14	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 75	ini.	-64.01	-245	-0.0000255	0.0002246	0.0035	1		3795.88	1550.83	Si	24.23	Si
SLU 75	fin.	-575.45	-2136	-0.0002488	0.0002246	0.0035	1		3795.88	1550.83	Si	2.69	Si
SLU 80	ini.	-67.75	-262	-0.000027	0.0002246	0.0035	1		3795.88	1550.83	Si	22.89	Si
SLU 80	fin.	-604.07	-2242	-0.0002627	0.0002246	0.0035	1		3795.88	1550.83	Si	2.57	Si
SLU 79	ini.	-68.79	-263	-0.0000274	0.0002246	0.0035	1		3795.88	1550.83	Si	22.54	Si
SLU 79	fin.	-623.94	-2316	-0.0002724	0.0002246	0.0035	1		3795.88	1550.83	Si	2.49	Si
SLU 74	ini.	-65.05	-247	-0.0000259	0.0002246	0.0035	1		3795.88	1550.83	Si	23.84	Si
SLU 74	fin.	-595.33	-2209	-0.0002584	0.0002246	0.0035	1		3795.88	1550.83	Si	2.61	Si
SLU 77	ini.	-74.04	-275	-0.0000295	0.0002246	0.0035	1		3795.88	1550.83	Si	20.95	Si
SLU 77	fin.	-643.76	-2390	-0.0002822	0.0002246	0.0035	1		3795.88	1550.83	Si	2.41	Si
SLU 84	ini.	-57.84	-231	-0.000023	0.0002246	0.0035	1		3795.88	1550.83	Si	26.81	Si
SLU 84	fin.	-581.74	-2156	-0.0002518	0.0002246	0.0035	1		3795.88	1550.83	Si	2.67	Si
SLU 69	ini.	-76.2	-281	-0.0000304	0.0002246	0.0035	1		3795.88	1550.83	Si	20.35	Si
SLU 69	fin.	-582.85	-2170	-0.0002524	0.0002246	0.0035	1		3795.88	1550.83	Si	2.66	Si
SLU 83	ini.	-58.89	-232	-0.0000234	0.0002246	0.0035	1		3795.88	1550.83	Si	26.34	Si
SLU 83	fin.	-601.62	-2230	-0.0002615	0.0002246	0.0035	1		3795.88	1550.83	Si	2.58	Si
SLU 78	ini.	-72.99	-274	-0.0000291	0.0002246	0.0035	1		3795.88	1550.83	Si	21.25	Si
SLU 78	fin.	-623.88	-2316	-0.0002724	0.0002246	0.0035	1		3795.88	1550.83	Si	2.49	Si
SLU 35	ini.	-65.6	-239	-0.0000261	0.0002246	0.0035	1		3795.88	1550.83	Si	23.64	Si
SLU 35	fin.	-582.96	-2162	-0.0002524	0.0002246	0.0035	1		3795.88	1550.83	Si	2.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-76.2	-1662	1	0	1167	6344	2516	2550	1750	Si	1.05	Si
SLU 69	fin.	-582.85	-1963	1	0	1167	6344	2516	2550	1750	Si	0.89	No
SLU 74	ini.	-65.05	-1737	1	0	1167	6344	2516	2550	1750	Si	1.01	Si
SLU 74	fin.	-595.33	-2038	1	0	1167	6344	2516	2550	1750	Si	0.86	No
SLU 84	ini.	-57.84	-1706	1	0	1167	6344	2516	2550	1750	Si	1.03	Si
SLU 84	fin.	-581.74	-2007	1	0	1167	6344	2516	2550	1750	Si	0.87	No
SLU 77	ini.	-74.04	-1882	1	0	1167	6344	2516	2550	1750	Si	0.93	No
SLU 77	fin.	-643.76	-2182	1	0	1167	6344	2516	2550	1750	Si	0.8	No
SLU 80	ini.	-67.75	-1756	1	0	1167	6344	2516	2550	1750	Si	1	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-604.07	-2057	1	0	1167	6344	2516	2550	1750	Si	0.85	No
SLU 78	ini.	-72.99	-1813	1	0	1167	6344	2516	2550	1750	Si	0.97	No
SLU 78	fin.	-623.88	-2114	1	0	1167	6344	2516	2550	1750	Si	0.83	No
SLU 79	ini.	-68.79	-1825	1	0	1167	6344	2516	2550	1750	Si	0.96	No
SLU 79	fin.	-623.94	-2126	1	0	1167	6344	2516	2550	1750	Si	0.82	No
SLU 83	ini.	-58.89	-1775	1	0	1167	6344	2516	2550	1750	Si	0.99	No
SLU 83	fin.	-601.62	-2075	1	0	1167	6344	2516	2550	1750	Si	0.84	No
SLU 35	ini.	-65.6	-1726	1	0	1167	6344	2516	2550	1750	Si	1.01	Si
SLU 35	fin.	-582.96	-1969	1	0	1167	6344	2516	2550	1750	Si	0.89	No
SLU 75	ini.	-64.01	-1669	1	0	1167	6344	2516	2550	1750	Si	1.05	Si
SLU 75	fin.	-575.45	-1970	1	0	1167	6344	2516	2550	1750	Si	0.89	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 8	ini.	-210.58	-147	-0.0000849	0.0003369	0.0035	1		3892.05	3892.05		18.48	Si
SLD 8	fin.	-1166.32	-4330	-0.0005374	0.0003369	0.0035	1		3892.05	3892.05		3.34	Si
SLV 8	ini.	-317	-148	-0.0001293	0.0003369	0.0035	1		3892.05	3892.05		12.28	Si
SLV 8	fin.	-1670.57	-6202	-0.0008389	0.0003369	0.0035	1		3892.05	3892.05		2.33	Si
SLV 6	ini.	233	-181	-0.0000943	0.0003369	0.0035	1		3885.58	3885.58		16.68	Si
SLV 6	fin.	1045.1	3881	-0.0004727	0.0003369	0.0035	1		3885.58	3885.58		3.72	Si
SLV 12	ini.	-309.88	-130	-0.0001263	0.0003369	0.0035	1		3892.05	3892.05		12.56	Si
SLV 12	fin.	-1758.33	-6532	-0.0008964	0.0003369	0.0035	1		3892.05	3892.05		2.21	Si
SLV 5	ini.	232.96	-181	-0.0000943	0.0003369	0.0035	1		3885.58	3885.58		16.68	Si
SLV 5	fin.	1047.92	3891	-0.0004742	0.0003369	0.0035	1		3885.58	3885.58		3.71	Si
SLV 11	ini.	-309.91	-130	-0.0001263	0.0003369	0.0035	1		3892.05	3892.05		12.56	Si
SLV 11	fin.	-1755.52	-6523	-0.0008946	0.0003369	0.0035	1		3892.05	3892.05		2.22	Si
SLD 7	ini.	-210.61	-148	-0.0000849	0.0003369	0.0035	1		3892.05	3892.05		18.48	Si
SLD 7	fin.	-1164.56	-4324	-0.0005364	0.0003369	0.0035	1		3892.05	3892.05		3.34	Si
SLD 11	ini.	-206	-136	-0.000083	0.0003369	0.0035	1		3892.05	3892.05		18.89	Si
SLD 11	fin.	-1220.58	-4535	-0.0005676	0.0003369	0.0035	1		3892.05	3892.05		3.19	Si
SLD 7	ini.	-317.04	-148	-0.0001293	0.0003369	0.0035	1		3892.05	3892.05		12.28	Si
SLV 7	fin.	-1667.76	-6192	-0.0008371	0.0003369	0.0035	1		3892.05	3892.05		2.33	Si
SLD 12	ini.	-205.98	-136	-0.000083	0.0003369	0.0035	1		3892.05	3892.05		18.9	Si
SLD 12	fin.	-1222.34	-4541	-0.0005686	0.0003369	0.0035	1		3892.05	3892.05		3.18	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	-317.04	-5298	1	0	1750	6344	3773	2550	6323		1.19	Si
SLV 7	fin.	-1667.76	-5473	1	16250	1750	6344	3773	2550	6323		1.16	Si
SLV 6	ini.	233	3592	1	0	1750	6344	3773	2550	6323		1.76	Si
SLV 6	fin.	1045.1	3313	1	0	1750	6344	3773	2550	6323		1.91	Si
SLV 5	ini.	232.96	3602	1	0	1750	6344	3773	2550	6323		1.76	Si
SLV 5	fin.	1047.92	3323	1	0	1750	6344	3773	2550	6323		1.9	Si
SLD 11	ini.	-206	-3855	1	0	1750	6344	3773	2550	6323		1.64	Si
SLD 11	fin.	-1220.58	-4047	1	0	1750	6344	3773	2550	6323		1.56	Si
SLD 7	ini.	-210.61	-3655	1	0	1750	6344	3773	2550	6323		1.73	Si
SLD 7	fin.	-1164.56	-3848	1	0	1750	6344	3773	2550	6323		1.64	Si
SLD 8	ini.	-210.58	-3662	1	0	1750	6344	3773	2550	6323		1.73	Si
SLD 8	fin.	-1166.32	-3854	1	0	1750	6344	3773	2550	6323		1.64	Si
SLV 11	ini.	-309.91	-5611	1	0	1750	6344	3773	2550	6323		1.13	Si
SLV 11	fin.	-1755.52	-5785	1	16250	1750	6344	3773	2550	6323		1.09	Si
SLD 12	ini.	-205.98	-3861	1	0	1750	6344	3773	2550	6323		1.64	Si
SLD 12	fin.	-1222.34	-4053	1	0	1750	6344	3773	2550	6323		1.56	Si
SLV 12	ini.	-309.88	-5621	1	0	1750	6344	3773	2550	6323		1.12	Si
SLV 12	fin.	-1758.33	-5795	1	16250	1750	6344	3773	2550	6323		1.09	Si
SLV 8	ini.	-317	-5308	1	0	1750	6344	3773	2550	6323		1.19	Si
SLV 8	fin.	-1670.57	-5482	1	16250	1750	6344	3773	2550	6323		1.15	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.213	SLV 12	Si
V_SLV	1.091	SLV 12	Si
PF_SLU	2.409	SLU 77	Si
V_SLU	0.802	SLU 77	No

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-13.753	-0.228	14.15	15.15	1	-13.753	0.672	14.15	15.15	1	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ϵ_c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_s ,fd	γ_F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 27	ini.	-578.9	-1985	-0.000255	0.0001872	0.0035	1		3678.84	1980.42	Si	3.42	Si
SLU 27	fin.	264.25	-1044	-0.0001091	0.0001872	0.0035	1		3672.61	1980.42	Si	7.49	Si
SLU 72	ini.	-573.32	-1972	-0.0002522	0.0001872	0.0035	1		3678.84	1980.42	Si	3.45	Si
SLU 72	fin.	255.41	-1062	-0.0001053	0.0001872	0.0035	1		3672.61	1980.42	Si	7.75	Si
SLU 78	ini.	-624.38	-2144	-0.000278	0.0001872	0.0035	1		3678.84	1980.42	Si	3.17	Si
SLU 78	fin.	289.3	-1126	-0.00012	0.0001872	0.0035	1		3672.61	1980.42	Si	6.85	Si
SLU 28	ini.	-597.24	-2043	-0.0002642	0.0001872	0.0035	1		3678.84	1980.42	Si	3.32	Si
SLU 28	fin.	277.37	-1059	-0.0001148	0.0001872	0.0035	1		3672.61	1980.42	Si	7.14	Si
SLU 70	ini.	-613.3	-2110	-0.0002724	0.0001872	0.0035	1		3678.84	1980.42	Si	3.23	Si
SLU 70	fin.	272.4	-1135	-0.0001126	0.0001872	0.0035	1		3672.61	1980.42	Si	7.27	Si
SLU 69	ini.	-594.97	-2052	-0.0002631	0.0001872	0.0035	1		3678.84	1980.42	Si	3.33	Si
SLU 69	fin.	259.28	-1119	-0.0001069	0.0001872	0.0035	1		3672.61	1980.42	Si	7.64	Si
SLU 36	ini.	-608.31	-2077	-0.0002699	0.0001872	0.0035	1		3678.84	1980.42	Si	3.26	Si
SLU 36	fin.	294.27	-1050	-0.0001221	0.0001872	0.0035	1		3672.61	1980.42	Si	6.73	Si
SLU 35	ini.	-589.98	-2019	-0.0002606	0.0001872	0.0035	1		3678.84	1980.42	Si	3.36	Si
SLU 35	fin.	281.14	-1034	-0.0001164	0.0001872	0.0035	1		3672.61	1980.42	Si	7.04	Si
SLU 80	ini.	-584.4	-2006	-0.0002578	0.0001872	0.0035	1		3678.84	1980.42	Si	3.39	Si
SLU 80	fin.	272.3	-1052	-0.0001126	0.0001872	0.0035	1		3672.61	1980.42	Si	7.27	Si
SLU 77	ini.	-606.04	-2086	-0.0002687	0.0001872	0.0035	1		3678.84	1980.42	Si	3.27	Si
SLU 77	fin.	276.17	-1110	-0.0001143	0.0001872	0.0035	1		3672.61	1980.42	Si	7.17	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-624.38	1851	1	0	1944	7137	4192	2550	2917	Si	1.58	Si
SLU 78	fin.	289.3	1272	1	0	1944	7137	4192	2550	2917	Si	2.29	Si
SLU 69	ini.	-594.97	1738	1	0	1944	7137	4192	2550	2917	Si	1.68	Si
SLU 69	fin.	259.28	1158	1	0	1944	7137	4192	2550	2917	Si	2.52	Si
SLU 75	ini.	-561.92	1700	1	0	1944	7137	4192	2550	2917	Si	1.72	Si
SLU 75	fin.	263.46	1120	1	0	1944	7137	4192	2550	2917	Si	2.6	Si
SLU 28	ini.	-597.24	1731	1	0	1944	7137	4192	2550	2917	Si	1.68	Si
SLU 28	fin.	277.37	1274	1	0	1944	7137	4192	2550	2917	Si	2.29	Si
SLU 80	ini.	-584.4	1752	1	0	1944	7137	4192	2550	2917	Si	1.66	Si
SLU 80	fin.	272.3	1172	1	0	1944	7137	4192	2550	2917	Si	2.49	Si
SLU 35	ini.	-589.98	1728	1	0	1944	7137	4192	2550	2917	Si	1.69	Si
SLU 35	fin.	281.14	1271	1	0	1944	7137	4192	2550	2917	Si	2.29	Si
SLU 72	ini.	-573.32	1697	1	0	1944	7137	4192	2550	2917	Si	1.72	Si
SLU 72	fin.	255.41	1117	1	0	1944	7137	4192	2550	2917	Si	2.61	Si
SLU 70	ini.	-613.3	1796	1	0	1944	7137	4192	2550	2917	Si	1.62	Si
SLU 70	fin.	272.4	1216	1	0	1944	7137	4192	2550	2917	Si	2.4	Si
SLU 36	ini.	-608.31	1787	1	0	1944	7137	4192	2550	2917	Si	1.63	Si
SLU 36	fin.	294.27	1330	1	0	1944	7137	4192	2550	2917	Si	2.19	Si
SLU 77	ini.	-606.04	1793	1	0	1944	7137	4192	2550	2917	Si	1.63	Si
SLU 77	fin.	276.17	1213	1	0	1944	7137	4192	2550	2917	Si	2.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{m_u}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-1638.18	-5384	-0.0008423	0.0002807	0.0035	1		3712.06	3712.06		2.27	Si
SLV 6	fin.	920.89	-1940	-0.0004165	0.0002807	0.0035	1		3705.31	3705.31		4.02	Si
SLD 5	ini.	-1111.64	-3669	-0.0005198	0.0002807	0.0035	1		3712.06	3712.06		3.34	Si
SLD 5	fin.	611.35	-1396	-0.0002619	0.0002807	0.0035	1		3705.31	3705.31		6.06	Si
SLV 9	ini.	-1664.47	-5418	-0.0008599	0.0002807	0.0035	1		3712.06	3712.06		2.23	Si
SLV 9	fin.	985.33	-1816	-0.000451	0.0002807	0.0035	1		3705.31	3705.31		3.76	Si
SLV 10	ini.	-1683.32	-5485	-0.0008725	0.0002807	0.0035	1		3712.06	3712.06		2.21	Si
SLV 10	fin.	995.21	-1840	-0.0004563	0.0002807	0.0035	1		3705.31	3705.31		3.72	Si
SLD 9	ini.	-1140.04	-3732	-0.0005359	0.0002807	0.0035	1		3712.06	3712.06		3.26	Si
SLD 9	fin.	658.74	-1333	-0.0002844	0.0002807	0.0035	1		3705.31	3705.31		5.62	Si
SLV 7	ini.	1089.27	3433	-0.0005083	0.0002807	0.0035	1		3705.31	3705.31		3.4	Si
SLV 7	fin.	-735.82	706	-0.0003212	0.0002807	0.0035	1		3712.06	3712.06		5.04	Si
SLV 5	ini.	-1619.34	-5318	-0.0008299	0.0002807	0.0035	1		3712.06	3712.06		2.29	Si
SLV 5	fin.	911	-1916	-0.0004113	0.0002807	0.0035	1		3705.31	3705.31		4.07	Si
SLV 8	ini.	1070.42	3367	-0.0004977	0.0002807	0.0035	1		3705.31	3705.31		3.46	Si
SLV 8	fin.	-725.94	682	-0.0003164	0.0002807	0.0035	1		3712.06	3712.06		5.11	Si
SLD 10	ini.	-1151.83	-3774	-0.0005426	0.0002807	0.0035	1		3712.06	3712.06		3.22	Si
SLD 10	fin.	664.93	-1348	-0.0002873	0.0002807	0.0035	1		3705.31	3705.31		5.57	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	-1123.44	-3711	-0.0005265	0.0002807	0.0035	1		3712.06	3712.06		3.3	Si
SLD 6	fin.	617.53	-1411	-0.0002648	0.0002807	0.0035	1		3705.31	3705.31		6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 8	ini.	1070.42	-3120	1	0	2917	7137	6288	2550	8838		2.83	Si
SLV 8	fin.	-725.94	-3558	1	0	2917	7137	6288	2550	8838		2.48	Si
SLV 12	ini.	1025.29	-2901	1	0	2917	7137	6288	2550	8838		3.05	Si
SLV 12	fin.	-651.62	-3349	1	0	2917	7137	6288	2550	8838		2.64	Si
SLV 7	ini.	1089.27	-3175	1	0	2917	7137	6288	2550	8838		2.78	Si
SLV 7	fin.	-735.82	-3614	1	0	2917	7137	6288	2550	8838		2.45	Si
SLV 11	ini.	1044.13	-2956	1	0	2917	7137	6288	2550	8838		2.99	Si
SLV 11	fin.	-661.5	-3405	1	0	2917	7137	6288	2550	8838		2.6	Si
SLV 5	ini.	-1619.34	4770	1	0	2917	7137	6288	2550	8838		1.85	Si
SLV 5	fin.	911	4336	1	0	2917	7137	6288	2550	8838		2.04	Si
SLV 10	ini.	-1683.32	5044	1	0	2917	7137	6288	2550	8838		1.75	Si
SLV 10	fin.	995.21	4601	1	0	2917	7137	6288	2550	8838		1.92	Si
SLD 9	ini.	-1140.04	3435	1	0	2917	7137	6288	2550	8838		2.57	Si
SLD 9	fin.	658.74	2993	1	0	2917	7137	6288	2550	8838		2.95	Si
SLD 10	ini.	-1151.83	3470	1	0	2917	7137	6288	2550	8838		2.55	Si
SLD 10	fin.	664.93	3028	1	0	2917	7137	6288	2550	8838		2.92	Si
SLV 9	ini.	-1664.47	4989	1	0	2917	7137	6288	2550	8838		1.77	Si
SLV 9	fin.	985.33	4546	1	0	2917	7137	6288	2550	8838		1.94	Si
SLV 6	ini.	-1638.18	4825	1	0	2917	7137	6288	2550	8838		1.83	Si
SLV 6	fin.	920.89	4392	1	0	2917	7137	6288	2550	8838		2.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.205	SLV 10	Si
V_SLV	1.752	SLV 10	Si
PF_SLU	3.172	SLU 78	Si
V_SLU	1.576	SLU 78	Si

Trave di accoppiamento 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-19.868	1.046	14.15	15.15	1	-20.668	1.046	14.15	15.15	1	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	fmk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 8	ini.	32.76	-853	-0.000013	0.0002246	0.0035	1		3743.39	2087.92	Si	63.74	Si
SLU 8	fin.	-154.66	-906	-0.0000623	0.0002246	0.0035	1		3749.66	2087.92	Si	13.5	Si
SLU 72	ini.	0.66	-1273	-0.0000003	0.0002246	0.0035	1		3743.39	2087.92	Si	3170.67	Si
SLU 72	fin.	-161.35	-1100	-0.0000651	0.0002246	0.0035	1		3749.66	2087.92	Si	12.94	Si
SLU 30	ini.	25.69	-1035	-0.0000102	0.0002246	0.0035	1		3743.39	2087.92	Si	81.28	Si
SLU 30	fin.	-158.9	-1013	-0.0000641	0.0002246	0.0035	1		3749.66	2087.92	Si	13.14	Si
SLU 71	ini.	2.85	-1265	-0.0000011	0.0002246	0.0035	1		3743.39	2087.92	Si	732.08	Si
SLU 71	fin.	-163.67	-1106	-0.000066	0.0002246	0.0035	1		3749.66	2087.92	Si	12.76	Si
SLU 69	ini.	-19.45	-1407	-0.0000077	0.0002246	0.0035	1		3749.66	2087.92	Si	107.36	Si
SLU 69	fin.	-152.55	-1127	-0.0000615	0.0002246	0.0035	1		3749.66	2087.92	Si	13.69	Si
SLU 50	ini.	7.73	-1091	-0.0000031	0.0002246	0.0035	1		3743.39	2087.92	Si	270.2	Si
SLU 50	fin.	-157.11	-992	-0.0000633	0.0002246	0.0035	1		3749.66	2087.92	Si	13.29	Si
SLU 51	ini.	5.53	-1098	-0.0000022	0.0002246	0.0035	1		3743.39	2087.92	Si	377.31	Si
SLU 51	fin.	-154.78	-986	-0.0000624	0.0002246	0.0035	1		3749.66	2087.92	Si	13.49	Si
SLU 79	ini.	1.61	-1270	-0.0000006	0.0002246	0.0035	1		3743.39	2087.92	Si	1297.36	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	fin.	-154.58	-1085	-0.0000623	0.0002246	0.0035	1		3749.66	2087.92	Si	13.51	Si
SLU 9	ini.	30.56	-861	-0.0000121	0.0002246	0.0035	1		3743.39	2087.92	Si	68.32	Si
SLU 9	fin.	-152.34	-899	-0.0000614	0.0002246	0.0035	1		3749.66	2087.92	Si	13.71	Si
SLU 29	ini.	27.88	-1028	-0.0000111	0.0002246	0.0035	1		3743.39	2087.92	Si	74.89	Si
SLU 29	fin.	-161.23	-1020	-0.000065	0.0002246	0.0035	1		3749.66	2087.92	Si	12.95	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-61.99	2639	1	0	2333	6344	5031	2550	3500	Si	1.33	Si
SLU 84	fin.	-78.86	-783	1	0	2333	6344	5031	2550	3500	Si	4.47	Si
SLU 70	ini.	-21.64	2817	1	0	2333	6344	5031	2550	3500	Si	1.24	Si
SLU 70	fin.	-150.22	-1272	1	0	2333	6344	5031	2550	3500	Si	2.75	Si
SLU 74	ini.	-81.57	2822	1	0	2333	6344	5031	2550	3500	Si	1.24	Si
SLU 74	fin.	-73.95	-820	1	0	2333	6344	5031	2550	3500	Si	4.27	Si
SLU 80	ini.	-0.58	2638	1	0	2333	6344	5031	2550	3500	Si	1.33	Si
SLU 80	fin.	-152.26	-1231	1	0	2333	6344	5031	2550	3500	Si	2.84	Si
SLU 75	ini.	-83.76	2832	1	0	2333	6344	5031	2550	3500	Si	1.24	Si
SLU 75	fin.	-71.63	-805	1	0	2333	6344	5031	2550	3500	Si	4.35	Si
SLU 66	ini.	-80.33	2795	1	0	2333	6344	5031	2550	3500	Si	1.25	Si
SLU 66	fin.	-83.04	-853	1	0	2333	6344	5031	2550	3500	Si	4.1	Si
SLU 77	ini.	-20.69	2833	1	0	2333	6344	5031	2550	3500	Si	1.24	Si
SLU 77	fin.	-143.46	-1253	1	0	2333	6344	5031	2550	3500	Si	2.79	Si
SLU 78	ini.	-22.88	2843	1	0	2333	6344	5031	2550	3500	Si	1.23	Si
SLU 78	fin.	-141.13	-1238	1	0	2333	6344	5031	2550	3500	Si	2.83	Si
SLU 69	ini.	-19.45	2806	1	0	2333	6344	5031	2550	3500	Si	1.25	Si
SLU 69	fin.	-152.55	-1287	1	0	2333	6344	5031	2550	3500	Si	2.72	Si
SLU 67	ini.	-82.52	2805	1	0	2333	6344	5031	2550	3500	Si	1.25	Si
SLU 67	fin.	-80.72	-838	1	0	2333	6344	5031	2550	3500	Si	4.18	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	-281.84	-1699	-0.0001145	0.0003369	0.0035	1		3691.28	3691.28		13.1	Si
SLD 13	fin.	233.64	206	-0.0000946	0.0003369	0.0035	1		3684.51	3684.51		15.77	Si
SLV 2	ini.	155.32	-230	-0.0000624	0.0003369	0.0035	1		3684.51	3684.51		23.72	Si
SLV 2	fin.	-345.09	-1305	-0.0001412	0.0003369	0.0035	1		3691.28	3691.28		10.7	Si
SLV 1	ini.	168	-188	-0.0000675	0.0003369	0.0035	1		3684.51	3684.51		21.93	Si
SLV 1	fin.	-359.22	-1345	-0.0001473	0.0003369	0.0035	1		3691.28	3691.28		10.28	Si
SLV 16	ini.	-349.49	-1897	-0.0001431	0.0003369	0.0035	1		3691.28	3691.28		10.56	Si
SLV 16	fin.	329.36	453	-0.0001348	0.0003369	0.0035	1		3684.51	3684.51		11.19	Si
SLV 15	ini.	-336.81	-1855	-0.0001377	0.0003369	0.0035	1		3691.28	3691.28		10.96	Si
SLV 15	fin.	315.22	414	-0.0001288	0.0003369	0.0035	1		3684.51	3684.51		11.69	Si
SLV 3	ini.	226.64	45	-0.0000917	0.0003369	0.0035	1		3684.51	3684.51		16.26	Si
SLV 3	fin.	-423.56	-1520	-0.0001749	0.0003369	0.0035	1		3691.28	3691.28		8.71	Si
SLV 14	ini.	-408.13	-2130	-0.0001683	0.0003369	0.0035	1		3691.28	3691.28		9.04	Si
SLV 14	fin.	393.7	629	-0.0001623	0.0003369	0.0035	1		3684.51	3684.51		9.36	Si
SLV 13	ini.	-395.44	-2088	-0.0001628	0.0003369	0.0035	1		3691.28	3691.28		9.33	Si
SLV 13	fin.	379.56	590	-0.0001562	0.0003369	0.0035	1		3684.51	3684.51		9.71	Si
SLD 14	ini.	-289.94	-1726	-0.0001179	0.0003369	0.0035	1		3691.28	3691.28		12.73	Si
SLD 14	fin.	242.66	231	-0.0000984	0.0003369	0.0035	1		3684.51	3684.51		15.18	Si
SLV 4	ini.	213.95	3	-0.0000864	0.0003369	0.0035	1		3684.51	3684.51		17.22	Si
SLV 4	fin.	-409.43	-1481	-0.0001688	0.0003369	0.0035	1		3691.28	3691.28		9.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	-395.44	3718	1	0	3500	6344	7547	2550	9844		2.65	Si
SLV 13	fin.	379.56	1923	1	0	3500	6344	7547	2550	9844		5.12	Si
SLD 16	ini.	-253.76	2904	1	0	3500	6344	7547	2550	9844		3.39	Si
SLD 16	fin.	202.97	905	1	0	3500	6344	7547	2550	9844		10.88	Si
SLV 16	ini.	-349.49	3474	1	0	3500	6344	7547	2550	9844		2.83	Si
SLV 16	fin.	329.36	1595	1	0	3500	6344	7547	2550	9844		6.17	Si
SLV 15	ini.	-336.81	3411	1	0	3500	6344	7547	2550	9844		2.89	Si
SLV 15	fin.	315.22	1504	1	0	3500	6344	7547	2550	9844		6.55	Si
SLD 15	ini.	-245.66	2864	1	0	3500	6344	7547	2550	9844		3.44	Si
SLD 15	fin.	193.95	847	1	0	3500	6344	7547	2550	9844		11.62	Si
SLV 9	ini.	-268.72	2911	1	0	3500	6344	7547	2550	9844		3.38	Si
SLV 9	fin.	198.36	1004	1	0	3500	6344	7547	2550	9844		9.8	Si
SLD 14	ini.	-289.94	3094	1	0	3500	6344	7547	2550	9844		3.18	Si
SLD 14	fin.	242.66	1164	1	0	3500	6344	7547	2550	9844		8.46	Si
SLV 10	ini.	-277.26	2953	1	0	3500	6344	7547	2550	9844		3.33	Si
SLV 10	fin.	207.88	1066	1	0	3500	6344	7547	2550	9844		9.24	Si
SLD 13	ini.	-281.84	3054	1	0	3500	6344	7547	2550	9844		3.22	Si
SLD 13	fin.	233.64	1105	1	0	3500	6344	7547	2550	9844		8.91	Si
SLV 14	ini.	-408.13	3781	1	0	3500	6344	7547	2550	9844		2.6	Si
SLV 14	fin.	393.7	2014	1	0	3500	6344	7547	2550	9844		4.89	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.715	SLV 3	Si
V_SLV	2.604	SLV 14	Si
PF_SLU	12.757	SLU 71	Si
V_SLU	1.231	SLU 78	Si



Trave di accoppiamento 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-11.163	1.046	14.55	15.15	0.6	-12.283	1.046	14.55	15.15	0.6	1.12	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-442.13	-1789	-0.0006054	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.35	Si
SLU 71	fin.	-221.41	-386	-0.0002675	0.0002246	0.0035	0.6		1352.1	1037.92	Si	4.69	Si
SLU 78	ini.	-481.26	-1941	-0.0006727	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.16	Si
SLU 78	fin.	-205.37	-331	-0.000246	0.0002246	0.0035	0.6		1352.1	1037.92	Si	5.05	Si
SLU 75	ini.	-449.07	-1812	-0.0006172	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.31	Si
SLU 75	fin.	-178.44	-278	-0.0002107	0.0002246	0.0035	0.6		1352.1	1037.92	Si	5.82	Si
SLU 72	ini.	-447.86	-1815	-0.0006151	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.32	Si
SLU 72	fin.	-217.63	-379	-0.0002624	0.0002246	0.0035	0.6		1352.1	1037.92	Si	4.77	Si
SLU 79	ini.	-454.97	-1838	-0.0006273	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.28	Si
SLU 79	fin.	-204.12	-336	-0.0002443	0.0002246	0.0035	0.6		1352.1	1037.92	Si	5.08	Si
SLU 69	ini.	-462.68	-1866	-0.0006405	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.24	Si
SLU 69	fin.	-226.43	-389	-0.0002744	0.0002246	0.0035	0.6		1352.1	1037.92	Si	4.58	Si
SLU 80	ini.	-460.71	-1864	-0.0006371	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.25	Si
SLU 80	fin.	-200.34	-328	-0.0002393	0.0002246	0.0035	0.6		1352.1	1037.92	Si	5.18	Si
SLU 77	ini.	-475.53	-1916	-0.0006627	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.18	Si
SLU 77	fin.	-209.15	-338	-0.000251	0.0002246	0.0035	0.6		1352.1	1037.92	Si	4.96	Si
SLU 70	ini.	-468.41	-1892	-0.0006504	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.22	Si
SLU 70	fin.	-222.65	-381	-0.0002692	0.0002246	0.0035	0.6		1352.1	1037.92	Si	4.66	Si
SLU 74	ini.	-443.34	-1786	-0.0006075	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.34	Si
SLU 74	fin.	-182.22	-286	-0.0002156	0.0002246	0.0035	0.6		1352.1	1037.92	Si	5.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-462.68	3240	0.6	0	1236	4758	3019	1530	1853	Si	0.57	No
SLU 69	fin.	-226.43	-1143	0.6	0	1236	4758	3019	1530	1853	Si	1.62	Si
SLU 77	ini.	-475.53	3317	0.6	0	1236	4758	3019	1530	1853	Si	0.56	No
SLU 77	fin.	-209.15	-1092	0.6	0	1236	4758	3019	1530	1853	Si	1.7	Si
SLU 70	ini.	-468.41	3270	0.6	0	1236	4758	3019	1530	1853	Si	0.57	No
SLU 70	fin.	-222.65	-1131	0.6	0	1236	4758	3019	1530	1853	Si	1.64	Si
SLU 74	ini.	-443.34	3082	0.6	0	1236	4758	3019	1530	1853	Si	0.6	No
SLU 74	fin.	-182.22	-976	0.6	0	1236	4758	3019	1530	1853	Si	1.9	Si
SLU 79	ini.	-454.97	3178	0.6	0	1236	4758	3019	1530	1853	Si	0.58	No
SLU 79	fin.	-204.12	-1059	0.6	0	1236	4758	3019	1530	1853	Si	1.75	Si
SLU 80	ini.	-460.71	3209	0.6	0	1236	4758	3019	1530	1853	Si	0.58	No
SLU 80	fin.	-200.34	-1047	0.6	0	1236	4758	3019	1530	1853	Si	1.77	Si
SLU 72	ini.	-447.86	3131	0.6	0	1236	4758	3019	1530	1853	Si	0.59	No
SLU 72	fin.	-217.63	-1098	0.6	0	1236	4758	3019	1530	1853	Si	1.69	Si
SLU 78	ini.	-481.26	3347	0.6	0	1236	4758	3019	1530	1853	Si	0.55	No
SLU 78	fin.	-205.37	-1080	0.6	0	1236	4758	3019	1530	1853	Si	1.72	Si
SLU 71	ini.	-442.13	3101	0.6	0	1236	4758	3019	1530	1853	Si	0.6	No
SLU 71	fin.	-221.41	-1110	0.6	0	1236	4758	3019	1530	1853	Si	1.67	Si
SLU 75	ini.	-449.07	3113	0.6	0	1236	4758	3019	1530	1853	Si	0.6	No
SLU 75	fin.	-178.44	-964	0.6	0	1236	4758	3019	1530	1853	Si	1.92	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 4	ini.	15.62	-367	-0.0000172	0.0003369	0.0035	0.6		1332.37	1332.37		85.28	Si
SLD 4	fin.	-704.68	-1942	-0.0010309	0.0003369	0.0035	0.6		1336.38	1336.38		1.9	Si
SLV 1	ini.	-43.58	-930	-0.0000483	0.0003369	0.0035	0.6		1336.38	1336.38		30.67	Si
SLV 1	fin.	-880.81	-2609	-0.0014104	0.0003369	0.0035	0.6		1336.38	1336.38		1.52	Si
SLD 3	ini.	12.9	-379	-0.0000142	0.0003369	0.0035	0.6		1332.37	1332.37		103.31	Si
SLD 3	fin.	-702.34	-1937	-0.0010263	0.0003369	0.0035	0.6		1336.38	1336.38		1.9	Si
SLV 3	ini.	180.06	54	-0.0002088	0.0003369	0.0035	0.6		1332.37	1332.37		7.4	Si
SLV 3	fin.	-1031.2	-2919	-0.0018116	0.0003369	0.0035	0.6		1336.38	1336.38		1.3	Si
SLV 10	ini.	-752.88	-2960	-0.0011278	0.0003369	0.0035	0.6		1336.38	1336.38		1.78	Si
SLV 10	fin.	376.77	1081	-0.0004732	0.0003369	0.0035	0.6		1332.37	1332.37		3.54	Si
SLV 4	ini.	184.33	74	-0.000214	0.0003369	0.0035	0.6		1332.37	1332.37		7.23	Si
SLV 4	fin.	-1034.88	-2928	-0.0018228	0.0003369	0.0035	0.6		1336.38	1336.38		1.29	Si
SLV 9	ini.	-755.76	-2973	-0.0011338	0.0003369	0.0035	0.6		1336.38	1336.38		1.77	Si
SLV 9	fin.	379.25	1086	-0.0004769	0.0003369	0.0035	0.6		1332.37	1332.37		3.51	Si
SLV 2	ini.	-39.31	-910	-0.0000435	0.0003369	0.0035	0.6		1336.38	1336.38		34	Si
SLV 2	fin.	-884.48	-2617	-0.0014192	0.0003369	0.0035	0.6		1336.38	1336.38		1.51	Si
SLV 13	ini.	-738.91	-2312	-0.0010993	0.0003369	0.0035	0.6		1336.38	1336.38		1.81	Si
SLV 13	fin.	788.72	2521	-0.0012077	0.0003369	0.0035	0.6		1332.37	1332.37		1.69	Si
SLV 14	ini.	-734.64	-2292	-0.0010906	0.0003369	0.0035	0.6		1336.38	1336.38		1.82	Si
SLV 14	fin.	785.04	2513	-0.0011998	0.0003369	0.0035	0.6		1332.37	1332.37		1.7	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 10	ini.	-572.92	3488	0.6	0	1449	4758	4528	1530	6058		1.74	Si
SLD 10	fin.	191.18	307	0.6	0	1449	4758	4528	1530	6058		19.76	Si
SLV 9	ini.	-755.76	4449	0.6	0	1449	4758	4528	1530	6058		1.36	Si
SLV 9	fin.	379.25	880	0.6	0	1449	4758	4528	1530	6058		6.88	Si
SLV 14	ini.	-734.64	4275	0.6	0	1449	4758	4528	1530	6058		1.42	Si
SLV 14	fin.	785.04	2004	0.6	0	1449	4758	4528	1530	6058		3.02	Si
SLV 10	ini.	-752.88	4433	0.6	0	1449	4758	4528	1530	6058		1.37	Si
SLV 10	fin.	376.77	872	0.6	0	1449	4758	4528	1530	6058		6.94	Si
SLV 6	ini.	-544.28	3378	0.6	0	1449	4758	4528	1530	6058		1.79	Si
SLV 6	fin.	-124.09	-579	0.6	0	1449	4758	4528	1530	6058		10.47	Si
SLD 13	ini.	-570.2	3435	0.6	0	1449	4758	4528	1530	6058		1.76	Si
SLD 13	fin.	458.52	1051	0.6	0	1449	4758	4528	1530	6058		5.77	Si
SLV 5	ini.	-547.16	3395	0.6	0	1449	4758	4528	1530	6058		1.78	Si
SLV 5	fin.	-121.61	-571	0.6	0	1449	4758	4528	1530	6058		10.62	Si
SLD 9	ini.	-574.72	3498	0.6	0	1449	4758	4528	1530	6058		1.73	Si
SLD 9	fin.	192.74	312	0.6	0	1449	4758	4528	1530	6058		19.44	Si
SLD 14	ini.	-567.47	3419	0.6	0	1449	4758	4528	1530	6058		1.77	Si
SLD 14	fin.	456.17	1043	0.6	0	1449	4758	4528	1530	6058		5.81	Si
SLV 13	ini.	-738.91	4299	0.6	0	1449	4758	4528	1530	6058		1.41	Si
SLV 13	fin.	788.72	2016	0.6	0	1449	4758	4528	1530	6058		3.01	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.291	SLV 4	Si
V_SLV	1.362	SLV 9	Si
PF_SLU	2.157	SLU 78	Si
V_SLU	0.554	SLU 78	No

Trave di accoppiamento 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-9.386	1.046	14.55	15.15	0.6	-10.466	1.046	14.55	15.15	0.6	1.08	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk_lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-48.48	-608	-0.000054	0.0002246	0.0035	0.6		1352.1	1037.92	Si	21.41	Si
SLU 78	fin.	-411.49	-1393	-0.0005542	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.52	Si
SLU 75	ini.	-37.71	-542	-0.0000418	0.0002246	0.0035	0.6		1352.1	1037.92	Si	27.53	Si
SLU 75	fin.	-385.77	-1316	-0.0005123	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.69	Si
SLU 77	ini.	-50.81	-612	-0.0000567	0.0002246	0.0035	0.6		1352.1	1037.92	Si	20.43	Si
SLU 77	fin.	-405.97	-1373	-0.0005452	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.56	Si
SLU 72	ini.	-53.83	-595	-0.0000601	0.0002246	0.0035	0.6		1352.1	1037.92	Si	19.28	Si
SLU 72	fin.	-387.11	-1293	-0.0005145	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.68	Si
SLU 70	ini.	-57.12	-636	-0.0000639	0.0002246	0.0035	0.6		1352.1	1037.92	Si	18.17	Si
SLU 70	fin.	-402.6	-1356	-0.0005397	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.58	Si
SLU 74	ini.	-40.04	-546	-0.0000445	0.0002246	0.0035	0.6		1352.1	1037.92	Si	25.92	Si
SLU 74	fin.	-380.25	-1295	-0.0005035	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.73	Si
SLU 69	ini.	-59.44	-640	-0.0000665	0.0002246	0.0035	0.6		1352.1	1037.92	Si	17.46	Si
SLU 69	fin.	-397.08	-1336	-0.0005307	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.61	Si
SLU 71	ini.	-56.16	-599	-0.0000628	0.0002246	0.0035	0.6		1352.1	1037.92	Si	18.48	Si
SLU 71	fin.	-381.58	-1272	-0.0005056	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.72	Si
SLU 80	ini.	-45.19	-567	-0.0000503	0.0002246	0.0035	0.6		1352.1	1037.92	Si	22.97	Si
SLU 80	fin.	-395.99	-1330	-0.0005289	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.62	Si
SLU 79	ini.	-47.52	-571	-0.0000529	0.0002246	0.0035	0.6		1352.1	1037.92	Si	21.84	Si
SLU 79	fin.	-390.47	-1309	-0.0005199	0.0002246	0.0035	0.6		1352.1	1037.92	Si	2.66	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-56.16	56	0.6	0	1281	4758	3019	1530	1922	Si	34.41	Si
SLU 71	fin.	-381.58	-1957	0.6	0	1281	4758	3019	1530	1922	Si	0.98	No
SLU 75	ini.	-37.71	-122	0.6	0	1281	4758	3019	1530	1922	Si	15.73	Si
SLU 75	fin.	-385.77	-1934	0.6	0	1281	4758	3019	1530	1922	Si	0.99	No
SLU 74	ini.	-40.04	-108	0.6	0	1281	4758	3019	1530	1922	Si	17.82	Si
SLU 74	fin.	-380.25	-1913	0.6	0	1281	4758	3019	1530	1922	Si	1	Si
SLU 69	ini.	-59.44	67	0.6	0	1281	4758	3019	1530	1922	Si	28.82	Si
SLU 69	fin.	-397.08	-2024	0.6	0	1281	4758	3019	1530	1922	Si	0.95	No
SLU 78	ini.	-48.48	-46	0.6	0	1281	4758	3019	1530	1922	Si	42.18	Si
SLU 78	fin.	-411.49	-2081	0.6	0	1281	4758	3019	1530	1922	Si	0.92	No
SLU 77	ini.	-50.81	-31	0.6	0	1281	4758	3019	1530	1922	Si	61.54	Si
SLU 77	fin.	-405.97	-2060	0.6	0	1281	4758	3019	1530	1922	Si	0.93	No
SLU 79	ini.	-47.52	-42	0.6	0	1281	4758	3019	1530	1922	Si	45.68	Si
SLU 79	fin.	-390.47	-1993	0.6	0	1281	4758	3019	1530	1922	Si	0.96	No
SLU 80	ini.	-45.19	-56	0.6	0	1281	4758	3019	1530	1922	Si	34.07	Si
SLU 80	fin.	-395.99	-2014	0.6	0	1281	4758	3019	1530	1922	Si	0.95	No
SLU 70	ini.	-57.12	52	0.6	0	1281	4758	3019	1530	1922	Si	36.71	Si
SLU 70	fin.	-402.6	-2045	0.6	0	1281	4758	3019	1530	1922	Si	0.94	No
SLU 72	ini.	-53.83	42	0.6	0	1281	4758	3019	1530	1922	Si	46.29	Si
SLU 72	fin.	-387.11	-1978	0.6	0	1281	4758	3019	1530	1922	Si	0.97	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-539.88	-2152	-0.0007299	0.0003369	0.0035	0.6		1336.38	1336.38		2.48	Si
SLV 14	fin.	-196.58	-1324	-0.0002286	0.0003369	0.0035	0.6		1336.38	1336.38		6.8	Si
SLV 1	ini.	602.63	1756	-0.0008424	0.0003369	0.0035	0.6		1332.37	1332.37		2.21	Si
SLV 1	fin.	-499.42	-1092	-0.0006624	0.0003369	0.0035	0.6		1336.38	1336.38		2.68	Si
SLV 13	ini.	-539.02	-2142	-0.0007285	0.0003369	0.0035	0.6		1336.38	1336.38		2.48	Si
SLV 13	fin.	-200.35	-1337	-0.0002333	0.0003369	0.0035	0.6		1336.38	1336.38		6.67	Si
SLV 10	ini.	-1.03	-429	-0.0000011	0.0003369	0.0035	0.6		1336.38	1336.38		1292.32	Si
SLV 10	fin.	-552.97	-2161	-0.0007523	0.0003369	0.0035	0.6		1336.38	1336.38		2.42	Si
SLV 2	ini.	601.77	1747	-0.0008408	0.0003369	0.0035	0.6		1332.37	1332.37		2.21	Si
SLV 2	fin.	-495.65	-1079	-0.0006562	0.0003369	0.0035	0.6		1336.38	1336.38		2.7	Si
SLV 16	ini.	-659.13	-2457	-0.0009432	0.0003369	0.0035	0.6		1336.38	1336.38		2.03	Si
SLV 16	fin.	18.64	-535	-0.0000206	0.0003369	0.0035	0.6		1332.37	1332.37		71.47	Si
SLV 9	ini.	-0.46	-423	-0.0000005	0.0003369	0.0035	0.6		1336.38	1336.38		2921.24	Si
SLV 9	fin.	-555.51	-2170	-0.0007566	0.0003369	0.0035	0.6		1336.38	1336.38		2.41	Si
SLV 6	ini.	341.46	741	-0.000422	0.0003369	0.0035	0.6		1332.37	1332.37		3.9	Si
SLV 6	fin.	-642.69	-2087	-0.0009125	0.0003369	0.0035	0.6		1336.38	1336.38		2.08	Si
SLV 5	ini.	342.04	747	-0.0004228	0.0003369	0.0035	0.6		1332.37	1332.37		3.9	Si
SLV 5	fin.	-645.23	-2096	-0.0009172	0.0003369	0.0035	0.6		1336.38	1336.38		2.07	Si
SLV 15	ini.	-658.27	-2448	-0.0009416	0.0003369	0.0035	0.6		1336.38	1336.38		2.03	Si
SLV 15	fin.	14.87	-548	-0.0000164	0.0003369	0.0035	0.6		1332.37	1332.37		89.58	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	342.04	-2081	0.6	0	1502	4758	4528	1530	6058		2.91	Si
SLV 5	fin.	-645.23	-2786	0.6	0	1502	4758	4528	1530	6058		2.17	Si
SLV 15	ini.	-658.27	2475	0.6	0	1502	4758	4528	1530	6058		2.45	Si
SLV 15	fin.	14.87	-198	0.6	0	1502	4758	4528	1530	6058		30.63	Si
SLV 16	ini.	-659.13	2483	0.6	0	1502	4758	4528	1530	6058		2.44	Si
SLV 16	fin.	18.64	-183	0.6	0	1502	4758	4528	1530	6058		33.15	Si
SLV 6	ini.	341.46	-2075	0.6	0	1502	4758	4528	1530	6058		2.92	Si
SLV 6	fin.	-642.69	-2776	0.6	0	1502	4758	4528	1530	6058		2.18	Si
SLD 6	ini.	202.23	-1326	0.6	0	1502	4758	4528	1530	6058		4.57	Si
SLD 6	fin.	-488.57	-2181	0.6	0	1502	4758	4528	1530	6058		2.78	Si
SLV 9	ini.	-0.46	-796	0.6	0	1502	4758	4528	1530	6058		7.61	Si
SLV 9	fin.	-555.51	-2416	0.6	0	1502	4758	4528	1530	6058		2.51	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	602.63	-2625	0.6	0	1502	4758	4528	1530	6058		2.31	Si
SLV 1	fin.	-499.42	-2257	0.6	0	1502	4758	4528	1530	6058		2.68	Si
SLD 5	ini.	202.6	-1329	0.6	0	1502	4758	4528	1530	6058		4.56	Si
SLD 5	fin.	-490.16	-2187	0.6	0	1502	4758	4528	1530	6058		2.77	Si
SLV 2	ini.	601.77	-2617	0.6	0	1502	4758	4528	1530	6058		2.32	Si
SLV 2	fin.	-495.65	-2242	0.6	0	1502	4758	4528	1530	6058		2.7	Si
SLV 10	ini.	-1.03	-791	0.6	0	1502	4758	4528	1530	6058		7.66	Si
SLV 10	fin.	-552.97	-2406	0.6	0	1502	4758	4528	1530	6058		2.52	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.027	SLV 16	Si
V_SLV	2.174	SLV 5	Si
PF_SLU	2.522	SLU 78	Si
V_SLU	0.924	SLU 78	No

Trave di accoppiamento 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.478	1.046	14.15	15.15	1	-7.278	1.046	14.15	15.15	1	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-202.95	-907	-0.0000824	0.0002246	0.0035	1		3749.66	2087.92	Si	10.29	Si
SLU 35	fin.	-60.05	-807	-0.0000239	0.0002246	0.0035	1		3749.66	2087.92	Si	34.77	Si
SLU 75	ini.	-183.71	-1004	-0.0000743	0.0002246	0.0035	1		3749.66	2087.92	Si	11.37	Si
SLU 75	fin.	-110.16	-948	-0.0000441	0.0002246	0.0035	1		3749.66	2087.92	Si	18.95	Si
SLU 83	ini.	-186.08	-930	-0.0000753	0.0002246	0.0035	1		3749.66	2087.92	Si	11.22	Si
SLU 83	fin.	-83.95	-852	-0.0000335	0.0002246	0.0035	1		3749.66	2087.92	Si	24.87	Si
SLU 79	ini.	-188.02	-957	-0.0000761	0.0002246	0.0035	1		3749.66	2087.92	Si	11.1	Si
SLU 79	fin.	-106.19	-956	-0.0000425	0.0002246	0.0035	1		3749.66	2087.92	Si	19.66	Si
SLU 36	ini.	-195.81	-894	-0.0000794	0.0002246	0.0035	1		3749.66	2087.92	Si	10.66	Si
SLU 36	fin.	-69.14	-816	-0.0000275	0.0002246	0.0035	1		3749.66	2087.92	Si	30.2	Si
SLU 74	ini.	-190.85	-1018	-0.0000773	0.0002246	0.0035	1		3749.66	2087.92	Si	10.94	Si
SLU 74	fin.	-101.07	-939	-0.0000404	0.0002246	0.0035	1		3749.66	2087.92	Si	20.66	Si
SLU 47	ini.	-79.12	-772	-0.0000316	0.0002246	0.0035	1		3749.66	2087.92	Si	26.39	Si
SLU 47	fin.	-183.31	-968	-0.0000742	0.0002246	0.0035	1		3749.66	2087.92	Si	11.39	Si
SLU 32	ini.	-184.94	-871	-0.0000749	0.0002246	0.0035	1		3749.66	2087.92	Si	11.29	Si
SLU 32	fin.	-58.78	-742	-0.0000234	0.0002246	0.0035	1		3749.66	2087.92	Si	35.52	Si
SLU 78	ini.	-201.72	-1040	-0.0000818	0.0002246	0.0035	1		3749.66	2087.92	Si	10.35	Si
SLU 78	fin.	-111.43	-1012	-0.0000446	0.0002246	0.0035	1		3749.66	2087.92	Si	18.74	Si
SLU 77	ini.	-208.86	-1054	-0.0000848	0.0002246	0.0035	1		3749.66	2087.92	Si	10	Si
SLU 77	fin.	-102.33	-1003	-0.0000409	0.0002246	0.0035	1		3749.66	2087.92	Si	20.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-171.35	2180	1	0	2333	6344	5031	2550	3500	Si	1.61	Si
SLU 69	fin.	-151.26	-1704	1	0	2333	6344	5031	2550	3500	Si	2.05	Si
SLU 70	ini.	-164.21	2143	1	0	2333	6344	5031	2550	3500	Si	1.63	Si
SLU 70	fin.	-160.35	-1738	1	0	2333	6344	5031	2550	3500	Si	2.01	Si
SLU 78	ini.	-201.72	2321	1	0	2333	6344	5031	2550	3500	Si	1.51	Si
SLU 78	fin.	-111.43	-1548	1	0	2333	6344	5031	2550	3500	Si	2.26	Si
SLU 77	ini.	-208.86	2358	1	0	2333	6344	5031	2550	3500	Si	1.48	Si
SLU 77	fin.	-102.33	-1514	1	0	2333	6344	5031	2550	3500	Si	2.31	Si
SLU 80	ini.	-180.88	2155	1	0	2333	6344	5031	2550	3500	Si	1.62	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 80	fin.	-115.28	-1536	1	0	2333	6344	5031	2550	3500	Si	2.28	Si
SLU 36	ini.	-195.81	2118	1	0	2333	6344	5031	2550	3500	Si	1.65	Si
SLU 36	fin.	-69.14	-1237	1	0	2333	6344	5031	2550	3500	Si	2.83	Si
SLU 35	ini.	-202.95	2155	1	0	2333	6344	5031	2550	3500	Si	1.62	Si
SLU 35	fin.	-60.05	-1203	1	0	2333	6344	5031	2550	3500	Si	2.91	Si
SLU 74	ini.	-190.85	2166	1	0	2333	6344	5031	2550	3500	Si	1.62	Si
SLU 74	fin.	-101.07	-1386	1	0	2333	6344	5031	2550	3500	Si	2.52	Si
SLU 79	ini.	-188.02	2191	1	0	2333	6344	5031	2550	3500	Si	1.6	Si
SLU 79	fin.	-106.19	-1502	1	0	2333	6344	5031	2550	3500	Si	2.33	Si
SLU 75	ini.	-183.71	2129	1	0	2333	6344	5031	2550	3500	Si	1.64	Si
SLU 75	fin.	-110.16	-1421	1	0	2333	6344	5031	2550	3500	Si	2.46	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	354.82	359	-0.0001456	0.0003369	0.0035	1		3684.51	3684.51		10.38	Si
SLV 3	fin.	-548.21	-566	-0.0002299	0.0003369	0.0035	1		3691.28	3691.28		6.73	Si
SLV 15	ini.	-713.73	-2138	-0.0003061	0.0003369	0.0035	1		3691.28	3691.28		5.17	Si
SLV 15	fin.	592.64	-543	-0.0002504	0.0003369	0.0035	1		3684.51	3684.51		6.22	Si
SLV 1	ini.	532.96	823	-0.0002235	0.0003369	0.0035	1		3684.51	3684.51		6.91	Si
SLV 1	fin.	-808.23	-823	-0.0003514	0.0003369	0.0035	1		3691.28	3691.28		4.57	Si
SLV 5	ini.	367.03	494	-0.0001509	0.0003369	0.0035	1		3684.51	3684.51		10.04	Si
SLV 5	fin.	-711.87	-1112	-0.0003052	0.0003369	0.0035	1		3691.28	3691.28		5.19	Si
SLV 2	ini.	534.4	842	-0.0002241	0.0003369	0.0035	1		3684.51	3684.51		6.89	Si
SLV 2	fin.	-805.71	-806	-0.0003501	0.0003369	0.0035	1		3691.28	3691.28		4.58	Si
SLV 16	ini.	-712.28	-2118	-0.0003054	0.0003369	0.0035	1		3691.28	3691.28		5.18	Si
SLV 16	fin.	595.15	-526	-0.0002516	0.0003369	0.0035	1		3684.51	3684.51		6.19	Si
SLV 11	ini.	-547.33	-1802	-0.0002295	0.0003369	0.0035	1		3691.28	3691.28		6.74	Si
SLV 11	fin.	497.1	-248	-0.0002075	0.0003369	0.0035	1		3684.51	3684.51		7.41	Si
SLD 1	ini.	305.57	286	-0.0001247	0.0003369	0.0035	1		3684.51	3684.51		12.06	Si
SLD 1	fin.	-549.29	-766	-0.0002304	0.0003369	0.0035	1		3691.28	3691.28		6.72	Si
SLV 6	ini.	368	507	-0.0001513	0.0003369	0.0035	1		3684.51	3684.51		10.01	Si
SLV 6	fin.	-710.18	-1101	-0.0003044	0.0003369	0.0035	1		3691.28	3691.28		5.2	Si
SLD 2	ini.	306.49	298	-0.0001251	0.0003369	0.0035	1		3684.51	3684.51		12.02	Si
SLD 2	fin.	-547.68	-755	-0.0002297	0.0003369	0.0035	1		3691.28	3691.28		6.74	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	532.96	-1682	1	0	3500	6344	7547	2550	9844		5.85	Si
SLV 1	fin.	-808.23	-3598	1	0	3500	6344	7547	2550	9844		2.74	Si
SLD 16	ini.	-484.89	3070	1	0	3500	6344	7547	2550	9844		3.21	Si
SLD 16	fin.	336.21	573	1	0	3500	6344	7547	2550	9844		17.19	Si
SLV 12	ini.	-546.36	3987	1	0	3500	6344	7547	2550	9844		2.47	Si
SLV 12	fin.	498.8	1327	1	0	3500	6344	7547	2550	9844		7.42	Si
SLV 2	ini.	534.4	-1694	1	0	3500	6344	7547	2550	9844		5.81	Si
SLV 2	fin.	-805.71	-3591	1	0	3500	6344	7547	2550	9844		2.74	Si
SLV 11	ini.	-547.33	3995	1	0	3500	6344	7547	2550	9844		2.46	Si
SLV 11	fin.	497.1	1322	1	0	3500	6344	7547	2550	9844		7.45	Si
SLV 16	ini.	-712.28	4136	1	0	3500	6344	7547	2550	9844		2.38	Si
SLV 16	fin.	595.15	1513	1	0	3500	6344	7547	2550	9844		6.51	Si
SLD 15	ini.	-485.82	3077	1	0	3500	6344	7547	2550	9844		3.2	Si
SLD 15	fin.	334.61	569	1	0	3500	6344	7547	2550	9844		17.31	Si
SLV 6	ini.	368	-1542	1	0	3500	6344	7547	2550	9844		6.39	Si
SLV 6	fin.	-710.18	-3407	1	0	3500	6344	7547	2550	9844		2.89	Si
SLV 15	ini.	-713.73	4148	1	0	3500	6344	7547	2550	9844		2.37	Si
SLV 15	fin.	592.64	1507	1	0	3500	6344	7547	2550	9844		6.53	Si
SLV 5	ini.	367.03	-1534	1	0	3500	6344	7547	2550	9844		6.42	Si
SLV 5	fin.	-711.87	-3411	1	0	3500	6344	7547	2550	9844		2.89	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.567	SLV 1	Si
V_SLV	2.373	SLV 15	Si
PF_SLU	9.997	SLU 77	Si
V_SLU	1.484	SLU 77	Si

Trave di accoppiamento 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-4.168	1.046	14.15	15.15	1	-4.968	1.046	14.15	15.15	1	0.8	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 Intonaco armato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			258750	13500	30000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_m u	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 37	ini.	-199.42	-1145	-0.0000809	0.0002246	0.0035	1		3749.66	2087.92	Si	10.47	Si
SLU 37	fin.	-60	-791	-0.0000239	0.0002246	0.0035	1		3749.66	2087.92	Si	34.8	Si
SLU 71	ini.	-200.82	-1209	-0.0000815	0.0002246	0.0035	1		3749.66	2087.92	Si	10.4	Si
SLU 71	fin.	-91.2	-911	-0.0000364	0.0002246	0.0035	1		3749.66	2087.92	Si	22.89	Si
SLU 69	ini.	-197.57	-1249	-0.0000801	0.0002246	0.0035	1		3749.66	2087.92	Si	10.57	Si
SLU 69	fin.	-118.5	-1026	-0.0000475	0.0002246	0.0035	1		3749.66	2087.92	Si	17.62	Si
SLU 78	ini.	-202.73	-1275	-0.0000823	0.0002246	0.0035	1		3749.66	2087.92	Si	10.3	Si
SLU 78	fin.	-118.56	-1047	-0.0000475	0.0002246	0.0035	1		3749.66	2087.92	Si	17.61	Si
SLU 72	ini.	-195.57	-1192	-0.0000793	0.0002246	0.0035	1		3749.66	2087.92	Si	10.68	Si
SLU 72	fin.	-94.66	-912	-0.0000378	0.0002246	0.0035	1		3749.66	2087.92	Si	22.06	Si
SLU 79	ini.	-211.22	-1253	-0.0000858	0.0002246	0.0035	1		3749.66	2087.92	Si	9.88	Si
SLU 79	fin.	-87.79	-930	-0.0000351	0.0002246	0.0035	1		3749.66	2087.92	Si	23.78	Si
SLU 35	ini.	-196.17	-1184	-0.0000795	0.0002246	0.0035	1		3749.66	2087.92	Si	10.64	Si
SLU 35	fin.	-87.3	-906	-0.0000349	0.0002246	0.0035	1		3749.66	2087.92	Si	23.92	Si
SLU 77	ini.	-207.98	-1292	-0.0000845	0.0002246	0.0035	1		3749.66	2087.92	Si	10.04	Si
SLU 77	fin.	-115.1	-1045	-0.0000461	0.0002246	0.0035	1		3749.66	2087.92	Si	18.14	Si
SLU 80	ini.	-205.98	-1235	-0.0000836	0.0002246	0.0035	1		3749.66	2087.92	Si	10.14	Si
SLU 80	fin.	-91.26	-932	-0.0000365	0.0002246	0.0035	1		3749.66	2087.92	Si	22.88	Si
SLU 38	ini.	-194.18	-1128	-0.0000787	0.0002246	0.0035	1		3749.66	2087.92	Si	10.75	Si
SLU 38	fin.	-63.47	-792	-0.0000253	0.0002246	0.0035	1		3749.66	2087.92	Si	32.9	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	-197.57	1640	1	0	2333	6344	5031	2550	3500	Si	2.13	Si
SLU 69	fin.	-118.5	-1665	1	0	2333	6344	5031	2550	3500	Si	2.1	Si
SLU 67	ini.	-136.39	1283	1	0	2333	6344	5031	2550	3500	Si	2.73	Si
SLU 67	fin.	-157.15	-1729	1	0	2333	6344	5031	2550	3500	Si	2.02	Si
SLU 75	ini.	-146.79	1316	1	0	2333	6344	5031	2550	3500	Si	2.66	Si
SLU 75	fin.	-153.75	-1698	1	0	2333	6344	5031	2550	3500	Si	2.06	Si
SLU 65	ini.	-80.2	885	1	0	2333	6344	5031	2550	3500	Si	3.96	Si
SLU 65	fin.	-167.34	-1622	1	0	2333	6344	5031	2550	3500	Si	2.16	Si
SLU 79	ini.	-211.22	1622	1	0	2333	6344	5031	2550	3500	Si	2.16	Si
SLU 79	fin.	-87.79	-1470	1	0	2333	6344	5031	2550	3500	Si	2.38	Si
SLU 77	ini.	-207.98	1672	1	0	2333	6344	5031	2550	3500	Si	2.09	Si
SLU 77	fin.	-115.1	-1635	1	0	2333	6344	5031	2550	3500	Si	2.14	Si
SLU 78	ini.	-202.73	1647	1	0	2333	6344	5031	2550	3500	Si	2.13	Si
SLU 78	fin.	-118.56	-1650	1	0	2333	6344	5031	2550	3500	Si	2.12	Si
SLU 70	ini.	-192.32	1615	1	0	2333	6344	5031	2550	3500	Si	2.17	Si
SLU 70	fin.	-121.96	-1681	1	0	2333	6344	5031	2550	3500	Si	2.08	Si
SLU 74	ini.	-152.04	1341	1	0	2333	6344	5031	2550	3500	Si	2.61	Si
SLU 74	fin.	-150.28	-1683	1	0	2333	6344	5031	2550	3500	Si	2.08	Si
SLU 66	ini.	-141.63	1309	1	0	2333	6344	5031	2550	3500	Si	2.67	Si
SLU 66	fin.	-153.68	-1713	1	0	2333	6344	5031	2550	3500	Si	2.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	ϵ_m _	ϵ_m u	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-520.86	-2036	-0.0002177	0.0003369	0.0035	1		3691.28	3691.28		7.09	Si
SLV 12	fin.	154.74	-591	-0.0000621	0.0003369	0.0035	1		3684.51	3684.51		23.81	Si
SLV 13	ini.	-495.59	-1879	-0.0002065	0.0003369	0.0035	1		3691.28	3691.28		7.45	Si
SLV 13	fin.	18.02	-954	-0.0000071	0.0003369	0.0035	1		3684.51	3684.51		204.52	Si
SLV 11	ini.	-512.29	-2011	-0.0002139	0.0003369	0.0035	1		3691.28	3691.28		7.21	Si
SLV 11	fin.	145.76	-609	-0.0000585	0.0003369	0.0035	1		3684.51	3684.51		25.28	Si
SLV 14	ini.	-508.31	-1917	-0.0002121	0.0003369	0.0035	1		3691.28	3691.28		7.26	Si
SLV 14	fin.	31.35	-927	-0.0000124	0.0003369	0.0035	1		3684.51	3684.51		117.52	Si
SLV 1	ini.	548.72	1340	-0.0002306	0.0003369	0.0035	1		3684.51	3684.51		6.71	Si
SLV 1	fin.	-394.05	-515	-0.0001622	0.0003369	0.0035	1		3691.28	3691.28		9.37	Si
SLV 2	ini.	536	1302	-0.0002249	0.0003369	0.0035	1		3684.51	3684.51		6.87	Si
SLV 2	fin.	-380.72	-488	-0.0001565	0.0003369	0.0035	1		3691.28	3691.28		9.7	Si
SLD 15	ini.	-449.24	-1766	-0.0001861	0.0003369	0.0035	1		3691.28	3691.28		8.22	Si
SLD 15	fin.	43.8	-808	-0.0000174	0.0003369	0.0035	1		3684.51	3684.51		84.11	Si
SLD 16	ini.	-457.36	-1790	-0.0001897	0.0003369	0.0035	1		3691.28	3691.28		8.07	Si
SLD 16	fin.	52.32	-791	-0.0000208	0.0003369	0.0035	1		3684.51	3684.51		70.43	Si
SLV 15	ini.	-671.04	-2457	-0.000286	0.0003369	0.0035	1		3691.28	3691.28		5.5	Si
SLV 15	fin.	142.54	-868	-0.0000572	0.0003369	0.0035	1		3684.51	3684.51		25.85	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-683.75	-2495	-0.000292	0.0003369	0.0035	1		3691.28	3691.28		5.4	Si
SLV 16	fin.	155.87	-841	-0.0000626	0.0003369	0.0035	1		3684.51	3684.51		23.64	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 1	ini.	548.72	-1498	1	0	3500	6344	7547	2550	9844		6.57	Si
SLV 1	fin.	-394.05	-2915	1	0	3500	6344	7547	2550	9844		3.38	Si
SLV 2	ini.	536	-1419	1	0	3500	6344	7547	2550	9844		6.94	Si
SLV 2	fin.	-380.72	-2858	1	0	3500	6344	7547	2550	9844		3.44	Si
SLV 4	ini.	360.56	-534	1	0	3500	6344	7547	2550	9844		18.43	Si
SLV 4	fin.	-256.2	-2327	1	0	3500	6344	7547	2550	9844		4.23	Si
SLV 15	ini.	-671.04	2770	1	0	3500	6344	7547	2550	9844		3.55	Si
SLV 15	fin.	142.54	510	1	0	3500	6344	7547	2550	9844		19.28	Si
SLV 16	ini.	-683.75	2848	1	0	3500	6344	7547	2550	9844		3.46	Si
SLV 16	fin.	155.87	568	1	0	3500	6344	7547	2550	9844		17.33	Si
SLV 6	ini.	377.26	-1280	1	0	3500	6344	7547	2550	9844		7.69	Si
SLV 6	fin.	-383.95	-2473	1	0	3500	6344	7547	2550	9844		3.98	Si
SLV 12	ini.	-520.86	2684	1	0	3500	6344	7547	2550	9844		3.67	Si
SLV 12	fin.	154.74	164	1	0	3500	6344	7547	2550	9844		59.94	Si
SLV 5	ini.	385.82	-1333	1	0	3500	6344	7547	2550	9844		7.38	Si
SLV 5	fin.	-392.92	-2511	1	0	3500	6344	7547	2550	9844		3.92	Si
SLV 11	ini.	-512.29	2631	1	0	3500	6344	7547	2550	9844		3.74	Si
SLV 11	fin.	145.76	125	1	0	3500	6344	7547	2550	9844		78.44	Si
SLV 3	ini.	373.27	-613	1	0	3500	6344	7547	2550	9844		16.06	Si
SLV 3	fin.	-269.53	-2385	1	0	3500	6344	7547	2550	9844		4.13	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.399	SLV 16	Si
V_SLV	3.377	SLV 1	Si
PF_SLU	9.885	SLU 79	Si
V_SLU	2.025	SLU 67	Si

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Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.718	6.661	12.05	12.95	0.9	-16.818	6.661	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 38	ini.	-8.93	-96	-0.0000044	0.0001872	0.0035	0.9		2964.67	1717.92	Si	192.31	Si
SLU 38	fin.	32.92	-305	-0.0000162	0.0001872	0.0035	0.9		2959	1717.92	Si	52.19	Si
SLU 72	ini.	9.73	-222	-0.0000048	0.0001872	0.0035	0.9		2959	1717.92	Si	176.5	Si
SLU 72	fin.	30.79	-402	-0.0000152	0.0001872	0.0035	0.9		2959	1717.92	Si	55.79	Si
SLU 36	ini.	-6.64	-110	-0.0000032	0.0001872	0.0035	0.9		2964.67	1717.92	Si	258.76	Si
SLU 36	fin.	32.8	-322	-0.0000161	0.0001872	0.0035	0.9		2959	1717.92	Si	52.37	Si
SLU 64	ini.	31.69	-250	-0.0000156	0.0001872	0.0035	0.9		2959	1717.92	Si	54.2	Si
SLU 64	fin.	-0.46	-211	-0.0000002	0.0001872	0.0035	0.9		2964.67	1717.92	Si	3705.42	Si
SLU 27	ini.	7.73	-191	-0.0000038	0.0001872	0.0035	0.9		2959	1717.92	Si	222.15	Si
SLU 27	fin.	31.93	-376	-0.0000157	0.0001872	0.0035	0.9		2959	1717.92	Si	53.8	Si
SLU 30	ini.	-0.82	-153	-0.0000004	0.0001872	0.0035	0.9		2964.67	1717.92	Si	2093.35	Si
SLU 30	fin.	34.52	-366	-0.000017	0.0001872	0.0035	0.9		2959	1717.92	Si	49.76	Si
SLU 28	ini.	1.47	-167	-0.0000007	0.0001872	0.0035	0.9		2959	1717.92	Si	1166.17	Si
SLU 28	fin.	34.41	-383	-0.0000169	0.0001872	0.0035	0.9		2959	1717.92	Si	49.93	Si
SLU 43	ini.	38.25	-272	-0.0000188	0.0001872	0.0035	0.9		2959	1717.92	Si	44.92	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 43	fin.	-7.79	-186	-0.0000038	0.0001872	0.0035	0.9		2964.67	1717.92	Si	220.61	Si
SLU 29	ini.	5.44	-177	-0.0000027	0.0001872	0.0035	0.9		2959	1717.92	Si	315.83	Si
SLU 29	fin.	32.05	-359	-0.0000158	0.0001872	0.0035	0.9		2959	1717.92	Si	53.61	Si
SLU 45	ini.	32.69	-283	-0.0000161	0.0001872	0.0035	0.9		2959	1717.92	Si	52.55	Si
SLU 45	fin.	6.49	-296	-0.0000032	0.0001872	0.0035	0.9		2959	1717.92	Si	264.75	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	15.99	-483	0.9	0	1750	7137	3773	2295	2625	Si	5.43	Si
SLU 71	fin.	28.32	932	0.9	0	1750	7137	3773	2295	2625	Si	2.82	Si
SLU 70	ini.	12.03	-496	0.9	0	1750	7137	3773	2295	2625	Si	5.29	Si
SLU 70	fin.	30.68	1000	0.9	0	1750	7137	3773	2295	2625	Si	2.63	Si
SLU 49	ini.	18.58	-532	0.9	0	1750	7137	3773	2295	2625	Si	4.93	Si
SLU 49	fin.	23.36	945	0.9	0	1750	7137	3773	2295	2625	Si	2.78	Si
SLU 28	ini.	1.47	-371	0.9	0	1750	7137	3773	2295	2625	Si	7.07	Si
SLU 28	fin.	34.41	898	0.9	0	1750	7137	3773	2295	2625	Si	2.92	Si
SLU 48	ini.	24.84	-563	0.9	0	1750	7137	3773	2295	2625	Si	4.66	Si
SLU 48	fin.	20.88	927	0.9	0	1750	7137	3773	2295	2625	Si	2.83	Si
SLU 69	ini.	18.29	-527	0.9	0	1750	7137	3773	2295	2625	Si	4.98	Si
SLU 69	fin.	28.2	982	0.9	0	1750	7137	3773	2295	2625	Si	2.67	Si
SLU 50	ini.	22.55	-519	0.9	0	1750	7137	3773	2295	2625	Si	5.05	Si
SLU 50	fin.	20.99	877	0.9	0	1750	7137	3773	2295	2625	Si	2.99	Si
SLU 72	ini.	9.73	-453	0.9	0	1750	7137	3773	2295	2625	Si	5.8	Si
SLU 72	fin.	30.79	949	0.9	0	1750	7137	3773	2295	2625	Si	2.77	Si
SLU 51	ini.	16.29	-489	0.9	0	1750	7137	3773	2295	2625	Si	5.37	Si
SLU 51	fin.	23.47	894	0.9	0	1750	7137	3773	2295	2625	Si	2.94	Si
SLU 27	ini.	7.73	-402	0.9	0	1750	7137	3773	2295	2625	Si	6.53	Si
SLU 27	fin.	31.93	881	0.9	0	1750	7137	3773	2295	2625	Si	2.98	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 14	ini.	436	-1553	-0.0002286	0.0002807	0.0035	0.9		2989.59	2989.59		6.86	Si
SLV 14	fin.	-240.7	823	-0.0001218	0.0002807	0.0035	0.9		2995.37	2995.37		12.44	Si
SLV 15	ini.	543.61	-2044	-0.0002911	0.0002807	0.0035	0.9		2989.59	2989.59		5.5	Si
SLV 15	fin.	-256.41	759	-0.0001301	0.0002807	0.0035	0.9		2995.37	2995.37		11.68	Si
SLV 11	ini.	553.18	-2187	-0.0002969	0.0002807	0.0035	0.9		2989.59	2989.59		5.4	Si
SLV 11	fin.	-225.58	511	-0.0001139	0.0002807	0.0035	0.9		2995.37	2995.37		13.28	Si
SLV 16	ini.	701.83	-2573	-0.0003891	0.0002807	0.0035	0.9		2989.59	2989.59		4.26	Si
SLV 16	fin.	-348.98	1118	-0.0001798	0.0002807	0.0035	0.9		2995.37	2995.37		8.58	Si
SLV 1	ini.	-654.83	2211	-0.0003585	0.0002807	0.0035	0.9		2995.37	2995.37		4.57	Si
SLV 1	fin.	344.14	-1397	-0.0001775	0.0002807	0.0035	0.9		2989.59	2989.59		8.69	Si
SLV 2	ini.	-496.61	1682	-0.0002629	0.0002807	0.0035	0.9		2995.37	2995.37		6.03	Si
SLV 2	fin.	251.56	-1038	-0.0001278	0.0002807	0.0035	0.9		2989.59	2989.59		11.88	Si
SLD 16	ini.	453.15	-1696	-0.0002384	0.0002807	0.0035	0.9		2989.59	2989.59		6.6	Si
SLD 16	fin.	-221.87	658	-0.0001119	0.0002807	0.0035	0.9		2995.37	2995.37		13.5	Si
SLV 5	ini.	-612.7	2181	-0.0003323	0.0002807	0.0035	0.9		2995.37	2995.37		4.89	Si
SLV 5	fin.	283.05	-1031	-0.0001445	0.0002807	0.0035	0.9		2989.59	2989.59		10.56	Si
SLV 6	ini.	-506.18	1825	-0.0002685	0.0002807	0.0035	0.9		2995.37	2995.37		5.92	Si
SLV 6	fin.	220.73	-789	-0.0001116	0.0002807	0.0035	0.9		2989.59	2989.59		13.54	Si
SLV 12	ini.	659.7	-2543	-0.0003623	0.0002807	0.0035	0.9		2989.59	2989.59		4.53	Si
SLV 12	fin.	-287.9	753	-0.0001468	0.0002807	0.0035	0.9		2995.37	2995.37		10.4	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	420.21	-2267	0.9	0	2625	7137	5660	2295	7955		3.51	Si
SLD 12	fin.	-180.89	-906	0.9	0	2625	7137	5660	2295	7955		8.78	Si
SLV 1	ini.	-654.83	2829	0.9	0	2625	7137	5660	2295	7955		2.81	Si
SLV 1	fin.	344.14	3011	0.9	0	2625	7137	5660	2295	7955		2.64	Si
SLV 16	ini.	701.83	-3495	0.9	0	2625	7137	5660	2295	7955		2.28	Si
SLV 16	fin.	-348.98	-2246	0.9	0	2625	7137	5660	2295	7955		3.54	Si
SLV 2	ini.	-496.61	2098	0.9	0	2625	7137	5660	2295	7955		3.79	Si
SLV 2	fin.	251.56	2326	0.9	0	2625	7137	5660	2295	7955		3.42	Si
SLV 5	ini.	-612.7	2771	0.9	0	2625	7137	5660	2295	7955		2.87	Si
SLV 5	fin.	283.05	2444	0.9	0	2625	7137	5660	2295	7955		3.25	Si
SLD 16	ini.	453.15	-2335	0.9	0	2625	7137	5660	2295	7955		3.41	Si
SLD 16	fin.	-221.87	-1281	0.9	0	2625	7137	5660	2295	7955		6.21	Si
SLV 11	ini.	553.18	-2945	0.9	0	2625	7137	5660	2295	7955		2.7	Si
SLV 11	fin.	-225.58	-1218	0.9	0	2625	7137	5660	2295	7955		6.53	Si
SLV 6	ini.	-506.18	2279	0.9	0	2625	7137	5660	2295	7955		3.49	Si
SLV 6	fin.	220.73	1982	0.9	0	2625	7137	5660	2295	7955		4.01	Si
SLV 12	ini.	659.7	-3437	0.9	0	2625	7137	5660	2295	7955		2.31	Si
SLV 12	fin.	-287.9	-1679	0.9	0	2625	7137	5660	2295	7955		4.74	Si
SLV 15	ini.	543.61	-2764	0.9	0	2625	7137	5660	2295	7955		2.88	Si
SLV 15	fin.	-256.41	-1561	0.9	0	2625	7137	5660	2295	7955		5.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.26	SLV 16	Si
V_SLV	2.276	SLV 16	Si
PF_SLU	44.919	SLU 43	Si
V_SLU	2.626	SLU 70	Si



Trave di accoppiamento 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-17.718	6.661	14.75	15.15	0.4	-16.818	6.661	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-83.76	10	-0.0002277	0.0001872	0.0035	0.4		588.62	426.13	Si	5.09	Si
SLU 78	fin.	-99.54	-48	-0.000277	0.0001872	0.0035	0.4		588.62	426.13	Si	4.28	Si
SLU 66	ini.	-62.59	48	-0.0001653	0.0001872	0.0035	0.4		588.62	426.13	Si	6.81	Si
SLU 66	fin.	-98.29	-63	-0.000273	0.0001872	0.0035	0.4		588.62	426.13	Si	4.34	Si
SLU 69	ini.	-83.34	7	-0.0002264	0.0001872	0.0035	0.4		588.62	426.13	Si	5.11	Si
SLU 69	fin.	-102.19	-59	-0.0002855	0.0001872	0.0035	0.4		588.62	426.13	Si	4.17	Si
SLU 77	ini.	-82.18	13	-0.0002229	0.0001872	0.0035	0.4		588.62	426.13	Si	5.19	Si
SLU 77	fin.	-101.54	-55	-0.0002834	0.0001872	0.0035	0.4		588.62	426.13	Si	4.2	Si
SLU 75	ini.	-63.02	51	-0.0001665	0.0001872	0.0035	0.4		588.62	426.13	Si	6.76	Si
SLU 75	fin.	-95.64	-52	-0.0002646	0.0001872	0.0035	0.4		588.62	426.13	Si	4.46	Si
SLU 71	ini.	-81	2	-0.0002193	0.0001872	0.0035	0.4		588.62	426.13	Si	5.26	Si
SLU 71	fin.	-93.29	-46	-0.0002572	0.0001872	0.0035	0.4		588.62	426.13	Si	4.57	Si
SLU 70	ini.	-84.93	4	-0.0002313	0.0001872	0.0035	0.4		588.62	426.13	Si	5.02	Si
SLU 70	fin.	-100.2	-53	-0.0002791	0.0001872	0.0035	0.4		588.62	426.13	Si	4.25	Si
SLU 74	ini.	-61.43	54	-0.000162	0.0001872	0.0035	0.4		588.62	426.13	Si	6.94	Si
SLU 74	fin.	-97.64	-59	-0.000271	0.0001872	0.0035	0.4		588.62	426.13	Si	4.36	Si
SLU 67	ini.	-64.18	45	-0.0001698	0.0001872	0.0035	0.4		588.62	426.13	Si	6.64	Si
SLU 67	fin.	-96.3	-57	-0.0002667	0.0001872	0.0035	0.4		588.62	426.13	Si	4.43	Si
SLU 79	ini.	-79.84	8	-0.0002158	0.0001872	0.0035	0.4		588.62	426.13	Si	5.34	Si
SLU 79	fin.	-92.63	-41	-0.0002551	0.0001872	0.0035	0.4		588.62	426.13	Si	4.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	f _{vd}	V _t	V _{t,f}	V _{t,c}	V _{t,c int.}	V _{t,R}	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-83.76	564	0.4	0	631	3172	1677	1020	947	Si	1.68	Si
SLU 78	fin.	-99.54	-630	0.4	0	631	3172	1677	1020	947	Si	1.5	Si
SLU 75	ini.	-63.02	467	0.4	0	631	3172	1677	1020	947	Si	2.03	Si
SLU 75	fin.	-95.64	-589	0.4	0	631	3172	1677	1020	947	Si	1.61	Si
SLU 77	ini.	-82.18	558	0.4	0	631	3172	1677	1020	947	Si	1.7	Si
SLU 77	fin.	-101.54	-636	0.4	0	631	3172	1677	1020	947	Si	1.49	Si
SLU 79	ini.	-79.84	537	0.4	0	631	3172	1677	1020	947	Si	1.76	Si
SLU 79	fin.	-92.63	-593	0.4	0	631	3172	1677	1020	947	Si	1.6	Si
SLU 69	ini.	-83.34	559	0.4	0	631	3172	1677	1020	947	Si	1.69	Si
SLU 69	fin.	-102.19	-635	0.4	0	631	3172	1677	1020	947	Si	1.49	Si
SLU 74	ini.	-61.43	461	0.4	0	631	3172	1677	1020	947	Si	2.05	Si
SLU 74	fin.	-97.64	-595	0.4	0	631	3172	1677	1020	947	Si	1.59	Si
SLU 70	ini.	-84.93	565	0.4	0	631	3172	1677	1020	947	Si	1.68	Si
SLU 70	fin.	-100.2	-629	0.4	0	631	3172	1677	1020	947	Si	1.51	Si
SLU 71	ini.	-81	538	0.4	0	631	3172	1677	1020	947	Si	1.76	Si
SLU 71	fin.	-93.29	-592	0.4	0	631	3172	1677	1020	947	Si	1.6	Si
SLU 66	ini.	-62.59	463	0.4	0	631	3172	1677	1020	947	Si	2.05	Si
SLU 66	fin.	-98.29	-594	0.4	0	631	3172	1677	1020	947	Si	1.59	Si
SLU 67	ini.	-64.18	468	0.4	0	631	3172	1677	1020	947	Si	2.02	Si
SLU 67	fin.	-96.3	-588	0.4	0	631	3172	1677	1020	947	Si	1.61	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-210.32	-332	-0.0006382	0.0002807	0.0035	0.4		594.74	594.74		2.83	Si
SLV 5	fin.	154.91	674	-0.0004432	0.0002807	0.0035	0.4		592.15	592.15		3.82	Si
SLV 12	ini.	156.08	472	-0.0004472	0.0002807	0.0035	0.4		592.15	592.15		3.79	Si
SLV 12	fin.	-280.75	-750	-0.0009216	0.0002807	0.0035	0.4		594.74	594.74		2.12	Si
SLV 14	ini.	112.56	341	-0.000307	0.0002807	0.0035	0.4		592.15	592.15		5.26	Si
SLV 14	fin.	-221.21	-630	-0.0006795	0.0002807	0.0035	0.4		594.74	594.74		2.69	Si
SLV 15	ini.	122.06	369	-0.0003363	0.0002807	0.0035	0.4		592.15	592.15		4.85	Si
SLV 15	fin.	-239.36	-676	-0.0007504	0.0002807	0.0035	0.4		594.74	594.74		2.48	Si
SLV 1	ini.	-238.22	-364	-0.0007459	0.0002807	0.0035	0.4		594.74	594.74		2.5	Si
SLV 1	fin.	182.1	825	-0.0005377	0.0002807	0.0035	0.4		592.15	592.15		3.25	Si
SLD 12	ini.	87.37	321	-0.0002323	0.0002807	0.0035	0.4		592.15	592.15		6.78	Si
SLD 12	fin.	-198.94	-483	-0.0005959	0.0002807	0.0035	0.4		594.74	594.74		2.99	Si
SLV 11	ini.	114.4	381	-0.0003126	0.0002807	0.0035	0.4		592.15	592.15		5.18	Si
SLV 11	fin.	-234.58	-599	-0.0007315	0.0002807	0.0035	0.4		594.74	594.74		2.54	Si
SLV 16	ini.	183.98	504	-0.0005444	0.0002807	0.0035	0.4		592.15	592.15		3.22	Si
SLV 16	fin.	-307.93	-901	-0.0010419	0.0002807	0.0035	0.4		594.74	594.74		1.93	Si
SLD 16	ini.	106.42	344	-0.0002883	0.0002807	0.0035	0.4		592.15	592.15		5.56	Si
SLD 16	fin.	-217.95	-585	-0.0006671	0.0002807	0.0035	0.4		594.74	594.74		2.73	Si
SLV 8	ini.	69.42	301	-0.0001816	0.0002807	0.0035	0.4		592.15	592.15		8.53	Si
SLV 8	fin.	-180.33	-381	-0.0005288	0.0002807	0.0035	0.4		594.74	594.74		3.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-210.32	916	0.4	0	919	3172	2515	1020	3535		3.86	Si
SLV 5	fin.	154.91	298	0.4	0	919	3172	2515	1020	3535		11.85	Si
SLV 12	ini.	156.08	-419	0.4	0	919	3172	2515	1020	3535		8.44	Si
SLV 12	fin.	-280.75	-1053	0.4	0	919	3172	2515	1020	3535		3.36	Si
SLV 14	ini.	112.56	-249	0.4	0	919	3172	2515	1020	3535		14.21	Si
SLV 14	fin.	-221.21	-885	0.4	0	919	3172	2515	1020	3535		4	Si
SLD 16	ini.	106.42	-232	0.4	0	919	3172	2515	1020	3535		15.21	Si
SLD 16	fin.	-217.95	-866	0.4	0	919	3172	2515	1020	3535		4.08	Si
SLV 11	ini.	114.4	-272	0.4	0	919	3172	2515	1020	3535		12.98	Si
SLV 11	fin.	-234.58	-905	0.4	0	919	3172	2515	1020	3535		3.91	Si
SLV 2	ini.	-176.3	791	0.4	0	919	3172	2515	1020	3535		4.47	Si
SLV 2	fin.	113.52	174	0.4	0	919	3172	2515	1020	3535		20.26	Si
SLD 12	ini.	87.37	-168	0.4	0	919	3172	2515	1020	3535		20.98	Si
SLD 12	fin.	-198.94	-800	0.4	0	919	3172	2515	1020	3535		4.42	Si
SLV 16	ini.	183.98	-512	0.4	0	919	3172	2515	1020	3535		6.91	Si
SLV 16	fin.	-307.93	-1150	0.4	0	919	3172	2515	1020	3535		3.07	Si
SLV 1	ini.	-238.22	1009	0.4	0	919	3172	2515	1020	3535		3.5	Si
SLV 1	fin.	182.1	395	0.4	0	919	3172	2515	1020	3535		8.94	Si
SLV 15	ini.	122.06	-294	0.4	0	919	3172	2515	1020	3535		12.03	Si
SLV 15	fin.	-239.36	-929	0.4	0	919	3172	2515	1020	3535		3.8	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.931	SLV 16	Si
V_SLV	3.073	SLV 16	Si
PF_SLU	4.17	SLU 69	Si
V_SLU	1.49	SLU 77	Si

Trave di accoppiamento 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.838	6.661	12.05	12.95	0.9	-11.938	6.661	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 79	ini.	-190.42	384	-0.0000966	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.02	Si
SLU 79	fin.	310.44	-1731	-0.0001623	0.0001872	0.0035	0.9		2959	1717.92	Si	5.53	Si
SLU 75	ini.	-201.2	440	-0.0001023	0.0001872	0.0035	0.9		2964.67	1717.92	Si	8.54	Si
SLU 75	fin.	315.49	-1747	-0.0001652	0.0001872	0.0035	0.9		2959	1717.92	Si	5.45	Si
SLU 77	ini.	-189.82	364	-0.0000963	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.05	Si
SLU 77	fin.	319.4	-1797	-0.0001674	0.0001872	0.0035	0.9		2959	1717.92	Si	5.38	Si
SLU 80	ini.	-193.2	396	-0.0000981	0.0001872	0.0035	0.9		2964.67	1717.92	Si	8.89	Si
SLU 80	fin.	312.9	-1740	-0.0001637	0.0001872	0.0035	0.9		2959	1717.92	Si	5.49	Si
SLU 78	ini.	-192.59	376	-0.0000978	0.0001872	0.0035	0.9		2964.67	1717.92	Si	8.92	Si
SLU 78	fin.	321.86	-1806	-0.0001688	0.0001872	0.0035	0.9		2959	1717.92	Si	5.34	Si
SLU 81	ini.	-223.91	586	-0.0001145	0.0001872	0.0035	0.9		2964.67	1717.92	Si	7.67	Si
SLU 81	fin.	311.7	-1657	-0.000163	0.0001872	0.0035	0.9		2959	1717.92	Si	5.51	Si
SLU 83	ini.	-215.3	521	-0.0001098	0.0001872	0.0035	0.9		2964.67	1717.92	Si	7.98	Si
SLU 83	fin.	318.07	-1716	-0.0001666	0.0001872	0.0035	0.9		2959	1717.92	Si	5.4	Si
SLU 84	ini.	-218.07	533	-0.0001113	0.0001872	0.0035	0.9		2964.67	1717.92	Si	7.88	Si
SLU 84	fin.	320.53	-1725	-0.000168	0.0001872	0.0035	0.9		2959	1717.92	Si	5.36	Si
SLU 82	ini.	-226.68	598	-0.0001159	0.0001872	0.0035	0.9		2964.67	1717.92	Si	7.58	Si
SLU 82	fin.	314.16	-1666	-0.0001644	0.0001872	0.0035	0.9		2959	1717.92	Si	5.47	Si
SLU 74	ini.	-198.43	428	-0.0001009	0.0001872	0.0035	0.9		2964.67	1717.92	Si	8.66	Si
SLU 74	fin.	313.03	-1738	-0.0001638	0.0001872	0.0035	0.9		2959	1717.92	Si	5.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-189.82	842	0.9	0	1750	7137	3773	2295	2625	Si	3.12	Si
SLU 77	fin.	319.4	2610	0.9	0	1750	7137	3773	2295	2625	Si	1.01	Si
SLU 74	ini.	-198.43	940	0.9	0	1750	7137	3773	2295	2625	Si	2.79	Si
SLU 74	fin.	313.03	2507	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 84	ini.	-218.07	1123	0.9	0	1750	7137	3773	2295	2625	Si	2.34	Si
SLU 84	fin.	320.53	2459	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 69	ini.	-151.86	529	0.9	0	1750	7137	3773	2295	2625	Si	4.96	Si
SLU 69	fin.	286.74	2503	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 80	ini.	-193.2	890	0.9	0	1750	7137	3773	2295	2625	Si	2.95	Si
SLU 80	fin.	312.9	2516	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si
SLU 83	ini.	-215.3	1101	0.9	0	1750	7137	3773	2295	2625	Si	2.38	Si
SLU 83	fin.	318.07	2449	0.9	0	1750	7137	3773	2295	2625	Si	1.07	Si
SLU 78	ini.	-192.59	863	0.9	0	1750	7137	3773	2295	2625	Si	3.04	Si
SLU 78	fin.	321.86	2620	0.9	0	1750	7137	3773	2295	2625	Si	1	Si
SLU 70	ini.	-154.64	550	0.9	0	1750	7137	3773	2295	2625	Si	4.77	Si
SLU 70	fin.	289.2	2514	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si
SLU 79	ini.	-190.42	869	0.9	0	1750	7137	3773	2295	2625	Si	3.02	Si
SLU 79	fin.	310.44	2506	0.9	0	1750	7137	3773	2295	2625	Si	1.05	Si
SLU 75	ini.	-201.2	962	0.9	0	1750	7137	3773	2295	2625	Si	2.73	Si
SLU 75	fin.	315.49	2518	0.9	0	1750	7137	3773	2295	2625	Si	1.04	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 16	ini.	561.66	-2289	-0.0003019	0.0002807	0.0035	0.9		2989.59	2989.59		5.32	Si
SLV 16	fin.	-333.36	1095	-0.0001713	0.0002807	0.0035	0.9		2995.37	2995.37		8.99	Si
SLV 6	ini.	-455.2	1598	-0.0002391	0.0002807	0.0035	0.9		2995.37	2995.37		6.58	Si
SLV 6	fin.	470.58	-2174	-0.0002484	0.0002807	0.0035	0.9		2989.59	2989.59		6.35	Si
SLV 2	ini.	-681.82	2332	-0.0003755	0.0002807	0.0035	0.9		2995.37	2995.37		4.39	Si
SLV 2	fin.	637.71	-2952	-0.0003485	0.0002807	0.0035	0.9		2989.59	2989.59		4.69	Si
SLV 5	ini.	-554.78	1960	-0.0002972	0.0002807	0.0035	0.9		2995.37	2995.37		5.4	Si
SLV 5	fin.	538.52	-2456	-0.0002881	0.0002807	0.0035	0.9		2989.59	2989.59		5.55	Si
SLV 3	ini.	-708.12	2346	-0.0003923	0.0002807	0.0035	0.9		2995.37	2995.37		4.23	Si
SLV 3	fin.	635.59	-2995	-0.0003472	0.0002807	0.0035	0.9		2989.59	2989.59		4.7	Si
SLV 1	ini.	-829.73	2871	-0.0004727	0.0002807	0.0035	0.9		2995.37	2995.37		3.61	Si
SLV 1	fin.	738.62	-3371	-0.000413	0.0002807	0.0035	0.9		2989.59	2989.59		4.05	Si
SLD 1	ini.	-576.56	1931	-0.0003103	0.0002807	0.0035	0.9		2995.37	2995.37		5.2	Si
SLD 1	fin.	543.53	-2558	-0.0002911	0.0002807	0.0035	0.9		2989.59	2989.59		5.5	Si
SLV 4	ini.	-560.21	1808	-0.0003005	0.0002807	0.0035	0.9		2995.37	2995.37		5.35	Si
SLV 4	fin.	534.68	-2576	-0.0002858	0.0002807	0.0035	0.9		2989.59	2989.59		5.59	Si
SLD 3	ini.	-501.13	1606	-0.0002656	0.0002807	0.0035	0.9		2995.37	2995.37		5.98	Si
SLD 3	fin.	479.65	-2325	-0.0002536	0.0002807	0.0035	0.9		2989.59	2989.59		6.23	Si
SLD 2	ini.	-482.15	1587	-0.0002546	0.0002807	0.0035	0.9		2995.37	2995.37		6.21	Si
SLD 2	fin.	479.12	-2291	-0.0002533	0.0002807	0.0035	0.9		2989.59	2989.59		6.24	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 2	ini.	-482.15	2629	0.9	0	2625	7137	5660	2295	7955		3.03	Si
SLD 2	fin.	479.12	3352	0.9	0	2625	7137	5660	2295	7955		2.37	Si
SLV 6	ini.	-455.2	2794	0.9	0	2625	7137	5660	2295	7955		2.85	Si
SLV 6	fin.	470.58	3068	0.9	0	2625	7137	5660	2295	7955		2.59	Si
SLV 1	ini.	-829.73	4561	0.9	0	2625	7137	5660	2295	7955		1.74	Si
SLV 1	fin.	738.62	4990	0.9	0	2625	7137	5660	2295	7955		1.59	Si
SLD 3	ini.	-501.13	2565	0.9	0	2625	7137	5660	2295	7955		3.1	Si
SLD 3	fin.	479.65	3471	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 16	ini.	561.66	-3320	0.9	0	2625	7137	5660	2295	7955		2.4	Si
SLV 16	fin.	-333.36	-1691	0.9	0	2625	7137	5660	2295	7955		4.7	Si
SLV 5	ini.	-554.78	3316	0.9	0	2625	7137	5660	2295	7955		2.4	Si
SLV 5	fin.	538.52	3512	0.9	0	2625	7137	5660	2295	7955		2.27	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	-576.56	3125	0.9	0	2625	7137	5660	2295	7955		2.55	Si
SLD 1	fin.	543.53	3772	0.9	0	2625	7137	5660	2295	7955		2.11	Si
SLV 3	ini.	-708.12	3658	0.9	0	2625	7137	5660	2295	7955		2.17	Si
SLV 3	fin.	635.59	4504	0.9	0	2625	7137	5660	2295	7955		1.77	Si
SLV 2	ini.	-681.82	3785	0.9	0	2625	7137	5660	2295	7955		2.1	Si
SLV 2	fin.	637.71	4332	0.9	0	2625	7137	5660	2295	7955		1.84	Si
SLV 4	ini.	-560.21	2882	0.9	0	2625	7137	5660	2295	7955		2.76	Si
SLV 4	fin.	534.68	3846	0.9	0	2625	7137	5660	2295	7955		2.07	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.61	SLV 1	Si
V_SLV	1.594	SLV 1	Si
PF_SLU	5.338	SLU 78	Si
V_SLU	1.002	SLU 78	Si

Trave di accoppiamento 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.838	6.661	14.75	15.15	0.4	-11.938	6.661	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	εm	εm_	εmu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 74	ini.	-231.6	-314	-0.0007669	0.0001872	0.0035	0.4		588.62	426.13	Si	1.84	Si
SLU 74	fin.	71.1	524	-0.0001907	0.0001872	0.0035	0.4		586.12	426.13	Si	5.99	Si
SLU 75	ini.	-233.16	-320	-0.0007735	0.0001872	0.0035	0.4		588.62	426.13	Si	1.83	Si
SLU 75	fin.	72.61	526	-0.0001952	0.0001872	0.0035	0.4		586.12	426.13	Si	5.87	Si
SLU 77	ini.	-243.78	-327	-0.0008187	0.0001872	0.0035	0.4		588.62	426.13	Si	1.75	Si
SLU 77	fin.	61.07	517	-0.0001617	0.0001872	0.0035	0.4		586.12	426.13	Si	6.98	Si
SLU 76	ini.	-225.12	-303	-0.0007398	0.0001872	0.0035	0.4		588.62	426.13	Si	1.89	Si
SLU 76	fin.	77.79	536	-0.0002106	0.0001872	0.0035	0.4		586.12	426.13	Si	5.48	Si
SLU 83	ini.	-230.57	-309	-0.0007626	0.0001872	0.0035	0.4		588.62	426.13	Si	1.85	Si
SLU 83	fin.	83.72	561	-0.0002286	0.0001872	0.0035	0.4		586.12	426.13	Si	5.09	Si
SLU 80	ini.	-236.26	-311	-0.0007866	0.0001872	0.0035	0.4		588.62	426.13	Si	1.8	Si
SLU 80	fin.	66.76	527	-0.000178	0.0001872	0.0035	0.4		586.12	426.13	Si	6.38	Si
SLU 84	ini.	-232.13	-315	-0.0007691	0.0001872	0.0035	0.4		588.62	426.13	Si	1.84	Si
SLU 84	fin.	85.24	563	-0.0002333	0.0001872	0.0035	0.4		586.12	426.13	Si	5	Si
SLU 79	ini.	-234.7	-305	-0.00078	0.0001872	0.0035	0.4		588.62	426.13	Si	1.82	Si
SLU 79	fin.	65.24	525	-0.0001736	0.0001872	0.0035	0.4		586.12	426.13	Si	6.53	Si
SLU 78	ini.	-245.34	-333	-0.0008254	0.0001872	0.0035	0.4		588.62	426.13	Si	1.74	Si
SLU 78	fin.	62.59	519	-0.000166	0.0001872	0.0035	0.4		586.12	426.13	Si	6.81	Si
SLU 70	ini.	-226.56	-294	-0.0007458	0.0001872	0.0035	0.4		588.62	426.13	Si	1.88	Si
SLU 70	fin.	42.86	452	-0.000111	0.0001872	0.0035	0.4		586.12	426.13	Si	9.94	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 84	ini.	-232.13	998	0.4	0	631	3172	1677	1020	947	Si	0.95	No
SLU 84	fin.	85.24	71	0.4	0	631	3172	1677	1020	947	Si	13.3	Si
SLU 74	ini.	-231.6	1007	0.4	0	631	3172	1677	1020	947	Si	0.94	No
SLU 74	fin.	71.1	13	0.4	0	631	3172	1677	1020	947	Si	75.74	Si
SLU 70	ini.	-226.56	1010	0.4	0	631	3172	1677	1020	947	Si	0.94	No
SLU 70	fin.	42.86	-102	0.4	0	631	3172	1677	1020	947	Si	9.25	Si
SLU 79	ini.	-234.7	1027	0.4	0	631	3172	1677	1020	947	Si	0.92	No
SLU 79	fin.	65.24	-17	0.4	0	631	3172	1677	1020	947	Si	56.45	Si
SLU 75	ini.	-233.16	1012	0.4	0	631	3172	1677	1020	947	Si	0.94	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	fin.	72.61	18	0.4	0	631	3172	1677	1020	947	Si	53.69	Si
SLU 78	ini.	-245.34	1074	0.4	0	631	3172	1677	1020	947	Si	0.88	No
SLU 78	fin.	62.59	-37	0.4	0	631	3172	1677	1020	947	Si	25.37	Si
SLU 77	ini.	-243.78	1069	0.4	0	631	3172	1677	1020	947	Si	0.89	No
SLU 77	fin.	61.07	-42	0.4	0	631	3172	1677	1020	947	Si	22.3	Si
SLU 69	ini.	-225	1004	0.4	0	631	3172	1677	1020	947	Si	0.94	No
SLU 69	fin.	41.35	-107	0.4	0	631	3172	1677	1020	947	Si	8.81	Si
SLU 80	ini.	-236.26	1032	0.4	0	631	3172	1677	1020	947	Si	0.92	No
SLU 80	fin.	66.76	-12	0.4	0	631	3172	1677	1020	947	Si	81.38	Si
SLU 83	ini.	-230.57	992	0.4	0	631	3172	1677	1020	947	Si	0.95	No
SLU 83	fin.	83.72	66	0.4	0	631	3172	1677	1020	947	Si	14.34	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	-360.17	-708	-0.0012946	0.0002807	0.0035	0.4		594.74	594.74		1.65	Si
SLV 5	fin.	273.72	1032	-0.0008963	0.0002807	0.0035	0.4		592.15	592.15		2.16	Si
SLD 3	ini.	-311.54	-404	-0.0010584	0.0002807	0.0035	0.4		594.74	594.74		1.91	Si
SLD 3	fin.	232.02	1128	-0.0007252	0.0002807	0.0035	0.4		592.15	592.15		2.55	Si
SLV 3	ini.	-405.64	-529	-0.0015445	0.0002807	0.0035	0.4		594.74	594.74		1.47	Si
SLV 3	fin.	332.59	1559	-0.001164	0.0002807	0.0035	0.4		592.15	592.15		1.78	Si
SLV 2	ini.	-408.08	-751	-0.001559	0.0002807	0.0035	0.4		594.74	594.74		1.46	Si
SLV 2	fin.	326.89	1313	-0.0011366	0.0002807	0.0035	0.4		592.15	592.15		1.81	Si
SLV 1	ini.	-474.39	-761	-0.0020098	0.0002807	0.0035	0.4		594.74	594.74		1.25	Si
SLV 1	fin.	400.07	1689	-0.0015215	0.0002807	0.0035	0.4		592.15	592.15		1.48	Si
SLV 16	ini.	185.18	400	-0.0005488	0.0002807	0.0035	0.4		592.15	592.15		3.2	Si
SLV 16	fin.	-292.32	-951	-0.000972	0.0002807	0.0035	0.4		594.74	594.74		2.03	Si
SLD 2	ini.	-311.75	-542	-0.0010594	0.0002807	0.0035	0.4		594.74	594.74		1.91	Si
SLD 2	fin.	227.1	969	-0.0007059	0.0002807	0.0035	0.4		592.15	592.15		2.61	Si
SLV 4	ini.	-339.34	-519	-0.0011901	0.0002807	0.0035	0.4		594.74	594.74		1.75	Si
SLV 4	fin.	259.42	1183	-0.0008361	0.0002807	0.0035	0.4		592.15	592.15		2.28	Si
SLV 6	ini.	-315.53	-702	-0.0010768	0.0002807	0.0035	0.4		594.74	594.74		1.88	Si
SLV 6	fin.	224.46	779	-0.0006956	0.0002807	0.0035	0.4		592.15	592.15		2.64	Si
SLD 1	ini.	-354.07	-548	-0.0012635	0.0002807	0.0035	0.4		594.74	594.74		1.68	Si
SLD 1	fin.	273.81	1209	-0.0008967	0.0002807	0.0035	0.4		592.15	592.15		2.16	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-408.08	1529	0.4	0	919	3172	2515	1020	3535		2.31	Si
SLV 2	fin.	326.89	946	0.4	0	919	3172	2515	1020	3535		3.74	Si
SLV 5	ini.	-360.17	1354	0.4	0	919	3172	2515	1020	3535		2.61	Si
SLV 5	fin.	273.72	765	0.4	0	919	3172	2515	1020	3535		4.62	Si
SLD 1	ini.	-354.07	1348	0.4	0	919	3172	2515	1020	3535		2.62	Si
SLD 1	fin.	273.81	766	0.4	0	919	3172	2515	1020	3535		4.61	Si
SLV 6	ini.	-315.53	1198	0.4	0	919	3172	2515	1020	3535		2.95	Si
SLV 6	fin.	224.46	605	0.4	0	919	3172	2515	1020	3535		5.84	Si
SLV 16	ini.	185.18	-502	0.4	0	919	3172	2515	1020	3535		7.05	Si
SLV 16	fin.	-292.32	-1106	0.4	0	919	3172	2515	1020	3535		3.2	Si
SLD 2	ini.	-311.75	1200	0.4	0	919	3172	2515	1020	3535		2.95	Si
SLD 2	fin.	227.1	614	0.4	0	919	3172	2515	1020	3535		5.75	Si
SLV 1	ini.	-474.39	1761	0.4	0	919	3172	2515	1020	3535		2.01	Si
SLV 1	fin.	400.07	1184	0.4	0	919	3172	2515	1020	3535		2.99	Si
SLD 3	ini.	-311.54	1209	0.4	0	919	3172	2515	1020	3535		2.93	Si
SLD 3	fin.	232.02	628	0.4	0	919	3172	2515	1020	3535		5.63	Si
SLV 4	ini.	-339.34	1303	0.4	0	919	3172	2515	1020	3535		2.71	Si
SLV 4	fin.	259.42	722	0.4	0	919	3172	2515	1020	3535		4.89	Si
SLV 3	ini.	-405.64	1535	0.4	0	919	3172	2515	1020	3535		2.3	Si
SLV 3	fin.	332.59	960	0.4	0	919	3172	2515	1020	3535		3.68	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.254	SLV 1	Si
V_SLV	2.008	SLV 1	Si
PF_SLU	1.737	SLU 78	Si
V_SLU	0.881	SLU 78	No

Trave di accoppiamento 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.958	6.661	12.05	12.95	0.9	-7.058	6.661	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmed10	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ϵ_c CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_s ,fd	γ_F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	199.91	-694	-0.0001018	0.0001872	0.0035	0.9		2959	1717.92	Si	8.59	Si
SLU 78	fin.	-191.72	164	-0.0000973	0.0001872	0.0035	0.9	2964.67	1717.92	Si		8.96	Si
SLU 69	ini.	179.71	-652	-0.0000911	0.0001872	0.0035	0.9		2959	1717.92	Si	9.56	Si
SLU 69	fin.	-163.77	115	-0.0000826	0.0001872	0.0035	0.9	2964.67	1717.92	Si		10.49	Si
SLU 37	ini.	171.78	-555	-0.000087	0.0001872	0.0035	0.9		2959	1717.92	Si	10	Si
SLU 37	fin.	-190.28	233	-0.0000965	0.0001872	0.0035	0.9	2964.67	1717.92	Si		9.03	Si
SLU 80	ini.	192.01	-648	-0.0000976	0.0001872	0.0035	0.9		2959	1717.92	Si	8.95	Si
SLU 80	fin.	-199.97	209	-0.0001017	0.0001872	0.0035	0.9	2964.67	1717.92	Si		8.59	Si
SLU 70	ini.	185.18	-661	-0.000094	0.0001872	0.0035	0.9		2959	1717.92	Si	9.28	Si
SLU 70	fin.	-171.25	131	-0.0000865	0.0001872	0.0035	0.9	2964.67	1717.92	Si		10.03	Si
SLU 79	ini.	186.54	-639	-0.0000947	0.0001872	0.0035	0.9		2959	1717.92	Si	9.21	Si
SLU 79	fin.	-192.49	193	-0.0000977	0.0001872	0.0035	0.9	2964.67	1717.92	Si		8.92	Si
SLU 77	ini.	194.44	-685	-0.0000989	0.0001872	0.0035	0.9		2959	1717.92	Si	8.84	Si
SLU 77	fin.	-184.24	148	-0.0000934	0.0001872	0.0035	0.9	2964.67	1717.92	Si		9.32	Si
SLU 35	ini.	179.68	-601	-0.0000911	0.0001872	0.0035	0.9		2959	1717.92	Si	9.56	Si
SLU 35	fin.	-182.04	188	-0.0000922	0.0001872	0.0035	0.9	2964.67	1717.92	Si		9.44	Si
SLU 38	ini.	177.25	-564	-0.0000898	0.0001872	0.0035	0.9		2959	1717.92	Si	9.69	Si
SLU 38	fin.	-197.76	249	-0.0001005	0.0001872	0.0035	0.9	2964.67	1717.92	Si		8.69	Si
SLU 36	ini.	185.15	-610	-0.000094	0.0001872	0.0035	0.9		2959	1717.92	Si	9.28	Si
SLU 36	fin.	-189.52	204	-0.0000961	0.0001872	0.0035	0.9	2964.67	1717.92	Si		9.06	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	177.28	-1030	0.9	0	1750	7137	3773	2295	2625	Si	2.55	Si
SLU 72	fin.	-179.49	-607	0.9	0	1750	7137	3773	2295	2625	Si	4.32	Si
SLU 28	ini.	170.42	-998	0.9	0	1750	7137	3773	2295	2625	Si	2.63	Si
SLU 28	fin.	-169.04	-553	0.9	0	1750	7137	3773	2295	2625	Si	4.75	Si
SLU 71	ini.	171.81	-1004	0.9	0	1750	7137	3773	2295	2625	Si	2.61	Si
SLU 71	fin.	-172.01	-579	0.9	0	1750	7137	3773	2295	2625	Si	4.53	Si
SLU 78	ini.	199.91	-1090	0.9	0	1750	7137	3773	2295	2625	Si	2.41	Si
SLU 78	fin.	-191.72	-689	0.9	0	1750	7137	3773	2295	2625	Si	3.81	Si
SLU 70	ini.	185.18	-1079	0.9	0	1750	7137	3773	2295	2625	Si	2.43	Si
SLU 70	fin.	-171.25	-562	0.9	0	1750	7137	3773	2295	2625	Si	4.67	Si
SLU 36	ini.	185.15	-1010	0.9	0	1750	7137	3773	2295	2625	Si	2.6	Si
SLU 36	fin.	-189.52	-680	0.9	0	1750	7137	3773	2295	2625	Si	3.86	Si
SLU 77	ini.	194.44	-1065	0.9	0	1750	7137	3773	2295	2625	Si	2.46	Si
SLU 77	fin.	-184.24	-661	0.9	0	1750	7137	3773	2295	2625	Si	3.97	Si
SLU 69	ini.	179.71	-1054	0.9	0	1750	7137	3773	2295	2625	Si	2.49	Si
SLU 69	fin.	-163.77	-534	0.9	0	1750	7137	3773	2295	2625	Si	4.92	Si
SLU 80	ini.	192.01	-1041	0.9	0	1750	7137	3773	2295	2625	Si	2.52	Si
SLU 80	fin.	-199.97	-735	0.9	0	1750	7137	3773	2295	2625	Si	3.57	Si
SLU 79	ini.	186.54	-1016	0.9	0	1750	7137	3773	2295	2625	Si	2.58	Si
SLU 79	fin.	-192.49	-707	0.9	0	1750	7137	3773	2295	2625	Si	3.71	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-393.84	381	-0.0002045	0.0002807	0.0035	0.9		2995.37	2995.37		7.61	Si
SLV 4	fin.	626.99	-1529	-0.0003418	0.0002807	0.0035	0.9		2989.59	2989.59		4.77	Si
SLV 3	ini.	-510.16	557	-0.0002708	0.0002807	0.0035	0.9		2995.37	2995.37		5.87	Si
SLV 3	fin.	800.05	-1906	-0.0004536	0.0002807	0.0035	0.9		2989.59	2989.59		3.74	Si
SLV 14	ini.	699.67	-1406	-0.0003877	0.0002807	0.0035	0.9		2989.59	2989.59		4.27	Si
SLV 14	fin.	-899.35	1719	-0.0005206	0.0002807	0.0035	0.9		2995.37	2995.37		3.33	Si
SLV 8	ini.	-322.58	227	-0.0001655	0.0002807	0.0035	0.9		2995.37	2995.37		9.29	Si
SLV 8	fin.	545.56	-1393	-0.0002923	0.0002807	0.0035	0.9		2989.59	2989.59		5.48	Si
SLV 13	ini.	583.35	-1230	-0.000315	0.0002807	0.0035	0.9		2989.59	2989.59		5.12	Si
SLV 13	fin.	-726.29	1341	-0.0004041	0.0002807	0.0035	0.9		2995.37	2995.37		4.12	Si
SLV 9	ini.	512.09	-1075	-0.0002725	0.0002807	0.0035	0.9		2989.59	2989.59		5.84	Si
SLV 9	fin.	-644.86	1206	-0.0003522	0.0002807	0.0035	0.9		2995.37	2995.37		4.64	Si
SLV 7	ini.	-400.89	345	-0.0002085	0.0002807	0.0035	0.9		2995.37	2995.37		7.47	Si
SLV 7	fin.	662.07	-1647	-0.0003638	0.0002807	0.0035	0.9		2989.59	2989.59		4.52	Si
SLV 16	ini.	506.83	-1114	-0.0002694	0.0002807	0.0035	0.9		2989.59	2989.59		5.9	Si
SLV 16	fin.	-619.45	1099	-0.0003365	0.0002807	0.0035	0.9		2995.37	2995.37		4.84	Si
SLD 14	ini.	478.3	-1046	-0.0002528	0.0002807	0.0035	0.9		2989.59	2989.59		6.25	Si
SLD 14	fin.	-588.57	1056	-0.0003176	0.0002807	0.0035	0.9		2995.37	2995.37		5.09	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	590.41	-1193	-0.0003193	0.0002807	0.0035	0.9		2989.59	2989.59		5.06	Si
SLV 10	fin.	-761.37	1460	-0.000427	0.0002807	0.0035	0.9		2995.37	2995.37		3.93	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 14	ini.	478.3	-2397	0.9	0	2625	7137	5660	2295	7955		3.32	Si
SLD 14	fin.	-588.57	-2127	0.9	0	2625	7137	5660	2295	7955		3.74	Si
SLD 13	ini.	404.06	-2013	0.9	0	2625	7137	5660	2295	7955		3.95	Si
SLD 13	fin.	-478.11	-1751	0.9	0	2625	7137	5660	2295	7955		4.54	Si
SLV 9	ini.	512.09	-2466	0.9	0	2625	7137	5660	2295	7955		3.23	Si
SLV 9	fin.	-644.86	-2419	0.9	0	2625	7137	5660	2295	7955		3.29	Si
SLV 7	ini.	-400.89	1946	0.9	0	2625	7137	5660	2295	7955		4.09	Si
SLV 7	fin.	662.07	2382	0.9	0	2625	7137	5660	2295	7955		3.34	Si
SLV 16	ini.	506.83	-2602	0.9	0	2625	7137	5660	2295	7955		3.06	Si
SLV 16	fin.	-619.45	-2184	0.9	0	2625	7137	5660	2295	7955		3.64	Si
SLV 3	ini.	-510.16	2589	0.9	0	2625	7137	5660	2295	7955		3.07	Si
SLV 3	fin.	800.05	2795	0.9	0	2625	7137	5660	2295	7955		2.85	Si
SLV 10	ini.	590.41	-2870	0.9	0	2625	7137	5660	2295	7955		2.77	Si
SLV 10	fin.	-761.37	-2817	0.9	0	2625	7137	5660	2295	7955		2.82	Si
SLV 13	ini.	583.35	-2912	0.9	0	2625	7137	5660	2295	7955		2.73	Si
SLV 13	fin.	-726.29	-2639	0.9	0	2625	7137	5660	2295	7955		3.01	Si
SLV 4	ini.	-393.84	1988	0.9	0	2625	7137	5660	2295	7955		4	Si
SLV 4	fin.	626.99	2205	0.9	0	2625	7137	5660	2295	7955		3.61	Si
SLV 14	ini.	699.67	-3513	0.9	0	2625	7137	5660	2295	7955		2.26	Si
SLV 14	fin.	-899.35	-3229	0.9	0	2625	7137	5660	2295	7955		2.46	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.331	SLV 14	Si
V_SLV	2.265	SLV 14	Si
PF_SLU	8.591	SLU 80	Si
V_SLU	2.408	SLU 78	Si

Trave di accoppiamento 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-7.958	6.661	14.75	15.15	0.4	-7.058	6.661	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 77	ini.	-56.24	-152	-0.0001473	0.0001872	0.0035	0.4		588.62	426.13	Si	7.58	Si
SLU 77	fin.	-50.07	-128	-0.0001302	0.0001872	0.0035	0.4		588.62	426.13	Si	8.51	Si
SLU 75	ini.	-56.65	-220	-0.0001485	0.0001872	0.0035	0.4		588.62	426.13	Si	7.52	Si
SLU 75	fin.	-47.02	-180	-0.0001218	0.0001872	0.0035	0.4		588.62	426.13	Si	9.06	Si
SLU 67	ini.	-60.94	-212	-0.0001606	0.0001872	0.0035	0.4		588.62	426.13	Si	6.99	Si
SLU 67	fin.	-42.35	-136	-0.0001091	0.0001872	0.0035	0.4		588.62	426.13	Si	10.06	Si
SLU 70	ini.	-58.69	-136	-0.0001542	0.0001872	0.0035	0.4		588.62	426.13	Si	7.26	Si
SLU 70	fin.	-47.04	-89	-0.0001219	0.0001872	0.0035	0.4		588.62	426.13	Si	9.06	Si
SLU 74	ini.	-58.49	-229	-0.0001536	0.0001872	0.0035	0.4		588.62	426.13	Si	7.29	Si
SLU 74	fin.	-45.38	-175	-0.0001174	0.0001872	0.0035	0.4		588.62	426.13	Si	9.39	Si
SLU 78	ini.	-54.41	-143	-0.0001422	0.0001872	0.0035	0.4		588.62	426.13	Si	7.83	Si
SLU 78	fin.	-51.7	-133	-0.0001347	0.0001872	0.0035	0.4		588.62	426.13	Si	8.24	Si
SLU 66	ini.	-62.77	-221	-0.0001658	0.0001872	0.0035	0.4		588.62	426.13	Si	6.79	Si
SLU 66	fin.	-40.72	-131	-0.0001047	0.0001872	0.0035	0.4		588.62	426.13	Si	10.46	Si
SLU 45	ini.	-55.19	-183	-0.0001444	0.0001872	0.0035	0.4		588.62	426.13	Si	7.72	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 45	fin.	-28.57	-74	-0.0000725	0.0001872	0.0035	0.4		588.62	426.13	Si	14.91	Si
SLU 64	ini.	-57.19	-259	-0.00015	0.0001872	0.0035	0.4		588.62	426.13	Si	7.45	Si
SLU 64	fin.	-29.81	-146	-0.0000758	0.0001872	0.0035	0.4		588.62	426.13	Si	14.3	Si
SLU 69	ini.	-60.52	-145	-0.0001594	0.0001872	0.0035	0.4		588.62	426.13	Si	7.04	Si
SLU 69	fin.	-45.41	-83	-0.0001174	0.0001872	0.0035	0.4		588.62	426.13	Si	9.38	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	-52.7	493	0.4	0	631	3172	1677	1020	947	Si	1.92	Si
SLU 71	fin.	-39.18	-437	0.4	0	631	3172	1677	1020	947	Si	2.17	Si
SLU 78	ini.	-54.41	521	0.4	0	631	3172	1677	1020	947	Si	1.82	Si
SLU 78	fin.	-51.7	-510	0.4	0	631	3172	1677	1020	947	Si	1.86	Si
SLU 72	ini.	-50.87	485	0.4	0	631	3172	1677	1020	947	Si	1.95	Si
SLU 72	fin.	-40.81	-444	0.4	0	631	3172	1677	1020	947	Si	2.13	Si
SLU 67	ini.	-60.94	523	0.4	0	631	3172	1677	1020	947	Si	1.81	Si
SLU 67	fin.	-42.35	-446	0.4	0	631	3172	1677	1020	947	Si	2.12	Si
SLU 69	ini.	-60.52	546	0.4	0	631	3172	1677	1020	947	Si	1.73	Si
SLU 69	fin.	-45.41	-483	0.4	0	631	3172	1677	1020	947	Si	1.96	Si
SLU 70	ini.	-58.69	539	0.4	0	631	3172	1677	1020	947	Si	1.76	Si
SLU 70	fin.	-47.04	-491	0.4	0	631	3172	1677	1020	947	Si	1.93	Si
SLU 74	ini.	-58.49	512	0.4	0	631	3172	1677	1020	947	Si	1.85	Si
SLU 74	fin.	-45.38	-459	0.4	0	631	3172	1677	1020	947	Si	2.07	Si
SLU 75	ini.	-56.65	505	0.4	0	631	3172	1677	1020	947	Si	1.88	Si
SLU 75	fin.	-47.02	-466	0.4	0	631	3172	1677	1020	947	Si	2.03	Si
SLU 66	ini.	-62.77	530	0.4	0	631	3172	1677	1020	947	Si	1.79	Si
SLU 66	fin.	-40.72	-439	0.4	0	631	3172	1677	1020	947	Si	2.16	Si
SLU 77	ini.	-56.24	528	0.4	0	631	3172	1677	1020	947	Si	1.79	Si
SLU 77	fin.	-50.07	-503	0.4	0	631	3172	1677	1020	947	Si	1.88	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 10	ini.	126.46	815	-0.0003502	0.0002807	0.0035	0.4		592.15	592.15		4.68	Si
SLV 10	fin.	-169.12	-439	-0.0004895	0.0002807	0.0035	0.4		594.74	594.74		3.52	Si
SLD 7	ini.	-145.29	-820	-0.0004091	0.0002807	0.0035	0.4		594.74	594.74		4.09	Si
SLD 7	fin.	70.05	91	-0.0001833	0.0002807	0.0035	0.4		592.15	592.15		8.45	Si
SLV 3	ini.	-250.06	-1619	-0.0007933	0.0002807	0.0035	0.4		594.74	594.74		2.38	Si
SLV 3	fin.	155.48	112	-0.0004451	0.0002807	0.0035	0.4		592.15	592.15		3.81	Si
SLV 1	ini.	-186.89	-1288	-0.0005522	0.0002807	0.0035	0.4		594.74	594.74		3.18	Si
SLV 1	fin.	98.03	-66	-0.0002633	0.0002807	0.0035	0.4		592.15	592.15		6.04	Si
SLV 4	ini.	-201.51	-1202	-0.0006054	0.0002807	0.0035	0.4		594.74	594.74		2.95	Si
SLV 4	fin.	116.5	167	-0.0003191	0.0002807	0.0035	0.4		592.15	592.15		5.08	Si
SLV 8	ini.	-175.97	-921	-0.0005134	0.0002807	0.0035	0.4		594.74	594.74		3.38	Si
SLV 8	fin.	99.7	251	-0.0002683	0.0002807	0.0035	0.4		592.15	592.15		5.94	Si
SLD 3	ini.	-173.45	-1097	-0.0005046	0.0002807	0.0035	0.4		594.74	594.74		3.43	Si
SLD 3	fin.	90.46	29	-0.0002412	0.0002807	0.0035	0.4		592.15	592.15		6.55	Si
SLV 7	ini.	-208.66	-1202	-0.000632	0.0002807	0.0035	0.4		594.74	594.74		2.85	Si
SLV 7	fin.	125.93	214	-0.0003485	0.0002807	0.0035	0.4		592.15	592.15		4.7	Si
SLV 14	ini.	167.86	1233	-0.0004876	0.0002807	0.0035	0.4		592.15	592.15		3.53	Si
SLV 14	fin.	-198.66	-337	-0.0005949	0.0002807	0.0035	0.4		594.74	594.74		2.99	Si
SLV 13	ini.	119.31	816	-0.0003277	0.0002807	0.0035	0.4		592.15	592.15		4.96	Si
SLV 13	fin.	-159.69	-392	-0.0004572	0.0002807	0.0035	0.4		594.74	594.74		3.72	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 13	ini.	119.31	-302	0.4	0	919	3172	2515	1020	3535		11.7	Si
SLV 13	fin.	-159.69	-874	0.4	0	919	3172	2515	1020	3535		4.05	Si
SLV 1	ini.	-186.89	902	0.4	0	919	3172	2515	1020	3535		3.92	Si
SLV 1	fin.	98.03	291	0.4	0	919	3172	2515	1020	3535		12.14	Si
SLV 4	ini.	-201.51	971	0.4	0	919	3172	2515	1020	3535		3.64	Si
SLV 4	fin.	116.5	366	0.4	0	919	3172	2515	1020	3535		9.65	Si
SLV 8	ini.	-175.97	878	0.4	0	919	3172	2515	1020	3535		4.03	Si
SLV 8	fin.	99.7	284	0.4	0	919	3172	2515	1020	3535		12.46	Si
SLV 14	ini.	167.86	-490	0.4	0	919	3172	2515	1020	3535		7.22	Si
SLV 14	fin.	-198.66	-1052	0.4	0	919	3172	2515	1020	3535		3.36	Si
SLV 3	ini.	-250.06	1158	0.4	0	919	3172	2515	1020	3535		3.05	Si
SLV 3	fin.	155.48	545	0.4	0	919	3172	2515	1020	3535		6.49	Si
SLD 3	ini.	-173.45	856	0.4	0	919	3172	2515	1020	3535		4.13	Si
SLD 3	fin.	90.46	252	0.4	0	919	3172	2515	1020	3535		14.03	Si
SLV 10	ini.	126.46	-336	0.4	0	919	3172	2515	1020	3535		10.51	Si
SLV 10	fin.	-169.12	-911	0.4	0	919	3172	2515	1020	3535		3.88	Si
SLV 16	ini.	104.69	-234	0.4	0	919	3172	2515	1020	3535		15.11	Si
SLV 16	fin.	-141.21	-799	0.4	0	919	3172	2515	1020	3535		4.43	Si
SLV 7	ini.	-208.66	1005	0.4	0	919	3172	2515	1020	3535		3.52	Si
SLV 7	fin.	125.93	404	0.4	0	919	3172	2515	1020	3535		8.75	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.378	SLV 3	Si
V_SLV	3.052	SLV 3	Si
PF_SLU	6.789	SLU 66	Si
V_SLU	1.734	SLU 69	Si



Trave di accoppiamento 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-8.548	-3.359	14.15	15.15	1	-9.448	-3.359	14.15	15.15	1	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	327.57	328	-0.0001368	0.0001872	0.0035	1		3672.61	1980.42	Si	6.05	Si
SLU 80	fin.	-736.82	-1113	-0.000337	0.0001872	0.0035	1		3678.84	1980.42	Si	2.69	Si
SLU 77	ini.	327.57	308	-0.0001368	0.0001872	0.0035	1		3672.61	1980.42	Si	6.05	Si
SLU 77	fin.	-749.39	-1145	-0.0003437	0.0001872	0.0035	1		3678.84	1980.42	Si	2.64	Si
SLU 84	ini.	323.61	365	-0.0001351	0.0001872	0.0035	1		3672.61	1980.42	Si	6.12	Si
SLU 84	fin.	-720.2	-1072	-0.0003281	0.0001872	0.0035	1		3678.84	1980.42	Si	2.75	Si
SLU 75	ini.	329.79	350	-0.0001378	0.0001872	0.0035	1		3672.61	1980.42	Si	6.01	Si
SLU 75	fin.	-733.1	-1090	-0.000335	0.0001872	0.0035	1		3678.84	1980.42	Si	2.7	Si
SLU 69	ini.	324.67	294	-0.0001356	0.0001872	0.0035	1		3672.61	1980.42	Si	6.1	Si
SLU 69	fin.	-724.51	-1085	-0.0003304	0.0001872	0.0035	1		3678.84	1980.42	Si	2.73	Si
SLU 70	ini.	332.1	305	-0.0001389	0.0001872	0.0035	1		3672.61	1980.42	Si	5.96	Si
SLU 70	fin.	-735.5	-1098	-0.0003363	0.0001872	0.0035	1		3678.84	1980.42	Si	2.69	Si
SLU 74	ini.	322.36	339	-0.0001345	0.0001872	0.0035	1		3672.61	1980.42	Si	6.14	Si
SLU 74	fin.	-722.11	-1078	-0.0003291	0.0001872	0.0035	1		3678.84	1980.42	Si	2.74	Si
SLU 76	ini.	327.32	367	-0.0001367	0.0001872	0.0035	1		3672.61	1980.42	Si	6.05	Si
SLU 76	fin.	-716.87	-1054	-0.0003263	0.0001872	0.0035	1		3678.84	1980.42	Si	2.76	Si
SLU 79	ini.	320.14	317	-0.0001335	0.0001872	0.0035	1		3672.61	1980.42	Si	6.19	Si
SLU 79	fin.	-725.83	-1100	-0.0003311	0.0001872	0.0035	1		3678.84	1980.42	Si	2.73	Si
SLU 78	ini.	335	319	-0.0001401	0.0001872	0.0035	1		3672.61	1980.42	Si	5.91	Si
SLU 78	fin.	-760.37	-1157	-0.0003497	0.0001872	0.0035	1		3678.84	1980.42	Si	2.6	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 74	ini.	322.36	-897	1	0	1944	7137	4192	2550	2917	Si	3.25	Si
SLU 74	fin.	-722.11	-2625	1	0	1944	7137	4192	2550	2917	Si	1.11	Si
SLU 79	ini.	320.14	-847	1	0	1944	7137	4192	2550	2917	Si	3.44	Si
SLU 79	fin.	-725.83	-2656	1	0	1944	7137	4192	2550	2917	Si	1.1	Si
SLU 77	ini.	327.57	-834	1	0	1944	7137	4192	2550	2917	Si	3.5	Si
SLU 77	fin.	-749.39	-2744	1	0	1944	7137	4192	2550	2917	Si	1.06	Si
SLU 84	ini.	323.61	-973	1	0	1944	7137	4192	2550	2917	Si	3	Si
SLU 84	fin.	-720.2	-2602	1	0	1944	7137	4192	2550	2917	Si	1.12	Si
SLU 80	ini.	327.57	-881	1	0	1944	7137	4192	2550	2917	Si	3.31	Si
SLU 80	fin.	-736.82	-2689	1	0	1944	7137	4192	2550	2917	Si	1.08	Si
SLU 69	ini.	324.67	-764	1	0	1944	7137	4192	2550	2917	Si	3.82	Si
SLU 69	fin.	-724.51	-2671	1	0	1944	7137	4192	2550	2917	Si	1.09	Si
SLU 72	ini.	324.68	-811	1	0	1944	7137	4192	2550	2917	Si	3.6	Si
SLU 72	fin.	-711.95	-2616	1	0	1944	7137	4192	2550	2917	Si	1.12	Si
SLU 78	ini.	335	-868	1	0	1944	7137	4192	2550	2917	Si	3.36	Si
SLU 78	fin.	-760.37	-2777	1	0	1944	7137	4192	2550	2917	Si	1.05	Si
SLU 70	ini.	332.1	-798	1	0	1944	7137	4192	2550	2917	Si	3.65	Si
SLU 70	fin.	-735.5	-2704	1	0	1944	7137	4192	2550	2917	Si	1.08	Si
SLU 75	ini.	329.79	-931	1	0	1944	7137	4192	2550	2917	Si	3.13	Si
SLU 75	fin.	-733.1	-2658	1	0	1944	7137	4192	2550	2917	Si	1.1	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 6	ini.	611.48	918	-0.000262	0.0002807	0.0035	1		3705.31	3705.31		6.06	Si
SLD 6	fin.	-958.27	-1123	-0.0004355	0.0002807	0.0035	1		3712.06	3712.06		3.87	Si
SLV 3	ini.	787.03	1392	-0.0003473	0.0002807	0.0035	1		3705.31	3705.31		4.71	Si
SLV 3	fin.	-1176.4	-1268	-0.0005567	0.0002807	0.0035	1		3712.06	3712.06		3.16	Si
SLD 4	ini.	691.48	1182	-0.0003001	0.0002807	0.0035	1		3705.31	3705.31		5.36	Si
SLD 4	fin.	-1067.88	-1191	-0.0004953	0.0002807	0.0035	1		3712.06	3712.06		3.48	Si
SLV 2	ini.	1159.7	2002	-0.0005482	0.0002807	0.0035	1		3705.31	3705.31		3.2	Si
SLV 2	fin.	-1651.82	-1727	-0.0008514	0.0002807	0.0035	1		3712.06	3712.06		2.25	Si
SLD 1	ini.	711.69	1178	-0.00031	0.0002807	0.0035	1		3705.31	3705.31		5.21	Si
SLD 1	fin.	-1080.28	-1205	-0.0005022	0.0002807	0.0035	1		3712.06	3712.06		3.44	Si
SLV 1	ini.	993.23	1700	-0.0004553	0.0002807	0.0035	1		3705.31	3705.31		3.73	Si
SLV 1	fin.	-1428.83	-1514	-0.0007078	0.0002807	0.0035	1		3712.06	3712.06		2.6	Si
SLV 5	ini.	734.8	1106	-0.0003213	0.0002807	0.0035	1		3705.31	3705.31		5.04	Si
SLV 5	fin.	-1101.08	-1254	-0.0005139	0.0002807	0.0035	1		3712.06	3712.06		3.37	Si
SLV 4	ini.	953.5	1695	-0.0004338	0.0002807	0.0035	1		3705.31	3705.31		3.89	Si
SLV 4	fin.	-1399.38	-1482	-0.0006896	0.0002807	0.0035	1		3712.06	3712.06		2.65	Si
SLV 6	ini.	846.87	1310	-0.0003778	0.0002807	0.0035	1		3705.31	3705.31		4.38	Si
SLV 6	fin.	-1251.21	-1398	-0.0006003	0.0002807	0.0035	1		3712.06	3712.06		2.97	Si
SLD 2	ini.	817.94	1371	-0.000363	0.0002807	0.0035	1		3705.31	3705.31		4.53	Si
SLD 2	fin.	-1222.61	-1341	-0.0005835	0.0002807	0.0035	1		3712.06	3712.06		3.04	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 1	ini.	711.69	-2638	1	0	2917	7137	6288	2550	8838		3.35	Si
SLD 1	fin.	-1080.28	-3647	1	0	2917	7137	6288	2550	8838		2.42	Si
SLV 3	ini.	787.03	-2953	1	0	2917	7137	6288	2550	8838		2.99	Si
SLV 3	fin.	-1176.4	-3955	1	0	2917	7137	6288	2550	8838		2.23	Si
SLV 5	ini.	734.8	-2704	1	0	2917	7137	6288	2550	8838		3.27	Si
SLV 5	fin.	-1101.08	-3708	1	0	2917	7137	6288	2550	8838		2.38	Si
SLD 6	ini.	611.48	-2237	1	0	2917	7137	6288	2550	8838		3.95	Si
SLD 6	fin.	-958.27	-3255	1	0	2917	7137	6288	2550	8838		2.72	Si
SLV 4	ini.	953.5	-3673	1	0	2917	7137	6288	2550	8838		2.41	Si
SLV 4	fin.	-1399.38	-4657	1	0	2917	7137	6288	2550	8838		1.9	Si
SLV 1	ini.	993.23	-3773	1	0	2917	7137	6288	2550	8838		2.34	Si
SLV 1	fin.	-1428.83	-4752	1	0	2917	7137	6288	2550	8838		1.86	Si
SLV 6	ini.	846.87	-3189	1	0	2917	7137	6288	2550	8838		2.77	Si
SLV 6	fin.	-1251.21	-4181	1	0	2917	7137	6288	2550	8838		2.11	Si
SLD 4	ini.	691.48	-2594	1	0	2917	7137	6288	2550	8838		3.41	Si
SLD 4	fin.	-1067.88	-3606	1	0	2917	7137	6288	2550	8838		2.45	Si
SLD 2	ini.	817.94	-3097	1	0	2917	7137	6288	2550	8838		2.85	Si
SLD 2	fin.	-1222.61	-4095	1	0	2917	7137	6288	2550	8838		2.16	Si
SLV 2	ini.	1159.7	-4493	1	0	2917	7137	6288	2550	8838		1.97	Si
SLV 2	fin.	-1651.82	-5454	1	0	2917	7137	6288	2550	8838		1.62	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.247	SLV 2	Si
V_SLV	1.621	SLV 2	Si
PF_SLU	2.605	SLU 78	Si
V_SLU	1.05	SLU 78	Si

Trave di accoppiamento 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	12.05	14.05		2	-5.158	6.506	12.05	14.05	2	0.5	0.28 3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedlio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	ini.	1.35	-374	-0.0000001	0.0001872	0.0035	2		14344.28	4605.42	Si	3420.96	Si
SLU 84	fin.	-220.83	-237	-0.000022	0.0001872	0.0035	2		14357.01	4605.42	Si	20.85	Si
SLU 71	ini.	86.76	-378	-0.0000086	0.0001872	0.0035	2		14344.28	4605.42	Si	53.08	Si
SLU 71	fin.	-225.59	-244	-0.0000225	0.0001872	0.0035	2		14357.01	4605.42	Si	20.42	Si
SLU 78	ini.	48.48	-402	-0.0000048	0.0001872	0.0035	2		14344.28	4605.42	Si	95	Si
SLU 78	fin.	-238	-256	-0.0000237	0.0001872	0.0035	2		14357.01	4605.42	Si	19.35	Si
SLU 77	ini.	51.48	-402	-0.0000051	0.0001872	0.0035	2		14344.28	4605.42	Si	89.46	Si
SLU 77	fin.	-236.89	-255	-0.0000236	0.0001872	0.0035	2		14357.01	4605.42	Si	19.44	Si
SLU 79	ini.	65.28	-396	-0.0000065	0.0001872	0.0035	2		14344.28	4605.42	Si	70.55	Si
SLU 79	fin.	-236.03	-254	-0.0000235	0.0001872	0.0035	2		14357.01	4605.42	Si	19.51	Si
SLU 69	ini.	72.96	-384	-0.0000072	0.0001872	0.0035	2		14344.28	4605.42	Si	63.12	Si
SLU 69	fin.	-226.45	-244	-0.0000226	0.0001872	0.0035	2		14357.01	4605.42	Si	20.34	Si
SLU 70	ini.	69.96	-383	-0.0000069	0.0001872	0.0035	2		14344.28	4605.42	Si	65.83	Si
SLU 70	fin.	-227.56	-245	-0.0000227	0.0001872	0.0035	2		14357.01	4605.42	Si	20.24	Si
SLU 80	ini.	62.28	-396	-0.0000062	0.0001872	0.0035	2		14344.28	4605.42	Si	73.95	Si
SLU 80	fin.	-237.13	-255	-0.0000237	0.0001872	0.0035	2		14357.01	4605.42	Si	19.42	Si
SLU 72	ini.	83.76	-378	-0.0000083	0.0001872	0.0035	2		14344.28	4605.42	Si	54.98	Si
SLU 72	fin.	-226.69	-245	-0.0000226	0.0001872	0.0035	2		14357.01	4605.42	Si	20.32	Si
SLU 83	ini.	4.34	-374	-0.0000004	0.0001872	0.0035	2		14344.28	4605.42	Si	1060.15	Si
SLU 83	fin.	-219.73	-236	-0.0000219	0.0001872	0.0035	2		14357.01	4605.42	Si	20.96	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 71	ini.	86.76	-2257	2	0	3889	3965	8384	5100	5833	Si	2.59	Si
SLU 71	fin.	-225.59	-441	2	0	3889	3965	8384	5100	5833	Si	13.24	Si
SLU 58	ini.	75.22	-2076	2	0	3889	3965	8384	5100	5833	Si	2.81	Si
SLU 58	fin.	-211.09	-400	2	0	3889	3965	8384	5100	5833	Si	14.57	Si
SLU 78	ini.	48.48	-2291	2	0	3889	3965	8384	5100	5833	Si	2.55	Si
SLU 78	fin.	-238	-375	2	0	3889	3965	8384	5100	5833	Si	15.54	Si
SLU 72	ini.	83.76	-2253	2	0	3889	3965	8384	5100	5833	Si	2.59	Si
SLU 72	fin.	-226.69	-432	2	0	3889	3965	8384	5100	5833	Si	13.5	Si
SLU 80	ini.	62.28	-2311	2	0	3889	3965	8384	5100	5833	Si	2.52	Si
SLU 80	fin.	-237.13	-392	2	0	3889	3965	8384	5100	5833	Si	14.88	Si
SLU 70	ini.	69.96	-2233	2	0	3889	3965	8384	5100	5833	Si	2.61	Si
SLU 70	fin.	-227.56	-416	2	0	3889	3965	8384	5100	5833	Si	14.04	Si
SLU 59	ini.	72.22	-2072	2	0	3889	3965	8384	5100	5833	Si	2.82	Si
SLU 59	fin.	-212.19	-392	2	0	3889	3965	8384	5100	5833	Si	14.88	Si
SLU 77	ini.	51.48	-2295	2	0	3889	3965	8384	5100	5833	Si	2.54	Si
SLU 77	fin.	-236.89	-384	2	0	3889	3965	8384	5100	5833	Si	15.2	Si
SLU 79	ini.	65.28	-2314	2	0	3889	3965	8384	5100	5833	Si	2.52	Si
SLU 79	fin.	-236.03	-400	2	0	3889	3965	8384	5100	5833	Si	14.57	Si
SLU 69	ini.	72.96	-2237	2	0	3889	3965	8384	5100	5833	Si	2.61	Si
SLU 69	fin.	-226.45	-424	2	0	3889	3965	8384	5100	5833	Si	13.76	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	166.49	-306	-0.0000165	0.0002807	0.0035	2		14202.07	14202.07		85.3	Si
SLV 4	fin.	-118.68	-136	-0.0000118	0.0002807	0.0035	2		14215.41	14215.41		119.78	Si
SLV 13	ini.	-200.08	-170	-0.0000199	0.0002807	0.0035	2		14215.41	14215.41		71.05	Si
SLV 13	fin.	-159.46	-163	-0.0000158	0.0002807	0.0035	2		14215.41	14215.41		89.15	Si
SLV 16	ini.	-176.04	-209	-0.0000175	0.0002807	0.0035	2		14215.41	14215.41		80.75	Si
SLV 16	fin.	-158.69	-138	-0.0000158	0.0002807	0.0035	2		14215.41	14215.41		89.58	Si
SLV 3	ini.	220.1	-295	-0.0000219	0.0002807	0.0035	2		14202.07	14202.07		64.52	Si
SLV 3	fin.	-109.44	-127	-0.0000109	0.0002807	0.0035	2		14215.41	14215.41		129.89	Si
SLV 14	ini.	-253.69	-181	-0.0000253	0.0002807	0.0035	2		14215.41	14215.41		56.03	Si
SLV 14	fin.	-168.7	-172	-0.0000168	0.0002807	0.0035	2		14215.41	14215.41		84.27	Si
SLD 10	ini.	-139.87	-204	-0.0000139	0.0002807	0.0035	2		14215.41	14215.41		101.63	Si
SLD 10	fin.	-155.19	-186	-0.0000159	0.0002807	0.0035	2		14215.41	14215.41		91.6	Si
SLV 10	ini.	-215.65	-181	-0.0000214	0.0002807	0.0035	2		14215.41	14215.41		65.92	Si
SLV 10	fin.	-164.86	-209	-0.0000164	0.0002807	0.0035	2		14215.41	14215.41		86.23	Si
SLD 14	ini.	-167.18	-202	-0.0000166	0.0002807	0.0035	2		14215.41	14215.41		85.03	Si
SLD 14	fin.	-157.67	-163	-0.0000157	0.0002807	0.0035	2		14215.41	14215.41		90.16	Si
SLV 7	ini.	182.06	-295	-0.0000181	0.0002807	0.0035	2		14202.07	14202.07		78.01	Si
SLV 7	fin.	-113.28	-90	-0.0000112	0.0002807	0.0035	2		14215.41	14215.41		125.49	Si
SLV 9	ini.	-179.56	-174	-0.0000178	0.0002807	0.0035	2		14215.41	14215.41		79.17	Si
SLV 9	fin.	-158.64	-203	-0.0000158	0.0002807	0.0035	2		14215.41	14215.41		89.61	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 12	ini.	17.91	-1494	2	0	5833	3965	12577	5100	9798		6.56	Si
SLD 12	fin.	-134.36	-482	2	0	5833	3965	12577	5100	9798		20.33	Si
SLD 8	ini.	83.68	-1596	2	0	5833	3965	12577	5100	9798		6.14	Si
SLD 8	fin.	-126.84	-671	2	0	5833	3965	12577	5100	9798		14.6	Si
SLV 12	ini.	43.21	-1696	2	0	5833	3965	12577	5100	9798		5.78	Si
SLV 12	fin.	-131.51	-662	2	0	5833	3965	12577	5100	9798		14.79	Si
SLD 7	ini.	106.28	-1611	2	0	5833	3965	12577	5100	9798		6.08	Si
SLD 7	fin.	-122.95	-717	2	0	5833	3965	12577	5100	9798		13.66	Si
SLV 8	ini.	145.96	-1853	2	0	5833	3965	12577	5100	9798		5.29	Si
SLV 8	fin.	-119.5	-958	2	0	5833	3965	12577	5100	9798		10.23	Si
SLV 7	ini.	182.06	-1878	2	0	5833	3965	12577	5100	9798		5.22	Si
SLV 7	fin.	-113.28	-1032	2	0	5833	3965	12577	5100	9798		9.49	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	220.1	-1646	2	0	5833	3965	12577	5100	9798		5.95	Si
SLV 3	fin.	-109.44	-947	2	0	5833	3965	12577	5100	9798		10.35	Si
SLV 11	ini.	79.3	-1721	2	0	5833	3965	12577	5100	9798		5.69	Si
SLV 11	fin.	-125.29	-736	2	0	5833	3965	12577	5100	9798		13.3	Si
SLV 4	ini.	166.49	-1609	2	0	5833	3965	12577	5100	9798		6.09	Si
SLV 4	fin.	-118.68	-836	2	0	5833	3965	12577	5100	9798		11.71	Si
SLD 11	ini.	40.51	-1509	2	0	5833	3965	12577	5100	9798		6.49	Si
SLD 11	fin.	-130.46	-528	2	0	5833	3965	12577	5100	9798		18.54	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	56.034	SLV 14	Si
V_SLV	5.217	SLV 7	Si
PF_SLU	19.351	SLU 78	Si
V_SLU	2.521	SLU 79	Si

Trave di accoppiamento 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.158	6.006	14.85	15.15	0.3	-5.158	6.506	14.85	15.15	0.3	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 58	ini.	130.36	1425	-0.0007697	0.0001872	0.0035	0.3		331.24	239.7	Si	1.84	Si
SLU 58	fin.	-144.82	3176	-0.0008746	0.0001872	0.0035	0.3		333.12	239.7	Si	1.66	Si
SLU 49	ini.	145.93	1559	-0.0008896	0.0001872	0.0035	0.3		331.24	239.7	Si	1.64	Si
SLU 49	fin.	-153.07	3164	-0.00094	0.0001872	0.0035	0.3		333.12	239.7	Si	1.57	Si
SLU 48	ini.	153.47	1627	-0.00095	0.0001872	0.0035	0.3		331.24	239.7	Si	1.56	Si
SLU 48	fin.	-155.14	3185	-0.0009567	0.0001872	0.0035	0.3		333.12	239.7	Si	1.55	Si
SLU 50	ini.	171.77	1793	-0.0011039	0.0001872	0.0035	0.3		331.24	239.7	Si	1.4	Si
SLU 50	fin.	-167.06	3354	-0.0010555	0.0001872	0.0035	0.3		333.12	239.7	Si	1.43	Si
SLU 72	ini.	142.99	1553	-0.0008664	0.0001872	0.0035	0.3		331.24	239.7	Si	1.68	Si
SLU 72	fin.	-156.6	3409	-0.0009686	0.0001872	0.0035	0.3		333.12	239.7	Si	1.53	Si
SLU 8	ini.	155	1605	-0.0009625	0.0001872	0.0035	0.3		331.24	239.7	Si	1.55	Si
SLU 8	fin.	-148.1	2981	-0.0009004	0.0001872	0.0035	0.3		333.12	239.7	Si	1.62	Si
SLU 9	ini.	147.46	1537	-0.0009017	0.0001872	0.0035	0.3		331.24	239.7	Si	1.63	Si
SLU 9	fin.	-146.04	2960	-0.0008841	0.0001872	0.0035	0.3		333.12	239.7	Si	1.64	Si
SLU 69	ini.	132.23	1455	-0.0007837	0.0001872	0.0035	0.3		331.24	239.7	Si	1.81	Si
SLU 69	fin.	-146.75	3259	-0.0008897	0.0001872	0.0035	0.3		333.12	239.7	Si	1.63	Si
SLU 51	ini.	164.23	1725	-0.0010392	0.0001872	0.0035	0.3		331.24	239.7	Si	1.46	Si
SLU 51	fin.	-164.99	3334	-0.001038	0.0001872	0.0035	0.3		333.12	239.7	Si	1.45	Si
SLU 71	ini.	150.53	1621	-0.0009262	0.0001872	0.0035	0.3		331.24	239.7	Si	1.59	Si
SLU 71	fin.	-158.67	3429	-0.0009855	0.0001872	0.0035	0.3		333.12	239.7	Si	1.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	34.85	1105	0.3	0	583	2379	1258	765	875	Si	0.79	No
SLU 76	fin.	-85.74	-600	0.3	0	583	2379	1258	765	875	Si	1.46	Si
SLU 82	ini.	-39.56	1188	0.3	0	583	2379	1258	765	875	Si	0.74	No
SLU 82	fin.	-30.33	-256	0.3	0	583	2379	1258	765	875	Si	3.42	Si
SLU 73	ini.	-26.84	1117	0.3	0	583	2379	1258	765	875	Si	0.78	No
SLU 73	fin.	-38.48	-296	0.3	0	583	2379	1258	765	875	Si	2.96	Si
SLU 75	ini.	21.59	1129	0.3	0	583	2379	1258	765	875	Si	0.78	No
SLU 75	fin.	-75.2	-546	0.3	0	583	2379	1258	765	875	Si	1.6	Si
SLU 78	ini.	83.29	1117	0.3	0	583	2379	1258	765	875	Si	0.78	No



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	fin.	-122.45	-850	0.3	0	583	2379	1258	765	875	Si	1.03	Si
SLU 83	ini.	29.68	1135	0.3	0	583	2379	1258	765	875	Si	0.77	No
SLU 83	fin.	-79.65	-584	0.3	0	583	2379	1258	765	875	Si	1.5	Si
SLU 50	ini.	171.77	571	0.3	0	583	2379	1258	765	875	Si	1.53	Si
SLU 50	fin.	-167.06	-1102	0.3	0	583	2379	1258	765	875	Si	0.79	No
SLU 81	ini.	-32.02	1147	0.3	0	583	2379	1258	765	875	Si	0.76	No
SLU 81	fin.	-32.4	-280	0.3	0	583	2379	1258	765	875	Si	3.12	Si
SLU 84	ini.	22.14	1176	0.3	0	583	2379	1258	765	875	Si	0.74	No
SLU 84	fin.	-77.59	-560	0.3	0	583	2379	1258	765	875	Si	1.56	Si
SLU 40	ini.	-56.33	1110	0.3	0	583	2379	1258	765	875	Si	0.79	No
SLU 40	fin.	-11.38	-135	0.3	0	583	2379	1258	765	875	Si	6.48	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 8	ini.	550.2	5096	-0.0069695	0.0002807	0.0035	0.3		333.9	333.9		0.61	No
SLV 8	fin.	-223.26	3005	-0.0014863	0.0002807	0.0035	0.3		335.87	335.87		1.5	Si
SLV 9	ini.	-522.79	-4545	-0.0065009	0.0002807	0.0035	0.3		335.87	335.87		0.64	No
SLV 9	fin.	133.57	-403	-0.0007449	0.0002807	0.0035	0.3		333.9	333.9		2.5	Si
SLV 13	ini.	-429.77	-3742	-0.0050119	0.0002807	0.0035	0.3		335.87	335.87		0.78	No
SLV 13	fin.	171.33	-519	-0.0010298	0.0002807	0.0035	0.3		333.9	333.9		1.95	Si
SLV 11	ini.	404.2	3770	-0.0046139	0.0002807	0.0035	0.3		333.9	333.9		0.83	No
SLV 11	fin.	-139.28	2332	-0.0007801	0.0002807	0.0035	0.3		335.87	335.87		2.41	Si
SLV 7	ini.	616.32	5702	-0.0079698	0.0002807	0.0035	0.3		333.9	333.9		0.54	No
SLV 7	fin.	-261.45	3316	-0.0019248	0.0002807	0.0035	0.3		335.87	335.87		1.28	Si
SLV 4	ini.	457.19	4292	-0.0055034	0.0002807	0.0035	0.3		333.9	333.9		0.73	No
SLV 4	fin.	-261.02	3120	-0.0019191	0.0002807	0.0035	0.3		335.87	335.87		1.29	Si
SLV 10	ini.	-588.9	-5151	-0.0075096	0.0002807	0.0035	0.3		335.87	335.87		0.57	No
SLV 10	fin.	171.76	-715	-0.0010332	0.0002807	0.0035	0.3		333.9	333.9		1.94	Si
SLV 3	ini.	555.39	5192	-0.0070492	0.0002807	0.0035	0.3		333.9	333.9		0.6	No
SLV 3	fin.	-317.75	3582	-0.0028664	0.0002807	0.0035	0.3		335.87	335.87		1.06	Si
SLV 14	ini.	-527.97	-4642	-0.0065813	0.0002807	0.0035	0.3		335.87	335.87		0.64	No
SLV 14	fin.	228.06	-981	-0.0015485	0.0002807	0.0035	0.3		333.9	333.9		1.46	Si
SLD 7	ini.	386.39	3634	-0.0042971	0.0002807	0.0035	0.3		333.9	333.9		0.86	No
SLD 7	fin.	-178.29	2541	-0.0010786	0.0002807	0.0035	0.3		335.87	335.87		1.88	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 14	ini.	-527.97	3415	0.3	0	875	2379	1887	765	2652		0.78	No
SLV 14	fin.	228.06	1648	0.3	0	875	2379	1887	765	2652		1.61	Si
SLV 5	ini.	-310.67	2458	0.3	0	875	2379	1887	765	2652		1.08	Si
SLV 5	fin.	11.4	633	0.3	0	875	2379	1887	765	2652		4.19	Si
SLD 14	ini.	-328.95	2400	0.3	0	875	2379	1887	765	2652		1.1	Si
SLD 14	fin.	128.11	920	0.3	0	875	2379	1887	765	2652		2.88	Si
SLV 13	ini.	-429.77	2959	0.3	0	875	2379	1887	765	2652		0.9	No
SLV 13	fin.	171.33	1242	0.3	0	875	2379	1887	765	2652		2.13	Si
SLD 9	ini.	-317.58	2437	0.3	0	875	2379	1887	765	2652		1.09	Si
SLD 9	fin.	64.69	749	0.3	0	875	2379	1887	765	2652		3.54	Si
SLV 7	ini.	616.32	-2546	0.3	0	875	2379	1887	765	2652		1.04	Si
SLV 7	fin.	-261.45	-2358	0.3	0	875	2379	1887	765	2652		1.12	Si
SLD 10	ini.	-358.97	2629	0.3	0	875	2379	1887	765	2652		1.01	Si
SLD 10	fin.	88.6	920	0.3	0	875	2379	1887	765	2652		2.88	Si
SLV 9	ini.	-522.79	3532	0.3	0	875	2379	1887	765	2652		0.75	No
SLV 9	fin.	133.57	1428	0.3	0	875	2379	1887	765	2652		1.86	Si
SLV 10	ini.	-588.9	3839	0.3	0	875	2379	1887	765	2652		0.69	No
SLV 10	fin.	171.76	1702	0.3	0	875	2379	1887	765	2652		1.56	Si
SLV 6	ini.	-376.78	2765	0.3	0	875	2379	1887	765	2652		0.96	No
SLV 6	fin.	49.59	907	0.3	0	875	2379	1887	765	2652		2.92	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.542	SLV 7	No
V_SLV	0.691	SLV 10	No
PF_SLU	1.395	SLU 50	Si
V_SLU	0.737	SLU 82	No

Trave di accoppiamento 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.513	-3.359	12.05	12.95	0.9	-7.413	-3.359	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fthk	fvk0	fthmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 68	ini.	174.52	-993	-0.0000884	0.0001872	0.0035	0.9		2959	1717.92	Si	9.84	Si
SLU 68	fin.	-181.89	44	-0.0000921	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.45	Si
SLU 65	ini.	172.28	-959	-0.0000872	0.0001872	0.0035	0.9		2959	1717.92	Si	9.97	Si
SLU 65	fin.	-187.99	78	-0.0000953	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.14	Si
SLU 73	ini.	146.88	-834	-0.000074	0.0001872	0.0035	0.9		2959	1717.92	Si	11.7	Si
SLU 73	fin.	-163.85	67	-0.0000827	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.48	Si
SLU 64	ini.	155.51	-891	-0.0000785	0.0001872	0.0035	0.9		2959	1717.92	Si	11.05	Si
SLU 64	fin.	-165.01	34	-0.0000833	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.41	Si
SLU 69	ini.	164.97	-994	-0.0000834	0.0001872	0.0035	0.9		2959	1717.92	Si	10.41	Si
SLU 69	fin.	-154.51	-43	-0.0000778	0.0001872	0.0035	0.9		2964.67	1717.92	Si	11.12	Si
SLU 70	ini.	175.03	-1035	-0.0000887	0.0001872	0.0035	0.9		2959	1717.92	Si	9.81	Si
SLU 70	fin.	-168.3	-17	-0.000085	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.21	Si
SLU 23	ini.	148.59	-804	-0.0000749	0.0001872	0.0035	0.9		2959	1717.92	Si	11.56	Si
SLU 23	fin.	-168.11	97	-0.0000849	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.22	Si
SLU 67	ini.	172.8	-1001	-0.0000875	0.0001872	0.0035	0.9		2959	1717.92	Si	9.94	Si
SLU 67	fin.	-174.4	17	-0.0000882	0.0001872	0.0035	0.9		2964.67	1717.92	Si	9.85	Si
SLU 66	ini.	162.74	-961	-0.0000822	0.0001872	0.0035	0.9		2959	1717.92	Si	10.56	Si
SLU 66	fin.	-160.61	-10	-0.000081	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.7	Si
SLU 72	ini.	170.04	-999	-0.0000861	0.0001872	0.0035	0.9		2959	1717.92	Si	10.1	Si
SLU 72	fin.	-166.59	-8	-0.0000841	0.0001872	0.0035	0.9		2964.67	1717.92	Si	10.31	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 68	ini.	174.52	-1511	0.9	0	1750	7137	3773	2295	2625	Si	1.74	Si
SLU 68	fin.	-181.89	-680	0.9	0	1750	7137	3773	2295	2625	Si	3.86	Si
SLU 78	ini.	149.63	-1397	0.9	0	1750	7137	3773	2295	2625	Si	1.88	Si
SLU 78	fin.	-144.16	-514	0.9	0	1750	7137	3773	2295	2625	Si	5.11	Si
SLU 69	ini.	164.97	-1531	0.9	0	1750	7137	3773	2295	2625	Si	1.71	Si
SLU 69	fin.	-154.51	-522	0.9	0	1750	7137	3773	2295	2625	Si	5.03	Si
SLU 66	ini.	162.74	-1470	0.9	0	1750	7137	3773	2295	2625	Si	1.79	Si
SLU 66	fin.	-160.61	-574	0.9	0	1750	7137	3773	2295	2625	Si	4.57	Si
SLU 71	ini.	159.98	-1470	0.9	0	1750	7137	3773	2295	2625	Si	1.79	Si
SLU 71	fin.	-152.8	-530	0.9	0	1750	7137	3773	2295	2625	Si	4.95	Si
SLU 72	ini.	170.04	-1531	0.9	0	1750	7137	3773	2295	2625	Si	1.71	Si
SLU 72	fin.	-166.59	-589	0.9	0	1750	7137	3773	2295	2625	Si	4.46	Si
SLU 67	ini.	172.8	-1531	0.9	0	1750	7137	3773	2295	2625	Si	1.71	Si
SLU 67	fin.	-174.4	-633	0.9	0	1750	7137	3773	2295	2625	Si	4.15	Si
SLU 70	ini.	175.03	-1592	0.9	0	1750	7137	3773	2295	2625	Si	1.65	Si
SLU 70	fin.	-168.3	-580	0.9	0	1750	7137	3773	2295	2625	Si	4.53	Si
SLU 49	ini.	150.37	-1443	0.9	0	1750	7137	3773	2295	2625	Si	1.82	Si
SLU 49	fin.	-131.5	-430	0.9	0	1750	7137	3773	2295	2625	Si	6.1	Si
SLU 65	ini.	172.28	-1451	0.9	0	1750	7137	3773	2295	2625	Si	1.81	Si
SLU 65	fin.	-187.99	-733	0.9	0	1750	7137	3773	2295	2625	Si	3.58	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 1	ini.	748.13	-3038	-0.0004192	0.0002807	0.0035	0.9		2989.59	2989.59		4	Si
SLV 1	fin.	-1027.1	1673	-0.000612	0.0002807	0.0035	0.9		2995.37	2995.37		2.92	Si
SLV 15	ini.	-661.11	2259	-0.0003624	0.0002807	0.0035	0.9		2995.37	2995.37		4.53	Si
SLV 15	fin.	1003.32	-2033	-0.000596	0.0002807	0.0035	0.9		2989.59	2989.59		2.98	Si
SLD 1	ini.	512.74	-2151	-0.0002729	0.0002807	0.0035	0.9		2989.59	2989.59		5.83	Si
SLD 1	fin.	-691.47	1064	-0.0003817	0.0002807	0.0035	0.9		2995.37	2995.37		4.33	Si
SLV 4	ini.	583.39	-2350	-0.0003151	0.0002807	0.0035	0.9		2989.59	2989.59		5.12	Si
SLV 4	fin.	-866.41	1426	-0.0004977	0.0002807	0.0035	0.9		2995.37	2995.37		3.46	Si
SLV 11	ini.	-589.44	2091	-0.0003181	0.0002807	0.0035	0.9		2995.37	2995.37		5.08	Si
SLV 11	fin.	807.2	-1626	-0.0004585	0.0002807	0.0035	0.9		2989.59	2989.59		3.7	Si
SLV 6	ini.	803.33	-3345	-0.0004559	0.0002807	0.0035	0.9		2989.59	2989.59		3.72	Si
SLV 6	fin.	-1031.09	1649	-0.0006149	0.0002807	0.0035	0.9		2995.37	2995.37		2.91	Si
SLV 2	ini.	875.01	-3513	-0.0005048	0.0002807	0.0035	0.9		2989.59	2989.59		3.42	Si
SLV 2	fin.	-1227.21	2055	-0.0007645	0.0002807	0.0035	0.9		2995.37	2995.37		2.44	Si
SLV 16	ini.	-534.24	1784	-0.000285	0.0002807	0.0035	0.9		2995.37	2995.37		5.61	Si
SLV 16	fin.	803.21	-1651	-0.0004558	0.0002807	0.0035	0.9		2989.59	2989.59		3.72	Si
SLD 2	ini.	593.72	-2455	-0.0003214	0.0002807	0.0035	0.9		2989.59	2989.59		5.04	Si
SLD 2	fin.	-819.2	1308	-0.0004655	0.0002807	0.0035	0.9		2995.37	2995.37		3.66	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 5	ini.	717.91	-3025	-0.0003995	0.0002807	0.0035	0.9		2989.59	2989.59		4.16	Si
SLV 5	fin.	-896.36	1392	-0.0005185	0.0002807	0.0035	0.9		2995.37	2995.37		3.34	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-589.44	3059	0.9	0	2625	7137	5660	2295	7955		2.6	Si
SLV 11	fin.	807.2	3463	0.9	0	2625	7137	5660	2295	7955		2.3	Si
SLV 4	ini.	583.39	-3485	0.9	0	2625	7137	5660	2295	7955		2.28	Si
SLV 4	fin.	-866.41	-3709	0.9	0	2625	7137	5660	2295	7955		2.14	Si
SLV 1	ini.	748.13	-4466	0.9	0	2625	7137	5660	2295	7955		1.78	Si
SLV 1	fin.	-1027.1	-4414	0.9	0	2625	7137	5660	2295	7955		1.8	Si
SLV 15	ini.	-661.11	3299	0.9	0	2625	7137	5660	2295	7955		2.41	Si
SLV 15	fin.	1003.32	4357	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLV 5	ini.	717.91	-4465	0.9	0	2625	7137	5660	2295	7955		1.78	Si
SLV 5	fin.	-896.36	-3787	0.9	0	2625	7137	5660	2295	7955		2.1	Si
SLV 2	ini.	875.01	-5198	0.9	0	2625	7137	5660	2295	7955		1.53	Si
SLV 2	fin.	-1227.21	-5231	0.9	0	2625	7137	5660	2295	7955		1.52	Si
SLD 2	ini.	593.72	-3639	0.9	0	2625	7137	5660	2295	7955		2.19	Si
SLD 2	fin.	-819.2	-3479	0.9	0	2625	7137	5660	2295	7955		2.29	Si
SLV 16	ini.	-534.24	2567	0.9	0	2625	7137	5660	2295	7955		3.1	Si
SLV 16	fin.	803.21	3540	0.9	0	2625	7137	5660	2295	7955		2.25	Si
SLV 6	ini.	803.33	-4958	0.9	0	2625	7137	5660	2295	7955		1.6	Si
SLV 6	fin.	-1031.09	-4337	0.9	0	2625	7137	5660	2295	7955		1.83	Si
SLD 6	ini.	539.38	-3436	0.9	0	2625	7137	5660	2295	7955		2.32	Si
SLD 6	fin.	-682.97	-2862	0.9	0	2625	7137	5660	2295	7955		2.78	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.441	SLV 2	Si
V_SLV	1.521	SLV 2	Si
PF_SLU	9.138	SLU 65	Si
V_SLU	1.649	SLU 70	Si

Trave di accoppiamento 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-6.513	-3.359	14.75	15.15	0.4	-7.413	-3.359	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	y,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 26	ini.	21.77	-146	-0.0000551	0.0001872	0.0035	0.4		586.12	426.13	Si	19.58	Si
SLU 26	fin.	-29.94	-157	-0.0000761	0.0001872	0.0035	0.4		588.62	426.13	Si	14.23	Si
SLU 23	ini.	28.11	-73	-0.0000716	0.0001872	0.0035	0.4		586.12	426.13	Si	15.16	Si
SLU 23	fin.	-30.4	-161	-0.0000773	0.0001872	0.0035	0.4		588.62	426.13	Si	14.02	Si
SLU 70	ini.	14.91	-286	-0.0000375	0.0001872	0.0035	0.4		586.12	426.13	Si	28.58	Si
SLU 70	fin.	-32.69	-169	-0.0000833	0.0001872	0.0035	0.4		588.62	426.13	Si	13.04	Si
SLU 47	ini.	22.7	-139	-0.0000575	0.0001872	0.0035	0.4		586.12	426.13	Si	18.77	Si
SLU 47	fin.	-31.31	-167	-0.0000797	0.0001872	0.0035	0.4		588.62	426.13	Si	13.61	Si
SLU 46	ini.	17.87	-188	-0.000045	0.0001872	0.0035	0.4		586.12	426.13	Si	23.84	Si
SLU 46	fin.	-29.58	-157	-0.0000752	0.0001872	0.0035	0.4		588.62	426.13	Si	14.41	Si
SLU 65	ini.	32.43	-90	-0.000083	0.0001872	0.0035	0.4		586.12	426.13	Si	13.14	Si
SLU 65	fin.	-35.34	-188	-0.0000903	0.0001872	0.0035	0.4		588.62	426.13	Si	12.06	Si
SLU 67	ini.	21.26	-212	-0.0000538	0.0001872	0.0035	0.4		586.12	426.13	Si	20.05	Si
SLU 67	fin.	-33.15	-173	-0.0000845	0.0001872	0.0035	0.4		588.62	426.13	Si	12.86	Si
SLU 72	ini.	17.15	-253	-0.0000432	0.0001872	0.0035	0.4		586.12	426.13	Si	24.85	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 72	fin.	-31.89	-165	-0.0000812	0.0001872	0.0035	0.4		588.62	426.13	Si	13.36	Si
SLU 68	ini.	26.08	-164	-0.0000663	0.0001872	0.0035	0.4		586.12	426.13	Si	16.34	Si
SLU 68	fin.	-34.88	-184	-0.0000891	0.0001872	0.0035	0.4		588.62	426.13	Si	12.22	Si
SLU 44	ini.	29.04	-66	-0.0000741	0.0001872	0.0035	0.4		586.12	426.13	Si	14.67	Si
SLU 44	fin.	-31.77	-172	-0.0000809	0.0001872	0.0035	0.4		588.62	426.13	Si	13.41	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	11.03	874	0.4	0	631	3172	1677	1020	947	Si	1.08	Si
SLU 69	fin.	-28.9	-685	0.4	0	631	3172	1677	1020	947	Si	1.38	Si
SLU 80	ini.	8.84	833	0.4	0	631	3172	1677	1020	947	Si	1.14	Si
SLU 80	fin.	-19.21	-617	0.4	0	631	3172	1677	1020	947	Si	1.53	Si
SLU 36	ini.	2.29	845	0.4	0	631	3172	1677	1020	947	Si	1.12	Si
SLU 36	fin.	-15.07	-569	0.4	0	631	3172	1677	1020	947	Si	1.67	Si
SLU 56	ini.	-0.66	803	0.4	0	631	3172	1677	1020	947	Si	1.18	Si
SLU 56	fin.	-12.65	-537	0.4	0	631	3172	1677	1020	947	Si	1.76	Si
SLU 70	ini.	14.91	851	0.4	0	631	3172	1677	1020	947	Si	1.11	Si
SLU 70	fin.	-32.69	-704	0.4	0	631	3172	1677	1020	947	Si	1.35	Si
SLU 27	ini.	6.71	814	0.4	0	631	3172	1677	1020	947	Si	1.16	Si
SLU 27	fin.	-23.96	-603	0.4	0	631	3172	1677	1020	947	Si	1.57	Si
SLU 78	ini.	6.61	905	0.4	0	631	3172	1677	1020	947	Si	1.05	Si
SLU 78	fin.	-20.01	-651	0.4	0	631	3172	1677	1020	947	Si	1.46	Si
SLU 79	ini.	4.96	856	0.4	0	631	3172	1677	1020	947	Si	1.11	Si
SLU 79	fin.	-15.42	-598	0.4	0	631	3172	1677	1020	947	Si	1.58	Si
SLU 35	ini.	-1.59	868	0.4	0	631	3172	1677	1020	947	Si	1.09	Si
SLU 35	fin.	-11.28	-550	0.4	0	631	3172	1677	1020	947	Si	1.72	Si
SLU 77	ini.	2.72	928	0.4	0	631	3172	1677	1020	947	Si	1.02	Si
SLU 77	fin.	-16.22	-632	0.4	0	631	3172	1677	1020	947	Si	1.5	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	-255.91	-1781	-0.0008172	0.0002807	0.0035	0.4		594.74	594.74		2.32	Si
SLV 11	fin.	246.82	1391	-0.0007844	0.0002807	0.0035	0.4		592.15	592.15		2.4	Si
SLV 16	ini.	-227.02	-1600	-0.000702	0.0002807	0.0035	0.4		594.74	594.74		2.62	Si
SLV 16	fin.	188.92	1057	-0.0005623	0.0002807	0.0035	0.4		592.15	592.15		3.13	Si
SLV 15	ini.	-286.85	-1933	-0.000948	0.0002807	0.0035	0.4		594.74	594.74		2.07	Si
SLV 15	fin.	238.63	1333	-0.0007514	0.0002807	0.0035	0.4		592.15	592.15		2.48	Si
SLV 12	ini.	-215.62	-1556	-0.0006582	0.0002807	0.0035	0.4		594.74	594.74		2.76	Si
SLV 12	fin.	213.35	1205	-0.0006529	0.0002807	0.0035	0.4		592.15	592.15		2.78	Si
SLD 2	ini.	209.23	1048	-0.0006373	0.0002807	0.0035	0.4		592.15	592.15		2.83	Si
SLD 2	fin.	-180.18	-995	-0.0005282	0.0002807	0.0035	0.4		594.74	594.74		3.3	Si
SLV 2	ini.	320.55	1716	-0.0011064	0.0002807	0.0035	0.4		592.15	592.15		1.85	Si
SLV 2	fin.	-274.47	-1519	-0.0008947	0.0002807	0.0035	0.4		594.74	594.74		2.17	Si
SLV 1	ini.	260.71	1383	-0.0008414	0.0002807	0.0035	0.4		592.15	592.15		2.27	Si
SLV 1	fin.	-224.75	-1244	-0.0006932	0.0002807	0.0035	0.4		594.74	594.74		2.65	Si
SLV 5	ini.	249.32	1339	-0.0007945	0.0002807	0.0035	0.4		592.15	592.15		2.38	Si
SLV 5	fin.	-249.18	-1392	-0.0007898	0.0002807	0.0035	0.4		594.74	594.74		2.39	Si
SLV 4	ini.	208.14	1016	-0.0006333	0.0002807	0.0035	0.4		592.15	592.15		2.84	Si
SLV 4	fin.	-156.78	-857	-0.0004474	0.0002807	0.0035	0.4		594.74	594.74		3.79	Si
SLV 6	ini.	289.6	1564	-0.0009653	0.0002807	0.0035	0.4		592.15	592.15		2.04	Si
SLV 6	fin.	-282.66	-1578	-0.0009298	0.0002807	0.0035	0.4		594.74	594.74		2.1	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 15	ini.	-175.53	1362	0.4	0	919	3172	2515	1020	3535		2.6	Si
SLD 15	fin.	144.34	479	0.4	0	919	3172	2515	1020	3535		7.39	Si
SLV 16	ini.	-227.02	1615	0.4	0	919	3172	2515	1020	3535		2.19	Si
SLV 16	fin.	188.92	721	0.4	0	919	3172	2515	1020	3535		4.9	Si
SLV 11	ini.	-255.91	1868	0.4	0	919	3172	2515	1020	3535		1.89	Si
SLV 11	fin.	246.82	944	0.4	0	919	3172	2515	1020	3535		3.74	Si
SLV 1	ini.	260.71	-823	0.4	0	919	3172	2515	1020	3535		4.29	Si
SLV 1	fin.	-224.75	-1509	0.4	0	919	3172	2515	1020	3535		2.34	Si
SLV 5	ini.	249.32	-870	0.4	0	919	3172	2515	1020	3535		4.06	Si
SLV 5	fin.	-249.18	-1554	0.4	0	919	3172	2515	1020	3535		2.27	Si
SLV 6	ini.	289.6	-1077	0.4	0	919	3172	2515	1020	3535		3.28	Si
SLV 6	fin.	-282.66	-1731	0.4	0	919	3172	2515	1020	3535		2.04	Si
SLD 11	ini.	-152.48	1309	0.4	0	919	3172	2515	1020	3535		2.7	Si
SLD 11	fin.	146.2	436	0.4	0	919	3172	2515	1020	3535		8.1	Si
SLV 15	ini.	-286.85	1922	0.4	0	919	3172	2515	1020	3535		1.84	Si
SLV 15	fin.	238.63	984	0.4	0	919	3172	2515	1020	3535		3.59	Si
SLV 2	ini.	320.55	-1130	0.4	0	919	3172	2515	1020	3535		3.13	Si
SLV 2	fin.	-274.47	-1771	0.4	0	919	3172	2515	1020	3535		2	Si
SLV 12	ini.	-215.62	1661	0.4	0	919	3172	2515	1020	3535		2.13	Si
SLV 12	fin.	213.35	767	0.4	0	919	3172	2515	1020	3535		4.61	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.847	SLV 2	Si
V_SLV	1.839	SLV 15	Si
PF_SLU	12.059	SLU 65	Si
V_SLU	1.02	SLU 77	Si



Trave di accoppiamento 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	12.05	14.05	2	-6.008	-3.359	12.05	14.05	2	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε _{f,d}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	420.8	-1673	-0.0000423	0.0001872	0.0035	2		14344.28	4605.42	Si	10.94	Si
SLU 78	fin.	-87.85	-1243	-0.0000087	0.0001872	0.0035	2		14357.01	4605.42	Si	52.43	Si
SLU 69	ini.	409.22	-1738	-0.0000411	0.0001872	0.0035	2		14344.28	4605.42	Si	11.25	Si
SLU 69	fin.	-115.2	-1326	-0.0000114	0.0001872	0.0035	2		14357.01	4605.42	Si	39.98	Si
SLU 80	ini.	407.25	-1598	-0.0000409	0.0001872	0.0035	2		14344.28	4605.42	Si	11.31	Si
SLU 80	fin.	-94.94	-1179	-0.0000094	0.0001872	0.0035	2		14357.01	4605.42	Si	48.51	Si
SLU 72	ini.	402.43	-1696	-0.0000404	0.0001872	0.0035	2		14344.28	4605.42	Si	11.44	Si
SLU 72	fin.	-140.54	-1293	-0.000014	0.0001872	0.0035	2		14357.01	4605.42	Si	32.77	Si
SLU 67	ini.	399.55	-1681	-0.0000401	0.0001872	0.0035	2		14344.28	4605.42	Si	11.53	Si
SLU 67	fin.	-152.34	-1280	-0.0000151	0.0001872	0.0035	2		14357.01	4605.42	Si	30.23	Si
SLU 74	ini.	397.6	-1549	-0.0000399	0.0001872	0.0035	2		14344.28	4605.42	Si	11.58	Si
SLU 74	fin.	-88.51	-1134	-0.0000088	0.0001872	0.0035	2		14357.01	4605.42	Si	52.03	Si
SLU 77	ini.	414.04	-1639	-0.0000416	0.0001872	0.0035	2		14344.28	4605.42	Si	11.12	Si
SLU 77	fin.	-69.61	-1211	-0.0000069	0.0001872	0.0035	2		14357.01	4605.42	Si	66.16	Si
SLU 75	ini.	404.37	-1582	-0.0000406	0.0001872	0.0035	2		14344.28	4605.42	Si	11.39	Si
SLU 75	fin.	-106.75	-1166	-0.0000106	0.0001872	0.0035	2		14357.01	4605.42	Si	43.14	Si
SLU 79	ini.	400.49	-1564	-0.0000402	0.0001872	0.0035	2		14344.28	4605.42	Si	11.5	Si
SLU 79	fin.	-76.71	-1148	-0.0000076	0.0001872	0.0035	2		14357.01	4605.42	Si	60.04	Si
SLU 70	ini.	415.98	-1771	-0.0000418	0.0001872	0.0035	2		14344.28	4605.42	Si	11.07	Si
SLU 70	fin.	-133.44	-1357	-0.0000133	0.0001872	0.0035	2		14357.01	4605.42	Si	34.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 69	ini.	409.22	-1847	2	0	3889	3965	8384	5100	5833	Si	3.16	Si
SLU 69	fin.	-115.2	-1287	2	0	3889	3965	8384	5100	5833	Si	4.53	Si
SLU 68	ini.	390.51	-1847	2	0	3889	3965	8384	5100	5833	Si	3.16	Si
SLU 68	fin.	-171.59	-1400	2	0	3889	3965	8384	5100	5833	Si	4.17	Si
SLU 71	ini.	395.67	-1799	2	0	3889	3965	8384	5100	5833	Si	3.24	Si
SLU 71	fin.	-122.3	-1281	2	0	3889	3965	8384	5100	5833	Si	4.55	Si
SLU 67	ini.	399.55	-1860	2	0	3889	3965	8384	5100	5833	Si	3.14	Si
SLU 67	fin.	-152.34	-1368	2	0	3889	3965	8384	5100	5833	Si	4.27	Si
SLU 70	ini.	415.98	-1901	2	0	3889	3965	8384	5100	5833	Si	3.07	Si
SLU 70	fin.	-133.44	-1342	2	0	3889	3965	8384	5100	5833	Si	4.35	Si
SLU 78	ini.	420.8	-1842	2	0	3889	3965	8384	5100	5833	Si	3.17	Si
SLU 78	fin.	-87.85	-1310	2	0	3889	3965	8384	5100	5833	Si	4.45	Si
SLU 66	ini.	392.78	-1806	2	0	3889	3965	8384	5100	5833	Si	3.23	Si
SLU 66	fin.	-134.1	-1312	2	0	3889	3965	8384	5100	5833	Si	4.45	Si
SLU 72	ini.	402.43	-1853	2	0	3889	3965	8384	5100	5833	Si	3.15	Si
SLU 72	fin.	-140.54	-1337	2	0	3889	3965	8384	5100	5833	Si	4.36	Si
SLU 65	ini.	374.07	-1806	2	0	3889	3965	8384	5100	5833	Si	3.23	Si
SLU 65	fin.	-190.49	-1425	2	0	3889	3965	8384	5100	5833	Si	4.09	Si
SLU 75	ini.	404.37	-1800	2	0	3889	3965	8384	5100	5833	Si	3.24	Si
SLU 75	fin.	-106.75	-1336	2	0	3889	3965	8384	5100	5833	Si	4.37	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	525.63	-2608	-0.0000528	0.0002807	0.0035	2		14202.07	14202.07		27.02	Si
SLD 2	fin.	-887.28	-2203	-0.00009	0.0002807	0.0035	2		14215.41	14215.41		16.02	Si
SLV 4	ini.	619.86	-2526	-0.0000624	0.0002807	0.0035	2		14202.07	14202.07		22.91	Si
SLV 4	fin.	-843.96	-2030	-0.0000855	0.0002807	0.0035	2		14215.41	14215.41		16.84	Si
SLV 12	ini.	156.27	918	-0.0000155	0.0002807	0.0035	2		14202.07	14202.07		90.88	Si
SLV 12	fin.	900.96	1219	-0.0000915	0.0002807	0.0035	2		14202.07	14202.07		15.76	Si
SLV 5	ini.	386.79	-3058	-0.0000387	0.0002807	0.0035	2		14202.07	14202.07		36.72	Si
SLV 5	fin.	-1120.14	-2792	-0.0001145	0.0002807	0.0035	2		14215.41	14215.41		12.69	Si
SLV 11	ini.	34.42	1227	-0.0000034	0.0002807	0.0035	2		14202.07	14202.07		412.56	Si
SLV 11	fin.	1054.41	1461	-0.0001076	0.0002807	0.0035	2		14202.07	14202.07		13.47	Si
SLV 15	ini.	-131.2	1362	-0.000013	0.0002807	0.0035	2		14215.41	14215.41		108.35	Si
SLV 15	fin.	1120.82	1452	-0.0001147	0.0002807	0.0035	2		14202.07	14202.07		12.67	Si
SLV 6	ini.	508.64	-3367	-0.0000511	0.0002807	0.0035	2		14202.07	14202.07		27.92	Si
SLV 6	fin.	-1273.59	-3034	-0.0001308	0.0002807	0.0035	2		14215.41	14215.41		11.16	Si
SLV 2	ini.	674.26	-3502	-0.000068	0.0002807	0.0035	2		14202.07	14202.07		21.06	Si
SLV 2	fin.	-1340	-3025	-0.0001379	0.0002807	0.0035	2		14215.41	14215.41		10.61	Si
SLV 1	ini.	493.28	-3043	-0.0000495	0.0002807	0.0035	2		14202.07	14202.07		28.79	Si
SLV 1	fin.	-1112.09	-2665	-0.0001136	0.0002807	0.0035	2		14215.41	14215.41		12.78	Si
SLV 16	ini.	49.79	903	-0.0000049	0.0002807	0.0035	2		14202.07	14202.07		285.27	Si
SLV 16	fin.	892.91	1092	-0.0000907	0.0002807	0.0035	2		14202.07	14202.07		15.91	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	619.86	-3774	2	0	5833	3965	12577	5100	9798		2.6	Si
SLV 4	fin.	-843.96	-4085	2	0	5833	3965	12577	5100	9798		2.4	Si
SLV 3	ini.	438.88	-2776	2	0	5833	3965	12577	5100	9798		3.53	Si
SLV 3	fin.	-616.04	-3013	2	0	5833	3965	12577	5100	9798		3.25	Si
SLD 4	ini.	491.62	-2871	2	0	5833	3965	12577	5100	9798		3.41	Si
SLD 4	fin.	-583.35	-2966	2	0	5833	3965	12577	5100	9798		3.3	Si
SLV 15	ini.	-131.2	2235	2	0	5833	3965	12577	5100	9798		4.38	Si
SLV 15	fin.	1120.82	3127	2	0	5833	3965	12577	5100	9798		3.13	Si
SLD 6	ini.	420.15	-2969	2	0	5833	3965	12577	5100	9798		3.3	Si
SLD 6	fin.	-830.06	-2840	2	0	5833	3965	12577	5100	9798		3.45	Si
SLV 2	ini.	674.26	-4764	2	0	5833	3965	12577	5100	9798		2.06	Si
SLV 2	fin.	-1340	-5101	2	0	5833	3965	12577	5100	9798		1.92	Si
SLV 1	ini.	493.28	-3766	2	0	5833	3965	12577	5100	9798		2.6	Si
SLV 1	fin.	-1112.09	-4029	2	0	5833	3965	12577	5100	9798		2.43	Si
SLD 2	ini.	525.63	-3481	2	0	5833	3965	12577	5100	9798		2.82	Si
SLD 2	fin.	-887.28	-3591	2	0	5833	3965	12577	5100	9798		2.73	Si
SLV 6	ini.	508.64	-4002	2	0	5833	3965	12577	5100	9798		2.45	Si
SLV 6	fin.	-1273.59	-3963	2	0	5833	3965	12577	5100	9798		2.47	Si
SLV 5	ini.	386.79	-3330	2	0	5833	3965	12577	5100	9798		2.94	Si
SLV 5	fin.	-1120.14	-3241	2	0	5833	3965	12577	5100	9798		3.02	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.608	SLV 2	Si
V_SLV	1.921	SLV 2	Si
PF_SLU	10.944	SLU 78	Si
V_SLU	3.069	SLU 70	Si

Trave di accoppiamento 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-5.508	-3.359	14.85	15.15	0.3	-6.008	-3.359	14.85	15.15	0.3	0.5	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 67	ini.	71.2	-80	-0.0003675	0.0001872	0.0035	0.3		331.24	239.7	Si	3.37	Si
SLU 67	fin.	-68.28	-80	-0.0003475	0.0001872	0.0035	0.3		333.12	239.7	Si	3.51	Si
SLU 78	ini.	71.68	-129	-0.0003704	0.0001872	0.0035	0.3		331.24	239.7	Si	3.34	Si
SLU 78	fin.	-72.23	-129	-0.0003713	0.0001872	0.0035	0.3		333.12	239.7	Si	3.32	Si
SLU 68	ini.	72.21	-59	-0.0003736	0.0001872	0.0035	0.3		331.24	239.7	Si	3.32	Si
SLU 68	fin.	-67.93	-59	-0.0003454	0.0001872	0.0035	0.3		333.12	239.7	Si	3.53	Si
SLU 80	ini.	71.21	-114	-0.0003676	0.0001872	0.0035	0.3		331.24	239.7	Si	3.37	Si
SLU 80	fin.	-71.03	-114	-0.0003641	0.0001872	0.0035	0.3		333.12	239.7	Si	3.37	Si
SLU 77	ini.	69.48	-138	-0.000357	0.0001872	0.0035	0.3		331.24	239.7	Si	3.45	Si
SLU 77	fin.	-70.95	-138	-0.0003636	0.0001872	0.0035	0.3		333.12	239.7	Si	3.38	Si
SLU 69	ini.	70.37	-118	-0.0003624	0.0001872	0.0035	0.3		331.24	239.7	Si	3.41	Si
SLU 69	fin.	-69.75	-118	-0.0003564	0.0001872	0.0035	0.3		333.12	239.7	Si	3.44	Si
SLU 76	ini.	71.31	-79	-0.0003682	0.0001872	0.0035	0.3		331.24	239.7	Si	3.36	Si
SLU 76	fin.	-69.13	-79	-0.0003526	0.0001872	0.0035	0.3		333.12	239.7	Si	3.47	Si
SLU 72	ini.	72.11	-94	-0.000373	0.0001872	0.0035	0.3		331.24	239.7	Si	3.32	Si
SLU 72	fin.	-69.84	-94	-0.0003569	0.0001872	0.0035	0.3		333.12	239.7	Si	3.43	Si
SLU 65	ini.	70.83	-30	-0.0003652	0.0001872	0.0035	0.3		331.24	239.7	Si	3.38	Si
SLU 65	fin.	-65.18	-30	-0.0003291	0.0001872	0.0035	0.3		333.12	239.7	Si	3.68	Si
SLU 70	ini.	72.58	-109	-0.0003759	0.0001872	0.0035	0.3		331.24	239.7	Si	3.3	Si
SLU 70	fin.	-71.03	-109	-0.0003641	0.0001872	0.0035	0.3		333.12	239.7	Si	3.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 76	ini.	71.31	-232	0.3	0	583	2379	1258	765	875	Si	3.78	Si
SLU 76	fin.	-69.13	-330	0.3	0	583	2379	1258	765	875	Si	2.65	Si
SLU 75	ini.	70.31	-230	0.3	0	583	2379	1258	765	875	Si	3.8	Si
SLU 75	fin.	-69.47	-329	0.3	0	583	2379	1258	765	875	Si	2.66	Si
SLU 80	ini.	71.21	-235	0.3	0	583	2379	1258	765	875	Si	3.72	Si
SLU 80	fin.	-71.03	-334	0.3	0	583	2379	1258	765	875	Si	2.62	Si
SLU 77	ini.	69.48	-232	0.3	0	583	2379	1258	765	875	Si	3.78	Si
SLU 77	fin.	-70.95	-330	0.3	0	583	2379	1258	765	875	Si	2.65	Si
SLU 72	ini.	72.11	-235	0.3	0	583	2379	1258	765	875	Si	3.73	Si
SLU 72	fin.	-69.84	-333	0.3	0	583	2379	1258	765	875	Si	2.63	Si
SLU 67	ini.	71.2	-230	0.3	0	583	2379	1258	765	875	Si	3.81	Si
SLU 67	fin.	-68.28	-328	0.3	0	583	2379	1258	765	875	Si	2.67	Si
SLU 68	ini.	72.21	-231	0.3	0	583	2379	1258	765	875	Si	3.79	Si
SLU 68	fin.	-67.93	-329	0.3	0	583	2379	1258	765	875	Si	2.66	Si
SLU 69	ini.	70.37	-231	0.3	0	583	2379	1258	765	875	Si	3.79	Si
SLU 69	fin.	-69.75	-329	0.3	0	583	2379	1258	765	875	Si	2.66	Si
SLU 78	ini.	71.68	-239	0.3	0	583	2379	1258	765	875	Si	3.67	Si
SLU 78	fin.	-72.23	-337	0.3	0	583	2379	1258	765	875	Si	2.6	Si
SLU 70	ini.	72.58	-238	0.3	0	583	2379	1258	765	875	Si	3.68	Si
SLU 70	fin.	-71.03	-336	0.3	0	583	2379	1258	765	875	Si	2.6	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 10	ini.	81.2	174	-0.0004071	0.0002807	0.0035	0.3		333.9	333.9		4.11	Si
SLD 10	fin.	-59.28	168	-0.0002829	0.0002807	0.0035	0.3		335.87	335.87		5.67	Si
SLD 2	ini.	99.82	409	-0.00052	0.0002807	0.0035	0.3		333.9	333.9		3.34	Si
SLD 2	fin.	-53.99	404	-0.0002552	0.0002807	0.0035	0.3		335.87	335.87		6.22	Si
SLV 5	ini.	101.39	532	-0.0005299	0.0002807	0.0035	0.3		333.9	333.9		3.29	Si
SLV 5	fin.	-46.47	518	-0.0002169	0.0002807	0.0035	0.3		335.87	335.87		7.23	Si
SLD 6	ini.	97.95	367	-0.0005082	0.0002807	0.0035	0.3		333.9	333.9		3.41	Si
SLD 6	fin.	-57.24	359	-0.0002722	0.0002807	0.0035	0.3		335.87	335.87		5.87	Si
SLD 5	ini.	82.11	313	-0.0004123	0.0002807	0.0035	0.3		333.9	333.9		4.07	Si
SLD 5	fin.	-46.97	306	-0.0002194	0.0002807	0.0035	0.3		335.87	335.87		7.15	Si
SLV 1	ini.	91.07	544	-0.0004659	0.0002807	0.0035	0.3		333.9	333.9		3.67	Si
SLV 1	fin.	-33.53	535	-0.0001534	0.0002807	0.0035	0.3		335.87	335.87		10.02	Si
SLV 2	ini.	128.65	670	-0.0007105	0.0002807	0.0035	0.3		333.9	333.9		2.6	Si
SLV 2	fin.	-57.9	661	-0.0002756	0.0002807	0.0035	0.3		335.87	335.87		5.8	Si
SLV 4	ini.	98.55	395	-0.000512	0.0002807	0.0035	0.3		333.9	333.9		3.39	Si
SLV 4	fin.	-53.1	393	-0.0002507	0.0002807	0.0035	0.3		335.87	335.87		6.32	Si
SLV 6	ini.	126.7	616	-0.0006969	0.0002807	0.0035	0.3		333.9	333.9		2.64	Si
SLV 6	fin.	-62.88	603	-0.0003021	0.0002807	0.0035	0.3		335.87	335.87		5.34	Si
SLV 10	ini.	100.18	313	-0.0005222	0.0002807	0.0035	0.3		333.9	333.9		3.33	Si
SLV 10	fin.	-65.76	302	-0.0003177	0.0002807	0.0035	0.3		335.87	335.87		5.11	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 5	ini.	82.11	-235	0.3	0	875	2379	1887	765	2652		11.3	Si
SLD 5	fin.	-46.97	-302	0.3	0	875	2379	1887	765	2652		8.79	Si
SLV 4	ini.	98.55	-255	0.3	0	875	2379	1887	765	2652		10.41	Si
SLV 4	fin.	-53.1	-347	0.3	0	875	2379	1887	765	2652		7.65	Si
SLD 4	ini.	81.2	-221	0.3	0	875	2379	1887	765	2652		12.02	Si
SLD 4	fin.	-50.99	-305	0.3	0	875	2379	1887	765	2652		8.68	Si
SLV 6	ini.	126.7	-367	0.3	0	875	2379	1887	765	2652		7.22	Si
SLV 6	fin.	-62.88	-427	0.3	0	875	2379	1887	765	2652		6.21	Si
SLV 10	ini.	100.18	-322	0.3	0	875	2379	1887	765	2652		8.25	Si
SLV 10	fin.	-65.76	-375	0.3	0	875	2379	1887	765	2652		7.07	Si
SLD 6	ini.	97.95	-287	0.3	0	875	2379	1887	765	2652		9.24	Si
SLD 6	fin.	-57.24	-354	0.3	0	875	2379	1887	765	2652		7.49	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 10	ini.	81.2	-259	0.3	0	875	2379	1887	765	2652		10.26	Si
SLD 10	fin.	-59.28	-322	0.3	0	875	2379	1887	765	2652		8.24	Si
SLV 5	ini.	101.39	-284	0.3	0	875	2379	1887	765	2652		9.35	Si
SLV 5	fin.	-46.47	-344	0.3	0	875	2379	1887	765	2652		7.71	Si
SLD 2	ini.	99.82	-273	0.3	0	875	2379	1887	765	2652		9.72	Si
SLD 2	fin.	-53.99	-351	0.3	0	875	2379	1887	765	2652		7.55	Si
SLV 2	ini.	128.65	-341	0.3	0	875	2379	1887	765	2652		7.79	Si
SLV 2	fin.	-57.9	-421	0.3	0	875	2379	1887	765	2652		6.29	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.595	SLV 2	Si
V_SLV	6.207	SLV 6	Si
PF_SLU	3.303	SLU 70	Si
V_SLU	2.597	SLU 78	Si

Trave di accoppiamento 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.283	-3.359	12.05	12.95	0.9	-3.183	-3.359	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	ini.	16.87	-473	-0.0000083	0.0001872	0.0035	0.9		2959	1717.92	Si	101.81	Si
SLU 80	fin.	165.03	-738	-0.0000834	0.0001872	0.0035	0.9		2959	1717.92	Si	10.41	Si
SLU 38	ini.	-23.18	-336	-0.0000114	0.0001872	0.0035	0.9		2964.67	1717.92	Si	74.11	Si
SLU 38	fin.	165.8	-692	-0.0000838	0.0001872	0.0035	0.9		2959	1717.92	Si	10.36	Si
SLU 41	ini.	-43.99	-285	-0.0000217	0.0001872	0.0035	0.9		2964.67	1717.92	Si	39.05	Si
SLU 41	fin.	171.68	-694	-0.0000869	0.0001872	0.0035	0.9		2959	1717.92	Si	10.01	Si
SLU 78	ini.	12.76	-479	-0.0000063	0.0001872	0.0035	0.9		2959	1717.92	Si	134.65	Si
SLU 78	fin.	174.23	-772	-0.0000883	0.0001872	0.0035	0.9		2959	1717.92	Si	9.86	Si
SLU 37	ini.	-32.21	-323	-0.0000158	0.0001872	0.0035	0.9		2964.67	1717.92	Si	53.34	Si
SLU 37	fin.	172.95	-711	-0.0000876	0.0001872	0.0035	0.9		2959	1717.92	Si	9.93	Si
SLU 35	ini.	-36.32	-329	-0.0000179	0.0001872	0.0035	0.9		2964.67	1717.92	Si	47.3	Si
SLU 35	fin.	182.15	-745	-0.0000924	0.0001872	0.0035	0.9		2959	1717.92	Si	9.43	Si
SLU 79	ini.	7.85	-460	-0.0000038	0.0001872	0.0035	0.9		2959	1717.92	Si	218.89	Si
SLU 79	fin.	172.17	-757	-0.0000872	0.0001872	0.0035	0.9		2959	1717.92	Si	9.98	Si
SLU 77	ini.	3.73	-466	-0.0000018	0.0001872	0.0035	0.9		2959	1717.92	Si	460.16	Si
SLU 77	fin.	181.37	-791	-0.000092	0.0001872	0.0035	0.9		2959	1717.92	Si	9.47	Si
SLU 36	ini.	-27.3	-342	-0.0000134	0.0001872	0.0035	0.9		2964.67	1717.92	Si	62.94	Si
SLU 36	fin.	175	-726	-0.0000887	0.0001872	0.0035	0.9		2959	1717.92	Si	9.82	Si
SLU 83	ini.	-3.94	-423	-0.0000019	0.0001872	0.0035	0.9		2964.67	1717.92	Si	436.25	Si
SLU 83	fin.	170.91	-739	-0.0000865	0.0001872	0.0035	0.9		2959	1717.92	Si	10.05	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 35	ini.	-36.32	286	0.9	0	1750	7137	3773	2295	2625	Si	9.17	Si
SLU 35	fin.	182.15	808	0.9	0	1750	7137	3773	2295	2625	Si	3.25	Si
SLU 32	ini.	-25.81	263	0.9	0	1750	7137	3773	2295	2625	Si	9.98	Si
SLU 32	fin.	164.73	701	0.9	0	1750	7137	3773	2295	2625	Si	3.74	Si
SLU 36	ini.	-27.3	254	0.9	0	1750	7137	3773	2295	2625	Si	10.35	Si
SLU 36	fin.	175	773	0.9	0	1750	7137	3773	2295	2625	Si	3.4	Si
SLU 38	ini.	-23.18	251	0.9	0	1750	7137	3773	2295	2625	Si	10.48	Si
SLU 38	fin.	165.8	711	0.9	0	1750	7137	3773	2295	2625	Si	3.69	Si
SLU 77	ini.	3.73	159	0.9	0	1750	7137	3773	2295	2625	Si	16.56	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	181.37	808	0.9	0	1750	7137	3773	2295	2625	Si	3.25	Si
SLU 37	ini.	-32.21	283	0.9	0	1750	7137	3773	2295	2625	Si	9.26	Si
SLU 37	fin.	172.95	746	0.9	0	1750	7137	3773	2295	2625	Si	3.52	Si
SLU 74	ini.	14.24	135	0.9	0	1750	7137	3773	2295	2625	Si	19.41	Si
SLU 74	fin.	163.96	702	0.9	0	1750	7137	3773	2295	2625	Si	3.74	Si
SLU 78	ini.	12.76	126	0.9	0	1750	7137	3773	2295	2625	Si	20.87	Si
SLU 78	fin.	174.23	774	0.9	0	1750	7137	3773	2295	2625	Si	3.39	Si
SLU 79	ini.	7.85	156	0.9	0	1750	7137	3773	2295	2625	Si	16.88	Si
SLU 79	fin.	172.17	746	0.9	0	1750	7137	3773	2295	2625	Si	3.52	Si
SLU 80	ini.	16.87	123	0.9	0	1750	7137	3773	2295	2625	Si	21.38	Si
SLU 80	fin.	165.03	712	0.9	0	1750	7137	3773	2295	2625	Si	3.69	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 2	ini.	522.66	-1205	-0.0002787	0.0002807	0.0035	0.9		2989.59	2989.59		5.72	Si
SLD 2	fin.	-221.12	347	-0.0001115	0.0002807	0.0035	0.9		2995.37	2995.37		13.55	Si
SLV 11	ini.	-770.85	1013	-0.0004332	0.0002807	0.0035	0.9		2995.37	2995.37		3.89	Si
SLV 11	fin.	637.94	-1837	-0.0003486	0.0002807	0.0035	0.9		2989.59	2989.59		4.69	Si
SLV 15	ini.	-683.92	896	-0.0003769	0.0002807	0.0035	0.9		2995.37	2995.37		4.38	Si
SLV 15	fin.	551.59	-1603	-0.0002959	0.0002807	0.0035	0.9		2989.59	2989.59		5.42	Si
SLV 12	ini.	-638.74	795	-0.0003484	0.0002807	0.0035	0.9		2995.37	2995.37		4.69	Si
SLV 12	fin.	545.27	-1593	-0.0002921	0.0002807	0.0035	0.9		2989.59	2989.59		5.48	Si
SLV 6	ini.	884.57	-1800	-0.0005114	0.0002807	0.0035	0.9		2989.59	2989.59		3.38	Si
SLV 6	fin.	-484.2	1027	-0.0002557	0.0002807	0.0035	0.9		2995.37	2995.37		6.19	Si
SLV 2	ini.	797.64	-1683	-0.000452	0.0002807	0.0035	0.9		2989.59	2989.59		3.75	Si
SLV 2	fin.	-397.85	793	-0.0002068	0.0002807	0.0035	0.9		2995.37	2995.37		7.53	Si
SLV 10	ini.	611.49	-1313	-0.0003323	0.0002807	0.0035	0.9		2989.59	2989.59		4.89	Si
SLV 10	fin.	-318.39	615	-0.0001632	0.0002807	0.0035	0.9		2995.37	2995.37		9.41	Si
SLV 5	ini.	752.47	-1583	-0.000422	0.0002807	0.0035	0.9		2989.59	2989.59		3.97	Si
SLV 5	fin.	-391.53	783	-0.0002032	0.0002807	0.0035	0.9		2995.37	2995.37		7.65	Si
SLD 6	ini.	568.36	-1262	-0.000306	0.0002807	0.0035	0.9		2989.59	2989.59		5.26	Si
SLD 6	fin.	-269.89	480	-0.0001372	0.0002807	0.0035	0.9		2995.37	2995.37		11.1	Si
SLV 1	ini.	601.43	-1360	-0.0003261	0.0002807	0.0035	0.9		2989.59	2989.59		4.97	Si
SLV 1	fin.	-260.21	431	-0.0001321	0.0002807	0.0035	0.9		2995.37	2995.37		11.51	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 16	ini.	-487.71	1843	0.9	0	2625	7137	5660	2295	7955		4.32	Si
SLV 16	fin.	413.95	2096	0.9	0	2625	7137	5660	2295	7955		3.8	Si
SLV 5	ini.	752.47	-2657	0.9	0	2625	7137	5660	2295	7955		2.99	Si
SLV 5	fin.	-391.53	-1961	0.9	0	2625	7137	5660	2295	7955		4.06	Si
SLV 10	ini.	611.49	-2191	0.9	0	2625	7137	5660	2295	7955		3.63	Si
SLV 10	fin.	-318.39	-1516	0.9	0	2625	7137	5660	2295	7955		5.25	Si
SLV 6	ini.	884.57	-3132	0.9	0	2625	7137	5660	2295	7955		2.54	Si
SLV 6	fin.	-484.2	-2425	0.9	0	2625	7137	5660	2295	7955		3.28	Si
SLV 7	ini.	-497.76	2036	0.9	0	2625	7137	5660	2295	7955		3.91	Si
SLV 7	fin.	472.12	2138	0.9	0	2625	7137	5660	2295	7955		3.72	Si
SLV 12	ini.	-638.74	2502	0.9	0	2625	7137	5660	2295	7955		3.18	Si
SLV 12	fin.	545.27	2583	0.9	0	2625	7137	5660	2295	7955		3.08	Si
SLV 2	ini.	797.64	-2702	0.9	0	2625	7137	5660	2295	7955		2.94	Si
SLV 2	fin.	-397.85	-2164	0.9	0	2625	7137	5660	2295	7955		3.68	Si
SLV 11	ini.	-770.85	2977	0.9	0	2625	7137	5660	2295	7955		2.67	Si
SLV 11	fin.	637.94	3047	0.9	0	2625	7137	5660	2295	7955		2.61	Si
SLV 15	ini.	-683.92	2548	0.9	0	2625	7137	5660	2295	7955		3.12	Si
SLV 15	fin.	551.59	2785	0.9	0	2625	7137	5660	2295	7955		2.86	Si
SLD 11	ini.	-454.64	1809	0.9	0	2625	7137	5660	2295	7955		4.4	Si
SLD 11	fin.	423.63	2002	0.9	0	2625	7137	5660	2295	7955		3.97	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.38	SLV 6	Si
V_SLV	2.54	SLV 6	Si
PF_SLU	9.432	SLU 35	Si
V_SLU	3.248	SLU 77	Si

Trave di accoppiamento 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.283	-3.359	14.75	15.15	0.4	-3.183	-3.359	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{fd}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 49	ini.	-28.95	19	-0.0000735	0.0001872	0.0035	0.4		588.62	426.13	Si	14.72	Si
SLU 49	fin.	-82.03	-429	-0.0002224	0.0001872	0.0035	0.4		588.62	426.13	Si	5.19	Si
SLU 35	ini.	-93.19	-235	-0.0002569	0.0001872	0.0035	0.4		588.62	426.13	Si	4.57	Si
SLU 35	fin.	-43.72	-114	-0.0001128	0.0001872	0.0035	0.4		588.62	426.13	Si	9.75	Si
SLU 32	ini.	-83.41	-212	-0.0002267	0.0001872	0.0035	0.4		588.62	426.13	Si	5.11	Si
SLU 32	fin.	-40.09	-112	-0.000103	0.0001872	0.0035	0.4		588.62	426.13	Si	10.63	Si
SLU 38	ini.	-81.07	-200	-0.0002195	0.0001872	0.0035	0.4		588.62	426.13	Si	5.26	Si
SLU 38	fin.	-42.08	-126	-0.0001084	0.0001872	0.0035	0.4		588.62	426.13	Si	10.13	Si
SLU 78	ini.	-82.3	-176	-0.0002233	0.0001872	0.0035	0.4		588.62	426.13	Si	5.18	Si
SLU 78	fin.	-62.92	-243	-0.0001662	0.0001872	0.0035	0.4		588.62	426.13	Si	6.77	Si
SLU 37	ini.	-85.42	-218	-0.0002328	0.0001872	0.0035	0.4		588.62	426.13	Si	4.99	Si
SLU 37	fin.	-38.92	-101	-0.0000999	0.0001872	0.0035	0.4		588.62	426.13	Si	10.95	Si
SLU 42	ini.	-81.29	-218	-0.0002202	0.0001872	0.0035	0.4		588.62	426.13	Si	5.24	Si
SLU 42	fin.	-31.28	-70	-0.0000796	0.0001872	0.0035	0.4		588.62	426.13	Si	13.62	Si
SLU 77	ini.	-86.65	-194	-0.0002366	0.0001872	0.0035	0.4		588.62	426.13	Si	4.92	Si
SLU 77	fin.	-59.77	-219	-0.0001573	0.0001872	0.0035	0.4		588.62	426.13	Si	7.13	Si
SLU 41	ini.	-85.63	-235	-0.0002334	0.0001872	0.0035	0.4		588.62	426.13	Si	4.98	Si
SLU 41	fin.	-28.12	-45	-0.0000713	0.0001872	0.0035	0.4		588.62	426.13	Si	15.15	Si
SLU 36	ini.	-88.84	-217	-0.0002433	0.0001872	0.0035	0.4		588.62	426.13	Si	4.8	Si
SLU 36	fin.	-46.88	-138	-0.0001214	0.0001872	0.0035	0.4		588.62	426.13	Si	9.09	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-58.98	484	0.4	0	631	3172	1677	1020	947	Si	1.96	Si
SLU 70	fin.	-79.65	-856	0.4	0	631	3172	1677	1020	947	Si	1.11	Si
SLU 72	ini.	-51.21	433	0.4	0	631	3172	1677	1020	947	Si	2.18	Si
SLU 72	fin.	-74.85	-794	0.4	0	631	3172	1677	1020	947	Si	1.19	Si
SLU 48	ini.	-33.3	350	0.4	0	631	3172	1677	1020	947	Si	2.7	Si
SLU 48	fin.	-78.87	-795	0.4	0	631	3172	1677	1020	947	Si	1.19	Si
SLU 78	ini.	-82.3	579	0.4	0	631	3172	1677	1020	947	Si	1.63	Si
SLU 78	fin.	-62.92	-754	0.4	0	631	3172	1677	1020	947	Si	1.26	Si
SLU 69	ini.	-63.33	502	0.4	0	631	3172	1677	1020	947	Si	1.89	Si
SLU 69	fin.	-76.49	-837	0.4	0	631	3172	1677	1020	947	Si	1.13	Si
SLU 66	ini.	-53.56	448	0.4	0	631	3172	1677	1020	947	Si	2.11	Si
SLU 66	fin.	-72.85	-783	0.4	0	631	3172	1677	1020	947	Si	1.21	Si
SLU 46	ini.	-19.18	279	0.4	0	631	3172	1677	1020	947	Si	3.4	Si
SLU 46	fin.	-78.39	-760	0.4	0	631	3172	1677	1020	947	Si	1.25	Si
SLU 49	ini.	-28.95	332	0.4	0	631	3172	1677	1020	947	Si	2.85	Si
SLU 49	fin.	-82.03	-814	0.4	0	631	3172	1677	1020	947	Si	1.16	Si
SLU 67	ini.	-49.21	430	0.4	0	631	3172	1677	1020	947	Si	2.2	Si
SLU 67	fin.	-76.01	-802	0.4	0	631	3172	1677	1020	947	Si	1.18	Si
SLU 71	ini.	-55.56	451	0.4	0	631	3172	1677	1020	947	Si	2.1	Si
SLU 71	fin.	-71.69	-775	0.4	0	631	3172	1677	1020	947	Si	1.22	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 6	ini.	292.15	1228	-0.0009765	0.0002807	0.0035	0.4		592.15	592.15		2.03	Si
SLV 6	fin.	-288.06	-2125	-0.0009533	0.0002807	0.0035	0.4		594.74	594.74		2.06	Si
SLV 8	ini.	-218.83	-799	-0.0006704	0.0002807	0.0035	0.4		594.74	594.74		2.72	Si
SLV 8	fin.	95.39	860	-0.0002556	0.0002807	0.0035	0.4		592.15	592.15		6.21	Si
SLV 11	ini.	-347.67	-1292	-0.0012313	0.0002807	0.0035	0.4		594.74	594.74		1.71	Si
SLV 11	fin.	197.47	1664	-0.0005935	0.0002807	0.0035	0.4		592.15	592.15		3	Si
SLV 15	ini.	-270.15	-964	-0.0008764	0.0002807	0.0035	0.4		594.74	594.74		2.2	Si
SLV 15	fin.	145.37	1267	-0.0004113	0.0002807	0.0035	0.4		592.15	592.15		4.07	Si
SLV 10	ini.	216.33	944	-0.0006643	0.0002807	0.0035	0.4		592.15	592.15		2.74	Si
SLV 10	fin.	-226.02	-1636	-0.0006981	0.0002807	0.0035	0.4		594.74	594.74		2.63	Si
SLV 7	ini.	-271.85	-1008	-0.0008836	0.0002807	0.0035	0.4		594.74	594.74		2.19	Si
SLV 7	fin.	135.43	1175	-0.0003788	0.0002807	0.0035	0.4		592.15	592.15		4.37	Si
SLV 5	ini.	239.13	1019	-0.0007534	0.0002807	0.0035	0.4		592.15	592.15		2.48	Si
SLV 5	fin.	-248.02	-1810	-0.0007851	0.0002807	0.0035	0.4		594.74	594.74		2.4	Si
SLV 2	ini.	214.63	900	-0.0006578	0.0002807	0.0035	0.4		592.15	592.15		2.76	Si
SLV 2	fin.	-235.95	-1728	-0.0007369	0.0002807	0.0035	0.4		594.74	594.74		2.52	Si
SLD 11	ini.	-225.18	-809	-0.0006948	0.0002807	0.0035	0.4		594.74	594.74		2.64	Si
SLD 11	fin.	104.55	939	-0.0002827	0.0002807	0.0035	0.4		592.15	592.15		5.66	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	-294.65	-1082	-0.0009823	0.0002807	0.0035	0.4		594.74	594.74		2.02	Si
SLV 12	fin.	157.43	1349	-0.0004517	0.0002807	0.0035	0.4		592.15	592.15		3.76	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	214.63	-753	0.4	0	919	3172	2515	1020	3535		4.7	Si
SLV 2	fin.	-235.95	-1588	0.4	0	919	3172	2515	1020	3535		2.23	Si
SLV 9	ini.	163.31	-527	0.4	0	919	3172	2515	1020	3535		6.7	Si
SLV 9	fin.	-185.98	-1321	0.4	0	919	3172	2515	1020	3535		2.68	Si
SLV 11	ini.	-347.67	1583	0.4	0	919	3172	2515	1020	3535		2.23	Si
SLV 11	fin.	197.47	966	0.4	0	919	3172	2515	1020	3535		3.66	Si
SLV 15	ini.	-270.15	1269	0.4	0	919	3172	2515	1020	3535		2.79	Si
SLV 15	fin.	145.37	638	0.4	0	919	3172	2515	1020	3535		5.54	Si
SLD 6	ini.	169.66	-559	0.4	0	919	3172	2515	1020	3535		6.32	Si
SLD 6	fin.	-195.14	-1364	0.4	0	919	3172	2515	1020	3535		2.59	Si
SLV 5	ini.	239.13	-846	0.4	0	919	3172	2515	1020	3535		4.18	Si
SLV 5	fin.	-248.02	-1676	0.4	0	919	3172	2515	1020	3535		2.11	Si
SLV 10	ini.	216.33	-748	0.4	0	919	3172	2515	1020	3535		4.73	Si
SLV 10	fin.	-226.02	-1561	0.4	0	919	3172	2515	1020	3535		2.27	Si
SLV 12	ini.	-294.65	1362	0.4	0	919	3172	2515	1020	3535		2.6	Si
SLV 12	fin.	157.43	727	0.4	0	919	3172	2515	1020	3535		4.86	Si
SLV 7	ini.	-271.85	1264	0.4	0	919	3172	2515	1020	3535		2.8	Si
SLV 7	fin.	135.43	611	0.4	0	919	3172	2515	1020	3535		5.79	Si
SLV 6	ini.	292.15	-1066	0.4	0	919	3172	2515	1020	3535		3.32	Si
SLV 6	fin.	-288.06	-1916	0.4	0	919	3172	2515	1020	3535		1.85	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.711	SLV 11	Si
V_SLV	1.845	SLV 6	Si
PF_SLU	4.573	SLU 35	Si
V_SLU	1.106	SLU 70	Si

Trave di accoppiamento 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.063	5.951	12.05	12.95	0.9	-2.963	5.951	12.05	12.95	0.9	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 36	ini.	-42.68	-195	-0.000021	0.0001872	0.0035	0.9		2964.67	1717.92	Si	40.25	Si
SLU 36	fin.	155.58	-897	-0.0000785	0.0001872	0.0035	0.9		2959	1717.92	Si	11.04	Si
SLU 78	ini.	-21.3	-306	-0.0000104	0.0001872	0.0035	0.9		2964.67	1717.92	Si	80.64	Si
SLU 78	fin.	154.62	-948	-0.000078	0.0001872	0.0035	0.9		2959	1717.92	Si	11.11	Si
SLU 38	ini.	-37.75	-208	-0.0000186	0.0001872	0.0035	0.9		2964.67	1717.92	Si	45.51	Si
SLU 38	fin.	154.97	-888	-0.0000782	0.0001872	0.0035	0.9		2959	1717.92	Si	11.09	Si
SLU 42	ini.	-49.06	-143	-0.0000242	0.0001872	0.0035	0.9		2964.67	1717.92	Si	35.01	Si
SLU 42	fin.	153	-826	-0.0000771	0.0001872	0.0035	0.9		2959	1717.92	Si	11.23	Si
SLU 77	ini.	-16.17	-320	-0.0000079	0.0001872	0.0035	0.9		2964.67	1717.92	Si	106.24	Si
SLU 77	fin.	150.28	-932	-0.0000757	0.0001872	0.0035	0.9		2959	1717.92	Si	11.43	Si
SLU 37	ini.	-32.61	-221	-0.000016	0.0001872	0.0035	0.9		2964.67	1717.92	Si	52.68	Si
SLU 37	fin.	150.63	-872	-0.0000759	0.0001872	0.0035	0.9		2959	1717.92	Si	11.41	Si
SLU 79	ini.	-11.23	-332	-0.0000055	0.0001872	0.0035	0.9		2964.67	1717.92	Si	152.95	Si
SLU 79	fin.	149.67	-923	-0.0000754	0.0001872	0.0035	0.9		2959	1717.92	Si	11.48	Si
SLU 80	ini.	-16.36	-319	-0.000008	0.0001872	0.0035	0.9		2964.67	1717.92	Si	104.98	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 80	fin.	154.01	-940	-0.0000777	0.0001872	0.0035	0.9		2959	1717.92	Si	11.15	Si
SLU 35	ini.	-37.55	-209	-0.0000185	0.0001872	0.0035	0.9		2964.67	1717.92	Si	45.75	Si
SLU 35	fin.	151.24	-880	-0.0000762	0.0001872	0.0035	0.9		2959	1717.92	Si	11.36	Si
SLU 84	ini.	-27.68	-254	-0.0000136	0.0001872	0.0035	0.9		2964.67	1717.92	Si	62.06	Si
SLU 84	fin.	152.04	-878	-0.0000766	0.0001872	0.0035	0.9		2959	1717.92	Si	11.3	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 72	ini.	15.92	-98	0.9	0	1750	7137	3773	2295	2625	Si	26.8	Si
SLU 72	fin.	119	1211	0.9	0	1750	7137	3773	2295	2625	Si	2.17	Si
SLU 69	ini.	16.11	-133	0.9	0	1750	7137	3773	2295	2625	Si	19.68	Si
SLU 69	fin.	115.26	1243	0.9	0	1750	7137	3773	2295	2625	Si	2.11	Si
SLU 78	ini.	-21.3	147	0.9	0	1750	7137	3773	2295	2625	Si	17.87	Si
SLU 78	fin.	154.62	1338	0.9	0	1750	7137	3773	2295	2625	Si	1.96	Si
SLU 70	ini.	10.98	-107	0.9	0	1750	7137	3773	2295	2625	Si	24.44	Si
SLU 70	fin.	119.6	1265	0.9	0	1750	7137	3773	2295	2625	Si	2.08	Si
SLU 77	ini.	-16.17	121	0.9	0	1750	7137	3773	2295	2625	Si	21.71	Si
SLU 77	fin.	150.28	1317	0.9	0	1750	7137	3773	2295	2625	Si	1.99	Si
SLU 35	ini.	-37.55	233	0.9	0	1750	7137	3773	2295	2625	Si	11.26	Si
SLU 35	fin.	151.24	1232	0.9	0	1750	7137	3773	2295	2625	Si	2.13	Si
SLU 38	ini.	-37.75	269	0.9	0	1750	7137	3773	2295	2625	Si	9.77	Si
SLU 38	fin.	154.97	1200	0.9	0	1750	7137	3773	2295	2625	Si	2.19	Si
SLU 36	ini.	-42.68	259	0.9	0	1750	7137	3773	2295	2625	Si	10.13	Si
SLU 36	fin.	155.58	1254	0.9	0	1750	7137	3773	2295	2625	Si	2.09	Si
SLU 80	ini.	-16.36	156	0.9	0	1750	7137	3773	2295	2625	Si	16.79	Si
SLU 80	fin.	154.01	1285	0.9	0	1750	7137	3773	2295	2625	Si	2.04	Si
SLU 79	ini.	-11.23	130	0.9	0	1750	7137	3773	2295	2625	Si	20.14	Si
SLU 79	fin.	149.67	1263	0.9	0	1750	7137	3773	2295	2625	Si	2.08	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 11	ini.	338.3	-1187	-0.0001743	0.0002807	0.0035	0.9		2989.59	2989.59		8.84	Si
SLV 11	fin.	-165.48	316	-0.0000828	0.0002807	0.0035	0.9		2995.37	2995.37		18.1	Si
SLV 3	ini.	335.46	-1118	-0.0001728	0.0002807	0.0035	0.9		2989.59	2989.59		8.91	Si
SLV 3	fin.	-242.08	870	-0.0001225	0.0002807	0.0035	0.9		2995.37	2995.37		12.37	Si
SLD 7	ini.	275.25	-991	-0.0001403	0.0002807	0.0035	0.9		2989.59	2989.59		10.86	Si
SLD 7	fin.	-142.87	330	-0.0000712	0.0002807	0.0035	0.9		2995.37	2995.37		20.97	Si
SLV 6	ini.	-302.95	655	-0.0001549	0.0002807	0.0035	0.9		2995.37	2995.37		9.89	Si
SLV 6	fin.	292.24	-1209	-0.0001494	0.0002807	0.0035	0.9		2989.59	2989.59		10.23	Si
SLV 14	ini.	-300.11	586	-0.0001533	0.0002807	0.0035	0.9		2995.37	2995.37		9.98	Si
SLV 14	fin.	368.84	-1763	-0.0001911	0.0002807	0.0035	0.9		2989.59	2989.59		8.11	Si
SLV 10	ini.	-400.36	914	-0.0002082	0.0002807	0.0035	0.9		2995.37	2995.37		7.48	Si
SLV 10	fin.	396.65	-1698	-0.0002065	0.0002807	0.0035	0.9		2989.59	2989.59		7.54	Si
SLV 7	ini.	435.7	-1446	-0.0002285	0.0002807	0.0035	0.9		2989.59	2989.59		6.86	Si
SLV 7	fin.	-269.89	805	-0.0001372	0.0002807	0.0035	0.9		2995.37	2995.37		11.1	Si
SLV 9	ini.	-325.03	736	-0.0001668	0.0002807	0.0035	0.9		2995.37	2995.37		9.22	Si
SLV 9	fin.	317.14	-1363	-0.0001628	0.0002807	0.0035	0.9		2989.59	2989.59		9.43	Si
SLD 10	ini.	-239.91	460	-0.0001214	0.0002807	0.0035	0.9		2995.37	2995.37		12.49	Si
SLD 10	fin.	269.63	-1224	-0.0001373	0.0002807	0.0035	0.9		2989.59	2989.59		11.09	Si
SLV 8	ini.	360.37	-1267	-0.0001864	0.0002807	0.0035	0.9		2989.59	2989.59		8.3	Si
SLV 8	fin.	-190.38	470	-0.0000956	0.0002807	0.0035	0.9		2995.37	2995.37		15.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 7	ini.	435.7	-2235	0.9	0	2625	7137	5660	2295	7955		3.56	Si
SLV 7	fin.	-269.89	-1062	0.9	0	2625	7137	5660	2295	7955		7.49	Si
SLD 14	ini.	-180.9	1072	0.9	0	2625	7137	5660	2295	7955		7.42	Si
SLD 14	fin.	254.9	1593	0.9	0	2625	7137	5660	2295	7955		4.99	Si
SLV 9	ini.	-325.03	1748	0.9	0	2625	7137	5660	2295	7955		4.55	Si
SLV 9	fin.	317.14	1880	0.9	0	2625	7137	5660	2295	7955		4.23	Si
SLV 8	ini.	360.37	-1821	0.9	0	2625	7137	5660	2295	7955		4.37	Si
SLV 8	fin.	-190.38	-660	0.9	0	2625	7137	5660	2295	7955		12.05	Si
SLV 11	ini.	338.3	-1661	0.9	0	2625	7137	5660	2295	7955		4.79	Si
SLV 11	fin.	-165.48	-515	0.9	0	2625	7137	5660	2295	7955		15.46	Si
SLV 14	ini.	-300.11	1739	0.9	0	2625	7137	5660	2295	7955		4.57	Si
SLV 14	fin.	368.84	2180	0.9	0	2625	7137	5660	2295	7955		3.65	Si
SLD 10	ini.	-239.91	1317	0.9	0	2625	7137	5660	2295	7955		6.04	Si
SLD 10	fin.	269.63	1645	0.9	0	2625	7137	5660	2295	7955		4.84	Si
SLV 6	ini.	-302.95	1588	0.9	0	2625	7137	5660	2295	7955		5.01	Si
SLV 6	fin.	292.24	1734	0.9	0	2625	7137	5660	2295	7955		4.59	Si
SLV 10	ini.	-400.36	2162	0.9	0	2625	7137	5660	2295	7955		3.68	Si
SLV 10	fin.	396.65	2282	0.9	0	2625	7137	5660	2295	7955		3.49	Si
SLV 3	ini.	335.46	-1812	0.9	0	2625	7137	5660	2295	7955		4.39	Si
SLV 3	fin.	-242.08	-960	0.9	0	2625	7137	5660	2295	7955		8.28	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.862	SLV 7	Si
V_SLV	3.486	SLV 10	Si
PF_SLU	11.042	SLU 36	Si
V_SLU	1.961	SLU 78	Si



Trave di accoppiamento 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2.063	5.951	14.75	15.15	0.4	-2.963	5.951	14.75	15.15	0.4	0.9	0.28	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-126.88	-327	-0.0003676	0.0001872	0.0035	0.4		588.62	426.13	Si	3.36	Si
SLU 78	fin.	-31.41	161	-0.00008	0.0001872	0.0035	0.4		588.62	426.13	Si	13.57	Si
SLU 38	ini.	-118.26	-343	-0.0003384	0.0001872	0.0035	0.4		588.62	426.13	Si	3.6	Si
SLU 38	fin.	-17.41	172	-0.0000437	0.0001872	0.0035	0.4		588.62	426.13	Si	24.48	Si
SLU 79	ini.	-117.18	-304	-0.0003348	0.0001872	0.0035	0.4		588.62	426.13	Si	3.64	Si
SLU 79	fin.	-32.06	132	-0.0000817	0.0001872	0.0035	0.4		588.62	426.13	Si	13.29	Si
SLU 37	ini.	-115.74	-330	-0.0003299	0.0001872	0.0035	0.4		588.62	426.13	Si	3.68	Si
SLU 37	fin.	-19.85	160	-0.0000499	0.0001872	0.0035	0.4		588.62	426.13	Si	21.46	Si
SLU 84	ini.	-115.9	-330	-0.0003305	0.0001872	0.0035	0.4		588.62	426.13	Si	3.68	Si
SLU 84	fin.	-14.38	188	-0.000036	0.0001872	0.0035	0.4		588.62	426.13	Si	29.63	Si
SLU 35	ini.	-122.91	-340	-0.0003541	0.0001872	0.0035	0.4		588.62	426.13	Si	3.47	Si
SLU 35	fin.	-21.65	177	-0.0000546	0.0001872	0.0035	0.4		588.62	426.13	Si	19.68	Si
SLU 80	ini.	-119.71	-317	-0.0003432	0.0001872	0.0035	0.4		588.62	426.13	Si	3.56	Si
SLU 80	fin.	-29.62	144	-0.0000753	0.0001872	0.0035	0.4		588.62	426.13	Si	14.39	Si
SLU 75	ini.	-114.68	-295	-0.0003264	0.0001872	0.0035	0.4		588.62	426.13	Si	3.72	Si
SLU 75	fin.	-23.94	168	-0.0000605	0.0001872	0.0035	0.4		588.62	426.13	Si	17.8	Si
SLU 36	ini.	-125.44	-353	-0.0003626	0.0001872	0.0035	0.4		588.62	426.13	Si	3.4	Si
SLU 36	fin.	-19.21	189	-0.0000483	0.0001872	0.0035	0.4		588.62	426.13	Si	22.19	Si
SLU 77	ini.	-124.36	-314	-0.000359	0.0001872	0.0035	0.4		588.62	426.13	Si	3.43	Si
SLU 77	fin.	-33.86	149	-0.0000864	0.0001872	0.0035	0.4		588.62	426.13	Si	12.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 70	ini.	-107.3	743	0.4	0	631	3172	1677	1020	947	Si	1.27	Si
SLU 70	fin.	-49.52	-488	0.4	0	631	3172	1677	1020	947	Si	1.94	Si
SLU 77	ini.	-124.36	818	0.4	0	631	3172	1677	1020	947	Si	1.16	Si
SLU 77	fin.	-33.86	-414	0.4	0	631	3172	1677	1020	947	Si	2.28	Si
SLU 36	ini.	-125.44	793	0.4	0	631	3172	1677	1020	947	Si	1.19	Si
SLU 36	fin.	-19.21	-317	0.4	0	631	3172	1677	1020	947	Si	2.99	Si
SLU 35	ini.	-122.91	781	0.4	0	631	3172	1677	1020	947	Si	1.21	Si
SLU 35	fin.	-21.65	-328	0.4	0	631	3172	1677	1020	947	Si	2.89	Si
SLU 74	ini.	-112.16	740	0.4	0	631	3172	1677	1020	947	Si	1.28	Si
SLU 74	fin.	-26.38	-356	0.4	0	631	3172	1677	1020	947	Si	2.66	Si
SLU 79	ini.	-117.18	769	0.4	0	631	3172	1677	1020	947	Si	1.23	Si
SLU 79	fin.	-32.06	-390	0.4	0	631	3172	1677	1020	947	Si	2.43	Si
SLU 75	ini.	-114.68	752	0.4	0	631	3172	1677	1020	947	Si	1.26	Si
SLU 75	fin.	-23.94	-345	0.4	0	631	3172	1677	1020	947	Si	2.75	Si
SLU 38	ini.	-118.26	743	0.4	0	631	3172	1677	1020	947	Si	1.27	Si
SLU 38	fin.	-17.41	-292	0.4	0	631	3172	1677	1020	947	Si	3.24	Si
SLU 80	ini.	-119.71	780	0.4	0	631	3172	1677	1020	947	Si	1.21	Si
SLU 80	fin.	-29.62	-379	0.4	0	631	3172	1677	1020	947	Si	2.5	Si
SLU 78	ini.	-126.88	829	0.4	0	631	3172	1677	1020	947	Si	1.14	Si
SLU 78	fin.	-31.41	-403	0.4	0	631	3172	1677	1020	947	Si	2.35	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 12	ini.	75.43	526	-0.0001983	0.0002807	0.0035	0.4		592.15	592.15		7.85	Si
SLV 12	fin.	-158.91	-672	-0.0004545	0.0002807	0.0035	0.4		594.74	594.74		3.74	Si
SLV 10	ini.	-243.54	-1086	-0.0007671	0.0002807	0.0035	0.4		594.74	594.74		2.44	Si
SLV 10	fin.	162.33	988	-0.0004685	0.0002807	0.0035	0.4		592.15	592.15		3.65	Si
SLV 8	ini.	97.88	671	-0.0002629	0.0002807	0.0035	0.4		592.15	592.15		6.05	Si
SLV 8	fin.	-178.49	-743	-0.0005223	0.0002807	0.0035	0.4		594.74	594.74		3.33	Si
SLD 10	ini.	-171	-711	-0.000496	0.0002807	0.0035	0.4		594.74	594.74		3.48	Si
SLD 10	fin.	90.57	626	-0.0002415	0.0002807	0.0035	0.4		592.15	592.15		6.54	Si
SLV 11	ini.	111.02	724	-0.0003023	0.0002807	0.0035	0.4		592.15	592.15		5.33	Si
SLV 11	fin.	-190.21	-815	-0.0005641	0.0002807	0.0035	0.4		594.74	594.74		3.13	Si
SLV 9	ini.	-207.95	-888	-0.0006293	0.0002807	0.0035	0.4		594.74	594.74		2.86	Si
SLV 9	fin.	131.03	845	-0.0003647	0.0002807	0.0035	0.4		592.15	592.15		4.52	Si
SLV 6	ini.	-221.09	-941	-0.0006791	0.0002807	0.0035	0.4		594.74	594.74		2.69	Si
SLV 6	fin.	142.75	918	-0.0004027	0.0002807	0.0035	0.4		592.15	592.15		4.15	Si
SLV 7	ini.	133.48	869	-0.0003726	0.0002807	0.0035	0.4		592.15	592.15		4.44	Si
SLV 7	fin.	-209.79	-886	-0.0006362	0.0002807	0.0035	0.4		594.74	594.74		2.83	Si
SLV 5	ini.	-185.49	-743	-0.0005472	0.0002807	0.0035	0.4		594.74	594.74		3.21	Si
SLV 5	fin.	111.45	775	-0.0003036	0.0002807	0.0035	0.4		592.15	592.15		5.31	Si
SLV 14	ini.	-166.74	-740	-0.0004813	0.0002807	0.0035	0.4		594.74	594.74		3.57	Si
SLV 14	fin.	80.34	524	-0.0002122	0.0002807	0.0035	0.4		592.15	592.15		7.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 6	ini.	-221.09	1173	0.4	0	919	3172	2515	1020	3535		3.01	Si
SLV 6	fin.	142.75	526	0.4	0	919	3172	2515	1020	3535		6.73	Si
SLV 8	ini.	97.88	-290	0.4	0	919	3172	2515	1020	3535		12.18	Si
SLV 8	fin.	-178.49	-934	0.4	0	919	3172	2515	1020	3535		3.79	Si
SLD 6	ini.	-157.36	873	0.4	0	919	3172	2515	1020	3535		4.05	Si
SLD 6	fin.	78.76	227	0.4	0	919	3172	2515	1020	3535		15.61	Si
SLD 10	ini.	-171	907	0.4	0	919	3172	2515	1020	3535		3.9	Si
SLD 10	fin.	90.57	259	0.4	0	919	3172	2515	1020	3535		13.66	Si
SLV 5	ini.	-185.49	1019	0.4	0	919	3172	2515	1020	3535		3.47	Si
SLV 5	fin.	111.45	374	0.4	0	919	3172	2515	1020	3535		9.45	Si
SLV 9	ini.	-207.95	1075	0.4	0	919	3172	2515	1020	3535		3.29	Si
SLV 9	fin.	131.03	428	0.4	0	919	3172	2515	1020	3535		8.26	Si
SLV 11	ini.	111.02	-389	0.4	0	919	3172	2515	1020	3535		9.1	Si
SLV 11	fin.	-190.21	-1031	0.4	0	919	3172	2515	1020	3535		3.43	Si
SLV 7	ini.	133.48	-445	0.4	0	919	3172	2515	1020	3535		7.95	Si
SLV 7	fin.	-209.79	-1085	0.4	0	919	3172	2515	1020	3535		3.26	Si
SLV 12	ini.	75.43	-234	0.4	0	919	3172	2515	1020	3535		15.09	Si
SLV 12	fin.	-158.91	-880	0.4	0	919	3172	2515	1020	3535		4.02	Si
SLV 10	ini.	-243.54	1229	0.4	0	919	3172	2515	1020	3535		2.88	Si
SLV 10	fin.	162.33	580	0.4	0	919	3172	2515	1020	3535		6.1	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.442	SLV 10	Si
V_SLV	2.877	SLV 10	Si
PF_SLU	3.358	SLU 78	Si
V_SLU	1.142	SLU 78	Si

Trave di accoppiamento 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-13.143	-4.784	2.82	3.33	0.51	-11.743	-4.784	2.82	3.33	0.51	1.4	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-309.85	-312	-0.0005984	0.0001872	0.0035	0.51		963.72	737.15	Si	2.38	Si
SLU 81	fin.	-516.61	-998	-0.0011567	0.0001872	0.0035	0.51		963.72	737.15	Si	1.43	Si
SLU 75	ini.	-304.97	-319	-0.0005868	0.0001872	0.0035	0.51		963.72	737.15	Si	2.42	Si
SLU 75	fin.	-504.72	-981	-0.0011205	0.0001872	0.0035	0.51		963.72	737.15	Si	1.46	Si
SLU 82	ini.	-314.31	-325	-0.000609	0.0001872	0.0035	0.51		963.72	737.15	Si	2.35	Si
SLU 82	fin.	-521.17	-1010	-0.0011708	0.0001872	0.0035	0.51		963.72	737.15	Si	1.41	Si
SLU 80	ini.	-304.34	-314	-0.0005853	0.0001872	0.0035	0.51		963.72	737.15	Si	2.42	Si
SLU 80	fin.	-507.77	-990	-0.0011297	0.0001872	0.0035	0.51		963.72	737.15	Si	1.45	Si
SLU 76	ini.	-305.5	-323	-0.000588	0.0001872	0.0035	0.51		963.72	737.15	Si	2.41	Si
SLU 76	fin.	-505.11	-984	-0.0011217	0.0001872	0.0035	0.51		963.72	737.15	Si	1.46	Si
SLU 83	ini.	-311.66	-312	-0.0006027	0.0001872	0.0035	0.51		963.72	737.15	Si	2.37	Si
SLU 83	fin.	-522.3	-1012	-0.0011743	0.0001872	0.0035	0.51		963.72	737.15	Si	1.41	Si
SLU 78	ini.	-306.79	-319	-0.0005911	0.0001872	0.0035	0.51		963.72	737.15	Si	2.4	Si
SLU 78	fin.	-510.42	-995	-0.0011378	0.0001872	0.0035	0.51		963.72	737.15	Si	1.44	Si
SLU 84	ini.	-316.13	-325	-0.0006134	0.0001872	0.0035	0.51		963.72	737.15	Si	2.33	Si
SLU 84	fin.	-526.86	-1024	-0.0011884	0.0001872	0.0035	0.51		963.72	737.15	Si	1.4	Si
SLU 79	ini.	-299.87	-301	-0.0005747	0.0001872	0.0035	0.51		963.72	737.15	Si	2.46	Si
SLU 79	fin.	-503.21	-977	-0.0011159	0.0001872	0.0035	0.51		963.72	737.15	Si	1.46	Si
SLU 77	ini.	-302.32	-306	-0.0005805	0.0001872	0.0035	0.51		963.72	737.15	Si	2.44	Si
SLU 77	fin.	-505.86	-983	-0.001124	0.0001872	0.0035	0.51		963.72	737.15	Si	1.46	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-306.79	1986	0.51	0	702	4044	2291	1300	1053	Si	0.53	No
SLU 78	fin.	-510.42	-2636	0.51	0	702	4044	2291	1300	1053	Si	0.4	No
SLU 83	ini.	-311.66	2027	0.51	0	702	4044	2291	1300	1053	Si	0.52	No
SLU 83	fin.	-522.3	-2699	0.51	0	702	4044	2291	1300	1053	Si	0.39	No
SLU 77	ini.	-302.32	1965	0.51	0	702	4044	2291	1300	1053	Si	0.54	No
SLU 77	fin.	-505.86	-2614	0.51	0	702	4044	2291	1300	1053	Si	0.4	No
SLU 75	ini.	-304.97	1972	0.51	0	702	4044	2291	1300	1053	Si	0.53	No
SLU 75	fin.	-504.72	-2610	0.51	0	702	4044	2291	1300	1053	Si	0.4	No
SLU 81	ini.	-309.85	2013	0.51	0	702	4044	2291	1300	1053	Si	0.52	No
SLU 81	fin.	-516.61	-2673	0.51	0	702	4044	2291	1300	1053	Si	0.39	No
SLU 80	ini.	-304.34	1973	0.51	0	702	4044	2291	1300	1053	Si	0.53	No
SLU 80	fin.	-507.77	-2623	0.51	0	702	4044	2291	1300	1053	Si	0.4	No
SLU 79	ini.	-299.87	1952	0.51	0	702	4044	2291	1300	1053	Si	0.54	No
SLU 79	fin.	-503.21	-2600	0.51	0	702	4044	2291	1300	1053	Si	0.4	No
SLU 84	ini.	-316.13	2048	0.51	0	702	4044	2291	1300	1053	Si	0.51	No
SLU 84	fin.	-526.86	-2722	0.51	0	702	4044	2291	1300	1053	Si	0.39	No
SLU 82	ini.	-314.31	2034	0.51	0	702	4044	2291	1300	1053	Si	0.52	No
SLU 82	fin.	-521.17	-2695	0.51	0	702	4044	2291	1300	1053	Si	0.39	No
SLU 76	ini.	-305.5	1973	0.51	0	702	4044	2291	1300	1053	Si	0.53	No
SLU 76	fin.	-505.11	-2611	0.51	0	702	4044	2291	1300	1053	Si	0.4	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-1081.73	-3835	-0.0040348	0.0002807	0.0035	0.51		953.84	953.84		0.88	No
SLV 3	fin.	551.87	2305	-0.0011904	0.0002807	0.0035	0.51		950.41	950.41		1.72	Si
SLV 13	ini.	862.24	4182	-0.0025091	0.0002807	0.0035	0.51		950.41	950.41		1.1	Si
SLV 13	fin.	-1391.52	-4162	-0.0058505	0.0002807	0.0035	0.51		953.84	953.84		0.69	No
SLD 2	ini.	-975.94	-3242	-0.0032981	0.0002807	0.0035	0.51		953.84	953.84		0.98	No
SLD 2	fin.	230.99	1331	-0.0003985	0.0002807	0.0035	0.51		950.41	950.41		4.11	Si
SLV 15	ini.	998.38	4524	-0.0034877	0.0002807	0.0035	0.51		950.41	950.41		0.95	No
SLV 15	fin.	-1226.38	-3744	-0.0049198	0.0002807	0.0035	0.51		953.84	953.84		0.78	No
SLV 1	ini.	-1217.87	-4178	-0.00487	0.0002807	0.0035	0.51		953.84	953.84		0.78	No
SLV 1	fin.	386.74	1887	-0.0007444	0.0002807	0.0035	0.51		950.41	950.41		2.46	Si
SLD 13	ini.	479.51	2605	-0.0009833	0.0002807	0.0035	0.51		950.41	950.41		1.98	Si
SLD 13	fin.	-1011.06	-2895	-0.0035557	0.0002807	0.0035	0.51		953.84	953.84		0.94	No
SLV 14	ini.	668.69	3407	-0.0015778	0.0002807	0.0035	0.51		950.41	950.41		1.42	Si
SLV 14	fin.	-1229.59	-3609	-0.0049385	0.0002807	0.0035	0.51		953.84	953.84		0.78	No
SLV 4	ini.	-1275.28	-4610	-0.0052018	0.0002807	0.0035	0.51		953.84	953.84		0.75	No
SLV 4	fin.	713.79	2857	-0.0017534	0.0002807	0.0035	0.51		950.41	950.41		1.33	Si
SLV 16	ini.	804.83	3750	-0.002179	0.0002807	0.0035	0.51		950.41	950.41		1.18	Si
SLV 16	fin.	-1064.46	-3192	-0.0039216	0.0002807	0.0035	0.51		953.84	953.84		0.9	No
SLV 2	ini.	-1411.42	-4953	-0.0059592	0.0002807	0.0035	0.51		953.84	953.84		0.68	No
SLV 2	fin.	548.66	2439	-0.0011808	0.0002807	0.0035	0.51		950.41	950.41		1.73	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1411.42	5204	0.51	0	893	4044	3436	1300	4737		0.91	No
SLV 2	fin.	548.66	1039	0.51	0	893	4044	3436	1300	4737		4.56	Si
SLV 13	ini.	862.24	-1832	0.51	0	893	4044	3436	1300	4737		2.59	Si
SLV 13	fin.	-1391.52	-5365	0.51	0	893	4044	3436	1300	4737		0.88	No
SLV 15	ini.	998.38	-2526	0.51	0	893	4044	3436	1300	4737		1.87	Si
SLV 15	fin.	-1226.38	-4561	0.51	0	893	4044	3436	1300	4737		1.04	Si
SLV 3	ini.	-1081.73	3906	0.51	0	893	4044	3436	1300	4737		1.21	Si
SLV 3	fin.	551.87	1311	0.51	0	893	4044	3436	1300	4737		3.61	Si
SLV 9	ini.	-56.24	1329	0.51	0	893	4044	3436	1300	4737		3.56	Si
SLV 9	fin.	-935.33	-4161	0.51	0	893	4044	3436	1300	4737		1.14	Si
SLV 1	ini.	-1217.87	4601	0.51	0	893	4044	3436	1300	4737		1.03	Si
SLV 1	fin.	386.74	507	0.51	0	893	4044	3436	1300	4737		9.34	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	479.51	-700	0.51	0	893	4044	3436	1300	4737		6.77	Si
SLD 13	fin.	-1011.06	-4060	0.51	0	893	4044	3436	1300	4737		1.17	Si
SLV 14	ini.	668.69	-1229	0.51	0	893	4044	3436	1300	4737		3.86	Si
SLV 14	fin.	-1229.59	-4833	0.51	0	893	4044	3436	1300	4737		0.98	No
SLV 16	ini.	804.83	-1923	0.51	0	893	4044	3436	1300	4737		2.46	Si
SLV 16	fin.	-1064.46	-4029	0.51	0	893	4044	3436	1300	4737		1.18	Si
SLV 4	ini.	-1275.28	4509	0.51	0	893	4044	3436	1300	4737		1.05	Si
SLV 4	fin.	713.79	1843	0.51	0	893	4044	3436	1300	4737		2.57	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.676	SLV 2	No
V_SLV	0.883	SLV 13	No
PF_SLU	1.399	SLU 84	Si
V_SLU	0.387	SLU 84	No

Trave di accoppiamento 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.933	-4.784	3.33	4.28	0.95	-11.933	-4.784	3.33	4.28	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γ,F,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 83	ini.	663.38	-3256	-0.0003372	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.85	Si
SLU 83	fin.	163.82	-1671	-0.0000739	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.55	Si
SLU 82	ini.	657.07	-3240	-0.0003334	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.88	Si
SLU 82	fin.	167.43	-1680	-0.0000756	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.3	Si
SLU 84	ini.	664.89	-3274	-0.0003381	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.85	Si
SLU 84	fin.	167.96	-1693	-0.0000759	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.27	Si
SLU 75	ini.	637.86	-3145	-0.000322	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.97	Si
SLU 75	fin.	164.94	-1636	-0.0000745	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.47	Si
SLU 77	ini.	644.18	-3162	-0.0003258	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.94	Si
SLU 77	fin.	161.33	-1628	-0.0000728	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.73	Si
SLU 80	ini.	642.41	-3163	-0.0003247	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.95	Si
SLU 80	fin.	163.55	-1637	-0.0000738	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.57	Si
SLU 74	ini.	636.35	-3128	-0.0003211	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.97	Si
SLU 74	fin.	160.8	-1615	-0.0000725	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.77	Si
SLU 78	ini.	645.69	-3180	-0.0003267	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.93	Si
SLU 78	fin.	165.47	-1649	-0.0000747	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.43	Si
SLU 79	ini.	640.9	-3145	-0.0003238	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.95	Si
SLU 79	fin.	159.41	-1616	-0.0000719	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.87	Si
SLU 81	ini.	655.55	-3222	-0.0003325	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.89	Si
SLU 81	fin.	163.29	-1658	-0.0000737	0.0001872	0.0035	0.95		3281.68	1892.15	Si	11.59	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	645.69	-2604	0.95	0	1979	7533	4267	2423	2969	Si	1.14	Si
SLU 78	fin.	165.47	353	0.95	0	1979	7533	4267	2423	2969	Si	8.4	Si
SLU 79	ini.	640.9	-2569	0.95	0	1979	7533	4267	2423	2969	Si	1.16	Si
SLU 79	fin.	159.41	317	0.95	0	1979	7533	4267	2423	2969	Si	9.36	Si
SLU 75	ini.	637.86	-2567	0.95	0	1979	7533	4267	2423	2969	Si	1.16	Si
SLU 75	fin.	164.94	349	0.95	0	1979	7533	4267	2423	2969	Si	8.49	Si
SLU 77	ini.	644.18	-2587	0.95	0	1979	7533	4267	2423	2969	Si	1.15	Si
SLU 77	fin.	161.33	327	0.95	0	1979	7533	4267	2423	2969	Si	9.08	Si
SLU 83	ini.	663.38	-2636	0.95	0	1979	7533	4267	2423	2969	Si	1.13	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 83	fin.	163.82	300	0.95	0	1979	7533	4267	2423	2969	Si	9.9	Si
SLU 84	ini.	664.89	-2653	0.95	0	1979	7533	4267	2423	2969	Si	1.12	Si
SLU 84	fin.	167.96	326	0.95	0	1979	7533	4267	2423	2969	Si	9.1	Si
SLU 76	ini.	635.59	-2560	0.95	0	1979	7533	4267	2423	2969	Si	1.16	Si
SLU 76	fin.	165.77	357	0.95	0	1979	7533	4267	2423	2969	Si	8.31	Si
SLU 81	ini.	655.55	-2599	0.95	0	1979	7533	4267	2423	2969	Si	1.14	Si
SLU 81	fin.	163.29	296	0.95	0	1979	7533	4267	2423	2969	Si	10.03	Si
SLU 80	ini.	642.41	-2586	0.95	0	1979	7533	4267	2423	2969	Si	1.15	Si
SLU 80	fin.	163.55	344	0.95	0	1979	7533	4267	2423	2969	Si	8.64	Si
SLU 82	ini.	657.07	-2616	0.95	0	1979	7533	4267	2423	2969	Si	1.13	Si
SLU 82	fin.	167.43	322	0.95	0	1979	7533	4267	2423	2969	Si	9.21	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1450.67	3515	-0.0008232	0.0002807	0.0035	0.95		3308.64	3308.64		2.28	Si
SLV 4	fin.	1681.6	-4311	-0.0010011	0.0002807	0.0035	0.95		3302.53	3302.53		1.96	Si
SLD 14	ini.	1439.55	-5161	-0.0008169	0.0002807	0.0035	0.95		3302.53	3302.53		2.29	Si
SLD 14	fin.	-719.6	570	-0.0003523	0.0002807	0.0035	0.95		3308.64	3308.64		4.6	Si
SLD 15	ini.	1577.37	-5296	-0.0009198	0.0002807	0.0035	0.95		3302.53	3302.53		2.09	Si
SLD 15	fin.	-964.28	1352	-0.0004963	0.0002807	0.0035	0.95		3308.64	3308.64		3.43	Si
SLD 13	ini.	1635.81	-5729	-0.000965	0.0002807	0.0035	0.95		3302.53	3302.53		2.02	Si
SLD 13	fin.	-894.22	953	-0.0004537	0.0002807	0.0035	0.95		3308.64	3308.64		3.7	Si
SLV 13	ini.	2313.57	-7765	-0.0015775	0.0002807	0.0035	0.95		3302.53	3302.53		1.43	Si
SLV 13	fin.	-1457.1	2096	-0.0008279	0.0002807	0.0035	0.95		3308.64	3308.64		2.27	Si
SLV 2	ini.	-1356.98	2814	-0.0007559	0.0002807	0.0035	0.95		3308.64	3308.64		2.44	Si
SLV 2	fin.	1796.48	-4962	-0.0010943	0.0002807	0.0035	0.95		3302.53	3302.53		1.84	Si
SLV 14	ini.	2006.09	-6875	-0.001276	0.0002807	0.0035	0.95		3302.53	3302.53		1.65	Si
SLV 14	fin.	-1183.52	1496	-0.0006369	0.0002807	0.0035	0.95		3308.64	3308.64		2.8	Si
SLV 1	ini.	-1049.5	1924	-0.0005497	0.0002807	0.0035	0.95		3308.64	3308.64		3.15	Si
SLV 1	fin.	1522.91	-4362	-0.0008785	0.0002807	0.0035	0.95		3302.53	3302.53		2.17	Si
SLV 15	ini.	2219.88	-7065	-0.0014803	0.0002807	0.0035	0.95		3302.53	3302.53		1.49	Si
SLV 15	fin.	-1571.98	2748	-0.0009136	0.0002807	0.0035	0.95		3308.64	3308.64		2.1	Si
SLV 16	ini.	1912.4	-6174	-0.0011928	0.0002807	0.0035	0.95		3302.53	3302.53		1.73	Si
SLV 16	fin.	-1298.4	2147	-0.000715	0.0002807	0.0035	0.95		3308.64	3308.64		2.55	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1356.98	4801	0.95	0	2790	7533	6401	2423	8823		1.84	Si
SLV 2	fin.	1796.48	7884	0.95	0	2790	7533	6401	2423	8823		1.12	Si
SLV 3	ini.	-1143.19	4395	0.95	0	2790	7533	6401	2423	8823		2.01	Si
SLV 3	fin.	1408.03	5905	0.95	0	2790	7533	6401	2423	8823		1.49	Si
SLV 1	ini.	-1049.5	3649	0.95	0	2790	7533	6401	2423	8823		2.42	Si
SLV 1	fin.	1522.91	6661	0.95	0	2790	7533	6401	2423	8823		1.32	Si
SLV 16	ini.	1912.4	-7117	0.95	0	2790	7533	6401	2423	8823		1.24	Si
SLV 16	fin.	-1298.4	-6177	0.95	0	2790	7533	6401	2423	8823		1.43	Si
SLV 14	ini.	2006.09	-7863	0.95	0	2790	7533	6401	2423	8823		1.12	Si
SLV 14	fin.	-1183.52	-5421	0.95	0	2790	7533	6401	2423	8823		1.63	Si
SLV 15	ini.	2219.88	-8269	0.95	0	2790	7533	6401	2423	8823		1.07	Si
SLV 15	fin.	-1571.98	-7400	0.95	0	2790	7533	6401	2423	8823		1.19	Si
SLD 13	ini.	1635.81	-6390	0.95	0	2790	7533	6401	2423	8823		1.38	Si
SLD 13	fin.	-894.22	-4175	0.95	0	2790	7533	6401	2423	8823		2.11	Si
SLD 15	ini.	1577.37	-5926	0.95	0	2790	7533	6401	2423	8823		1.49	Si
SLD 15	fin.	-964.28	-4639	0.95	0	2790	7533	6401	2423	8823		1.9	Si
SLV 13	ini.	2313.57	-9016	0.95	0	2790	7533	6401	2423	8823		0.98	No
SLV 13	fin.	-1457.1	-6644	0.95	0	2790	7533	6401	2423	8823		1.33	Si
SLV 4	ini.	-1450.67	5547	0.95	0	2790	7533	6401	2423	8823		1.59	Si
SLV 4	fin.	1681.6	7128	0.95	0	2790	7533	6401	2423	8823		1.24	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.427	SLV 13	Si
V_SLV	0.979	SLV 13	No
PF_SLU	2.846	SLU 84	Si
V_SLU	1.119	SLU 84	Si

Trave di accoppiamento 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.933	-4.784	6.28	6.76	0.48	-11.933	-4.784	6.28	6.76	0.48	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCC



Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ϵ_c CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α_t	α	elim,conv	ϵ_s ,fd	γ_F ,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet?
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-133.1	-181	-0.0002546	0.0001872	0.0035	0.48		839.86	657.45	Si	4.94	Si
SLU 82	fin.	-353.39	-1074	-0.0008261	0.0001872	0.0035	0.48		839.86	657.45	Si	1.86	Si
SLU 80	ini.	-132.48	-192	-0.0002533	0.0001872	0.0035	0.48		839.86	657.45	Si	4.96	Si
SLU 80	fin.	-344.45	-1051	-0.0007994	0.0001872	0.0035	0.48		839.86	657.45	Si	1.91	Si
SLU 81	ini.	-130.46	-170	-0.0002489	0.0001872	0.0035	0.48		839.86	657.45	Si	5.04	Si
SLU 81	fin.	-352.86	-1071	-0.0008245	0.0001872	0.0035	0.48		839.86	657.45	Si	1.86	Si
SLU 83	ini.	-131.59	-172	-0.0002513	0.0001872	0.0035	0.48		839.86	657.45	Si	5	Si
SLU 83	fin.	-357.25	-1087	-0.0008377	0.0001872	0.0035	0.48		839.86	657.45	Si	1.84	Si
SLU 79	ini.	-129.83	-181	-0.0002475	0.0001872	0.0035	0.48		839.86	657.45	Si	5.06	Si
SLU 79	fin.	-343.93	-1049	-0.0007979	0.0001872	0.0035	0.48		839.86	657.45	Si	1.91	Si
SLU 74	ini.	-130.23	-183	-0.0002484	0.0001872	0.0035	0.48		839.86	657.45	Si	5.05	Si
SLU 74	fin.	-341.69	-1040	-0.0007913	0.0001872	0.0035	0.48		839.86	657.45	Si	1.92	Si
SLU 78	ini.	-134	-197	-0.0002566	0.0001872	0.0035	0.48		839.86	657.45	Si	4.91	Si
SLU 78	fin.	-346.6	-1058	-0.0008058	0.0001872	0.0035	0.48		839.86	657.45	Si	1.9	Si
SLU 84	ini.	-134.23	-184	-0.0002571	0.0001872	0.0035	0.48		839.86	657.45	Si	4.9	Si
SLU 84	fin.	-357.77	-1090	-0.0008393	0.0001872	0.0035	0.48		839.86	657.45	Si	1.84	Si
SLU 77	ini.	-131.35	-186	-0.0002508	0.0001872	0.0035	0.48		839.86	657.45	Si	5.01	Si
SLU 77	fin.	-346.07	-1056	-0.0008042	0.0001872	0.0035	0.48		839.86	657.45	Si	1.9	Si
SLU 75	ini.	-132.87	-195	-0.0002541	0.0001872	0.0035	0.48		839.86	657.45	Si	4.95	Si
SLU 75	fin.	-342.21	-1043	-0.0007928	0.0001872	0.0035	0.48		839.86	657.45	Si	1.92	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 81	ini.	-130.46	1003	0.48	0	877	3806	2156	1224	1315	Si	1.31	Si
SLU 81	fin.	-352.86	-1951	0.48	0	877	3806	2156	1224	1315	Si	0.67	No
SLU 77	ini.	-131.35	998	0.48	0	877	3806	2156	1224	1315	Si	1.32	Si
SLU 77	fin.	-346.07	-1913	0.48	0	877	3806	2156	1224	1315	Si	0.69	No
SLU 79	ini.	-129.83	989	0.48	0	877	3806	2156	1224	1315	Si	1.33	Si
SLU 79	fin.	-343.93	-1901	0.48	0	877	3806	2156	1224	1315	Si	0.69	No
SLU 75	ini.	-132.87	1002	0.48	0	877	3806	2156	1224	1315	Si	1.31	Si
SLU 75	fin.	-342.21	-1893	0.48	0	877	3806	2156	1224	1315	Si	0.69	No
SLU 78	ini.	-134	1010	0.48	0	877	3806	2156	1224	1315	Si	1.3	Si
SLU 78	fin.	-346.6	-1916	0.48	0	877	3806	2156	1224	1315	Si	0.69	No
SLU 84	ini.	-134.23	1024	0.48	0	877	3806	2156	1224	1315	Si	1.28	Si
SLU 84	fin.	-357.77	-1976	0.48	0	877	3806	2156	1224	1315	Si	0.67	No
SLU 82	ini.	-133.1	1016	0.48	0	877	3806	2156	1224	1315	Si	1.29	Si
SLU 82	fin.	-353.39	-1954	0.48	0	877	3806	2156	1224	1315	Si	0.67	No
SLU 80	ini.	-132.48	1001	0.48	0	877	3806	2156	1224	1315	Si	1.31	Si
SLU 80	fin.	-344.45	-1904	0.48	0	877	3806	2156	1224	1315	Si	0.69	No
SLU 74	ini.	-130.23	990	0.48	0	877	3806	2156	1224	1315	Si	1.33	Si
SLU 74	fin.	-341.69	-1890	0.48	0	877	3806	2156	1224	1315	Si	0.7	No
SLU 83	ini.	-131.59	1012	0.48	0	877	3806	2156	1224	1315	Si	1.3	Si
SLU 83	fin.	-357.25	-1973	0.48	0	877	3806	2156	1224	1315	Si	0.67	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ϵ_m	$\epsilon_{m_}$	ϵ_{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	898.79	3897	-0.0036331	0.0002807	0.0035	0.48		846.58	846.58		0.94	No
SLV 13	fin.	-1277.59	-4994	-0.0061581	0.0002807	0.0035	0.48		849.71	849.71		0.67	No
SLV 15	ini.	980.78	4229	-0.0042488	0.0002807	0.0035	0.48		846.58	846.58		0.86	No
SLV 15	fin.	-1232.21	-4814	-0.0058771	0.0002807	0.0035	0.48		849.71	849.71		0.69	No
SLV 2	ini.	-1165.51	-4508	-0.0054589	0.0002807	0.0035	0.48		849.71	849.71		0.73	No
SLV 2	fin.	771.75	3417	-0.0025883	0.0002807	0.0035	0.48		846.58	846.58		1.1	Si
SLV 14	ini.	731.26	3217	-0.0023106	0.0002807	0.0035	0.48		846.58	846.58		1.16	Si
SLV 14	fin.	-1111.75	-4313	-0.0051135	0.0002807	0.0035	0.48		849.71	849.71		0.76	No
SLV 16	ini.	813.24	3549	-0.0029122	0.0002807	0.0035	0.48		846.58	846.58		1.04	Si
SLV 16	fin.	-1066.37	-4133	-0.0048145	0.0002807	0.0035	0.48		849.71	849.71		0.8	No
SLV 1	ini.	-997.97	-3828	-0.0043467	0.0002807	0.0035	0.48		849.71	849.71		0.85	No
SLV 1	fin.	605.9	2737	-0.0016459	0.0002807	0.0035	0.48		846.58	846.58		1.4	Si
SLD 13	ini.	543.67	2451	-0.0013939	0.0002807	0.0035	0.48		846.58	846.58		1.56	Si
SLD 13	fin.	-900.47	-3447	-0.003622	0.0002807	0.0035	0.48		849.71	849.71		0.94	No
SLV 3	ini.	-915.99	-3496	-0.0037438	0.0002807	0.0035	0.48		849.71	849.71		0.93	No
SLV 3	fin.	651.28	2917	-0.0018571	0.0002807	0.0035	0.48		846.58	846.58		1.3	Si
SLV 4	ini.	-1083.52	-4176	-0.0049285	0.0002807	0.0035	0.48		849.71	849.71		0.78	No
SLV 4	fin.	817.12	3597	-0.0029447	0.0002807	0.0035	0.48		846.58	846.58		1.04	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	593.6	2653	-0.0015931	0.0002807	0.0035	0.48		846.58	846.58		1.43	Si
SLD 15	fin.	-872.4	-3336	-0.0033927	0.0002807	0.0035	0.48		849.71	849.71		0.97	No

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-915.99	4200	0.48	0	1145	3806	3234	1224	4458		1.06	Si
SLV 3	fin.	651.28	2516	0.48	0	1145	3806	3234	1224	4458		1.77	Si
SLV 14	ini.	731.26	-2812	0.48	0	1145	3806	3234	1224	4458		1.59	Si
SLV 14	fin.	-1111.75	-5078	0.48	0	1145	3806	3234	1224	4458		0.88	No
SLV 1	ini.	-997.97	4591	0.48	0	1145	3806	3234	1224	4458		0.97	No
SLV 1	fin.	605.9	2285	0.48	0	1145	3806	3234	1224	4458		1.95	Si
SLV 16	ini.	813.24	-3204	0.48	0	1145	3806	3234	1224	4458		1.39	Si
SLV 16	fin.	-1066.37	-4847	0.48	0	1145	3806	3234	1224	4458		0.92	No
SLV 15	ini.	980.78	-3922	0.48	0	1145	3806	3234	1224	4458		1.14	Si
SLV 15	fin.	-1232.21	-5556	0.48	0	1145	3806	3234	1224	4458		0.8	No
SLD 15	ini.	593.6	-2256	0.48	0	1145	3806	3234	1224	4458		1.98	Si
SLD 15	fin.	-872.4	-4021	0.48	0	1145	3806	3234	1224	4458		1.11	Si
SLV 4	ini.	-1083.52	4918	0.48	0	1145	3806	3234	1224	4458		0.91	No
SLV 4	fin.	817.12	3225	0.48	0	1145	3806	3234	1224	4458		1.38	Si
SLV 2	ini.	-1165.51	5309	0.48	0	1145	3806	3234	1224	4458		0.84	No
SLV 2	fin.	771.75	2994	0.48	0	1145	3806	3234	1224	4458		1.49	Si
SLD 13	ini.	543.67	-2017	0.48	0	1145	3806	3234	1224	4458		2.21	Si
SLD 13	fin.	-900.47	-4164	0.48	0	1145	3806	3234	1224	4458		1.07	Si
SLV 13	ini.	898.79	-3530	0.48	0	1145	3806	3234	1224	4458		1.26	Si
SLV 13	fin.	-1277.59	-5787	0.48	0	1145	3806	3234	1224	4458		0.77	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.665	SLV 13	No
V_SLV	0.77	SLV 13	No
PF_SLU	1.838	SLU 84	Si
V_SLU	0.665	SLU 84	No

Trave di accoppiamento 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.933	-4.784	6.76	7.71	0.95	-11.933	-4.784	6.76	7.71	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	fmk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	ε,fd	γF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	670.98	-2402	-0.0003417	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.82	Si
SLU 81	fin.	-246.56	-1184	-0.0001129	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.67	Si
SLU 74	ini.	647.96	-2335	-0.000328	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.92	Si
SLU 74	fin.	-232.89	-1166	-0.0001063	0.0001872	0.0035	0.95		3287.74	1892.15	Si	8.12	Si
SLU 77	ini.	656.03	-2357	-0.0003328	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.88	Si
SLU 77	fin.	-237.18	-1172	-0.0001084	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.98	Si
SLU 80	ini.	651.01	-2346	-0.0003298	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.91	Si
SLU 80	fin.	-233.82	-1172	-0.0001068	0.0001872	0.0035	0.95		3287.74	1892.15	Si	8.09	Si
SLU 82	ini.	669.69	-2404	-0.0003409	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.83	Si
SLU 82	fin.	-244.3	-1191	-0.0001118	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.75	Si
SLU 83	ini.	679.05	-2425	-0.0003465	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.79	Si
SLU 83	fin.	-250.85	-1190	-0.000115	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.54	Si
SLU 78	ini.	654.73	-2359	-0.000332	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.89	Si
SLU 78	fin.	-234.92	-1179	-0.0001073	0.0001872	0.0035	0.95		3287.74	1892.15	Si	8.05	Si
SLU 84	ini.	677.75	-2427	-0.0003457	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.79	Si



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 84	fin.	-248.59	-1197	-0.0001139	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.61	Si
SLU 75	ini.	646.67	-2336	-0.0003272	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.93	Si
SLU 75	fin.	-230.63	-1173	-0.0001053	0.0001872	0.0035	0.95		3287.74	1892.15	Si	8.2	Si
SLU 79	ini.	652.31	-2344	-0.0003306	0.0001872	0.0035	0.95		3281.68	1892.15	Si	2.9	Si
SLU 79	fin.	-236.07	-1165	-0.0001079	0.0001872	0.0035	0.95		3287.74	1892.15	Si	8.02	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	669.69	-2201	0.95	0	1979	7533	4267	2422	2969	Si	1.35	Si
SLU 82	fin.	-244.3	-682	0.95	0	1979	7533	4267	2422	2969	Si	4.35	Si
SLU 77	ini.	656.03	-2178	0.95	0	1979	7533	4267	2422	2969	Si	1.36	Si
SLU 77	fin.	-237.18	-639	0.95	0	1979	7533	4267	2422	2969	Si	4.65	Si
SLU 80	ini.	651.01	-2161	0.95	0	1979	7533	4267	2422	2969	Si	1.37	Si
SLU 80	fin.	-233.82	-628	0.95	0	1979	7533	4267	2422	2969	Si	4.73	Si
SLU 81	ini.	670.98	-2199	0.95	0	1979	7533	4267	2422	2969	Si	1.35	Si
SLU 81	fin.	-246.56	-696	0.95	0	1979	7533	4267	2422	2969	Si	4.27	Si
SLU 74	ini.	647.96	-2143	0.95	0	1979	7533	4267	2422	2969	Si	1.39	Si
SLU 74	fin.	-232.89	-635	0.95	0	1979	7533	4267	2422	2969	Si	4.68	Si
SLU 78	ini.	654.73	-2179	0.95	0	1979	7533	4267	2422	2969	Si	1.36	Si
SLU 78	fin.	-234.92	-625	0.95	0	1979	7533	4267	2422	2969	Si	4.75	Si
SLU 79	ini.	652.31	-2160	0.95	0	1979	7533	4267	2422	2969	Si	1.37	Si
SLU 79	fin.	-236.07	-641	0.95	0	1979	7533	4267	2422	2969	Si	4.63	Si
SLU 83	ini.	679.05	-2234	0.95	0	1979	7533	4267	2422	2969	Si	1.33	Si
SLU 83	fin.	-250.85	-700	0.95	0	1979	7533	4267	2422	2969	Si	4.24	Si
SLU 75	ini.	646.67	-2144	0.95	0	1979	7533	4267	2422	2969	Si	1.38	Si
SLU 75	fin.	-230.63	-621	0.95	0	1979	7533	4267	2422	2969	Si	4.78	Si
SLU 84	ini.	677.75	-2236	0.95	0	1979	7533	4267	2422	2969	Si	1.33	Si
SLU 84	fin.	-248.59	-687	0.95	0	1979	7533	4267	2422	2969	Si	4.32	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 15	ini.	1995.72	-3649	-0.0012666	0.0002807	0.0035	0.95		3302.53	3302.53		1.65	Si
SLD 15	fin.	-1735.14	1407	-0.0010415	0.0002807	0.0035	0.95		3308.64	3308.64		1.91	Si
SLV 13	ini.	2862.88	-5019	-0.0023022	0.0002807	0.0035	0.95		3302.53	3302.53		1.15	Si
SLV 13	fin.	-2551.77	2510	-0.0018482	0.0002807	0.0035	0.95		3308.64	3308.64		1.3	Si
SLV 14	ini.	2461.29	-4468	-0.0017431	0.0002807	0.0035	0.95		3302.53	3302.53		1.34	Si
SLV 14	fin.	-2149.78	1944	-0.0014072	0.0002807	0.0035	0.95		3308.64	3308.64		1.54	Si
SLV 1	ini.	-1606.76	1057	-0.0009402	0.0002807	0.0035	0.95		3308.64	3308.64		2.06	Si
SLV 1	fin.	1931.1	-3749	-0.0012091	0.0002807	0.0035	0.95		3302.53	3302.53		1.71	Si
SLV 3	ini.	-1595.59	1279	-0.0009316	0.0002807	0.0035	0.95		3308.64	3308.64		2.07	Si
SLV 3	fin.	1853.77	-3593	-0.0011424	0.0002807	0.0035	0.95		3302.53	3302.53		1.78	Si
SLV 2	ini.	-2008.35	1609	-0.0012749	0.0002807	0.0035	0.95		3308.64	3308.64		1.65	Si
SLV 2	fin.	2333.09	-4315	-0.0015984	0.0002807	0.0035	0.95		3302.53	3302.53		1.42	Si
SLV 15	ini.	2874.05	-4798	-0.0023205	0.0002807	0.0035	0.95		3302.53	3302.53		1.15	Si
SLV 15	fin.	-2629.1	2666	-0.0019487	0.0002807	0.0035	0.95		3308.64	3308.64		1.26	Si
SLV 4	ini.	-1997.18	1830	-0.0012648	0.0002807	0.0035	0.95		3308.64	3308.64		1.66	Si
SLV 4	fin.	2255.76	-4159	-0.0015169	0.0002807	0.0035	0.95		3302.53	3302.53		1.46	Si
SLD 13	ini.	1989.28	-3784	-0.0012608	0.0002807	0.0035	0.95		3302.53	3302.53		1.66	Si
SLD 13	fin.	-1689	1315	-0.0010046	0.0002807	0.0035	0.95		3308.64	3308.64		1.96	Si
SLV 16	ini.	2472.46	-4246	-0.0017563	0.0002807	0.0035	0.95		3302.53	3302.53		1.34	Si
SLV 16	fin.	-2227.12	2100	-0.0014837	0.0002807	0.0035	0.95		3308.64	3308.64		1.49	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-2008.35	6206	0.95	0	2790	7533	6401	2422	8823		1.42	Si
SLV 2	fin.	2333.09	7596	0.95	0	2790	7533	6401	2422	8823		1.16	Si
SLV 1	ini.	-1606.76	4930	0.95	0	2790	7533	6401	2422	8823		1.79	Si
SLV 1	fin.	1931.1	6311	0.95	0	2790	7533	6401	2422	8823		1.4	Si
SLV 15	ini.	2874.05	-9054	0.95	0	2790	7533	6401	2422	8823		0.97	No
SLV 15	fin.	-2629.1	-8402	0.95	0	2790	7533	6401	2422	8823		1.05	Si
SLV 14	ini.	2461.29	-8003	0.95	0	2790	7533	6401	2422	8823		1.1	Si
SLV 14	fin.	-2149.78	-6719	0.95	0	2790	7533	6401	2422	8823		1.31	Si
SLV 16	ini.	2472.46	-7778	0.95	0	2790	7533	6401	2422	8823		1.13	Si
SLV 16	fin.	-2227.12	-7117	0.95	0	2790	7533	6401	2422	8823		1.24	Si
SLD 15	ini.	1995.72	-6312	0.95	0	2790	7533	6401	2422	8823		1.4	Si
SLD 15	fin.	-1735.14	-5518	0.95	0	2790	7533	6401	2422	8823		1.6	Si
SLV 13	ini.	2862.88	-9279	0.95	0	2790	7533	6401	2422	8823		0.95	No
SLV 13	fin.	-2551.77	-8004	0.95	0	2790	7533	6401	2422	8823		1.1	Si
SLV 4	ini.	-1997.18	6432	0.95	0	2790	7533	6401	2422	8823		1.37	Si
SLV 4	fin.	2255.76	7198	0.95	0	2790	7533	6401	2422	8823		1.23	Si
SLD 13	ini.	1989.28	-6454	0.95	0	2790	7533	6401	2422	8823		1.37	Si
SLD 13	fin.	-1689	-5277	0.95	0	2790	7533	6401	2422	8823		1.67	Si
SLV 3	ini.	-1595.59	5155	0.95	0	2790	7533	6401	2422	8823		1.71	Si
SLV 3	fin.	1853.77	5913	0.95	0	2790	7533	6401	2422	8823		1.49	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.149	SLV 15	Si
V SLV	0.951	SLV 13	No
PF SLU	2.786	SLU 83	Si
V SLU	1.328	SLU 84	Si



Trave di accoppiamento 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.933	-4.784	9.71	10.24	0.53	-11.933	-4.784	9.71	10.24	0.53	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

fb	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRCM

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{fd}	γ _{F,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	-13.76	155	-0.0000194	0.0001872	0.0035	0.53		1030.41	789.65	Si	57.38	Si
SLU 82	fin.	-307.41	-948	-0.0005403	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.57	Si
SLU 83	ini.	-12.75	160	-0.000018	0.0001872	0.0035	0.53		1030.41	789.65	Si	61.93	Si
SLU 83	fin.	-312.15	-964	-0.0005505	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.53	Si
SLU 77	ini.	-17.47	133	-0.0000247	0.0001872	0.0035	0.53		1030.41	789.65	Si	45.21	Si
SLU 77	fin.	-303.67	-942	-0.0005322	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.6	Si
SLU 74	ini.	-17.08	134	-0.0000242	0.0001872	0.0035	0.53		1030.41	789.65	Si	46.24	Si
SLU 74	fin.	-299.28	-926	-0.0005229	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.64	Si
SLU 84	ini.	-14.15	154	-0.00002	0.0001872	0.0035	0.53		1030.41	789.65	Si	55.8	Si
SLU 84	fin.	-311.81	-964	-0.0005497	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.53	Si
SLU 79	ini.	-16.61	136	-0.0000235	0.0001872	0.0035	0.53		1030.41	789.65	Si	47.55	Si
SLU 79	fin.	-301.31	-934	-0.0005272	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.62	Si
SLU 75	ini.	-18.48	128	-0.0000262	0.0001872	0.0035	0.53		1030.41	789.65	Si	42.74	Si
SLU 75	fin.	-298.93	-926	-0.0005221	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.64	Si
SLU 81	ini.	-12.36	161	-0.0000175	0.0001872	0.0035	0.53		1030.41	789.65	Si	63.88	Si
SLU 81	fin.	-307.75	-948	-0.000541	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.57	Si
SLU 78	ini.	-18.87	127	-0.0000267	0.0001872	0.0035	0.53		1030.41	789.65	Si	41.85	Si
SLU 78	fin.	-303.33	-942	-0.0005315	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.6	Si
SLU 80	ini.	-18.01	130	-0.0000255	0.0001872	0.0035	0.53		1030.41	789.65	Si	43.85	Si
SLU 80	fin.	-300.97	-933	-0.0005265	0.0001872	0.0035	0.53		1030.41	789.65	Si	2.62	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 78	ini.	-18.87	404	0.53	0	1053	4203	2381	1352	1579	Si	3.91	Si
SLU 78	fin.	-303.33	-1625	0.53	0	1053	4203	2381	1352	1579	Si	0.97	No
SLU 80	ini.	-18.01	399	0.53	0	1053	4203	2381	1352	1579	Si	3.96	Si
SLU 80	fin.	-300.97	-1613	0.53	0	1053	4203	2381	1352	1579	Si	0.98	No
SLU 82	ini.	-13.76	388	0.53	0	1053	4203	2381	1352	1579	Si	4.07	Si
SLU 82	fin.	-307.41	-1647	0.53	0	1053	4203	2381	1352	1579	Si	0.96	No
SLU 79	ini.	-16.61	393	0.53	0	1053	4203	2381	1352	1579	Si	4.02	Si
SLU 79	fin.	-301.31	-1614	0.53	0	1053	4203	2381	1352	1579	Si	0.98	No
SLU 75	ini.	-18.48	400	0.53	0	1053	4203	2381	1352	1579	Si	3.95	Si
SLU 75	fin.	-298.93	-1603	0.53	0	1053	4203	2381	1352	1579	Si	0.99	No
SLU 83	ini.	-12.75	387	0.53	0	1053	4203	2381	1352	1579	Si	4.08	Si
SLU 83	fin.	-312.15	-1671	0.53	0	1053	4203	2381	1352	1579	Si	0.95	No
SLU 74	ini.	-17.08	394	0.53	0	1053	4203	2381	1352	1579	Si	4.01	Si
SLU 74	fin.	-299.28	-1605	0.53	0	1053	4203	2381	1352	1579	Si	0.98	No
SLU 81	ini.	-12.36	382	0.53	0	1053	4203	2381	1352	1579	Si	4.13	Si
SLU 81	fin.	-307.75	-1649	0.53	0	1053	4203	2381	1352	1579	Si	0.96	No
SLU 84	ini.	-14.15	392	0.53	0	1053	4203	2381	1352	1579	Si	4.02	Si
SLU 84	fin.	-311.81	-1669	0.53	0	1053	4203	2381	1352	1579	Si	0.95	No
SLU 77	ini.	-17.47	398	0.53	0	1053	4203	2381	1352	1579	Si	3.96	Si
SLU 77	fin.	-303.67	-1626	0.53	0	1053	4203	2381	1352	1579	Si	0.97	No

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCM in combinazioni sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLD 13	ini.	601.14	2373	-0.0012075	0.0002807	0.0035	0.53		1031.9	1031.9		1.72	Si
SLD 13	fin.	-804.55	-2920	-0.0018821	0.0002807	0.0035	0.53		1035.34	1035.34		1.29	Si
SLV 15	ini.	993.7	3853	-0.0029108	0.0002807	0.0035	0.53		1031.9	1031.9		1.04	Si
SLV 15	fin.	-1175.47	-4301	-0.0040901	0.0002807	0.0035	0.53		1035.34	1035.34		0.88	No
SLV 13	ini.	946.95	3661	-0.0026108	0.0002807	0.0035	0.53		1031.9	1031.9		1.09	Si
SLV 13	fin.	-1142.95	-4210	-0.003893	0.0002807	0.0035	0.53		1035.34	1035.34		0.91	No
SLV 3	ini.	-817.31	-2908	-0.0019357	0.0002807	0.0035	0.53		1035.34	1035.34		1.27	Si
SLV 3	fin.	582.59	2374	-0.0011559	0.0002807	0.0035	0.53		1031.9	1031.9		1.77	Si
SLV 16	ini.	831.69	3249	-0.0020096	0.0002807	0.0035	0.53		1031.9	1031.9		1.24	Si
SLV 16	fin.	-1017.83	-3706	-0.0030565	0.0002807	0.0035	0.53		1035.34	1035.34		1.02	Si
SLV 14	ini.	784.94	3057	-0.0018128	0.0002807	0.0035	0.53		1031.9	1031.9		1.31	Si
SLV 14	fin.	-985.31	-3615	-0.0028341	0.0002807	0.0035	0.53		1035.34	1035.34		1.05	Si
SLV 2	ini.	-1026.07	-3704	-0.0031146	0.0002807	0.0035	0.53		1035.34	1035.34		1.01	Si
SLV 2	fin.	772.74	3060	-0.0017652	0.0002807	0.0035	0.53		1031.9	1031.9		1.34	Si
SLD 15	ini.	628.99	2489	-0.0012873	0.0002807	0.0035	0.53		1031.9	1031.9		1.64	Si
SLD 15	fin.	-823.99	-2974	-0.0019644	0.0002807	0.0035	0.53		1035.34	1035.34		1.26	Si
SLV 4	ini.	-979.32	-3512	-0.0027949	0.0002807	0.0035	0.53		1035.34	1035.34		1.06	Si
SLV 4	fin.	740.23	2969	-0.0016449	0.0002807	0.0035	0.53		1031.9	1031.9		1.39	Si
SLV 1	ini.	-864.06	-3100	-0.0021477	0.0002807	0.0035	0.53		1035.34	1035.34		1.2	Si
SLV 1	fin.	615.1	2465	-0.0012471	0.0002807	0.0035	0.53		1031.9	1031.9		1.68	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 3	ini.	-817.31	3715	0.53	0	1320	4203	3571	1352	4922		1.33	Si
SLV 3	fin.	582.59	2240	0.53	0	1320	4203	3571	1352	4922		2.2	Si
SLV 1	ini.	-864.06	3924	0.53	0	1320	4203	3571	1352	4922		1.25	Si
SLV 1	fin.	615.1	2399	0.53	0	1320	4203	3571	1352	4922		2.05	Si
SLV 15	ini.	993.7	-4030	0.53	0	1320	4203	3571	1352	4922		1.22	Si
SLV 15	fin.	-1175.47	-5246	0.53	0	1320	4203	3571	1352	4922		0.94	No
SLV 13	ini.	946.95	-3821	0.53	0	1320	4203	3571	1352	4922		1.29	Si
SLV 13	fin.	-1142.95	-5087	0.53	0	1320	4203	3571	1352	4922		0.97	No
SLD 15	ini.	628.99	-2469	0.53	0	1320	4203	3571	1352	4922		1.99	Si
SLD 15	fin.	-823.99	-3745	0.53	0	1320	4203	3571	1352	4922		1.31	Si
SLV 16	ini.	831.69	-3338	0.53	0	1320	4203	3571	1352	4922		1.47	Si
SLV 16	fin.	-1017.83	-4574	0.53	0	1320	4203	3571	1352	4922		1.08	Si
SLV 4	ini.	-979.32	4407	0.53	0	1320	4203	3571	1352	4922		1.12	Si
SLV 4	fin.	740.23	2912	0.53	0	1320	4203	3571	1352	4922		1.69	Si
SLV 14	ini.	784.94	-3128	0.53	0	1320	4203	3571	1352	4922		1.57	Si
SLV 14	fin.	-985.31	-4415	0.53	0	1320	4203	3571	1352	4922		1.12	Si
SLV 2	ini.	-1026.07	4616	0.53	0	1320	4203	3571	1352	4922		1.07	Si
SLV 2	fin.	772.74	3071	0.53	0	1320	4203	3571	1352	4922		1.6	Si
SLD 13	ini.	601.14	-2344	0.53	0	1320	4203	3571	1352	4922		2.1	Si
SLD 13	fin.	-804.55	-3650	0.53	0	1320	4203	3571	1352	4922		1.35	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.881	SLV 15	No
V_SLV	0.938	SLV 15	No
PF_SLU	2.53	SLU 83	Si
V_SLU	0.945	SLU 83	No

Trave di accoppiamento 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.933	-4.784	10.24	11.19	0.95	-11.933	-4.784	10.24	11.19	0.95	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_ Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRMC

Materiale	Fu Verticale	Fu Orizzontale	tfv	tfo	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / e,CNR DT-200							CRM / Fibrenet?			
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	αt	α	elim,conv	e,fd	yF,d	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215



Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 82	ini.	499.95	-1531	-0.0002434	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.78	Si
SLU 82	fin.	-254.92	-575	-0.0001169	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.42	Si
SLU 80	ini.	484.32	-1496	-0.0002348	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.91	Si
SLU 80	fin.	-241.65	-581	-0.0001105	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.83	Si
SLU 78	ini.	486.75	-1504	-0.0002361	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.89	Si
SLU 78	fin.	-242.52	-585	-0.000111	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.8	Si
SLU 75	ini.	481.64	-1490	-0.0002333	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.93	Si
SLU 75	fin.	-239.75	-581	-0.0001096	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.89	Si
SLU 81	ini.	502.3	-1533	-0.0002447	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.77	Si
SLU 81	fin.	-257.57	-571	-0.0001182	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.35	Si
SLU 79	ini.	486.67	-1498	-0.0002361	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.89	Si
SLU 79	fin.	-244.3	-576	-0.0001118	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.75	Si
SLU 74	ini.	483.99	-1492	-0.0002346	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.91	Si
SLU 74	fin.	-242.4	-576	-0.0001109	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.81	Si
SLU 84	ini.	505.06	-1544	-0.0002462	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.75	Si
SLU 84	fin.	-257.68	-579	-0.0001183	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.34	Si
SLU 77	ini.	489.1	-1506	-0.0002374	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.87	Si
SLU 77	fin.	-245.17	-580	-0.0001122	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.72	Si
SLU 83	ini.	507.41	-1546	-0.0002475	0.0001872	0.0035	0.95		3281.68	1892.15	Si	3.73	Si
SLU 83	fin.	-260.33	-575	-0.0001195	0.0001872	0.0035	0.95		3287.74	1892.15	Si	7.27	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 82	ini.	499.95	-1355	0.95	0	1979	7533	4267	2423	2969	Si	2.19	Si
SLU 82	fin.	-254.92	-858	0.95	0	1979	7533	4267	2423	2969	Si	3.46	Si
SLU 81	ini.	502.3	-1361	0.95	0	1979	7533	4267	2423	2969	Si	2.18	Si
SLU 81	fin.	-257.57	-868	0.95	0	1979	7533	4267	2423	2969	Si	3.42	Si
SLU 78	ini.	486.75	-1350	0.95	0	1979	7533	4267	2423	2969	Si	2.2	Si
SLU 78	fin.	-242.52	-780	0.95	0	1979	7533	4267	2423	2969	Si	3.81	Si
SLU 83	ini.	507.41	-1386	0.95	0	1979	7533	4267	2423	2969	Si	2.14	Si
SLU 83	fin.	-260.33	-867	0.95	0	1979	7533	4267	2423	2969	Si	3.43	Si
SLU 79	ini.	486.67	-1342	0.95	0	1979	7533	4267	2423	2969	Si	2.21	Si
SLU 79	fin.	-244.3	-794	0.95	0	1979	7533	4267	2423	2969	Si	3.74	Si
SLU 80	ini.	484.32	-1336	0.95	0	1979	7533	4267	2423	2969	Si	2.22	Si
SLU 80	fin.	-241.65	-784	0.95	0	1979	7533	4267	2423	2969	Si	3.79	Si
SLU 74	ini.	483.99	-1331	0.95	0	1979	7533	4267	2423	2969	Si	2.23	Si
SLU 74	fin.	-242.4	-791	0.95	0	1979	7533	4267	2423	2969	Si	3.75	Si
SLU 77	ini.	489.1	-1355	0.95	0	1979	7533	4267	2423	2969	Si	2.19	Si
SLU 77	fin.	-245.17	-790	0.95	0	1979	7533	4267	2423	2969	Si	3.76	Si
SLU 75	ini.	481.64	-1325	0.95	0	1979	7533	4267	2423	2969	Si	2.24	Si
SLU 75	fin.	-239.75	-781	0.95	0	1979	7533	4267	2423	2969	Si	3.8	Si
SLU 84	ini.	505.06	-1380	0.95	0	1979	7533	4267	2423	2969	Si	2.15	Si
SLU 84	fin.	-257.68	-857	0.95	0	1979	7533	4267	2423	2969	Si	3.47	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	2240.01	-3459	-0.0015007	0.0002807	0.0035	0.95		3302.53	3302.53		1.47	Si
SLV 13	fin.	-2106.21	2332	-0.0013655	0.0002807	0.0035	0.95		3308.64	3308.64		1.57	Si
SLV 1	ini.	-1367.37	1189	-0.0007633	0.0002807	0.0035	0.95		3308.64	3308.64		2.42	Si
SLV 1	fin.	1537.51	-2748	-0.0008896	0.0002807	0.0035	0.95		3302.53	3302.53		2.15	Si
SLV 14	ini.	1907.25	-3015	-0.0011883	0.0002807	0.0035	0.95		3302.53	3302.53		1.73	Si
SLV 14	fin.	-1773.86	1867	-0.0010731	0.0002807	0.0035	0.95		3308.64	3308.64		1.87	Si
SLV 15	ini.	2352.23	-3688	-0.0016192	0.0002807	0.0035	0.95		3302.53	3302.53		1.4	Si
SLV 15	fin.	-2186.63	2375	-0.0014433	0.0002807	0.0035	0.95		3308.64	3308.64		1.51	Si
SLV 2	ini.	-1700.13	1633	-0.0010134	0.0002807	0.0035	0.95		3308.64	3308.64		1.95	Si
SLV 2	fin.	1869.86	-3213	-0.0011561	0.0002807	0.0035	0.95		3302.53	3302.53		1.77	Si
SLV 4	ini.	-1587.92	1404	-0.0009258	0.0002807	0.0035	0.95		3308.64	3308.64		2.08	Si
SLV 4	fin.	1789.44	-3170	-0.0010885	0.0002807	0.0035	0.95		3302.53	3302.53		1.85	Si
SLV 3	ini.	-1255.16	960	-0.0006852	0.0002807	0.0035	0.95		3308.64	3308.64		2.64	Si
SLV 3	fin.	1457.09	-2705	-0.0008297	0.0002807	0.0035	0.95		3302.53	3302.53		2.27	Si
SLV 16	ini.	2019.47	-3244	-0.0012882	0.0002807	0.0035	0.95		3302.53	3302.53		1.64	Si
SLV 16	fin.	-1854.27	1910	-0.0011401	0.0002807	0.0035	0.95		3308.64	3308.64		1.78	Si
SLD 13	ini.	1552.52	-2587	-0.0009009	0.0002807	0.0035	0.95		3302.53	3302.53		2.13	Si
SLD 13	fin.	-1406.46	1343	-0.0007912	0.0002807	0.0035	0.95		3308.64	3308.64		2.35	Si
SLD 15	ini.	1620.36	-2726	-0.000953	0.0002807	0.0035	0.95		3302.53	3302.53		2.04	Si
SLD 15	fin.	-1454.19	1367	-0.0008258	0.0002807	0.0035	0.95		3308.64	3308.64		2.28	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRMC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLD 13	ini.	1552.52	-4747	0.95	0	2790	7533	6401	2423	8823		1.86	Si
SLD 13	fin.	-1406.46	-4456	0.95	0	2790	7533	6401	2423	8823		1.98	Si
SLD 15	ini.	1620.36	-4932	0.95	0	2790	7533	6401	2423	8823		1.79	Si
SLD 15	fin.	-1454.19	-4686	0.95	0	2790	7533	6401	2423	8823		1.88	Si
SLV 3	ini.	-1255.16	4110	0.95	0	2790	7533	6401	2423	8823		2.15	Si
SLV 3	fin.	1457.09	4557	0.95	0	2790	7533	6401	2423	8823		1.94	Si
SLV 16	ini.	2019.47	-6182	0.95	0	2790	7533	6401	2423	8823		1.43	Si
SLV 16	fin.	-1854.27	-5980	0.95	0	2790	7533	6401	2423	8823		1.48	Si
SLV 14	ini.	1907.25	-5872	0.95	0	2790	7533	6401	2423	8823		1.5	Si
SLV 14	fin.	-1773.86	-5599	0.95	0	2790	7533	6401	2423	8823		1.58	Si
SLV 1	ini.	-1367.37	4420	0.95	0	2790	7533	6401	2423	8823		2	Si
SLV 1	fin.	1537.51	4938	0.95	0	2790	7533	6401	2423	8823		1.79	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 4	ini.	-1587.92	5153	0.95	0	2790	7533	6401	2423	8823		1.71	Si
SLV 4	fin.	1789.44	5619	0.95	0	2790	7533	6401	2423	8823		1.57	Si
SLV 15	ini.	2352.23	-7224	0.95	0	2790	7533	6401	2423	8823		1.22	Si
SLV 15	fin.	-2186.63	-7042	0.95	0	2790	7533	6401	2423	8823		1.25	Si
SLV 2	ini.	-1700.13	5462	0.95	0	2790	7533	6401	2423	8823		1.62	Si
SLV 2	fin.	1869.86	6000	0.95	0	2790	7533	6401	2423	8823		1.47	Si
SLV 13	ini.	2240.01	-6914	0.95	0	2790	7533	6401	2423	8823		1.28	Si
SLV 13	fin.	-2106.21	-6661	0.95	0	2790	7533	6401	2423	8823		1.32	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.404	SLV 15	Si
V_SLV	1.221	SLV 15	Si
PF_SLU	3.729	SLU 83	Si
V_SLU	2.142	SLU 83	Si

Trave di accoppiamento 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-12.933	-4.784	13.19	14.424	1.234	-11.933	-4.784	13.19	14.423	1.233	1	0.3	3500

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2 intonaco armato solo su un lato_Corti

f _b	f _{hk}	f _{vk0}	f _{hmedio}	τ ₀	f _{v0}	μ	φ	f _{vk,lim}	E	G	FC
120000			215600	11200	25000	0.577	0.767	6500	320000000	128000000	1.2

Materiale per FRM

Materiale	Fu Verticale	Fu Orizzontale	t _{fv}	t _{fo}	E	eu	Tipo fibra
GeoSteel G1200	47200	47200	0.01656	0.01656	19000000000	0.015	Acciaio

Rinforzo a matrice inorganica

									elim,conv / ε,CNR DT-200						CRM / Fibrenet?				
materiale	lato applicazione	esposizione	ancoraggio verticale iniziale	ancoraggio verticale finale	ancoraggio orizzontale iniziale	ancoraggio orizzontale finale	strati	verifica taglio	α _t	α	elim,conv	ε _{f,d}	γ _{f,d}	connettori	tipo di muratura	CRM	intonaco	spessore intonaco	tipo blocco fibrenet
GeoSteel G1200	Sinistro	Interna	100	100	100	100	1	CNR DT215	0.8			0.009				Si	GeoCalce F Antisismico	0.02	

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	ε _m	ε _{m_}	ε _{mu}	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLU 81	ini.	158.76	-73	-0.0000419	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	16.62	Si
SLU 81	fin.	-367.69	-73	-0.0000992	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	7.17	Si
SLU 75	ini.	128.12	-49	-0.0000337	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	20.59	Si
SLU 75	fin.	-369.99	-49	-0.0000999	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	7.12	Si
SLU 77	ini.	125.78	-28	-0.0000331	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	20.98	Si
SLU 77	fin.	-378.72	-28	-0.0001023	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	6.96	Si
SLU 84	ini.	148.45	-59	-0.0000391	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	17.77	Si
SLU 84	fin.	-377.32	-59	-0.0001019	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	6.99	Si
SLU 80	ini.	125.13	-42	-0.0000329	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	21.09	Si
SLU 80	fin.	-372.73	-42	-0.0001006	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	7.07	Si
SLU 79	ini.	129.11	-38	-0.000034	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	20.43	Si
SLU 79	fin.	-372.29	-38	-0.0001005	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	7.08	Si
SLU 83	ini.	152.44	-55	-0.0000402	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	17.31	Si
SLU 83	fin.	-376.88	-55	-0.0001018	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	6.99	Si
SLU 78	ini.	121.79	-32	-0.000032	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	21.66	Si
SLU 78	fin.	-379.17	-32	-0.0001025	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	6.95	Si
SLU 82	ini.	154.77	-76	-0.0000408	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	17.05	Si
SLU 82	fin.	-368.14	-76	-0.0000994	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	7.16	Si
SLU 74	ini.	132.1	-45	-0.0000348	0.0001872	0.0035	1.2343		5507.42	2638.4	Si	19.97	Si
SLU 74	fin.	-369.54	-45	-0.0000997	0.0001872	0.0035	1.2334		5523.26	2636.14	Si	7.13	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRM in combinazioni non sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 75	ini.	128.12	-59	1.2343	0	2571	7930	5544	3147	3857	Si	64.88	Si
SLU 75	fin.	-369.99	-877	1.2334	0	2570	7930	5540	3145	3854	Si	4.4	Si
SLU 82	ini.	154.77	-84	1.2343	0	2571	7930	5544	3147	3857	Si	45.77	Si
SLU 82	fin.	-368.14	-902	1.2334	0	2570	7930	5540	3145	3854	Si	4.28	Si
SLU 78	ini.	121.79	-62	1.2343	0	2571	7930	5544	3147	3857	Si	61.91	Si
SLU 78	fin.	-379.17	-880	1.2334	0	2570	7930	5540	3145	3854	Si	4.38	Si
SLU 74	ini.	132.1	-63	1.2343	0	2571	7930	5544	3147	3857	Si	61.24	Si
SLU 74	fin.	-369.54	-880	1.2334	0	2570	7930	5540	3145	3854	Si	4.38	Si
SLU 77	ini.	125.78	-66	1.2343	0	2571	7930	5544	3147	3857	Si	58.58	Si



Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLU 77	fin.	-378.72	-883	1.2334	0	2570	7930	5540	3145	3854	Si	4.36	Si
SLU 84	ini.	148.45	-87	1.2343	0	2571	7930	5544	3147	3857	Si	44.27	Si
SLU 84	fin.	-377.32	-904	1.2334	0	2570	7930	5540	3145	3854	Si	4.26	Si
SLU 79	ini.	129.11	-63	1.2343	0	2571	7930	5544	3147	3857	Si	61.47	Si
SLU 79	fin.	-372.29	-880	1.2334	0	2570	7930	5540	3145	3854	Si	4.38	Si
SLU 83	ini.	152.44	-91	1.2343	0	2571	7930	5544	3147	3857	Si	42.54	Si
SLU 83	fin.	-376.88	-908	1.2334	0	2570	7930	5540	3145	3854	Si	4.25	Si
SLU 81	ini.	158.76	-88	1.2343	0	2571	7930	5544	3147	3857	Si	43.93	Si
SLU 81	fin.	-367.69	-905	1.2334	0	2570	7930	5540	3145	3854	Si	4.26	Si
SLU 80	ini.	125.13	-59	1.2343	0	2571	7930	5544	3147	3857	Si	65.14	Si
SLU 80	fin.	-372.73	-876	1.2334	0	2570	7930	5540	3145	3854	Si	4.4	Si

Verifica a pressoflessione nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche

Verifica condotta secondo CNR-DT 215

Comb.	Sez.	M	N	em	em_	emu	df	M0d	M1d	MRd	incremento > 50%	c.s.	Verifica
SLV 13	ini.	1527.03	-147	-0.0004606	0.0002807	0.0035	1.2343		5591.21	5591.21		3.66	Si
SLV 13	fin.	-1648.1	-385	-0.0005041	0.0002807	0.0035	1.2334		5559.49	5559.49		3.37	Si
SLD 13	ini.	1009.02	-117	-0.0002863	0.0002807	0.0035	1.2343		5591.21	5591.21		5.54	Si
SLD 13	fin.	-1145.16	-269	-0.0003297	0.0002807	0.0035	1.2334		5559.49	5559.49		4.85	Si
SLD 15	ini.	1050.43	-109	-0.0002994	0.0002807	0.0035	1.2343		5591.21	5591.21		5.32	Si
SLD 15	fin.	-1217.98	-251	-0.0003537	0.0002807	0.0035	1.2334		5559.49	5559.49		4.56	Si
SLV 4	ini.	-1352.28	20	-0.0003987	0.0002807	0.0035	1.2343		5599.57	5599.57		4.14	Si
SLV 4	fin.	1149.94	258	-0.0003318	0.0002807	0.0035	1.2334		5551.13	5551.13		4.83	Si
SLV 16	ini.	1405.52	-119	-0.0004177	0.0002807	0.0035	1.2343		5591.21	5591.21		3.98	Si
SLV 16	fin.	-1576.74	-341	-0.0004781	0.0002807	0.0035	1.2334		5559.49	5559.49		3.53	Si
SLV 15	ini.	1595.85	-133	-0.0004854	0.0002807	0.0035	1.2343		5591.21	5591.21		3.5	Si
SLV 15	fin.	-1767.41	-355	-0.0005485	0.0002807	0.0035	1.2334		5559.49	5559.49		3.15	Si
SLV 14	ini.	1336.7	-133	-0.000394	0.0002807	0.0035	1.2343		5591.21	5591.21		4.18	Si
SLV 14	fin.	-1457.43	-372	-0.0004356	0.0002807	0.0035	1.2334		5559.49	5559.49		3.81	Si
SLV 3	ini.	-1161.94	6	-0.0003349	0.0002807	0.0035	1.2343		5599.57	5599.57		4.82	Si
SLV 3	fin.	959.28	244	-0.000271	0.0002807	0.0035	1.2334		5551.13	5551.13		5.79	Si
SLV 1	ini.	-1230.76	-8	-0.0003576	0.0002807	0.0035	1.2343		5599.57	5599.57		4.55	Si
SLV 1	fin.	1078.59	214	-0.0003086	0.0002807	0.0035	1.2334		5551.13	5551.13		5.15	Si
SLV 2	ini.	-1421.1	5	-0.0004225	0.0002807	0.0035	1.2343		5599.57	5599.57		3.94	Si
SLV 2	fin.	1269.26	228	-0.0003714	0.0002807	0.0035	1.2334		5551.13	5551.13		4.37	Si

Verifica a taglio nel piano delle sezioni rinforzate con FRCC in combinazioni sismiche CNR DT215

Comb.	Sez.	M	V	df	fvd	Vt	Vt,f	Vt,c	Vt,c int.	Vt,R	incremento > 50%	c.s.	Verifica
SLV 2	ini.	-1421.1	3068	1.2343	0	3785	7930	8316	3147	11463		3.74	Si
SLV 2	fin.	1269.26	2410	1.2334	0	3782	7930	8310	3145	11455		4.75	Si
SLV 3	ini.	-1161.94	2509	1.2343	0	3785	7930	8316	3147	11463		4.57	Si
SLV 3	fin.	959.28	1850	1.2334	0	3782	7930	8310	3145	11455		6.19	Si
SLV 4	ini.	-1352.28	2890	1.2343	0	3785	7930	8316	3147	11463		3.97	Si
SLV 4	fin.	1149.94	2231	1.2334	0	3782	7930	8310	3145	11455		5.13	Si
SLV 15	ini.	1595.85	-3069	1.2343	0	3785	7930	8316	3147	11463		3.73	Si
SLV 15	fin.	-1767.41	-3662	1.2334	0	3782	7930	8310	3145	11455		3.13	Si
SLV 16	ini.	1405.52	-2688	1.2343	0	3785	7930	8316	3147	11463		4.26	Si
SLV 16	fin.	-1576.74	-3281	1.2334	0	3782	7930	8310	3145	11455		3.49	Si
SLD 15	ini.	1050.43	-1959	1.2343	0	3785	7930	8316	3147	11463		5.85	Si
SLD 15	fin.	-1217.98	-2563	1.2334	0	3782	7930	8310	3145	11455		4.47	Si
SLV 13	ini.	1527.03	-2891	1.2343	0	3785	7930	8316	3147	11463		3.96	Si
SLV 13	fin.	-1648.1	-3483	1.2334	0	3782	7930	8310	3145	11455		3.29	Si
SLV 1	ini.	-1230.76	2687	1.2343	0	3785	7930	8316	3147	11463		4.27	Si
SLV 1	fin.	1078.59	2029	1.2334	0	3782	7930	8310	3145	11455		5.65	Si
SLD 13	ini.	1009.02	-1852	1.2343	0	3785	7930	8316	3147	11463		6.19	Si
SLD 13	fin.	-1145.16	-2455	1.2334	0	3782	7930	8310	3145	11455		4.67	Si
SLV 14	ini.	1336.7	-2510	1.2343	0	3785	7930	8316	3147	11463		4.57	Si
SLV 14	fin.	-1457.43	-3102	1.2334	0	3782	7930	8310	3145	11455		3.69	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.146	SLV 15	Si
V_SLV	3.129	SLV 15	Si
PF_SLU	6.952	SLU 78	Si
V_SLU	4.245	SLU 83	Si